



Improve Economic and Policy Knowledge in the Field of Sport Related Industries with particular focus on Sporting Goods Sector

Final Report



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Valdani Vicari & Associati
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Written by Christina Enichlmair, Karin Bachinger, Karin Gavac, Pierre Hausemer, Madalina Nunu, Frithjof Michaelsen, Timothe Peroz
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Executive Agency for Small and Medium-sized Enterprises (EASME)

Unit A.1 — COSME

E-mail: EASME-COSME-ENQUIRIES@ec.europa.eu

Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs (DG GROW), Directorate F — Innovation and advanced Manufacturing

Unit F.4 — Tourism, Emerging and Creative industry

E-mail: GROW-F4@ec.europa.eu

European Commission

B-1049 Brussels

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1. ABSTRACT

[EN] The present study aims to improve economic and policy knowledge of the sport-related industries, with a particular focus on the sporting goods sector. The study starts by considering different definitions of the sporting goods sector based on which it presents an economic overview of the sport-related industries in Europe (including both downstream and upstream relations), with a focus on the sporting goods sector. This is followed by an analysis of the main business models in the sporting goods sector and an analysis of the sector's competitiveness (at the national, European and international level). For the purpose of this study, competitiveness is broken down into cost competitiveness, innovation capacity, product & process innovation and non-innovative know-how. The analysis is further complemented by a detailed SWOT analysis. The study concludes with a set of recommendations on how to improve the competitiveness of the European sporting goods sector. The study methodology includes an extensive literature review complemented by a range of primary stakeholder consultations, including a survey, interviews, company case studies, and a validation workshop.

[FR] Cette étude vise à améliorer les connaissances économiques et politiques sur les industries liées au sport, avec une attention particulière sur le secteur des biens sportifs. L'étude commence par considérer différentes définitions du secteur des biens sportifs basées sur lesquelles elle présente un aperçu économique des industries liées au sport en Europe (incluant les relations en amont et en aval), avec une attention particulière sur le secteur des biens sportifs. Ceci est suivi par une analyse des principaux modèles commerciaux dans le secteur des biens sportifs et par une analyse de la compétitivité du secteur (au niveau national, Européen et international). Pour les fins de l'étude, la compétitivité est divisée entre compétitivité coût, capacité d'innovation, innovation produit & processus et savoir-faire non-innovant. L'analyse est complétée par une analyse SWOT détaillée. L'étude se conclue par une série de recommandations sur comment améliorer la compétitivité du secteur Européen des biens sportifs. La méthodologie de l'étude inclue une revue documentaire extensive complétée par une série de consultations des principales parties prenantes, incluant une enquête, des entretiens, des études de cas de compagnies, et un atelier de validation.

2. EXECUTIVE SUMMARY

The present study aims to improve economic and policy knowledge of the sport-related industries, with a particular focus on the sporting goods sector.

Sport-related industries in the context of the present study consist of, according to the Vilnius Definition, upstream sport related industries, downstream sport-related industries and **the statistical definition of sport**. The statistical definition of sport includes the operation of sport facilities (i.e. swimming pools, sport arenas) as well as services of sport clubs. This is reflected in the NACE-code 93.1 "Sport activities" that covers the operation of sport facilities, activities of sport clubs, fitness facilities as well as other sport activities and in the corresponding CPA-code 93.1 "Sporting services".

The **upstream sport-related industries** refer to subsectors that produce goods and services needed for sport. The sporting goods sector – which is the focus of the current study and whose relevance will be further examined in chapter 7.3 "Economic importance of the sporting goods sector in Europe" – is part of the upstream sport-related industries and covers both production of equipment as well as retail and wholesale trade of sporting equipment.

The **downstream sport-related industries** are those industries in which sport has a noteworthy involvement (i.e. sport media, sport tourism) but which do not contribute directly to the core sport product.

Definition of the sporting goods sector

One of the core objectives of the study was to define the sporting goods sector in economic terms. The definition was done at the most detailed level possible using different EU industry classifications as well as goods classifications. For this, the following classifications were taken into account:

- **CN – Combined Nomenclature:** European classification of goods used for foreign trade statistics; 8-digit level
- **PRODCOM:** Classification of goods used for statistics on the industrial production in the EU; 8-digit level
- **CPA - European Classification of Products by Activity:** 6-digit level
- **NACE - Nomenclature générale des Activités économiques dans les Communautés Européennes:** Statistical classification of economic activities in the European Communities; 4-digit level

Although these are different classifications developed for different purposes, they are interrelated. The starting point of the definition process was the narrow definition of the Vilnius Definition of Sport. Challenges included that some codes in the Vilnius Definition referring to sporting goods are assigned to the narrow definition of sport, although they do not include any sporting goods at all. Moreover, there are some codes that are not included in the Vilnius Definition of Sport at all, but do include sporting goods, albeit to a very small extent (e.g. 14.31.10: Panty hose, tights, stockings, socks and other hosiery (includes sport stockings and socks). The main barrier in the process of the definition of the sporting goods sector related to the fact that codes are disaggregated by materials and technology used to manufacture the goods rather than by the purpose / use. Lastly, new and emerging sporting goods (e.g. wearables) are included in codes with a very small sporting goods share.

Overview of the sport-related industries in Europe

The overview of the sport-related industries in Europe is based on a literature review, interviews with relevant stakeholders and regular consultation with Themistocles Kokolakis, expert in the economic modelling of the sport economy. It looks at the EU policy framework in the field of sporting goods, the main characteristics of sport-related industries, the economic importance of the sporting goods sector, the situation of intellectual property rights and counterfeiting, and the demand for sporting goods.

The European Union has acknowledged that sport is an important economic driver and that the EU has a supporting, coordinating and supplementary role in sport. The European Commission has launched several sport-related initiatives, among which the third and current **EU Work Plan for Sport (2017-2020)** that focuses on the integrity of sport (anti-doping etc.), the economic dimension of sport (including innovation) and the role of sport in society.

Following the Vilnius Definition of Sport, the **sport-related industries** include on the upstream side those sub-sectors that produce goods and services needed for sport (e.g. the production of sport equipment and apparel as well as retail and wholesale trade or the construction of infrastructure), while downstream relations refer to industries in which sport has a significant involvement, such as sport media, health, sport tourism, or lotteries and betting.

According to the EU 27 Sport Satellite Account¹, the **sport-related industry** accounts for 1.76% (direct impact) of EU gross value added (GVA) and 2.12% of employment in the EU in 2005. Sport-related industries have **interrelations / synergies with and spillover effects** to other sectors, and clusters thus play an important role for (innovation in) sport-related industries – especially specific cross-border international clusters that include universities, research centres and small and larger companies.

In the European Union (EU 28), in 2015, approximately 85,900 enterprises can be assigned to the **sporting goods sector**^{2,3}, and they employ approximately 436,600 persons. The turnover of the sporting goods sector amounts to approximately EUR 81,400 million, while the value added is about EUR 18,900 million. The sporting goods sector constituted 0.4% of all enterprises and 0.3% of all persons employed, turnover and value added of the total EU economy.

The sector has seen general growth, combined with increased sport visibility and participation starting after 2012. The largest subsector within the sporting goods sector in the European Union is the **retail sale of sporting equipment in specialised stores** (i.e. sport goods, sport footwear, fishing gear, camping goods, boats and bicycles), while the most dynamic sector is **renting and leasing of recreational and sport goods**. Between 2008 and 2015, all wholesale and retail sale of the sporting goods sector in the European Union were characterised by an upward trend of the turnover and value added, and as of 2017 the sporting goods sector is described as having made up the downturn in consumption experienced in the economic crisis.

At international level, there is a division in the **production of sporting goods** – the most expensive products are produced in wealthier countries where high-technological capabilities exist, whereas cheaper products are manufactured in developing countries. In 2016, according to PRODCOM data on industrial production, the production value of sporting goods⁴ of the 28 EU countries amounted to EUR 14.6 billion, which is 0.3% of the total production of the EU 28. With regard to **international trade**, in 2016 the import value of sporting goods⁵ of the 28 EU countries (intra-EU and extra-EU) amounted to EUR 38.0 billion, which is approximately 1% of all imports of goods of the EU 28. The exports of sporting goods of the 28 EU countries (intra-EU and extra-EU) account for 0.65% of European exports with an export value of EUR 31.5 billion. The largest shares of the import and export value of sporting goods can be attributed to footwear and apparel, followed by sport equipment such as skis and balls, motorcycles, boats and bicycles. In terms of intra-EU imports the most important sources of imports are Germany, Belgium, Netherlands⁶ and Italy. Extra-EU imports mainly come from China, which is the largest supplier by far,

¹ The EU 27 Sport Satellite Account was established in 2012 and is based on 27 national Input-Output Tables from the year 2005. See *SportsEconAustria et al.* (2012) for more details.

² Based on the definition of sporting goods in NACE-codes in the present study (please see chapter 6.5 for more details)

³ Source: Eurostat, Structural Business Statistics

⁴ Based on the definition of sporting goods in PRODCOM-codes in the present study (please see chapter 6.3 for more details)

⁵ Based on the definition of sporting goods in CN-codes in the present study (please see chapter 6.2 for more details)

⁶ Smaller countries such as Belgium and Netherlands are among the Top intra-EU suppliers of sporting goods. This can be explained by the so-called 'Rotterdam effect', which results from the transit of goods in Member States with big ports at the external border of the European Union (e.g. Rotterdam, Antwerp).

followed by Vietnam. The largest exporters are Germany, Italy, Belgium, France and the Netherlands.

The protection of **intellectual property rights (IPR)** is one of the major challenges of the sporting goods sector. Counterfeiting in sporting goods in the EU has negative effects on the market (e.g. revenue and job losses). Moreover, investments in innovation are discouraged and consumer safety is at stake if IPRs are infringed. The European Union has been an active promotor of the protection of IPR during the last years (e.g. by developing the Unitary Patent and by improving EU rules on trademarks).

The main market segments of the sporting goods market are individual consumers and professional as well as amateur sport leagues and teams. Further segments include corporations, commercial institutions such as e.g. health clubs, public and private sport clubs etc. **Market demand** at the European level is very fragmented due to the variability of sport practises from one country to another. Current consumer trends are outdoor, running and cycling, but also multifunctional clothing as well as smart technologies (e.g. wearable devices).

According to Eurostat's Household Budget Survey (HBS) from 2010, nearly two thirds of **private household expenditures in sports goods** and services go to recreational and sporting services (fitness centres, stadiums etc.), followed by major durables for outdoor recreation (camper vans, boats etc.) and equipment for sport, camping and open-air recreation (gymnastic and sport equipment).

Sport participation seems to be stagnating since 2009: in 2014, approx. 41% of European citizens are exercising or playing sport at least once a week, but 59% never or seldom do so. These percentages stayed about the same since 2009 (*European Commission*, 2009 and 2014: Special Eurobarometer surveys on sport and physical activity). Men tend to exercise, play sport or engage in other physical activity more than women. The Nordic countries as well as Germany and Austria have the highest shares of persons performing physical activities of any kind.

Analysis of business models in the sporting goods sector

Using a set of case studies, the study analyses the diverse range of business models in the sporting goods sector. The analysis is framed by Porter's Value Chain which describes five primary activities:

1. Inbound logistics (external input);
2. Production & operations;
3. Outbound logistics (product distribution);
4. Marketing & sales; and
5. After-sales services.

The case studies show that the business models of larger multinational companies are rather universal and not much different from those applied by comparable companies in other manufacturing sectors. The majority of the production is outsourced to Asia, while the main business taking place in Europe focuses on R&D, design and marketing. Constant innovation is often at the core of the business model, with a high rate of new products introduced to the market every year. As these companies focus on the global market and maintain a global presence, their distribution channels are complex. They usually benefit from a well-established brand reputation and invest extensively in maintaining their image, e.g. through global sponsoring activities.

Regarding the business models of SMEs, they outsource less of their production and tend to focus on a national or regional market. Consequently, these companies are more dependent on the national economy and business environment, which can be advantageous (e.g. government support) or disadvantageous (e.g. regulatory burden) depending on the characteristics of the national market. Although SMEs might have a disadvantage compared to large companies with regard to factors like production cost or market presence, they can still gain competitive advantages by making use of such elements as high versatility due to smaller size, offering a highly innovative product, or serving a specific consumer base. A complex distribution model is still possible for these

companies, but some companies take advantage of their smaller size by focusing on e.g. more direct distribution which skips costly intermediaries.

Within the SME category, the business models of micro-sized enterprises are very diverse, and they differ qualitatively from larger companies (including larger SMEs). They are characterised by comparatively strong owner-manager control, and in many cases, it is a conscious decision by the owner-manager to stay micro-sized in order to maintain control. Micro-sized companies follow diverse strategies to offset competitive disadvantages related to their size, for instance offering handcrafted, local/regional or sustainable products of superior quality, or offering their customers extensive personalisation options (bespoke products).

Personalised and direct communication with their customers, who are often wealthy sport aficionados looking for a distinctive product, plays a key role for micro-sized companies. In addition, they circumvent intermediaries by mostly distributing their products online and directly to their clients, and only occasionally via specialised retail shops.

Competitiveness analysis

The competitiveness of the European sporting goods sector is assessed according to the “Competitiveness Proofing” toolkit issued by the European Commission for use in impact assessments. This framework defines three elements of competitiveness:⁷

- Cost competitiveness, which is the cost of doing business, including intermediate inputs like energy and production factors like labour or capital;
- Capacity to innovate, which is the capacity of businesses to produce more and/or higher-quality products;
- International competitiveness, which looks at the two previous aspects in an international comparative perspective.

Regarding cost competitiveness, production costs and costs of raw materials, are on the rise both in and outside the EU. In addition, costs are increasing due to corporate social responsibility requirements, for instance with regard to working conditions in third countries. On the other hand, the cost of capital and cost of energy are generally decreasing in Europe, although there still exists significant cost differences between the Member States which affect the relative competitiveness of companies in the sporting goods sector that operate in these countries.

Regarding innovation, the European sporting goods industry is characterised by a high capacity to innovate. Indeed, in terms of competitiveness, innovation plays a more significant role for European companies than product pricing because it is difficult for EU companies to compete on price with companies from low cost source markets outside the EU. For instance, wearable technology (product innovation) and 3D printing (process innovation) are considered two of the main drivers of innovation in the near future.

SMEs are important drivers of sporting goods innovation, but they face many challenges regarding their innovation capacity and could benefit from enhanced public initiatives, for example industry clusters and enhanced cross-sectoral co-operation with universities. Indeed, co-operation and strategic partnerships with other actors in the business ecosystem, in particular from the ITC and app development domain, are therefore essential, as demand for applications to enhance sport products and experiences is increasing. The study finds that the field of innovation and technology offers the most likely benefits from direct public support to industry.

The international competitiveness of the European sporting goods sector is related to the rather oligopolistic structure of the international market, where few large multinational companies with a strong global reputation and presence compete with small national companies in each domestic market. SMEs need to make up for competitive disadvantages they experience in this market, e.g. by operating in a niche market, by being highly innovative, by producing superior quality, or by using simple and therefore cost-effective

⁷ Competitiveness proofing is a twelve-step tool addressing the impacts of a policy proposal on enterprise competitiveness http://ec.europa.eu/smart-regulation/impact/key_docs/docs/sec_2012_0091_en.pdf

distribution channels. It should be noted that many SMEs compete only at national or regional level and show no intention to internationalise.

The SWOT analysis, based on the stakeholder survey and additional interviews, shows that:

- The major **strengths** of the sector in Europe are access to knowledge, know-how and technology on the one hand, and the good international reputation of the industry in general and European brands in particular on the other hand.
- Outsourcing to non-EU countries is found to be a major **weakness**, while the implications of company size are more disputed: some respondents and interviewees see small company size as a weakness at international level, others regard flexible and innovative SMEs as a strength of the sector at national level.
- General economic growth and the public promotion of sport and healthy lifestyles are major **opportunities** for the sporting goods industry, together with innovative products (such as wearables and e-textiles).
- Major **threats** are protectionist forces on the international level, the potential lack of a skilled workforce due to demographic change in Europe and the increasing physical inactivity of the population.

Recommendations on how to improve the competitiveness of the sporting goods sector

Lastly, one of the core objectives of the present study is to provide recommendations on how to improve the competitiveness of the sporting goods sector. These recommendations are based on all data collected as part of the study, including through the stakeholder survey and interviews.

There are two main areas which, if improved, may lead to an increase in the competitiveness of the sporting goods sector. The vast majority of stakeholders consider that public **promotion of healthy lifestyle and sport activities** across Europe would yield the biggest dividends for the sector. Inducing more people into practicing sport will create greater demand for sporting goods. Additionally, this would improve the average health condition of Europe's citizens.

A second key area of support emphasised by stakeholders is **support for R&D, product and process innovation**, in particular in relation to the development of sustainable products. Strengthening cooperation between universities and sporting goods companies could be a strategy to overcome SMEs difficulties in obtaining sufficient resources to conduct successful R&D (e.g. a research centre on new materials). Also, by supporting R&D and process innovation, the industry could better seize the market opportunities created by new technologies (i.e. e-textiles, user-driven innovation).

Finally, **support for the development of targeted, sport-themed cluster initiatives** across Europe, improvement of the **vocational system** to better answer the needs of the sporting goods sector and generally providing a better **business environment** (i.e. reduce administrative burden) would lead to an increase in the competitiveness of the sporting goods sector in Europe.

3. SYNTHÈSE

Cette étude vise à améliorer la connaissance économique et politique des industries liées au sport avec une attention particulière au secteur des biens sportifs.

Dans le cadre de cette étude **les industries liées au sport** comprennent, d'après la définition de Vilnius, les industries liées au sport en amont de la chaîne de production, en aval ainsi que la **définition statistique du sport**. La définition statistique du sport inclut le fonctionnement des infrastructures sportives et les services des clubs sportifs. Le code NACE correspondant est le 93.1 « activités sportives » qui regroupe le fonctionnement des infrastructures sportives, les activités des clubs sportifs, les installations de fitness et toutes autres activités sportives. Le code CPA correspondant est le 93.1 « services sportifs ».

Les industries sportives en amont traitent des sous-secteurs qui produisent des biens et services nécessaires pour le sport. Le secteur des biens sportifs — qui est l'objet de cette étude et dont l'importance est étudiée en détail au chapitre 5.3 « Importance économique du secteur des biens sportifs en Europe » — fait partie des industries liées au sport en amont et couvre la production des biens ainsi que le commerce de détail et le commerce de gros des équipements sportifs.

Les industries sportives en aval réfèrent aux secteurs fortement liés au sport (ex : médias sportifs, tourisme sportif) mais qui n'ont pas de liens directs avec le produit sportif en tant que tel.

Définition du secteur des biens sportifs

L'un des principaux objectifs de l'étude était de définir le secteur des biens sportifs d'un point de vue économique. La définition élaborée est la plus précise possible et se base sur différentes classifications européennes de biens et des industries. Les classifications suivantes ont été prises en compte :

- **NC – Nomenclature combinée** : la classification européenne des biens utilisée pour les statistiques du commerce extérieur ; niveau de classification à 8 chiffres.
- **PRODCOM** : la classification des biens utilisée pour les statistiques sur la production industrielle européenne ; niveau de classification à 8 chiffres.
- **CPA** – Classification Européenne des Produits par Activité ; niveau de classification à 6 chiffres.
- **NACE** – Nomenclature générale des Activités économiques dans les Communautés Européennes ; niveau de classification à 4 chiffres.

Malgré le fait que ces classifications ont été développées dans des buts différents, elles restent liées. Le point de départ de ce processus de définition était la définition restrictive de la Définition de Vilnius du Sport. L'un des problèmes était que, dans la Définition de Vilnius, certains codes se référant à des biens sportifs étaient compris dans la définition plus étroite du sport alors qu'ils n'incluaient aucun bien sportif. Aussi, certains codes, non inclus dans la Définition de Vilnius du Sport, incluent certains biens sportifs (ex : 14.31.10 : collants, bas, chaussettes et bonneterie (sont inclus les bas et chaussettes sportifs)). Le principal obstacle dans cette étape de définition du secteur des biens sportifs était le fait que les codes sont répartis par matériels et technologies utilisés pour la production du bien plutôt que par finalité ou utilisation. Enfin, les biens sportifs nouvelles générations et les plus récents (ex : les technologies portables) sont inclus dans des catégories ayant une faible proportion de biens sportifs.

État des lieux des industries liées au sport en Europe

Afin de dresser le bilan de la situation des industries liées au sport en Europe nous avons réalisé un examen de la littérature existante sur le sujet, des entretiens avec certains acteurs du secteur tout en consultant régulièrement Themistocles Kokolakis expert en modélisation économique de l'économie du sport. Cette analyse prend en compte le cadre réglementaire européen dans le secteur des biens sportifs, les spécificités du secteur, son

poids économique, la situation des droits de propriétés intellectuelles et de la contrefaçon ainsi que la demande des biens sportifs.

L'Union européenne a pris conscience que le sport est un moteur économique important et qu'elle a un rôle supplétif, de soutien et de coordination dans le domaine du sport. La Commission Européenne est à l'origine de plusieurs initiatives dans le domaine du sport. Parmi celles-ci peuvent être citées l'actuel et troisième **Programme de Travail de l'UE pour le Sport (2017-2020)** qui met l'accent sur la place de l'intégrité dans le sport (par exemple la lutte anti-dopage), la dimension économique du sport (incluant les innovations) et le rôle du sport dans la société.

D'après la Définition de Vilnius du Sport, en amont, les **industries liées au sport** incluent les sous-secteurs qui produisent les biens et services nécessaires pour le sport (ex : la production d'équipements et vêtements sportifs ainsi que la vente de détail et en gros ou encore la construction d'infrastructures sportives). En aval, ces secteurs sont ceux en étroite relation avec le sport tels que les médias sportifs, la santé, le tourisme sportif, les loteries ou les paris.

D'après le *Sport Satellite Account « Compte Satellite du Sport »* UE 27⁸, au sein de l'UE, les industries liées au sport représentent 1,76% (en termes d'impacts directs) de la Valeur Ajoutée Brute (VAB) européenne et 2,12% des emplois en Europe en 2005. Les industries liées au sport ont des liens étroits/ des synergies et des répercussions sur d'autres secteurs. C'est la raison pour laquelle les clusters ont un rôle important à jouer (notamment en termes d'innovation) pour les industries liées au sport, -tout particulièrement les clusters transfrontaliers qui intègrent des universités, des centres de recherches et des entreprises plus ou moins larges-.

Au sein de l'UE (UE 28), en 2015, à peu près 85 900 entreprises étaient actives dans le **secteur des biens sportifs** et elles employaient environ 436 600 personnes⁹. Le chiffre d'affaire de ce secteur était proche de 81 400 million d'euros et la valeur ajoutée de 18 900 million d'euros. Le secteur des biens sportifs représentait 0,4% de l'ensemble des entreprises et 0,3% du nombre total d'employés et du total du chiffre d'affaire et de la valeur ajoutée de l'économie européenne.

Après 2012, le secteur a connu une croissance générale combinée à une hausse de la visibilité du sport et de la pratique. Le sous-secteur le plus important est celui de la **vente de détail d'équipements sportif dans les magasins spécialisés** (ex : biens sportifs, chaussures de sport, équipement de pêche, biens pour le camping, bateaux et vélos), tandis que le plus dynamique est celui de **la location et de prêt d'articles de sport et de loisirs**. De 2008 à 2015, le chiffre d'affaire et la valeur ajoutée des industries de vente de détail et de vente en gros de biens sportifs en Europe ont connu une croissance en chiffre d'affaires et en valeur ajoutée. A partir de 2017, le secteur des biens sportifs a compensé la baisse de la consommation due à la crise économique.

A l'international, il y'a une division de la production des biens sportifs — les plus chers sont produits dans les pays riches où sont situées les compétences technologiques les plus élevées tandis que les produits les moins chers sont fabriqués dans les pays en voie de développement. En 2016, d'après les données PRODCOM sur la production industrielle¹⁰, la production de biens sportifs dans les 28 Etats Membres représentait 14,6 milliards d'euros, soit 0,3% du total de la production de l'UE. En termes de commerce international, en 2016 les importations de biens sportifs des 28 Etats Membres (intra UE et extra UE) représentaient 38 milliards d'euros, soit environ 1% de l'ensemble des biens importés au sein de l'UE. Les exportations des biens sportifs (intra UE et extra UE) des 28 Etat Membres représentaient 0,65% des exportations européennes avec un montant de 31,5 milliards d'euros. Les chaussures et les vêtements représentent la part la plus importante de la valeur des exportations suivis par les équipements sportifs tels que les skis, balles, les motos, bateaux et vélos. Le premier fournisseur extra UE de biens sportifs des 28 Etats

⁸ Le Sport Satellite Account UE 27 a été établi en 2012 et il est basé sur 27 tableaux nationaux Entrées-Sorties pour l'année 2005. Voir SportsEconAustria et al. (2012) pour plus de détails.

⁹ Définition du secteur des biens sportifs conformément à la NACE et sur la base de la définition des biens sportifs utilisée dans cette étude?

¹⁰ Se base sur la définition des biens sportifs des codes PRODCOM utilisée dans ces étude (pour de plus amples détails se référer au chapitre 6.3).

Membres est la Chine. Dans l'UE, les plus importantes sources d'import pour les pays de l'UE sont l'Allemagne, la Belgique, les Pays-Bas¹¹ et l'Italie. Les principaux exportateurs sont l'Allemagne, l'Italie, la Belgique, la France et les Pays-Bas.

La protection des **droits de propriété intellectuelle** (DPI) est l'un des principaux défis du secteur des biens sportifs. La contrefaçon de biens sportifs au sein de l'UE a des effets négatifs sur le marché (sur les revenus et l'emploi). De plus, si les droits de propriété intellectuelle sont transgressés, cela freine les investissements dans l'innovation et la sécurité des consommateurs peut être en jeu. Ces dernières années, l'Union Européenne a activement encouragé la protection des DPI (par exemple en développant un système de brevet unitaire et en améliorant les règles européennes sur les marques).

D'après l'enquête Eurobaromètre de 2009 et 2014 (Special Eurobarometer surveys on Sport and physical activity), **la participation sportive** stagne depuis 2009 : environ 41% des citoyens européens font de l'exercice ou pratiquent un sport au moins une fois par semaine, tandis que 59% ne font pas du tout d'exercice ou rarement. Ces pourcentages sont constants depuis 2009. Il apparaît que les hommes ont tendance à faire plus d'exercice ou à pratiquer plus régulièrement du sport ou toute autre activité physique que les femmes. Les pays nordiques, l'Allemagne et l'Autriche ont les plus hauts taux de pratique d'une activité physique, quelle qu'elle soit.

D'après l'Enquête sur le Budget des Ménages (EBM) d'Eurostat de 2010, environ deux **tiers des dépenses privées des ménages** dans les biens et services sportifs se font dans les services sportifs et de loisirs (centre de fitness, stades etc.), viennent ensuite les équipements pour les activités extérieures (camping-cars, bateaux, etc.) et les équipements pour le sport, camping et loisirs de plein-air (matériels pour la gymnastique et le sport).

Analyse des modèles économiques (business models) dans le secteur des biens sportifs

En se basant sur plusieurs cas d'études, cette étude analyse les différents types de « business models » dans le secteur des biens sportifs. L'analyse se base sur le modèle de chaîne de valeur de Porter qui décrit 5 principaux types d'activités :

1. La logistique d'approvisionnement (logistique entrante) ;
2. La production et les opérations ;
3. La logistique sortante (la distribution de produits) ;
4. Le marketing et les ventes ; et
5. Les services après-ventes.

Les cas d'études montrent que les « business models » des plus grandes entreprises multinationales sont universels et ne changent pas beaucoup de ceux adoptés par des entreprises similaires d'autres secteurs de production. La majorité de la production est délocalisée en Asie tandis que la recherche et le développement, le design et marketing ont lieu en Europe. L'innovation en permanence est au cœur du « business model », avec un nombre important de nouveaux produits introduits sur le marché chaque année. Comme ces entreprises se concentrent sur le marché international et assurent leur présence sur le marché mondial, les voies par lesquelles elles distribuent leurs produits sont complexes. Ces marques bénéficient généralement d'une réputation bien établie et investissent considérablement pour maintenir cette image (par exemple via des activités de parrainage).

En ce qui concerne les « business models » des Petites et Moyennes Entreprises -PMEs-, ces entreprises délocalisent moins leur production et tendent à davantage se concentrer sur le marché national ou régional. Par conséquent, ces entreprises sont plus dépendantes de leurs économies nationales et de l'environnement économique de leur pays. Cela peut être un avantage (par exemple en bénéficiant d'aides gouvernementales) mais aussi un

¹¹ De petits pays comme la Belgique et les Pays-Bas sont parmi les principaux fournisseurs de biens sportifs au sein de l'UE. Cela peut s'expliquer par "l'effet Rotterdam", qui vient de la circulation des biens dans les Etats Membres ayant des ports importants qui se situent aux frontières extérieures de l'UE (ex : Rotterdam, Anvers).

inconvenient (par exemple si le pays a une réglementation importante) en fonction des particularités du marché national. Malgré le fait que les PME peuvent être désavantagées par rapport aux plus grandes entreprises sur certains facteurs comme les coûts de production ou la présence sur les marchés, elles peuvent avoir des avantages compétitifs sur certains éléments comme leur souplesse due à leur petite taille, l'offre de produit à la pointe technologique, ou la cible d'un type de clients particuliers. Ces entreprises peuvent aussi adopter un modèle de distribution complexe mais certaines de ces PME tirent avantage de leurs petites tailles en distribuant leurs produits directement et donc sans passer par des acteurs intermédiaires.

Au sein des PME, les « business models » des entreprises de taille micro sont très variés et diffèrent qualitativement de ceux des plus grandes entreprises (incluant les PME plus larges). Elles se caractérisent par un contrôle important du gérant-proprétaire et dans certains cas c'est un choix délibéré du gérant-proprétaire de garder cette taille micro afin de maintenir ce contrôle. Ces entreprises de taille micro adoptent différentes stratégies pour compenser leurs petites tailles, par exemple en proposant des produits faits à la main, d'origine locale/régionale, durable ou de qualité supérieure ou encore en offrant à leurs clients une large palette d'options de personnalisation (produits sur mesures par exemple).

Une communication directe et personnalisée avec leurs clients, qui sont souvent des fans de sports aisés cherchant un produit bien particulier, joue un rôle important pour ces entreprises de taille micro. De plus, ces entreprises contournent les acteurs intermédiaires en distribuant la plupart du temps leurs produits en ligne et directement à leurs clients, et occasionnellement via des magasins spécialisés.

Analyse de la compétitivité

La compétitivité du secteur européen des biens sportifs est analysée en se basant sur le guide « Analyse de la compétitivité » de la Commission Européenne utilisé pour les évaluations d'impacts. Ce cadre d'analyse définit trois éléments pour la compétitivité¹²:

- Le coût de la compétitivité, qui représente le coût des affaires, incluant les coûts intermédiaires comme l'énergie et les facteurs de production comme le travail ou le capital.
- La capacité d'innover, qui est la capacité des entreprises de produire plus et/ou des produits de hautes qualités.
- La compétitivité internationale, qui prend en compte les deux précédents aspects mais en réalisant une comparaison internationale.

En ce qui concerne les coûts de compétitivité, les coûts de production et les coûts des matières premières sont en hausse aussi bien au sein qu'à l'extérieur de l'UE. De plus, les coûts augmentent à cause des exigences en termes de responsabilité sociale des entreprises (par exemple avec l'amélioration des conditions de travail dans les pays tiers). D'autre part, les coûts du capital et les coûts de l'énergie ont tendance à diminuer en Europe, bien que persistent certaines différences importantes en termes de coûts entre les Etats Membres ce qui affectent la compétitivité des entreprises du secteur des biens sportifs actives dans ces pays.

En termes d'innovation, l'industrie européenne des biens sportifs est caractérisée par une haute capacité d'innovation. En effet, en termes de compétitivité, l'innovation joue un rôle plus important pour les entreprises européennes que le prix des produits comme il est difficile pour elles d'être compétitives sur le prix avec des entreprises venant de marchés à bas coûts hors de l'UE. Par exemple, les technologies portables (innovation de produit) et l'impression en 3D (innovation de procédé) sont considérés comme les deux principaux moteurs de l'innovation dans un futur proche.

Les PME sont des acteurs importants pour l'innovation des biens sportifs, mais elles doivent faire face à plusieurs défis en ce qui concerne leurs capacités d'innovation et pourraient bénéficier de plus importants soutiens publics, par exemple via les clusters

¹² Le guide " Analyse de la compétitivité " est un outil d'analyse en douze étapes pour mesurer les impacts d'une initiative politique sur la compétitivité des entreprises : http://ec.europa.eu/smart-regulation/impact/key_docs/docs/sec_2012_0091_en.pdf

industriels et une coopération intersectorielle renforcée avec les universités. En effet, la coopération et les partenariats stratégiques avec d'autres acteurs économiques, en particulier venant du secteur des Technologies de l'Information et des Communications - TIC- et du secteur du développement des applications sont essentiels, comme la demande pour les applications associées aux biens sportifs ou activités sportives grandit. L'étude montre que le secteur de l'innovation et des technologies est le plus à même d'être positivement influencé par les initiatives publiques qui soutiennent l'industrie.

La compétitivité internationale de secteur européen des biens sportifs est influencée par la structure oligopolistique du marché international, au sein duquel un petit nombre d'importantes entreprises multinationales avec une réputation bien établie et une forte présence sont en compétition avec de petites entreprises nationales actives dans leurs marchés nationaux respectifs. Les PME doivent compenser leur plus faible compétitivité dans ce marché, par exemple en se focalisant sur un marché de niche, en étant très innovatives, en produisant des produits de qualité supérieure ou en ayant recours à des stratégies de distribution plus efficaces en termes de coûts. Il est à noter que beaucoup de PME sont actives seulement au niveau national ou régional et n'ont pas l'intention de se projeter à l'international.

L'analyse SWOT (Forces, Faiblesses, Opportunités et Menaces en anglais), qui s'appuie sur l'enquête réalisée auprès de certains acteurs du marché et des entretiens complémentaires, montre que :

- Les principales **forces** du secteur en Europe sont l'accès au savoir, le savoir-faire et la technologie d'une part et d'autre part la bonne réputation internationale de l'industrie en général et des marques européennes en particulier.
- La délocalisation vers les pays hors UE apparaît comme une **faiblesse** importante, en revanche, les opinions quant aux conséquences de la taille de l'entreprise sont plus divergentes : certains participants et acteurs interviewés voient la petite taille des entreprises comme une faiblesse au niveau international, tandis que d'autres voient la capacité d'innovation et de flexibilité des PME comme des forces pour le secteur au niveau national.
- La croissance économique et la promotion publique du sport et d'un mode de vie sain représentent **d'importantes opportunités** pour l'industrie des biens sportifs et les produits innovants (telles que les technologies portables et le e-textile).
- Les **principales menaces** sont les forces protectionnistes au niveau international, la carence potentielle de main d'œuvre qualifiée qui s'explique par les changements démographiques en Europe ainsi que la sédentarité et l'absence de pratique d'une activité physique de plus en plus importantes au sein de la population.

Recommandations pour un secteur des biens sportifs plus compétitif

L'un des principaux objectifs de cette étude est de fournir des recommandations sur la façon d'améliorer la compétitivité du secteur des biens sportifs. Ces recommandations se basent sur l'ensemble des données récoltées dans le cadre de cette étude, incluant l'enquête menée auprès de certains acteurs et les entretiens.

Il y'a deux principaux domaines qui, s'ils étaient améliorés, pourraient accroître la compétitivité du secteur des biens sportifs. La plupart des acteurs de ce secteur considèrent que la **promotion par les acteurs publics d'un mode de vie plus sain et d'une plus grande pratique sportive** en Europe pourraient être le principal levier. Encourager un plus grand nombre de personnes à pratiquer un sport pourrait accroître la demande de biens sportifs. De plus, cela améliorerait la santé des citoyens européens.

Un deuxième domaine à cibler pour les acteurs du secteur est le soutien à la recherche et au développement, aux innovations de produit et de procédé et en particulier le développement de produits plus durables. Renforcer la coopération entre les universités et les entreprises du secteur pourrait être une stratégie pour remédier aux difficultés des PME d'obtenir assez de fonds pour mener des activités de recherche et de développement performantes (comme par exemple le développement d'un centre de recherche sur de nouveaux matériaux). Aussi, en soutenant la recherche et le développement et les innovations de procédé, le secteur pourrait davantage profiter des opportunités de marché

créées par les nouvelles technologies (par exemple avec le e-textile ou les innovations aux profits des utilisateurs).

Enfin, le **soutien au développement d'initiatives de cluster spécialisés dans le sport** à travers l'Europe, l'amélioration de la **formation professionnelle** en ciblant davantage les besoins de l'industrie des biens sportifs et de façon plus générale l'amélioration de **l'environnement économique** (en réduisant par exemple les exigences administratives) permettraient d'améliorer la compétitivité du secteur des biens sportifs en Europe.

4. INTRODUCTION

Over the last decades, there has been increased demand for participation in sport, live sport events and sport broadcasting which has subsequently led to an increase in demand for sporting goods. Overall, this has led to a fast growth in the economic significance of sport. Globalisation has also had a positive impact on the economic development of the sport-related industries (*Andreff / Szymanski, 2006*). At European Union level, sport has been acknowledged as an important economic driver¹³ and there have been calls for action to foster the European dimension of sport.

As a result, several sport-related initiatives have been launched by the EU. As of 2007, **The White Paper on Sport (COM(2007) 391 final)** was launched as one of the first attempts of the EC to address sport-related issues and to acknowledge the societal role and economic aspect of sport. Furthermore, the **EC Communication on Developing the European Dimension in Sport (COM(2011) 12 final)** confirms enhanced EU-level cooperation on sport and strengthens the actions proposed in the White Paper on Sport. In addition to the topics tackled by the White Paper on Sport, it emphasises the potential of sport to contribute significantly to the goals of the Europe 2020 strategy for smart, sustainable and inclusive growth (e.g. reduce unemployment).

The **EU Work Plan for Sport (2011-2014)** had as main objective the development of a framework of European cooperation in the field of sport which envisaged nine actions. A second **EU Work Plan for Sport (2014-2017)** aimed at building on the achievements of the first plan and further develop the framework of EU cooperation in the fields of sport. Additionally, it follows the guiding principles to contribute to the priorities of the EU economic and social policy agenda, especially the EU 2020 Strategy and to complement the impact of the Erasmus+ programme in the sport area. In July 2017, a **third plan** was adopted building on the key topics developed in the previous plans and proposing further actions (see chapter 7.1).

Scope and objectives of the study

Given the importance of the sport industry in Europa and the growing role of the European Union in fostering participation in sport and the economic development of the sector, the main objective of the present study is to improve economic and policy knowledge and policy knowledge on the sport-related industries, with a particular focus on the sporting goods sector.

The study aims to help industry make business decisions based on accurate information and policy makers engage in evidence-based policy-making. The study also aims to provide a methodology on how to further generate spill-over effects into the wider economy.

The study focuses on **two main objectives**:

1. The first objective is to provide an economic and policy analysis of the competitiveness of the sporting goods industry;
2. The second objective is to formulate recommendations on how to increase the industrial competitiveness of the sport-related industries, particularly the sporting goods sector.

The scope of the study includes:

1. **Sector:** Sport-related industries, with particular focus on the sporting goods sector (see chapter 7);
2. **Geographical coverage:** The study covers all 28 Member States and countries participating in the COSME programme (Montenegro, Turkey, FYROM, Albania, Serbia, Moldova, Armenia and Iceland);
3. **Timeframe:** 10-year-development;

¹³ Lisbon Treaty (Articles 165 TFEU)

- 4. Stakeholders involved:** sporting goods enterprises (both manufacturers and retailers), industry experts, EU-wide sport-related organisations, business associations, national public authorities.

The next section of the report sets out the methodological approach in greater detail (Chapter 5), followed by a proposal or a definition of the sporting goods industry (Chapter 6), an overview (quantitative and qualitative) of the sport-related industry (Chapter 7), a comparison of different business models in the sporting goods sector (Chapter 8) and an overview of the competitiveness of the sector and its strengths, weaknesses, opportunities and threats (Chapter 9). The report draws this information together in a set of conclusions (Chapter 10) and recommendations (Chapter 11).

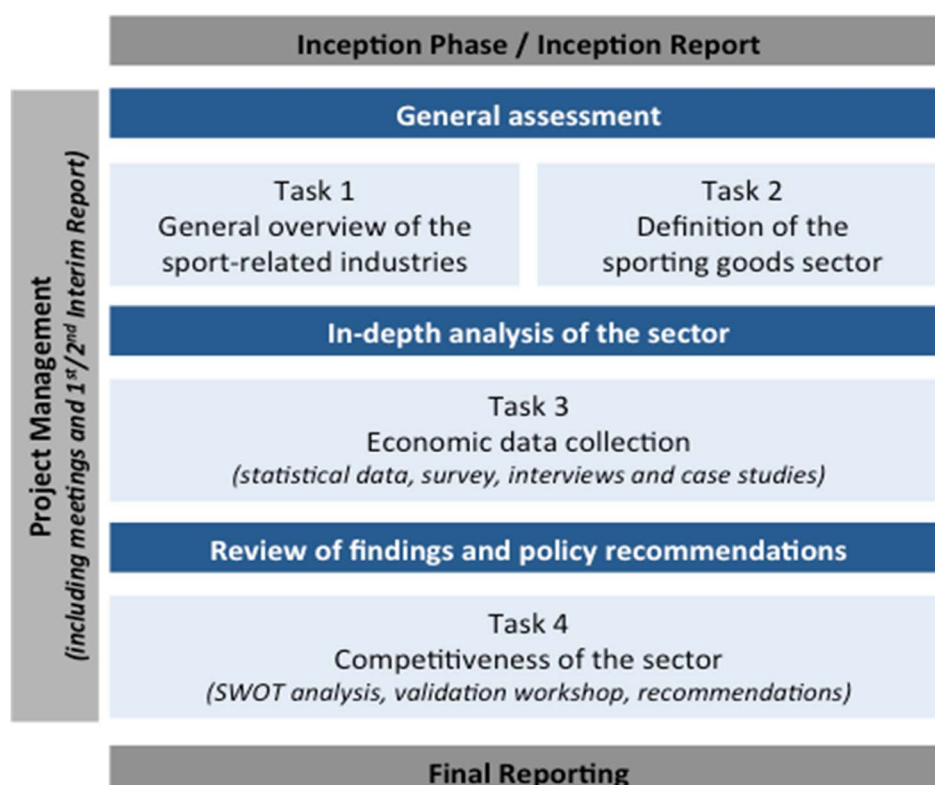
5. OVERALL METHODOLOGICAL APPROACH

The study follows a combination of different methods and it is split into four major tasks that build upon one another:

- Task 1: General overview of the sport-related industries
- Task 2: Definition of the sporting goods sector
- Task 3: Economic data collection
- Task 4: Competitiveness of the sector

The graph below presents an overview of the main tasks and their inter-relationships.

Figure 1 : Overall methodological approach



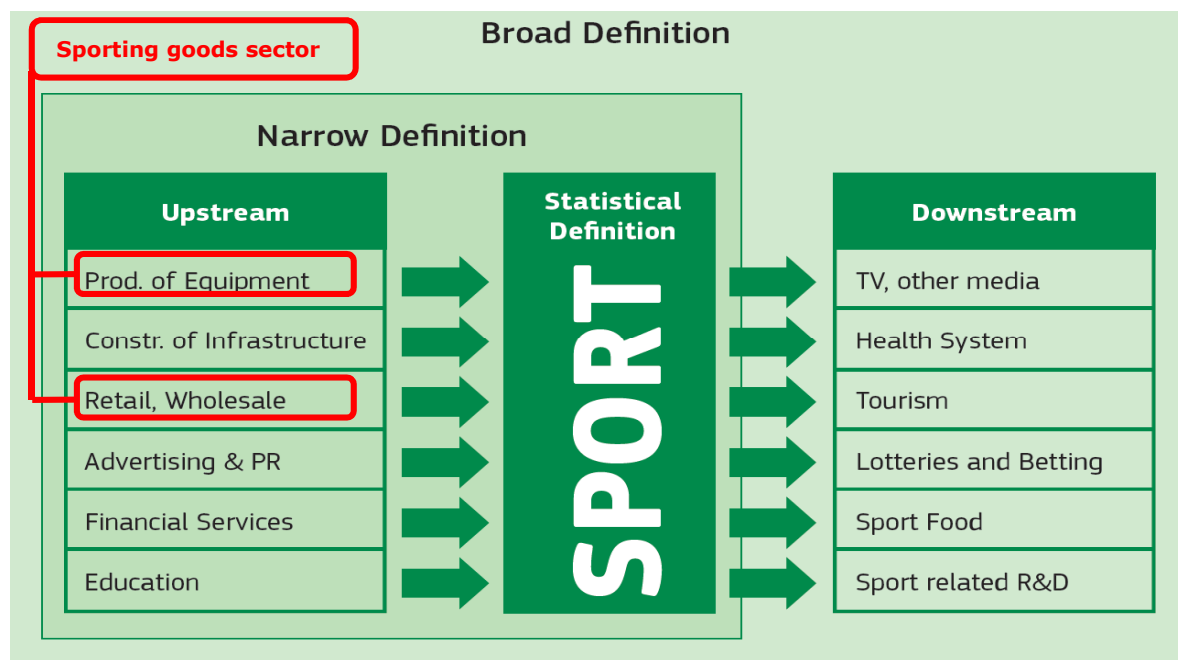
Source: Austrian Institute for SME Research, VVA

5.1. Market definition and statistical overview

Sport-related industries and the sporting goods sector

When framing the sport-related industries and, in particular, the sporting goods sector, the Vilnius Definition of sport is of special importance. It was set up in 2007 and was reviewed in 2013 (Vilnius Definition 2.0). As the following figure shows, it does not only include the so-called **"statistical definition of sport"** (CPA 2008 category 93.1 "Sporting services"), but also the corresponding upstream (included in the **"narrow definition"**) and downstream sport-related industries (included in the **"broad definition"**).

Figure 2: The Vilnius Definition of sport: upstream and downstream sport-related industries



Source: *European Commission* (2013a): Sport Satellite Accounts, p. 2, adapted by the Austrian Institute for SME Research and VVA

The **“statistical definition of sport”** comprises the operation of sport facilities such as swimming pools, sport arenas and stadiums, as well as services of sport clubs, sport facilities and the like. It is reflected in the NACE-code 93.1 “Sport activities” that covers the operation of sport facilities, activities of sport clubs, fitness facilities as well as other sport activities and in the corresponding CPA-code 93.1 “Sporting services”.

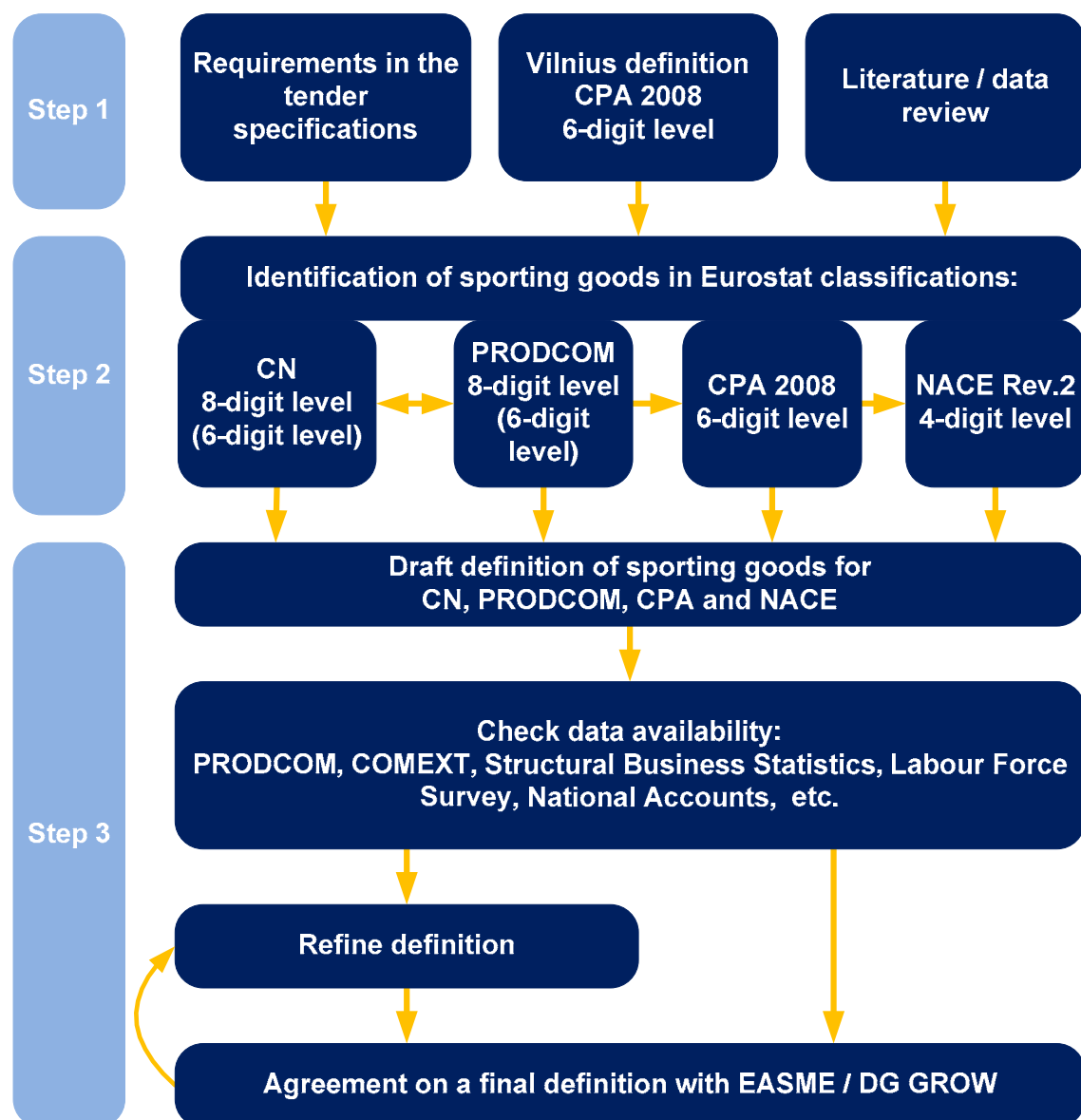
“Upstream sport-related industries” refer to those sub-sectors that produce goods and services needed for sport, i.e. athletic footwear, athletic apparel, exercise equipment/hardware, the construction of infrastructure, retail and wholesale, advertising & PR, financial services as well as sport education. The **sporting goods sector** – which is the focus of the current study and whose relevance will be further examined in chapter 7.3 – is part of the upstream sport-related industries and covers both production of equipment as well as retail and wholesale trade of sporting equipment (i.e. elements that are marked red in Figure 2). According to the Vilnius Definition, the statistical definition of sport, together with the upstream sport-related industries, make up the “narrow definition of sport”, referring to all products and services which are necessary as inputs for (doing) sport (“to produce sport as an output”).

“Downstream sport-related industries” refer to industries in which sport has a significant involvement, such as sport media, health, sport tourism, lotteries and betting, sport foods as well as sport-related R&D, but do not contribute directly to the core sport product. According to the Vilnius Definition, it comprises all products and services which have a (direct or indirect) relation to any sport activity but without being necessary to do sport (“which draw upon sport as an input”). Together, the statistical definition, the narrow definition as well as the downstream sport-related industries form the so-called “broad definition” of sport. Overall, all these activities are interconnected and form the “sport ecosystem”, i.e. the sport-related industries (AT Kearney, 2014).

Steps in the definition of sporting goods

The definition process as such comprised three different steps:

Figure 3: Process of defining the sporting goods sector



Source: Austrian Institute for SME Research, VVA

One of the main objectives of the study was to define the sporting goods sector in economic terms at the most detailed level possible in different EU industry classifications as well as goods classifications. The following classifications were taken into account:

- **CN – Combined Nomenclature:** European classification of goods used for foreign trade statistics; 8-digit level
- **PRODCOM:** Classification of goods used for statistics on the industrial production in the EU; 8-digit level
- **CPA - European Classification of Products by Activity;** 6-digit level
- **NACE - Nomenclature générale des Activités économiques dans les Communautés Européennes:** Statistical classification of economic activities in the European Communities; 4-digit level

Although being different classifications for different purposes, they are interrelated with each other. In general, they rely on a very similar structure and are therefore comparable to a high degree (please see chapter 6 for more details on the sporting goods definition).

Step 1: Framing the sporting goods sector

In general, the definition of the sporting goods sector takes into account the requirements of the tender specifications of the project, the “Vilnius Definition of Sport”, information on the sporting good share in codes of different classifications as well as recent literature / documents / data related to sporting goods.

According to the **tender specifications** of this study, the definition of the sporting goods sector shall take into consideration the following subsectors: textile, clothing, footwear, leather and leather accessories, sporting equipment and sporting accessories. These are reflected in the following NACE Codes:

- C 13 “Manufacture of textiles”
- C 14 “Manufacture of wearing apparel”
- C 15 “Manufacture of leather and related products” (including C 15.2 “manufacture of footwear”)
- C 32.3 “Manufacture of sport goods”
- G 47.64 “Retail sale of sporting equipment in specialised stores”
- N 77.21 “Renting and leasing of recreational and sport goods”

The most important source of information regarding the elements that make up the sporting goods sector is the latest edition of the “**Vilnius Definition of Sport**” (version 2.0, according to CPA 2008). Based on the “narrow definition” of sport¹⁴, CPA codes on the 6-digit level reflecting manufacturing, wholesale and retail trade of sporting goods are of high relevance.

Literature on the sporting goods industry including a definition of sporting goods is scarce. For instance, *Andreff/Andreff* (2009) list a number of sporting goods that can be subsumed as **sportswear**, **sporting footwear** and **sporting equipment/hardware**. In the field of sportswear they refer to e.g. sportswear as a whole, tracksuits, swimsuits and the like. In the field of sporting footwear they refer to sport shoes and ski boots, and in the field of sporting equipment/hardware, they list e.g. skis, sailing boats, motor boats, windsurf equipment, golf equipment, balls, sport motor cars, motor and non-motor bikes, airplanes, wind-gliders, other flying machines, sport fire arms, and fishing equipment.

The Federation of the European Sporting Goods Industry (FESI), which is the representative body for the sporting goods sector in Europe, has similar categories when it comes to sporting goods – they distinguish three different sectors/product categories: (athletic) **apparel**, (athletic) **footwear** and **equipment/hardware**.¹⁵

Under the **EU Work Plan for Sport 2014–2017** (for more information please see chapter 7.1), Eurostat, together with DG Education and Culture (DG EAC), has initiated the regular dissemination of harmonised statistics on sport. For instance, existing Eurostat trade data have been used to create a specific statistic called “International trade in sporting goods”, using the Harmonised System (HS)¹⁶ ¹⁷. Here, sporting goods are defined to include the following elements¹⁸:

- Skis and related equipment
- Skates

¹⁴ Narrow definition of sport: All products and services that are necessary as inputs for (doing) sport (“to produce sport as an output”)

¹⁵ <http://www.fesi-sport.org/content/about-sporting-goods-industry>

¹⁶ The definition of sporting goods according to the Harmonised System (HS) is not part of this study.

¹⁷ International trade in sporting goods using the Harmonised System (HS): <http://ec.europa.eu/eurostat/web/sport/data/database>, 11 December 2017

¹⁸ A detailed list of HS-codes assigned to these elements is enclosed in Annex 3 – trade in sporting goods.

- Boats and water sport equipment
- Golf equipment
- Racket sports (tennis and badminton) equipment
- Balls
- Gymnastic, athletic and swimming equipment
- Fishing equipment
- Bicycles
- Parachutes
- Sportswear
- Sport footwear
- Sporting and hunting shotguns

Step 2: Identification of sporting goods in the classifications

PRODCOM is the first classification to be considered in the process, because it is the most detailed classification (8-digit-level) and it is directly linked to all the other classifications: On the one hand, PRODCOM is to a great extent linked to the NACE classification on a 4-digit-level. On the other hand, there is a thorough conversion table from CN to PRODCOM, but not from CN to NACE or CPA. Step by step, the sporting goods sector is first identified in the codes available in CN and PRODCOM, and subsequently also in CPA and NACE.

Preparation phase: identification of relevant list of codes

1) The basis of the identification of codes related to sporting goods is the **Vilnius Definition 2.0** on **CPA 2008 6-digit level**. All codes that are assigned to the so called **"narrow definition of sport"** have been taken into account, because they include all sporting goods¹⁹. All codes related to sporting goods have been extracted, regardless of the share of sporting goods within these codes.

2) In a next step, the whole **CPA 2008 6-digit level** classification was used to identify further sporting goods, because not all codes that contain sporting goods are included in the Vilnius Definition (e.g. 14.31.10: panty hose, tights, stockings, socks and other hosiery, knitted or crocheted; 14.39.10: jerseys, pullovers, cardigans, waistcoats and similar articles, knitted or crocheted – these belong also to wearing apparel and might include sport stockings and socks and sport pullovers; 26.51.11: direction-finding compasses; other navigational instruments and appliances).

3) **CPA 6-digits** and **PRODCOM 6-digits** correspond to each other i.e. the two classifications are identical at the 6-digit level (except for some codes in retail trade – here, the code numbers as such are different but the description/content of the codes are identical). As a consequence, in order to link CPA 6-digits to the more detailed **PRODCOM 8-digit classification**, it is easy to see which PRODCOM 8-digits are assigned to the respective CPA/PRODCOM 6-digits.

4) Identification of codes related to sporting goods in **PRODCOM 8-digit codes**. All codes including sporting goods are taken into account, regardless of the share of sporting goods within the codes.

5) There is a conversion table between **PRODCOM 8-digit codes** and **CN 8-digit codes**. All sporting goods identified in PRODCOM 8-digit codes are also identified in CN 8-digit codes. One single PRODCOM 8-digit code can be assigned to more than one CN 8-digit code, as CN can be more detailed for some goods than PRODCOM.

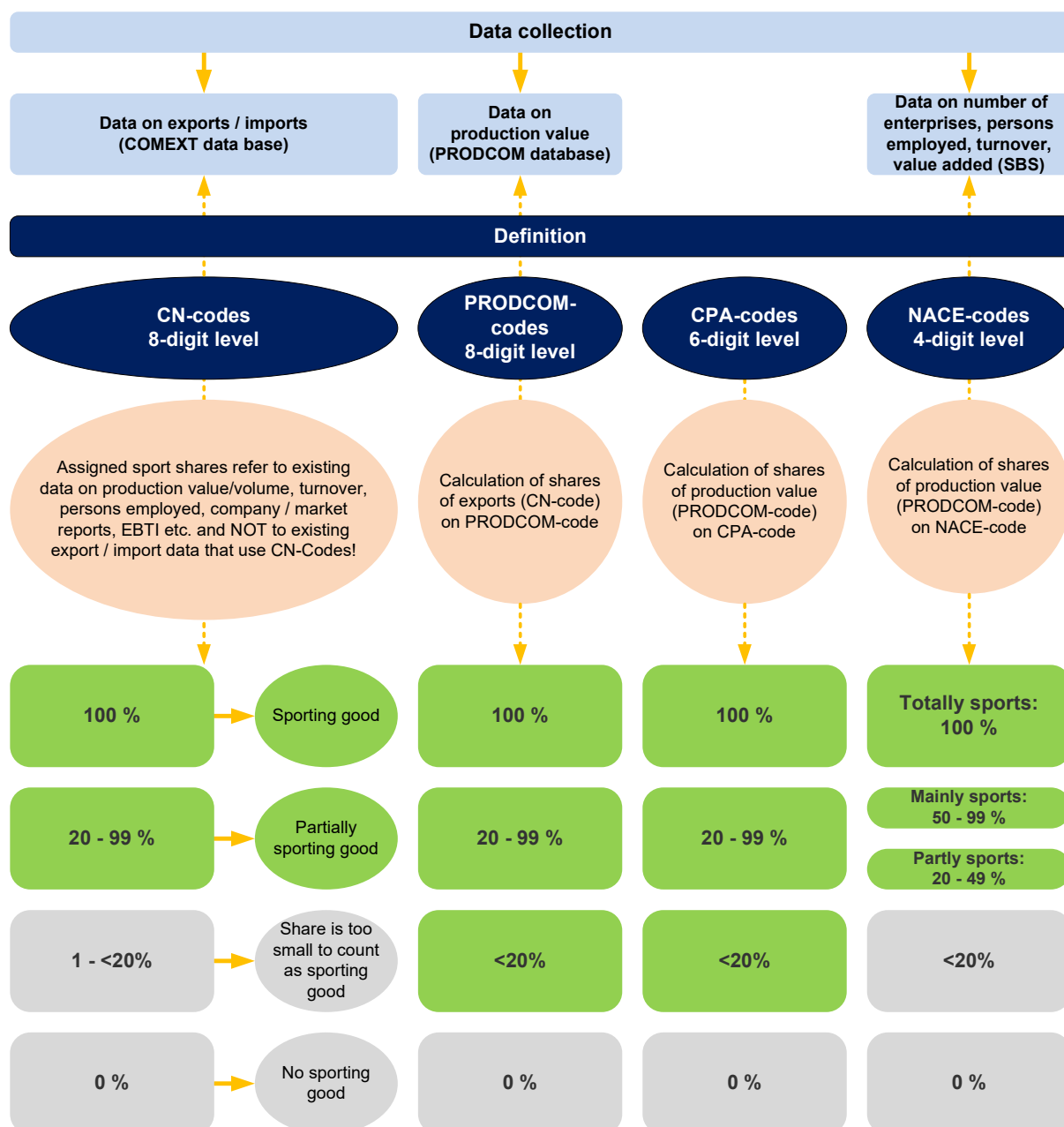
¹⁹ All products and services that are necessary as inputs for (doing) sport ("to produce sport as an output"); please note that "manufacture of chemicals and chemical products" (associated with "Medical care") as well as sectors referring to maintenance and repair have not been considered.

6) Comparison of all identified CN 8-digit codes with the already existing definition of sporting goods at Eurostat ("international trade in sporting goods") in the **HS classification (6-digit level)** to make sure that all HS codes related to sport are also reflected in the selection of CN 8-digit codes.

Assigning sporting goods shares to each of the codes

The preparation phase was followed by the **process of assigning sporting goods shares to each of the codes** in the different classifications – this process is depicted in more detail in Figure 4. Beginning with the most detailed CN classification, each code in each classification is assigned a specific sporting goods share. This share (rounded up or down to the next 10% step) is then taken into account to be applied in the data analysis.

Figure 4: Process of identifying codes related to sporting goods



Source: Austrian Institute for SME Research, VVA

Step 3: Draft definition, refinements and agreement on a final definition

The draft definition of codes related to sporting goods have been discussed in several loops with the Commission in order to arrive on a final definition of sporting goods in the classifications of CN, PRODCOM, CPA and NACE.

Data sources

The latest available and comparable data have been collected, covering the EU 28²⁰ and a time period from 2008-2016. In particular, the following data sources have been used for the data analysis:

- Eurostat: PRODCOM: production of sporting goods
- Eurostat: COMEXT: international trade (import, exports) in sporting goods
- Eurostat: Structural Business Statistics (SBS): number of enterprises, persons employed, turnover, value added
- Eurostat: Labour Force Survey (EU-LFS): employment
- Eurostat: Household Budget Survey (HBS): private expenditure on sporting goods and services
- Eurostat: European Health Interview Survey (EHIS): health determinants and socio-economic background variables
- Database of the World Intellectual Property Organization (WIPO): patents, trademarks, industrial design

UN Comtrade Database: international trade (imports, exports) in sporting goods for the Non-EU participants of the COSME programme Armenia, Iceland and the Republic of Moldova

From these statistics, the following indicators / variables have been retrieved in order to analyse the competitive position of the sporting goods sector:

- Number of enterprises / persons employed
- Business performance indicators: turnover, value added (GVA)
- Productivity (GVA per person employed)
- Enterprise size
- Production value of sporting goods
- Export and import of sporting goods
- Private household expenditure on sporting goods and services
- Performance of physical activities, amount of time spent on physical activity
- Intellectual property rights, e.g. patents, trademarks, industrial design rights

5.2. Enterprise survey and stakeholder survey consultation

The survey consultation gathered **121 responses** (81% of the target) from various categories of stakeholders. 45 of the responses were from sporting goods companies and 17 from sporting goods retailers across Europe. In terms of company size 20 answers were received from micro-sized companies, 12 from small-sized companies 4 from medium-sized companies and 8 from large companies.

It should be noted that the aim of the survey was not to provide a statistically representative picture of the sector or the different stakeholder groups (this would indeed require several thousand responses). Rather, the objective of the survey was to get a

²⁰ Data availability for the remaining countries participating in the COSME programme (Iceland, Montenegro, Turkey, the Former Yugoslav Republic of Macedonia, Albania, Serbia, Moldova and Armenia) is scarce. Whenever possible, available data from these countries are included in this report.

comprehensive overview of the range of views regarding the competitiveness of the sporting goods sector, beyond what could be achieved in direct interviews and to give a wider set of actors an opportunity to feed into the study. Thus, more responses were received from stakeholders which are closely related to the sporting goods sector and who felt they could comment best on the questions posed in the survey, namely: manufacturers, retailers, public authorities covering the sporting goods sector, research centres focusing on the sporting goods sector and some of the related sector associations.

Despite the fact that the survey does not aim to be statistically representative, considerable efforts were made to reach the target number of responses:

- The survey was launched in six languages, namely: English, French, German, Italian, Spanish and Polish.
- The study team disseminated the survey to a wide range of stakeholders, for which a very extensive stakeholder database was built. Several thousand stakeholders were contacted directly and asked to respond to the survey.
- Regular follow-ups (by email and phone) were carried out to improve responsiveness.
- Beyond direct contacts, the study team also shared the survey invitation with the Federation of the European Sporting Goods Industry (FESI) which disseminated it to their members.

As a result of these dissemination efforts, the study team is confident that the survey has gathered a comprehensive set of views regarding the competitiveness of the sporting goods sector and that it usefully complements the in-depth interview programme.

A sample of the survey questionnaire in English can be found in Annex 4. A breakdown of survey responses is provided in the table below. The vast majority of responses were received from sporting goods manufacturers (44 responses), followed by sporting goods retailers (17), public authorities (14), research centres (10), sector associations (9) and education or training institutions (7).

Table 1 : Breakdown of survey responses by stakeholder category

Type of company/organisation	Number of responses
Sporting goods manufacturer	45
Sporting goods retailer	17
Public authority	14
Research centre	10
Sector association	10
Education or training institution	7
Other	6
Sporting goods association	4
Chamber of commerce	3
Sport federation/club	3
General business association (including SMEs)	2
Trade union	0

The table below provides a breakdown of the responses received through the survey consultation by country. Four responses were received from EU-wide associations and a

small number of responses were received from COSME countries, namely FYROM, Republic of Moldova, Iceland or Turkey.

Table 2 : Mapping of survey responses

Country	Breakdown of responses by country
Austria	16
EU-wide organisations	4
Belgium	5
Bulgaria	4
Croatia	1
Czech Republic	2
Denmark	8
Finland	10
France	9
Germany	11
Greece	1
Hungary	6
Iceland	1
Ireland	1
Italy	5
Latvia	1
Lithuania	1
Luxembourg	1
Macedonia	1
Moldova, Republic of	1
Netherlands	1
Poland	7
Portugal	1
Romania	2
Slovenia	2
Spain	10
Switzerland	3
Turkey	1
United Kingdom	5

The survey questionnaire comprised a set of closed, semi-closed and open questions. The closed questions fed into the SWOT analysis and consisted of questions where stakeholders were asked to rank a list of pre-defined factors from relevant threat or weakness (-5) to neutral feature (0) up to great opportunity or strength (+5).

The study team concluded the final ranking of each factor by using averages for all the responses given. These were categorised into “major” and “less pronounced” factors feed into either strengths, weaknesses, opportunities and threats. The preliminary rankings of the SWOT factors were validated by interviewees in a later stage.

The survey questionnaire also included a number of questions on the level of competitiveness of the sporting goods sector, level of public support to foster development of the sector, recommendations on how to improve the sporting goods sector, etc. A full list of questions addressed in the survey consultation is provided in Annex 4.

5.3. Interviews with relevant stakeholders in the sporting goods industry

Stakeholder interviews represented an important step of the study as it gathered relevant input on the state of play of the sporting goods sector at national, European and international level. The research team performed **35 interviews** with different sport-related stakeholders. The first part of the interview related to the development of the sporting goods sector over the last decade at national, European and international level. The second part of the interview consisted of SWOT questions – interviewees were presented a preliminary list of factors based on the survey questionnaire and they were asked to validate the findings. In addition, valuable deeper insights were collected on the drivers of the development of certain factors of strengths, weakness, opportunities and threats in the sporting goods industry framework.

Lastly, the interviewees were asked a set of additional questions regarding the role of governance, policies and strategies in supporting the development of the sporting goods sector, as well as questions on the production costs, vocational training systems, competitiveness of the sector and recommendations on how to foster the sporting goods sector. A complete set of questions is provided in Annex 4.

The table below provides a breakdown of the stakeholders interviewed by country:

Table 3 : Breakdown of interviews by country

Country of origin	Number of interviewees
Czech Republic	2
EU-wide organisations	3
Finland	2
France	8
Germany	6
Ireland	1
Italy	4
Netherlands	1
Poland	1
Portugal	1
Slovakia	1
Spain	1
Sweden	1
Switzerland	1
United States	2

The table below provides a breakdown of the stakeholders interviewed by stakeholder category:

Table 4 : Breakdown of interviewees by stakeholder category

Stakeholder category	Number of interviewees
Education/training institution	5
Sport clusters	5
Other	1
Public authority	3
Sector association	4
Sport goods association	5
Sporting goods manufacturer	4
Sporting goods retailer	4
Sport federation	4

5.4. Company case studies

To gain an in-depth understanding of the sporting goods sector in Europe, 10 illustrative case studies were carried out. The case studies aimed at complementing the survey results and to allow an in-depth investigation of business models and strategies, relations in the production chain, product mixes and markets, the relative importance of investments in innovation and training in business plans, mid-term/-long term strategies, SME-specific challenges, access to finance issues, use of supporting services (technological centres, business consulting, etc.), co-operation links with international/national/regional partners, etc.

The identification of the case studies followed a thorough set of selection criteria. In the first instance, the 10 companies were chosen to reflect a set of “diversity criteria”, based on:

- Types of products;
- Company size;
- Main markets;
- Business models;
- Geographical aspects (different countries)
- Embedment in (national, international, local) networks, clusters, etc.

The case studies selected cover 10 different EU countries, which allowed the study team to collect views from businesses on different national environments. As mentioned above, coverage of a diversity of business models and products, but also companies of different sizes were key selection criteria for the case studies. The objective of the cases is not to provide a representative picture of the sector but to illustrate and compare key features of the different business models in operation in Europe. Due to sensitivity of some data requested, some companies contacted initially were reluctant to cooperate and some respondents requested anonymity. In addition to the interviews conducted with individual companies, as part of the cases studies, the study team complemented the contextual information (i.e. overview of the sector at national level) through additional interviews with other national stakeholders and through desk research. In two countries (Romania and Denmark), the study team did not conduct additional interviews beyond the interview with the case study company itself. This is due to a lack of responsiveness among the contacted stakeholders and difficulty in the case of Romania, difficulty identifying relevant stakeholders with specific knowledge of the sporting goods sector at national level.

The table below provides an overview of the profiles of each case study company. Each company is based in a different EU country. The case studies cover 2 large companies, 1 medium-sized company, 2 small-sized companies and 5 micro-sized companies. The companies also cover different product segments and business models, as well as different target markets.

Table 5 : Overview of case study companies

COMPANIES' OVERVIEW			
Country	Company size	Products	Main markets
AT	Micro	Ski equipment	Austria, Germany, Italy, Netherlands
DE	Large	Footwear, apparel and accessories for various types of sport	Europe, North America, China, Middle East, Asia
DK	Micro	Bicycles	Europe
FI	Micro	Footwear	Finland
FR	Large	Racquets, strings, accessories and footwear	United States, Japan and France
IT	Small	Ski equipment and apparel	Europe, Russia, Ukraine
PL	Micro	Ski equipment	Czech Republic, Slovakia, Austria, France, Italy, Germany and Switzerland
PT	Micro	Hockey and skate equipment and accessories	Portugal
RO	Medium	Sport apparel	Romania
SK	Small	Hockey apparel	Slovakia, Germany and Northern Europe

Due to the business confidentiality of the data provided, some of the companies requested anonymization of their responses. As a result, the study team does not disclose the names of the companies that participated in the cases and all data provided is reported without being attributed to a specific company in the main text of the report.

5.5. Validation workshop

As part of Task 4, the study team organised a workshop on the 25th of September as part of a House of Sports' event where the preliminary results of the study were presented, with a specific focus on the SWOT analysis and the recommendations on how to foster the competitiveness of the sporting goods sector. Through the workshop, additional input was collected and this is integrated in the present draft final report.

6. DEFINITION OF THE SPORTING GOODS SECTOR

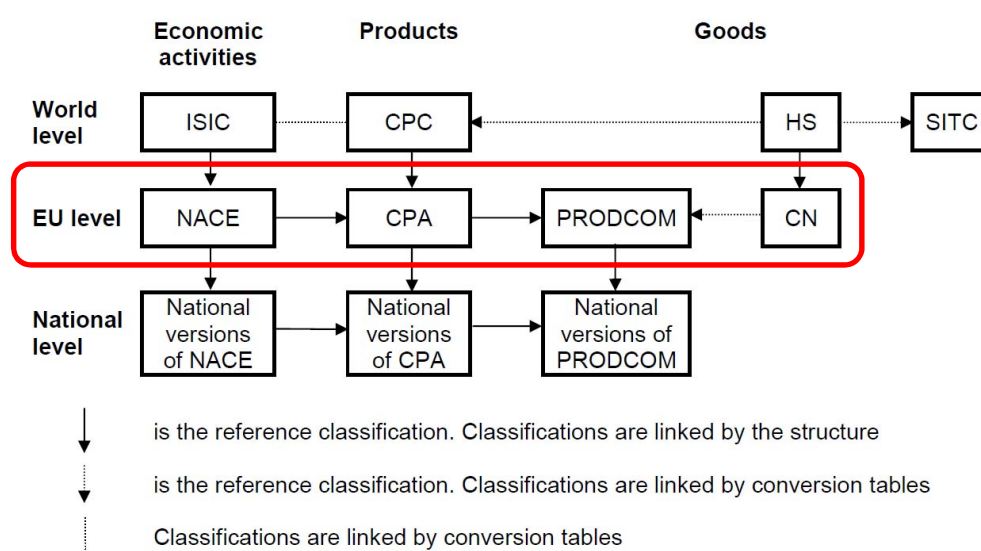
6.1. *Introductory notes*

One task of the study was to identify sporting goods in different EU industry classifications as well as goods classifications, i.e. NACE, CPA, PRODCOM and CN. Although being different classifications for different purposes, they are interrelated with each other (see Figure 5): In general, they rely on a very similar structure and are therefore comparable to a high degree.

NACE (NACE Rev. 2) is the European standard classification of economic activities²¹. Data according to NACE are used by among others, the Structural Business Statistics (e.g. number of enterprises, number of persons employed, turnover, value added) and the Business Demography.

CPA (CPA 2008) is a product classification whose elements are related to activities as defined by NACE Rev. 2. Each product - whether it is a transportable or a non-transportable good or a service - is assigned to one single NACE Rev. 2 activity.²² The linkage to activities as defined by NACE Rev. 2 gives the CPA 2008 a structure parallel to that of NACE Rev. 2 at all levels distinguished by NACE Rev. 2. The most detailed level of NACE Rev. 2 is the 4-digit level, while the most detailed level of CPA 2008 is the 6-digit level, i.e. CPA is more detailed than NACE. Therefore, the detailed linkage between products and activities can only be established to a certain degree. There are, nevertheless, cases where products can be assigned to activities only at a higher level than the class level or even where a class in CPA 2008 has no activity counterpart in NACE Rev. 2. Data based on CPA provide the basis for preparing statistics of output, the various inputs to the production process (labour, materials, energy etc.), capital formation and the financial transactions of such units.

Figure 5: Relation between NACE, CPA, PRODCOM and CN



Source: Eurostat, CPA 2008 Introductory Guidelines, p. 2

²¹ All enterprises are assigned to a NACE code according to their main business activity. As companies usually have several activities, the assignment is done by identifying the main focus of business activities (main share of the value added) and translating it to the respective NACE code. The NACE classification is used for statistical purposes. Data that are based on NACE, e.g. number of enterprises, number of persons employed, turnover, value added, always refer to the main business activity of the enterprise.

²² <http://ec.europa.eu/eurostat/documents/1995700/1995914/CPA2008introductoryguidelinesEN.pdf>, 19 January 2018

PRODCOM provides statistics on the production of manufactured goods (production value / production volume). The List of Products used for the Community Survey of Industrial Production (PRODCOM list) uses the structure of CPA 2008 for structuring the items in the field of the survey. The headings of the PRODCOM list are derived from the CN (as regards both their content and their terminology), but their code is a further breakdown of the CPA 2008 code. PRODCOM headings are coded using an 8-digit numerical code, the first four digits are the classification of the producing enterprise given by the Statistical Classification of Economic Activities in the European Community (NACE), the first six digits of which are identical to those of the CPA code. The remaining digits specify the product in more detail - products are identified by an 8-digit code. The PRODCOM list is therefore linked to, and thus consistent with, NACE and CPA. It is updated annually.

The **Combined Nomenclature (CN)** is a tool for classifying goods, set up to meet the requirements both of the Common Customs Tariff and of the EU's external trade statistics. The CN is also used in intra-EU trade statistics. It is a further development (with special EU-specific subdivisions) of the World Customs Organization's Harmonised System (HS) nomenclature, which is a systematic list of commodities applied by most trading nations (and also used for international trade negotiations). The structure of CN differs from NACE, CPA and PRODCOM. Some distinctions of CPA are not possible in CN, and the level of detail between the ranges of the products covered may also be quite different. Despite different classification criteria, in some areas, the structures of CPA and CN come closer to each other on the lower level of classifications. However, comparisons between these classifications are possible only by using conversion tables due to some differences of principle in the treatment of particular products. Just like the PRODCOM list, also the CN list is updated annually. The following table shows a summary of the classifications and their related data / indicators:

Table 6: Classifications and their related data / indicators

Classification	Description	Data / indicators
NACE	Industry classification, based on main activity of the enterprise	i.a. used in Structural Business Statistics, Business Demography: <ul style="list-style-type: none"> • Number of enterprises • Employment • Turnover • Value added etc.
CPA	Product classification (goods and services)	Basis for collecting and calculating statistics on the production, distributive trade, consumption, international trade and transport of such products
PRODCOM	Production of manufactured goods (covering sections B-C of NACE)	e.g. production value, production volume
CN	Goods classification	International trade data: exports, imports

In order to arrive at a sound and reasonable definition of sporting goods, three issues were taken into account:

- first, the definition of the sporting goods sector has to **include all branches and products** that are related to sporting goods;
- second, the sporting goods sector has to be **reflected in the codes** of the relevant economic activity / product codes and vice versa;
- third, **data availability** for the selected branches / products - i.e. codes containing relevant data - is crucial for making statements on the situation and development of the sporting goods sector.

6.2. Sporting goods in CN-codes

The starting point was a list of **CN-8-digit-codes** that potentially include sporting goods. For each CN-code, the share of sporting goods was assessed by taking into account existing data / information on production value / volume and turnover at EU or national level for this specific code or the corresponding area of sport²³. In case that data / information was not available at European level, also company / market research reports at national or company level as well as estimations from industry associations have been considered to determine a specific sport share²⁴. In addition, information from the European Binding Tariff Information (EBTI) was gathered²⁵ in order to thoroughly assess whether a specific code contains sporting goods or not. The main inclusion criterion of a code to be part of the sporting goods definition is a threshold of 20% of sporting goods within this specific code. All codes with a sporting goods share above this threshold were included, while all others were dismissed. The sporting goods shares that have been identified for each CN-code are also applied in all data analysis done with CN-codes in the current study. In order to simplify calculations with CN-data, the sport shares have been rounded in 10%-steps. The following table is a detailed list of CN-codes including sporting goods and their sporting goods share:

Table 7: CN-codes including sporting goods

CN 2016 code	CN 2016 description	Sport share in CN-code in % ¹	Sport share in CN-code for further calculations in % ²
6306 22 00	Tents of synthetic fibres (excl. umbrella and play tents)	67	70
6306 29 00	Tents of textile materials (excl. of synthetic fibres, and umbrella and play tents)	45	50
6306 30 00	Sails for boats, sailboards or landcraft, of textile materials	100	100
6306 40 00	Pneumatic mattresses of textile materials	45	50
6306 90 00	Camping goods of textile materials (excl. tents, awnings and sunblinds, sails, pneumatic mattresses, rucksacks, knapsacks and similar receptacles, filled sleeping bags, mattresses and cushions)	67	70
8804 00 00	Parachutes, incl. dirigible parachutes and paragliders, and rotachutes; parts thereof and accessories thereto, n.e.s.	100	100
9404 30 00	Sleeping bags, whether or non-electrically heated	67	70
6101 20 90	Men's or boys' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles of cotton, knitted or crocheted (excl. suits, ensembles, jackets, blazers, bib and brace overalls and trousers)	60	60
6101 30 90	Men's or boys' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles of man-made fibres, knitted or crocheted (excl. suits, ensembles, jackets, blazers, bib and brace overalls and trousers)	60	60
6101 90 80	Men's or boys' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles of textile materials, knitted or crocheted (excl. of cotton and man-made fibres, suits, ensembles, jackets, blazers, bib and brace overalls and trousers)	60	60
6102 10 90	Women's or girls' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles, of wool or fine animal hair,	60	60

²³ It has to be noted that the determination of CN-codes referring to sporting goods was not based on the respective export / import data available by CN. The reason is that export / import data can explain the sporting goods share in a code only to a restricted extent as the shares of exports / imports do not necessarily correspond to a general sporting goods content within a code.

²⁴ Please see Annex 3 for a detailed list of literature, statistical information / databases and online resources used as well as interest groups approached.

²⁵ http://ec.europa.eu/taxation_customs/dds2/ebti/ebti_home.jsp?Lang=en

CN 2016 code	CN 2016 description	Sport share in CN-code in %¹	Sport share in CN-code for further calculations in %²
	knitted or crocheted (excl. suits, ensembles, jackets, blazers, dresses, skirts, divided skirts, trousers, bib and brace overalls)		
6102 20 90	Women's or girls' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles, of cotton, knitted or crocheted (excl. suits, ensembles, jackets, blazers, dresses, skirts, divided skirts, trousers, bib and brace overalls)	60	60
6102 30 90	Women's or girls' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles, of man-made fibres, knitted or crocheted (excl. suits, ensembles, jackets, blazers, dresses, skirts, divided skirts, trousers, bib and brace overalls)	60	60
6102 90 90	Women's or girls' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles, of textile materials, knitted or crocheted (excl. of wool, fine animal hair, cotton and man-made fibres, suits, ensembles, jackets, blazers, dresses, skirts, divided skirts, trousers, bib and brace overalls)	60	60
6201 91 00	Men's or boys' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles, of wool or fine animal hair (excl. knitted or crocheted, suits, ensembles, jackets, blazers and trousers)	60	60
6201 92 00	Men's or boys' anoraks, windcheaters, wind jackets and similar articles, of cotton (not knitted or crocheted and excl. suits, ensembles, jackets, blazers, trousers and tops of ski suits)	60	60
6201 93 00	Men's or boys' anoraks, windcheaters, wind jackets and similar articles, of man-made fibres (not knitted or crocheted and excl. suits, ensembles, jackets, blazers, trousers and tops of ski suits)	60	60
6201 99 00	Men's or boys' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles of textile materials (excl. of wool, fine animal hair, cotton or man-made fibres, knitted or crocheted, suits, ensembles, jackets, blazers and trousers)	60	60
6202 91 00	Women's or girls' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles, of wool or fine animal hair (excl. knitted or crocheted, suits, ensembles, jackets, blazers and trousers)	60	60
6202 92 00	Women's or girls' anoraks, windcheaters, wind jackets and similar articles, of cotton (not knitted or crocheted and excl. suits, ensembles, jackets, blazers, trousers and tops of ski suits)	60	60
6202 93 00	Women's or girls' anoraks, windcheaters, wind jackets and similar articles, of man-made fibres (not knitted or crocheted and excl. suits, ensembles, jackets, blazers, trousers and tops of ski suits)	60	60
6202 99 00	Women's or girls' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles, of textile materials (excl. of wool, fine animal hair, cotton or man-made fibres, knitted or crocheted, suits, ensembles, jackets, blazers and trousers)	60	60
6112 11 00	Track-suits of cotton, knitted or crocheted	100	100
6112 12 00	Track-suits of synthetic fibres, knitted or crocheted	100	100
6112 19 00	Track-suits of textile materials, knitted or crocheted (excl. cotton or synthetic fibres)	100	100
6112 20 00	Ski-suits, knitted or crocheted	100	100
6112 31 10	Men's or boys' swimwear of synthetic fibres, knitted or crocheted, containing $\geq 5\%$ by weight of rubber thread	100	100
6112 31 90	Men's or boys' swimwear of synthetic fibres, knitted or crocheted (excl. containing $\geq 5\%$ by weight of rubber thread)	100	100

CN 2016 code	CN 2016 description	Sport share in CN-code in %¹	Sport share in CN-code for further calculations in %²
6112 39 10	Men's or boys' swimwear of textile materials, knitted or crocheted, containing ≥ 5% by weight of rubber thread (excl. synthetic fibres)	100	100
6112 39 90	Men's or boys' swimwear of textile materials, knitted or crocheted (excl. synthetic fibres and containing ≥ 5% by weight of rubber thread)	100	100
6112 41 10	Women's or girls' swimwear of synthetic fibres, knitted or crocheted, containing ≥ 5% by weight of rubber thread	100	100
6112 41 90	Women's or girls' swimwear of synthetic fibres, knitted or crocheted (excl. containing ≥ 5% by weight of rubber thread)	100	100
6112 49 10	Women's or girls' swimwear of textile materials, knitted or crocheted, containing ≥ 5% by weight of rubber thread (excl. synthetic fibres)	100	100
6112 49 90	Women's or girls' swimwear of textile materials, knitted or crocheted (excl. synthetic fibres and containing ≥ 5% by weight of rubber thread)	100	100
6211 32 31	Men's or boys' lined tracksuits, of cotton, with an outer shell of a single identical fabric (not knitted or crocheted)	100	100
6211 32 41	Men's or boys' lined tracksuit tops "upper parts", of cotton (not knitted or crocheted and excl. tracksuit tops with an outer shell of a single identical fabric)	100	100
6211 32 42	Men's or boy's lined tracksuit bottoms "lower parts", of cotton (not knitted or crocheted and excl. tracksuit bottoms with an outer shell of a single identical fabric)	100	100
6211 33 31	Men's or boys' lined tracksuits, of man-made fibres, with an outer shell of a single identical fabric (not knitted or crocheted)	100	100
6211 33 41	Men's or boys' lined tracksuit tops "upper parts", of man-made fibres (not knitted or crocheted and excl. tracksuit tops with an outer shell of a single identical fabric)	100	100
6211 33 42	Men's or boys' lined tracksuit bottoms "lower parts", of man-made fibres (not knitted or crocheted and excl. tracksuit bottoms with an outer shell of a single identical fabric)	100	100
6211 39 00	Men's or boys' tracksuits and other garments, n.e.s. of textile materials (excl. of cotton or man-made fibres, knitted or crocheted)	100	100
6211 42 31	Women's or girls' lined tracksuits, of cotton, with an outer shell of a single identical fabric (not knitted or crocheted)	100	100
6211 42 41	Women's or girls' lined tracksuit tops "upper parts", of cotton (not knitted or crocheted and excl. tracksuit tops with an outer shell of a single identical fabric)	100	100
6211 42 42	Women's or girls' lined tracksuit bottoms "lower parts", of cotton (not knitted or crocheted and excl. tracksuit bottoms with an outer shell of a single identical fabric)	100	100
6211 43 31	Women's or girls' lined tracksuits, of man-made fibres, with an outer shell of a single identical fabric (not knitted or crocheted)	100	100
6211 43 41	Women's or girls' lined tracksuit tops "upper parts", of man-made fibres (not knitted or crocheted and excl. tracksuit tops with an outer shell of a single identical fabric)	100	100
6211 43 42	Women's or girls' lined tracksuit bottoms "lower parts", of man-made fibres (not knitted or crocheted and excl. tracksuit bottoms with an outer shell of a single identical fabric)	100	100
6211 49 00	Women's or girls' tracksuits and other garments, n.e.s. of textile materials (excl. of cotton or man-made fibres, knitted or crocheted and goods of 9619)	100	100

CN 2016 code	CN 2016 description	Sport share in CN-code in %¹	Sport share in CN-code for further calculations in %²
6211 20 00	Ski suits (excl. knitted or crocheted)	100	100
6211 11 00	Men's or boys' swimwear (excl. knitted or crocheted)	100	100
6211 12 00	Women's or girls' swimwear (excl. knitted or crocheted)	100	100
6216 00 00	Gloves, mittens and mitts, of all types of textile materials (excl. knitted or crocheted and for babies)	57	60
6113 00 10	Garments, knitted or crocheted, rubberised (excl. babies' garments and clothing accessories)	57	60
6210 40 00	Men's or boys' garments of textile fabrics, rubberised or impregnated, coated, covered or laminated with plastics or other substances (excl. of the type described in subheading 6201,11 to 6201,19, and babies' garments and clothing accessories)	60	60
6210 50 00	Women's or girls' garments of textile fabrics, rubberised or impregnated, coated, covered or laminated with plastics or other substances (excl. of the type described in subheading 6202,11 to 6202,19, and babies' garments and clothing accessories)	60	60
6404 11 00	Sport footwear, incl. tennis shoes, basketball shoes, gym shoes, training shoes and the like, with outer soles of rubber or plastics and uppers of textile materials	100	100
6402 19 00	Sport footwear with outer soles and uppers of rubber or plastics (excl. waterproof footwear of heading 6401, ski-boots, cross-country ski footwear, snowboard boots and skating boots with ice or roller skates attached)	100	100
6403 19 00	Sport footwear, with outer soles of rubber, plastics, leather or composition leather and uppers of leather (excl. ski-boots, cross-country ski footwear, snowboard boots and skating boots with ice or roller skates attached)	100	100
4011 40 00	New pneumatic tyres, of rubber, of a kind used for motorcycles	40	40
4011 50 00	New pneumatic tyres, of rubber, of a kind used for bicycles	50	50
4013 20 00	Inner tubes, of rubber, of a kind used for bicycles	50	50
9303 20 10	Sporting, hunting or target-shooting shotguns, single-barrelled, smooth bore (excl. muzzle-loading firearms and spring, air or gas guns)	100	100
9303 20 95	Sporting, hunting or target-shooting shotguns, with one or two smooth bore combined with a rifled bore and double-barrelled smooth bore shotguns	100	100
9303 30 00	Sporting, hunting and target-shooting shotguns with one or more rifled bores (other than spring, air or gas guns)	100	100
9306 21 00	Cartridges for smooth-barrelled shotguns	45	50
9306 29 00	Parts of cartridges for smooth-barrelled shotguns; lead shot for air rifles and pistols	45	50
9306 30 90	Cartridges and parts thereof, n.e.s.	45	50
9306 90 90	Ammunition and projectiles and parts thereof, n.e.s. (excl. for military purposes)	45	50
9014 10 00	Direction finding compasses	50	50
8703 10 11	Vehicles specially designed for travelling on snow, with internal combustion piston engine	50	50
8703 10 18	Vehicles for the transport of persons on snow, not with internal combustion piston engine; golf cars and similar vehicles	50	50
8903 91 10	Sea-going sailboats and yachts, with or without auxiliary motor, for pleasure or sport	100	100

CN 2016 code	CN 2016 description	Sport share in CN-code in %¹	Sport share in CN-code for further calculations in %²
8903 91 90	Sailboats and yachts, with or without auxiliary motor, for pleasure or sport (excl. seagoing vessels)	100	100
8903 10 10	Inflatable vessels for pleasure or sport, of a weight ≤ 100 kg each	100	100
8903 10 90	Inflatable vessels, for pleasure or sport, of a weight > 100 kg each	100	100
8903 92 91	Motor boats for pleasure or sport, of a length ≤ 7.5 m (other than outboard motor boats)	100	100
8903 92 99	Motor boats for pleasure or sport, of a length > 7.5 m (other than outboard motor boats and excl. seagoing motor boats)	100	100
8903 99 10	Vessels for pleasure or sport, rowing boats and canoes, of a weight ≤ 100 kg each (excl. motor boats powered other than by outboard motors, sailboats with or without auxiliary motor and inflatable boats)	100	100
8903 99 91	Vessels for pleasure or sport, rowing boats and canoes, of a weight > 100 kg, of a length ≤ 7.5 m (excl. motor boats powered other than by outboard motors, sailboats with or without auxiliary motor and inflatable boats)	100	100
8903 99 99	Vessels for pleasure or sport, rowing boats and canoes, of a weight > 100 kg, of a length > 7.5 m (excl. motor boats and motor yachts powered other than by outboard motors, sailboats and yachts with or without auxiliary motor and inflatable boats)	100	100
8801 00 10	Gliders, without motor and not capable of being fitted with a motor, and hang gliders; balloons and dirigibles (excl. party balloons)	100	100
8801 00 90	Kites and other non-powered aircraft (excl. gliders, hang gliders, balloons and children's kites)	100	100
8802 20 00	Aeroplanes and other powered aircraft of an unladen weight ≤ 2,000 kg (excl. helicopters and dirigibles)	50	50
8711 10 00	Motorcycles, incl. mopeds, and cycles fitted with an auxiliary motor, with reciprocating internal combustion piston engine of a cylinder capacity ≤ 50 cm ³	40	40
8711 20 92	Motorcycles, incl. mopeds, with reciprocating internal combustion piston engine of a cylinder capacity > 50 cm ³ but ≤ 125 cm ³ (excl. scooters)	40	40
8711 20 98	Motorcycles, incl. mopeds, with reciprocating internal combustion piston engine of a cylinder capacity > 125 cm ³ to 250 cm ³ (excl. scooters)	40	40
8711 30 10	Motorcycles, incl. mopeds, with reciprocating internal combustion piston engine of a cylinder capacity > 250 cm ³ to 380 cm ³	40	40
8711 30 90	Motorcycles, incl. mopeds, with reciprocating internal combustion piston engine of a cylinder capacity > 380 cm ³ to 500 cm ³	40	40
8711 40 00	Motorcycles, incl. mopeds, with reciprocating internal combustion piston engine of a cylinder capacity > 500 cm ³ but ≤ 800 cm ³	40	40
8711 50 00	Motorcycles, incl. mopeds, with reciprocating internal combustion piston engine of a cylinder capacity > 800 cm ³	40	40
8711 90 10	Cycles, with an auxiliary electric motor with a continuous rated power ≤ 250 W	40	40
8711 90 90	Motorcycles, incl. mopeds, and cycles fitted with an auxiliary motor and side cars for motorcycles (excl. with reciprocating	40	40

CN 2016 code	CN 2016 description	Sport share in CN-code in %¹	Sport share in CN-code for further calculations in %²
	internal combustion piston engine, and cycles with continuous rated power ≤ 250 W)		
8714 10 10	Brakes and parts thereof, of motorcycles "incl. mopeds"	40	40
8714 10 20	Gear boxes and parts thereof, of motorcycles "incl. mopeds"	40	40
8714 10 30	Road wheels and parts and accessories thereof, of motorcycles "incl. mopeds"	40	40
8714 10 40	Silencers "mufflers" and exhaust pipes, and their parts, of motorcycles "incl. mopeds"	40	40
8714 10 50	Clutches and parts thereof, of motorcycles "incl. mopeds"	40	40
8714 10 90	Parts and accessories of motorcycles, incl. mopeds, n.e.s. (excl. brakes, gear boxes, road wheels, silencers, exhaust pipes, clutches, and their parts)	40	40
8712 00 30	Bicycles, not motorised, with ball bearings	50	50
8714 91 10	Frames for cycles (excl. for motorcycles)	50	50
8714 91 30	Front forks for cycles (excl. for motorcycles)	50	50
8714 91 90	Parts of front forks, for cycles (excl. for motorcycles)	50	50
8714 92 10	Rims for cycles (excl. for motorcycles)	50	50
8714 92 90	Spokes for cycles (excl. for motorcycles)	50	50
8714 93 00	Hubs and free-wheel sprocket-wheels for cycles (excl. for motorcycles and coaster braking hubs and hub brakes)	50	50
8714 94 20	Brakes, incl. coaster braking hubs and hub brakes, for cycles (excl. for motorcycles)	50	50
8714 94 90	Parts of brakes, incl. coaster braking hubs and hub-brakes, for cycles, n.e.s. (excl. for motorcycles)	50	50
8714 95 00	Saddles for cycles (excl. for motorcycles)	50	50
8714 96 10	Pedals for bicycles	50	50
8714 96 30	Crank-gear for bicycles	50	50
8714 96 90	Parts of pedals and crank-gear for bicycles, n.e.s.	50	50
8714 99 10	Handlebars for bicycles	50	50
8714 99 30	Luggage carriers for bicycles	50	50
8714 99 50	Derailleur gears for bicycles	50	50
8714 99 90	Parts and accessories for bicycles, and parts thereof, n.e.s.	50	50
9506 11 10	Cross-country skis	100	100
9506 11 21	Monoskis and snowboards	100	100
9506 11 29	Downhill skis (excl. monoskis and snowboards)	100	100
9506 11 80	Skis for ski-jumping	100	100
9506 12 00	Ski bindings	100	100
9506 19 00	Ski equipment for winter sports (other than skis and ski-fastenings [ski-bindings])	100	100
9506 70 10	Ice skates, incl. skating boots with skates attached	100	100
9506 70 30	Roller skates, incl. skating boots with rollers attached	100	100
9506 70 90	Parts and accessories for ice skates and roller skates, n.e.s.	100	100
6402 12 10	Ski-boots and cross-country ski footwear, with outer soles and uppers of rubber or plastics (excl. waterproof footwear of heading 6401)	100	100

CN 2016 code	CN 2016 description	Sport share in CN-code in %¹	Sport share in CN-code for further calculations in %²
6402 12 90	Snowboard boots with outer soles and uppers of rubber or plastics (excl. waterproof footwear of heading 6401)	100	100
6403 12 00	Ski-boots, cross-country ski footwear and snowboard boots, with outer soles of rubber, plastics, leather or composition leather and uppers of leather	100	100
9506 21 00	Sailboards	100	100
9506 29 00	Water-skis, surfboards and other water-sport equipment (other than sailboards)	100	100
9506 91 10	Exercising apparatus with adjustable resistance mechanisms	100	100
9506 91 90	Articles and equipment for general physical exercise, gymnastics or athletics (excl. exercising apparatus with adjustable resistance mechanisms)	100	100
4203 21 00	Specially designed gloves for use in sport, of leather or composition leather	100	100
9506 31 00	Golf clubs, complete	100	100
9506 32 00	Golf balls	100	100
9506 39 10	Parts of golf clubs	100	100
9506 39 90	Golf equipment (excl. balls, clubs and parts thereof)	100	100
9506 40 00	Articles and equipment for table-tennis	100	100
9506 51 00	Tennis rackets, whether or not strung (excl. table-tennis bats)	100	100
9506 59 00	Badminton and similar rackets, whether or not strung (other than tennis rackets and table-tennis bats)	100	100
9506 61 00	Tennis balls (excl. table tennis balls)	100	100
9506 62 00	Inflatable balls	100	100
9506 69 10	Cricket and polo balls	100	100
9506 69 90	Balls (excl. inflatable, golf, table-tennis, tennis, cricket and polo balls)	100	100
9506 99 10	Cricket and polo equipment (excl. balls)	100	100
9506 99 90	Articles and equipment for sport and outdoor games n.e.s; swimming and paddling pools	100	100
9507 10 00	Fishing rods	100	100
9507 20 10	Fish-hooks, whether or not snelled, unmounted	100	100
9507 20 90	Fish-hooks, whether or not snelled, mounted	100	100
9507 30 00	Fishing reels	100	100
9507 90 00	Line fishing tackle n.e.s; fish landing nets, butterfly nets and similar nets; decoys and similar hunting or shooting requisites (excl. decoy calls of all kinds and stuffed birds of heading 9705)	100	100
9504 20 00	Billiards of all kinds and accessories	100	100

¹ identified sport share based on data / reports / documents etc.

² rounded in 10%-steps for further calculation

Source: Austrian Institute for SME Research, VVA

6.3. ***Sporting goods in PRODCOM-codes***

The share of sporting goods in PRODCOM codes can be calculated by taking into account CN-codes with their sport shares and their respective trade data based on CN: On the one hand, the PRODCOM and the CN classification are linked with a conversion table at the 8-digit-level. On the other hand, the structure of the intra-EU and extra-EU export data based on CN highly correlates with the structure of PRODCOM data.

As shown in chapter 6.2 (Sporting goods in CN-codes), each CN-code has been assigned a specific sport share (ranging from 40% to 100% in 10%-steps), which is taken into account in order to calculate the sport shares in PRODCOM-codes. The sport shares identified in the CN-codes represent by and large the use in sport, i.e. the intention for a product to be used in sport (sport purpose), the share of sport in production, the sport market share in consumption etc. These assumptions can be transferred to PRODCOM, because PRODCOM is a product classification just like CN. Together with the specific sport shares in CN and the export data based on CN, a sport share for every PRODCOM 8-digit code can be calculated.²⁶

The following table is a detailed list of PRODCOM-codes including sporting goods and their sporting goods share:

Table 8: PRODCOM-codes including sporting goods

PRODCOM 2016 code	PRODCOM 2016 description	Sport share in PRODCOM-code in %¹	Sport share in PRODCOM-code for further calculations in %²
13.92.22.30	Tents (including caravan awnings)	67	70
13.92.22.50	Sails	100	100
13.92.22.70	Pneumatic mattresses and other camping goods (excluding caravan awnings, tents, sleeping bags)	64	60
13.92.23.00	Parachutes and rotochutes, parts and accessories (including dirigible parachutes)	100	100
13.92.24.30	Sleeping bags	70	70
14.13.11.20	Mens or boys' waistcoats, anoraks, ski-jackets, wind-cheaters, wind-jackets and similar articles, of knitted or crocheted textiles (excluding jackets and blazers)	60	60
14.13.13.20	Women's or girls' waistcoats, anoraks, ski-jackets, wind-cheaters, wind-jackets and similar articles, of knitted or crocheted textiles (excluding jackets and blazers)	60	60
14.13.21.30	Men's or boys' waistcoats, anoraks, ski-jackets, wind-jackets and similar articles (excluding jackets and blazers, knitted or crocheted, impregnated, coated, covered, laminated or rubberised)	60	60
14.13.31.30	Women's or girls' waistcoats, anoraks, ski-jackets, wind-jackets and similar articles (excluding jackets and blazers, knitted or crocheted, impregnated, coated, covered, laminated or rubberised)	60	60
14.19.12.10	Track-suits, of knitted or crocheted textiles	100	100
14.19.12.30	Ski-suits, of knitted or crocheted textiles	100	100
14.19.12.40	Men's or boys' swimwear, of knitted or crocheted textiles	100	100
14.19.12.50	Women's or girls' swimwear, of knitted or crocheted textiles	100	100

²⁶ Please see Annex 3 for more information on the correlations between PRODCOM data and export data based on CN as well as the sporting goods share calculations in PRODCOM.

PRODCOM 2016 code	PRODCOM 2016 description	Sport share in PRODCOM- code in %¹	Sport share in PRODCOM- code for further calculations in %²
14.19.22.10	Other men's or boys' apparel n.e.c., including tracksuits and jogging suits (excluding waistcoats, ski-suits, knitted or crocheted)	47	50
14.19.22.20	Other women's or girls' apparel n.e.c., including tracksuits and jogging suits (excluding waistcoats, ski-suits, knitted or crocheted)	62	60
14.19.22.30	Ski-suits (excluding of knitted or crocheted textiles)	100	100
14.19.22.40	Men's or boys' swimwear (excluding of knitted or crocheted textiles)	100	100
14.19.22.50	Women's or girls' swimwear (excluding of knitted or crocheted textiles)	100	100
14.19.23.70	Gloves, mittens and mitts (excluding knitted or crocheted)	60	60
14.19.32.00	Garments made up of felt or non-wovens, textile fabrics impregnated or coated	40	40
15.20.21.00	Sport footwear with rubber or plastic outer soles and textile uppers (including tennis shoes, basketball shoes, gym shoes, training shoes and the like)	100	100
15.20.29.00	Other sport footwear, except snow-ski footwear and skating boots	100	100
22.11.12.00	New pneumatic tyres, of rubber, of a kind used on motorcycles or bicycles	43	40
22.11.15.70	Inner tubes, of rubber	16	20
25.40.12.50	Shotguns, rifles, carbines and muzzle-loaders (including punt-guns, combination shotgun-rifles, sporting guns made to resemble walking sticks) (excluding military firearms)	96	100
25.40.13.00	Cartridges and other ammunition and projectiles and parts thereof, including shot and cartridge wads (excluding for military purposes)	47	50
26.51.11.20	Direction finding compasses (including magnetic, gyroscopic, binnacle and position finding)	50	50
29.10.52.00	Motor vehicles specially designed for travelling on snow, golf cars and similar vehicles	50	50
30.12.11.00	Sailboats (except inflatable) for pleasure or sport, with or without auxiliary motor	100	100
30.12.12.00	Inflatable vessels for pleasure or sport	100	100
30.12.19.30	Motor boats and motor yachts, for pleasure or sport (excluding outboard motor boats)	13	10
30.12.19.70	Other vessels for pleasure or sport n.e.c.; rowing boats and canoes	100	100
30.30.20.00	Balloons, dirigibles and other non-powered aircraft, for civil use (including sounding, pilot and ceiling balloons, meteorological kites and the like)	100	100
30.30.32.00	Aeroplanes and other aircraft of an unladen weight ≤ 2,000 kg, for civil use	50	50
30.91.11.00	Motorcycles and cycles with an auxiliary motor with reciprocating internal combustion piston engine ≤ 50 cm ³	40	40
30.91.12.00	Motorcycles with reciprocating internal combustion piston engine > 50 cm ³	37	40
30.91.13.00	Side cars for motorcycles; cycles with auxiliary motors other than reciprocating internal combustion piston engine	40	40

PRODCOM 2016 code	PRODCOM 2016 description	Sport share in PRODCOM-code in % ¹	Sport share in PRODCOM-code for further calculations in % ²
30.91.20.00	Parts and accessories of motorcycles and side-cars	40	40
30.92.10.00	Bicycles and other cycles (including delivery tricycles), non-motorised	49	50
30.92.30.10	Frames and forks, for bicycles	50	50
30.92.30.60	Parts and accessories of bicycles and other cycles, not motorised (excl. frames, front forks, lighting or visual signalling equipment of a kind used on bicycles)	50	50
32.30.11.31	Skis, for winter sports	100	100
32.30.11.37	Ski-bindings, ski brakes and ski poles	100	100
32.30.11.50	Ice skates and roller skates, including skating boots with skates attached; parts and accessories therefor	100	100
32.30.12.00	Snow-ski footwear	100	100
32.30.13.00	Water-skis, surfboards, sailboards and other water-sport equipment	100	100
32.30.14.00	Gymnasium or athletics articles and equipment	100	100
32.30.15.10	Leather sport gloves, mittens and mitts	100	100
32.30.15.30	Golf clubs and other golf equipment (including golf balls)	100	100
32.30.15.50	Articles and equipment for table-tennis (including bats, balls and nets)	100	100
32.30.15.60	Tennis, badminton or similar rackets, whether or not strung	100	100
32.30.15.80	Balls (excluding golf balls, table-tennis balls, medicine balls and punch balls)	100	100
32.30.15.90	Other articles and equipment for sport and open-air games, n.e.c.	100	100
32.30.16.00	Fishing rods, other line fishing tackle; articles for hunting or fishing n.e.c.	100	100
32.40.42.10	Articles and accessories for billiards (excluding mechanical counters, time meters and cue racks)	100	100

¹ calculated sport share based on CN-codes and CN-data. Please see Annex 3 for more information on the calculations.

² rounded in 10%-steps for further calculation

Source: Austrian Institute for SME Research, VVA

6.4. Sporting goods in CPA-codes

Due to the fact that PRODCOM and CPA classifications both refer to production data, it was easy to calculate the sporting goods share in CPA based on PRODCOM sport shares, because the six-digit level in both classifications is identical. The sporting goods shares in CPA-codes was calculated by taking into account the following elements:

- For codes in manufacturing: Sporting goods shares for each PRODCOM-code
- For codes in trade and services:
 - Corresponding production data according to PRODCOM
 - Share of sporting good-related PRODCOM-codes (8-digit level) within a 6-digit level CPA-code

The following table shows CPA-codes that were identified to include sporting goods:

Table 9: CPA-codes including sporting goods

CPA 2008 code	CPA 2008 description	Sport share in CPA-code in %	Rounded sport share in CPA-code for further calculations in %
13.9 2.22	Tarpaulins, awnings and sunblinds; sails for boats, sailboards or landcraft; tents and camping goods (including pneumatic mattresses)	19	20
13.9 2.23	Parachutes (including dirigible parachutes) and rotochutes; parts thereof	100	100
13.9 2.24	Quilts, eiderdowns, cushions, pouffes, pillows, sleeping bags and the like, fitted with springs or stuffed or internally fitted with any material or of cellular rubber or plastics	1	0
14.1 3.11	Men's or boys' overcoats, car coats, capes, cloaks, anoraks, windcheaters, wind-jackets and similar articles, knitted or crocheted	17	20
14.1 3.13	Women's or girls' overcoats, car coats, capes, cloaks, anoraks, windcheaters, wind-jackets and similar articles, knitted or crocheted	14	10
14.1 3.21	Men's or boys' overcoats, raincoats, car coats, capes, cloaks, anoraks, wind-cheaters, wind-jackets and similar articles of textile fabrics, not knitted or crocheted	29	30
14.1 3.31	Women's or girls' overcoats, car coats, capes, cloaks, anoraks, wind-cheaters, wind-jackets and similar articles of textile fabrics, not knitted or crocheted	12	10
14.1 9.12	Tracksuits, ski suits, swimwear and other garments, knitted or crocheted	84	80
14.1 9.22	Tracksuits, ski suits and swimwear; other garments of textile fabric, not knitted or crocheted	59	60
14.1 9.23	Handkerchiefs, shawls, scarves, veils, ties, cravats, gloves and other made-up clothing accessories; parts of garments or of clothing accessories, of textile fabric, not knitted or crocheted, n.e.c.	2	0
14.1 9.32	Garments made up of felt or non-wovens, textile fabrics impregnated or coated	40	40
15.2 0.21	Tennis shoes, basketball shoes, gym shoes, training shoes and the like	100	100
15.2 0.29	Other sport footwear, except snow-ski footwear and skating boots	100	100
22.1 1.12	New pneumatic tyres, of rubber, of a kind used on motorcycles or bicycles	40	40
22.1 1.15	Inner tubes, solid or cushion tyres, interchangeable tyre treads and tyre flaps, of rubber	8	10
25.4 0.12	Revolvers, pistols, non-military firearms and similar devices	29	30
25.4 0.13	Bombs, missiles and similar munitions of war; cartridges, other ammunition and projectiles and parts thereof	50	50
26.5 1.11	Direction-finding compasses; other navigational instruments and appliances	1	0
29.1 0.52	Vehicles for travelling on snow, golf cars and the like, with engines	50	50
30.1 2.11	Sailboats (except inflatable) for pleasure or sport, with or without auxiliary motor	100	100
30.1 2.12	Inflatable vessels for pleasure or sport	100	100
30.1 2.19	Other vessels for pleasure or sport; rowing boats and canoes	20	20

CPA 2008 code	CPA 2008 description	Sport share in CPA-code in %	Rounded sport share in CPA-code for further calculations in %
30.3 0.20	Balloons and dirigibles; gliders, hang gliders and other non-powered aircraft	100	100
30.3 0.32	Aeroplanes and other aircraft, of an unladen weight ≤ 2,000 kg	50	50
30.9 1.11	Motorcycles and cycles with an auxiliary motor with reciprocating internal combustion piston engine ≤ 50 cm ³	40	40
30.9 1.12	Motorcycles with reciprocating internal combustion piston engine > 50 cm ³	40	40
30.9 1.13	Motorcycles n.e.c.; side-cars	40	40
30.9 1.20	Parts and accessories of motorcycles and side-cars	40	40
30.9 2.10	Bicycles and other cycles, not motorised	50	50
30.9 2.30	Parts and accessories of bicycles and other cycles, not motorised, and of invalid carriages	35	40
32.3 0.11	Snow-skis and other snow-ski equipment, except footwear; ice skates and roller skates; parts thereof	100	100
32.3 0.12	Snow-ski footwear	100	100
32.3 0.13	Water-skis, surfboards, sailboards and other water-sport equipment	100	100
32.3 0.14	Gymnasium, fitness centre or athletics articles and equipment	100	100
32.3 0.15	Other articles and equipment for sport or outdoor games; swimming pools and paddling pools	100	100
32.3 0.16	Fishing rods, other line fishing tackle; articles for hunting or fishing n.e.c.	100	100
32.4 0.42	Articles for billiards, articles for funfair, table or parlour games; other games, coin- or disc-operated	3	0
45.4 0.10	Wholesale trade services of motorcycles and related parts and accessories	40	40
45.4 0.20	Specialised store retail trade services of motorcycles and related parts and accessories	40	40
45.4 0.30	Other retail trade services of motorcycles and related parts and accessories	40	40
45.4 0.40	Wholesale trade services on a fee or contract basis of motorcycles and related parts and accessories	40	40
46.1 6.12	Wholesale trade services on a fee or contract basis of clothing, fur and footwear	13	10
46.4 2.11	Wholesale trade services of clothing	12	10
46.4 2.12	Wholesale trade services of footwear	20	20
46.4 9.33	Wholesale trade services of sport goods (incl. bicycles)	100	100
47.0 0.65 ¹	Retail trade services of sporting equipment	100	100
47.0 0.66 ¹	Retail trade services of camping equipment	100	100
47.0 0.71	Retail trade services of clothing	12	10

CPA 2008 code	CPA 2008 description	Sport share in CPA-code in %	Rounded sport share in CPA-code for further calculations in %
47.00.72	Retail trade services of footwear	20	20
77.21.10	Rental and leasing services of recreational and sport goods	90	90

¹ The CPA-codes 47.00.65 and 47.00.66 correspond with the NACE-code 4764 Retail sale of sporting equipment in specialised stores.

Source: Austrian Institute for SME Research, VVA

6.5. **Sporting goods in NACE-codes**

In general, the determination of sporting goods shares in NACE-4-digit-level-codes is a challenging issue – in particular, the following two facts are responsible for this:

- In structural data according to NACE (e.g. Structural Business Statistics), a company, and thus their persons employed, turnover, value added, etc., is allocated to the industry in which is the main activity of the company. This means that indicators / data include also activities of the company that may have been accomplished in other sectors.
- The sporting goods share in a specific NACE-code may vary depending on the observed indicator, i.e. number of enterprises, persons employed, turnover or value added. While it is possible in terms of structural similarities to apply the (aggregated) sporting good shares from PRODCOM to NACE for the indicators "turnover" and "value added", it is very problematic to apply a specific sporting goods share for calculating the indicator "number of enterprises" or "persons employed"²⁷.

In order to provide a reasonable definition of sporting goods in NACE, a similar approach to *ESSnet Culture* (2012)²⁸ regarding the definition of the cultural and creative sector (CCS) was followed. Here, NACE-codes in the field of CCS are assigned a "cultural rank", i.e. to be either "totally cultural", "mainly cultural" or "partly cultural", depending on the cultural content in terms of description and products. In analogy to this procedure, the same was also applied for the sporting goods sector, i.e. the NACE-codes were assigned "totally sport" (100% sport share), "mainly sport" (50-99% sport share) or "partly sport" (20-49% sport share), by taking into account the sport content of a NACE code in terms of description, products and trade data. Codes with a sport share smaller than 20% were not taken into account.²⁹

The following table shows all NACE-codes with a sporting goods share of 20% and more:

²⁷ This can be highlighted by following example: Be it that one enterprise out of three of a specific NACE code is a sporting goods enterprise (sport share in the NACE code would be 33%), but as this enterprise happens to be a very large enterprise and the other two enterprises are not, this enterprise employs 750 employees of all 1,000 employees in this NACE code (which would make a sport share of 75%). Furthermore, it might generate 60% of the whole turnover and 50% of the whole value added in this NACE-code. The fact that the sport share in each indicator can be very different also makes it very problematic to calculate a specific number of enterprises / persons employed, because one single enterprise can be very small (e.g. with low share in employment, turnover and value added) or very large (e.g. with high share in employment, turnover and value added).

²⁸ *ESSnet Culture* (2012): European Statistical System Network on Culture. Final Report. http://ec.europa.eu/culture/library/reports/ess-net-report_en.pdf, 6 April 2017

²⁹ For more details regarding the definition of sporting goods in NACE-codes, please see Annex 3.

Table 10: NACE-codes including sporting goods

NACE Rev. 2 code	NACE Rev. 2 description	Sport share in NACE-code in %	Rounded percentage of sport share	Sport content in code
1419	Manufacture of other wearing apparel and accessories	23	20	p
2540	Manufacture of weapons and ammunition	30	30	p
3012	Building of pleasure and sporting boats	42	40	p
3091	Manufacture of motorcycles	38	40	p
3092	Manufacture of bicycles and invalid carriages	35	40	p
3230	Manufacture of sport goods	100	100	t
4540	Sale, maintenance and repair of motorcycles and related parts and accessories	30	30	p
4764	Retail sale of sporting equipment in specialised stores	100	100	t
7721	Rental and leasing of recreational and sport goods	90	90	m

Note: t..."totally sport" (100% sport share), m..."mainly sport" (50-99% sport share), p..."partly sport" (20-49% sport share)

The calculation / assessment is based on production and trade data, branch reports, share of sport related positions / codes within a NACE code

Source: Austrian Institute for SME Research, VVA

Although their sporting goods share is smaller than 20%, the following wholesale and retail trade codes are taken into account in the data analysis as well, as developments in these branches may allow conclusions on the apparel and footwear market:

Table 11: NACE-codes in wholesale and retail trade

NACE Rev. 2 code	NACE Rev. 2 description	Sport share in NACE-code in %	Rounded percentage of sport share
4616	Agents involved in the sale of textiles, clothing, fur, footwear and leather goods	13	10
4642	Wholesale of clothing and footwear	13	10
4649	Wholesale of other household goods (e. g. sport goods, bicycles)	8	10
4771	Retail sale of clothing in specialised stores	12	10
4772	Retail sale of footwear and leather goods in specialised stores	10	10

Source: Austrian Institute for SME Research, VVA

The estimation of the sporting goods share in these codes was based on information taken from company annual reports (e.g. Inditex, Esprit, OVS, Marks Spencer), statistical information (e.g. from Statista on the footwear market in Europe) as well as calculations in PRODCOM product groups and were then rounded in 10%-steps.³⁰

³⁰ Please see Annex 3 for detailed sources.

6.6. Challenges, shortcomings and solutions

Several challenges and shortcomings have been experienced in the frame of defining sporting goods in the different classifications CN, PRODCOM, CPA and NACE. Apart from gaps in the Vilnius Definition, the main difficulty was the fact that codes are disaggregated by materials and technology used to manufacture the goods rather than by the purpose / use, and that new and emerging sporting goods like wearables are included in codes with a very small sporting goods share. Another challenge was that existing codes cover different scopes of sporting goods. In the following, these challenges and shortcomings will be described in more detail, and possible solutions are provided.

Starting point: Vilnius Definition of Sport and CPA-codes

The starting point of the definition process was the "narrow definition" of the Vilnius Definition of Sport (based on CPA 6-digits). Furthermore, the total list of all CPA codes had to be examined as well, because not all codes containing sporting goods are included in the Vilnius Definition.

Some codes in the Vilnius Definition referring to sporting goods are assigned to the narrow definition of sport, although they do not include any sporting goods at all. Examples include:

- 14.12.11 to 14.12.22: Industrial and occupational clothes (do not include sport apparel)
- 15.20.12 and 15.20.13: Footwear other than sport footwear
- 21.20.11 to 21.20.24: Medicaments
- 25.40.14: Parts of military weapons and other arms
- 29.10.30: Motor vehicles for the transport of 10 and more persons
- 29.10.41, 29.10.42, 29.10.59: Goods vehicles and special purpose vehicles (other than sport vehicles, e.g. goods transport, fire-fighting vehicles, concrete-mixer lorries)
- 30.30.34: Aeroplanes with more than 15,000 kg (i.e. passenger airplanes)
- 32.50.22 and 32.50.50: Articles for medical or surgical purposes
- 33.11.12 to 33.20.70: Repair, maintenance and installation services
- Corresponding wholesale and retail trade of the above-mentioned goods

On the other hand, there are some codes that are not included in the Vilnius Definition of Sport at all (neither in the narrow nor in the broad definition), but are including sporting goods: Examples are:

- 14.31.10: Panty hose, tights, stockings, socks and other hosiery (includes sport stockings and socks)
- 14.39.10: Jerseys, pullovers, cardigans, waistcoats and similar articles (includes sport pullovers and clothes that might also be used for sport)
- 15.12.12: Luggage, handbags and the like (includes sporting bags)

Other inconsistencies of the Vilnius Definition of Sport that could be observed are:

- 30.12.99 is included in the Vilnius Definition (Sub-contracted operations as part of manufacturing of pleasure and sporting boats), while other "subcontracted operations" in other manufacturing branches are not included in the Vilnius Definition
- The Vilnius Definition includes manufacturing of all kinds of vehicles (e.g. also caravans and vehicles for camping) but leaves out wholesale and retail trade for

these vehicles. On the other hand, wholesale and retail trade of motor vehicles / passenger vehicles is included.

Solution: In order to overcome the above-mentioned inconsistencies, both the Vilnius Definition and the whole CPA list were screened and a total new list of codes (CPA 6-digit level) was created that includes all codes with sporting goods (regardless whether the sporting goods share within the code was high or very low).

Codes are disaggregated by materials and technology used to manufacture the goods rather than by the purpose / use

This was the main barrier in the process of the definition of sporting goods along existing classifications. Regardless of the classification examined, product classes tend to be disaggregated by materials and technology used to manufacture them rather than by the purpose / use of the good (e.g. for sport). This challenge is not new – it was already faced by *Andreff/Andreff* (2009) during the creation of a data set covering global trade in sport goods when defining sporting goods in the SITC classification (Standard International Trade Classification). Consequently, a definition of sporting goods along existing classifications such as CN, PRODCOM, CPA and NACE will not cover all sporting goods to 100 %, because the currently existing codes do not reflect sporting goods properly.

In particular, barriers have been observed in the following areas (according to CPA 6-digits):

- Textile, wearing apparel, garments
- Bags and rucksacks
- Aeroplanes, motor vehicles, motor cycles, bicycles, boats
- Tyres and other parts for motor vehicles, motor cycles and bicycles
- Cartridges, ammunition

Solution: The sporting good shares / sporting purpose within the codes in question have been assessed, preferably on the most detailed level (i.e. CN-level). This has been done by close examination of available data on international and national level, but also company / market reports as well as the European Binding Tariff Information (EBTI).³¹ The estimated share of sporting goods / sporting purpose in a code determines whether a code can be counted as sporting good or not. For the CN-classification, a threshold of 20 % has been deemed sufficient to declare whether a code represents a sporting good or not; all CN-codes with a sporting goods share of more than 20 % are considered to be sporting (or partially sporting) goods according to their sport share, while CN-codes with a share lower than 20 % were excluded. The assignment of sport shares in codes of the other classifications PRODCOM, CPA and NACE, which are on a higher aggregation level, were done via calculations (please see Annex 3 for details). Here, a 20 % threshold is not necessary, because the sport share can be calculated out of the data.

New and emerging sporting goods (e.g. wearables) are included in codes with a very small sporting goods share

Wearables like fitness trackers and sensors used in professional and amateur sport (i.e. performance metrics) are included in the following CN-codes that do not fall under the sporting goods category, because their share is very small (<20%):

- 9029 10 00: Revolution counters, production counters, taximeters, milometers, pedometers and the like;

³¹ Please see Annex 3 for sources used to determine specific sporting goods shares.

- 9029 90 00: Parts and accessories for revolution counters, production counters, taximeters, milometers, pedometers and the like, speed indicators and tachometers, and stroboscopes, n.e.s.;
- 9031 80: Instruments, appliances and machines for measuring or checking, not elsewhere specified in chapter 90 (excl. optical); and
- 9031 90: Parts and accessories for instruments, appliances and machines for measuring and checking, n.e.s.

Revolution counters and milometers are used in vehicles or other machines, production counters are used mainly in industrial production, taximeters are used in taxi cabs, pedometers and billiard meters are used in sport and leisure, but the whole sport share among this code is assessed to be very small. Instruments, appliances and machines for measuring or checking include not only sensors to be used in sport but also industrial sensors – the sport share is also very small here.

Solution: No solution could be provided in this case, as one has to deal with current classifications and data. Due to their small sport share (<20%), the above-mentioned codes cannot be included in the sporting goods definition. However, in terms of future changes in the classifications / codes there is the suggestion to establish separate codes for wearables and sensors used for sport / health purposes.

Existing codes cover different scopes of sporting goods

Despite the above-mentioned shortcomings, the different classifications also contain codes / areas that can be totally or mainly assigned to sporting goods, such as the NACE 4-digit codes³² 32.30 "Manufacturing of sport goods", 47.64 "Retail sale of sporting equipment in specialised stores" (both totally sport), as well as 77.21 "Renting and leasing of recreational sports goods" (mainly sport). Anyway, it seems that the codes do not encompass different sporting goods to an equal extent. For instance, NACE 32.30 "Manufacturing of sport goods" consists of the following subcategories (CPA 6-digit level):

- 32.30.11: Snow-skis and other snow-ski equipment, except footwear; ice skates and roller skates; parts thereof
- 32.30.12: Snow-ski footwear
- 32.30.13: Water-skis, surfboards, sailboards and other water-sport equipment
- 32.30.14: Gymnasium, fitness centre or athletics articles and equipment
- 32.30.15: Other articles and equipment for sports or outdoor games; swimming pools and paddling pools (includes golf and all ball sports)
- 32.30.16: Fishing rods, other line fishing tackle; articles for hunting or fishing n.e.c.

These subcategories do not reflect different kinds of sport to the same extent: for instance, snow-ski sport has two different codes at the 6-digit level (32.30.11 and 32.30.12), while different kinds of ball sports (e.g. golf, tennis, balls) and swimming and paddling pools are subsumed in one single CPA code 32.30.15 "Other articles and equipment for sports or outdoor games; swimming and paddling pools". This is also the case for 32.30.14 ("Gymnasium, fitness centre or athletics articles and equipment") that subsumes all indoor sport equipment. So the differentiation along different subcategories in the field of sport goods manufacturing seems to overrepresent winter and ski sports while many other kinds of sport are subsumed at the same observation level. This is especially the case on the CPA 6-digit level, but in particular for goods assigned to 32.30.14 and 32.30.15, this can

³² And, accordingly, the corresponding CPA 6-digit, PRODCOM 8-digit and CN 8-digit codes

also be observed at the corresponding PRODCOM and CN 8-digit levels, where no further differentiation is available.³³

Solution: Again, no solution can be provided for this study, as one has to deal with current classifications and data. However, in terms of future changes in the classifications / codes there is the suggestion to establish categories and sub-categories of sporting goods without overrepresenting a specific kind of sport and treat different kinds of sport goods more equally. To be more concrete, we would suggest the following:

- For CPA 32.30.14 ("Gymnasium, fitness centre or athletics articles and equipment"), we would suggest a breakdown into the two codes "Exercising apparatus with adjustable resistance mechanisms" and "Articles and equipment for general physical exercise, gymnastics or athletics (excl. exercising apparatus with adjustable resistance mechanisms)" according to the current corresponding CN-codes 9506 91 10 "Exercising apparatus with adjustable resistance mechanisms" and 9506 91 90 "Articles and equipment for general physical exercise, gymnastics or athletics (excl. exercising apparatus with adjustable resistance mechanisms".
- For CPA 32.30.15 ("Other articles and equipment for sports or outdoor games; swimming and paddling pools"), the corresponding detailed PRODCOM- and CN-codes for example distinguish various ball sports but there remains a very big code (in terms of production, import and export values) for "Other articles and equipment for sport and open air / outdoor games, including swimming and paddling pools" (PRDOCOM-code 32.30.15.90 and CN-code 9506 99 90). In addition to introduce a new code for ball sports for CPA, we also suggest to split the existing big code for "Other articles and equipment for sport..." into different types of outdoor sports including one for swimming and paddling pools on CPA 6-digit level as well as PRODCOM and CN 8-digit-level.

³³ On the 8-digit level, mainly similar products are listed in one code – here, unequal categorisation issues have not been observed to such an extent as on the 6-digit level.

7. OVERVIEW OF THE SPORT-RELATED INDUSTRIES (DOWNSTREAM AND UPSTREAM), FOCUSING ON SPORTING GOODS

7.1. EU policy framework in the field of sport

During the last decades, there has been an increased demand for participation in sport, sporting goods, live sport events and sport broadcasting. This has led to a fast **growth in the economic significance** of sport. Also, sport-related industries have benefited greatly from the economic globalisation (Andreff / Szymanski, 2006). The European Union has acknowledged sport as an important economic driver. This is reflected in the **Lisbon Treaty** (Articles 165 TFEU), where the European Union is given a supporting, coordinating and supplementary role in promoting European sporting issues and developing the European dimension in sport.

The European Commission has launched several sport-related initiatives: The **White Paper on Sport (COM(2007) 391 final)** represents one of the first attempts of the EC to address sport-related issues in a comprehensive manner and to acknowledge the societal role and economic dimension of sport. The White Paper represents the basis for further EU actions in the sport industry and it is based, among others, on consultations with stakeholders from the sport industry. In the field of the **societal role of sport**, several objectives were envisioned, including the enhancement of public health through physical activity, fight against doping, enhancing the role of sport in education and training, promoting volunteering and active citizenship through sport, using sport for social inclusion, integration and equal opportunities, fight against racism and violence, or supporting sustainable development. Furthermore, it highlights the **economic dimension of sport** and its importance as a dynamic and fast-growing sector by putting public support for sport on a more secure footing and moving towards evidence-based sport policies. As regards the latter, it was announced that a European statistical method consisting of satellite accounts for sport in Member States was going to be developed leading to a European Satellite Account for Sport that allows to measure the economic impact of sport.³⁴ Also, the EU Expert Group on Sport Statistics consequently developed a common definition of sport ("Vilnius Definition"; see also chapter 7.2 "Main characteristics of sport-related industries"). Furthermore, in the White Paper the organisation of sport is discussed, including specificities of sport (e.g. sporting rules, sport structure), free movement and nationality, transfers, players' agents (e.g. negotiations, signing of contracts), protection of minors, corruption, money laundering and other forms of financial crime, but also the relationship between sport and media. (Department for Culture Media & Sport, 2011; European Commission, 2007).

The **EC Communication on Developing the European Dimension in Sport (COM(2011) 12 final)** acknowledges the enhanced EU-level cooperation and dialogue on sport reinforced by the actions proposed in the above mentioned White Paper on Sport. It builds on the same topics, i.e. societal role of sport, the economic dimension of sport as well as the organisation of sport, and proposes further actions. It emphasises the potential of sport to contribute significantly to the goals of the Europe 2020 strategy for smart, sustainable and inclusive growth (e.g. improve employability, promoting social inclusion). With regard to the economic dimension of sport, again, evidence-based policy-making in the field of sport is mentioned, e.g. measuring the economic importance of sport through a Sport Satellite Account. Also, it calls for actions in the field of sustainable financing of sport, e.g. creating mechanisms for the collective selling of media rights, making sure revenues are adequately distributed, and further addresses the issue of sport-related intellectual property rights³⁵. In the field of regional development and employability, the Communication suggests to make use of EU funds to support sustainable sport structures and to take full advantage of sport as a tool for local and regional development, urban

³⁴ This has been implemented by SportsEconAustria et al. (2012) in their study on the contribution of Sport to Economic Growth and Employment in the EU.

³⁵ Please see also chapter 7.3.6. on intellectual property rights

regeneration, rural development, employability, job creation and labour market integration. (*European Commission, 2011a*)

The **EU Work Plan for Sport (2011-2014)** had the main purpose to foster a framework of European cooperation in the field of sport and to further develop the European dimension in sport. The three-year EU work plan envisaged nine actions in three different priority themes:

- Integrity of sport, in particular fight against doping and match-fixing and the promotion of good governance,
- Social value of sport, in particular health, social inclusion, education and volunteering, and
- Economic aspects of sport, in particular sustainable financing of grassroots sport and evidence-based policy making.

As regards the “economic aspects of sport”, two actions have been formulated:

- Recommend ways to promote data collection to measure the economic benefits of the EU sport sector in line with the Vilnius definition and evaluate the results, and
- Recommend ways to strengthen financial solidarity mechanisms within sport.

For each action included in the plan, the creation of expert groups was encouraged, i.e. on anti-doping, good governance in sport, education and training in sport, sport, health and participation, but also for sport statistics as well as sustainable financing of sport. (*Official Journal of the European Union, 2011*)

The second **EU Work Plan for Sport (2014-2017)** had the main objective to build on the achievements of the first EU Work Plan for Sport and to further develop a framework of European cooperation in the field of sport. In addition, it follows the guiding principles to contribute to the priorities of the EU economic and social policy agenda, especially the EU 2020 Strategy and to complement the impact of the Erasmus+ programme in the sport area. The three key topics of the Work Plan are: integrity of sport, the economic dimension of sport, as well as sport and society. Five expert groups were set up by the Member States and the Commission to address these priority themes: match-fixing, good governance, economic dimension, health-enhancing physical activity (HEPA) and human resources development in sport. The expert groups are also responsible for analysing the situation of the protection of minors and gender equality in sport. With regard to the economic dimension of sport, actions include recommendations to measure the economic benefits of sport, recommendations on the legacy of major sport events (social, economic and environmental sustainability), as well as preparing a practical guideline on how to encourage sustainable financing in sport. (*Official Journal of the European Union, 2014; Council of the European Union, 2017b*)

In July 2017, the third and current **EU Work Plan for Sport (2017-2020)** has been adopted. It builds on the same key topics as in former Work Plans and proposes further actions in the fields as follows (*Council of the European Union, 2017a*):

- Integrity of sport: anti-doping, good governance, safe-guarding of minors, specificity of sport
- Economic dimension of sport: innovation in sport (awareness raising, exchange of good practices), sport and the digital single market
- Sport and society: sport and media, role of coaches, education in and through sport, social inclusion, sport and health, sport and environment, sport diplomacy

Since 2009, the European Commission has also been working with EU Member States and Erasmus+ partner countries as well as sport organisations on sport issues of common EU interest and exchanging **best practices** in **sport-related policies**. It promotes the

economic development of the sport sector, particularly via tourism, fitness, media and education. The **Erasmus+ programme** has been supporting education, training, youth and sport activities including sport project of all kinds since 2014. The sport strand of the Erasmus+ programme has a budget of EUR 265 million over seven years. It aims at supporting collaborative partnerships and non-for-profit European sport events. Furthermore, the EU is working with Member States and sport bodies on the governance of sport across Europe, tackling threats including match-fixing, doping, violence, corruption and racism. The EU also supports sport activities bringing people together and fostering social inclusion (e.g. of migrants). For instance, the **European Week of Sport** consists of different initiatives at EU, national and regional level supported through Erasmus+ aiming at encouraging European citizens to take up a physical activity. (European Commission, 2016a; European Parliament, 2017)

7.2. Main characteristics of sport-related industries

7.2.1. Statistical definition of sport (Vilnius Definition, NACE 93.1)

According to studies from Deloitte (2017b, 2016a), in 2016, Europe was the largest fitness market in the world with a total market volume of approx. EUR 26.7 billion, followed by the United States (EUR 23.4 billion). By revenue, the biggest European fitness markets are the UK, Germany, France, Italy and Spain - they account for almost two thirds of the total European market (*ibid.*). There were over 56.4 million registered **health and fitness club members** in Europe by the end of 2016 (*ibid.*). According to the World Health Organisation, sport clubs represent the pillar of the sport movement and play an important role in addressing low levels of physical activity in Europe³⁶.

In terms of employment, Eurostat provides a specific statistic called "**Employment in sport**"³⁷, which focuses mainly on the statistical definition of sport according to the Vilnius Definition (people employed in the economic sector 93.1 - "sport activities" in the NACE classification). In addition, persons working outside the sector as "sports and fitness workers" are included (coded in the ISCO-08 classification as 342).³⁸ The most recent data of the "employment in sport" statistic show, that approx. 1.6 million persons are employed in the field of sport activities in the EU 28 in 2015.³⁹ The countries with the most persons employed in sport in terms of absolute numbers include the United Kingdom, Germany, Spain, France and Italy. In total they employ 69% of all persons employed in sport. In the EU 28, employment in sport has increased by 9% since 2011. On average, 0.74% of all employment in the EU 28 is in sport, with Sweden, United Kingdom, Finland, Denmark and Spain having the highest shares with more than 1% of all persons employed in sport. Also Iceland has a percentage higher than 1% employed in sport. Poland, Bulgaria, Turkey, FYR of Macedonia, Croatia and Romania are among the countries where employment in sport is below average.

7.2.2. Upstream relations of sport (Vilnius Definition)

The sporting goods sector⁴⁰ is part of the upstream sport-related industries and covers both production of equipment as well as retail and wholesale trade of sporting equipment. The sporting goods sector is very diverse and different in terms of geography (the weather has an impact on the practice of outdoor sports), demographic size (which matters for the important sport events) as well as behavioural and cultural aspects (some countries are more used to practising particular sport).⁴¹ It includes different sub-sectors (i.e. winter sports, summer sports, outdoor) and different production areas (i.e. footwear, apparel).⁴² It is estimated that approx. two thirds of the sporting goods sector consists of footwear

³⁶ <http://www.euro.who.int/en/health-topics/disease-prevention/physical-activity/activities/hepa-europe/hepa-europe-projects-and-working-groups/sport-clubs-for-health>

³⁷ <http://ec.europa.eu/eurostat/web/sport/employment-in-sport/data/database>

³⁸ By sticking only to those codes that are fully related to sport, Eurostat's conservative approach underestimates sport's spill-over effects on manufacturing and services. However, the advantage of this approach is that it is based on a transparent, practical methodology which produces data that are comparable between countries and over time.

³⁹ Sport-related occupations in the sport sector (ISCO 342*NACE 93.1), non-sport occupations in the sport sector (NACE 93.1) and sport-related occupations (ISCO 342) outside the sport sector.

⁴⁰ Please see chapter 7.3 for a detailed description of the economic importance of the sporting goods sector in Europe.

⁴¹ Interview with an international sporting goods manufacturer

⁴² Interview with a German sporting goods manufacturer

and apparel, with a large proportion being multipurpose products (used in people's daily life, for fashion purposes).⁴³ In these sub-sectors there are similarities between Europe and the biggest sporting goods market USA. For example, Nike and Adidas are the two major players in footwear and apparel.⁴⁴

In the field of upstream sport-related industries, **advertising** or **sport marketing** is an important sector, as it focuses on the promotion of sport events and various brands. On the one hand, many sporting goods producers engage in sponsorship to increase the visibility of their brands, enhance their image and gain deeper engagement with their fans while also expanding sales as a long-term goal (*Jeanrenaud*, 2006). Sponsors thereby increasingly use data mining methods as well as two-way communication via social media allowing them to gain better understanding of their target groups (*PWC*, 2011). On the other hand, sponsorship can be an important source of revenue for certain countries - for instance, in the BRIC countries⁴⁵, sponsorship represents the biggest part of the sport market (*ibid.*). According to the European Sponsorship Association (ESA), the size of the European sponsorship market in 2016 was EUR 27.2 billion, an increase of 5.7% from the 2015 figure of EUR 25.7 billion⁴⁶.

In-stadium enhancements, visitor loyalty programs, and experiential personalisation are introduced in order to compete with continuously improving home viewing experience. Investments in augmented reality (AR) and virtual reality (VR) technology are intensified to improve the experience of fans. The downside of the increased adoption of digital technology, analytics, and online presence of the industry is that it is increasingly exposed to cyber-crime. (*Deloitte*, 2017a)

7.2.3. Downstream relations of sport (Vilnius Definition)

One important downstream relation of sport is to **TV and other media**. The rapid development of technology has contributed to the expansion of broadcasters and broadcasting sport channels. Furthermore, the digital technology has significantly contributed to the progress of the broadcasting landscape. As a consequence, consumers have the ability to watch sport programmes in higher quality and through various means, such as terrestrial, digital satellite, cable, internet and other means. Having a wide variety of sport channels has allowed minority sport such as darts or snooker to enter the broadcasting calendar. As a result, broadcasters have competed against each other in order to secure the rights for these sports, generating an increase in revenue for the owners of the sporting rights. (*Andreff / Szymanski*, 2006)

At the global level, after gate revenues (32.6%) and sponsorship (28.8%), media rights produce the third largest category of profit, accounting for 24.1% of the total sport market⁴⁷ (*PWC*, 2011). Europe, Middle East and Africa (EMEA) make up for the largest proportion of the total global market (42%), followed by North America (33%) (*ibid.*). Revenues in the market for sport events are very much driven by media rights and sponsorship, while the traditional dominance of ticketing is coming under pressure (*ibid.*). There is also an increasing number of non-traditional media companies pursuing sport rights (*Deloitte*, 2017a). Numerous broadcasting companies have invested in interactive portals which allow them to combine online TV screening with social media, giving them the possibility to communicate with fans and intensifying the delivered experience (*ibid.*). This may be a consequence of the increasing importance of mobile technologies and social media, which are deemed to be transforming sport and sport business⁴⁸. In this way, it can be observed that the sport and entertainment industries increasingly converge with both sectors adapting to challenges of new digital technologies (*PWC*, 2011).

Sport and especially sporting events have a major impact on the development of **tourism**. Sport tourism is one of the most dynamic and fast-growing sectors of the leisure industry and a very important socio-cultural and economic phenomenon (i.a. *Radicchi*, 2013; *Ross*,

⁴³ Interview with a French sport economist

⁴⁴ Interview with International Association of Sport Economics

⁴⁵ Brazil, Russia, India and China

⁴⁶ ESA Releases 2016 Industry Figures <https://sponsorship.org/esa-releases-industry-figures/>, 25 September 2017

⁴⁷ Consisting of sponsorships, gate revenues, media rights fees and merchandising (see *PWC*, 2011)

⁴⁸ The Telegraph, The importance of social media in sport, 23rd of June 2015 <http://www.telegraph.co.uk/investing/business-of-sport/social-media-in-sport/>

2001). It combines elements of tourism and sport by offering a wide variety of activities for different target groups (e.g. children, youth, women, men, seniors). Sport tourism is based on two factors, i.e. destination and type of activity. Depending on the physical activity that is associated with sport tourism, it may be more or less active or passive. *Active sport tourism* includes holidays/trips where sport is the main motivation or one of the reasons. *Passive sport tourism* includes holidays/trips where people fulfil the role of spectators and supporters while attending sport events. It also includes the organisation of fan groups to attend football matches. (Radicchi, 2013) Hosting a major sporting event is deemed to raise the profile of the city/country involved and thus attract many tourists. This is the case of cities such as Barcelona, London, or Athens, which have hosted Olympic Games. Sport tourism is also an important tool for local and regional development, because major sporting events also attract long-term investment. For example, London has significantly improved public transport in the eastern part of the city during the Olympics in 2012⁴⁹. Another example is the Ski World Cup 2013 taking place in Schladming, Austria, a mountain region in the province of Styria that relies mainly on tourism. In the context of the World Cup, the tourism infrastructure was improved and renewed - 1,200 beds have been newly created, existing accommodations have been upgraded and expanded. Most of the investment came from private investors, with the federal government and the province of Styria supporting the expansion of the infrastructure with subsidies.⁵⁰ In the last years, the sport events market has registered a significant growth worldwide. Between 2009 and 2013 - which can be identified as a sport cycle that included the Winter Olympics and World Cup in 2010 and Summer Olympics and the UEFA European Championship in 2012 - sport market revenue increased from approx. EUR 50 billion in 2009 to EUR 64 billion in 2013 (AT Kearny, 2014).

The **gambling sector** is also an important downstream sport-related industry. Betting on sport events has a very long history and this sector relies mainly on major leagues in America and Europe, due to the high-profile sport products (Andreff / Szymanski, 2006). According to the European Gaming and Betting Association⁵¹, the regulated European betting market (online and offline) was worth EUR 94.2 billion in 2015 and is expected to grow to EUR 109.2 billion in 2020. Gambling can stimulate interest in sport and provide additional sources of revenue of which in turn also the sporting goods sector profits (see Forrest, 2006). On the other side, gambling may also introduce incentives for corruption and may cause demand for stadium and television events to fall as well as threatening sponsorship income (*ibid.*).

There is a common understanding that sporting activities have positive implications on the public **health system**. An unhealthy population has a direct impact on social security and healthcare costs. Unhealthy lifestyles, lack of physical activity and a poor diet can lead to noncommunicable chronic diseases (NCD), such as cardiovascular diseases and diabetes. NCDs are counted among the leading causes of death for both men and women worldwide (Michellini / Thiel, 2013). Therefore, since the end of 20th century, the promotion of physical activity and healthy lifestyles has gained a priority for governments and also the EU. For instance, the EU health policy serves to complement national policies, and to ensure health protection in all EU policies. Among others, EU policies and actions in the field of public health aim to protect and improve the health of EU citizens.⁵²

The growing trend towards physical fitness has resulted in adopting a healthy lifestyle and healthy food habits, leading to an increasing demand for sport nutrition and sport food, such as energy bars, protein bars and sport gels. The global **sport food** market has been developing very favourably during the last years. In 2015, it amounted to approx. EUR 4,000 million, with an expected annual growth rate of 9.2 % in the forecast period to 2022 (P&S Market Research, 2016).

Sport-related R&D is also an important downstream relation. Sporting goods companies, both large and small, spend millions each year for the development of new and improved products for the benefit of athletes and amateurs. The protection of IPR plays a key role

⁴⁹ <http://www.economicshelp.org/blog/4909/economics/advantages-of-hosting-a-major-event/>

⁵⁰ <https://newsroom.austriatourism.com/2013/02/tourismus-zieht-positive-bilanz-der-ski-wm/>

⁵¹ <http://www.egba.eu/facts-and-figures/market-reality/>

⁵² https://ec.europa.eu/health/policies/overview_en

for sport manufacturers to being able to proceed in investing in the research & development of more effective and affordable equipment for athletes of all kinds. Progress in materials and engineering processes, such as lighter, more durable and sophisticated materials, benefit nearly all sport. Especially the growth prospects of smart sportswear and wearables, such as health, fitness and sport trackers, are assessed very high. (Schaefer, 2012)

7.2.4. Value and development of the sport-related industries

It is estimated that the **global sport-related industry** - comprising sporting goods, licensed products, health and fitness clubs, other non-event activities as well as events - is worth approx. EUR 500 billion to EUR 590 billion annually, representing about 1 percent of global GDP. Generated revenues amount to EUR 260 billion for sporting goods and licensed products (including sport apparel, equipment, and footwear); a revenue of EUR 90 billion is generated in sport clubs (comprising fitness clubs, yoga classes, personal training etc.); and between EUR 85 billion and EUR 170 billion is generated in other areas such as infrastructure construction, food and beverage or betting. (AT Kearney, 2014)

According to the EU 27⁵³ Sport Satellite Account that has been created in 2012⁵⁴, the **sport-related industry⁵⁵ in the EU 27** accounts for 1.76% (direct impact) of its gross value added (GVA) and 2.12% of its employment (*SportsEconAustria et al.*, 2012). When the indirect impact (multiplier effects) is taken into account as well, these percentage shares increase to 2.98% and 3.51%, respectively. The following table illustrates the overall position of the sport industry within the EU:

Table 12: The economic value of sport in the EU, 2005¹

	EU sport GVA (direct)	EU sport GVA (direct and indirect)	EU sport employment (direct)	EU sport employment (direct and indirect)
%	1.76%	2.98%	2.12%	3.51%
Value	€ 174bn	€ 294bn	4.46 m persons	7.38 m persons

¹ Due to data constraints, the base year for calculations was 2005

Source: SportsEconAustria et al., 2012

According to the broad definition of sport (Vilnius definition), the **top sport sectors** in terms of GVA within the European Union are the recreational sector (cultural and sporting services), followed by education services and hotel and restaurant services (*European Parliament*, 2015). However, there is a wide gap between Western and Eastern Europe in terms of income. In absolute terms, the GVA per capita produced by the sport industry in Eastern Europe ranges between EUR 5 and EUR 10, whereas in Western Europe it ranges between EUR 50 and EUR 100 per capita (*ibid.*). It is shown that richer countries spend more on sport than poorer countries – not only in an absolute but also in a relative sense with higher shares of GVA of sport observed in higher income countries and lower shares in lower income Member States (*ibid.*).

As shown in the table above, in the year 2005, **sport-related employment⁵⁶** in the EU 27 amounts to 2.12% of the total employment, which equals 4.46 million employees (*SportsEconAustria et al.*, 2012). Since the employment share in the sport-related field is consistently above GVA, the sport field is considered labour intensive and produces a high amount of employment (*European Parliament*, 2015). Growth in the sport sector therefore leads to additional employment and it is pointed out that sport can potentially contribute to fight unemployment (*European Commission*, 2013a; *SportsEconAustria et al.*, 2012). In

⁵³ Without Croatia

⁵⁴ More recent data are not available, as the Sport Satellite Account has not been updated since then.

⁵⁵ According to the broad Vilnius Definition of sport

⁵⁶ According to the broad Vilnius Definition of sport

comparison, the tourism industry, which represents a much larger sector, accounts for 9% of people employed at EU level⁵⁷.

While the sport industry accounts for a significant number of jobs at EU level, statistics at national level indicate a large variability in sport-related employment across Member States. The country with the largest number of sport-related jobs is Germany with 1.15 million jobs in this sector, which accounts for 27% of all sport-related jobs at EU level (broad definition), followed by the UK with over 610,000, and France with over 410,000 jobs in the sport sector (*European Parliament*, 2015).

The **discrepancies between EU Member States** in terms of GVA and employment are not only of economic nature, but also influenced by other factors such as geography. For instance, Austria is more winter tourism-oriented due to its relief, with about half of Austria's revenue from tourism being sport-related and 9.1% of all over-night-stays within the EU booked in Austria (in 2005) (*ibid.*). Cyprus on the other hand focuses on the services sector, such as betting, radio, TV, trade and construction (*ibid.*). The focus of Dutch consumers is on practicing sport, visiting and betting on sport events, as well as watching them on TV (*ibid.*). Poland covers a wide variety of sport-related industries including recreation, education, manufacturing or construction (*ibid.*). In this sense, the highest sport-related multiplier in Poland is the food products and beverages sector (*SportsEconAustria et al.*, 2012). Overall, countries ranking high in the sport services sector are the UK, Ireland, Austria and Poland. Germany has a strong position in both the goods and services sectors (*European Parliament*, 2015).

7.2.5. Interrelations / synergies with other sectors, spillover effects, clusters

While the economic importance of the sport-related industries⁵⁸ is recognised and has been shown in different studies, it is pointed out that the sector remains underestimated especially regarding spillover effects it can have on the overall economy (*FESI*, 2014).

As a highly innovative sector, the sporting goods industry gives impulses regarding new technologies and other innovations to other economic activities but also takes up innovations developed in other industries. It can help improve the performance of athletes, improve viewer experience or help monitor sporting activities. It is also pointed out that sport and innovation can play a major role in tackling societal challenges, such as e.g. physical inactivity, sustainable development and educational gaps (*ibid.*). The sport-related industry can contribute to higher sport participations rates (e.g. by developing safer equipment / material; offering cheaper sport goods enabling more people to perform a certain sport) and thereby also positively influence factors such as health, well-being or social inclusion.

Interrelations / synergies / crossover effects with other sectors

As regards interrelations with different other economic sectors, the sport-related industries have a **positive impact on the macroeconomic level** and thereby contribute to the prosperity of the EU (*European Commission*, 2007). The interrelations of a specific economic sector with other economic activities can be calculated via input-output analyses and sectoral multipliers measuring the impact in total economic activity generated by a one-unit change in one sector (*SportsEconAustria et al.*, 2012). High multipliers can be observed for sectors with strong relations to the rest of the domestic economy and few imports, whereas multiplier barely exceed the minimum value of 1 if an impulse to a sector is hardly transferred to other economic branches or leaves the country (imports of intermediate goods) (*ibid.*). The following table illustrates the very **high multipliers** of some economic activities associated with sport such as sport services and construction.

⁵⁷ Eurostat, Tourism industries – employment http://ec.europa.eu/eurostat/statistics-explained/index.php/Tourism_industries_-_employment

⁵⁸ According to the broad definition of sport in the Vilnius Definition

Table 13: Indirect EU multipliers of industries with strong ties to sport

Sporting Services	Construction	Wholesale trade	Retail trade	Food products and beverages
1.76	2.14	1.82	1.71	2.06

Source: SportsEconAustria, 2012

As a labour-intensive sector, the sport-related industries also create more jobs than on average in the economy. Every new job in the sport-related industries creates 0.65 new jobs in related industries outside of the supply chain (*SportsEconAustria et al.*, 2012). Due to its interrelations it is expected that investing in the sport industry has positive spillover effects in manufacturing, research and innovation (*FESI*, 2014).

Many industrial sectors of the EU economy, including manufacturing, construction or tourism, feed into sport and benefit from it. Construction and tourism are the sectors with the highest multiplying effects but also fitness and the media and education show important interrelations with the sport sector:

- **Tourism:** There is a close linkage between tourism and sport. Between 12 and 15 million international trips per year are made worldwide that have the main purpose of watching sport events (*FESI*, 2014). The hotel and catering industry make almost one out of ten euros of value added generated in European sport activities (EUR 17 billion out of EUR 174 billion) (*ibid.*). Furthermore, studies estimate that about a quarter of all touristic effects can be traced back to sport (*Felderer et al.*, 2006). There are thus positive spillover effects of sport tourism on the rest of the economy (*FESI*, 2014). The organisation of sport events can contribute to the structural expansion of tourism and boost sport-related industries (*ibid.*). While Europe has ranked high in terms of number of organised sport events, new competitors with big markets increasingly challenge Europe as an attractive sport host (*ibid.*). For some of the member states such as Austria, Germany, Italy and Sweden regularly practiced sport tourism (such as skiing, trekking, etc.) is of major importance (*SportsEconAustria et al.*, 2012). The hotel and restaurant sector substantially contributes to the sport industry share in these countries (*ibid.*). Especially in Austria and Italy international tourism constitutes an important income source (*ibid.*). With the COSME Programme, the European Commission supports tourism (*European Commission*, 2010) providing financing for projects that aim at increasing tourism demand; diversifying tourism; strengthening the quality, sustainability and accessibility of tourism, and related skills, information and innovation; improve socio-economic knowledge in the sector and increase Europe's visibility as a tourist destination. (*FESI*, 2014)
- **Construction:** Sport has also spillover effects on the construction sector with over EUR 3 billion of value added in the construction sector being created by sport. Sport activities require major investments in infrastructure – such as stadiums, arenas and buildings. This entails job creation in the construction sector as the construction of sport infrastructure is very labour intensive. The investment in sport infrastructure can also positively impact regions – besides the construction of infrastructure, the local areas hosting the sport events can benefit from the maintenance upgrading to energy saving and sustainable infrastructure or also from investments in transport and ICT. (*FESI*, 2014)
- **Fitness and the media:** In some North-Western European countries such as Sweden and the Netherlands commercial sport suppliers including fitness clubs play an important role in the total demand for sport activities. In the UK professional football and the media are of special importance with pay television for football matches that have become a significant economic activity. (*SportsEconAustria et al.*, 2012)
- **Education:** Some EU countries stand out when it comes to the value attached to sport in the educational context: Denmark, Estonia and Latvia. In these countries

sport education represents a very high share in sport-related gross value added. (*SportsEconAustria et al.*, 2012)

Spillover effects to regional development

It has been further pointed out that the **sport-related industries** can **support regional development** – e.g. by the offer of high quality sport facilities and events that can attract tourists as well as mobile talent in our modern, knowledge-based economy (cf. *Florida*, 2002). As sport has many links with other economic activities it constitutes an important element in **broader (regional) economic development** strategies (*Centre for Strategy & Evaluation Services / blomeyer&sanx Euroean value(s)*, 2016). If investment in sport infrastructure is integrated in regional innovation strategies, it can contribute to promoting innovation by accessing higher value-added market niches in peripheral regions (*FESI*, 2014). The Commission therefore encourages the exploitation of Structural Funds as a tool for regional development and to help strengthen the skills and employability of workers in the sport sector (*ibid.*). EU regions can apply for funding of the European Regional Development Fund (ERDF)⁵⁹ e.g. for sport (infrastructure) projects related to innovation, smart specialisation and clustering.

There are many European **countries, regions** and **cities** where sport and the sport-related industries play a major economic role, such as e.g. Barcelona that is considered the third most sport-oriented city worldwide and has the highest concentration of sports businesses in Europe responsible for more than 70% of Spanish sport production. There is also an important sport cluster in Catalonia – INDESCAT – representing over 50 companies and research centres. INDESCAT aims at promoting and strengthening the Catalan sport industry and promotes activities that help members identify and tackle new business opportunities, coming from innovation, internationalisation, training or funding. (*Ajuntament de Barcelona / INDESCAT / Generalitat de Catalunya*, 2016)

Clusters

Clusters play an important role for (innovation in) sport-related industries – regional clusters but especially also specific cross-border international clusters with universities, research centres and industry for small and larger companies. They can provide an environment that promotes sport and physical activity, enable product innovation and business creation helping to develop and commercialise new concepts, products or services. The European Platform for Sports Innovation (EPSI) plays a coordinating role in Europe amongst many of the sport-related clusters. EU4Sports is a pan European cluster consortium (that has become a European Strategic Cluster Partnership) on sport, co-financed by the Commission, coordinated by EPSI. Clusters are also funded by the European Commission, e.g. via COSME (running from 2014 to 2020 with a planned budget of EUR 2.3 billion) that supports targeted actions directed at clusters. In the programme there are e.g. special grants to strengthen internationalisation through European Strategic Cluster partnerships and competitive calls. (*FESI*, 2014)

Examples for successful clusters include, for instance, the previously mentioned Catalan cluster INDESCAT, the Swedish Winter Sports Research Centre (SWSRC), one of Sweden's leading centres for sport-based research; the Motorsport Valley in the UK comprising 3,500 companies associated with motorsport with about 40,000 people employed, representing 80% of the world's high-performance motorsport engineers and an approx. turnover of EUR 7.5 billion, or the Dutch Sports and Technology cluster in Brainport (integrated in EPSI). (*FESI*, 2014)

⁵⁹ http://ec.europa.eu/regional_policy/en/funding/erdf/

7.3. Economic importance of the sporting goods sector in Europe

7.3.1. Overall sector structure

Box: Definition of the sporting goods sector in NACE¹

Totally sport (100%):

- Manufacture of sport good
- Retail sale of sporting equipment in specialised stores

Mainly sport (90%, treated as 100% in the data analysis):

While the sporting goods share of 90% can be applied to turnover and valued added, it cannot be applied to the number of enterprises and persons employed due to methodological reasons (please see chapter 6.5. "Sporting goods in NACE-codes" for more details). In order to be able to provide information on enterprises and persons employed, the mainly sport sector is treated as a totally sport sector here. In order to be consistent in the data analysis, the share of 100% will also be used for the turnover and value added.

- Renting and leasing of recreational and sport good

Partly sport (sport share 20-40%):

The sporting goods share can only be applied to the indicators turnover and value added. Therefore, data on the number of enterprises and persons employed cannot be shown.

- Manufacture of other wearing apparel and accessories (tracksuits, ski suits, swimwear, gloves, rubberised / impregnated garments)
- Manufacture of weapons and ammunition
- Building of pleasure and sporting boats
- Manufacture of motorcycles
- Manufacture of bicycles and invalid carriages
- Sale, maintenance and repair of motorcycles and related parts and accessories

¹ For more information on the definition, please see chapter 6.5 "Sporting goods and NACE codes"

In the European Union (EU 28), in 2015, approx. 85,900 **enterprises** can be assigned to the sporting goods sector (totally and mainly sport, please see Box). They employ approx. 436,600 **persons**. The totally sport sector makes up the largest part by far (72,000 enterprises, 403,200 persons employed).

The **turnover** of the sporting goods sector (totally, mainly and partly sport together) amounts to approx. EUR 81,400 million, while the **value added** is about EUR 18,900 million. Approx. 70% of the turnover (71%) and value added (68%) is generated by the industries regarded as totally sport, approx. 26% of the turnover and value added by the industries assigned to partly sport. 3% of the turnover and 6% of the value added can be attributed to the mainly sport sector. The **productivity** in the totally sport sector amounts to approx. EUR 32,000 gross value added by person employed, with the value in the manufacture of sport goods (approx. EUR 46,000) being much higher than in the retail sale of sporting equipment (approx. EUR 30,000). In the mainly sport sector the productivity is approx. EUR 31,000. All in all, the sporting goods sector constitutes 0.4% of all enterprises and 0.3% of all persons employed, turnover and value added in the total EU economy⁶⁰.

⁶⁰ Total economy according to Structural Business Statistics: NACE Rev.2 section B to N +S95 excluding section K

Table 14: Structure of the sporting goods sector in the EU 28, 2015

	Enterprises	Persons employed	Turnover in € million	Value added in € million	Productivity in € 1.000 ³
Totally sport	71,993	403,241	57,883	12,861	32
Mainly sport ¹	13,864	33,319	2,241	1,036	31
Partly sport ²	n/a	n/a	21,230	4,999	n/a
Total	85,857	436,560	81,353	18,896	n/a

Note: Data are based on the NACE-classification and sporting goods as defined in the frame of the present study.

¹ Despite a sport share of 90%, this sector is treated as totally sport in the data analysis, which means that the data are taken into account to their full extent (100%) and not only according to their sport share. See Box at the beginning of chapter 7.3.

² Data on turnover and value added are presented according to the sport shares of the industries belonging to the partly sport sector. Due to methodological reasons, the sport shares cannot be applied to the number of enterprises and persons employed (see chapter 6.5 "Sporting goods in NACE-codes").

³ Productivity is defined as gross value added per person employed (=apparent labour productivity according to Eurostat).

Source: Austrian Institute for SME Research; Eurostat, Structural Business Statistics (sbs)

Detailed enterprise statistics on the sporting goods sector are scarce for further countries participating in the COSME programme⁶¹. Information is partly available for Iceland, Montenegro and Turkey⁶². In the field of manufacture of sport goods (NACE 32.30), only Turkey has a considerable number of enterprises (2014: 104), employing 1,530 persons and generating a turnover of EUR 89.6 million as well as a value added of EUR 23.0 million. Sporting goods manufacturing is nearly non-existing in Iceland and Montenegro.

In general, the last decade has been challenging for the European sporting goods sector, especially due to the economic crisis, which has induced a decrease in sporting goods consumption.⁶³ Sporting goods are non-essential goods, therefore, in case of crisis, consumers tend to cut spending on such types of products.⁶⁴ During the last 10 years, the market growth rate of the European sporting goods sector ranked second on a worldwide scale (Europe has developed slower (1.5%) than the US (2.5%)). However, the fact that Europe is developing more slowly in terms of growth did not influence its attractiveness, mainly thanks to its size.⁶⁵ The sector has seen a general growth, combined with increased sport visibility and participation starting after 2012.⁶⁶

This is also confirmed by the data: the analysis of the **development between 2008 and 2015** of the **total sporting goods sector** shows that the number of enterprises increased by 7.7%, the number of persons employed by 9.9%. The turnover grew by 4.7% and the value added by 0.6%.

In general, the **economic crisis affected** the EU countries **differently**: In **France**, for example, the economic crisis had a negative impact on the sporting goods sector. Until 2007, the sport industry sector (services and goods production) was the economic sector with the second strongest growth in France.⁶⁷ After the crisis, it maintained a steady growth (roughly 3%) from 2012 onwards.⁶⁸ Compared to other sectors which rely heavily on consumption, the sporting goods sector is assessed to be currently in good shape in France. In **Germany**, the economic crisis of 2008-2010 had only marginal influence on the sporting goods industry, as these goods were not so much affected by the economisation behaviour that consumers showed during the crisis.⁶⁹ In **Italy**, the sporting goods market is at a level

⁶¹ In addition to the EU 28, the following countries participate in the COSME programme: Iceland, Montenegro, Turkey, the Former Yugoslav Republic of Macedonia, Albania, Serbia, Moldova and Armenia

⁶² Eurostat, Structural Business Statistics (sbs)

⁶³ Interview with an Austrian sporting goods association

⁶⁴ Interview with a Czech association of sporting goods manufacturers

⁶⁵ Interview with a French sporting goods retailer

⁶⁶ Stated by the vast majority of stakeholders interviewed

⁶⁷ Interview with a French sport economist

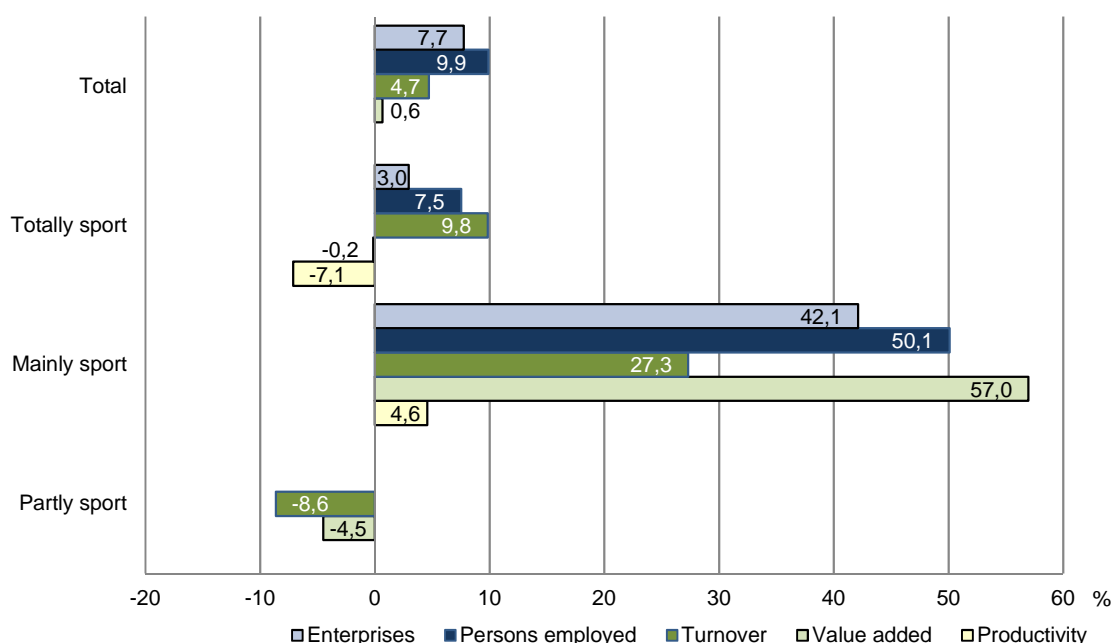
⁶⁸ Interview with a French sport economist

⁶⁹ Interview with a German research centre in the field of sporting goods

lower than it used to be before the financial crisis.⁷⁰ In the **Central Eastern European** countries, the effects of the crisis were more severe for the population, with decreasing incomes and increasing taxes limiting the purchasing power of the population, which resulted in a significant drop in the sales of sporting goods.⁷¹ There are certain trends that are intrinsic to the Central Eastern European market: for example, in the Czech Republic, the sporting goods market is characterised by a relatively cheap workforce⁷². However, the business environment faces particular obstacles, such as a small market size forcing Czech sporting goods manufacturers to export, or a lack of finance for enterprises, particularly for SMEs. These issues also apply to Slovakia.⁷³ Currently, the Central Eastern European market is very fragmented without many opportunities, but in general with a lot of potential: on the one hand, due to increasing living standards and purchasing power in these countries, large sport retailers from abroad are able to expand their market to Central Eastern Europe.⁷⁴ On the other hand, there is an emergence of Central Eastern European sporting goods manufacturers, who are very competitive on their national markets (e.g. Poland).⁷⁵

The **development of the totally, mainly and partly sporting goods sectors** differs from each other: In the totally sport sector, i.e. manufacturing and retail of sporting goods, the number of enterprises, persons employed and the turnover increased, while the value added and the productivity decreased. This decline is a result of the development in the retail sale of sporting equipment, while the value added and the productivity of manufacture of sport goods has grown (see table 16 "Sectoral development of the sporting goods sector in the EU 28 in %, 2015 compared with 2008"). Renting and leasing of recreational and sport goods (the only sector assigned to "mainly sports") shows a considerable growth. The partly sport sector – consisting solely of manufacturing branches – shows decreasing turnover and value added.

Figure 6: Development of the sporting goods sector in the EU 28 in %, 2015 compared with 2008



Note: Data are based on the NACE-classification and sporting goods as defined in the frame of the present study.

⁷⁰ Interview with an Italian sporting goods manufacturer

⁷¹ Interview with an Austrian sporting goods retailer

⁷² Interview with a Czech sporting goods manufacturer

⁷³ Interview with a Czech association of sporting goods manufacturers

⁷⁴ Interview with a French sporting goods retailer

⁷⁵ Interview with a Polish association of sporting goods manufacturers

Mainly sport: Despite a sport share of 90%, this sector is treated as totally sport in the data analysis, which means that the data are taken into account to their full extent (100%) and not only according to their sport share. See also Box at the beginning of chapter 7.3.

Partly sport: Data on turnover and value added are presented according to the sport shares of the industries belonging to the partly sport sector. Due to methodological reasons, the sport shares cannot be applied to the number of enterprises and persons employed (see chapter 6.5 "Sporting goods in NACE-codes").

Productivity is defined as gross value added per person employed (=apparent labour productivity according to Eurostat).

Source: Austrian Institute for SME Research; Eurostat, Structural Business Statistics (sbs)

Although it cannot be deducted from existing industry classifications, other subsectors with a high growth potential are **technical textiles** (responsible for around one-third of the EU textile industry's overall turnover) and **wearable technology**⁷⁶ (electronic sensors interacting with personal training programmes included in clothing/apparel, health control applications, and training equipment) (FESI, 2014).

Currently, the sporting goods sector is described as being in line with the level of consumption compared to the situation before the crisis. In the aftermath of the crisis, there has been a reduction in brands and a concentration of the market (e.g. there are fewer suppliers due to the fact that some chains and independent stores closed their doors). As for distribution, there are a lot of changes, as the digital market and web sales will take a big part of the market in the future. The current trend is getting closer to the consumers and to develop more direct access and elaborate relationships with them.⁷⁷

Another factor that generates growth for the European sporting goods sector is the purchase of sporting goods for multipurpose use (e.g. fashion). In general, the outdoor sector overlaps more and more with the fashion sector and therefore becomes strongly represented in other regions like urban areas.⁷⁸ With this respect, a conclusion could be made at this stage that the overall growth of the sporting goods sector is uneven: there are some sub-sectors that are currently seeing an increase in sales, e.g. in the growing outdoor equipment sub-sector⁷⁹. However, some are diminishing: for instance, the skiing sector is slightly decreasing due to changes in lifestyle and consumer behaviour, a lack of "young" successors (i.e. children ski less), increasing unreliable snow conditions as well as higher costs for equipment and infrastructure⁸⁰.

A forecast of Morgan Stanley⁸¹ estimates a 5% average annual sales growth of sportswear in Europe over the next five years. This increase is expected to be stimulated by increased sales in Eastern Europe, the Middle East and Africa. The most room to grow is seen for markets in Asia and Latin America (starting from a low penetration level). Also China's market is expected to be developing with its plans to build 60% more sport facilities by 2025 and get 500 million of its citizens to exercise and play sport regularly.

7.3.2. Detailed sectoral structure of the sporting goods sector

The largest sector by far within the sporting goods sector in the European Union is the **retail sale of sporting equipment in specialised stores**, i.e. sport goods, sport footwear, fishing gear, camping goods, boats and bicycles. As shown in table 15, 78% of the enterprises and 83% of the persons employed of the sporting goods sector in the European Union can be assigned to the retail sale of sporting equipment. This industry is also the main contributor to the total turnover (63%) and to the value added (58%).

There is a prevalence in Western Europe with the UK, France, Germany, Italy and Spain for the sporting goods industry accounting for over half of the retail European sport equipment market value (69.9%) (MarketLine, 2015b). In Europe, the two largest buying groups of sport goods and sport fashion in the field of multiple brand name suppliers in

⁷⁶ Wearable sport and fitness devices are forecast to make important contributions to the revenue of the sport industry. It is estimated that in 2020 this equipment segment will generate EUR 7.94 billion in worldwide revenue (Mind Commerce, 2015).

⁷⁷ Interview with an Italian sporting goods manufacturer

⁷⁸ Interview with the representative of a German association of sporting goods manufacturers

⁷⁹ Stated by the vast majority of stakeholders

⁸⁰ Interview with a Czech association of sporting goods manufacturers

⁸¹ <http://www.morganstanley.com/ideas/global-athletic-wear-geared-for-growth>, 30 October 2015

Europe are Intersport International (based in Switzerland) and Sport 2000 International (based in Germany). Intersport is the world's largest corporate group in the specialist sport goods trade with 5,230 retail locations in 40 countries. Its revenues amount to than EUR 11.5 billion and its market share to 37% in Germany and 20% in Europe. Sport 2000 International has 3,800 independent sport retailers in 25 countries and generates sales of over EUR 5.5 billion. Further large corporations include Decathlon (based in France) with a turnover of over EUR 6 billion (in 2011). It is the largest specialist sport goods retailer in France, Italy, Spain and Portugal as well as – due to its own label strategy – among the largest sport goods manufacturers (60% market share in the French sport goods production. Another large corporation is Sports Direct under the "Sport2000 umbrella" in the UK with sales of EUR 2.5 billion in 2013 and a high growth rate of over 20%. (*Solutions for Sport*, 2015)

Table 15: Sectoral structure of the sporting goods sector in the EU 28, 2015

	Enterprises		Persons employed		Turnover		Value added	
	Number	Share in sporting goods in %	Number	Share in sporting goods in %	Value in € Mio	Share in sporting goods in %	Value in € Mio	Share in sporting goods in %
Totally sport:	71,993	83.9	403,241	92.4	57,883	71.2	12,861	68.1
Manufacture of sport goods	5,000	5.8	42,844	9.8	6,588	8.1	1,953	10.3
Retail sale of sporting equipment in specialised stores	66,993	78.0	360,397	82.6	51,294	63.1	10,909	57.7
Mainly sport ¹ :	13,864	16.1	33,319	7.6	2,241	2.8	1,036	5.5
Renting and leasing of recreational and sport goods	13,864	16.1	33,319	7.6	2,241	2.8	1,036	5.5
Partly sport ² :	n/a	n/a	n/a	n/a	21,230	26.1	4,999	26.5
Manufacture of other wearing apparel and accessories	n/a	n/a	n/a	n/a	1,637	2.0	468	2.5
Manufacture of weapons and ammunition	n/a	n/a	n/a	n/a	4,148	5.1	1,613	8.5
Building of pleasure and sporting boats	n/a	n/a	n/a	n/a	3,449	4.2	910	4.8
Manufacture of motorcycles	n/a	n/a	n/a	n/a	1,999	2.5	415	2.2
Manufacture of bicycles and invalid carriages	n/a	n/a	n/a	n/a	2,617	3.2	604	3.2
Sale, maintenance and repair of motorcycles and related parts and accessories	n/a	n/a	n/a	n/a	7,380	9.1	990	5.2
Sporting goods sector total	85.857	100.0	436.560	100.0	81.353	100.0	18.896	100.0

Note: Data are based on the NACE-classification and sporting goods as defined in the frame of the present study.

¹ Despite a sport share of 90%, this sector is treated as totally sport in the data analysis, which means that the data are taken into account to their full extent (100%) and not only according to their sport share. See Box at the beginning of chapter 7.3.

² Data on turnover and value added are presented according to the sport shares of the industries belonging to the partly sport sector. Due to methodological reasons, the sport shares cannot be applied to the number of enterprises and persons employed (see chapter 6.5 "Sporting goods in NACE-codes").

Source: Austrian Institute for SME Research; Eurostat, Structural Business Statistics (sbs)

In European retail, there has been a strong concentration development in the sporting goods retail sector. Small retailers must specialise to avoid closure, while large retailers try to cover as many products as possible. In general, the average retail space increases⁸², mainly due to the market expansion of large retailers, such as XXL (based in Norway) and Decathlon (based in France), as well as buying groups (e.g. Intersport and Sport 2000 International) and growth in factory outlets. Shopfitting measures that are aimed to provide new purchase experiences (e.g. better presentation, events) also lead to larger retail spaces. Furthermore, a growth in online retail can be observed. The main markets for sporting goods in Europe, which are Germany, France and United Kingdom, are all organised in this way.⁸³

Regarding the **other sporting goods industries**, 10% of persons employed in the sporting goods sector work in the manufacture of sport goods. Another 8% are employed in the renting and leasing of recreational and sport goods. 9% of the turnover is generated by the sale, maintenance and repair of motorcycles and 8% by the manufacture of sport goods. As regards the latter, 10% of the value added can be attributed in the sporting goods sector in the European Union. The manufacture of weapons and ammunition accounts for 9% of the value added.

The following graph illustrates in detail the distribution of enterprises of the NACE-code **manufacture of sport goods by size categories**⁸⁴. The vast majority, i.e. 86% of the enterprises, employ up to nine persons. This has also been confirmed by the interviews: For instance, in Italy, the market is characterised by small companies with concentrated distribution channels.⁸⁵ Another example is Ireland that is characterised by a large number of small operators, specialised in sport technologies and sport nutrition (the sub-sector experiencing the most substantial growth).⁸⁶

Further 7% of enterprises in sport goods manufacturing employ 10 to 19 persons, and 5% between 20 and 49 persons. Only 3% are enterprises with 50 and more persons employed. However, compared to the total economy, enterprises in sport goods manufacturing tend to be larger: while the share of enterprises with less than ten persons is 93% in the total economy, it is much lower in sport goods manufacturing (86%).

⁸² Interview with a Swiss association of sporting goods retailers

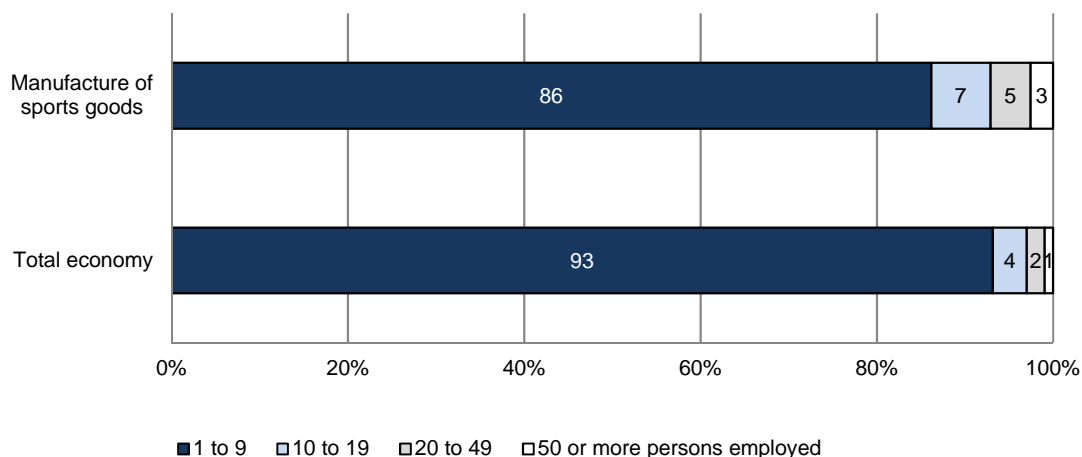
⁸³ Interview with a French academic.

⁸⁴ Data on enterprise size is available only on the 3-digit-level of NACE; therefore, the structure of 32.3 manufacture of sport goods is shown which is identical with the 4-digit 32.30 manufacture of sport goods.

⁸⁵ Interview with Italian Outdoor Group.

⁸⁶ Interview with an Irish sport cluster

Figure 7: Enterprises by size¹ in the EU 28 in %, 2014, Manufacture of sport goods² and total economy³



¹ based on the number of persons employed

² NACE 32.3; data on enterprise size is only available on 3-digit level

³ Total economy according to the Structural Business Statistics: NACE Rev.2 section B to N + S95 excluding section K

Source: Austrian Institute for SME Research; Eurostat, Structural Business Statistics (sbs)

In terms of the **sectoral development of the sporting goods sector between 2008 and 2015**, the most dynamic sector had been **renting and leasing of recreational and sport goods** (e. g. boats, bicycles, skis). This sector experienced a considerable increase in the number of enterprises, employment, turnover as well as value added (see table 16). Also the productivity increased by 4.6 %. On the one hand, this development can be referred to the outcome of the crisis, leading people to rent instead of buying in order to save money. On the other hand, structural changes in consumer behaviour add to this observation: For instance, the winter sport sector has developed away from sales and more and more towards rental offers due to the emergence of shorter vacations and weekend getaways, forcing retailers to adapt to the new situation.⁸⁷

With regard to the **totally sport sector, manufacture of sporting goods** experienced a growth in enterprises (+13.6 %), turnover (8.9 %), value added (+7.2 %) and productivity (+10.6 %), whereas the number of persons employed declined between 2008 and 2015 (-3.1 %). Besides outcomes of the crisis, this can be referred to changes in production patterns, e.g. automatisisation or outsourcing of production. This has also been confirmed in the interviews: In France, only specific products are produced within the territory of the country (highly technical goods). Most jobs are delocalised due to outsourcing strategies and are also characterised by the ongoing trend for companies to use more robotics to replace physical labour.⁸⁸

In the **retail sale of sporting equipment**, the largest sporting goods sector by far, the number of enterprises (+2.2 %) and persons employed (+8.9 %) as well as the turnover (+9.9 %) increased, while the value added in 2015 was only slightly below the level of 2008 (-1.4 %). Due to the increase in employment and stagnation of value added, the productivity decreased by 9.4 % in the same period.

⁸⁷ Interview with the representative of a German association of sporting goods manufacturers

⁸⁸ Interview with French Ministry of Economy.

Table 16: Sectoral development of the sporting goods sector in the EU 28 in %, 2015 compared with 2008

	Enterprises	Persons employed	Turnover	Value added	Productivity ³
Totally sport:	3.0	7.5	9.8	-0.2	-7.1
Manufacture of sport goods	13.6	-3.1	8.9	7.2	10.6
Retail sale of sporting equipment in specialised stores	2.2	8.9	9.9	-1.4	-9.4
Mainly sport ¹ :	42.1	50.1	27.3	57.0	4.6
Renting and leasing of recreational and sport goods	42.1	50.1	27.3	57.0	4.6
Partly sport ² :	n/a	n/a	-8.6	-4.5	n/a
Manufacture of other wearing apparel and accessories	n/a	n/a	-37.8	-29.2	n/a
Manufacture of weapons and ammunition	n/a	n/a	12.4	22.2	n/a
Building of pleasure and sporting boats	n/a	n/a	-22.9	-23.4	n/a
Manufacture of motorcycles	n/a	n/a	-28.5	-28.0	n/a
Manufacture of bicycles and invalid carriages	n/a	n/a	20.9	16.0	n/a
Sale, maintenance and repair of motorcycles and related parts and accessories	n/a	n/a	-1.3	2.1	n/a
Sporting goods sector total	7.7	9.9	4.7	0.6	n/a

Note: Data are based on the NACE-classification and sporting goods as defined in the frame of the present study.

¹ Despite a sport share of 90%, this sector is treated as totally sport in the data analysis, which means that the data are taken into account to their full extent (100%) and not only according to their sport share. See Box at the beginning of chapter 7.3.

² Data on turnover and value added are presented according to the sport shares of the industries belonging to the partly sport sector. Due to methodological reasons, the sport shares cannot be applied to the number of enterprises and persons employed (see chapter 6.5 "Sporting goods in NACE-codes").

³ Productivity is defined as gross value added per person employed (=apparent labour productivity according to Eurostat).

Source: Austrian Institute for SME Research; Eurostat, Structural Business Statistics (sbs)

The industries included in the **partly sport sector** experienced a different development in the period 2008 to 2015. On the one hand, the turnover (+12.4 %) and value added (+22.2 %) of the manufacture of weapons and ammunition as well as the manufacture of bicycles (+20.9 % vs. +16.0 %) grew considerably. In contrast, the manufacture of other wearing apparel and accessories⁸⁹, the building of pleasure and sporting boats and the manufacture of motorcycles showed an unfavourable development. In the sale, maintenance and repair of motorcycles the turnover increased, but the value added declined slightly.

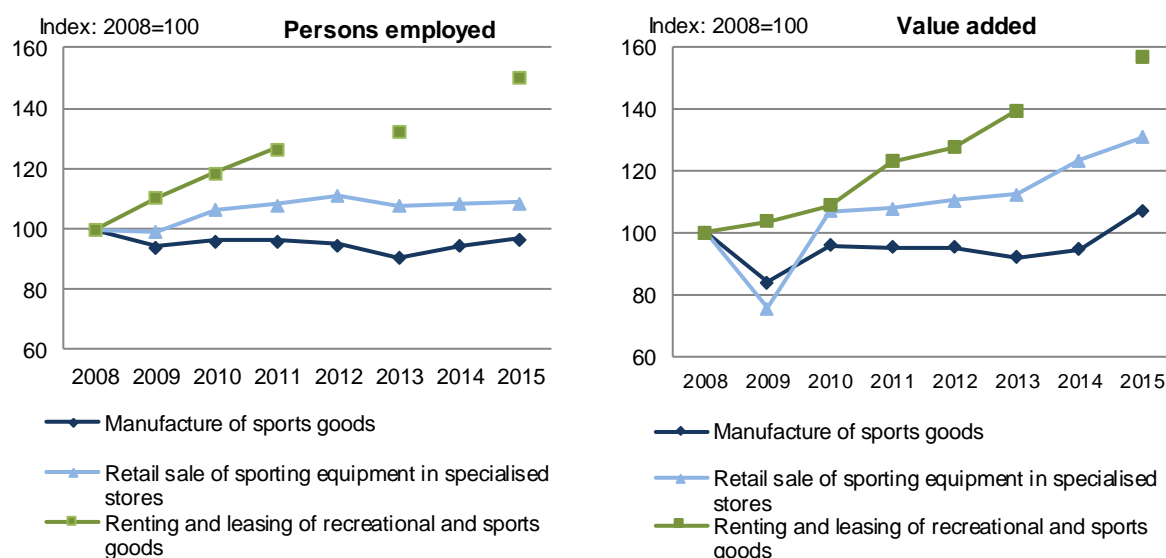
A **detailed sectoral analysis of the development of the persons employed** in the sporting goods sector **between 2008 and 2015 for each year** shows a sharp upward trend in renting and leasing of recreational and sport goods (see figure 8). In the manufacture of goods and the retail sale of sporting equipment, the number of persons employed declined during the economic crisis of 2009. The number of persons employed in the manufacture of goods could never reach the level of 2008 again until 2015: there was a sharp decline between 2012 and 2013, especially in Italy (-14%) that was affected

⁸⁹ Consisting of tracksuits, ski suits, swimwear, gloves as well as rubberised and impregnated textiles

by an economic crisis during this period. The retail sale shows a positive development already in 2010 that lasts to 2013, a year, where the number of persons employed in the retail sale of sporting equipment decreased in most EU countries. More than 75 % of the decline in the employment can be referred to the United Kingdom and Germany, i.e. the two countries with the highest employment in this sector within the EU.

As regards the **value added**, again, the sector renting and leasing of recreational and sport goods is marked by an upward trend during the whole period. The value added of the manufacture of sport goods remained, after a sharp decline between 2008 and 2009 and an increase between 2009 and 2010, more or less constant in the following years. In the period 2014 and 2015 an upward trend could be observed, exceeding the level of 2008 again (in contrast to the number of persons employed). The value added of the retail sale of sporting equipment decreased between 2008 and 2009 even more than in the manufacture of sport goods and much more than the number of persons employed in the retail sale of sporting equipment. Afterwards it grew constantly, but until 2015 never reached the level of 2008 again.

Figure 8: Sectoral development of the number of persons employed and the value added of the sporting goods sector in the EU 28, 2008 – 2015 (2008=100)



Note: Data are based on the NACE-classification and sporting goods as defined in the frame of the present study.

Renting and leasing of recreational and sport goods: Despite a sport share of 90%, this sector is treated as totally sport in the data analysis, which means that the data are taken into account to their full extent (100%) and not only according to their sport share. See Box at the beginning of chapter 7.3. 2012 and 2014 are missing due to unreliable data for UK in 2012 and France in 2014.

Source: Austrian Institute for SME Research; Eurostat, Structural Business Statistics (sbs)

Between 2008 and 2015, the value added of the manufacturing sectors in the **partly sport sector**⁹⁰, such as other wearing apparel, weapons and ammunition, boats, motorcycles and bicycles, showed a similar trend as the manufacture of sport goods in the totally sport sector, but the decline and growth rates were different. During the whole period, the value added of manufacturing of other wearing apparel etc. could never reach the level of 2008 again, whereas the value added of the manufacture of sport goods grew between 2008 and 2015 by 7%. The value added of sale, maintenance and repair of motorcycles showed down- and upturns and could exceed the level of 2008 only in 2015 again.

⁹⁰ See box "Definition of the sporting goods sector in NACE" at the beginning of chapter 7.3.

Forecasts in the international sporting goods sector expect a growing importance of non-European players, especially emerging markets like China and India⁹¹ in manufacture and Qatar in services. Footwear and apparel will maintain the biggest shares in the sector.⁹² A growing market share will be held by electronic devices, so called wearables, that are worn close or on the body.

7.3.3. Production in the sporting goods sector

At international level, there is a division in the production of sporting goods – the most expensive products are produced in wealthier countries where high-technological capabilities exist, whereas cheaper products are manufactured in developing countries.⁹³ A new trend identified is the growth of SMEs in developing technical products in specialised sport that play a leading role on the market.^{94, 95} Although the market is driven by a few large companies, in the last years a growing number of small companies specialising in niche sport have emerged in the sector. This rise of small companies in niche sport is explained by the fact that large companies do not have a specific focus in these sub-sectors, leaving room for smaller companies to develop.⁹⁶ The competitive advantage of the European sporting goods sector lies in the large number of brands, the good reputation due to high quality of products, as well as the technological development.^{97, 98}

In 2016, according to PRODCOM data on industrial production, the **production value of sporting goods** of the 28 EU countries⁹⁹ amounted to EUR 14.6 billion, which is 0.3% of the total production of the EU 28. Since 2008, the production value decreased by approx. 8%. The decline of the output of the leading European production countries (Italy, Spain and France) can be explained by high production costs (especially labour costs). Romania and Bulgaria could on the other hand enhance their sportswear production after the recession by 14.5% and 17.7% respectively between 2008 and 2012 (CBI, 2017).

Sporting goods are not produced by all EU countries in equal measure – the main products (in relation to the production value, as listed below) are manufactured in the following **countries**¹⁰⁰: In general, the big countries Germany, France, United Kingdom, Italy and Spain are the main producers of sporting equipment of all kinds in Europe. Gymnasium or athletics articles and equipment are mainly produced in Germany and Italy, while skis for winter sports, ski-bindings, -brakes and poles are primarily made in Austria. Boats in general (not only for sport use) are often manufactured in France, Italy and the United Kingdom, i.e. countries where the maritime sector is of considerable significance (with access to the sea and a long shoreline). Italy again has a long-standing tradition in the production of motorcycles and is also the main producer of these vehicles in Europe.

The largest share of the production value of sporting goods can be attributed to **sport equipment**, such as skis and balls and other athletic equipment (24%), followed by boats (22%), motorcycles (18%), bicycles (13%) and wearing apparel (8%). Between 2008 and 2016, the production value of footwear (+66%), aircrafts (+65%) and motor vehicles, such as snow and golf cars (+104%), increased the most, albeit from a low production value level. In contrast, there was a sharp decline in production in the categories direction finding compasses (-42%), boats (-36%), billiard (-27%) and wearing apparel (-24%). The production value of motorcycles remained relatively stable (-0.3%) in the observation period.

⁹¹ Interview with an Austrian association of sporting goods manufacturers

⁹² Interview with a French sport economist.

⁹³ Interview with a French academic.

⁹⁴ Interview with the French Ministry of Economy.

⁹⁵ This trend is considered to be applying to Europe, but more specifically to France.

⁹⁶ Interview with a European sport association/club.

⁹⁷ Interview with International Association of Sport Economics.

⁹⁸ The interviewee emphasised that similar trends apply to the United States as well.

⁹⁹ Data on production is not available for further countries participating the COSME programme, i.e. Iceland, Montenegro, Turkey, the Former Yugoslav Republic of Macedonia, Albania, Serbia, Moldova and Armenia.

¹⁰⁰ Due to many data confidentiality in PRODCOM data on country level, only a broad overview can be given.

Table 17: Production value of sporting goods in the EU 28 by product categories¹, 2016

	Value in € million	Share in sporting goods in %	Change in %, 2008-2016
Sport equipment (e.g. skis, balls, athletic articles and equipment)	3,427	23.5	7.7
Boats	3,207	21.9	-36.4
Motorcycles	2,554	17.5	-0.3
Bicycles	1,821	12.5	31.2
Wearing apparel (i.e. skijackets, tracksuits, swimwear, gloves, rubberised / impregnated garments)	1,120	7.7	-24.3
Weapons and ammunition	832	5.7	-12.3
Footwear	630	4.3	66.4
Made-up textile articles (except apparel; e.g. tents, sails, parachutes, sleeping bags)	499	3.4	22.9
Aircrafts	164	1.1	64.5
Rubber tyres and tubes	153	1.0	-6.7
Motor vehicles (snow and golf cars)	135	0.9	104.0
Billiard	49	0.3	-27.0
Direction finding compasses	23	0.2	-42.2
Sporting goods total	14,615	100.0	-7.6

¹ The PRODCOM-codes have been subsumed to sporting good product categories that are similar to the categories on NACE 4-digit level. For more detailed information, please see Annex 3.

Note: Data are based on the PRODCOM-classification and sporting goods as defined in the frame of the present study.

Source: Austrian Institute for SME Research; Eurostat, Statistics on the production of manufactured goods (PRODCOM)

The decrease in the production of **pleasure and sporting boats** since 2008 can be referred to the economic crisis which affected the European market to a considerable extent, leading producers to focus on foreign markets (see also *Collett*, 2013).

In the field of **wearing apparel** (i.e. skijackets, tracksuits, swimwear, gloves, rubberised or impregnated garments), the decrease in production can be explained by the continuing trend of relocating the production to countries that have cheaper labour and raw material costs (in particular China, Vietnam, Bangladesh, Turkey, Cambodia, etc.) (e.g. *CBI*, 2016).

The opposite development can be observed in the production of sport **footwear**, which has increased considerably since 2008¹⁰¹. One of the main reasons is an increasing demand for sport footwear not only for sport, but also for casual and fashion purposes. In addition to that, the structure of footwear manufacturing in Europe has changed: general improvements in production efficiency are facilitating the manufacture of shoes fully designed in Europe, produced with high quality materials selected by European designers (*European Confederation of the Footwear Industry*, 2015). The advantage of sport footwear

¹⁰¹ Please note that according to the European Confederation of the Footwear Industry (2015), the number of enterprises in footwear manufacturing (not only sport footwear) is generally decreasing, while the production value is increasing.

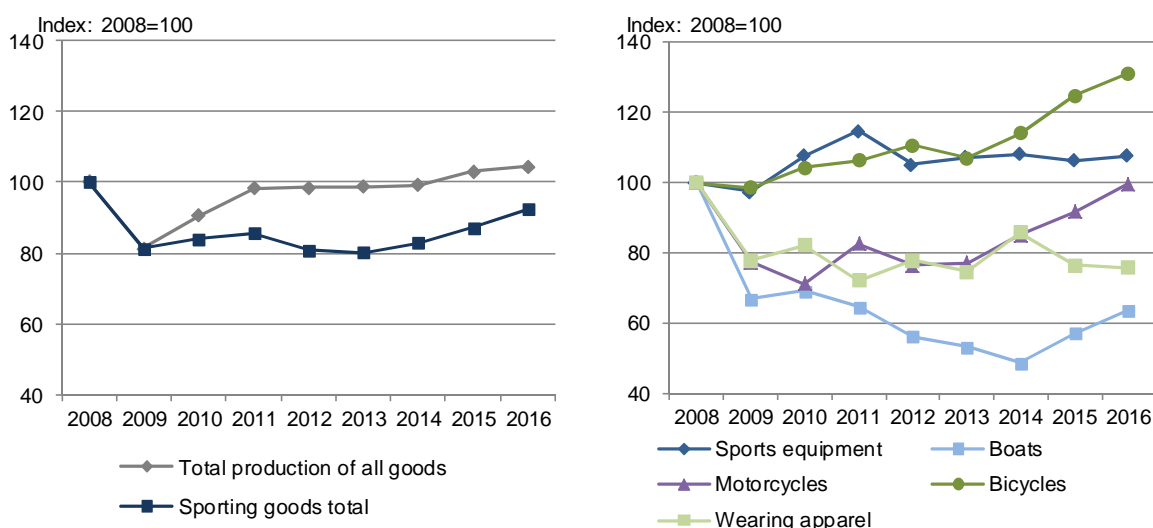
made in Europe are a better control of production processes and quality as well as a more flexible reaction towards changing market conditions and developments.

As regards **bicycles**, there has been a growing interest towards cycling as a form of recreation and leisure which has led to a high demand of sports bicycles and ultimately to a significant growth of the European sports bicycle market.¹⁰² Production sites for bicycles are mainly located in the Netherlands and Italy, but also in Portugal, Poland, Bulgaria, the Czech Republic, France and Spain. In France, for example, the road bike range increased by 3.2% in 2016 as compared to the previous year. The mountain bike range is the biggest market, with 863,000 units (increased by 5% compared to 2015). Spain saw in 2016 an increase of 20% in road bicycles sales and the positive impact of new disc brakes: bikes equipped with disc brakes experienced very high sales growth rates in both number of units (20.54%) and value (26.38%).¹⁰³ In Sweden, within the last 10 years one of the interviewees sold 600,000 bikes, accompanied by the sale of more expensive bikes.¹⁰⁴

A detailed analysis of the **development** of the production value **between 2008 and 2016 for each year** (see figure below) shows an overall decline for all goods during the economic crisis of 2009. While the total production of all goods of the European Union recovered quickly and showed a considerable upward trend between 2009 and 2010, followed by a constant (slight) growth, the total production of sporting goods did only recover since 2014, but did not reach the level of 2008 yet.

The production value of the **Top 5 sporting goods categories** developed differently: For the sport equipment and the bicycles the decrease between 2008 and 2009 was far smaller than that of the other products shown. Between 2009 and 2011 the production of sport equipment grew considerably, followed by a slight decline and a more or less constant development. The production of bicycles showed a sharp upward trend since 2013.

Figure 9: Development of the production of the sporting goods sector in the EU 28 in the Top 5 product categories¹, 2008 – 2016 (2008=100)



¹ The PRODCOM-codes have been subsumed to sporting good product categories that are similar to the categories on NACE 4-digit level. For more detailed information, please see Annex 3.

Note: Data are based on the PRODCOM-classification and sporting goods as defined in the frame of the present study.

Source: Austrian Institute for SME Research; Eurostat, Statistics on the production of manufactured goods (PRODCOM)

¹⁰² Interview with a European association representing bicycles manufacturers

¹⁰³ Interview with a European association representing bicycles manufacturers

¹⁰⁴ Interview with a Swedish association of sporting goods manufacturers

Having been strongly affected by the economic crisis of 2009, boats are the product category with the weakest development - only since 2014 at least a constant growth can be observed. However, the production value of boats is still far below the level of 2008. Wearing apparel shows down- and upturns since 2009, also not reaching the pre-crisis level again. The production value of motorcycles is rising sharply since 2012 and has reached the level of 2008 in 2016.

7.3.4. International trade in the sporting goods sector

According to the UN Comtrade Database¹⁰⁵, the sporting goods trade¹⁰⁶ in 2016 represents approx. 0.5% of **global exports and imports** of all traded goods. Research on the international specialisation of major trading countries in the field of sporting goods is scarce. In 2009, a first (and until now, only) comprehensive research on the global trade in sport goods and its distribution by major areas, countries and products was conducted (*Andreff / Andreff, 2009*). 41 countries in five geographical areas have been analysed (NAFTA, Europe: EU and Switzerland, Eastern Europe, Asia and other emerging countries). The research shows that in general, Europe¹⁰⁷ is specialised in **equipment-intensive sport goods**, i.e. for sailing, winter sports, surfing, motor sports or golf, while Asia, Eastern Europe¹⁰⁸ and emerging countries have a specialisation in **trite sport goods**¹⁰⁹ and some less equipment-intensive sport goods.

Improving the **access to international markets** can support competitiveness of the EU sport industry. Free-trade agreements (FTAs) play an important role in improving market access to third countries. They are not only about reducing / eliminating tariffs but also about commitments on the areas of services, public procurement, IPR or investment protection. One barrier for the sporting-goods industry sector in FTAs is that over 50% of sport products qualify as "apparel and footwear" which is seen as a "sensitive industry" in FTA negotiations. As long as apparel/footwear is treated as a sensitive sector in negotiations, the European sporting goods sector cannot fully benefit from trade liberalisation. (*FESI, 2014*)

In 2016, the **import value of sporting goods**¹¹⁰ of the 28 EU countries (intra-EU and extra-EU) amounted to EUR 38.0 billion, which is approx. 1% of all imports of goods of the EU 28. Thereof, EUR 19.7 billion (52%) can be assigned to intra-EU imports of sporting goods and EUR 18.2 billion to extra-EU imports (48%). The **exports** of sporting goods of the 28 EU countries (intra-EU and extra-EU) account for 0.65% of European exports with an export value of EUR 31.5 billion. Around EUR 23.3 billion (74%) of export value of sporting goods can be referred to the intra-EU exports. **Between 2008 and 2016**, the total import (+41.7%) and export (+42.5%) of sporting goods developed positively.

¹⁰⁵ <https://comtrade.un.org/data>, queried 19 January 2018

¹⁰⁶ The UN Comtrade Database uses the global nomenclature for the classification of products, i.e. the Harmonised System (HS). Data on sporting goods trade has been calculated using the detailed list of sport goods by HS elaborated by Eurostat (please see definition in Annex 3)

¹⁰⁷ Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, Spain, Sweden, the UK and Switzerland

¹⁰⁸ Bulgaria, the Czech Republic, Hungary, Poland, Romania, Russia and Slovakia

¹⁰⁹ relatively labour intensive, less high tech, less value added and less specialised sport goods that can be used for practicing different sport, e.g. for gymnastics, walking, body building, keep fit, team sport and track and fields, or even for leisure time without any sport practice, e.g. sportswear, tracksuits, sporting footwear, balls.

¹¹⁰ Sporting goods according to the CN-classification and their respective sport shares as defined in the frame of the present study

Table 18: International trade of sporting goods of the EU 28 countries, 2008 - 2016

	Value in € millions		Change in %, 2008-2016	Share in total EU intern. trade in %, 2016
	2008	2016		
Imports				
Intra-EU	14,129	19,742	39.7	0.65
Extra-EU	12,674	18,246	44.0	1.07
Total	26,803	37,987	41.7	0.80
Exports				
Intra-EU	16,193	23,274	43.7	0.75
Extra-EU	5,898	8,215	39.3	0.47
Total	22,090	31,489	42.5	0.65

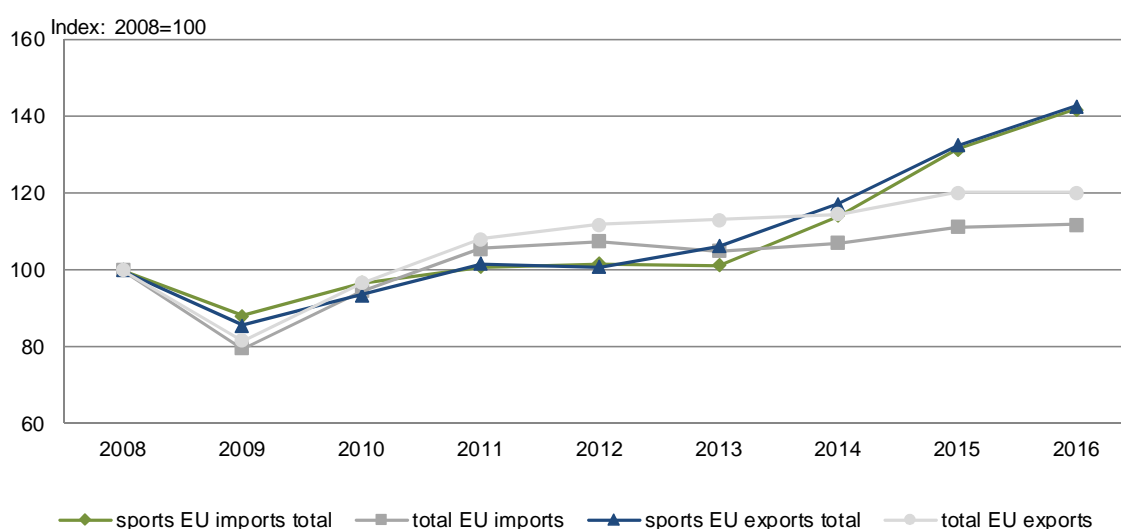
Note: Data are based on the CN-classification and sporting goods as defined in the frame of the present study.

Source: Austrian Institute for SME Research; Eurostat, International trade in goods (ext_go)

A detailed analysis of the development of the total international trade of sporting goods between 2008 and 2016 for each year shows that the export and import value declined during the economic crisis of 2009. Since 2010, the export value grew almost constantly. The import value of sporting goods increased between 2010 and 2012 and between 2013 and 2016.

Until 2014, the imports and exports of all goods of the EU28 countries show a similar development. Since 2014, the growth of the imports and exports of sporting goods is much larger than the international trade of all goods.

Figure 10: Development of the international trade of sporting goods and in total of the EU 28 countries, 2008 – 2016 (index: 2008=100)



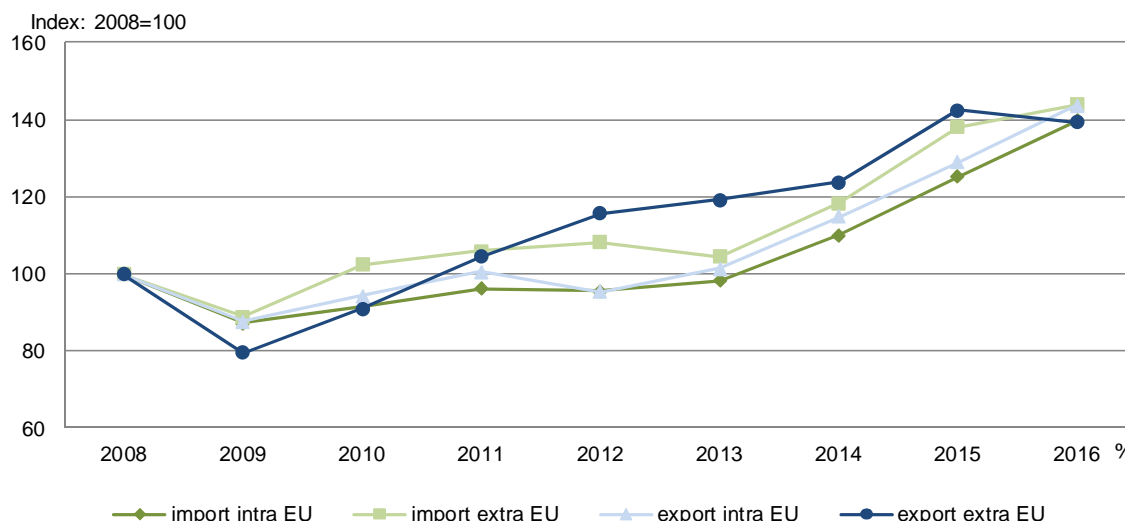
Note: Data are based on the CN-classification and sporting goods as defined in the frame of the present study.

Source: Austrian Institute for SME Research; Eurostat, International trade in goods (ext_go)

The following graph demonstrates the different development of the intra-EU and extra-EU imports and exports of sporting goods. The whole international trade of goods declined between 2008 and 2009 due to the economic crisis. Since 2010, the **intra-EU import and export value** of sporting goods have developed very similarly. It was only in the year

2013 (export value) respectively 2014 (import value) that both values could exceed the level of 2008 again.

Figure 11: Detailed development of the international trade of sporting goods of the EU 28 countries, 2008 – 2016 (index: 2008=100)



Note: Data are based on the CN-classification and sporting goods as defined in the frame of the present study.

Source: Austrian Institute for SME Research; Eurostat, International trade in goods (ext_go)

The development of the value of the **extra-EU imports and exports** of sporting goods show a less uniform trend. The value of the imported sporting goods from outside the EU could reach the level of 2008 already in 2010 and then grew constantly until 2012. After a decline in 2013 a sharp upward trend until 2016 can be observed.

The extra-EU export value of sporting goods increased continually between 2010 and 2015 and decreased between 2015 and 2016.

In 2016, the largest shares of the import and export value of sporting goods can be attributed to wearing apparel (25% of the exports; 28% of the imports), followed by sport equipment, such as skis and balls (22% of the exports; 23% of the imports), footwear (20% of the exports; 21% of the imports), motorcycles (10% of the exports; 9% of the imports), boats (8% of the exports; 4% of the imports) and bicycles (7% of the exports; 10% of the imports).

Between 2008 and 2016, footwear has been the most dynamic sport product category. The import value increased by almost 183%, the export value grew by more than 200%. In this category, it is particularly the sporting good "sport footwear, incl. tennis shoes, basketball shoes, gym shoes, training shoes and the like, with outer soles of rubber or plastics and uppers of textile materials" showing the biggest increase, especially since 2014. Furthermore, the production of sport footwear has also increased sharply in the EU 28 between 2008 and 2016. In contrast, boats had an unfavourable development – including sports boats and yachts, this might be referred to the aftermath of the economic crisis. Furthermore, the import value of aircrafts decreased sharply.

Table 19: International trade of sporting goods of the EU28 countries by product categories¹, 2016

	Imports 2016			Exports 2016		
	Value in € millions	Share in sporting goods in %	Change in %, 2008-2016	Value in € millions	Share in sporting goods in %	Change in %, 2008-2016
Wearing apparel (i.e. skijackets, tracksuits, swimwear, gloves, rubberised / impregnated garments)	10,435	27.5	46.9	7,851	24.9	48.4
Sport equipment (e.g. skis, balls, athletic articles and equipment)	8,883	23.4	38.4	7,017	22.3	40.7
Footwear	8,100	21.3	183.4	6,270	19.9	202.7
Motorcycles	3,328	8.8	-1.8	3,040	9.7	20.0
Boats	1,473	3.9	-48.6	2,651	8.4	-30.0
Bicycles	3,620	9.5	52.6	2,344	7.4	53.5
Weapons and ammunition	455	1.2	-9.0	920	2.9	12.9
Made-up textile articles (except apparel; e.g. tents, sails, parachutes, sleeping bags)	911	2.4	51.5	674	2.1	44.2
Rubber tyres and tubes	425	1.1	27.6	288	0.9	33.6
Aircrafts	62	0.2	-56.1	190	0.6	3.5
Motor vehicles (snow and golf cars)	154	0.4	58.7	117	0.4	43.8
Billiard	75	0.2	-1.6	70	0.2	21.4
Direction finding compasses	66	0.2	42.0	57	0.2	-24.5
Sporting goods total	37,987	100.0	41.7	31,489	100.0	42.5

¹ The CN-codes have been subsumed to sporting good product categories that are similar to the categories on NACE 4-digit level. For more detailed information please see Annex 3.

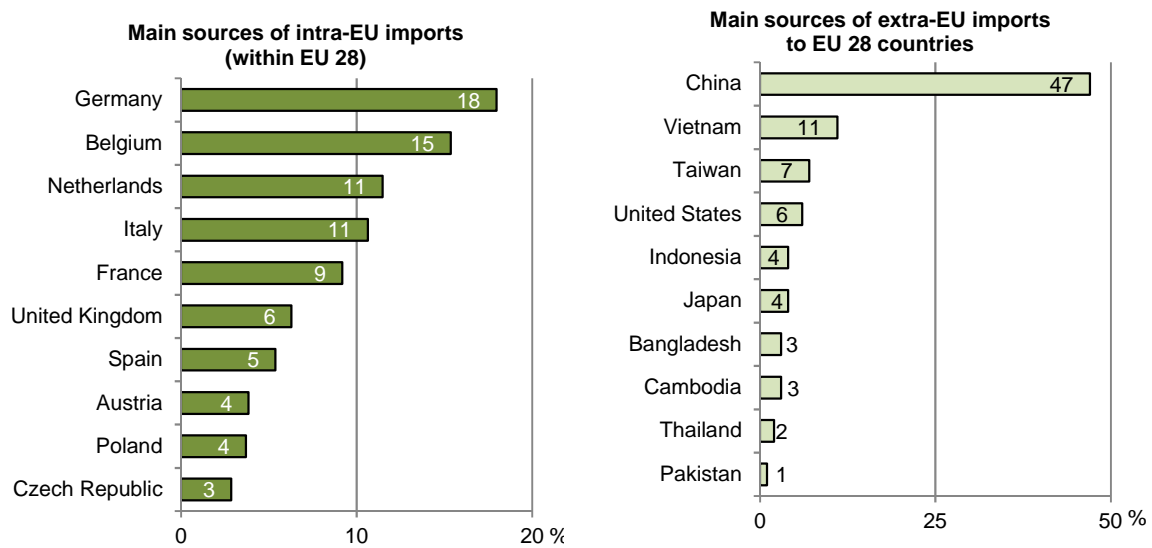
Note: Data are based on the CN-classification and sporting goods as defined in the frame of the present study.

Source: Austrian Institute for SME Research; Eurostat, International trade in goods (ext_go)

In 2016, the EU 28 received **intra-EU imports** of sporting goods in particular from **Germany** and **Belgium**: 18% of the intra-EU import value was from Germany (especially wearing apparel, footwear and sport equipment), 15% from Belgium (mostly footwear). The appearance of the smaller countries Belgium and Netherlands among the Top intra-EU suppliers of sporting goods can be explained by the so-called 'Rotterdam effect'. It results from the transit of goods in Member States with big ports at the external border of the European Union (e.g. Rotterdam, Antwerp). The Top 10 importers are responsible for approx. 90% of all intra-EU imports.

As regards the **extra-EU imports**, **China** was in 2016 the largest supplier of sporting goods to the EU 28 countries by far. 47% of the extra-EU import value can be attributed to this country. Above all, wearing apparel and sport equipment are imported to the EU from China.

Figure 12: Imports of sporting goods by Top 10 countries, 2016, share of import value in %

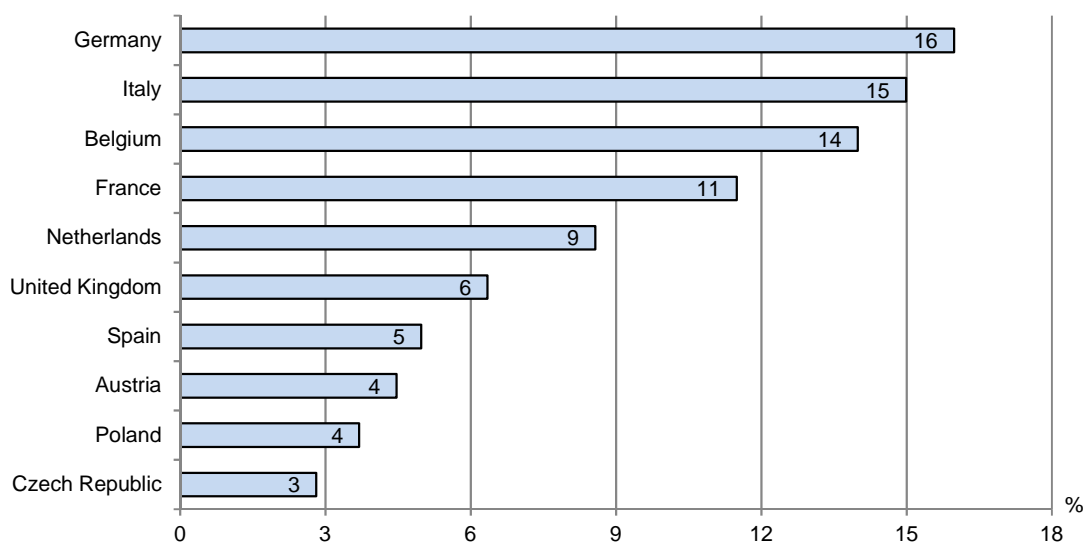


Note: Data are based on the CN-classification and sporting goods as defined in the frame of the present study.

Source: Austrian Institute for SME Research; Eurostat, International trade in goods (ext_go)

Germany was the **largest EU exporter** in 2016 (16% of the intra- and extra-EU export value), followed by Italy (15%) and Belgium (14%). The Top 10 countries account for 83% of all intra and extra EU exports. While in Germany wearing apparel, sport equipment and footwear are the Top export product categories (as in the EU average), Italy also exports motorcycles and Belgium, with the big port in Antwerp, primarily footwear.

Figure 13: Exports of sporting goods by Top 10 EU-countries, 2016, share of export value (intra and extra-EU) in %



Note: Data are based on the CN-classification and sporting goods as defined in the frame of the present study.

Source: Austrian Institute for SME Research; Eurostat, International trade in goods (ext_go)

As regards the international trade of sporting goods of **further countries participating in the COSME programme**¹¹¹, the trading connections between the EU 28 and these countries have been analysed. The most intensive trade relations in terms of import and export values can be observed between the EU 28 on the one side and Turkey, Iceland and Serbia on the other side. The main characteristic of the international trade of the EU 28 with the Southeast European countries Albania, Montenegro, the Former Yugoslav Republic of Macedonia (FYROM) and Serbia, as well as Armenia and Iceland is a negative trade balance, with imports of sport equipment¹¹² being much higher than the exports. This is particularly pronounced in Armenia, Montenegro and Albania. Turkey is the only country among the Non-EU COSME countries with a positive trade balance when it comes to sport equipment.

Table 20: International trade of sport equipment¹ of Non-EU countries participating in the COSME programme with the EU 28, 2016

Countries participating in the COSME programme	Import value in € 1,000 from EU 28	Export value in € 1,000 to EU 28
Albania	1,062	2
Armenia	1,749	<1
Iceland	5,698	233
Former Yugoslav Republic of Macedonia	1,003	44
Republic of Moldova	950	16
Montenegro	1,082	1
Serbia	3,271	2,352
Turkey	18,548	18,676

¹ Sport equipment: CN/HS-codes 9506 and 9507 (articles and equipment for sport, fishing rods)

Source: COMEXT database, Western Balkan and Candidate Countries Trade (Albania, Montenegro, FYROM, Serbia, Turkey) (DS-056697); UN Comtrade Database (Armenia, Iceland, Republic of Moldova), exchange rate from US-\$ to € is 1.1069 based on the average ECB euro reference exchange rate in 2016; queried December 2017/January 2018

For the Non-EU COSME countries, important trading partners (both imports and exports) in the EU 28 in the field of sport equipment are generally Italy, Germany, France as well as neighbouring countries. Further important Non-EU trading partners are China, the USA and Russia.

The situation in Turkey differs from the other Non-EU COSME countries, because it is the only country with a positive trade balance in the field of sport equipment. The main countries for imports from the EU 28 are Italy, Germany, Hungary, France and Slovakia. More than half of Turkey exports of sporting goods to the EU 28 go to France (54%), other relevant countries include Bulgaria, Spain, Greece and Germany.

In Iceland, the imports and exports in the field of sport equipment show a totally different pattern: EU 28 imports to Iceland mainly come from the United Kingdom and the Netherlands, i.e. countries with big ports. Iceland exports most of its EU 28 exports to Sweden.

The countries of Southeast Europe show a similar trade pattern: Albania imports most of its sporting goods from the EU 28 from Italy, Germany, Poland, Greece and France. In 2016, the only two countries in the EU to which Albania exported sporting goods were Ireland and Croatia. The situation in Montenegro is similar: most of the sporting goods are

¹¹¹ Albania, Armenia, the Former Yugoslav Republic of Macedonia, Iceland, Republic of Moldova, Montenegro, Serbia and Turkey.

¹¹² CN-/HS-Codes: 9506 – Articles and equipment for general physical exercise, gymnastics, athletics, other sport, incl. table-tennis, or outdoor games, not specified or included in this chapter or elsewhere; swimming pools and paddling pools; 9507 – Fishing rods, fish-hooks and other line fishing tackle n.e.s.; fish landing nets, butterfly nets and similar nets; decoys and similar hunting or shooting requisites (excl. those of heading 9208 and 9705)

imported from Italy, Slovenia, Germany, Croatia and France, whereas exports (existing only at a very low level) went primarily to Greece and Romania in 2016. The main trading partners in the EU 28 for Serbia in the field of sport equipment are Germany, Italy, France and Slovenia, followed by Hungary (only imports) and the Czech Republic (only exports). The most important import countries of the EU 28 for FYROM in 2016 were Italy, Germany, Slovenia, Bulgaria and the UK, while exports mainly go to Italy, Germany, Bulgaria and France.

As regards the Republic of Moldova, the most important countries are Italy and Slovakia in terms of EU 28 imports of sport equipment, while exports to the EU 28 mainly go to Romania and Italy.

Armenia imports most of its sporting goods from the EU 28 from Italy and Austria, while the EU 28 exports mainly go to Poland (however at a very low level).

7.3.5. Wholesale and retail sale structure associated with sporting goods

As the retail sale of sporting equipment is totally sport (100%), it is included in the sporting goods definition in the present study and has been already analysed in the chapter above.

However, there are additional wholesale and retail branches that are associated with sporting goods: the **wholesale** of other household goods includes sporting equipment, and the **wholesale and retail sale** of clothing and footwear includes wearing apparel and shoes used for sport. Due to a sport share in the respective codes smaller than 20%¹¹³, these branches (as well as agents involved in the sale) are not included in the definition of the sporting goods sector. However, data on the wholesale and retail structure will be presented below due to the great impact for foreign trade sales and value added (see table below).

In 2015, the total **turnover** of the wholesale and retail sale associated with sporting goods amounts to approx. EUR 60,700 million, while the **value added** is about EUR 12,100 million. In comparison, the retail sale of sporting equipment (100% sport) has a turnover of approx. EUR 51,300 million and a value added of approx. EUR 10,900 million, which is nearly as high as all additional wholesale and retail branches combined.

The highest turnover and value added can be attributed to **the retail sale of clothing**, followed by the wholesale of other household goods (incl. sport equipment) and the wholesale of clothing and footwear. As a sport share of 10% in these sectors has been applied (please see chapter 6.5 for more details), the numbers refer to the sport-related wholesale and retail trade.

Table 21: Sectoral structure of wholesale and retail sale associated with sporting goods¹ in the EU 28, 2015

	Turnover in € million	Value added in € million
Agents involved in the sale of textiles, clothing, fur, footwear and leather goods	981	376
Wholesale of clothing and footwear	14,545	2,421
Wholesale of other household goods (e. g. sport goods, bicycles)	18,823	2,926
Retail sale of clothing in specialised stores	21,730	5,315
Retail sale of footwear and leather goods in specialised stores	4,588	1,069

¹¹³ Please see chapter 6.5 "Sporting goods in NACE-codes" on more details on the inclusion / exclusion of wholesale and retail trade in the sporting goods definition.

Wholesale and retail sale associated with sporting goods total	60,667	12,107
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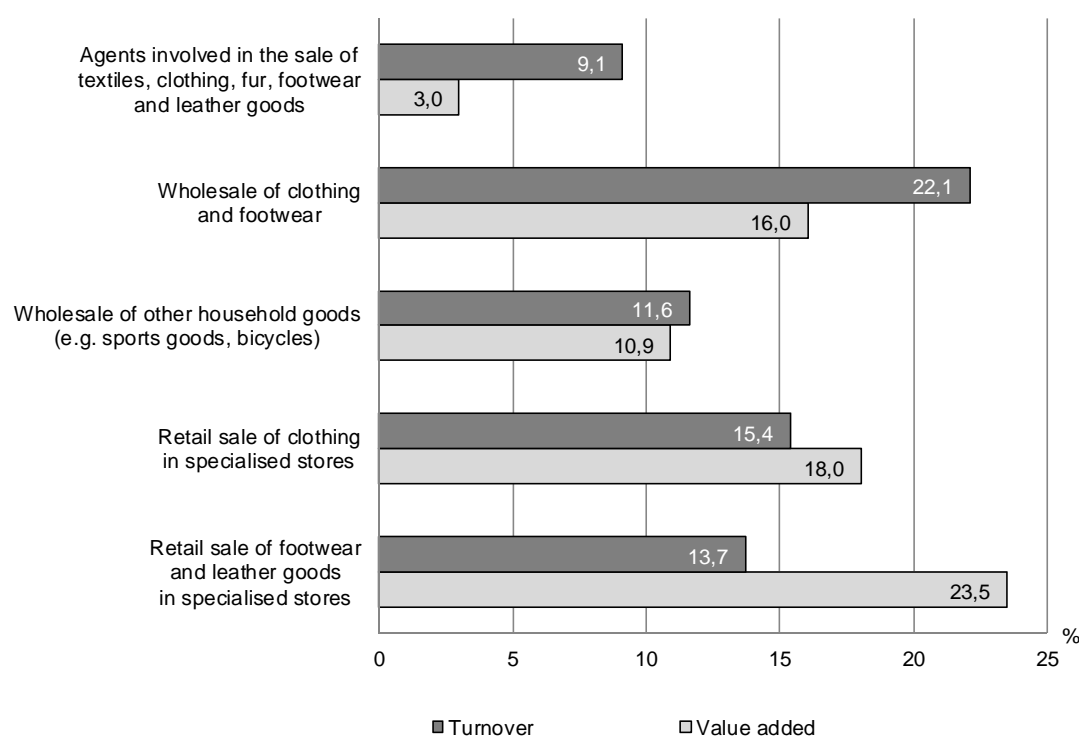
Note: Data are based on the NACE-classification and sporting goods as defined in the frame of the present study.

¹ According to the sporting goods definition in NACE-codes, a sport share of 10% has been applied to the data (see chapter 6.5).

Source: Austrian Institute for SME Research; Eurostat, Structural Business Statistics (sbs)

Between 2008 and 2015, all wholesale and retail sale of the sporting clothes and footwear sector in the European Union were characterised by an upward trend of the turnover and value added. Among all the sectors of analysis, the growth rates were highest in the wholesale of clothing and footwear, in the retail sale of clothing and in the retail sale of footwear and leather goods.

Figure 14: Sectoral development of the wholesale and retail sale of the sporting goods sector¹ in the EU 28 in %, 2015 compared with 2008



Note: Data are based on the NACE-classification and sporting goods as defined in the frame of the present study.

¹ According to the sporting goods definition in NACE-codes, a sport share of 10% has been applied to the data (see chapter 6.5).

Source: Austrian Institute for SME Research; Eurostat, Structural business statistics (sbs)

7.3.6. Intellectual property rights, counterfeiting in sporting goods

Intellectual property (IP) refers to creations of the mind, i.e. products, works or processes that have been created by individuals and which provide a competitive advantage. IP is counted among the intangible assets of a company. In general, IP can be divided into three

subcategories (see also *World Intellectual Property Organization - WIPO*¹¹⁴, *Website of EU DG Growth*¹¹⁵, Radauer / Streicher / Ohler, 2007):

- **Industrial property:** patents for inventions, trademarks, industrial designs, geographical indications
- **Copyright** (author's rights): literary works, films, music, artistic works, television broadcasting, software and computer programmes, databases, architectural design, advertising creations and multimedia production
- **Commercial strategies:** trade secrets, lead-time advantage, complexity of the design, defensive publishing, confidentiality agreements

Intellectual property rights (IPR) can be regarded as a bundle of rights that protect applications of ideas and information that have commercial value. Like any other rights, they allow creators, owners of patents, trademarks or copyrighted works to benefit from their own work or investment in a creation. In general, the IPR system has three goals: to provide incentives for knowledge creation (and thus also the build-up of wealth), to accumulate knowledge in a culture, and to protect a distinctive identity. (Gowers, 2006, p. 11)

The **protection of intellectual property rights** (IPR) is one of the major challenges of the sporting goods sector. Industry associations and governments are trying to address this issue. **Counterfeiting**¹¹⁶ in sporting goods in the EU has negative effects on the market, as the industry is facing both direct and indirect revenue and job losses. Also, investments in innovation are discouraged and consumer safety is at stake if IPRs are infringed. According to the European Union Intellectual Property Office (EUIPO)¹¹⁷, 6.5 % of sales are lost in the sporting goods sector annually due to counterfeiting, which translates into EUR 500 million of revenue and 5,800 direct and indirect jobs losses (Wajzman *et al.*, 2015). Considering direct and indirect effects EUR 150 million in government revenue are lost annually (*ibid.*). In 2013, the EU seized counterfeit sport shoes worth over EUR 36.5 million (FESI, 2014). For instance, golf is a sport particularly concerned with counterfeiting. Keep Golf Real, an anti-counterfeit group that comprises major equipment manufacturers, reports that over two million fake clubs are produced each year worldwide (MarketLine, 2015c). In 2014, 150,000 counterfeit clubs were identified in China alone (*ibid.*).

IPR infringements do not only concern goods but also **unauthorised broadcasting** of sporting events. Unauthorised streaming websites exploit sporting content to create profit (by gaining revenues from advertising or subscriptions) (FESI, 2014). Furthermore, it is pointed out that the lack of statutory relationship between sport and **betting** operators remains a challenge (European Parliament, 2011; FESI, 2014). Betting operators take bets on sport competition and therefor directly commercially exploit the sport product which is the result of intellectual, financial and human efforts on the part of sport organisers (*ibid.*). However, the use of sport events for betting purposes is largely ungoverned by contractual agreements (*ibid.*).

The protection of IPR - and in particular industrial property rights - is still mainly regulated by national law rather than EU laws. For instance, a patent / trademark / industrial design granted in one country is solely valid for that specific country. If protection is needed elsewhere, filings are necessary in each of the countries in which protection is sought. Generally, industrial property rights are granted by national intellectual property offices or by regional offices that carry out examination work for a group of countries, e.g. the *European Patent Office* (EPO) for patents in Europe¹¹⁸ and the *European Union Intellectual*

¹¹⁴ <http://www.wipo.int/portal/en/index.html>

¹¹⁵ <http://ec.europa.eu/growth/industry/intellectual-property/>

¹¹⁶ i.e. unauthorised imitation of a branded good

¹¹⁷ The study only covers the manufacture of sport goods and does not include the wholesale and retail trade, due to the availability of official public data.

¹¹⁸ Responsible for patent protection covering 38 European member countries

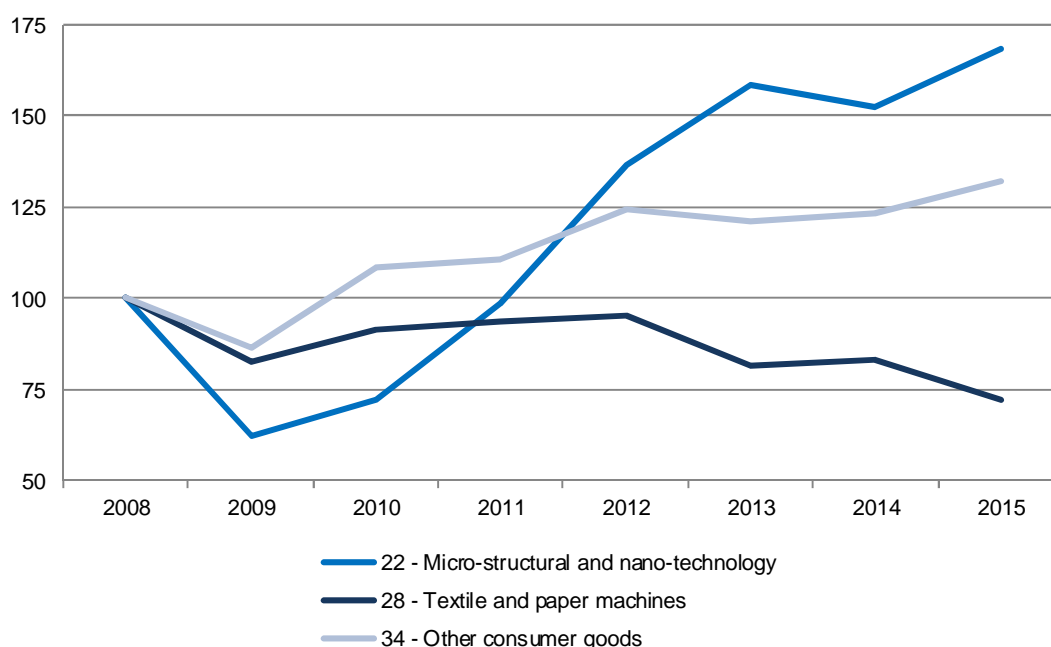
Property Office (EUIPO)¹¹⁹ for trademarks and industrial design in the European Union. In the field of industrial property, comprehensive information on *patent grants* as well as the *registration of trademarks* and *industrial design* is provided by the WIPO database.

Patents

In 2015, throughout Europe¹²⁰, in total 165,200 **patents** have been newly **granted**¹²¹, which is 13 % of all new patent grants in the world¹²². Between 2008 and 2015, the number of new European patent grants increased by 5 %. However, during the same time period, the share of the new European patent grants of the total world decreased by 7%-points.

Approx. 4 % of the newly granted patents in Europe refer to fields of technology that deal with sport in a broader sense, i.e. class 22 - *micro-structural and nano-technology*, class 34 - *other consumer goods* (incl. wearing apparel, headwear, footwear), and class 28 - *textile and paper machines*¹²³. In this respect, Germany, France, UK and Spain play a major role.

Figure 15: Patent grants by the European Patent Office by selected technologies, 2008-2015



Note: Statistics do not provide further distinction of patents within the technology groups

Source: WIPO statistics database. Last updated: February 2017

In 2015, most patents in the sport-related technologies granted by EPO can be observed in the fields *other consumer goods* (1,486), followed by *textile and paper machines* (1,481) and *micro-structural and nano-technology* (138). As the figure shows, between 2008 and 2015, the development of patent grants was very positive in the field of micro-structural and nano-technology (+68 %) and, to a lesser extent, also in the field of other consumer goods (+32 %). In contrast, patent grants in the field of textile and paper machines decreased (-28 %).

¹¹⁹ Responsible for registration of trademarks and industrial design rights in the European Union. From March 2016, Regulation (EU) No 2015/2424 of the European Parliament and the Council amending the Community trade mark regulation will enter into force - from that day, the Office will be called the European Union Intellectual Property Office (EUIPO) and the Community trade mark will be called the European Union trade mark.

¹²⁰ Patents granted by the European Patent Office (EPO) and in national states

¹²¹ A set of exclusive rights granted by law to applicants for inventions that are new, non-obvious and commercially applicable. It is valid for a limited period of time (generally 20 years), during which patent holders can commercially exploit their inventions on an exclusive basis.

¹²² 56 % of all patents have been granted in Asia, 26 % in North America.

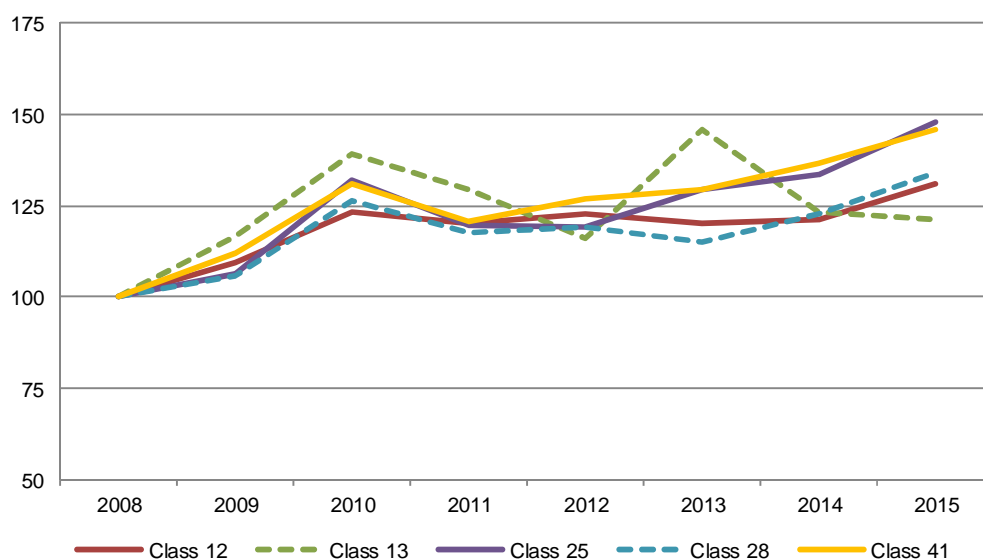
¹²³ Alas, the WIPO database does not allow any further distinction within these fields of technology.

Trademarks

Throughout Europe¹²⁴, in 2014¹²⁵, 613,639 **trademarks** have been newly **registered**¹²⁶, which is 17% all new trademark registrations in the world¹²⁷. Between 2008 and 2014, the number of European trademarks registered decreased by 18 %. Also, during the same time period, the share of the European trademarks registrations of the total world decreased by 13%-points.

Approx. 31% of the newly registered trademarks in Europe refer to technologies that may also be used in sport in a broader sense, i.e. class 12 - *vehicles, apparatus for locomotion by land, air or water*; class 13 - *firearms, ammunition and projectiles, explosives, fireworks*; class 25 - *clothing, footwear, headgear*; class 28 - *games, toys and playthings, video game apparatus, gymnastic and sporting articles, decorations for Christmas trees*; or class 41 *education; providing of training, entertainment, sporting and cultural activities*¹²⁸. Many of these trademark registrations originate in Germany, Spain, Italy and UK, but also Turkey.

Figure 16: Trademark registrations at the European Union Intellectual Property Office by class, 2008-2015



Note: Statistics do not provide further distinction of trademarks within the classes

Class 12: Vehicles; apparatus for locomotion by land, air or water.

Class 13: Firearms; ammunition and projectiles; explosives; fireworks.

Class 25: Clothing, footwear, headgear.

Class 28: Games, toys and playthings; video game apparatus; gymnastic and sporting articles; decorations for Christmas trees.

Class 41: Education; providing of training; entertainment; sporting and cultural activities.

Source: WIPO statistics database. Last updated: February 2017

In 2015, most of the sport-related trademarks newly registered at EUIPO were in the field of *education; providing of training; entertainment; sporting and cultural activities* (18,813), followed by *clothing, footwear, headgear* (15,021). 7,028 trademarks have been

¹²⁴ Trademarks registered at the European Union Intellectual Property Office (EUIPO) and nationally

¹²⁵ Data for 2015 are not reliable yet

¹²⁶ The holder of a registered trademark has the legal right to exclusive use of the mark in relation to the products or services for which it is registered. The owner can prevent unauthorized use of the trademark, or a confusingly similar mark, used for goods or services that are identical or similar to the goods and services for which the mark is registered. Unlike patents, trademark registrations can potentially be maintained indefinitely, as long as the trademark holder pays the renewal fees and actually uses the trademark.

¹²⁷ 60 % of the trademarks were newly registered in Asia, 12 % in Latin America and the Caribbean, and 7 % in North America.

¹²⁸ Alas, the WIPO database does not allow any further distinction within these fields of technology.

registered in the field of *games, toys and playthings; video game apparatus; gymnastic and sporting articles; decorations for Christmas trees*, 5,047 in *vehicles; apparatus for locomotion by land, air or water*, and further 310 in *firearms; ammunition and projectiles; explosives; fireworks*. Between 2008 and 2015, the development in these fields of technology was positive, with increasing trademark registrations between 21 % (firearms etc.) and 48 % (clothing etc.).

Industrial design

In 2015, in Europe¹²⁹, 62,681 **industrial designs** have been newly **registered**¹³⁰, which is approx. 9 % of all new industrial design registrations in the world¹³¹. Between 2008 and 2014, the number of new industrial design registrations in Europe increased by 6 %. However, in the same time period, the share of new European industrial design registrations of the total world decreased by 8 %-points.

Approx. 72 % of the newly registered industrial designs in Europe can be assigned to sport in a broad sense, i.e. class 02 - *articles of clothing and haberdashery*, class 05 - *textile piecegoods, artificial and natural sheet material*, class 12 - *means of transport or hoisting*, class 21 - *games, toys, tents and sport goods*, and class 22 - *arms, pyrotechnic articles, articles for hunting, fishing and pest killing*. When excluding the huge class 02 - articles of clothing and haberdashery, the sport-related share would still be 37 %. The most important countries are Germany, Spain, Turkey, United Kingdom and Austria.

In 2015, most of the industrial designs newly registered at EUIPO and related to sport in a broad sense are in the field *articles of clothing and haberdashery* (8,137), followed by *means of transport or hoisting* (4,621), as well as *games, toys, tents and sport goods* (2,276). 978 industrial designs were registered in the field *textile piecegoods, artificial and natural sheet material*, and 249 in *arms, pyrotechnic articles, articles for hunting, fishing and pest killing*¹³². Between 2008 and 2015, the development of the industrial design registrations in these technologies was twofold: while it was positive for the classes *transport etc.* (+23 %), *arms etc.* (+6 %) and *clothing etc.* (+2 %), it was mixed for *games and sport goods* and rather unfavourable for *textiles etc.*

The European Union has actively promoted the **protection of IPR** during the last years. This includes a comprehensive IPR strategy in a 2011 Communication to ensure that the Single Market for intellectual property functions smoothly (*European Commission*, 2011b). Among others, the EU has developed the **Unitary Patent**¹³³, allowing companies to have a single and affordable patent giving them protection in the European Union. It has also taken steps to improve the EU rules on trademarks, has updated rules on tackling fake products at the EU external borders, and promotes the establishment of a code of practice in the fight against the sale of **counterfeit goods** over the internet (Memorandum of Understanding on the Sale of Counterfeit Goods via the Internet¹³⁴).

¹²⁹ Industrial design registered at the European Union Intellectual Property Office (EUIPO) and nationally

¹³⁰ The holder of a registered industrial design has exclusive rights against unauthorized copying or imitation of the design by third parties. Industrial design registrations are valid for a limited period. The term of protection is usually 15 years for most jurisdictions.

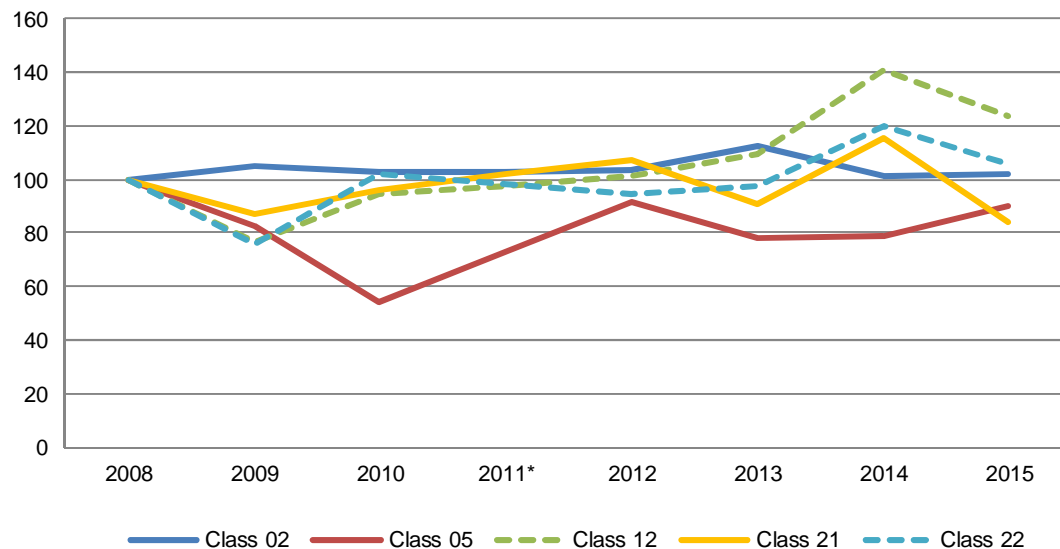
¹³¹ 84 % of new industrial design registrations are from Asia, further 4 % are from North America.

¹³² Traps, insecticides and repellents

¹³³ The Unitary Patent protection will make it possible to protect inventions in 26 EU member states by submitting a single patent application. After the patent is granted, there will be no need to validate it in each country. This will considerably reduce the costs (notably translation costs). The Unitary Patent will be administered by the EPO.

¹³⁴ Memorandum of Understanding on the Sale of Counterfeit Goods via the Internet (2011)
http://ec.europa.eu/internal_market/iprenforcement/docs/memorandum_04052011_en.pdf

Figure 17: Industrial design registrations at the European Union Intellectual Property Office by class, 2008-2015



Note: Statistics do not provide further distinction of industrial designs within the classes; * Data for 2011 were not reliable, therefore an average of 2010 and 2012 was calculated

Class 02: Articles of clothing and haberdashery; Class 05: Textile piecegoods, artificial and natural sheet material; Class 12: Means of transport or hoisting; Class 21: Games, toys, tents and sport goods; Class 22: Arms, pyrotechnic articles, articles for hunting, fishing and pest killing

Source: WIPO statistics database. Last updated: February 2017

7.3.7. Market & consumer trends

Individual consumers and professional as well as amateur sport leagues and teams are the main **market segments** of the sporting goods market (*Lipsey, 2006*). Further segments include corporations, commercial institutions such as e.g. health clubs, public and private sport clubs etc. (*ibid.*). **Market demand** at the European level is very fragmented, due to e.g. the variability of sport practises from one country to another (*Andreff / Szymanski, 2006*): While Austria's tourism industry is reliant on sport tourism to a large extent, Cyprus focuses more on sport services and therefore, main sport-related activities include sport betting, events, radio or TV broadcasting of sport events, trade and construction. Similarly, the German sport economy is more service-oriented (*European Parliament, 2015*). Weather conditions can also influence sport goods sales. For instance, when winter comes late in Europe, this causes high losses in sales (*Solutions for Sport, 2015*) (see also section "Market and framework conditions" above).

Demand for sporting goods is influenced by varying **consumer trends**. In general, sales of athletic wear currently profits from the **global health and fitness trend**. Some particular trends further include (see *Solutions for Sport, 2015*; *Morgan Stanley, 2015*):

- **Outdoor:** exercise and fitness in the open air such as e.g. trail running, outdoor gyms, climbing;
- **Running:** running has turned from a sport practiced mainly by competitive athletes to a popular pastime attracting masses of runners; current trends including more niche areas such as trail and off-road running and extreme events;
- **Cycling:** growth in this area is expected to be pushed by the increased demand for electric bicycles as well as the relevant clothing. Increased demand for e-bikes has already resulted in the diversification of e-bike products, e.g. e-mountain bikes, e-road bikes, e-trekking bikes, e-cross bikes etc.

- **Multifunctional clothing:** particularly generic walking/running/outdoor/cycling apparel is expected to see a rise in demand; with this trend also more sport fashion brands may enter mainstream sport trade as the lines between sport and fashion become more and more blurred;
- **the Women's Market:** the market has reacted to a frequent criticism that there is a lack of good sport product for women; today e.g. specialised running stores for women were opened;
- **Team sport:** driven by the still positive development of soccer as well as a rising popularity of women's football;
- **Innovation & Smart technology:** innovations in the area of outdoor textiles, footwear and hardware drive consumer demand. These include the trend for **wearable devices** counting steps, heart rates or calories. Wearable technology denominates apparel and accessories that include built-in computer and advanced electronic technologies (CBI, 2017). Intelligent textiles are a term used for materials interacting with human or environmental conditions (*ibid*, 2017). The market for wearable technology and smart textiles is expected to see high growth rates in the coming years with the sportswear sector taking a leading role (*ibid*, 2017). Between 2015 and 2023, the market for smart textiles is estimated by Transparency Market Research to grow at a 33.1 % rate in sport and fitness (Deloitte, 2017a).

Further **determinant variables** of the demand in sporting goods include the use value of a sport good, market price, the population's use of equipment, and the sporting good life cycle, with **fashion** being one of the most important determinants of demand for sport goods. (Andreff / Szymanski, 2006) The positive fashion image of sportswear has driven the sporting goods market at levels in excess of what is suggested by the overall sport participation. It is estimated that only a minor part of athletic sportswear (including footwear) is purchased for actual sport or exercise (*Clean Cloth Campaign*, 2004) while an increasing part is bought for casual and leisure activities. Already from the 1970s onward, athletic sportswear started evolving from products aimed at small and unique markets into a mainstream fashion product with the lines between performance and fashion, function and style increasingly blurring (*Clean Cloth Campaign*, 2004). This trend was also enhanced by the shift towards less formal fashion styles (also for professionals) over the past decades (Morgan Stanley, 2015). Nike, one of the biggest sport goods brands, is a striking example of a business which turned athletic footwear into fashion¹³⁵. Many apparel players develop crossovers between sport- and leisure wear and there has been an increase in high-end designers collaborating with athletic brands launching special collections (CBI, 2017). This trend has led to a situation where sportswear sales are growing faster than traditional apparel sales and traditional apparel retailers (e.g. H&M, Esprit, Uniqlo) developed sportswear lines (*ibid.*, 2017).

Further factors influencing the demand for sporting goods include sport participation rates: Any change in **sport participation** can bring about significant shifts in the pattern of consumption with new sport participants spending heavily on sport clothing and footwear. Demand for sporting goods is further determined by **households' professions and revenues**. An increase in economic prosperity and thus in personal income increases the demand of sporting goods both directly (by having more income to spend) and indirectly by rising sport participation (Gratton / Kokolakis, 2012). Studies estimate that 1.5% (Wicker *et al.*, 2010) to 6.8% (Taks/Ke'senne, 2000) of household spending is attributed to sport-related goods and services.

Other **socio-demographic factors** determining the participation in sport and the demand for sport goods include **sex, age** or **educational attainment**. Many studies find that men are spending more money on sport than women (Scheerder *et al.*, 2011). There is also a positive relationship between higher levels of education and spending on sport (*ibid.*). It is

¹³⁵ <http://www.theatlantic.com/entertainment/archive/2015/07/how-nike-turned-sneakers-into-fashion/397610/>

expected that the European sport market will profit from older people who remain active and sport-minded longer as compared to previous generations. Growth drivers in trade will be affected by an **ageing population**, in particular the 40-plus group (*Solutions for Sport*, 2015). Therefore, older and senior sport participants become an important target market, also in the light of a higher purchasing power (*Scheerder et al.*, 2011). The different variables such as lifestyle or socio-demographic factors determining consumer demand in sport are used by sporting good marketers to develop specific **consumer profiles** helping them to design their strategies. The gathering of information about consumers' characteristics through relationship marketing, consumer relationship management and database management thereby are important tools (*ibid.*).

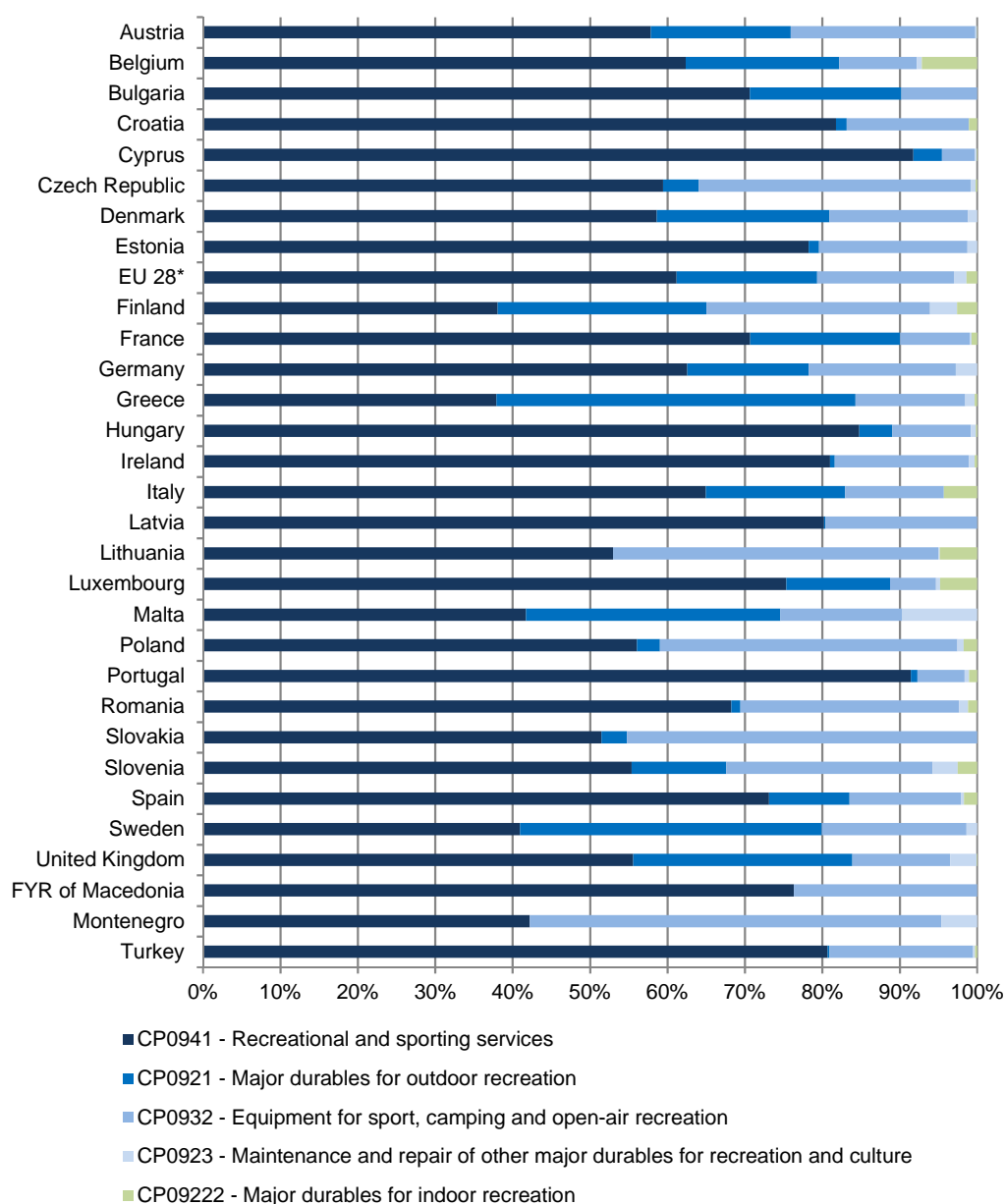
Sporting goods products have highly diverse distribution channels including many different types of retailers (*Lipsey*, 2006) and also online distribution gaining importance. The number of **online shoppers** is increasing in Europe and especially in the sportswear sector consumers associate apparel more with functional than with fun shopping and appreciate the convenience of buying it online (*CBI*, 2017). The Internet is also used by consumers to keep up with trends and develop styles and preferences (*ibid.*). For instance, Adidas, Nike Football or Converse are brands that are very active on Facebook (*ibid.*). Nike additionally offers its customers the possibility to customise their trainers online with the option to share their designs and opinions (*PWC*, 2011). This allows Nike to better understand its customer's preferences and gain information for its customer intelligence (*ibid.*). While online shopping and online engagement with customers becomes increasingly important in the sporting goods sector, offline sportswear shops are however not disappearing, but the combination of online and offline commerce is currently the main pursued strategy (*CBI*, 2017).

Private household expenditure on sporting goods and services

Eurostat's Household Budget Survey (HBS) has a specific statistic that measures the private household expenditure on sporting goods and services in European countries¹³⁶.

¹³⁶ "Households' expenditure on sporting goods and services"; the latest available data are from 2010, Data from 2015 will be available in 2018.

Figure 18: Private household expenditure on sporting goods and services by category, 2010



Note: Totals may not sum up due to rounding; * data for Netherlands are not available

Source: Eurostat, Household Budget Survey, 2010 (currently the latest available HBS)

The list of sporting items is taken from the COICOP heading 09 "Recreation and culture" and is limited to the articles and services that are fully related to sport or present a strong sport character, such as

- *Recreational and sporting services (CP0941)*: sport stadiums, fitness centres, ski slopes and similar; hire of equipment and accessories for sport and recreation
- *Major durables for outdoor recreation (CP0921)*: camper vans, aeroplanes, boats, horses, golf carts etc.
- *Equipment for sport, camping and open-air recreation (CP0932)*: gymnastic, physical education and sport equipment etc.
- *Maintenance and repair of other major durables for recreation and culture (CP0923)*: camper vans, aeroplanes, boats, horses, golf carts etc.

- *Major durables for indoor recreation (CP09222)*: billiard tables, ping-pong tables, pinball machines, gaming machines, etc.

According to the figure above, in the EU 28, 61.2% of the private household expenditures in sport goods and services go to recreational and sporting services, followed by major durables for outdoor recreation (18.1%), and equipment for sport, camping and open-air recreation (17.7%). In relation to this, expenditures on maintenance and repair of other major durables for recreation and culture (1.6%) and major durables for indoor recreation (1.4%) only play a minor role. Overall, the expenditures on different sporting items vary considerably across the European countries: households in Cyprus, Portugal, Hungary, Croatia, Ireland, Turkey, Latvia, Estonia, FYR of Macedonia and Luxembourg have the highest percentages of expenditures in **recreational and sporting services**, with shares far above the EU average. Households in Greece, Sweden, Malta, UK, Finland and Denmark spend money on **major durables for outdoor recreation** to a higher extent than in other countries. Households in Eastern and South-Eastern European countries such as Montenegro, Slovakia, Lithuania, Poland, Czech Republic, Romania and Slovenia spend a considerable share of their money on **equipment for sport, camping and open-air recreation**. In turn, households in Italy, Belgium, Lithuania and Luxembourg buy **major durables for indoor recreation** to a higher extent than in other countries. Expenditures on **maintenance and repair** seem to be a more important issue for households in Malta and Montenegro.

7.3.8. Sport participation

Nowadays, the overall development of the sporting goods sector shows a visible trend towards healthier nutrition and more sport. An important element is the exercising of physical activity within a group or community.¹³⁷ The latter was confirmed by the majority of interviewees. In this respect, a substantial challenge for the sporting goods sector is the demographic development, firstly because there are less young people (between 14-39 years old) and secondly because young people do less sport than before and spend more time with electronic media.^{138, 139}

Europe has a wide variety of professional and non-professional sport, and overall a good culture of sport and a satisfying demand.¹⁴⁰ There are also seasonal effects on the market (e.g. more demand for bathing and swimming goods in hot summers).

As regards physical activities and the amount of time spent on physical activity, the most recent European Health Interview Survey (EHIS) 2014 shows that approx. 44% of the Europeans¹⁴¹ generally perform aerobic sport, 24% also do muscle-strengthening and 20% cycle to get to and from another place. Similarly, the Eurobarometer on sport and physical activity (*European Commission*, 2014a) shows that sport participation rates are stagnating with 41% of European citizens exercising or playing sport at least once a week and 59% never or seldom do so. As these percentages stayed about the same since 2009, sport participation seems to be at a stagnation point (*Kokolakakis et al.*, 2014; *European Commission*, 2014a). This situation is very similar in many European countries, such as the UK, where sport participation (at least one 30-minutes session per week) has stagnated at around 34-36% of population since 2005-2006 (*Roberts*, 2015). This stagnation in sport participation is of considerable concern due to its impacts on the health and well-being of individuals (*Department of Health*, 2005), but also affects naturally the demand of sporting goods. Several studies have found a positive correlation between sport participation and expenditures on sport (*Scheerder et al.*, 2011).

The results of EHIS and Eurobarometer show that males tend to exercise, play sport or engage in other physical activity more than females (EHIS 2014, *European Commission*, 2014a). The performance of physical activities correlates with age: among the 15 to 24-year olds, 63% do aerobic sport, 40% do muscle-strengthening and 27% cycle to get to and from another place while the percentage among those 65 years and older is much

¹³⁷ Interview with an Austrian sporting goods retailer

¹³⁸ Interview with the representative of a German association of sporting goods manufacturers

¹³⁹ Interview with an Italian association of sporting goods manufacturers

¹⁴⁰ Interview with a French academic.

¹⁴¹ No data available for Belgium and the Netherlands as of November 2017

lower (32%, 17% and 15% respectively). Also, there are considerable differences between the EU member states: the Nordic countries (Denmark, Finland, Sweden, Norway and Iceland) as well as Germany and Austria have the highest shares of persons performing physical activities of any kind, while Romania, Turkey and Bulgaria are among the countries with the lowest shares.

As regards the time spent for sport per week, approx. 30% of the Europeans spend 150 minutes and more per on health-enhancing aerobic physical activity and further 20% 1 to 149 minutes. However, nearly 50% do not spend any time for sport. Again, males tend to spend more time on sport than women, and the time spent on aerobic physical activity decreases with age. It is again the Nordic countries as well as Germany and Austria that have the highest shares of people spending even 300 minutes or more on sport per week.

7.4. Conclusions

The European Union has acknowledged sport as an important economic driver and it has a supporting, coordinating and supplementary role in sport. The European Commission has launched several sport-related initiatives: among others, the third and current **EU Work Plan for Sport (2017-2020)** focuses on the integrity of sport (anti-doping etc.), the economic dimension of sport (including innovation) as well as the role of sport in society.

Following the Vilnius Definition of Sport, besides the statistical definition of sport that consists of sport activities (operation of sport facilities etc.), the **sport-related industries** include on the upstream side those sub-sectors that produce goods and services needed for sport, i.e. the production of sport equipment and apparel as well as their retail and wholesale trade, the construction of infrastructure, advertising & PR, financial services as well as sport education. Downstream relations refer to industries in which sport has a significant involvement, such as sport media, health, sport tourism, lotteries and betting, sport foods as well as sport-related R&D, but do not contribute directly to the core sport product.

It is estimated that the **global sport-related industry** - comprising sporting goods, licensed products, health and fitness clubs, other non-event activities as well as events - is worth approx. EUR 500 billion to EUR 590 billion annually, representing about 1 percent of global GDP. According to the EU 27 Sport Satellite Account that has been set up in 2012 (*SportsEconAustria et al.*, 2012), the **sport-related industry** in the **EU 27** accounts for 1.76% (direct impact) of its gross value added (GVA) and 2.12% of its employment. There are disparities between EU Member States in terms of GVA and employment - these are not only of economic nature, but also influenced by other factors such as geography. Sport-related industries have **interrelations / synergies with and spillover effects** to other sectors, e.g. construction, food products and beverages, sporting services, wholesale and retail trade, tourism, fitness & media as well as education. Sport-related industries can support regional development – e.g. by the offer of high quality sport facilities and events that can attract tourists as well as mobile talent in our modern, knowledge-based economy. Clusters play an important role for (innovation in) sport-related industries – regional clusters but especially also specific cross-border international clusters with universities, research centres and industry for small and larger companies.

In the European Union (EU 28), in 2015, approx. 85,900 enterprises can be assigned to the **sporting goods sector**^{142,143}. They employ approx. 436,600 persons. The turnover of the sporting goods sector amounts to approx. EUR 81,400 million, while the value added is about EUR 18,900 million. The sporting goods sector constituted 0.4% of all enterprises and 0.3% of all persons employed, turnover and value added in the total EU economy. The productivity amounts to approx. EUR 32,000 gross value added by person employed. In general, the last decade has been difficult for the European sporting goods sector, especially due to the economic crisis, which has induced a decrease in sporting goods

¹⁴² Based on the definition of sporting goods in NACE-codes in the present study (please see chapter 6.5 for more details)

¹⁴³ Source: Eurostat, Structural Business Statistics

consumption. Nonetheless, in recent years, the sector has seen a general growth, combined with increased sport visibility and participation starting after 2012.

The largest sector by far¹⁴⁴ within the sporting goods sector in the European Union is the **retail sale of sporting equipment in specialised stores**, i.e. sport goods, sport footwear, fishing gear, camping goods, boats and bicycles. Other big sectors in terms of turnover and value added are **manufacture of sporting goods, sale, maintenance and repair of motorcycles** as well as **manufacture of weapons and ammunition** used for sport.

In terms of the **sectoral development of the sporting goods sector** between 2008 and 2015, the most dynamic sector had been **renting and leasing of recreational and sport goods**, which can be attributed to the economic crisis, leading people to rent instead of buying, as well as changes in consumer behaviour. The sector manufacture of sport goods experienced a growth in enterprises, turnover and value added, whereas the number of persons employed declined. Besides the crisis, this can be mainly referred to changes in production patterns, e.g. automatisisation and outsourcing of production. Between 2008 and 2015, all wholesale and retail sale industries of the sporting goods sector in the European Union were characterised by an upward trend of the turnover and value added. Currently, the sporting goods sector is described as being in line with the level of consumption as compared to the situation before the crisis.

At international level, there is a division in the **production of sporting goods** – the most expensive products are produced in wealthier countries where high-technological capabilities exist, whereas cheaper products are manufactured in developing countries. According to PRODCOM data on industrial production, in 2016, the production value of sporting goods¹⁴⁵ of the 28 EU countries amounted to EUR 14.6 billion, which is 0.3% of the total production of the EU 28. Since 2008, the production value decreased by approx. 8%. The largest share of the production value of sporting goods can be attributed to sport equipment, such as skis and balls (24%), followed by boats (22%), motorcycles (18%), bicycles (13%) and wearing apparel (8%). The production value of motor vehicles (snow and golf cars), footwear and aircrafts increased the most, while there was a sharp decline in direction finding compasses, boats, billiard and wearing apparel.

With regard to **international trade**, in 2016, the import value of sporting goods¹⁴⁶ of the 28 EU countries (intra-EU and extra-EU) amounted to EUR 38.0 billion, which is approx. 1% of all imports of goods of the EU 28. The exports of sporting goods of the 28 EU countries (intra-EU and extra-EU) account for 0.65% of European exports with an export value of EUR 31.5 billion. Between 2008 and 2016, the total import (+41.7%) and export (+42.5%) of sporting goods developed positively. The largest shares of the import and export value of sporting goods can be attributed to wearing apparel, followed by sport equipment, such as skis and balls, footwear, motorcycles, boats and bicycles. Between 2008 and 2016, footwear has been the most dynamic sport product category. Within the EU 28, the most important sources of imports are Germany, Belgium, the Netherlands and Italy. The appearance of the smaller countries Belgium and Netherlands among the Top intra-EU suppliers of sporting goods can be explained by the so-called 'Rotterdam effect', which results from the transit of goods in Member States with big ports at the external border of the European Union (e.g. Rotterdam, Antwerp). Extra-EU imports mainly come from China, which is the largest supplier by far, followed by Vietnam. The largest EU 28 exporters are Germany, Italy, Belgium, France and the Netherlands. As regards further participating countries in the EU COSME programme, the most intensive trade relations in terms of import and export values can be observed between the EU 28 on the one side and Turkey and Serbia on the other side.

The protection of **intellectual property rights (IPR)** is one of the major challenges of the sporting goods sector. Counterfeiting in sporting goods in the EU has negative effects on the market, as the industry is facing both direct and indirect revenue and job losses. Also, investments in innovation are discouraged and consumer safety is at stake if IPRs

¹⁴⁴ According to NACE

¹⁴⁵ Based on the definition of sporting goods in PRODCOM-codes in the present study (please see chapter 6.3 for more details)

¹⁴⁶ Based on the definition of sporting goods in CN-codes in the present study (please see chapter 6.2 for more details)

are infringed. The European Union has actively promoted the protection of IPR during the last years, e.g. by developing the Unitary Patent and by improving the EU rules on trademarks. About 4% of the newly granted patents in Europe refer to fields of technology that deal with sport in a broader sense, e.g. micro-structural and nano-technology, consumer goods incl. wearing apparel, headwear, footwear as well as textile machines. One third of the newly registered trademarks in Europe refer to technologies that may also be used in sport in a broader sense, e.g. vehicles, ammunition, clothing, footwear, headgear, gymnastic and sporting articles as well as sporting and cultural activities. Approx. 37 % of the newly registered industrial designs in Europe can be assigned to sport in a broad sense, i.e. textile materials, transport, tents and sport goods, arms, articles for hunting and fishing. Further 35% can be assigned to clothing and haberdashery. It is in particular Germany, France, Italy, UK, Spain, Austria and Turkey that play a major role when it comes to newly granted / registered IPRs.

The main market segments of the sporting goods market are individual consumers and professional as well as amateur sport leagues and teams. Further segments include corporations, commercial institutions such as e.g. health clubs, public and private sport clubs etc. **Market demand** at the European level is very fragmented due to the variability of sport practises from one country to another. Current consumer trends are outdoor, running and cycling, but also multifunctional clothing as well as smart technologies (e.g. wearable devices).

Nearly two thirds of the **private household expenditures in sport goods** and services go to recreational and sporting services (fitness centres, stadiums etc.), followed by major durables for outdoor recreation (camper vans, boats etc.) and equipment for sport, camping and open-air recreation (gymnastic and sport equipment). (Eurostat's Household Budget Survey, 2010)

Sport participation seems to be stagnating since 2009: in 2014, approx. 41% of European citizens are exercising or playing sport at least once a week, but 59% never or seldom do so. These percentages stayed about the same since 2009 (*Kokolakakis et al.*, 2014; *European Commission*, 2014a: Eurobarometer survey on sport and physical activity). Males tend to exercise, play sport or engage in other physical activity more than females. The Nordic countries as well as Germany and Austria have the highest shares of persons performing physical activities of any kind.

8. OVERVIEW AND ANALYSIS OF BUSINESS MODELS IN THE SPORTING GOODS SECTOR

Business models describe how companies create value by transforming inputs into outputs and how they monetise this process of value creation. Michael Porter's Value Chain¹⁴⁷ represents a useful tool for disaggregating business models into primary activities, namely inbound logistics, production & operations, outbound logistics, marketing & sales and service. The analysis of company business models in the sporting goods sector takes Porter's value chain as a starting point and as a way of structuring the chapter.

1. **Inbound logistics** refer to processes through which companies distribute input internally (e.g. R&D capabilities, purchase of raw materials, relationship with suppliers);
2. **Production & Operations** refer to activities which transform input into sporting goods ready to be sold to consumers;
3. **Outbound Logistics** refer to distribution channels used by sporting goods manufacturers to deliver their goods to consumers (e.g. online and offline);
4. **Marketing & Sales** are processes used by sporting goods manufacturers which aim at increasing brand visibility and subsequently, their consumer base (e.g. concept stores, social media ads);
5. **Services** refer to after-sale activities and the relationship of sporting goods manufacturers with consumers post-sales.

Figure 19: Michael Porter's Value Chain



As mentioned in Chapter 5, the selection of case study companies provides a broad view of a variety of business models across different countries (i.e. Austria, Germany, Denmark, Finland, France, Italy, Poland, Portugal, Romania and Slovakia) and across different segments of the sporting goods sector (i.e. winter apparel and equipment, bicycle, footwear, tennis equipment). In terms of size, 2 out of 10 companies are of large size (over 250 employees) and the remaining 8 companies are SMEs (5 micro-sized companies, 2 small-sized companies and 1 medium-sized company).

The table below provides an overview of the 10 case study companies as well as their main features for each of the primary activities in Porter's value chain model:

¹⁴⁷ Porter's Value Chain. Available at: https://www.mindtools.com/pages/article/newSTR_66.htm and <http://www.isc.hbs.edu/strategy/business-strategy/Pages/the-value-chain.aspx>

Table 22 : Main features of the 10 selected companies

COMPANY OVERVIEW				SUPPORTING ACTIVITIES		INBOUND LOGISTICS			PRODUCTION AND OPERATIONS		OUTBOUND LOGISTICS		MARKETING & SALES			SERVICES
Country	Size	Products	Main market	Develop innovative products	Benefited from public initiatives (national or European)	National suppliers	European suppliers	Non-EU suppliers	In-house design	Production outsource	Online	Offline	National	European	International	
AT	Micro	Ski equipment	Austria, Germany, Italy, Netherlands		✓	✓	✓		✓		Online custom-made products	Retailers	✓	✓		
DE	Large	Footwear, apparel and accessories for various types of sport	Europe, North America, China, Middle East, Asia	✓	✓			✓	✓	✓	Company website	Brand stores Retailers	✓	✓	✓	✓
DK	Micro	Bicycles	Europe			✓		✓	✓		Online custom-made products		✓	✓		
FI	Micro	Footwear	Finland	✓	✓			✓	✓	✓	Company website	Independent retailers	✓			
FR	Large	Racquets, strings, accessories and footwear	United States, Japan and France	✓	✓	✓		✓	✓	✓	Company website	Retailers	✓	✓	✓	✓
IT	Small	Ski equipment and apparel	Europe, Russia, Ukraine	✓	✓	✓	✓	✓	✓	✓	Company website	Brand store Retailers	✓	✓	✓	✓
PL	*Micro	Ski equipment	Czech Republic, Slovakia, Austria, France, Italy, Germany and Switzerland	✓			✓	✓			Company website	Brand store	✓	✓		
PT	Micro	Hockey and skate equipment and accessories	Portugal			✓			✓		Company website	Specialised retailers	✓			

COMPANY OVERVIEW				SUPPORTING ACTIVITIES		INBOUND LOGISTICS			PRODUCTION AND OPERATIONS		OUTBOUND LOGISTICS		MARKETING & SALES			SERVICES
Country	Size	Products	Main market	Develop innovative products	Benefited from public initiatives (national or European)	National suppliers	European suppliers	Non-EU suppliers	In-house design	Production outsource	Online	Offline	National	European	International	
RO	Medium	Sport apparel	Romania		✓			✓	✓		Company website	Brand stores Retailers	✓			✓
SK	Small	Hockey apparel	Slovakia, Germany and Northern Europe			✓	✓		✓		Online custom-made products		✓	✓		

8.1. Inbound logistics

As mentioned above, inbound logistics refer to processes through which companies distribute inputs internally (e.g. R&D capabilities, purchase of raw materials, relationship with suppliers). This section discusses each of these elements in turn based on the information gathered in the case studies.

8.1.1. R&D capability and innovation

In Europe, more focus is placed on R&D and innovation, rather than production. Generally, large companies have better R&D capabilities and innovation strategies compared to SMEs. This may be due to resource differences. While large companies tend to have incorporated R&D departments, SMEs capabilities are rather limited and usually done in collaboration with external research centres.

Although many companies scrutinised in the case studies benefit or have benefitted from public funding, not much of this funding specifically targets the sporting goods industry. A company from France is the only case where they receive national sport-related funding, while in the other cases funding mostly aims at either increasing national competitiveness or at supporting research, development and innovation in general (with special focus on digitisation). Large and medium-sized companies that operate internationally seem to maintain a rather stable level of external funding, whereas for small and micro-sized companies public funding is more often a one-time occasion. Moreover, smaller companies with less international presence are also less likely to apply for European funding, focusing on national and regional funding instead. In the absence of funding schemes, companies finance innovation from their own margins. The complicated and long application procedure for European funding was also mentioned as an obstacle particularly for small and micro-sized companies.

Only two companies have their own R&D departments - the two large German and French manufacturers. The German manufacturer invests heavily in its R&D facilities and it is part of the company's core strategy to maintain its position as a key leader on the sporting goods market. The company's R&D focuses on 5 key components, namely:

1. manufacture innovative products for women,
2. foster manufacturing innovation,
3. ease data analytics for practitioners,
4. innovate for more sustainable production and
5. enhance innovation to design female-tailored products.

The French manufacturer also has its own R&D facilities to which the company dedicates significant resources. Additionally, the manufacturer collaborates with external R&D partners, companies, universities, etc. For both companies, innovation lies at the core of their business model.

Although They creates an innovative product, the Finnish footwear manufacturer does not have its own R&D department. The development of the product is based on past innovation and the company describes itself as being the only company in the market to have developed this footwear concept very well. The company has only once accessed funding from the Finnish Funding Agency for Innovation (Tekes)¹⁴⁸ for the development of their products. The company is also planning a new innovative process for which they collaborate with external engineers. The Italian ski equipment and apparel manufacturer describes itself also as an innovative company – the company places significant resources into technology for innovative solutions. The Polish company manufactures innovative ski equipment for a niche market, namely consumers that suffer from ski-related injuries or people that do not usually practice the sport. Although it does not possess its own R&D department, the company produces the product under a license from an American company who designed the concept.

¹⁴⁸ Tekes: Finnish Funding Agency for Innovation. Available at: <https://www.tekes.fi/en/>

With a rather traditional business model, the Romanian, Slovakian and Portuguese companies do not focus to such a large extent on manufacturing highly innovative products. The Romanian sport apparel manufacturer is one of the very few sporting goods manufacturers at national level, but the products manufactured do not involve innovative processes or materials. Similarly, the Portuguese and Slovakian manufacturers have rather traditional business models and produce sporting goods which do not involve highly innovative processes.

Although he produces bespoke skis, the Austrian manufacturer is somehow innovative in his services, offering tailor-made goods for consumers.

Table 23: Ski manufacturer from Austria

The company is a micro-enterprise based in Austria that produces bespoke skis. Their target group are ambitious alpine skiers and ski touring enthusiasts who look for a high-quality product incorporating their individual preferences and requirements in terms of materials, shape and design. They offer their customers a product designed specifically for them and handcrafted as a regional product

The company is run by the two owners as a part-time extraprofessional activity. They did not have any prior experience in the domain of ski production. Both are however passionate skiers themselves and developed their idea to start a ski manufacturing business as an extension of their hobby. With one working as an economist and the other as an architect in their day jobs, they have transferred their existing business management and design skills to a completely new field.

They started out with the initial idea in 2012 and spent the first two years developing their product. The first pair of skis was sold in 2014, followed by the official establishment of the company in 2015. Since they have started selling products, sales numbers have constantly increased. As of 2017, the company produces about 50 pairs of skis a year, which is the company's maximum capacity at their current size. At the moment, no further growth of the company is planned, instead the aim is to maintain the current size and production output.

Differences in resources may determine companies' capacity to innovate and the level of access to R&D. Large companies tend to place more emphasis on R&D, innovation and design, whereas production is mainly outsourced. To remain competitive, some SMEs try to incorporate innovation in their business model, but their capabilities are more limited. Different means are sought to finance innovation, either through companies' own margins or through different finance schemes (e.g. regional, national, European).

8.1.2. Purchase of raw materials and relationship with suppliers

The level of complexity of companies' value chain reflects their relationship with their suppliers. Companies outsourcing their production tend to have a wider network of suppliers. Moreover, purchase of raw materials and selection of suppliers depend on the availability of certain products at regional or national level.

The raw materials or semi-products have different supply sources and, among the case studies, only the Portuguese company purchases materials solely from national suppliers while the Austrian company purchases from a carpenter in the neighbourhood. Most other suppliers for more specific parts like edges or surfaces come from the region as well and a few suppliers are also based in Germany. The German company purchases materials from non-European suppliers and pays particular attention to the use of recycled or sustainable materials. The Danish manufacturers assemble the bicycles nationally and the components are purchased from China, Japan, but also from Denmark. The Finnish manufacturer purchases the raw materials from China, where products are also manufactured.

The French company has developed strong partnerships with international companies. For example, the company collaborates with a national supplier which provides support with the shoe soles. However, the company considers that the industrial cooperation is rather

weak in France compared to other countries and such relationships could be strengthened not necessarily between companies producing similar goods but between actors of complementary sectors. The Italian manufacturer has increased its network of suppliers considerably since the founding of the company and comprises national, European and non-European suppliers. The Polish company imports pieces of the product from China (cheap plastic pieces), USA (sophisticated aluminium joint pieces) and Czech Republic (ski plates). The materials used for the Romanian company's products are purchased from a supplier outside Romania as no such textiles are manufactured nationally. Whereas most of the Slovakian company's suppliers are located nationally, on an occasional basis, the company collaborates with suppliers from Czech Republic. However, the cost of raw materials is still lower in Slovakia, thus most of the purchases occur at national level.

Table 24 : Overview of the companies' suppliers

COUNTRY	COMPANY SIZE	PRODUCTS	NATIONAL SUPPLIERS	EUROPEAN SUPPLIERS	NON-EU SUPPLIERS
AT	Micro	Ski equipment	✓	✓	
DE	Large	Footwear, apparel and accessories for various types of sport			✓
DK	Micro	Bicycles	✓		✓
FI	Micro	Footwear			✓
FR	Large	Racquets, strings, accessories and footwear	✓		✓
IT	Small	Ski equipment and apparel	✓	✓	✓
PL	Micro	Ski equipment		✓	✓
PT	Micro	Hockey and skate equipment and accessories	✓		
RO	Medium	Sport apparel			✓
SK	Small	Hockey apparel	✓	✓	

Companies' relationship with suppliers may not always be directly linked to the company size. Companies outsourcing production have a propensity for complex networks of suppliers and purchase the raw materials in close proximity to the production facilities. For these companies, price represents an important determinant in the relationship with suppliers.

For companies manufacturing at national level, the relationship with suppliers depends on the availability of certain materials and services at regional or national level. The quality of materials represents also an important factor in companies' relationship with suppliers, especially due to an increased presence on the market of cheap materials and products originating from third countries. Using high quality materials can give companies a competitive advantage. Finally, since regional production is a strong marketing argument for some companies, proximity to suppliers is also a relevant factor.

Sustainability awareness and initiatives are growing trends among European consumers¹⁴⁹ and some sporting goods manufacturers have adopted a more sustainable footprint. The trend is more visible among large corporations which use "eco-marketing" to promote environmentally conscious behaviour.¹⁵⁰ Sustainability requirements are not yet fundamental on the European market, but it can offer companies a competitive

¹⁴⁹ CBI (2017), Exporting sustainable apparel to Europe. Available at: <https://www.cbi.eu/node/1743/pdf/>

¹⁵⁰ Rathonyi, G., & Rathonyi-Odor, K. (2015). Analysing sporting goods manufacturers' environmental management tools. APSTRACT: Applied Studies in Agribusiness and Commerce, 9(1/2), 23-30.

advantage.¹⁵¹ Of the SMEs covered in the case studies, only one company markets its products as environmentally friendly. Although there is a tendency to purchase regional and high-quality products among SMEs, stronger “eco-marketing” is carried out among large, international companies.

8.2. Production & Operations

Production and operations refer to activities which transform input into sporting goods ready to be sold to consumers, i.e. the inner workings of the company such as the production process (if the company manufactures sporting goods) and the day to day operations of the firm.

Outsourcing most of the production to overseas suppliers has become the predominant strategy for corporations in the sportswear sector and many of the big sportswear brands do not own factories anymore. The outsourcing decision of a sporting goods company is however not only influenced by low-wages, but costs can be divided into macro-costs (costs related to the producing country), indirect costs (mills, factories, agents involved in the production process) and direct costs (costs related to the goods themselves). Compared to the final retail price of the product the direct labour costs are relatively insignificant. If a country lacks e.g. adequate infrastructure, a stable government, or access to raw materials, the advantages of cheap labour can be however offset by the macro costs. (Clean Cloth Campaign, 2004) As a result of anti-sweatshop campaigns in the 1990s targeting corporations in the sportswear industry such as Nike, Reebok or Adidas, some labour rights were improved and co-operations with international monitoring and verifications initiatives were started as well as voluntary codes of conduct covering the labour practices of their suppliers and subcontractors adopted (ibid.). These codes are however not a binding economic regulation (Andreff / Andreff, 2009). Nevertheless, most multinational corporations in the sport goods industry proclaim not tolerating e.g. child labour and have instituted respective initiatives in developing countries (ibid.). There are also cases of smaller companies which outsource their production, but these are not very common. As regards the European market, some companies still concentrate the production in cost-effective countries such as Slovakia and Romania.

Outsourcing production overseas generates substantial advantages for companies. With reduced production costs, companies concentrate their R&D, innovation, design, manufacturing of highly technical products and marketing in Europe. Therefore, Europe concentrates most of the high value activity such as design, R&D, innovation and marketing, which gives the continent a competitive edge in the international sporting goods sphere.

Of the **10 companies analysed**, 4 companies outsource their production. Two are large, international companies and rely to a large extent on production outsource (DE 100%, FR 60%). The Italian company is of small size and produces only partly at national level – the outsource occurred when the company started to grow but also due to financial difficulties that the company underwent.

Specific market conditions that can be observed for the **footwear** branch (of which sport footwear is an important part) equally include fierce competition and constant price pressure. Buyers therefore look for lower-cost sourcing, cheaper materials etc. Retailers and brands tend to increasingly place their orders directly with manufacturers in order to drive for profitability and margins, thereby eliminating intermediaries in the supply chain. Wholesalers and suppliers thus seek to reinvent their roles and alter their organisations and strategies (CBI, 2015). For example, the footwear company from Finland designs its products at national level and the manufacturing is done by another company in China. Due to perceived high production costs, Europe has never been an option for the company. The company deems the production costs in Europe to be too high for small companies, thus outsourcing represents a good way for companies of this size to maintain themselves on the market.

¹⁵¹ CBI (2016). Exporting sportswear to Europe.

Table 25 : Footwear manufacturer from Finland

The company specialises solely in the production of running shoes and is based in Helsinki, Finland. With 2 employees operating on a daily basis and other 2 employees helping with the product development, the design of the shoes is made in Finland and the production is outsourced to a Chinese manufacturer. The owners had previously cooperated with the same company while working for another company.

As of 2017, the company's main focus is on running shoes but planning to expand its production to running apparel in the long term.

The Finnish company produces very innovative running shoes whose ideology and technical solutions are based on natural biomechanics of the human body during the running process. The geometry and the technical solutions offered by the running shoes have a central role in transporting the energy between the runner and running surface. The shoe is designed to respect the natural development of the human body. Hence, the shoe does not rely on dampening foam any more than it is necessary.

Finland is the main market for the company, where 90% of the products are sold. The company's plan is to expand their market share nationally before selling their product abroad. The shoes are sold through the company's own website and through independent retailers.

Long product development processes can pose challenges for manufacturers. For instance, for the Italian ski apparel and equipment manufacturer, the process of bringing new products on the market can last up to two years. Such a long process of developing and launching products can pose challenges, especially because it will take the company two years to record profits from the sale of their products.

The table below provides an overview of the companies' different production processes:

Table 26 : Overview of the companies' production process

COUNTRY	COMPANY SIZE	PRODUCTS	IN-HOUSE DESIGN	OUTSOURCES PRODUCTION	REASONING
AT	Micro	Ski equipment	✓		The products are designed and manufactured by the two owners. They offer their customers a product designed specifically for them and handcrafted as a regional product in an Austrian winter sports destination.
DE	Large	Footwear, apparel and accessories for various types of sport	✓	✓	The company does not have its own production facilities but works with 297 independent manufacturing partners worldwide. However, the company has a design department.
DK	Micro	Bicycles	✓		This is a one-employee company who designs and manufacture the product in-house. This is an intentional choice insofar as this model provides greater flexibility to the manager to conduct the strategy of his company. On the other hand, the company's profits are too low to

COUNTRY	COMPANY SIZE	PRODUCTS	IN-HOUSE DESIGN	OUTSOURCES PRODUCTION	REASONING
					allow the employment of new personnel.
FI	Micro	Footwear	✓	✓	The design of the shoes is carried out in the company's headquarters in Finland, whereas production takes place in China. The production costs at national level are too high for the company. Moreover, the company has previously collaborated with the Chinese partner.
FR	Large	Racquets, strings, accessories and footwear	✓	✓	The company outsources over half of the production in China but maintains part of the production at national level. The more specialised products (strings and stringing machines) are produced at national level.
IT	Small	Ski equipment and apparel	✓	✓	The production is partially outsourced in Eastern Europe and Asia. Some of the products are manufactured at national level. The company started outsourcing production due to the rapid growth as well as due to increased production costs in Italy.
PL	Micro	Ski equipment			The company only imports some of the pieces from China (cheap plastic pieces), USA (sophisticated aluminium joint pieces) and Czech Republic (ski plates) – the product is assembled in Poland.
PT	Micro	Hockey and skate equipment and accessories	✓		The family-run company has its own production facilities in Portugal. Design is also carried out in-house.
RO	Medium	Sport apparel	✓		The company designs and manufactures in-house. The production costs in Romania, although have increased recently, are still relatively low compared to other EU countries.
SK	Small	Hockey apparel	✓		The company has its own production facilities and design is carried out by the company as well.

Of the total companies analysed, six have their own production facilities. The Romanian sport apparel manufacturer has its own design and production facilities – the company employs overall 120 persons which are involved throughout different processes. The company runs two manufacturing facilities at national level where the products are manufactured. The reason for concentrating manufacturing at national level is twofold:

manufacturing in Romania is cost-effective and the company sells 95% of its products at national level, hence it is practical to maintain production close to their main market.

Similarly, the Slovakian hockey apparel manufacturer and the Portuguese hockey and skate equipment manufacturer have their own production facilities at national level, where products are designed and manufactured. Concentrating the design and manufacture in Slovakia is the most cost-effective alternative for the company. The Portuguese manufacturer is a family company which concentrates their know-how internally. The Polish manufacturer consists of also 3 employees who assemble the products at national level – the company imports some cheap pieces from China and sophisticated joint pieces from the USA.

The Austrian ski manufacturer provides custom-made products which are manufactured by the two owners in their workshop, hence production outsource does not fit into their business model. Similarly, the Danish bike manufacturer is a one-person company who produces custom-made bicycles – all the products are assembled by the owner.

Outsourcing production is generally an advantage of large companies, which concentrate high value activities in Europe (i.e. design, R&D, marketing). By concentrating low value activities overseas, companies are able to focus more on innovation. With few exceptions, SMEs tend to concentrate production at national or regional level. Also, if companies do not internationalise, then all the value chain activities tend to be concentrated nationally.

8.3. Outbound logistic

As mentioned above, outbound logistics refer to distribution channels used by sporting goods manufacturers to deliver their goods to consumers which can be online and offline. Both **online and offline distribution channels** are used by sporting goods companies. Online distribution channels tend to be the most used method by sporting goods companies. Depending on the availability of resources, companies may incorporate both online and offline distribution channels. Online can incorporate two types of distribution: general sale of ready-made products and sale of custom-made products. As regards offline distribution, this can also be twofold: through companies' brand stores and through retailers. Often, companies try to skip the retailers as intermediaries and get directly to the customers, setting up their own retail departments.

Generally, companies make use of more than one distribution channel. All 10 case study companies sell goods through their company website.¹⁵² In addition, 3 of the companies sell custom-made products through their online website, 3 companies own brand stores through which products are sold and 8 sell products through retailers. Three companies use online website, brand stores and retailers as distribution channels (IT, RO and DE), whereas the remaining companies use solely one (DK, FR and SK) or two distribution channels (FI, PL, AT and PT).

¹⁵² Out of the six companies who sell their products through the company website, three deliver custom-made products (AT, DK and SK)

Table 27 : Overview of the companies' distribution channels

COUNTRY	COMPANY SIZE	PRODUCTS	ONLINE	OFFLINE	
			ONLINE COMPANY WEBSITE	BRAND STORES	RETAILERS
AT	Micro	Ski equipment	✓		✓
DE	Large	Footwear, apparel and accessories for various types of sport	✓	✓	✓
DK	Micro	Bicycles	✓		
FI	Micro	Footwear	✓		✓
FR	Large	Racquets, strings, accessories and footwear	✓		✓
IT	Small	Ski equipment and apparel	✓	✓	✓
PL	Micro	Ski equipment	✓	✓	
PT	Micro	Hockey and skate equipment and accessories	✓		✓
RO	Medium	Sport apparel	✓	✓	✓
SK	Small	Hockey apparel	✓		

The micro-sized companies covered in the case studies use only one or two distribution channels. For instance, the Danish bicycle manufacturer's products can be purchased only online on their own website. This strategy follows two specific goals. First, by skipping intermediary costs (which would go to distributors or bike shops) the brand can offer high quality bikes at a competitive price. Second, it enables the company to be in permanent contact with its customers which is a key element of its strategy.

The Finnish footwear manufacturer does not have its own stores but sells the products through their website and through independent retailers. The company does not plan to have their own store in the foreseeable future, but it has in plan to incorporate with one retailer a "shop in shop"¹⁵³ type of store. The company sells its products only through independent retailers, where most of the small companies sell their products. The big retailers generally prefer bigger brands. The Austrian ski manufacturer sells its products mostly through their website, but also through local specialised stores - when an order is placed, the owners first gather the customer's parameters (e.g. body size and weight) and discuss with them their riding style, their favoured terrain and other personal preferences. Based on the information gathered the owners then design an individual ski by adjusting the skis' shape, camber, stiffness, material, and design to the customer's needs. Only after the order has been finalised are the skis built in a handcraft manufacturing process, carried out entirely in the company's workshop. While most of their output is sold directly over their website or on-site in their workshop, small batches of ready-made skis are sold through a couple of local stores specialised in sporting goods. The Polish ski equipment manufacturer sells its products both online and through their brand store in Poland. However, most of the products are sold online as it is deemed more effective. On the other hand, the Portuguese company hardly sells its products online and mainly through specialised retailers. The company website does not allow consumers to pick their own product, but merely contact the company and refer to the preferred product.

¹⁵³ An agreement through which a retailer rents a part of the retail space to be used by another independent shop.

The two small companies have different approaches as regards the distribution channels. The Slovakian hockey apparel manufacturer sells its custom-made products only through their online website whereas the Italian ski equipment and apparel manufacturer sells most of its products (67%) through agents and direct sales persons employed by the company. Retailers account for 28% of the selling points whereas e-commerce and the brand store account for merely 5% of the sales (B2C).

The medium-sized manufacturer from Romania sells its products through their online shop, the four physical stores they possess (3 in Romania and 1 in Hungary), retail shops and through sales agents.

The two large manufacturers differ also in their distribution methods. The German manufacturer reaches its customers through various means (e.g. retailers, company website, concept stores) – the company is present in over 2,800 retail points, out of which 62% are concept stores (used also as marketing channels). On the other hand, the French manufacturer distributes its products mostly through retailers. The company's website can be used as an engine to find the retail points which sell their products and products can be bought directly from the website only in the US. Through this distribution system, the company is present in more than 100 countries.

The distribution channels used do not hinge on the company size. Although all the companies use their website to sell the sporting goods, other alternatives are also sought to reach out to consumers. One distinctive feature that differentiates between sporting goods manufacturers is related to companies integrating the distribution in their own business model, skipping retailers and intermediaries and get directly to the customers. For example, the Danish bicycle company is able to offer their products at a competitive price due to the absence of intermediaries in the sales process.

Online distribution channels are used by most of the sporting goods companies due to increasing presence of consumers online. Offline distribution is also widely used by companies, and those with significant resources tend to combine different channels to reach out to consumers. Brand stores are used by some companies to directly sell their products but also as a marketing tool, to increase brand visibility.

8.4. Marketing & Sales

Branding and marketing of sportswear has become the predominant focus of brand-name sportswear companies with marketing budgets that were significantly increased during the past decades. By investing in marketing and promotion, sportswear companies aim at boosting the consumer images of their brands, stimulate demand for their products and also raising market barriers making it more difficult for competitors to enter the market. (*Clean Cloth Campaign*, 2004)

Further, the sport goods industry has a very **segmented market** with different segments developing at a different pace and a **high volatility of demand** (Andreff / Szymanski, 2006). Many factors that have an impact on sales of sporting goods can hardly be controlled by the industry, these include (see Lipsey, 2006 and Breuer, Christoph, et al, 2010):

- changing **fashion** or changing **cultural trends** (e.g. the emergence of a teenage and young adult market for extreme sport);
- **political, social** and **pricing pressure** in production countries: since almost the entire production of sportswear and a significant part of sport equipment is done in foreign countries, the sporting goods sector is influenced by the political and economic developments in these countries;
- **seasonal** and **weather factors**: segments such as skiing, golf or tennis are very susceptible to weather conditions. If the number of available days for participation changes only slightly, overall sales can be significantly affected;
- **the behaviour of athletes**: negative effects can occur if e.g. athletes are involved in violations of the law, have a lack of emotional appeal, or long-term or permanent injuries to athletes who have been signed to endorse a product. With athletes increasingly engaging with fans via social media there is an even higher uncertainty concerning their behaviour;

- **demography** is also an important determinant as it is linked to sport participation and , therefore, the demand for sporting goods. Consumer expenditure on sport is mainly determined by gender, education and level of income.

With the trend of sporting goods being purchased not only for sport but also for fashion and lifestyle, competition does not merely take place among manufacturers of sporting goods, but also with companies from the fashion industry. In this sense, the market of “street style” can be seen both as an opportunity and a challenge for sporting goods companies (see also Chapter 7 of this report).

For the case study companies, the marketing and sales strategies depend on the consumer segments and the markets that they want to reach. Three out of 10 companies focus on the national markets, whereas 7 companies focus on both national and European markets for the promotion of their products. Solely 3 companies (DE, FR and IT) focus on expanding their consumer base extra-EU. Depending on the specificity of products, some companies focus on increasing their visibility where the sport is most practiced. For example, the ski-related companies are present in areas with ski slopes (AT, IT and PL).

The targeted consumer groups differ also among companies. Some companies address to a very broad consumer base (RO, DE) and promote their products as both sport-related and goods for everyday life. Other companies address to precise consumers, such as profession sport practitioners (AT, PL, SK).

Table 28 : Overview of the companies’ marketing and sales strategies

COUNTRY	COMPANY SIZE	PRODUCTS	MAIN MARKETS			GEOGRAPHIC FOCUS (E.G. MOUNTAIN AREAS, SEASIDE AREAS)	MULTIPURPOSE GOODS	CONSUMER BASE
			NATIONAL	EUROPEAN	EXTRA-EU			
AT	Micro	Ski equipment	✓	✓		✓		Professional skiers
DE	Large	Footwear, apparel and accessories for various types of sport	✓	✓	✓		✓	All types of sport practitioners
DK	Micro	Bicycle	✓	✓				Professional bikers
FI	Micro	Footwear	✓				✓	Mainly runners, but also for daily life usage
FR	Large	Racquets, strings, accessories and footwear	✓	✓	✓			Tennis practitioners
IT	Small	Ski equipment and apparel	✓	✓	✓	✓	✓	Ski practitioners who can afford high-end products Ski apparel can be multipurpose
PL	Micro	Ski equipment	✓	✓		✓		Persons who suffer from ski-related injuries, non-profession skiers

PT	Micro	Hockey and skate equipment and accessories	✓					Hockey and skate practitioners
RO	Medium	Apparel	✓				✓	All types of sport practitioners
SK	Small	Hockey apparel	✓	✓				Hockey practitioners

Not all companies have an embedded marketing strategy. For micro and small-sized enterprises, marketing is a rather spontaneous activity, generally characterised by the lack of a marketing department, and usually carried out by the owners themselves (e.g. companies from Slovakia, Austria, Denmark, Finland). In the absence of a well-defined strategy, "Word-of-mouth", sporting goods fairs, specialised media channels (e.g. bicycles or ski magazines) and social media are also used by smaller companies (e.g. companies from Austria, Denmark, Finland) to promote their products.

Although a small company, the Italian manufacturer has a very well-defined marketing strategy which focuses on the promotion of the brand through sponsorships with athletes, appealing advertising campaigns to promote the latest fashion trends and brand innovations, and promotion of the "Made in Italy" label. Through its strategy, the company tries to reach out to premium consumers. This is also due to the fact that the company holds a significant market share in the manufacture of high-end ski apparel and equipment.

For companies manufacturing specific sporting goods (i.e. ski equipment, hockey apparel, tennis equipment), brand visibility is directly linked with the popularity of the sport. Popularity of a certain sport induces more demand for goods manufactured by the companies (companies from Slovakia, France, Portugal).

To increase visibility, some companies collaborate with national (e.g. companies from Romania, Finland, Slovakia) and international athletes (e.g. companies from Germany and France). For instance, the Finnish footwear manufacturer's main strategy is to make consumers test the product and remark the difference between regular shoes available on the market and their product. For this, the company provides its products to national athletes to be tested and used in competitions. The endorsement of the French company's products by well-known tennis players has generated an image of product quality. Moreover, sponsorship agreements represent a way to increase the brand visibility globally. This collaboration with players or tournaments is not solely a marketing tool, but it also gives the company the opportunity to develop high performing products and understand players' demand. Similarly, sponsoring and sport events (e.g. FIFA World Cup, UEFA Euro Cup) determine a considerable percentage of the German company's business. This forms an elementary part of the company's business model: when sponsoring a team or player, the company, besides providing equipment, tries to become an integral part of the sport they are sponsoring. Overall, sport events are an important part of the company's business, as they are one of the main channels to lead them to the end consumer. Football events are very important to the company due to the high popularity of the sport. The Olympic Games are less attractive, but the company still ensures coverage as the games are always highlighted in the year they take place.

Concept or brand stores are used as marketing channels by some companies. The Romanian sport apparel manufacturer owns 3 brand stores in Romania and 1 in Hungary which have a great impact on the company's visibility, especially at national level. The Polish ski manufacturer has also a brand store at national level, but the brand visibility is mostly ensured by the company's products in the ski slopes across Europe and through the internet. The German manufacturer is present in over 2,800 retail store points, out of which 62% are concept stores, used as marketing channels through which the company presents its products to consumers. Another key element of the company communication strategy is to concentrate their presence and retail points in metropolitan areas. These urban bases shall serve to expand the influence of the brand in the surrounding regional areas.

To improve the visual identity of the company and increase its visibility on the Romanian market, the Romanian manufacturer has undergone a rebranding process which resulted in an increase of the company's visibility and subsequently in its customer base.

Table 29: Sport apparel manufacturer from Romania – brand strategy

The company promotes itself as a Romanian brand and tries to increase its visibility through the promotion of the products as both sporting goods and goods that can be used in everyday life. The company identifies the usage of sporting goods in people's daily life as a trend and tries to increase their consumer base by promoting their products as multipurpose. As the company sells 95% of its products in Romania, the company focuses on increasing its visibility nationally.

The four brand stores that the company owns are also part of the brand strategy and considers that the more brand stores they have, the more the brand visibility will increase. Additionally, the company partnered with various national sport team for which the company provides equipment.

In 2011, the company went through a rebranding process in collaboration with a Romanian branding company. For this process, the company accessed €10,000 in non-repayable funding. The rebranding process had a positive impact on the development of the company as it created a new image for the company and it increased its visibility. The company representative was very pleased with the collaboration but pointed out that not all rebranding strategies are successful, and it is very important to choose the right partner.

Large, international companies make use of various means to reach out to consumers, from brand and concept stores, promotion through athletes, to sponsorship agreements. At the same time, focusing on an international consumer base requires more efforts and resources. Companies that focus on the national market and the neighbouring countries invest seemingly less resources into diversification of marketing channels, though this is also related to resource availability. For example, the FI footwear manufacturer considers that marketing poses difficulties for a small company, as this requires substantial investment while its impact on sales is uncertain. Therefore, the company has not yet invested considerably in marketing but rather in making people try the product.

8.5. Conclusions

Several broad types of business models in the sporting goods sector can be described based on the ten case studies carried out in the context of this study. The question whether a company focuses more on multipurpose and sport fashion products or on specialised sport equipment seems to be unrelated to the choice of business model, as different models are applied to both types of product strategy. Similarly to businesses in other sectors, marketing and communication play an essential part for all companies, independently of their business model, the type of product they offer or the extent of innovation. The transitions between these business models are fluent, and although the models are described here according to company size by number of employees, size is not necessarily a determining factor. For instance, on an individual basis a small-sized company can have more similarities in terms of the business model it operates with a large international company than with another small-sized company.

The business models of the large international companies are rather universal and not much different from models applied by comparable companies in sectors other than sporting goods (e.g. not sports-related textile and footwear). The majority of the production is outsourced to Asia, which generates significant competitive advantages with regard to production cost. The main business taking place in Europe thus focuses on R&D, design and the manufacturing of highly technical products, as well as on marketing, distribution and business operations. Constant innovation is often at the core of the business model, with a high rate of new products introduced to the market every year.

As these companies focus on the global market and maintain a global presence, their distribution channels are complex and include online sales, large retail networks and brand stores. Moreover, these companies usually benefit from a well-established brand with a good reputation and follow a long-term development strategy to ensure that they stay among the market leaders in their field. Association with internationally renowned athletes and global sport events through sponsoring plays a key role in their marketing approach.

For small and medium-sized companies, the business models do not per se differ from the models implemented by large companies. Nevertheless, a notable difference lies in the fact that small and medium-sized companies outsource less of their production and tend to keep their manufacturing in-house and their supply-chain regional. In addition, their market orientation is less globalised and rather focuses on the national or European level. Consequently, the companies have a higher dependence on the national economy and business environment, which can be advantageous (e.g. high government support) or disadvantageous (e.g. high regulatory burden) depending on the characteristics of the national market. When it comes to medium and long-term strategies, small and medium-sized companies often want to establish themselves on the market and they adopt an opportunistic approach toward achieving this goal. These features do not relate strictly to SMEs from the sporting goods sector but can be encountered among SMEs from other sectors as well.

While small and medium-sized companies might experience competitive disadvantages compared to large companies, in particular with regard to production cost, they have a variety of opportunities to offset these disadvantages. Among these opportunities are such factors as greater flexibility due to smaller size, innovation, serving a specific consumer base, being the leader on a regional market, offering high product quality or a unique design, or marketing themselves as a regional brand. A complex distribution model is still possible for these companies, but some companies take advantage of their smaller size by focusing on e.g. more direct distribution which skips costly intermediaries. Sponsoring, if implemented, is less global and more targeted (e.g. by concentrating on a certain sport or a certain region).

Micro-sized enterprises differ greatly from larger companies (including small and medium sized enterprises) and they offer a more diverse set of approaches and business models. Often such companies are characterised by strong owner/manager control and independence. In many cases it is a conscious decision by the owner-manager to stay micro-sized, either because they wish to maintain their level of control or because the regulatory burden to grow is perceived as high. While some companies have developed an ambitious expansion strategy, others do not follow any real mid or long-term strategy but simply conduct their day-to-day business. Outsourcing is rather limited for micro-sized companies, but nevertheless not excluded.

Offering a unique and innovative product is one way for micro-sized companies to distinguish themselves from their competitors. This may mean offering hand crafted, local/regional or a sustainable manufacturing process which can result in products of superior quality or design. In addition, this process allows for modification of the product to the customer's individual preferences (bespoke products), which is a feature that large industrial manufacturers can offer only with great difficulty. With regard to product features and target group, micro-companies thus often do not see themselves in direct competition with industrial manufacturers of the same product.

Micro-sized companies distribute their products mostly online and directly to their clients, and only occasionally via specialised retail shops (while access to large retail chains is very restricted). This approach is well adapted to the consumer base, which is usually not limited to a region, but includes people who are aficionados in their sport and look for a distinctive product (or one of superior quality) for which they are willing to pay higher prices. In general, immediate and personal customer communication as well as stable customer relations play a key role for the micro-sized companies, especially since they usually do not have an elaborate brand strategy and rely strongly on word-of-mouth and customer satisfaction. This communication regime also comes with the advantage of receiving direct consumer feedback.

9. COMPETITIVENESS ANALYSIS

9.1. Defining competitiveness

The analysis of the competitiveness is provided in terms of its current performance and the potentials for growth and international development. To do so, the EU methodology for “Competitiveness Proofing” (Toolkit for Impact Assessments¹⁵⁴, p. 8) provides the theoretical backdrop. Thus, competitiveness is defined as consisting of three key elements:

- **Cost competitiveness:** the cost of doing business, which includes cost of intermediate inputs (incl. energy) and of factors of production (labour and capital);
- **Capacity to innovate:** the capacity of the business to produce more and/or higher quality products and services that meet customer preferences better;
- **International competitiveness:** the above two aspects could also be assessed in an international comparative perspective, i.e. in terms of European market shares and comparative advantage compared with the EU’s major trading partners.

The SWOT allows to analyse the current and expected future situation of the European sporting goods sector, to determine the direction of the industry, and to understand the drivers, obstacles, opportunities and threats of competitiveness for European companies in the sporting goods sector.

9.2. Cost competitiveness

The sporting goods industry is currently facing the challenge of increased cost of **raw materials** which can have a significant impact on revenues. This is accentuated by the fact that many companies operate at a relatively **low profit margin**^{155 156}. In addition, the retail sector is becoming price competitive, due to increased product differentiation and diversification as well as innovation^{157 158 159}. This comes in economically uncertain times when consumers tend to avoid conspicuous consumption and seek instead the best value for money (*Cogitamus Consulting*, 2009) Therefore, customer loyalty has been observed mainly towards a particular brand rather than a specific retailer (*MarketLine*, 2015a).

Another challenge is the **cost of capital**, which reflects the company’s cost of investment funding. Overall, a continuous downward trend in capital costs can be observed in Europe since 2009/10 (*KPMG*, 2016). However, there are differences in the cost of capital across countries: On a corporate level, France, Spain, Malta, United Kingdom and Germany have the highest capital costs, while Estonia, Bulgaria, Croatia, Belgium and Italy have the lowest capital costs. In general, the countries that have joined the European Union since 2004 (New Member States) have a lower cost of capital than the old EU member states (*Evers et al.*, 2015). In global comparison, European capital costs are higher than in Asia and in Northern America. Capital costs also vary between industries, with industrial manufacturing (including the sporting goods industry) having capital costs that lie above the average of the whole economy.

The **cost of energy** has emerged as an important dimension of international competitiveness of European industries, as it affects the production costs of industries and services (including the manufacture of sporting goods) (*European Commission*, 2014d). In the European Union, in most cases, energy cost shares and absolute energy costs fell since 2008 due to the fall in energy prices, tax exemptions and reductions, lower energy consumption related to reduced production levels, a shift in production to less energy-intensive products, the uptake of energy efficiency measures and slower reductions in other production cost factors (*European Commission*, 2016b). However, the average industry

¹⁵⁴ http://ec.europa.eu/smart-regulation/impact/key_docs/docs/sec_2012_0091_en.pdf

¹⁵⁵ <http://www.mbaskool.com/brandguide/lifestyle-and-retail/9121-sports-direct.html>

¹⁵⁶ <https://www.macquarie.com/at/corporate/expertise/healthy-lifestyle-growth-of-revenue>

¹⁵⁷ <http://www.marketingteacher.com/nike-swot/>

¹⁵⁸ <https://bizfluent.com/info-7880488-profitable-retail-businesses.html>

¹⁵⁹ <http://smallbusiness.chron.com/good-benchmark-profit-margins-sporting-goods-store-26211.html>

retail prices (consisting of prices for energy and network as well as taxes and levies) have developed differently for electricity and gas. As for electricity, industry prices showed increases between 2008 and 2015, with significant differences between the member states: electricity prices are highest in Italy, United Kingdom, Malta, Germany, Cyprus and Ireland, while they are lowest in Sweden, Luxembourg, Bulgaria, Finland, Slovenia and the Czech Republic. On an international level, the EU's industrial electricity prices are notably lower than in Japan, more or less similar to Brazil, China and Turkey, and higher than in Korea, the USA, Russia and Indonesia (*ibid.*). Gas prices for large industrial consumers in 2015 were below those of 2008. Finland, Sweden, Austria, Portugal and Estonia have the highest industrial gas prices, while Belgium, Romania, France, Poland and the United Kingdom have the lowest gas prices. While international gas prices showed a market convergence over the past years, EU gas prices are still higher than in the USA and Russia, lower than in Japan and China, and more or less the same in Brazil and Turkey (*ibid.*).

According to some sources, **cost prices** for sporting goods (e.g. in the area of footwear) are rising for a variety of reasons, including augmented Corporate Social Responsibility (**CSR**) **requirements** (CBI, 2015). Incidents, e.g. in Bangladesh, that were a result of poor labour conditions contributed to increase pressure on CSR (*ibid.*). The international BSCI certification scheme (Business Social Compliance Initiative) is considered the main CSR programme applied in Europe (*ibid.*). At the same time, some brands in the sporting goods sector that have implemented major CSR strategies have been able to benefit from increased customer awareness in this area. An example is the German outdoor outfitter Vaude¹⁶⁰ which has been awarded Germany's most sustainable brand in 2015. It produces sportswear with recycled materials (e.g. functional jackets from abandoned fishing nets) and complies with various CSR standards such as e.g. those of the Fair Ware Foundation for fair working standards in the textile industry or the Eco Management and Audit Scheme (EMAS) and ISO 14001 in its environmental management system. Another example is the US based clothing company Patagonia¹⁶¹ which has specialised in sustainable outdoor clothing. It commits 1% of its total sales to environmental groups and has also implemented various measures to enhance working conditions of its suppliers.

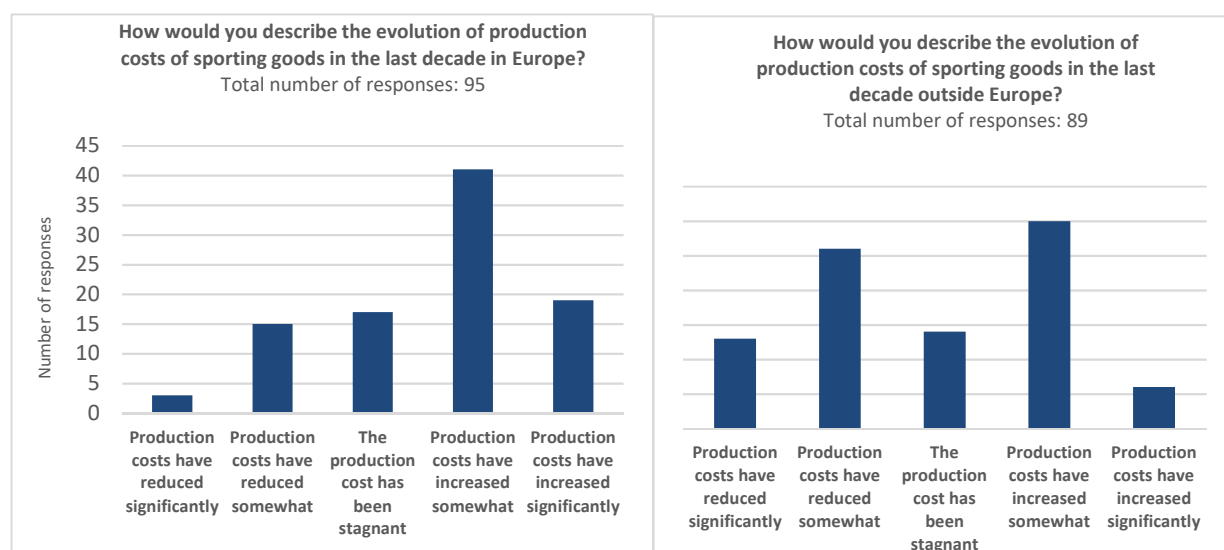
Consistent with the above general considerations, most stakeholders consulted in the online survey¹⁶² in the sporting goods sector agree that production costs have increased somewhat both in Europe and outside Europe. A breakdown of responses is provided in the figure below:

¹⁶⁰ <http://csr-report.vaude.com/gri-en/index.php>

¹⁶¹ <http://eu.patagonia.com/enGB/environmentalism>

¹⁶² A total of 121 survey respondents, comprising sporting goods manufacturers, retailers, sector associations, public authorities, etc.

Figure 20 : Stakeholders' views on the evolution of production costs of sporting goods inside and outside Europe



Source: Austrian Institute for SME Research, VVA, Assessment based on the results of the online survey

Various explanations for the surge in production costs inside and outside Europe were provided by stakeholders. The stability of the currency (€) in line with moderate wage developments have increased Europe's cost competitiveness relative to developments in most other parts of the world. At the same time, European production costs have increased because there is less supply and more demand from companies that have maintained or returned to produce in Europe.

Although complex, the sporting goods industry has a highly dynamic and flexible supply chain. However, the supply chains in Europe are incomplete – for instance, some parts can only be bought in Asia (e.g. midsoles, many chemical raw materials) – because the production uses a lot of energy, which makes it too expensive to produce in Europe compared to Southeast Asian countries. Working with suppliers in Asia is often complicated, because large producers control the market and the whole production chain. If you do not want to buy the whole product but just one part of the product (e.g. just soles and not whole shoes), it can be difficult because the manufacturers do not want to give up parts of their production chain.¹⁶³

Production is a labour-intensive industry and the shift towards low wage countries is very important for the sporting goods industry. These low-cost production countries are increasing their labour costs as their economy develops.¹⁶⁴ China, which concentrates most of the production of sporting goods in Asia, has also seen its costs rise as the economy develops. Transport costs have also increased, making shipping from Asia to Europe more disadvantageous.¹⁶⁵ Hence, the production costs in a "cheap production" country rise quickly, making it necessary to relocate to the next "cheap production" country (e.g. Vietnam)¹⁶⁶. Some eastern European countries are also a source of low production costs for sporting goods manufacturers¹⁶⁷ and recently production has returned to Europe as outsourcing to East Asia has not always proven to be effective (e.g. long shipping periods).¹⁶⁸

For sporting goods retailers, the evolution of production costs has indirect effects. The very competitive and fast-moving market does not allow for significant increases in prices, which puts an added focus on production cost control. One by-product of this development is that

¹⁶³ Interview with a German sporting goods manufacturer

¹⁶⁴ Interview with the representative of the International Association of Sport Economists

¹⁶⁵ EPRS (2014)

¹⁶⁶ Interview with a German research centre in the field of sporting goods

¹⁶⁷ Interview with a French academic

¹⁶⁸ Interview with a German research centre in the field of sporting goods

manufacturers try more and more to skip retailers as intermediaries and sell directly to customers, e.g. through their own retail departments.¹⁶⁹

Overall, production costs are expected to surge in the long-term due to increasing importance of technological products¹⁷⁰ and greater attention to environment and sustainability in the production process.

Table 30: Illustrative cost competitiveness insights from the company case studies

*With regard to the price range on the market, the **micro-sized Austrian ski equipment manufacturer's** products figure somewhere in the upper middle class of their product group. They obviously cannot compete price-wise with large industrial production companies. However, they do not really see themselves in competition with these companies, as their hand-made product targets a rather different customer group than the industrially produced products of larger companies. Within the group of small manufacturers that use manual production techniques, they are able to offer competitive prices due to the fact that they are very small and that they conduct their business only part-time.*

*The **large German manufacturer of multipurpose sporting goods and equipment's** production facilities are mainly based in Asia. The company indicated that wages in the sporting goods industry are rising worldwide, but this trend is the strongest in Asia, which may lead to increasing production costs. To prevent any substantial increase of the sporting goods price for the consumers, the company tries to compensate the growing production costs by introducing more advanced production techniques.*

*For the **French tennis equipment manufacturer's** production is mainly outsourced to non-EU countries. Compared to Europe, the labour costs are cheaper in Asia. Relocating the production to Europe would therefore increase the costs and negatively impact the sales revenues. For the company, outsourcing is prerequisite to stay competitive. Thus, any initiatives reducing the costs of import tax would be welcomed.*

*For the **Danish bicycle manufacturer**, production costs are the same for all the actors of the bike industry. The vast majority of companies outsource the manufacture of their frames and other components to Asia. However, there is a growing trend to re-settle the manufacture facilities in Europe. According to the interviewee, the overall costs are also relative to the kind of goods produced. The company sells highly specialised bikes which are consequently high-priced. Nevertheless, the company is able to offer their bikes at a competitive price due to the absence of intermediaries in the sales process.*

*As a small company and a new entrant on the market, Europe has never been an option for the **Finnish footwear manufacturer** due to increased costs. In China, the production costs have been stable in the last years; the value of the dollar has been fluctuating for the last 3 years. The current strengthening of the euro has been helping the position of the company and their production. Production costs have not been an issue for the company due to the outsource of production in China. The company works with a manufacturing company which takes care of all the production process (from finding materials to producing specific components).*

*The **Italian ski apparel and equipment company** prides itself in being an Italian brand, but as an effect of the economic crisis, the company started outsourcing their production outside Italy. Nonetheless, the company uses high quality raw materials for its products and solely deals with top suppliers. The company's main competitors are the low-end companies. The company finds it challenging to orient consumer taste towards quality as more consumers prefer to buy mass-brands (low-end) who offer lower quality and a better price.*

¹⁶⁹ Interview with a Swiss association of sporting goods retailers

¹⁷⁰ Interview with an Austrian sporting goods association; Italian sporting goods association

*The **Portuguese hockey and skate equipment company** has seen an increase in the production costs over the last 10 years. This has been caused by an increase in the price of raw materials, relative to the increase in the price of oil. Moreover, availability of cheaper products and materials coming from third countries has had a negative impact on the company's product prices.*

*The **Romanian sporting goods manufacturer** concentrate production in the two factories the company owns at national level. Compared to other EU countries, production costs in Romania are lower. However, although still cost-effective, the costs have increased in Romania in recent years. Any increase in production costs could reflect in the price of the end product and for Romanian consumers, the price represents one of the most determinant factor in the purchasing decision.*

This **relocation of production** is due to some extent to increasing levels of sophistication in the production process of sporting goods manufacturers. Furthermore, new technological opportunities can result in concentrating part of the production on the continent though this phenomenon is most discernible for highly specialised products, rather than for commodities.¹⁷¹ Put differently, the industry needs to find niches where more technicity can be added in the products manufactured, as Europe can no longer compete with countries where labour costs are lower.¹⁷²

Moreover, in some European countries (especially in Western Europe), the labour market has lost the specific manufacturing know-how which has been absorbed by other countries. Also, the educational system does not generate the same level of skills which would match the manufacturing know-how from countries where companies outsource.¹⁷³

A study from 2014 found that the most likely product categories to relocate production to Europe are: heavy machinery or products that are expensive to transport to the end consumer, goods subject to frequent changes in consumer demand and need to be closer to the end market, and products with important safety concerns.¹⁷⁴ One interviewee highlighted that manufacture of footwear and advanced clothing is very likely to take place closer to the end market (i.e. Central-Eastern Europe and neighbouring countries). Production of hiking shoes made of leather is already taking place in Hungary and Romania whereas manufacture of advanced clothing is still outsourced but it is expected to relocate to Europe or to neighbouring countries (i.e. Morocco, Turkey).¹⁷⁵

However, despite the above examples, there is to date little evidence of relocation on a grand scale, especially from China. Technological development in the manufacturing process translates into the need for less manpower. Hence, although reshoring might occur, it will not result in a return to Europe's previous position in terms of employment and export base.¹⁷⁶ One example of advanced manufacturing in the EU is the SpeedFactory¹⁷⁷ opened by Adidas in Ansbach, Germany. The factory uses robots and new production techniques (i.e. 3D printing) to manufacture trainers and other sport shoes.¹⁷⁸ Hence, in line with Industry 4.0¹⁷⁹, Western European supply chains are set to become progressively automated and operated by robots. From a jobs perspective, the trend toward automation is likely to have a negative impact on low-skilled workforce as these

¹⁷¹ Interview with Dutch sporting goods association

¹⁷² Interview with a French sporting goods retailer

¹⁷³ EPRS (2014)

¹⁷⁴ EPRS (2014), Reshoring of EU manufacturing. Available at: <http://www.europarl.europa.eu/EPRS/140791REV1-Reshoring-of-EU-manufacturing-FINAL.pdf>

¹⁷⁵ Interview with a Polish Association representing sporting goods manufacturers

¹⁷⁶ EPRS (2014)

¹⁷⁷ Adidas, SpeedFactory. Available at: <http://www.adidas.com/us/speedfactory>

¹⁷⁸ The Economist (2017), Adidas's high-tech factory brings production back to Germany. Available at: <https://www.economist.com/news/business/21714394-making-trainers-robots-and-3d-printers-adidas-high-tech-factory-brings-production-back>

¹⁷⁹ Industry 4.0 is a name for the current trend of automation and data exchange in manufacturing technologies. Available at: <https://ec.europa.eu/digital-single-market/en/blog/factories-40-future-european-manufacturing>

factories will require mainly engineers and highly-skilled employees to oversee the complex production process.¹⁸⁰

From the viewpoint of FESI, the positioning of different production capabilities in Europe should not be seen as a relocation, but rather as a development of complementary capabilities. Some companies are developing into automation and digitalisation and these activities often respond to the need for shorter lead time and customisation of products. This can create spill-over effects into the app economy which can better connect to consumers, e-commerce and customised production. However, based on the available data, it is difficult to identify a relocation on a scale that would enable Europe to become a net exporter of sporting goods. The existence of specific know-how in Europe has generated an increase of production in robots, app economy and wearable technologies. Whether this positioning can translate into a relocation of production of clothing and footwear, depends on the market uptake and consumer demands.

9.3. Capacity to innovate

Constant and rapid waves of innovation – often closely related to other industries (textiles, electronics, aerospace, etc.) – are a major characteristic of the sport industry (FESI, 2014). The long-term development of the sporting goods industry will be determined by the ability of manufacturers to innovate in their products, especially in an environment that is as cost-driven (see section 7.2). In some ways, the structure of the market (with a few large companies that dominate mass market production and many smaller suppliers to these large companies and small niche producers), innovation has become more important than pricing in order to gain a comparative advantage and increase or preserve global market shares (Andreff / Szymanski, 2006).

From an economic viewpoint, the main **reasons for innovation** in sport are as follows (Andreff / Szymanski, 2006 and EPSI, 2016):

- helping athletes to win a competition or improve their sport performance;
- making sport more spectacular, thereby attracting an increased attendance and more TV viewers;
- testing new products and technologies for an industrial manufacturer;
- facilitating mass access to a sport by making it technically easier or making it safer (e.g. short skis, warm ski boots).
- societal impact through healthy active lifestyle;
- diversification of the sporting goods market, comprising various sub-sectors (e.g. multifunctional sport sector, tourism, nutrition);
- increased awareness of sustainability among consumers;
- big data and development of modern design, creation and manufacturing techniques (e.g. 3D printing);
- sport fashion which is a fast-growing segment.

In line with this, innovation in the sporting goods industry is influenced by the rapid **growth of technology** and the increasing **demand for performance fabrics** such as lightweight or breathable microfibers. Innovation activities are also the reason that sport technology became a leader in several fields of applied science: textile technology, mechanics of human motion, new materials, sensors, actuators, human-oriented design, automation and others (*ibid.*). Consumers tend to spend more on performance characteristics such as temperature control, friction regulation, moisture management or water resistance that reduces potential injuries of discomfort (Catalyst Corporate Finance, 2014). The increased demand for wearable technologies leads manufacturers to adapt to

¹⁸⁰ Colliers International (2016), Global Manufacturing Shifts: An EMEA Perspective. Production in the Post-BRICs Era. Available at: <http://www.colliers.com/-/media/files/emea/emea/research/2016-global-manufacturing-shifts-an-emea-perspective.pdf?la=en-gb>

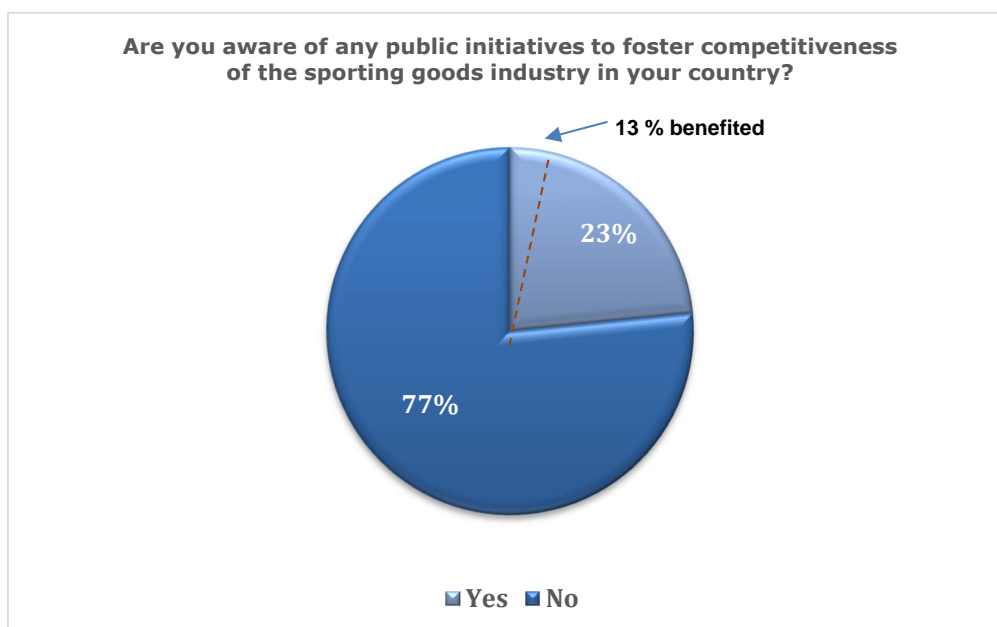
these emerging trends. Modern design and manufacturing techniques have been developed in the past few years to raise the standards of the final product features.

Start-ups and SMEs are drivers for innovation; however, the **innovation capacity** can be improved, as small companies have fewer resources available for product innovation. Networks of sport (innovation) clusters (like the European Platform for Sports Innovation - EPSI) can help to speed up the process from innovation to market exploitation. Activities in the field of business creation and development, such as acceleration and incubator programmes as well as actions to expand market access in and outside Europe can boost the capacity for innovation in sport. SMEs could also be a driving force in certain niches, such as products related to surfing, skateboarding, or low-scale custom-made equipment.¹⁸¹ The sporting goods industry needs the respective human resources and skilled labour to keep their innovativeness and develop and adapt to new technologies. This can be reinforced by promoting cross-sectoral cooperation between universities, research centres, industries and sport bodies and by investing more on sport-based research and product development (EPSI, 2016). For instance, the European Union provides funding for innovation and technological developments related to the sport sector e.g. via the EU Framework Programme for Research and Innovation – Horizon 2020¹⁸² (*ibid.*). The European Platform for Sport Innovation (EPSI)¹⁸³ brings together European actors of the sport innovation industry to promote innovation in the field of sport.

Although large companies need to innovate in order to remain competitive, these companies face less pressure compared to SMEs. Although with less resources, SMEs have more exposure to their employees' creativity, identify better the demand on the market and niche consumers. Also, the smaller size gives companies more flexibility and less administrative burden to overcome when they want to innovate (FESI).

Despite this constant and crucial need to innovate, at European level, awareness of public initiatives to foster the competitiveness of the sporting goods sector is rather limited. Of the total respondents to the survey for this study, 77% are not aware of such initiatives targeting the sporting goods sector. Of those stakeholders who are aware of public initiatives (23%), only 13% benefited from them.

Figure 21: Stakeholders' awareness of public initiatives to foster competitiveness of the sporting goods sector



Source: Austrian Institute for SME Research, VVA, Assessment based on the results of the online survey

¹⁸¹ Building a future of European sports innovation, http://epsi.eu/assets/TNO-ICT-Boek_Binnenwerk_-_pagina-1-96_290208.pdf

¹⁸² <https://ec.europa.eu/programmes/horizon2020/>

¹⁸³ European Platform for Sports Innovation. Available at: <http://epsi.eu/>

Some companies interviewed for this study acknowledge that they benefit or have benefitted from direct public support (with a preponderance of regional and national - as opposed to European level - support). However, none of the direct public support was targeted at the sporting goods industry specifically, but rather at fostering innovation, digitisation or start-ups in general.

Stakeholders pointed out that sporting goods companies may benefit from initiatives targeting the development of the business environment as a whole - support for internationalisation, such as fairs to promote national companies or support for digitalisation of start-ups. One example is the support provided by the Italian Trade Agency (ITA) for companies to digitalise.¹⁸⁴

At national level, public initiatives to foster the competitiveness of the sporting goods sector are rather dispersed and more present in countries where the sporting goods sector is more important. The French government, for instance, offers consumers a €200 discount at the first purchase of an electric bicycle¹⁸⁵. Also, sport's events organisation enjoys a tax exemption from the French government (e.g. the European Football Championship).¹⁸⁶ France has also a good network of sport clusters (13 at national level), which receive great support from the local authorities (cities, departments or regions). The government also focuses on the sporting goods sector - for instance, Fillière sport¹⁸⁷ is an initiative launched by the Ministry of Economy to aims at identifying the needs of the sporting goods sector. It also aims to gather the different stakeholders of the industry (representatives from public authorities/companies) who can plan the French strategy for the development of the sport sector. One example of a synergy between different actors of the sport industry is the fact that representatives of famous French brands are joining French officials in some of their trips abroad to promote the image of the French sport companies. Finally, the creation of the French Observatory for the Economy of Sport¹⁸⁸ in 2016 -the Observatory acts as an advisory body for the French government- is also seen as a good public initiative to support the competitiveness of the industry.¹⁸⁹

Other countries such as The Netherlands¹⁹⁰ and Ireland¹⁹¹ also have sport clusters which support innovation among sporting goods companies. In Ireland, cooperation between public authorities and the innovation clusters aims to promote the image of Ireland in the sector of sport innovation.¹⁹² For Germany (Deutscher Olympischer Sportbund - DOBS)¹⁹³ and Switzerland, interviewees have pointed out that general public support for sport and physical activity is quite strong, with numerous initiatives on all levels from local to national and in many different domains (schools, associations and companies). Public authorities are active in promoting sport activities and healthy lifestyle at regional and national level.

National initiatives are mostly, but not exclusively, encountered in countries where the sporting goods sector is stronger. Sporting goods companies in less-developed countries such as Romania, Bulgaria, Slovakia, finance innovation from their own margins or make use of European funds. In Finland, public initiatives to foster the competitiveness of the sporting goods sector are scarce as the main focus lies in large-scale industries (i.e. wood, metal, shipbuilding). However, with increased importance of healthy lifestyles among citizens, the support for "soft technologies" is expected to increase. One main challenge in Finland is that the sporting goods sector, competitive sport and the manufacturing industry are under different Ministries, which makes it more difficult to coordinate.¹⁹⁴

Survey respondents identified support for innovation and new technologies in production process to be the main area where public initiatives to support competitiveness of the

¹⁸⁴ MIT Technology Review (2017), Italy transforms itself into a high-tech hotbed. Available at:

<https://www.technologyreview.com/s/603856/italy-transforms-itself-into-a-high-tech-hotbed/>

¹⁸⁵ Agence de Services et de Paiement. Available at : <https://www.asp-public.fr/bonus-velo>

¹⁸⁶ Sport - Exonération fiscale des grands événements sportifs : des comptes très optimistes?. Available at:

<https://www.caissedesdepotsdesterritoires.fr/cs/ContentServer?pagename=Territoires/LOCActu/ArticleActualite&cid=1250269287819>

¹⁸⁷ Fillière sport. Available at : <https://www.entreprises.gouv.fr/services/comite-strategique-la-filiere-sport>

¹⁸⁸ Observatoire de l'Economie du Sport. Available at : <http://www.sports.gouv.fr/organisation/organisation-du-sport-en-france/sporteco/observatoire-sport-Eco/Organisation-11247/>

¹⁸⁹ Interview with a representative French sporting goods association; representative of the French Observatory for the Economy of Sport

¹⁹⁰ Sports & Technology Netherlands. Available at: <http://www.sportsandtechnology.com/>

¹⁹¹ Sports Tech Ireland. Available at: <http://sportstechireland.com/>

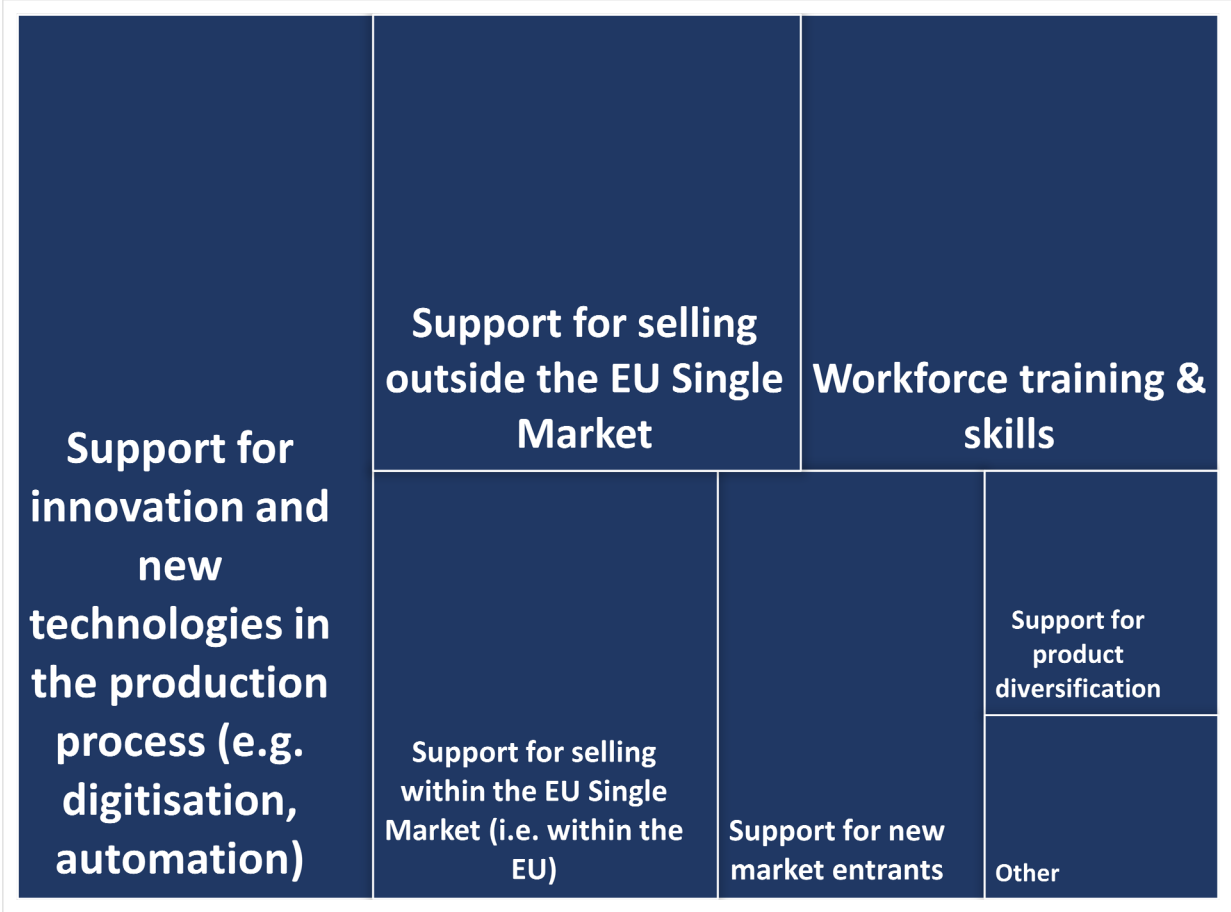
¹⁹² Interview with an Irish sport cluster

¹⁹³ Deutscher Olympischer Sportbund (DOSB). Available at: <https://www.dosb.de/>

¹⁹⁴ Interview with Finnish Ministry of Education and Culture

sporting goods industries would be more useful (30% of respondents). Support for internationalisation of European sporting goods companies, as well as support for training and skills are deemed important areas for support (18% each). Other areas of support are: support for selling within the Single Market (14%), support for new entrants in the area of sporting goods (11%) and support for product diversification (5%).

Figure 22: Stakeholders’ views on the areas where public initiatives to support competitiveness of the sporting goods industries would be most useful

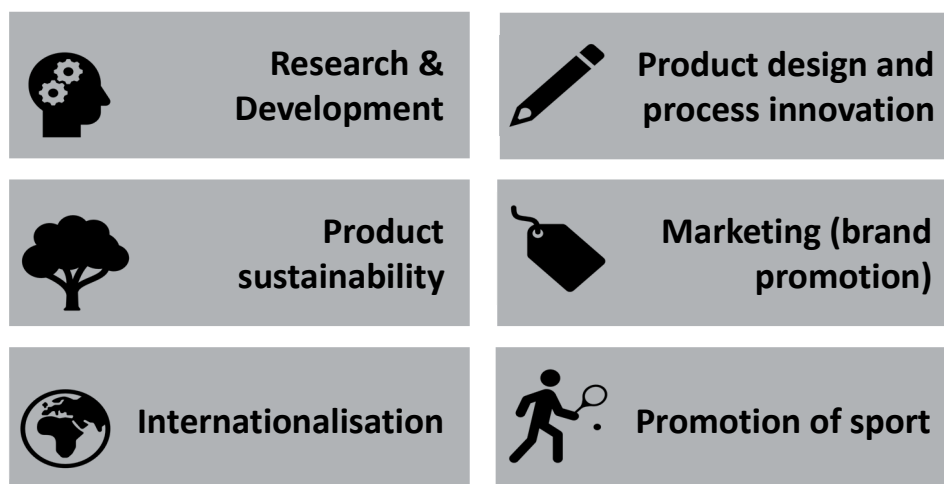


Source: Austrian Institute for SME Research, VVA, Assessment based on the results of the online survey

Innovation is considered one of the main drivers of the positive development of the European sporting goods in the last decade.¹⁹⁵ There are a few areas where Europe has great potential to innovate. The figure below concentrates the main areas where stakeholders consider that Europe has a competitive edge and the biggest **potential to innovate**. Europe’s competitive advantage lies in the concentration of experts, technology and know-how and the use of this advantage could lead to the production of new, innovative products. Therefore, Europe’s capacity to innovate is in the early stage of the production chain. Setting an “ecologic footprint” in product process and materials is also an area where Europe has great potential. The vast majority of stakeholders consulted (interviews and survey) pointed out that the promotion of sport activities could help the industry grow by inducing more demand for sporting goods overall, but also by putting more citizens into practicing sport.

¹⁹⁵ Interview with a French academic

Figure 23: Stakeholders' views on Europe's potential to innovate



Source: Austrian Institute for SME Research, VVA, Assessment based on the results of the online survey and stakeholder interviews

Lastly, the more innovations that occur in the production process (be it efficiency, higher quality standards or new materials), the better for the location and the industry as a whole.

Table 31: Illustrative insights company case studies' capacity to innovate

The **large German manufacturer of multipurpose sporting goods and equipment** constantly brings new products on the market and there is no seasonality in their business model - roughly 70% of the products each year are new. One of the main drivers of the company's process of bringing new products on the market lies in the fact that consumers always expect new products and designs. Innovation also happens on a very regular basis. Consumers and partners are involved in the process of bringing new products on the market. Usually, the company organises consumer focus groups which provide valuable input for the company. On the basis of the information collected, the company develops its products. As for research institutes, these are involved in highly technological processes and advanced developments. Innovation is financed by the company's own margins. The company also manufactures joint products, which are developed with public funding.

Due to the company's financial limitations, the **Danish bicycles manufacturer** has no funds dedicated to innovation. Thus, they add innovative products introduced by specialised bike components manufacturers into their offer. For instance, if Shimano launches a new set of paddles, the company integrates them into their bikes.

The **Polish ski equipment** company's capacity to innovate is very much connected to the internal functioning of the company. Innovation is entirely financed by the company's resources – the company considers that the banking system in Poland does not provide finance for R&D or innovation as it is considered a risky field to invest into. Hence, the company collaborates with the US partner for R&D and innovation.

The **Finnish footwear manufacturer** tries to introduce new products every year or every two years. Due to rapid changes in the fashion trends, the company has to come up regularly with different designs, materials and colours. Since the opening, the primary focus of the company has been more on technology and less of market trends. The company's competitive advantage lies in the innovative product, while design is given secondary importance. When it comes to innovation, access to finance is very important for a small company as theirs. The company was open from the owners' own financial resources. In addition, the company applied and received funding once from Tekes (Finnish Funding Agency for Innovation). However, the company representative emphasised that it is not easy to receive finance for the development of sporting goods. At national level, it is very

difficult to start a business in this sector without financial support for innovation and development.

*The **Romanian sporting goods manufacturer** considers that for the performance level of the Romanian sporting goods industry, the company is very innovative. However, compared to other international or European brands, the company is not innovative. The company brings new products on the market on a regular basis, but there is no seasonality in their collections. The company has its own design department where new models created. Once the designs are proposed, the products are voted in the company's management board. The company releases new products on a weekly basis. All the innovation process is financed by the company's own margins.*

9.3.1. Product, process and service innovation

Strategic partnerships and **cooperation** with the business ecosystem are required in order to advance innovation in sport technology – for the next generation of sport and fitness wearable devices (Anzaldo, 2015). The ecosystem contributors include e.g. developers of mobile application software, sensor IP and data analytics, coach / trainers, professional groups, wellness programs etc (*ibid.*). Professional societies and conferences like the IEEE¹⁹⁶ and ISOC (International SoC Design Conference) are considered to be important for idea sharing, expressing thought leadership concepts, developing business relationships as well as strategic partnerships (*ibid.*).

Wearable technology (apparel and accessories with built-in computer and advanced electronic technologies) is seen as one of the key drivers of the competitiveness of the whole sporting industry. These devices are mainly used by athletes and coaches, but there are also devices designed for amateur athletes, such as fitness devices used to increase the level of exercise¹⁹⁷. The wearable sport and fitness market segment includes wristband devices, sensor embedded equipment and smart clothing using woven technology or printed electronic materials. Wristband devices have the highest consumer interest level and include e.g. fitness bands and GPS golf watches. (Anzaldo, 2015) Some of the benefits of the wearable technology in sport include the following: player safety assessment tools, workout injury prevention or metrics of physical condition and performance (Deloitte, 2016b; Anzaldo, 2015). Teams are also using wearables to collect data during training and conditioning sessions (Deloitte, 2017a). In terms of equipment, wristband, equipment embedded, or smart clothing are deemed to have revolutionised the way in which sport is perceived (Anzaldo, 2015). High-tech fabrics or intelligent textiles are fabrics that interact with human or environmental conditions such as e.g. producing thermoregulatory control by affecting the microclimate between the fabric and the skin (CBI, 2017). Many new applications for apparel and sportswear are developed by the technology industry (*ibid.*). These include e.g. soft sensors for measuring people's movements (produced by StretchSense) or wearable motion capture for ergonomics and sport (offered by Heddoko) (*ibid.*). According to a survey among sport industry stakeholders (PWC, 2017), data collected by wearables and sensor technologies will have a highly positive impact on professional sport. However, most respondents consider these types of data as an "add-on" and not as paradigm-shift. Nevertheless, it was highlighted that ongoing research is aimed at generating knowledge on how to use these data for a variety of purposes, be it commercial (e.g. statistics) or sporting (e.g. player welfare) (*ibid.*)

3D printing is used by sporting goods manufacturers (e.g. Nike, Adidas, Under Armour) to an increasing extent. The capabilities of 3D printers will transform traditional manufacturing across all industries because of cost reduction, higher efficiency and the creation of fully customised products. Users are able to digitally design their product and let it be printed out as finished product. 3D printing can be regarded as a mutually beneficial innovation for both sport equipment brands and consumers. 3D printing can be used in almost every type of sport product manufacturing capacity, e.g. sport footwear,

¹⁹⁶ <http://www.ieee.org/about/index.html>

¹⁹⁷ <https://globenewswire.com/news-release/2015/09/23/770205/10150289/en/Sports-And-Fitness-Performance-Wearables-Markets-Are-Anticipated-To-Reach-14-9-Billion-By-2021-Radiant-Insights.html>

baseball bats, snowboard bindings, golf clubs or small parts such as insoles or bicycle handlebars. (Carroll, 2017)

There is also an interrelation between sport and the “**app economy**” – e.g. applications that are linked to products such as sport shoes that are tracking distance, effort etc. during workouts (FESI, 2014). Furthermore, the sport fan viewing experience can be enhanced by such devices – e.g. when wireless sensors are embedded in player equipment or uniforms in a way that sport viewers can have real-time access to movement tracking data and performance statistics (Anzaldo, 2015). One challenge in the development of wearable devices is their vulnerability to **security threats** (*ibid.*). It is critical to develop strong security measures to protect against malicious attacks corrupting or stealing data as well as to protect intellectual property (e.g. proprietary algorithms that could reside on a wearable device) (*ibid.*).

Manufacturers and sporting goods actors attempt to better associate digitisation to their products.¹⁹⁸ Digital innovation has developed rapidly in the last two years and covers electronic equipment for traditional sport as well as virtual sport. However, the sporting goods retailers in Europe are to a large extent left out of this development and are adapting too slowly. Other consumer sectors have taken the lead, such as the toys industry or the video gaming industry (for instance, virtual sport was strongly represented at the 2017 GamesCom edition). It can be expected that the influence of digitisation will become huge in the near future.¹⁹⁹

9.3.2. Non-innovative know-how

The companies’ competitive edge is not entirely given by the level of innovativeness and often, other strategies are necessary to maintain themselves competitive on the market. Whereas some companies place innovation at the core of their business models, there are also companies which produce non-innovative goods and still maintain themselves competitive on the market (e.g. commodities).

Communication with the customers is an essential factor for a companies’ success. Even companies whose business model is based on innovation acknowledge that it is not enough to simply create a new and fashionable product and that technology can be almost ineffective without proper communication. An effective means of consumer communication is to involve consumers in the development of new designs and collections, for example through consumer focus groups. This strategy is applied by many companies, from a large German manufacturer of multipurpose sporting goods to a small-sized ice hockey apparel manufacturer from Slovakia to a micro-sized hockey and skating equipment producer from Portugal. In addition, especially micro-sized companies are able to offer their customers very personalised communication, as the owners are often managing the entire business and thus play an important part for the company’s external image. For instance, the owner and single staff member of a micro-sized bike manufacturer from Denmark puts a strong focus on one-to-one communication with his customers in order to establish a strong and long-lasting relationship.

Closely related to communication is the **development and maintenance of the brand’s reputation**. Companies whose products are not necessarily innovative can still present their products to the consumer in an appealing way by emphasising other factors than innovation. High quality, attention to detail and craftsmanship are brand elements that many companies (especially small and micro-sized companies that do not produce industrially) apply. This effect can even be reinforced if the company owners are themselves active in the sport for which they sell equipment, thus strengthening their credibility. Regional and sustainable production is another brand reputation element with a potential to give companies a competitive advantage. By targeting quality-conscious consumers that are willing to pay higher prices for good products, companies that follow this strategy can compensate shortcomings in the domain of innovation. For instance, an Austrian micro-sized ski manufacturer run by two passionate skiers produces handmade skis, with the design, testing and manufacturing taking place in Austria. Customers have the possibility to visit the company’s workshop and see for themselves how the skis are

¹⁹⁸ Interview with a French sport cluster

¹⁹⁹ Interview with the representative of a German association of sporting goods manufacturers

produced. With all CO₂ emissions generated during manufacturing being compensated, the whole production process is also carbon neutral. These features correspond to current trends of deceleration, sustainability and social responsibility, thus appealing to certain groups of customers who prefer regional, eco-friendly products over industrial products and are willing to pay higher prices for superior quality.

Sponsoring and affiliation with renowned athletes or sport events is another effective way to promote the brand, which is however mostly reserved for large international companies due to the higher marketing costs associated with it. Nevertheless, small companies can find other ways to benefit from similar effects. For instance, a Slovakian ice hockey apparel manufacturer has ice hockey teams from all over Europe among their customers. Although the company is not directly sponsoring any team, they still generate higher sales numbers when a hockey team wearing their products is successful.

Offering bespoke products to consumers is another element that can give companies a competitive edge in their specific sporting goods sector and can differentiate them from the competitors. This business model is often related to the abovementioned factor of maintaining the reputation of a high-quality brand. Companies that follow this strategy personalise the product according to the customers individual needs, preferences and style. A micro-sized bike manufacturer from Denmark, for example, adjust the bike to the user's personal features (like height and weight) as well as to their personal riding style (like preferred terrain) before designing and assembling the final product. For the consumers, buying a bespoke product can be appealing if they do not find the product they want elsewhere or if they wish to own an individualised product to distinguish themselves from the mass market.

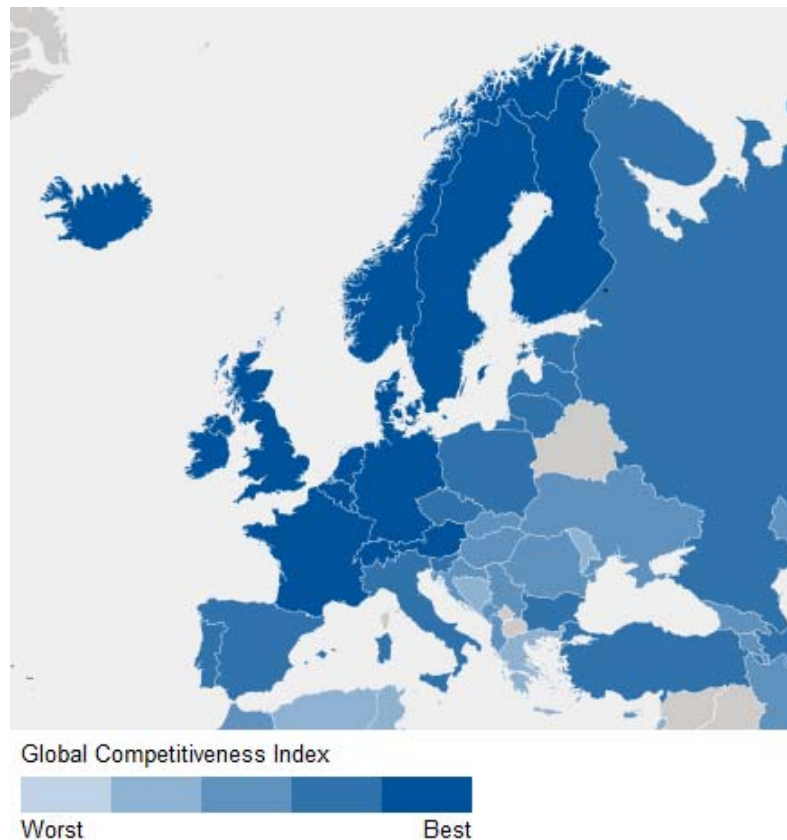
Moreover, **higher flexibility due to small size** is a factor that gives small companies a competitive advantage over big companies, with which they can compensate smaller innovation capacities. Companies that implement the whole or most of their production and supply chain in-house can react quickly to changes in consumer demand. Small size also enables companies to apply specific business models like offering bespoke products, which is much more difficult to adopt for large industrial companies. A small-sized ice hockey apparel manufacturer from Slovakia, for instance, is one of the few companies investing in their own production machinery as everything is produced independently from subcontractors. The company is thus very versatile and can offer a wide range of models and apparel products. The small size of the company and the fact that it produces in-house allows a fast process of introducing new products to the market.

Lastly, **lack of competition** is a rather obvious factor that enables companies to operate on the market even without offering innovative products. On the one hand, this is the case in niche markets where the consumer base is very small and not many companies are active in. It can however also occur on a regional scale. For instance, a Romanian medium-sized producer of multipurpose sport apparel considers that compared to other international or European brands, the company is not innovative, but for the performance level of the Romanian sporting goods industry it is. By focusing on the Romanian market (and also by incorporating other of the abovementioned elements like having a reputation of regionally manufactured products of good quality), the company has been able to fill a gap in the multipurpose sport apparel segment of the Romanian market.

9.4. International competitiveness

The Global Competitiveness Index provides an overview of the level of competitiveness various countries in a given timeframe. The figure below illustrates Europe's situation as regards its competitiveness landscape. According to the World Economic Forum, the best performing country in the EU is Netherlands, followed by Germany, Sweden, United Kingdom, and Finland. On the opposite, the least competitive countries in the EU are Greece, Croatia, Romania, Cyprus, Hungary and Slovakia.

Figure 24: Level of competitiveness in Europe according to the Global Competitiveness Index (2017-2018 edition)



Source: World Economic Forum, Global Competitiveness Index

The sporting goods industry is on the supply side an **oligopoly** dominated by a view of transnational corporations such as Nike, Adidas, V.F. Corporation, Puma, Amer Sports and Under Armour (*Catalyst Corporate Finance, 2014; Andreff / Szymanski, 2006*). These main market actors compete at global level with only a few smaller firms in each domestic market that have a strong local brand recognition, but limited resources to develop a broader market presence. Anyway, the sporting goods market generally remains relatively fragmented in key regions of the world. (*ibid.*) The high market concentration makes it difficult for individual entrepreneurs to enter the market and small manufacturers have a hard time surviving in such a competitive environment. Nonetheless, it is possible for new competitors to enter the market but on a modest scale and only by creating niche products (*MarketLine, 2015a*). Prior to the financial crisis there was a trend towards **industrial concentration** (through bankruptcies, mergers and acquisitions) and the oligopoly has been even reinforced (*Andreff / Szymanski, 2006*). This includes “mega-mergers” within the sport goods industry, for instance Reebok taken over by Adidas in 2006, or Atomic (ski manufacturer) and Salomon (sporting goods manufacturer) taken over by Amer Sports in 1994 and 2005 respectively. Particularly ski manufacturing was and still is in the process of structural change²⁰⁰.

In general, mergers and acquisitions in the sport industry follow different aims, which will also be of high relevance in the future (*Catalyst Corporate Finance, 2014, p.5*):

- Acquiring new technical innovations and R&D capabilities
- Expanding into new product categories
- Strengthening capabilities in existing categories

²⁰⁰ For instance, the manufacturers Marmot (outdoor), K2 including Marker (ski and bindings) and Völkl (ski) were taken over by Jarden Corporation in the 2000s, which in turn was sold to consumer goods group Newell Brands in 2015. Again, K2 (ski) was sold to Kohlberg & Company in 2017.

- Acquiring niche products with proven brands

During and after the financial crisis, the larger players have shifted their focus to internal issues such as organic growth driving expansion across international markets and new product categories. There has also been an increased focus on profitability and cost efficiency, including strategies to optimise the supply chain, improve inventory management, reduce lead times and improve product quality. Furthermore, large players tap into emerging markets by building out their delivery platforms in high growth markets and selectively pursuing acquisitions that fill a gap in either technology or a product category.

As in any oligopoly, transnational corporations in the sport goods sector use **practices of entry barriers** (e.g. restricting distribution, order cancellation, unexploited technical patents, economies of scale and scope etc.). Adidas, Nike and Puma have all been fined for unduly restricted competition. On the other side there are also **counterfeiting strategies** of small producers that threaten well-known trademarks. (*Andreff / Szymanski, 2006*). Two main counterfeiting strategies are encountered, which result in an economic loss for a trademark owner or producer of a high-quality product (*OECD, 2007* and *Europol, OHIM, 2015*):

- unauthorised imitation of a branded good: when producers manufacture nearly identical products and sell it under another brand's name without the brand owner's authorisation. These products are usually of a lower quality and involve cheaper production costs.
- "knock-off": when producers imitate the look of a specific product (e.g. sport footwear, sport apparel) by using cheaper materials and without the specific characteristics and durability of this good, but without copying the logo/trademark of the well-known brand.

The oligopolistic market leads to a situation where price is not the principal **competitive tool**, but so are marketing strategies, product differentiation, various sorts of production diversification and innovation. **Product diversification strategies** of sport goods producers can be implemented e.g. in the same segment (e.g. Salomon producing first only ski bindings, then ski boots, then skis) – or can be the form of an intra-industry diversification (e.g. diversification from skiing to tennis of Rossignol in order to react to an evolving fashion in sport practices). Mergers & acquisitions are a frequent way of diversification (e.g. acquisition of Salomon by Adidas). Inter-industry diversification (e.g. when a sport goods producer diversifies towards another industry – e.g. into non-sport shoes) on the other hand is less common. (*Andreff / Szymanski, 2006*)

A combination of factors determines the international competitiveness of large companies. **International reputation** is one of the key determinants for large companies' competitiveness as well as a strong presence in key sport segments. Strong innovative capacities also enable companies to introduce new products on the market on a regular basis. However, communication strategies seem to be a key element in reaching out to consumers, thus large companies attempt to be present on those media channels (i.e. internet, smartphones). For example, Adidas has developed an app which enables consumers to be aware of the release of new products and also book them in their area by using geolocation.²⁰¹ For more specialised large players, expertise and brand reputation – generally endorsed by athletes – position companies on a leading position internationally.

In such an oligopolistic and competitive market, **SMEs** need to make up the disadvantage of their smaller size, by entering niche markets or by providing more innovative products. Some companies do not compete directly with large players as they address to a very niched consumer base. In order to offer their products at a competitive price, some companies skip intermediaries in the sales process and integrate distribution in their own

²⁰¹ Forbes (2015), Adidas Launches Footwear Industry's First Reservation Mobile App. Available at: <https://www.forbes.com/sites/darrenheitner/2015/02/03/adidas-launches-footwear-industrys-first-reservation-mobile-app/#1a3b4f2643d7>

business model. Due to a very competitive international market, some SMEs remain competitive only at national or regional level and have no intention to internationalise.

9.5. ***SWOT analysis***

The SWOT analysis is based on the survey results (see Chapter 5 for a description of these results). The survey asked respondents to identify the major strengths and weaknesses in the following areas:

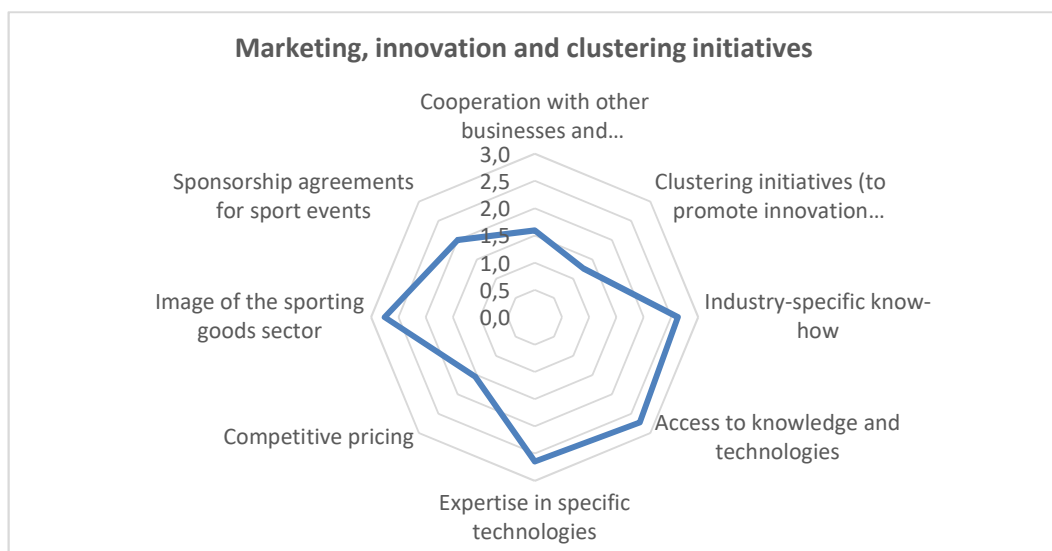
- marketing, innovation and clustering initiatives,
- management and financing; and
- business and product development

This analysis is complemented by information from the same survey on the external threats and opportunities in the following areas:

- economic factors,
- market, competition and technological development,
- political factors; and
- socio-demographic factors

Europe's major **strengths** lie in the industry specific know-how, access and expertise in specific technologies as well as the positive image of the sporting goods sector. Although cluster initiatives and cooperation between businesses and organisations do exist at European level, these factors rank rather low and stakeholders emphasise this is an area of improvement.

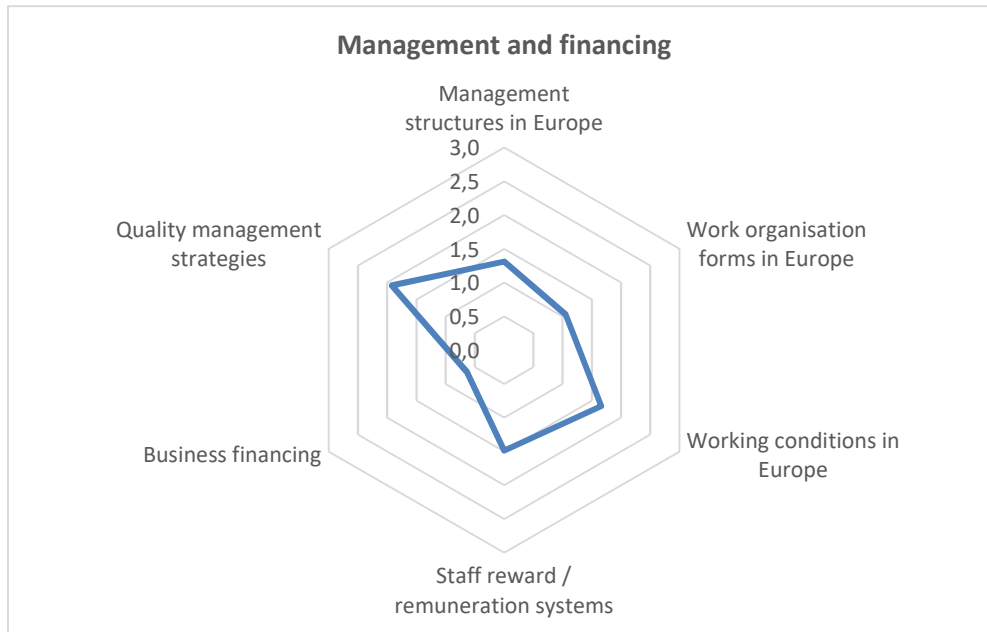
Figure 25 : Marketing, innovation and clustering initiatives – strengths and weaknesses



Source: Austrian Institute for SME Research, VVA, Assessment based on the results of the online survey

Management structures, work organisation forms and working conditions in Europe are ranked rather low by stakeholders and generally seen as **less pronounced strengths**. Business financing is identified as a **weakness** of the sporting goods sector.

Figure 26 : Management and financing – strengths and weaknesses



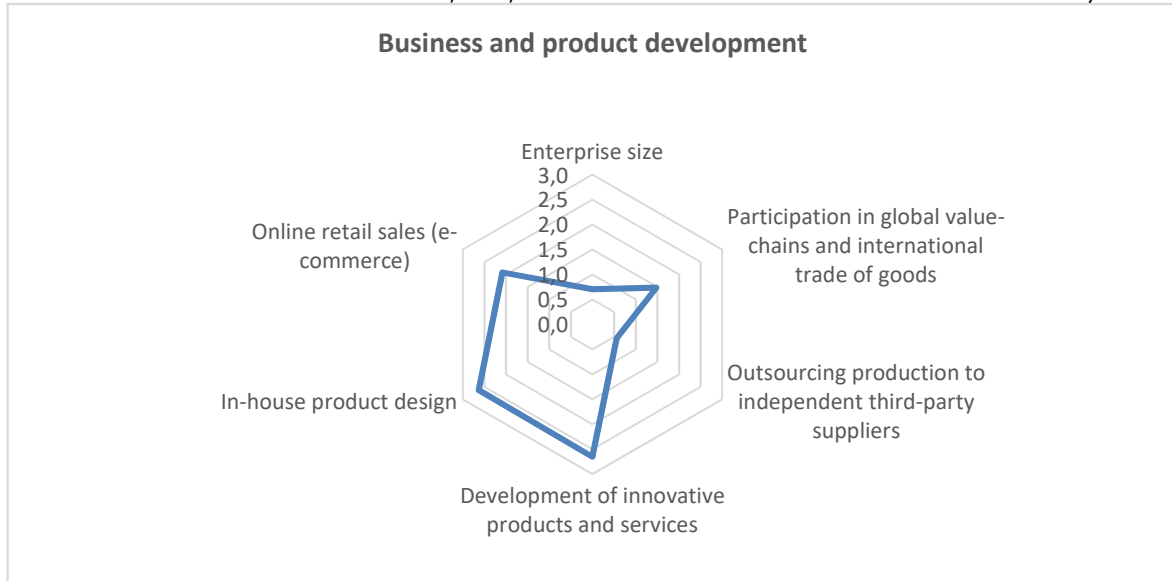
Source: Austrian Institute for SME Research, VVA, Assessment based on the results of the online survey

Generally, enterprise size is perceived as a **weakness**: while medium and large companies see their size as a strength, small and micro-sized see it as a weakness. This is due to the fact that, in such a competitive market, resource constrained micro and small companies face stiff competition from larger mass market players (see also Chapter 7). Another factor may relate to more difficult access to finance. However, micro and small-sized companies may partly make up for their size disadvantage by being more flexible and through their ability to identify faster demands on the market.

Outsourcing production to independent third-party suppliers is also perceived as weakness of the sporting goods sector (see chapter 7 for a discussion on outsourcing and the counter-trend). As regards product development, different developments of the value chain, namely development of innovative products and services, in-house product design or e-commerce, are seen as **major strengths** of the sporting goods sector.

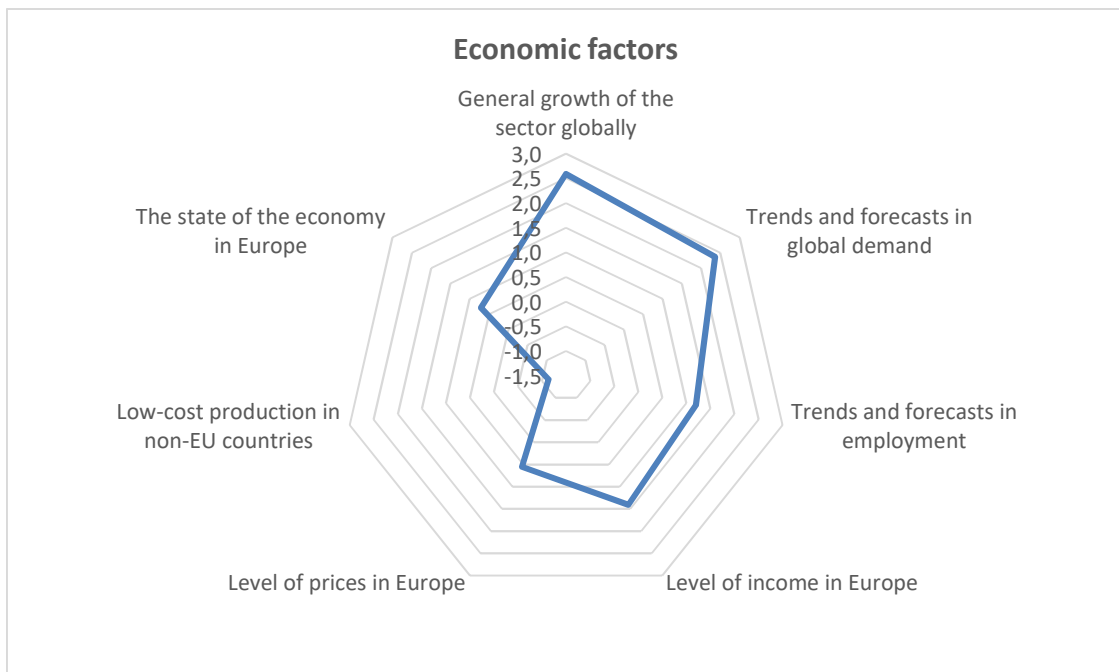
Figure 27: Business and product development – strengths and weaknesses

Source: Austrian Institute for SME Research, VVA, Assessment based on the results of the online survey



As regards economic factors, stakeholders see the general growth of the sector globally and trends and forecasts in global demand as major **opportunities** of the sporting goods sector. Although seen as opportunities of the sector, stakeholders deem level of income and level of prices in Europe, as well as the state of the economy in Europe, as less pronounced opportunities of the sporting goods sector. With regard to economic factors, a major threat relates to low-cost production in non-EU countries.

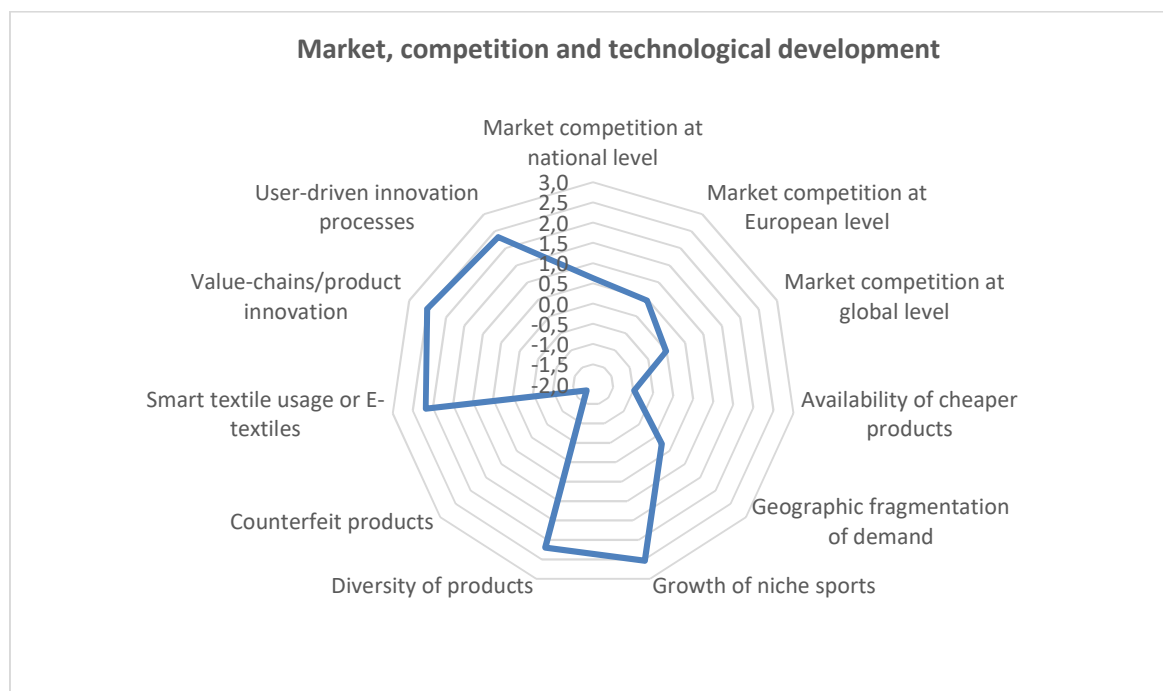
Figure 28: Economic factors – threats and opportunities



Source: Austrian Institute for SME Research, VVA, Assessment based on the results of the online survey

Diversity of products and growth of niche sport represent **major opportunities** for actors in the sporting goods sector. Similarly, recent technological developments as well as developments of innovative processes and products are seen as major opportunities. Nonetheless, the sporting goods industry faces various **threats**, such as: global market competition, availability of cheaper products or counterfeit products.

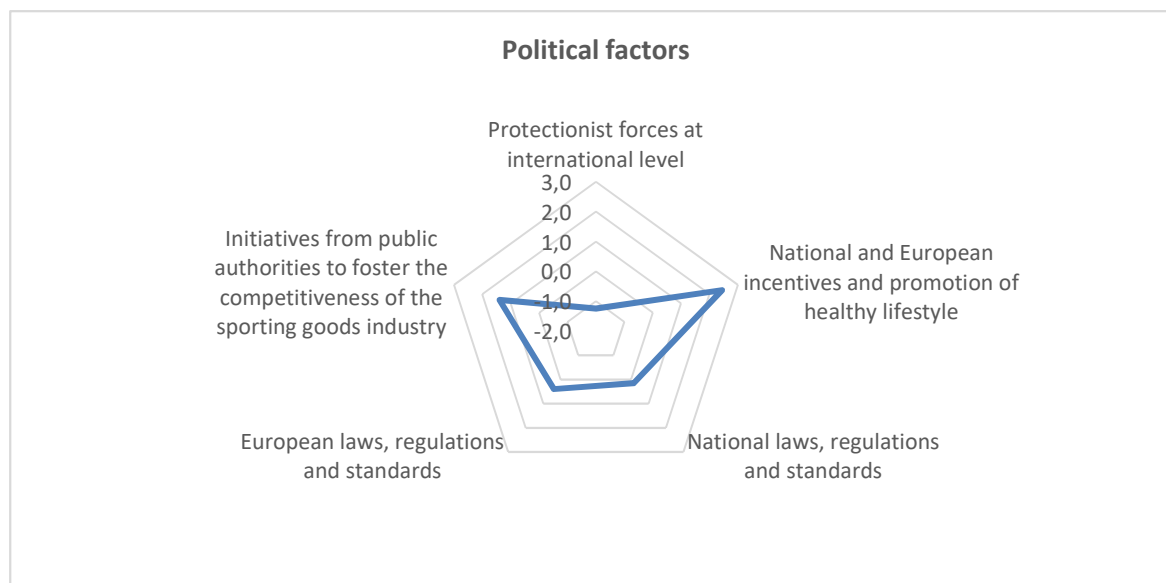
Figure 29: Market, competition and technological development– threats and opportunities



Source: Austrian Institute for SME Research, VVA, Assessment based on the results of the online survey

Among political factors, protectionist forces pose **major threats** to the sporting goods industry. On the other hand, stakeholders see great opportunities in the provision of national and European incentives to promote a healthy lifestyle.

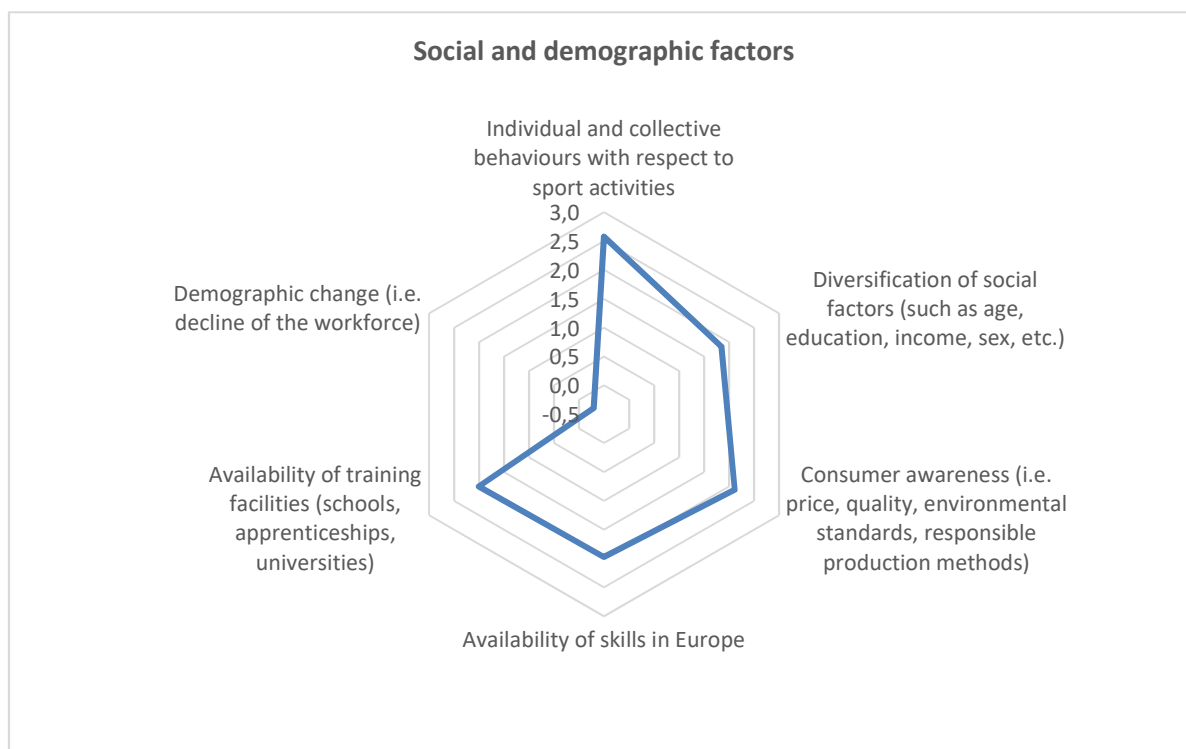
Figure 30: Political factors – opportunities and threats



Source: Austrian Institute for SME Research, VVA, Assessment based on the results of the online survey

Finally, the perceived decline in the skilled workforce is seen as a **threat** for the European sporting goods industry. In contrast, increasing consumer awareness on price and environmental standards, as well as availability of skills and, to a certain extent, training facilities in Europe, represent **opportunities**.

Figure 31: Social and demographic factors – threats and opportunities



Source: Austrian Institute for SME Research, VVA, Assessment based on the results of the online survey

9.6. **Strengths of the sporting goods sector**

The table below provides the major and the less pronounced **strengths** of the sporting goods sector, as indicated by the survey consultation:

Table 32: Strengths of the European sporting goods sector

Major strengths:

- Access to knowledge and technologies
- Image of the sporting goods sector
- Expertise in specific technologies
- Development of innovative products and services
- Industry-specific know-how
- In-house product design
- Online retail sales (e-commerce)
- Sponsorship agreements for sport events
- Quality management strategies

Less pronounced strengths:

- Working conditions
- Competitive pricing
- Participation in global value-chains and international trade of goods
- Staff reward / remuneration systems
- Clustering initiatives (to promote innovation and diversification across the value chains, knowledge sharing and capacity building, as well as cooperation between businesses and R&D bodies, etc.)
- Management structures in Europe
- Work organisation forms in Europe

Source: Austrian Institute for SME Research, VVA, Assessment based on the results of the online survey

Generally, the interviewees agree with the abovementioned strengths of the European sporting goods sector, highlighting that some of the factors might differ by regions, countries, subsectors and size of companies. Moreover, not all the strengths mentioned (like management structure or working conditions) are exclusive or specific to the sporting goods industry but apply to other sectors in Europe as well.²⁰²

There is a general consensus among the interviewees that access to knowledge and technologies in Europe represents one of the main strengths of the sector. The specific focus on high-tech makes the European sporting goods sector more competitive at global level where there is a very high competition in the domain of "mainstream technology".²⁰³ Access to resources, technology and knowledge as well as co-operation between businesses in Europe are very effective, leading to an advantage for European companies in the field of Research and Development (R&D).²⁰⁴ The outdoor apparel industry is one relevant example as many textile innovations originate in this sector.

One interviewee emphasised that these are strengths mainly for big companies because those have easier access to technologies and sponsorship agreements than smaller players

²⁰² Interview with a Spanish sport cluster; Czech Sporting Goods Association.

²⁰³ Interview with a representative from a Czech Sporting Goods Association.

²⁰⁴ Interview with a German sporting goods company; German research centre in the field of sporting goods; Italian sporting goods company; representative of the Italian Ministry of economy

on the market.²⁰⁵ Another interviewee however attributed innovation in the sector particularly to SMEs²⁰⁶.

Innovation has been identified as one of the main factors explaining the positive development of the sporting goods sector in the last decade and it can be twofold: innovation which increases product performance and innovation which increases the number of people practicing sport.²⁰⁷ Some interviewees consider the latter to be even more important because it mobilises new customers.²⁰⁸

Contrary to the general view, one interviewee however perceives a lack of innovation in the sporting goods industry in Europe, making innovation rather a weakness than a strength. In comparison with the electronics sector (and the consumer hype that is generated regularly over innovations, for instance whenever Apple presents a new product), there is little innovation going on in the sporting goods industry that could push the sector forward.²⁰⁹

In addition to technology, the positive image of the European sporting goods sector has been acknowledged as a major strength by most of the interviewees. European brands designed and/or made in Europe have a very good reputation abroad, and the positive image has an impact on consumer and consumption behaviour.²¹⁰ The sponsoring of individual athletes and teams as well as big sport events play a key role in creating and upholding this image.²¹¹

While some interviewees consider the positive image of the sporting goods industry an even bigger strength than technology and innovation,²¹² other see especially the importance of sponsoring and events decreasing as sport and fitness are becoming more individualised.²¹³ Moreover, the image of the sporting goods sector has been somewhat negatively affected by the rather bad working conditions in production facilities where production is outsourced outside Europe.²¹⁴

Although e-commerce represents a strength of the sector²¹⁵, there are language limitations for companies selling in foreign countries, thus giving domestic companies an advantage.²¹⁶ In addition to e-commerce, one strength of the European sporting goods sector is the high number of retailers which have physical stores, with good coverage in all European countries.²¹⁷ This is contrary to the developments in the US, where physical stores are struggling to survive due to the rapid development of e-commerce.

Competitive pricing is regarded mainly a strength of big companies who have the advantage of being able to follow a premium pricing strategy due to their established reputation in product quality.²¹⁸ For SMEs the factor competitive pricing could however also be considered a weakness.²¹⁹

Co-operation with other businesses, organisations and universities, although generally seen as a strength, should be further developed if it is to make as significant impact on the performance of the European sporting goods sector.²²⁰ Concentrations of sport-related clusters across Europe represent also a strength as these facilitate the development of sporting goods companies. For example, in Portugal the whole sector is structured as a cluster and is supported by other initiatives, such as Modatex²²¹, which provides vocational training in the textile industry.²²²

²⁰⁵ Interview with a representative from the International Association of Sport Economics.

²⁰⁶ Interview with a Dutch sport cluster.

²⁰⁷ Interview with a French academic.

²⁰⁸ Interview with French Sporting Goods Association

²⁰⁹ Interview with an Austrian sporting goods retailer.

²¹⁰ Interview with a representative from a Spanish sport cluster; German research centre in the field of sporting goods.

²¹¹ Interview with a Czech Sporting Goods Association; representative of the Italian Ministry of Economy; International sporting goods manufacturer; French sporting goods cluster.

²¹² Interview with French sporting goods association.

²¹³ Interview with German academic

²¹⁴ Interview with a representative from the French Ministry of Economy; representative from the International Association of Sport Economics

²¹⁵ Interview with Omar El Zayat from Le Tremplin.

²¹⁶ Interview with a representative from a Czech sporting goods association.

²¹⁷ Interview with an Austrian sporting goods association.

²¹⁸ Interview with a representative from the International Association of Sport Economics.

²¹⁹ Interview with a German sporting goods manufacturer

²²⁰ Interview with a French academic; Czech sporting goods manufacturer

²²¹ Centro de Formação Profissional da Indústria Têxtil. Available at: <http://www.modatex.pt/portal/modatex/>

²²² Interview with a Portuguese sector association

Table 33: Illustrative strength examples from the company case studies

*One **large German manufacturer of multipurpose sporting goods and equipment** indicated two primary strengths. First, the company has a global presence in all the major sport segments, with a leading position in the football market and the positive reputation of an international brand. Second, they have strong innovation capabilities at their disposal which enable them to quickly respond to consumers' changing demand, to support new manufacturing processes and digitalisation needs, as well as to establish a more environmental-friendly production.*

*The history of the brand and the high quality of the products represents the main strength of **small-sized Italian manufacturer of ski equipment and apparel**. The "Made in Italy" label is one of the core strengths of the company due to its association with high-quality and attention to details. Moreover, the company's well-established and quality-oriented consumer base also represents a key strength. The company provides its consumers with the "total look" experience which combines the fashion element with their hard goods (i.e. skis, accessories). The company's long experience in the sector has contributed to the gain of a very specific know-how in terms of both fashion and technical products. Lastly, the company's capacity to innovate represents also one of its key strengths.*

*A **micro-sized footwear company from Finland** sees innovation at the core of the company's success and its main strength. Their philosophy of creating a product which supports the natural movement is the key factor that differentiates the company from its competitors. Moreover, the long-term experience of the innovators plays a key role in the development of a unique product. Two of them have previous expertise and experience in designing shoes. One is a physiotherapist who specialises in problems of the lower body and sport medicine. Another one is a product designer with experience in the design of sport shoes. Their combined experience represents a major strength of the company. Placing the focus on producing innovative and high-quality shoes and being a Finnish company are also seen strengths.*

9.7. Weaknesses of the sporting goods sector

The table below provides the major and the less pronounced **weaknesses** of the sporting goods sector, as indicated in the survey consultation:

Table 34: Weaknesses of the European sporting goods sector (survey results)

Major weaknesses:

- Business financing: the sporting goods sector is seen as risky to start a new business and start-ups usually have difficulties in getting finance
- Enterprise size
- Outsourcing production to independent third-party suppliers due to high production costs in Europe

Source: Austrian Institute for SME Research, VVA, Assessment based on the results of the online survey

Generally, the stakeholders interviewed agree with the abovementioned weaknesses of the sporting goods sector.

Outsourcing production to independent third-party suppliers (mainly outside the EU) has been acknowledged as a major weakness. It takes place because of the high production costs in Europe and affects product categories that do not include a lot of technology (for

instance multi-usage sporting goods like shorts and t-shirts) more than specialised products whose production requires highly skilled workforce.²²³

As already emphasised in chapter 7, outsourcing is an advantage for big companies who have the necessary capital and capabilities to manage it well,²²⁴ it also entails several risks. Often the production facilities in these countries are not in the hands of the sporting goods production companies themselves, meaning that those companies depend largely on the local manufacturers. This, in combination with long shipping times, does not leave the sporting goods companies enough room to quickly react to changes on the market.²²⁵ Moreover, the production costs in a “cheap production” country rise quickly, making it necessary to relocate to the next “cheap production” country. Also, currency exchange rates are hard to predict and can have an impact on the production costs.²²⁶ Some interviewees even see in outsourcing the risk of selling out in-house technology and know-how to competitors in Asia.²²⁷

As a reaction to these risks, a trend to relocate production to Europe can be observed among European sporting goods companies (see also Chapter 9.2).²²⁸ Although this is likely to lead to an increase in production costs, consumers might be willing to pay higher prices as they are putting more and more focus on sustainably produced goods.²²⁹

As for the size of enterprise, this represents a weakness mainly for small companies, particularly if the factor is linked to their potential to internationalise.²³⁰ Moreover, the sporting goods sector is seen as a risky market to start a new business, with SMEs and start-ups usually having difficulties in getting finance^{231 232 233} in comparison with bigger companies that have easier access.²³⁴ Most of the SMEs analysed through the 10 case studies finance internationalisation, marketing, innovation, and other needs, through the companies’ own margins. Better access to finance would allow smaller actors to develop faster.

The international sporting goods industry is characterised as being “oligopolistic”, with few big companies that tend to manufacture goods intended to reach the maximum number of consumers.²³⁵ This creates a lock of competition on the market and a disadvantage for SMEs.²³⁶ In addition, companies that operate in small markets (like the Czech Republic or Slovakia) might be forced to export in order to survive.²³⁷ Another weakness potentially linked to the size of the company is the weak co-operation between companies and researchers. According to one interviewee, large companies usually have their own R&D capabilities and co-operations with research centres whereas small companies have difficulties maintaining such facilities.²³⁸ Generally, for any given level of competitiveness, smaller companies have to be more innovative than larger ones to make up for the disadvantage of their smaller size.

Other interviewees however do not see company size as a weakness of the industry. On the contrary, at the moment there are investments in the sporting goods industry and with the current social emphasis on sport, the sector is regarded as a promising field for investment.²³⁹ The strongly segmented sporting goods market creates many opportunities for SMEs to operate.²⁴⁰ Especially in niche sport SMEs that are specialised in producing highly technological goods are the main players.²⁴¹ Smaller companies are generally seen

²²³ Interview with a French sport economist.

²²⁴ Interview with an Austrian sporting goods association; French sporting goods retailer; Irish sport cluster.

²²⁵ Interview with a French academic.

²²⁶ Interview with a German research centre in the field of sporting goods.

²²⁷ Interview with Finnish sporting goods retailer, French sporting goods retailer

²²⁸ Interview with a French academic in the fields of sport; German sporting goods association; French sport cluster;

²²⁹ Interview with a German research centre in the field of sporting goods.

²³⁰ Interview with a French sporting goods manufacturer

²³¹ Interview with a representative from the International Association of Sport Economics; a representative from a Czech sporting goods association; Finnish sporting goods retailer.

²³² Interview with a Polish Association representing sporting goods manufacturers

²³³ Interview with a Portuguese sector association

²³⁴ Interview with a Czech sporting goods manufacturer.

²³⁵ Interview with German research centre in the field of sporting goods.

²³⁶ Interview with a representative of the International Association of Sport Economics

²³⁷ Interview with Czech sporting goods association

²³⁸ Interview with a representative from a Spanish sport cluster.

²³⁹ Interview with a German research centre in the field of sporting goods.

²⁴⁰ Interview with a representative from the French Ministry of Economy.

²⁴¹ Interview with a French sport economist.

as more innovative and a landscape of small enterprises increases competition on the market.²⁴²

Some interviewees also disagree that the factor business financing is a weakness of the industry. On the contrary, at the moment there are many investors that want to invest in the sporting goods industry. With the current social emphasis on sport events on the one side and public and individual health on the other side, the sporting goods industry is regarded as a promising field for investments.²⁴³ Only for start-ups that do not have much own equity capital it might be more difficult to obtain financing.²⁴⁴

One interviewee pointed out that limited price competition is a weakness of the industry in Europe. Very few big manufacturers dominate the market and have established a rather selective distribution of their products. This means that not every retailer gets all the products, but the manufacturers group retailers according to a price/volume or brand/value classification and thus decide which products the retailers get on an individual basis. In practice this selective distribution system leads to less competition, as retailers are limited in their pricing policy, resulting in disadvantages for the consumers who have a smaller range of offers and prices to compare and choose from.²⁴⁵

Table 35: Illustrative weakness examples from the company case studies

A large French manufacturer of rackets, strings, accessories and footwear identified two main weaknesses that are linked to the company's size. In the footwear sector, although being a large company they are still relatively small in comparison to the main international competitors. On the other hand, they are already too large to always be able to react quickly enough to consumers' changing demand.

For a small-sized Italian manufacturer of ski equipment and apparel the company's rapid growth and product diversification posed some difficulties and are generally seen as a weakness. The company's product diversification coincided also with the economic crisis, which has been one of the main reasons why the company went bankrupt – the company crashed with the market. In addition, being a winter sporting goods manufacturer is a weakness due to seasonality. The highest percentage of production, distribution and sales takes place during the winter season, having six months of intense economic activity and six months with very low economic activity. The complexity of the company's value chain is seen as another weakness as this involves a complex management. Furthermore, the company works with a large number of suppliers. The company focuses on high quality and a very particular consumer segment, making its products not very accessible in terms of price and thus considerably reducing the number of potential buyers. The turnover generated varies greatly between the regions where the company operates, making them somewhat vulnerable in certain regions. Lastly, the company has never been very profitable and still generates only small margins.

For a small-sized ice hockey apparel producer from Slovakia, their main weakness is the lack of finance, as they finance everything from their own margins. The company does not have considerable competition at national or EU level, but it is the lack of financing that prevents them from growing.

A micro-sized ski equipment producer from Austria sees an inherent weakness of their business in their handcraft manufacturing process, as this comes with much higher production costs. The fact that they only produce low quantities and therefore only need low quantities of supplies puts them in a weak negotiation position vis-à-vis their suppliers. As another consequence of the low production output, the company has less backup capacity in case of failures occurring during the production process. Whereas larger companies with high production numbers can compensate production failures more easily, for the Austrian producer basically every pair of skis is significant in terms of the amount of time and capital that goes into manufacturing them.

²⁴² Interview with a German academic; Dutch sport cluster

²⁴³ Interview with German research centre in the field of sporting goods

²⁴⁴ Interview with a German sporting goods manufacturer; EU association representing sport clubs; French sporting goods retailer.

²⁴⁵ Interview with Austrian sporting goods retailer.

9.8. **Opportunities of the sporting goods sector**

The table below provides the major and the less pronounced **opportunities** of the sporting goods sector, as indicated in the survey consultation:

Table 36: Opportunities of the European sporting goods sector

Major opportunities:

- European incentives and promotion of healthy lifestyle (their importance /impact on sporting goods industries)
- National incentives and promotion of healthy lifestyle (their importance/impact on sporting goods industries)
- Value-chains/product innovation
- Individual and collective behaviours with respect to sport activities
- General growth of the sector globally
- Cooperation with other businesses and organisations
- Growth of niche sport
- User-driven innovation processes
- Smart textile usage or E-textiles (fabrics that enable digital components and electronics to be embedded in them)
- Trends and forecasts in global demand
- Diversity of products
- Consumer awareness (i.e. price, quality, environmental standards, responsible production methods)
- Availability of training facilities (schools, apprenticeships, universities)

Less pronounced opportunities:

- Availability of skills in Europe
- Diversification of social factors (such as age, education, income, sex, etc.)
- Initiatives from public authorities to foster the competitiveness of the sporting goods industry
- Level of income in Europe
- Trends and forecasts in employment
- The state of the economy in Europe
- Level of prices in Europe
- Market competition at national level
- European laws, regulations and standards
- Market competition at European level
- National laws, regulations and standards
- Geographic fragmentation of demand (e.g. high demand of winter sporting goods in Austria compared to Malta)
- Market competition at global level

Source: Austrian Institute for SME Research, VVA, Assessment based on the results of the online survey

The main opportunity of the sector is general growth, mostly induced by the promotion of a healthy lifestyle, the growth of niche sport and the personalisation of sport (more and

more people practicing sport at home).²⁴⁶ The European Single Market creates the necessary environment to make additional growth possible due to a combination of factors. The positive development of the economy in Europe, together with easier access to a wide range of suppliers and consumers and commercial opportunities for businesses, fast technological development and collaborations between Member States, facilitate growth.²⁴⁷ High level of income in Europe is very important for the development of the sector, enabling consumers to purchase wearable technologies and other high-tech sport equipment. The level of income is not only reflected in consumers' purchasing power, but also in the sport infrastructure in Europe, in universities, in research centres, etc.²⁴⁸

The promotion of a healthy lifestyle and the practice of sport activities are major opportunities which may lead to a significant increase in the consumption of sporting goods.²⁴⁹ The idea of publicly promoting sport activities for all age groups, professional and non-professional, as well as the promotion of a healthy lifestyle has been suggested by most of the stakeholders interviewed. The promotion of sport could be linked with more investments in sport infrastructure (like cycle paths or sport facilities).²⁵⁰

There is an increase in the use of sporting goods in peoples' daily life (e.g. multipurpose use of products), which represents an opportunity for growth and an increase in the penetration of the products on the market.²⁵¹ Moreover, the growing demand of sporting goods for women (i.e. running where roughly 60% of consumers are women) and an overall "feminisation" of traditionally male sport are great opportunities for the sector to grow. Seniors are another consumer group with large potential for mobilisation.²⁵² The practicing of sport for health reasons has become very important – there is a growing participation of non-sporty persons and consequently a growing availability of sport practices and goods for this consumer segment.²⁵³

Moreover, the growth of niche sport is an opportunity for the sector. Companies specialised in niche products are mostly SMEs that rely heavily on innovation.²⁵⁴ As the large established companies are strong in traditional sport, opportunities for new entrants to the market are rather to be found in niche sport, especially in the development of new products and technologies.²⁵⁵ Most niche sport are increasing in size.²⁵⁶ E-sport²⁵⁷ and other products that target specifically younger people play an important role in this development.²⁵⁸

In addition to reacting to new sport trends, the sporting goods sector should develop towards a model where they not only sell products, but also services. At the moment, the service in the shop is considered a free supplement to the purchase of the product, but it is possible that in the future consumers pay for the service at a local retailer and buy the product online. Services (such as testing products and providing advice) are also an area where local retailers have an advantage over online retailers.²⁵⁹ In general, the sporting goods sector should operate close to the customers, for instance by organising events and by recognising small sport communities and groups as target groups.²⁶⁰

Innovative products (such as e-textiles or user driven innovation) is another major opportunity for the sector. It has already become important among professional athletes and has the potential to generate spill-over effects on the preferences of non-professional sport practitioners.²⁶¹ Technology will enable companies to be more competitive, through the development of innovative products on the one hand and the development of

²⁴⁶ Interview with a Czech sporting goods manufacturer.

²⁴⁷ Interview with international sporting goods manufacturer; French sporting goods retailer.

²⁴⁸ Interview with a representative from the International Association of Sport Economics.

²⁴⁹ Interview with a French academic.

²⁵⁰ Interview with Swedish sector association

²⁵¹ Interview with an Italian sporting goods manufacturer.

²⁵² Interview with French cluster

²⁵³ Interview with a representative from the French Ministry of Economy.

²⁵⁴ Interview with a French sport economist.

²⁵⁵ Interview with a representative from the International Association of Sport Economics.

²⁵⁶ Interview with a German academic.

²⁵⁷ E-sport is a type of competition using video games, which can take the form of organised video game competitions including multiple players

²⁵⁸ Interview with French academic in the field of sport

²⁵⁹ Interview with a representative from a Swiss association of sporting goods retailers.

²⁶⁰ Interview with Austrian sporting goods retailer

²⁶¹ Interview with a representative from International Association of Sport Economics.

innovative manufacturing processes on the other hand.²⁶² Not only the increase in sales through technology products is an opportunity, but also the use of big data gathered from smart fitness devices or other wearables. These provide valuable information on sport trends, and having access to this data could help companies develop products and services in the future.²⁶³

Nevertheless, new technologies also imply many challenges in how to successfully implement innovations (e.g. how to process and interpret data)²⁶⁴. Moreover, big tech companies like Google, Apple, Amazon and Facebook have become a serious competition in the domain of electronic devices and big data.²⁶⁵ Especially the sporting goods retail sector seems to have missed the trend of electronic sport equipment like wearables, products which are now to a large part also sold over the electronics retail sector.²⁶⁶

Some interviewees also see an opportunity in a change in customers' mindsets towards a more ethical production that respects the environment and fundamental rights of workers.²⁶⁷ This is reflected in the buying behaviour of consumers, who increasingly tend to pay attention to these factors and are willing to pay higher prices for sustainable sporting goods.²⁶⁸ The European sporting goods industry has a strong advantage in this domain,²⁶⁹ especially if they manufacture their products in Europe.²⁷⁰

The long experience of European actors in the sport sector, the organisation of sport events and the existing networks should also be regarded as an opportunity for growth. In addition, the diversity of the European market in terms of consumer tastes, geographical fragmentation, cultural background and relation to sport represents a major opportunity for sporting goods manufacturers.²⁷¹

Table 37: Illustrative opportunity examples from the company case studies

*Growth of the markets in emerging countries is considered a major opportunity for future sales by a **large German manufacturer of multipurpose sporting goods and equipment**. For instance, Chinese, Malaysian and Indonesian markets are the most dynamic markets in the sporting goods industry. Moreover, the company emphasised out that the general demand for sporting goods is likely to increase.*

*A **small-sized manufacturer of ski equipment and apparel from Italy** perceives multichannel distribution as one of their main opportunities. The fast development of e-commerce, as well as the connection between e-commerce and physical stores can enlarge the company's customer base. New markets are another relevant opportunity – for example, the increase in popularity of in-door ski slopes (e.g. in Egypt). Multipurpose products, or the use of sport product in people's daily life, represents a major opportunity as well, especially given the company's focus on creating highly fashionable products. Furthermore, the development of mono-brand stores creates opportunities for consumers to know and test the products, thus increasing the company's brand visibility. Increased improvement of people's lifestyle, both in terms of free time and physical activity, will likely induce increasing demand for sporting goods.*

*The Finnish market, although being the main market of a **micro-sized footwear company from Finland**, provides the company with only a small customer base. Hence, the company sees a lot of opportunities on the international market where they could promote and sell their products. One important opportunity for the company is the evolution of trends in running equipment. People are becoming increasingly aware of the benefits of natural*

²⁶² Interview with a representative from a Spanish sport cluster.

²⁶³ Interview with a German academic.

²⁶⁴ Interview with German academic

²⁶⁵ Interview with French sporting goods association; Austrian sporting goods retailer.

²⁶⁶ Interview with Swiss association representing sporting goods retailers; Austrian sporting goods retailer.

²⁶⁷ Interview with French sport cluster

²⁶⁸ Interview with a German research centre in the field of sporting goods.

²⁶⁹ Interview with a representative from the French Ministry of Economy; French sport cluster.

²⁷⁰ Interview with Czech sporting goods manufacturer

²⁷¹ Interview with an international sporting goods manufacturer.

movement (which is the core of the company's business), representing an opportunity for the company to increase their customer base and make their product more popular.

9.9. Threats of the sporting goods sector

The table below provides the major and the less pronounced **threats** of the sporting goods sector, as indicated in the survey consultation:

Table 38: Threats of the European sporting goods sector (survey results)

Major threats:

- Low-cost production in non-EU countries
- Protectionist forces at international level
- Counterfeit products

Less pronounced threats:

- Demographic change (i.e. decline of the workforce)
- Availability of cheaper products

Source: Austrian Institute for SME Research, VVA, Assessment based on the results of the online survey

Although low-cost production in non-EU countries and emerging competition from companies from China or India²⁷² have been identified as a threat to the sector, it has also been emphasised that the EU has no interest in competing on the cost of production. On the contrary, the EU's competitive advantage lies in the quality of the products and sector-specific know-how. The brand identity in Europe should weigh more than the production cost.²⁷³ Availability of cheaper products is seen as a threat primarily to companies that are not innovative. In addition, while competition poses a threat to the industry it implies a benefit for consumers.²⁷⁴

Global politics can be a major threat for the sporting goods industry. Protectionism, which is on the rise, is a threat to the export to foreign markets.²⁷⁵ This poses problems for small businesses in particular that do not have the resources to fulfil all the international and customs requirements.²⁷⁶ Protectionist forces pose a threat also for companies which outsource their production to non-EU countries.²⁷⁷ In addition to these factors, unfair trade practices are also identified as a major threat.²⁷⁸ For example, artificially lowered prices of imported products due to state intervention (e.g. e-bikes imported from China).²⁷⁹

Regulatory burden is however not only a threat on foreign markets, but also inside the Member States. Several interviewees mention high taxes (explicitly VAT) as well as bureaucracy and regulations as a threat to European companies' competitiveness at international level. SMEs in particular are affected by complex tax and regulatory systems that use up a lot of resources.²⁸⁰ Moreover, especially in terms of distribution, it was felt

²⁷² Interview with French sporting goods association

²⁷³ Interview with a French academic.

²⁷⁴ Interview with a German academic.

²⁷⁵ Interview with a Swiss association of sport retailer.

²⁷⁶ Interview with a German sporting goods manufacturer.

²⁷⁷ Interview with a German academic.

²⁷⁸ Interview with a EU association representing sporting goods manufacturers

²⁷⁹ Bike Europe (2017), EU Adopts New Anti-Dumping Rules; Implications for E-Bike Case. Available at: <http://www.bike-eu.com/laws-regulations/nieuws/2017/12/eu-adopts-new-anti-dumping-rules-implications-for-e-bike-case-10132222>

²⁸⁰ Interview with German sporting goods manufacturer

that multinational companies that distribute sporting goods (i.e. Amazon) enjoy a less burdensome fiscal environment compared to other companies.²⁸¹

Counterfeit products, as well as products that are non-compliant with market regulations, represent a threat mainly for large companies as their goods are often copied.²⁸² Nonetheless, the legal remedies at hand are deemed to be quite effective.²⁸³ Overall, the issue of counterfeit products remains outside Europe but not within its borders where control and enforcement activities have been effective in tackling this issue.²⁸⁴ For specialised manufacturers, counterfeit products are generally not seen as a threat, because active consumers tend to pay attention to the quality of products and are willing to pay higher prices.²⁸⁵

It is expected that online retail will play an essential role in the future, due to changes in consumer shopping behaviour. While certainly an opportunity in the sense that it introduces new distribution channels, e-commerce is also seen as a threat to the traditional retail sector.²⁸⁶ It is important that retailers keep pace with the technological developments in the sector.²⁸⁷ In practice this means that e-commerce poses a threat especially to small retailers who do not have the capacity to adapt.²⁸⁸ In addition, e-commerce gives big manufacturers the possibility to circumvent the retail sector by selling directly to their customers.²⁸⁹

Replacement of traditional retailers by online retailers can also be seen as a threat for the whole sporting goods industry²⁹⁰ because online retail lacks certain features that traditional retailers provide and that are important to certain industries, such as sporting goods (e.g. explaining products to the customer, animating customers to buy new products, being a kind of interface between the sport scene and the consumer).

The lack of specific education for people specialising in the sporting goods industry, or the lack of sufficient numbers of skilled people are perceived a further threat by the industry.²⁹¹ Views on the appropriateness of the vocational training for the needs of the sporting goods manufacturing sector vary across actors and countries. Overall, survey respondents have mixed feelings as regards the suitability of vocational training – 41% of respondents do not consider the vocational training to be suitable, 32% consider it suitable and 27% did not have an opinion.²⁹²

Especially interviewees from Central Eastern European Countries mentioned that the education system is inadequate for the needs of the sporting goods sector.²⁹³ While there are sometimes specialised formations for the textile or shoes industry, they rarely include specific sporting goods disciplines,²⁹⁴ so sporting goods companies have to rely on more general professions (e.g. seamstresses or shoemakers) and specialise their staff on the job.²⁹⁵ However, as even these general professions have become more and more unattractive to young people, it is hard to find skilled staff in sufficient numbers.²⁹⁶ In Western and Central European Countries, the vocational system is generally perceived as more adequate (in particular in Germany, Austria, Switzerland, Denmark, Sweden and the Netherlands there are well-structured systems offering formation in different relevant disciplines), but the interviewees nevertheless highlight the need for improvement to respond to the threat of a lack of skilled workers.²⁹⁷ One interviewee from Portugal emphasised that the vocational system at national level has been developing in the last years, but there are difficulties in attracting workforce and improvements in the vocational

²⁸¹ Interview with a French sporting goods association.

²⁸² Interview with a Czech sporting goods association.

²⁸³ Interview with a German sporting goods manufacturer.

²⁸⁴ Interview with a German academic; representative from the French Ministry of Economy.

²⁸⁵ Interview with a representative from the French Ministry of Economy.

²⁸⁶ Interview with Austrian sporting goods retailer

²⁸⁷ Interview with a representative from a Swiss association of sporting goods retailers.

²⁸⁸ Interview with Swiss association representing sporting goods retailers; Austrian sporting goods retailer

²⁸⁹ Interview with Austrian sporting goods retailer

²⁹⁰ Interview with a German research centre in the field of sporting goods.

²⁹¹ Interview with Czech sporting goods association; French sporting goods retailer.

²⁹² Staff's own assessment based on the survey responses (119 Europe-wide responses)

²⁹³ Interview with Romanian, Slovakian, Czech sporting goods manufacturers; Czech sporting goods association;

²⁹⁴ Interview with Czech sporting goods association

²⁹⁵ Interview with Romanian sporting goods manufacturer

²⁹⁶ Interview with Slovakian sporting goods manufacturer

²⁹⁷ Interview with a German research centre in the field of sporting goods.; German academic; Swiss association representing sporting goods retailers;

system have not proved to be very efficient.²⁹⁸ With regard to automation and robotization, the technical skills needed are much different from the traditional product design and textile skills, and the vocational system needs to be adapted to this development.²⁹⁹ Huge mobilisation potential could lie in the re-training of low-skilled and unemployed people.³⁰⁰ The industry should co-operate closely with universities and vocational schools and develop clusters to ensure that the future workforce will correspond to the industry's practical needs.³⁰¹ In addition, there should be further harmonisation of vocations and diplomas across Europe, in order to enable a greater mobility of qualified workers.³⁰²

Finally, a major threat to the sporting goods sector is the increasing physical inactivity among the population and the fact that sport is becoming less central in the lifestyle of young people. This trend is intensified by a lack of sport infrastructure (like cycle paths or football pitches) in some regions.³⁰³ Without any reaction, for example public promotion of a healthy lifestyle, this development could lead to a long-term decrease in sporting goods consumption.³⁰⁴ For companies manufacturing sport-specific products (i.e. ski, hockey), the popularity of the sport has a direct impact on sales volumes. For example, the decline in tennis practice has a direct impact on a French tennis manufacturer's sale. In this context, the company acknowledges the necessity to anticipate and quickly adapt to consumer demands. Similarly, the sales volumes of the Slovakian and Portuguese manufacturers are directly linked to the popularity of the sport they manufacture goods for.

Linked to the popularity of sport and its public image, doping in professional sport and rigged sport bets are feared to reflect back on sponsors. As a result, some sponsors have withdrawn their support to athletes and events where doping or rigged bets scandals have occurred.³⁰⁵

Table 39: Illustrative threat examples from the company case studies

A large German manufacturer of multipurpose sporting goods and equipment acknowledges that political instability in countries where they are present can affect their position. The potential volatility of some national currency also represents a factor of concern. In addition, protectionist forces can negatively impact the company's turnover. As an international company, they are highly dependent on the openness of the markets. Therefore, national policies aiming to protect the national industry are likely to affect the company's sales. Moreover, counterfeit products and products of inferior quality sold over international platforms are surely one of the major threats for the company. Like for other companies producing sporting goods, their total sales can be influenced by weather externalities, with climate change having negatively influenced the winter sport apparel purchases.

For a **Romanian medium-sized producer of sport apparel** the production costs in Romania have been increasing in the last years. This increase in costs might lead to an increase in product prices, and for Romanian consumers, price is a very important factor in the purchasing decision. Moreover, Romania faces a skilled workers' crisis as the workers involved in production tend to be aged and young people are less and less attracted to work in the sector. Remuneration in the sector is very low, both on the national and international level, so people are less attracted to work in the sector. Vocational training in the sector is extremely weak in Romania, thus employees have to be trained at the workplace, without any or very scarce prior knowledge.

A micro-sized bike manufacturer from Denmark identifies public regulations (either at national or EU level) as the main threat to their business, as they can be burdensome for a micro-sized company. The VAT rate as well as the income taxes are experienced as obstacles

²⁹⁸ Interview with a Portuguese sector association

²⁹⁹ Interview with French sport cluster

³⁰⁰ Interview with French sporting goods retailer; Finnish sporting goods retailer;

³⁰¹ Interview with Italian sporting goods manufacturer; French sport cluster;

³⁰² Interview with Irish sport cluster; Swiss association representing spotting goods retailers;

³⁰³ Interview with Swedish sector association; Austrian sporting goods retailer.

³⁰⁴ Interview with an Italian sporting goods manufacturer; Austrian sporting goods retailer

³⁰⁵ Interview with French academic

to the company's development. In addition, there is a lack of public support (from the Danish State or the EU) to help SMEs perform better.

9.10. Conclusions

Different cost factors affect the **cost competitiveness** of the European sporting goods industry. Production costs, as well as costs for raw materials, are increasing both in and outside the EU. In addition, cost pricing is increasing due to corporate social responsibility requirements, for instance with regard to working conditions in third countries. On the other hand, cost of capital and cost of energy are generally decreasing in Europe, although there still exist significant cost differences between the Member States. Since many sporting goods companies operate on low profit margins and consumers show a rather cautious consumption behaviour, any cost increase can have delicate effects on the industry. Sporting goods retailers could suffer indirectly from higher costs, as manufacturers try to skip intermediaries and sell directly to the customers in order to save costs.

The European sporting goods industry is characterised by a high **capacity to innovate**. Technology innovation in the sector experiences robust growth and is fuelled by a constant demand for performance improvements. For the competition on the market, innovation plays a more significant role than product pricing. SMEs are important drivers of sporting goods innovation, but they face many challenges regarding their innovation capacity and could benefit from public initiatives, for example clusters and cross-sectoral co-operation with universities. According to survey and interview responses, direct public support to the industry would indeed be most useful in the domain of innovation and technology.

Innovation in products, processes or services determines the competitiveness of the European sporting goods industry, with wearable technology being considered one of the main drivers. Co-operation and strategic partnerships with other actors in the business ecosystem, in particular from the ITC and app development domain, are therefore essential, as demand for applications to enhance sport products and experiences is increasing. Moreover, 3D printing is regarded as one of the key innovations for the production process that will greatly influence manufacturing across all industries. But although innovation plays an important part for competitiveness, companies can also make use of non-innovative know-how to develop a competitive advantage. Being highly flexible and independent or being able to offer bespoke products are means for smaller companies to offset disadvantages that they might have compared to larger players. In any case, communication and brand reputation are widely considered as an essential element for economic success, regardless of whether a company has an innovative business model or not.

The **international competitiveness** of the European sporting goods sector is related to the rather oligopolistic structure of the international market, where few large multinational companies with a strong global reputation and presence compete with small national companies in each domestic market. Among the oligopolistic features of the market are entry barriers and practices to restrict competition (sometimes unduly), making it difficult for new companies to enter the market. SMEs need to make up for competitive disadvantages they experience in this oligopolised market, e.g. by operating in a niche market, by being highly innovative, by producing superior quality, or by using simplified and therefore cost-effective distribution channels. Many SMEs compete only at national or regional level and show no intention to internationalise.

Awareness of public initiatives fostering the competitiveness of the sporting goods industry in Europe is comparatively low, with only one quarter of respondents being aware of such initiatives. Although a significant number of companies has benefitted in one way or another from direct public support, business funding is generally not precisely targeted at the sporting goods industry but rather supports innovation, start-ups or digitisation in general. Specifically sport-related public initiatives are more present in countries where the sporting goods industry is strong (such as France, Germany or Italy). However, a strong sporting goods sector does not always translate into active support from public authorities. For example, Finland has a relatively strong sporting goods sector but with few public initiatives.

The **SWOT analysis** shows the current and future strengths and weaknesses of the sporting goods industry, as well as opportunities for and threats to the sector's competitiveness. The major strengths of the sector in Europe are access to knowledge, know-how and technology on the one hand, and the good international reputation of the industry in general and European brands in particular on the other hand. Outsourcing to non-EU countries has been identified as a major weakness, while the implications of company size are more disputed: some respondents and interviewees see small company size as a weakness, others regard flexible and innovative SMEs as a strength of the sector.

General economic growth and the public promotion of sport and healthy lifestyles are major opportunities for the sporting goods industry. In addition, innovative products such as wearables and e-textiles will offer many opportunities for the sector to expand. On the other hand, the low-cost production outside the EU and protectionist forces are major threats on the international level. Moreover, the demographic change in combination with an inadequate education infrastructure could lead to a lack of skilled workforce. Lastly, increasing physical inactivity especially of young people might lead to reduced consumption of sporting goods, thus posing a constant threat to the industry.

10. OVERALL STUDY CONCLUSIONS

The study has provided answers to four different research tasks:

1. Defining the sporting goods sector
2. Describing and examining the economic significance of the sporting industries
3. Analysing the business models of sporting goods companies
4. Understanding the drivers of competitiveness of the European sporting goods industry and its strengths, weaknesses, opportunities and threats

Definition of the sporting goods sector

One of the core objectives of the study was to define the sporting goods sector in economic terms. The definition was done at the most detailed level possible using different EU industry classifications as well as goods classifications. For this, the following classifications were taken into account:

- **CN – Combined Nomenclature:** European classification of goods used for foreign trade statistics; 8-digit level
- **PRODCOM:** Classification of goods used for statistics on the industrial production in the EU; 8-digit level
- **CPA - European Classification of Products by Activity;** 6-digit level
- **NACE - Nomenclature générale des Activités économiques dans les Communautés Européennes:** Statistical classification of economic activities in the European Communities; 4-digit level

Although these are different classifications developed for different purposes, they are interrelated. The starting point of the definition process was the narrow definition of the Vilnius Definition of Sport. Challenges included that some codes in the Vilnius Definition referring to sporting goods are assigned to the narrow definition of sports, although they do not include any sporting goods at all. Moreover, there are some codes that are not included in the Vilnius Definition of Sport at all, but do include sporting goods (e.g. 14.31.10: Panty hose, tights, stockings, socks and other hosiery (includes sport stockings and socks)). The main barrier in the process of the definition of the sporting goods sector related to the fact that codes are disaggregated by materials and technology used to manufacture the goods rather than by the purpose / use. Lastly, new and emerging sporting goods (e.g. wearables) are included in codes with a very small sporting goods share.

Overview of the sport-related industries in Europe

The overview of the sport-related industries in Europe is based on a literature review, interviews with relevant stakeholders and regular consultation with Themistocles Kokolakis, expert in the economic modelling of the sport economy. It looks at the EU policy framework in the field of sporting goods, the main characteristics of sport-related industries, the economic importance of the sporting goods sector, the situation of intellectual property rights and counterfeiting, and the demand for sporting goods.

The European Union has acknowledged that sport is an important economic driver and that the EU has a supporting, coordinating and supplementary role in sport. The European Commission has launched several sport-related initiatives, among which the third and current **EU Work Plan for Sport (2017-2020)** that focuses on the integrity of sport (anti-doping etc.), the economic dimension of sport (including innovation) and the role of sport in society.

Following the Vilnius Definition of Sport, the **sport-related industries** include on the upstream side those sub-sectors that produce goods and services needed for sport (e.g. the production of sport equipment and apparel as well as retail and wholesale trade or the construction of infrastructure), while downstream relations refer to industries in which sport has a significant involvement, such as sport media, health, sport tourism, or lotteries and betting.

According to the EU 27 Sport Satellite Account³⁰⁶, the **sport-related industry** accounts for 1.76% (direct impact) of EU gross value added (GVA) and 2.12% of employment in the EU. Sport-related industries have **interrelations / synergies with and spillover effects** to other sectors, and clusters thus play an important role for (innovation in) sport-related industries – especially specific cross-border international clusters that include universities, research centres and small and larger companies. High multipliers of economic activities associated with sport are sport services, construction, wholesale trade, retail trade and food products beverages. Many industrial sectors of the EU economy, including manufacturing, construction or tourism, feed into sport and benefit from it. Construction and tourism are the sectors with the highest multiplying effects, but also fitness, media and education. As regards **tourism**, there is close linkage between tourism and sport. Between 12 and 15 million international trips per year are made worldwide that have the main purpose of watching sport events.

In the European Union (EU 28), in 2015, approximately 85,900 enterprises can be assigned to the **sporting goods sector**^{307,308}, and they employ approximately 436,600 persons. The turnover of the sporting goods sector amounts to approximately EUR 81,400 million, while the value added is about EUR 18,900 million. The sporting goods sector constituted 0.4% of all enterprises and 0.3% of all persons employed, turnover and value added of the total EU economy.

The sector has seen general growth, combined with increased sport visibility and participation starting after 2012. The largest subsector within the sporting goods sector in the European Union is the **retail sale of sporting equipment in specialised stores** (i.e. sport goods, sport footwear, fishing gear, camping goods, boats and bicycles), while the most dynamic sector is **renting and leasing of recreational and sport goods**. Between 2008 and 2015, all wholesale and retail sale industries of the sporting goods sector in the European Union were characterised by an upward trend of the turnover and value added, and as of 2017 the sporting goods sector is described as having made up the downturn in consumption experienced in the economic crisis.

At international level, there is a division in the **production of sporting goods** – the most expensive products are produced in wealthier countries where high-technological capabilities exist, whereas cheaper products are manufactured in developing countries. In 2016, the production value of sporting goods³⁰⁹ of the 28 EU countries amounted to EUR 14.6 billion, which is 0.3% of the total production of the EU 28. With regard to **international trade**, in 2016 the import value of sporting goods³¹⁰ of the 28 EU countries (intra-EU and extra-EU) amounted to EUR 38.0 billion, which is approximately 1% of all imports of goods of the EU 28. The exports of sporting goods of the 28 EU countries (intra-EU and extra-EU) account for 0.65% of European exports with an export value of EUR 31.5 billion. The largest shares of the import and export value of sporting goods can be attributed to footwear and apparel, followed by sport equipment such as skis and balls, footwear, motorcycles, boats and bicycles. Within the EU 28, the most important sources of imports are Germany, Belgium, the Netherlands and Italy. Extra-EU imports mainly come from China, which is the largest supplier by far, followed by Vietnam. The largest EU 28 exporters are Germany, Italy, Belgium, France and the Netherlands.

The protection of **intellectual property rights (IPR)** is one of the major challenges of the sporting goods sector. Counterfeiting in sporting goods in the EU has negative effects on the market (e.g. revenue and job losses). Moreover, investments in innovation are discouraged and consumer safety is at stake if IPRs are infringed. The European Union has been an active promotor of the protection of IPR during the last years (e.g. by developing the Unitary Patent and by improving EU rules on trademarks).

The main market segments of the sporting goods market are individual consumers and professional as well as amateur sport leagues and teams. Further segments include corporations, commercial institutions such as e.g. health clubs, public and private sport

³⁰⁶ SportsEconAustria (2012), Study on the Contribution of Sport to Economic Growth and Employment in the EU. Available at: <http://ec.europa.eu/assets/eac/sport/library/studies/study-contribution-sports-economic-growth-final-rpt.pdf>

³⁰⁷ Based on the definition of sporting goods in NACE-codes in the present study (please see chapter 6.5 for more details)

³⁰⁸ Source: Eurostat, Structural Business Statistics

³⁰⁹ Based on the definition of sporting goods in PRODCOM-codes in the present study (please see chapter 6.3 for more details)

³¹⁰ Based on the definition of sporting goods in CN-codes in the present study (please see chapter 6.2 for more details)

clubs etc. **Market demand** at the European level is very fragmented due to the variability of sport practises from one country to another. Current consumer trends are outdoor, running and cycling, but also multifunctional clothing as well as smart technologies (e.g. wearable devices).

Nearly two thirds of **private household expenditures in sporting goods** and services go to recreational and sporting services (fitness centres, stadiums etc.), followed by major durables for outdoor recreation (camper vans, boats etc.) and equipment for sport, camping and open-air recreation (gymnastic and sport equipment). (Eurostat's Household Budget Survey, 2010). **Sport participation** seems to be stagnating since 2009: in 2014, approximately 41% of European citizens exercise or engage in sport at least once a week, but 59% exercise never or rarely (*European Commission*, 2014a: Eurobarometer survey on sport and physical activity). These percentages have stayed about the same since 2009. Men tend to exercise, engage in sport or in other physical activity more than women. The Nordic countries, Germany and Austria have the highest rate of persons performing physical activities of any kind.

Analysis of business models in the sporting goods sector

Using a set of case studies, the study analyses the diverse range of business models in the sporting goods sector. The analysis is framed by Porter's Value Chain which describes five primary activities:

1. Inbound logistics (external input);
2. Production & operations;
3. Outbound logistics (product distribution);
4. Marketing & sales; and
5. After-sales services.

The case studies show that the business models of larger multinational companies are rather universal and not much different from those applied by comparable companies in other manufacturing sectors. The majority of the production is outsourced to Asia, while the main business taking place in Europe focuses on R&D, design and marketing. Constant innovation is often at the core of the business model, with a high rate of new products introduced to the market every year. As these companies focus on the global market and maintain a global presence, their distribution channels are complex. They usually benefit from a well-established brand reputation and invest extensively in maintaining their image, e.g. through global sponsoring activities.

Regarding the business models of SMEs, they outsource less of their production and tend to focus on a national or regional market. Consequently, these companies are more dependent on the national economy and business environment, which can be advantageous (e.g. high government support) or disadvantageous (e.g. high regulatory burden) depending on the characteristics of the national market. Although SMEs might have a disadvantage compared to large companies with regard to factors like production cost or market presence, they can still gain competitive advantages by making use of such elements as high versatility due to smaller size, offering a highly innovative product, or serving a specific consumer base. A complex distribution model is still possible for these companies, but some companies take advantage of their smaller size by focusing on e.g. more direct distribution which skips costly intermediaries.

Within the SME category, the business models of micro-sized enterprises are very diverse, and they differ qualitatively from larger companies (including larger SMEs). They are characterised by comparatively strong owner-manager control, and in many cases, it is a conscious decision by the owner-manager to stay micro-sized in order to maintain control. Micro-sized companies follow diverse strategies to offset competitive disadvantages related to their size, for instance offering handcrafted, local/regional or sustainable products of superior quality, or offering their customers extensive personalisation options (bespoke products). Personalised and direct communication with their customers, who are often wealthy sport aficionados looking for a distinctive product, plays a key role for micro-sized companies. In addition, they circumvent intermediaries by mostly distributing their products online and directly to their clients, and only occasionally via specialised retail shops.

Competitiveness analysis

The competitiveness of the European sporting goods sector is assessed according to the “Competitiveness Proofing” toolkit issued by the European Commission for use in impact assessments. This framework defines three elements of competitiveness:³¹¹

- Cost competitiveness, which is the cost of doing business, including intermediate inputs like energy and production factors like labour or capital;
- Capacity to innovate, which is the capacity of businesses to produce more and/or higher-quality products;
- International competitiveness, which looks at the two previous aspects in an international comparative perspective.

Regarding cost competitiveness, production costs and costs of raw materials, are on the rise both in and outside the EU. In addition, costs are increasing due to corporate social responsibility requirements, for instance with regard to working conditions in third countries. On the other hand, the cost of capital and cost of energy are generally decreasing in Europe, although there still exist significant cost differences between the Member States which affect the relative competitiveness of companies in the sporting goods sector that operate in these countries. Early signs of relocation of production in Europe have been highlighted by some stakeholders. New technological developments might allow concentrating some of the production on the continent, but this phenomenon is more discernible for highly specialised products rather than commodities. In this sense, the industry needs to find niches where more technicity can be added in the products manufactured, as Europe can no longer compete with countries where labour costs are lower. However, due to technological developments, relocation of production in Europe would not translate into a return of Europe’s position in terms of employment and export base, as less manpower would be required. Moreover, advanced manufacturing would have a negative impact on low-skilled jobs, as these factories require highly specialised personnel to oversee the complex production process. Thus, the positioning of different production capabilities in Europe should not be seen as a relocation, but rather as a development of complementary capabilities enabled by Europe’s specific know-how. A relocation of production which would make Europe a net exporter of sporting goods, is difficult to predict.

Regarding innovation, the European sporting goods industry is characterised by a high capacity to innovate. Indeed, in terms of competitiveness, innovation plays a more significant role for European companies than product pricing because it is difficult for EU companies to compete on price with companies from low cost source markets outside the EU. For instance, wearable technology (product innovation) and 3D printing (process innovation) are considered two of the main drivers of innovation in the near future.

SMEs are important drivers of sporting goods innovation, but they face many challenges regarding their innovation capacity and could benefit from enhanced public initiatives, for example support for industry clusters and enhanced cross-sectoral co-operation with universities. Indeed, co-operation and strategic partnerships with other actors in the business ecosystem, in particular from the ITC and app development domain, are therefore essential, as demand for applications to enhance sport products and experiences is increasing. The study finds that the field of innovation and technology offers the most likely benefits from direct public support to industry.

The international competitiveness of the European sporting goods sector is related to the rather oligopolistic structure of the international market, where few large multinational companies with a strong global reputation and presence compete with small national companies in each domestic market. SMEs need to make up for competitive disadvantages they experience in this market, e.g. by operating in a niche market, by being highly innovative, by producing superior quality, or by using simple and therefore cost-effective distribution channels. It should be noted that many SMEs compete only at national or regional level and show no intention to internationalise.

³¹¹ Competitiveness proofing is a twelve-step tool addressing the impacts of a policy proposal on enterprise competitiveness http://ec.europa.eu/smart-regulation/impact/key_docs/docs/sec_2012_0091_en.pdf

The SWOT analysis, based on the stakeholder survey and additional interviews, shows that:

- The major **strengths** of the sector in Europe are access to knowledge, know-how and technology on the one hand, and the good international reputation of the industry in general and European brands in particular on the other hand.
- Outsourcing to non-EU countries is found to be a major **weakness**, while the implications of company size are more disputed: some respondents and interviewees see small company size as a weakness, others regard flexible and innovative SMEs as a strength of the sector.
- General economic growth and the public promotion of sport and healthy lifestyles are major **opportunities** for the sporting goods industry, together with innovative products (such as wearables and e-textiles).
- Major **threats** are protectionist forces on the international level, the potential lack of a skilled workforce due to demographic change in Europe and the increasing physical inactivity of the population.

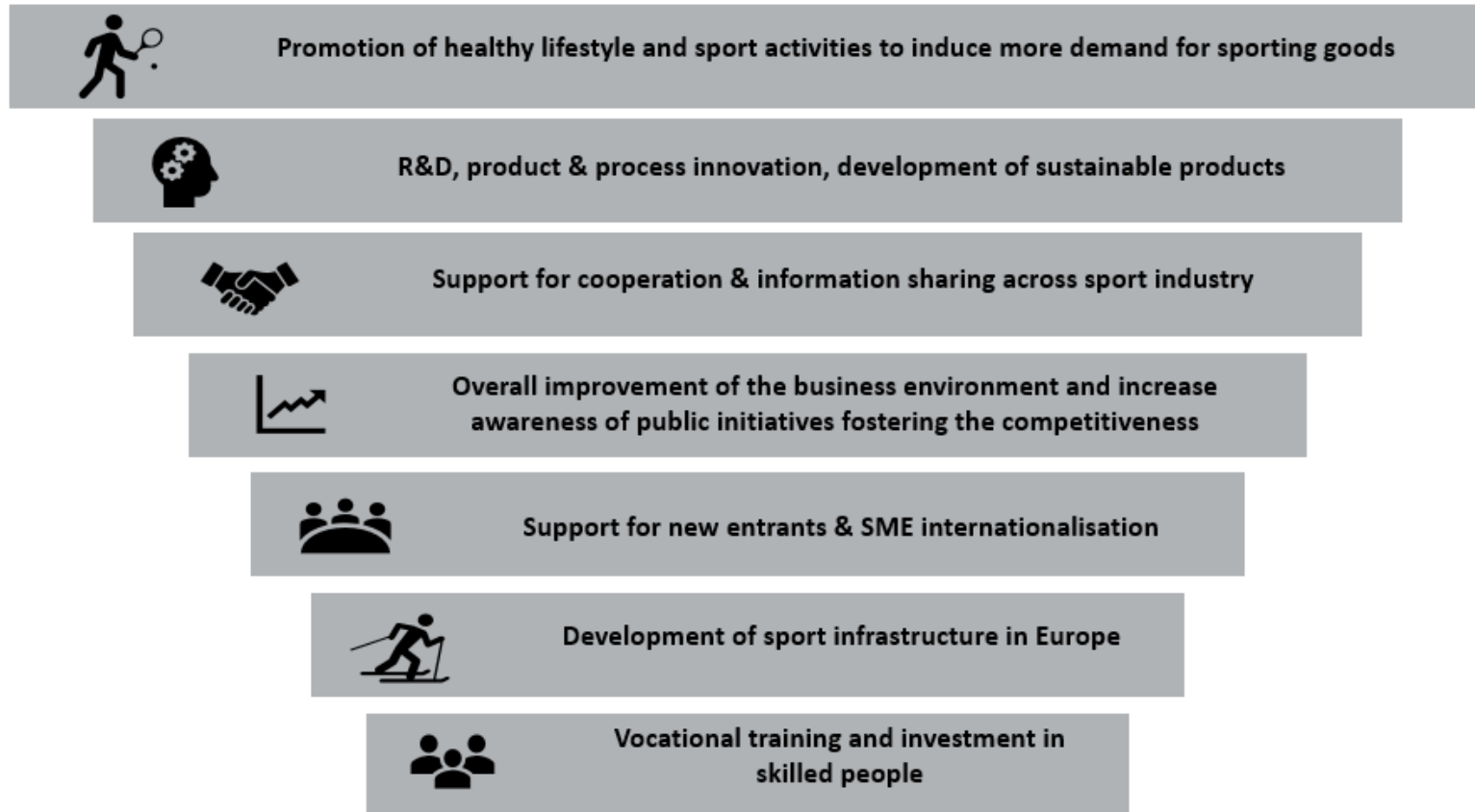
Based on the results of the analysis of the sport-related industries and the sporting goods sector, the following factors could be identified having an impact on the evolution of the sporting goods sector:

- Sport events, advertising and TV & media: the focus on the promotion of sport events and various brands as well as sponsorship increases the visibility of brands and can result in expanding sales in the longer term.
- Recovery from the economic crisis: the downturn due to the economic crisis has recovered. Moreover, branches belonging to the sporting goods sector show a favourable development e.g. manufacture of sporting goods, renting and leasing of recreational and sport goods as well as the corresponding wholesale and retail sale branches.
- Trend towards a healthy lifestyle: The growing trend towards physical fitness results in adopting a healthy lifestyle and healthy food habits. Furthermore, apparel and footwear initially made for sport purposes is increasingly used for casual or fashion purposes.
- Developments in technology: Progress in materials and engineering processes allow the development of new and improved products. The growth prospects of smart sportswear and wearables (health, fitness and sport trackers) are assessed particularly highly. The development of high-end sport products is an opportunity for EU based R&D and for production "made in Europe". Most of the innovation occurring in the textile sector happens within the sporting goods sector.
- Development of clusters: these can create networks which can help SMEs in the sporting goods sector share information between themselves and develop faster.
- Advanced manufacturing generates opportunities for the sporting goods sector, especially because a lot of the specific industry know-how is concentrated in Europe. In order to keep pace with the development and impact the evolution of the sporting goods sector, authorities should invest in skills and in the development of appropriate technological capabilities.

11. RECOMMENDATIONS ON HOW TO IMPROVE THE COMPETITIVENESS OF THE SPORTING GOODS SECTOR

The figure below summarises the key dimensions for public institutions at EU and national level to focus on.

Figure 32 : Ranking of key areas for public institutions at EU and national level to focus on



Source: Austrian Institute for SME Research, VVA, Assessment based on the results of the online survey

The vast majority of stakeholders involved in the study consider that the **promotion of healthy lifestyle and sport activities** at regional, national and European level is the main area of improvement which would yield dividends for Europe's population and the sporting goods sector.³¹² Increasing people's participation in sport activities would directly benefit the sporting goods sector by creating demand for such goods.

More emphasis should be placed on persuading the young generation to be more active. There is significant scope for improvement if countries manage to link (through well-defined strategies) sporting elite success with rises in grassroots participation.

Another area of improvement is to target young generation where they spend most of their time and find innovative ways to reach out to this consumer segment. Action in this area could be twofold:

1. Through collaborations between ministries and schools to ensure that not merely general physical activity is promoted, but also sport to which people get less exposure; and
2. Through new technologies (e.g. online).³¹³

As sufficient physical activity can often not be guaranteed by the parents (also because it is getting more expensive), the best approach would be to target them through schools. In addition to promoting activity in schools, providing adequate sport facilities is another crucial factor. While the situation in Western Europe is comparatively good, there is a considerable lack of sport facilities in the Eastern countries.³¹⁴

Notwithstanding the above, programmes for promotion of a healthy lifestyle should be targeted at all social segments. There is currently room for growth in the promotion of sport and lifestyle programmes and EU policies could make a difference in this area. The focus of these programmes should be placed not merely on performance, but on the general well-being of the average population in the EU.³¹⁵

Complementary to the development of sport promotion programmes, there could be more **investments in sport infrastructure** (e.g. bicycle paths).³¹⁶ There are in particular two areas that overlap with the sport sector: mobility and health. It is important to develop a more global point of view that sees the synergies between these sectors and develops strategies to unlock this potential. E-bikes for instance are a product of the sporting goods industry that can play an important role both in mobility and in public health concepts.³¹⁷ Furthermore, investment in sport infrastructure would support other sectoral EU initiatives, such as sport-related **tourism**.

The second large area of potential public intervention, support for **R&D and process innovation**, was also emphasised by most stakeholders. Public support should encourage industries such as **textile & clothing or footwear** to seize the opportunities offered by the sporting goods sector which prizes innovative, high performance products – areas where Europe remains very competitive. Strengthening the cooperation between universities and sporting goods companies could be a potential strategy to overcome SMEs difficulties to conduct R&D (e.g. a research centre on new materials). Also, by supporting R&D and process innovation, the industry could better seize the market opportunities created by new technologies (i.e. e-textiles, user-driven innovation).³¹⁸ As regards textile, there is more development and innovation in textile intended for sporting goods than for other types of textiles.³¹⁹ Sport technology is perceived as a great opportunity for Europe, hence this is an area where researchers and companies should be helped to develop.³²⁰ For instance, this could be done through initiatives such as the WORTH partnership project³²¹ which supports transnational collaborations between fashion designers, creative

³¹² Interview with representative of the International Association of Sport Economists; Swiss association of sporting goods retailers; Italian sporting goods manufacturer; German academic, etc.

³¹³ Interview with representative of the Italian sector organisation; Austrian sporting goods retailer

³¹⁴ Interview with an Austrian sporting goods retailer

³¹⁵ Interview with a Czech sporting goods manufacturer

³¹⁶ Interview with a Swiss association of sporting goods retailers; Swedish sector association; EU sector association

³¹⁷ <http://www.worthproject.eu/worth-project/#the-project>

³¹⁸ Interview with representative of the International Association of Sports Economics

³¹⁹ Interview with a Portuguese sector association

³²⁰ Interview with an Irish cluster

³²¹ <http://www.worthproject.eu/worth-project/#the-project>

people, manufacturing enterprises (SMEs) and technology firms that are looking to develop innovative products or processes. For instance, specific calls under the WORTH partnership project aimed at the development of new collaborations in the sporting goods sector could enable smaller companies in that sector to move up the value chain and improve their competitiveness.

In parallel to R&D and innovation, **existing know-how should be maintained and improved**. For instance, Europe has a pool of unemployed people which could be trained and placed into the labour market. One interviewee emphasised that there is currently a shortage of skilled people in Europe.³²² Although **vocational systems** exist, these need to be better tailored to the current needs of the market. During skills formation, a closer relationship between educational institutions and the sporting goods industry could be forged (e.g. Erasmus). While the development pace of the sporting goods sector currently surpasses the flexibility of the educational system, methods should be found to match educational curricula with the needs of the market.³²³

Fourth, **clusters** represent a key element of any European industrial policy³²⁴ and they can create networks to help SMEs share information between themselves, overcome the disadvantages of small size and scale up faster.³²⁵ Stakeholders acknowledge the related difficulties such as inter-regional cluster competition due to fragmented cluster initiatives (e.g. Rhône Alpes and Lyon)³²⁶ but at EU level, coordinated support for clustering initiatives would benefit the sporting goods sector, especially in exploiting synergies and reducing risks/costs of conducting R&D. Examples of such initiatives that are already ongoing and could be further supported include for instance Tex4IM³²⁷ (textile clusters for industrial modernisation) which brings together “the main European textile-based clusters in countries/regions to enhance innovation capacities, business models, knowledge and skill levels and other key competitive factors” or Regiotex³²⁸ which emphasises smart regional investment in textile innovation. Integrating sporting goods related industries into textile, clothing & footwear initiatives such as the above would help the textile and clothing industry invest in the development of higher value sporting goods where Europe is at its most competitive. Furthermore, while global players have an advantage in supply chain management because they have information (what is demanded where and when) that smaller competitors usually do not have, public initiatives that provide relevant supply chain information and establish standards (e.g. for product classifications) could help strengthen SMEs in the sporting goods sector.³²⁹

Fifth, smaller companies need **greater awareness and support in reaching out to existing funding**.³³⁰ Although public initiatives to foster competitiveness do exist, awareness in Europe is rather low, with only a small share of respondents consulted in this study being aware of such initiatives. Furthermore, business funding is generally not precisely targeted at the sporting goods industry but rather supports innovation, start-ups or digitisation in general. Specific sport-related public initiatives are more present in countries where the sporting goods industry is strong and this is an element that should be built upon, perhaps as part of a wider cluster strategy focused on the sporting goods sector.

Sixth, the selective distribution system in the sporting goods sector impedes competition on the market, as large manufacturers can control prices more easily than if retailers were free to choose the products that they want to sell, leading to fewer price and product offers for consumers.³³¹ Along these lines, and in an effort to counteract the established distribution systems, some stakeholder consider that public policy has neglected to regulate the **online retail market** which circumvent intermediaries and foster direct sales to end users.³³²

³²² Interview with a French sporting goods retailer

³²³ Interview with Italian sporting goods manufacturer

³²⁴ Interview with an Italian sporting goods manufacturer

³²⁵ Interview with a French academic

³²⁶ Interview with a French sport cluster

³²⁷ <https://www.clustercollaboration.eu/partner-search/textile-clusters-industrial-modernisation-tex4im>

³²⁸ <http://www.textile-platform.eu/regiotex-regional-investment/>

³²⁹ Interview with a German research centre in the field of sporting goods; representative of the International Association of Sports Economics

³³⁰ Interview with representative of French Ministry of Economy; Czech sporting goods manufacturer

³³¹ Interview with Austrian sporting goods retailer

³³² Interview with a German research centre in the field of sporting goods

At the same time, it must be highlighted that, ultimately, competitiveness emerges from the companies themselves, and public intervention should focus on reducing administrative burden, creating a **business-friendly environment** where everyone can compete and increasing the level of entrepreneurship.³³³ These measures should target the overall business environment, not necessarily the sporting goods sector.

With regard to focus areas within the sporting goods sector, as mentioned in this section, the study confirms that Europe cannot compete with low-cost countries on production cost.³³⁴ Rather, Europe's competitive edge lies in technological know-how and this should be an area of support. Although production cannot be entirely relocated to Europe, specific resources should be allocated to encourage production of highly technological products in Europe.³³⁵ The focus should be placed on niches in the market that are susceptible to greater "technicity" in products and manufacturing processes.³³⁶ In the light of technological development in the production process, more emphasis should be placed on training people, especially boosting technological capabilities among the workforce in Europe.

Finally, from a purely methodological point of view, as regards the **definition of the sporting goods sector** undertaken in the present study (in chapter 6), there are a number of improvements that could be made:

- Some codes in the Vilnius Definition referring to sporting goods are assigned to the narrow definition of sport, although they do not include any sporting goods at all.
- New and emerging sporting goods (e.g. wearables) are included in codes with a very small sporting goods share. For future changes in the classifications or codes, separate codes for wearables and sensors used for sport/ health purposes should be established.
- Moreover, existing codes cover different scopes of sporting goods (e.g. snow-ski sports has two different codes at the 6-digit level (32.30.11 and 32.30.12), while different kinds of ball sports (e.g. golf, tennis, balls) are subsumed in one single CPA code 32.30.15 "Other articles and equipment for sport). This is particularly the case on the 6-digits level where the differentiation along different subcategories in the field of the sport goods manufacturing seem to overrepresent winter and ski sport while other kinds of sport are subsumed at the same level. For future changes in the classifications and codes, categories and sub-categories of sporting goods should be established without overrepresenting a specific kind of sport.

³³³ Interview with German academic

³³⁴ Interview with French academic

³³⁵ Interview with an Irish cluster

³³⁶ Interview with French sporting goods retailer

12. ANNEXES

12.1. Annex 1 Full list of interviewed stakeholders

Table 40 : Full list of interviewed stakeholders

No.	Country	Organisation	Name	Position	Request for anonymization (yes/no)
1	France	French Ministry for Economy, consuming goods division	Muriel Grisot	Assistant to the Head of Unit	No
2	Austria	FEDAS VSSO (The Austrian Sporting goods association)	Michael Nendwich	Managing director	No
3	France	Union Sport & Cycle	Jean-Philippe Frey	Head of the Economic Intelligence Division	No
4	France	University of Grenoble	Guillaume Valet	Academic	No
5	Italy	Italian Outdoor Group	Luca Pedrotti	President	No
6	Czech Republic	Jipast A.S.	Martin Paur	Manager	No
7	US	Center for Sport Management Drexel University International Association of Sports Economists	Joel G. Maxcy	Director & Professor President of International Association of Sports Economists	No
8	EU	CONEBI (Confederation of the European Bicycle Industry)	Manuel Marsilio	General Manager	No
9	Czech Republic	AVOZ	Jan Cermak	President	No
10	France	La fabrique du ski		Company representative	No
11	Switzerland	ASMAS (Verband Schweizer Sportfachhandel)	Peter Bruggmann	President	No
12	Spain	INDESCAT	Alex Rivera Molins	Cluster Manager	No
13	Italy	Lotto Sport Italy	Andrea Tomat	CEO	No
14	Germany	Lunge Lauf- und Sportschuhe GmbH	Ulf Lunge	CEO	No
15	US	International sporting goods manufacturer	Anonymous	Office Manager government and public affairs in the EU	Yes
16	Germany	SportLifeInsights	Stefan Brunner	Market researcher in the field of the sporting goods industry	No
17	Germany	TPR Thürl Public Relations	Peter Thürl	Represents Verband Deutscher Sportfachhandel e. V. (Federation of German Sporting Goods Retailers) and the European Federation of Sporting Goods Retail Associations	No

No.	Country	Organisation	Name	Position	Request for anonymization (yes/no)
18	France	University of Strasbourg	Gary Tribou	Professor of sport economics	No
19	EU	European Handball Association	Martin Hausleitner	EHF Secretary General/Chief Operating Officer	No
20	Italy	Ministry of Economic Development - Directorate-General for Industrial Policy, Competitiveness and SME - Division VII - Agro-Food Industry, Made in Italy and Creative Industries	Gabriella Pecorini		No
21	Germany	Institute of Economics (Head) Ilmenau University of Technology	Oliver Budzinski	Chair for Economic Theory	No
22	France	Centre d'Economie de la Sorbonne	Wladimir Andreff	Sport economist	No
23	Italy	Italian National Olympic Committee	Diego Nepi Molineris	Head of Marketing and Events	No
24	Ireland	Sports Tech Ireland	Gary Ryan		No
25	Finland	Turun Merivaruste Oy	Jan-Erik Wahlberg	Owner of sporting goods retail store	No
26	Netherlands	Sport & Technology	Rene Wijlens	Manager	No
27	France	Le Tremplin	Omar El Zayat	Director	
28	Austria	International sporting goods retailer	Anonymous	Director of Supplier-Coordination International	Yes
29	France	Sportalec	R. Pesty	Director	No
30	France	DECATHLON	Jean-Marc Lemiere	Director Strategy, Development & Performance	No
31	Sweden	The Swedish Bike Association	Joakim Stenberg	Managing Director	No
32	Finland	Ministry of Education and Culture	Sari Virta		No
33	Slovakia	Slovak Sport Federation	Zdenko Kriz	Member	No
34	Portugal	Portuguese Textile and Apparel Association	Paulo Vaz	General Director	No
35	Poland	Polish Outdoor Group	Piotr Turkot		No

12.2. Annex 2 Full list of secondary sources

Eurostat: Statistics on the production of manufactured goods (PRODCOM)

The purpose of the statistics is to report for each product in the PRODCOM list how much has been produced. This means that PRODCOM statistics relate to products (not to activities) and are therefore not strictly comparable with activity-based statistics such as the Structural Business Statistics. The NACE codes on which PRODCOM codes are based merely serve to identify the enterprises that should be surveyed in order to determine the amount of production of the product.

- Geographic coverage: data are available for the EU 28 (2006-2016) and for the Member States (2006-2016), Iceland (2006-2016), Montenegro (2011-2016), FYROM (2011-2016), Serbia (2011-2016), Turkey (2006-2012)
- Data description: Production variables: physical volume of production sold, value of production sold during the survey period, for some products: volume of total production
- Data availability:
 - The survey population are enterprises whose principal activity or one of its secondary activities is listed in section B or C of NACE Rev. 2.
 - Annual data are available on an 8-digit-level. The PRODCOM list is revised every year.
 - Time period: EU-level data: 2006-2016; Member State-level data + Iceland: 2006-2016, Montenegro, FYROM, Serbia (2011-2016), Turkey (2006-2012), however with many data confidentialities at country level for products³³⁷

Eurostat: International trade in goods (COMEXT)

The aim of international trade statistics is to record all goods which add to or subtract from the stock of material resources of a country by entering (imports) or leaving (exports) its economic territory. Regarding the product classification, the Combined Nomenclature (CN) is applied for the detailed data.

- Geographic coverage: data are available for the EU 28 (2006-2016) and for the Member States
- Data description: **Long term indicators** (annual data): values, quantities
- Data availability:
 - Annual data are available on an 8-digit-level of the Combined Nomenclature (CN8). The CN is subject to annual revisions that ensure that the CN is kept up to date in the light of changes in technology or in patterns in international trade.
 - Time period: EU-level data: 2006-2016; Member State-level data: 2006-2016

Eurostat: Structural Business Statistics (SBS)

The SBS covers industry, construction, trade and services. SBS describes the structure, conduct and performance of businesses (i.e. enterprises, local units) across the European Union (EU) based on NACE activity (NACE Rev. 2). Starting from the reference year 2008, data is available for Sections B to N and Division S95. SBS does not cover e.g. (largely) non-market services such as education and health, or entertainment and recreation.

- Geographic coverage: aggregates EU 28 (2011-2014) / EU 27 (2008-2011), member states, as well as Iceland, Turkey, FYROM (with gaps in time coverage)
- Data description:
 - Business Demographic variables: number of enterprises / local units
 - "Input related" variables: number of persons employed, employees, total purchases of goods and services, personnel costs, gross investment in tangible goods
 - "Output related" variables: turnover, production value, value added at factor costs

- Data availability:
 - Annual enterprise statistics: data are available at NACE Rev. 2 class level (4-digits). Some classes or groups in “services” section have been aggregated.
 - Annual enterprise statistics broken down by enterprise size: data are available at NACE Rev. 2 group level (3-digits) and employment size categories. For trade (NACE Rev. 2 Section G), a supplementary breakdown by turnover size categories is available.
- Time period: EU-level data: 2008-2015³³⁸; Member State-level data: 2008-2015

Eurostat: Labour Force Survey (LFS)

The EU-LFS is the largest European household sample survey, providing quarterly and annual data on labour participation of people aged 15 and over and on persons outside the labour force. It covers residents in private households (excluding conscripts) according to labour status “employment”, “unemployment” and “inactivity”. The data can be broken down according to multiple dimensions including age, sex, educational attainment, and distinctions between permanent/temporary and full-time/part-time employment. Employment by economic activity is available from 2008 to 2016.

Eurostat database “**Employment in sports**” derives data from the EU-LFS. It combines NACE activities (93.1 “Sport activities”) and ISCO occupations (342 “Sports and fitness workers”).

- Geographic coverage: aggregate EU 28, member states, Iceland, FYROM and Turkey.
- Data description:
 - Employment, including breakdown variables: sex, age and educational attainment
- Data availability:
 - Combination of NACE Rev. 2 (3-digit 93.1) and ISCO 08 (342)
 - Time period: 2011-2016

Employment in Sport is measured by the sum I+II+III in the following table.

Table 41: Sport jobs at the intersection of NACE and ISCO classifications

		Activities (NACE)	
		Sport (93.1)	Non-sport
Occupations (ISCO)	Sport (342)	I	II
	Non-sport	III	-

Source: Eurostat, Employment in sport

Regarding NACE classification, the code 93.1 “Sport activities” is the only one that was included in the scope, reflecting the “Statistical definition” of the Vilnius Definition of Sport. In addition, Sport employment cross-tabulation includes the ISCO code 342 (Sports and fitness workers) which reflects the very nature of the Vilnius statistical definition. This category encompasses the following sub-categories:

- 3421: Athletes and sports players
- 3422: Sports coaches, instructors and officials
- 3423: Fitness and recreation instructors and program leaders

Estimations: The NACE code retained for the scope of sport (93.1) requires a 3-digits codification. In EU-LFS, the countries are asked to provide at least 2-digits NACE details. For the time being most countries provide 3-digits for NACE data on a voluntary basis. For

³³⁸ As of 12 December 2017

the other countries, the sport-related part of NACE 93 (i.e. the ratio 93.1/93) is estimated by applying the coefficient calculated based on the EU countries that provide 3-digits for NACE.

Eurostat: Household Budget Survey (HBS)

Household Budget Surveys (HBSs) are national surveys focusing on consumption expenditure. They are conducted in all EU Member States and their primary aim (especially at national level) is to calculate weights for the Consumer Price Index.

- Geographic coverage: aggregate EU 28, member states, FYROM, Turkey and Montenegro
- Data description: mean consumption expenditure, structure of mean consumption expenditure
- Data availability: The HBS collects information on Consumption Expenditure according to the Classification of Individual Consumption by Purpose (COICOP) (2003) – for instance, relevant codes are CP0921 “Major durables for outdoor recreation”, CP0922 “Musical instruments and major durables for indoor recreation”, CP0932 “Equipment for sport, camping and open-air recreation”, or CP0941 “Recreational and sporting services”. Currently, the latest data available are still from 2010 – the survey is being conducted every five years.

Table 42: COICOP codes related to sporting goods and services

COICOP code	Description
09.2.1	Major durables for outdoor recreation
09.2.2.2	Major durables for indoor recreation
09.2.3	Maintenance and repair of other major durables for recreation and culture
09.3.2	Equipment for sport, camping and open-air recreation
09.4.1	Recreational and sporting services

Source: Eurostat, Household Budget Survey

Eurostat: The European Health Interview Survey (EHIS)

The European Health Interview Survey (EHIS) aims at measuring on a harmonised basis and with a high degree of comparability among MS the health status (including disability), health determinants (including environment) and use and limitations in access to health care services of the EU citizens. The general coverage of the survey is the population aged 15 or over living in private households residing in the territory of the country.

EHIS was developed between 2003 and 2006. It consists of four modules on health status, health determinants, health care, and background variables.

- Geographic coverage: EU Member States, Iceland and Norway
- Data description:
 - Health status: different dimensions of health status and health-related activity limitations
 - Health care: different types of medicines and formal and informal health and social care services, which are complemented by data on health-related expenditure, and limitations in access to and satisfaction with health care services
 - Health determinants: various individual and environmental health determinants, among others: Physical activity
- Data availability:
 - By country, by age, by sex
 - Time period: wave 2014 (implemented in 2013-2015)

WIPO: Database of the World Intellectual Property Organization

WIPO is the world's most comprehensive source of data on the intellectual property (IP) system, as well as of empirical studies, reports and factual information on IP.

- Geographic coverage: worldwide
- Data description: There are several databases, among others the following:
 - PATENTSCOPE: more than million patent documents, including international patent applications submitted under the PCT
 - Global Brand Database: brand information from multiple national and inter-national sources, including trademarks, appellations of origin and official emblems
 - ROMARIN: all international marks recorded under the Madrid system, which are currently in force or have expired within the past six months
 - Global Design Database: industrial design registrations from the Hague System plus participating national collections
- Data availability:
 - By country
 - By registration date
 - Etc.

12.3. Annex 3: Definition of sporting goods

12.3.1. Definition of sporting goods in CN-codes

Table 43: Sporting goods in CN-codes by product categories

Product category	CN code	2016 CN 2016 description	Sport share in rounded 10%-steps
Wearing apparel	6101 20 90	Men's or boys' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles of cotton, knitted or crocheted (excl. suits, ensembles, jackets, blazers, bib and brace overalls and trousers)	60
	6101 30 90	Men's or boys' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles of man-made fibres, knitted or crocheted (excl. suits, ensembles, jackets, blazers, bib and brace overalls and trousers)	60
	6101 90 80	Men's or boys' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles of textile materials, knitted or crocheted (excl. of cotton and man-made fibres, suits, ensembles, jackets, blazers, bib and brace overalls and trousers)	60
	6102 10 90	Women's or girls' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles, of wool or fine animal hair, knitted or crocheted (excl. suits, ensembles, jackets, blazers, dresses, skirts, divided skirts, trousers, bib and brace overalls)	60
	6102 20 90	Women's or girls' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles, of cotton, knitted or crocheted (excl. suits, ensembles, jackets, blazers, dresses, skirts, divided skirts, trousers, bib and brace overalls)	60
	6102 30 90	Women's or girls' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles, of man-made fibres, knitted or crocheted (excl. suits, ensembles, jackets, blazers, dresses, skirts, divided skirts, trousers, bib and brace overalls)	60
	6102 90 90	Women's or girls' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles, of textile materials, knitted or crocheted (excl. of wool, fine animal hair, cotton and man-made fibres, suits, ensembles, jackets, blazers, dresses, skirts, divided skirts, trousers, bib and brace overalls)	60
	6201 91 00	Men's or boys' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles, of wool or fine animal hair (excl. knitted or crocheted, suits, ensembles, jackets, blazers and trousers)	60
	6201 92 00	Men's or boys' anoraks, windcheaters, wind jackets and similar articles, of cotton (not knitted or crocheted and excl. suits, ensembles, jackets, blazers, trousers and tops of ski suits)	60
	6201 93 00	Men's or boys' anoraks, windcheaters, wind jackets and similar articles, of man-made fibres (not knitted or crocheted and excl. suits, ensembles, jackets, blazers, trousers and tops of ski suits)	60
	6201 99 00	Men's or boys' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles of textile materials (excl. of wool, fine animal hair, cotton or man-made fibres, knitted or crocheted, suits, ensembles, jackets, blazers and trousers)	60
	6202 91 00	Women's or girls' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles, of wool or fine animal hair (excl. knitted or crocheted, suits, ensembles, jackets, blazers and trousers)	60
	6202 92 00	Women's or girls' anoraks, windcheaters, wind jackets and similar articles, of cotton (not knitted or crocheted and excl. suits, ensembles, jackets, blazers, trousers and tops of ski suits)	60

Product category	CN 2016 code	CN 2016 description	Sport share in rounded 10%-steps
	6202 93 00	Women's or girls' anoraks, windcheaters, wind jackets and similar articles, of man-made fibres (not knitted or crocheted and excl. suits, ensembles, jackets, blazers, trousers and tops of ski suits)	60
	6202 99 00	Women's or girls' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles, of textile materials (excl. of wool, fine animal hair, cotton or man-made fibres, knitted or crocheted, suits, ensembles, jackets, blazers and trousers)	60
	6112 11 00	Track-suits of cotton, knitted or crocheted	100
	6112 12 00	Track-suits of synthetic fibres, knitted or crocheted	100
	6112 19 00	Track-suits of textile materials, knitted or crocheted (excl. cotton or synthetic fibres)	100
	6112 20 00	Ski-suits, knitted or crocheted	100
	6112 31 10	Men's or boys' swimwear of synthetic fibres, knitted or crocheted, containing \geq 5% by weight of rubber thread	100
	6112 31 90	Men's or boys' swimwear of synthetic fibres, knitted or crocheted (excl. containing \geq 5% by weight of rubber thread)	100
	6112 39 10	Men's or boys' swimwear of textile materials, knitted or crocheted, containing \geq 5% by weight of rubber thread (excl. synthetic fibres)	100
	6112 39 90	Men's or boys' swimwear of textile materials, knitted or crocheted (excl. synthetic fibres and containing \geq 5% by weight of rubber thread)	100
	6112 41 10	Women's or girls' swimwear of synthetic fibres, knitted or crocheted, containing \geq 5% by weight of rubber thread	100
	6112 41 90	Women's or girls' swimwear of synthetic fibres, knitted or crocheted (excl. containing \geq 5% by weight of rubber thread)	100
	6112 49 10	Women's or girls' swimwear of textile materials, knitted or crocheted, containing \geq 5% by weight of rubber thread (excl. synthetic fibres)	100
	6112 49 90	Women's or girls' swimwear of textile materials, knitted or crocheted (excl. synthetic fibres and containing \geq 5% by weight of rubber thread)	100
	6211 32 31	Men's or boys' lined tracksuits, of cotton, with an outer shell of a single identical fabric (not knitted or crocheted)	100
	6211 32 41	Men's or boys' lined tracksuit tops "upper parts", of cotton (not knitted or crocheted and excl. tracksuit tops with an outer shell of a single identical fabric)	100
	6211 32 42	Men's or boy's lined tracksuit bottoms "lower parts", of cotton (not knitted or crocheted and excl. tracksuit bottoms with an outer shell of a single identical fabric)	100
	6211 33 31	Men's or boys' lined tracksuits, of man-made fibres, with an outer shell of a single identical fabric (not knitted or crocheted)	100
	6211 33 41	Men's or boys' lined tracksuit tops "upper parts", of man-made fibres (not knitted or crocheted and excl. tracksuit tops with an outer shell of a single identical fabric)	100
	6211 33 42	Men's or boys' lined tracksuit bottoms "lower parts", of man-made fibres (not knitted or crocheted and excl. tracksuit bottoms with an outer shell of a single identical fabric)	100
	6211 39 00	Men's or boys' tracksuits and other garments, n.e.s. of textile materials (excl. of cotton or man-made fibres, knitted or crocheted)	100
	6211 42 31	Women's or girls' lined tracksuits, of cotton, with an outer shell of a single identical fabric (not knitted or crocheted)	100

Product category	CN 2016 code	CN 2016 description	Sport share in rounded 10%-steps
	6211 42 41	Women's or girls' lined tracksuit tops "upper parts", of cotton (not knitted or crocheted and excl. tracksuit tops with an outer shell of a single identical fabric)	100
	6211 42 42	Women's or girls' lined tracksuit bottoms "lower parts", of cotton (not knitted or crocheted and excl. tracksuit bottoms with an outer shell of a single identical fabric)	100
	6211 43 31	Women's or girls' lined tracksuits, of man-made fibres, with an outer shell of a single identical fabric (not knitted or crocheted)	100
	6211 43 41	Women's or girls' lined tracksuit tops "upper parts", of man-made fibres (not knitted or crocheted and excl. tracksuit tops with an outer shell of a single identical fabric)	100
	6211 43 42	Women's or girls' lined tracksuit bottoms "lower parts", of man-made fibres (not knitted or crocheted and excl. tracksuit bottoms with an outer shell of a single identical fabric)	100
	6211 49 00	Women's or girls' tracksuits and other garments, n.e.s. of textile materials (excl. of cotton or man-made fibres, knitted or crocheted and goods of 9619)	100
	6211 20 00	Ski suits (excl. knitted or crocheted)	100
	6211 11 00	Men's or boys' swimwear (excl. knitted or crocheted)	100
	6211 12 00	Women's or girls' swimwear (excl. knitted or crocheted)	100
	6216 00 00	Gloves, mittens and mitts, of all types of textile materials (excl. knitted or crocheted and for babies)	60
	6113 00 10	Garments, knitted or crocheted, rubberised (excl. babies' garments and clothing accessories)	60
	6210 40 00	Men's or boys' garments of textile fabrics, rubberised or impregnated, coated, covered or laminated with plastics or other substances (excl. of the type described in subheading 6201,11 to 6201,19, and babies' garments and clothing accessories)	60
	6210 50 00	Women's or girls' garments of textile fabrics, rubberised or impregnated, coated, covered or laminated with plastics or other substances (excl. of the type described in subheading 6202,11 to 6202,19, and babies' garments and clothing accessories)	60
Sport equipment	9506 11 10	Cross-country skis	100
	9506 11 21	Monoskis and snowboards	100
	9506 11 29	Downhill skis (excl. monoskis and snowboards)	100
	9506 11 80	Skis for ski-jumping	100
	9506 12 00	Ski bindings	100
	9506 19 00	Ski equipment for winter sports (other than skis and ski-fastenings [ski-bindings])	100
	9506 70 10	Ice skates, incl. skating boots with skates attached	100
	9506 70 30	Roller skates, incl. skating boots with rollers attached	100
	9506 70 90	Parts and accessories for ice skates and roller skates, n.e.s.	100
	6402 12 10	Ski-boots and cross-country ski footwear, with outer soles and uppers of rubber or plastics (excl. waterproof footwear of heading 6401)	100
	6402 12 90	Snowboard boots with outer soles and uppers of rubber or plastics (excl. waterproof footwear of heading 6401)	100
	6403 12 00	Ski-boots, cross-country ski footwear and snowboard boots, with outer soles of rubber, plastics, leather or composition leather and uppers of leather	100
	9506 21 00	Sailboards	100

Product category	CN 2016 code	CN 2016 description	Sport share in rounded 10%-steps
	9506 29 00	Water-skis, surfboards and other water-sport equipment (other than sailboards)	100
	9506 91 10	Exercising apparatus with adjustable resistance mechanisms	100
	9506 91 90	Articles and equipment for general physical exercise, gymnastics or athletics (excl. exercising apparatus with adjustable resistance mechanisms)	100
	4203 21 00	Specially designed gloves for use in sport, of leather or composition leather	100
	9506 31 00	Golf clubs, complete	100
	9506 32 00	Golf balls	100
	9506 39 10	Parts of golf clubs	100
	9506 39 90	Golf equipment (excl. balls, clubs and parts thereof)	100
	9506 40 00	Articles and equipment for table-tennis	100
	9506 51 00	Tennis rackets, whether or not strung (excl. table-tennis bats)	100
	9506 59 00	Badminton and similar rackets, whether or not strung (other than tennis rackets and table-tennis bats)	100
	9506 61 00	Tennis balls (excl. table tennis balls)	100
	9506 62 00	Inflatable balls	100
	9506 69 10	Cricket and polo balls	100
	9506 69 90	Balls (excl. inflatable, golf, table-tennis, tennis, cricket and polo balls)	100
	9506 99 10	Cricket and polo equipment (excl. balls)	100
	9506 99 90	Articles and equipment for sport and outdoor games n.e.s; swimming and paddling pools	100
	9507 10 00	Fishing rods	100
	9507 20 10	Fish-hooks, whether or not snelled, unmounted	100
	9507 20 90	Fish-hooks, whether or not snelled, mounted	100
	9507 30 00	Fishing reels	100
	9507 90 00	Line fishing tackle n.e.s; fish landing nets, butterfly nets and similar nets; decoys and similar hunting or shooting requisites (excl. decoy calls of all kinds and stuffed birds of heading 9705)	100
Footwear	6404 11 00	Sport footwear, incl. tennis shoes, basketball shoes, gym shoes, training shoes and the like, with outer soles of rubber or plastics and uppers of textile materials	100
	6402 19 00	Sport footwear with outer soles and uppers of rubber or plastics (excl. waterproof footwear of heading 6401, ski-boots, cross-country ski footwear, snowboard boots and skating boots with ice or roller skates attached)	100
	6403 19 00	Sport footwear, with outer soles of rubber, plastics, leather or composition leather and uppers of leather (excl. ski-boots, cross-country ski footwear, snowboard boots and skating boots with ice or roller skates attached)	100
Motorcycles	8711 10 00	Motorcycles, incl. mopeds, and cycles fitted with an auxiliary motor, with reciprocating internal combustion piston engine of a cylinder capacity $\leq 50 \text{ cm}^3$	40
	8711 20 92	Motorcycles, incl. mopeds, with reciprocating internal combustion piston engine of a cylinder capacity $> 50 \text{ cm}^3$ but $\leq 125 \text{ cm}^3$ (excl. scooters)	40
	8711 20 98	Motorcycles, incl. mopeds, with reciprocating internal combustion piston engine of a cylinder capacity $> 125 \text{ cm}^3$ to 250 cm^3 (excl. scooters)	40

Product category	CN 2016 code	CN 2016 description	Sport share in rounded 10%-steps
	8711 30 10	Motorcycles, incl. mopeds, with reciprocating internal combustion piston engine of a cylinder capacity > 250 cm ³ to 380 cm ³	40
	8711 30 90	Motorcycles, incl. mopeds, with reciprocating internal combustion piston engine of a cylinder capacity > 380 cm ³ to 500 cm ³	40
	8711 40 00	Motorcycles, incl. mopeds, with reciprocating internal combustion piston engine of a cylinder capacity > 500 cm ³ but <= 800 cm ³	40
	8711 50 00	Motorcycles, incl. mopeds, with reciprocating internal combustion piston engine of a cylinder capacity > 800 cm ³	40
	8711 90 10	Cycles, with an auxiliary electric motor with a continuous rated power <= 250 W	40
	8711 90 90	Motorcycles, incl. mopeds, and cycles fitted with an auxiliary motor and side cars for motorcycles (excl. with reciprocating internal combustion piston engine, and cycles with continuous rated power <= 250 W))	40
	8714 10 10	Brakes and parts thereof, of motorcycles "incl. mopeds"	40
	8714 10 20	Gear boxes and parts thereof, of motorcycles "incl. mopeds"	40
	8714 10 30	Road wheels and parts and accessories thereof, of motorcycles "incl. mopeds"	40
	8714 10 40	Silencers "mufflers" and exhaust pipes, and their parts, of motorcycles "incl. mopeds"	40
	8714 10 50	Clutches and parts thereof, of motorcycles "incl. mopeds"	40
	8714 10 90	Parts and accessories of motorcycles, incl. mopeds, n.e.s. (excl. brakes, gear boxes, road wheels, silencers, exhaust pipes, clutches, and their parts)	40
Boats	8903 91 10	Sea-going sailboats and yachts, with or without auxiliary motor, for pleasure or sport	100
	8903 91 90	Sailboats and yachts, with or without auxiliary motor, for pleasure or sports (excl. seagoing vessels)	100
	8903 10 10	Inflatable vessels for pleasure or sports, of a weight <= 100 kg each	100
	8903 10 90	Inflatable vessels, for pleasure or sports, of a weight > 100 kg each	100
	8903 92 91	Motor boats for pleasure or sports, of a length <= 7,5 m (other than outboard motor boats)	100
	8903 92 99	Motor boats for pleasure or sports, of a length > 7,5 m (other than outboard motor boats and excl. seagoing motor boats)	100
	8903 99 10	Vessels for pleasure or sports, rowing boats and canoes, of a weight <= 100 kg each (excl. motor boats powered other than by outboard motors, sailboats with or without auxiliary motor and inflatable boats)	100
	8903 99 91	Vessels for pleasure or sports, rowing boats and canoes, of a weight > 100 kg, of a length <= 7,5 m (excl. motor boats powered other than by outboard motors, sailboats with or without auxiliary motor and inflatable boats)	100
	8903 99 99	Vessels for pleasure or sports, rowing boats and canoes, of a weight > 100 kg, of a length > 7,5 m (excl. motor boats and motor yachts powered other than by outboard motors, sailboats and yachts with or without auxiliary motor and inflatable boats)	100
Bicycles	8712 00 30	Bicycles, not motorised, with ball bearings	50
	8714 91 10	Frames for cycles (excl. for motorcycles)	50
	8714 91 30	Front forks for cycles (excl. for motorcycles)	50

Product category	CN 2016 code	CN 2016 description	Sport share in rounded 10%-steps
	8714 91 90	Parts of front forks, for cycles (excl. for motorcycles)	50
	8714 92 10	Rims for cycles (excl. for motorcycles)	50
	8714 92 90	Spokes for cycles (excl. for motorcycles)	50
	8714 93 00	Hubs and free-wheel sprocket-wheels for cycles (excl. for motorcycles and coaster braking hubs and hub brakes)	50
	8714 94 20	Brakes, incl. coaster braking hubs and hub brakes, for cycles (excl. for motorcycles)	50
	8714 94 90	Parts of brakes, incl. coaster braking hubs and hub-brakes, for cycles, n.e.s. (excl. for motorcycles)	50
	8714 95 00	Saddles for cycles (excl. for motorcycles)	50
	8714 96 10	Pedals for bicycles	50
	8714 96 30	Crank-gear for bicycles	50
	8714 96 90	Parts of pedals and crank-gear for bicycles, n.e.s.	50
	8714 99 10	Handlebars for bicycles	50
	8714 99 30	Luggage carriers for bicycles	50
	8714 99 50	Derailleur gears for bicycles	50
	8714 99 90	Parts and accessories for bicycles, and parts thereof, n.e.s.	50
Weapons and ammunition	9303 20 10	Sporting, hunting or target-shooting shotguns, single-barrelled, smooth bore (excl. muzzle-loading firearms and spring, air or gas guns)	100
	9303 20 95	Sporting, hunting or target-shooting shotguns, with one or two smooth bore combined with a rifled bore and double-barrelled smooth bore shotguns	100
	9303 30 00	Sporting, hunting and target-shooting shotguns with one or more rifled bores (other than spring, air or gas guns)	100
	9306 21 00	Cartridges for smooth-barrelled shotguns	50
	9306 29 00	Parts of cartridges for smooth-barrelled shotguns; lead shot for air rifles and pistols	50
	9306 30 90	Cartridges and parts thereof, n.e.s.	50
	9306 90 90	Ammunition and projectiles and parts thereof, n.e.s. (excl. for military purposes)	50
Made-up textile articles (except apparel)	6306 22 00	Tents of synthetic fibres (excl. umbrella and play tents)	70
	6306 29 00	Tents of textile materials (excl. of synthetic fibres, and umbrella and play tents)	50
	6306 30 00	Sails for boats, sailboards or landcraft, of textile materials	100
	6306 40 00	Pneumatic mattresses of textile materials	50
	6306 90 00	Camping goods of textile materials (excl. tents, awnings and sunblinds, sails, pneumatic mattresses, rucksacks, knapsacks and similar receptacles, filled sleeping bags, mattresses and cushions)	70
	8804 00 00	Parachutes, incl. dirigible parachutes and paragliders, and rotochutes; parts thereof and accessories thereto, n.e.s.	100
	9404 30 00	Sleeping bags, whether or non-electrically heated	70
Rubber tyres and tubes	4011 40 00	New pneumatic tyres, of rubber, of a kind used for motorcycles	40
	4011 50 00	New pneumatic tyres, of rubber, of a kind used for bicycles	50
	4013 20 00	Inner tubes, of rubber, of a kind used for bicycles	50
Aircrafts	8801 00 10	Gliders, without motor and not capable of being fitted with a motor, and hang gliders; balloons and dirigibles (excl. party balloons)	100

Product category	CN 2016 code	CN 2016 description	Sport share in rounded 10%-steps
	8801 00 90	Kites and other non-powered aircraft (excl. gliders, hang gliders, balloons and children's kites)	100
	8802 20 00	Aeroplanes and other powered aircraft of an unladen weight <= 2,000 kg (excl. helicopters and dirigibles)	50
Motor vehicles	8703 10 11	Vehicles specially designed for travelling on snow, with internal combustion piston engine	50
	8703 10 18	Vehicles for the transport of persons on snow, not with internal combustion piston engine; golf cars and similar vehicles	50
Billiard	9504 20 00	Billiards of all kinds and accessories	100
Direction finding compasses	9014 10 00	Direction finding compasses	50

Source: Austrian Institute for SME Research, VVA

12.3.2. Definition of sporting goods in PRODCOM-codes

Assumptions for calculating the sport share for each PRODCOM-code

Each CN-code has been assigned a specific sport share (ranging from 20 to 100% in 10%-steps), which is taken into account in order to calculate the sport shares in PRODCOM-codes. The sport shares which have been identified in the CN-codes represent by and large the use in sport, i.e. the intention for a product to be used in sport (sport purpose), the share of sport in production, the sport market share in consumption etc. There is a conversion table between CN 8-digit codes and PRODCOM 8-digit codes. One single PRODCOM 8-digit code can be assigned to more than one CN 8-digit code, as CN can be more detailed for some goods than PRODCOM.

Selection of data to perform the calculation of the sport share in the PRODCOM 8-digit-codes

CN-codes are only used in trade data. When using CN-data for calculating sport shares in PRODCOM, it has to be taken into account that the trade data are "weights" that influence the sport share in production data (PRODCOM). Trade data do not necessarily have to reflect production data in terms of structural similarities. Therefore, the task was to find and select data on CN 8-digit level that reflect the structure of production (as in PRODCOM data) in the best way possible in order to avoid "wrong" weighting as far as possible.

The following data from Eurostat were available for the calculation:

- CN 8-digit-codes: import value, export value
- PRODCOM 8-digit-codes: production value, import value, export value

To start with the calculation, data for the **CN 8-digit-codes** were used, i.e. **international trade data** from Eurostat (import value and export value). Intra-EU and extra-EU trade data have been summed up in order to receive data on the whole trade volume. To find the most suitable data for the calculation, a correlation analysis was performed for the following data:

- Production value (PRODCOM) and import value (CN, intra-EU + extra-EU): correlation coefficient = 0.49 (medium positive correlation)
- Production value (PRODCOM) and export value (CN, intra-EU + extra-EU): correlation coefficient = **0.74** (high positive correlation)
- Production value (PRODCOM) and the sum of import value plus export value (CN, intra-EU + extra-EU): correlation coefficient = 0.62 (medium positive correlation)

Since the highest correlation could be determined between the production value and the export value (0.74), the following analyses were carried out using the export data on CN

8-digit level. They reflect the production structure (in PRODCOM data) in the best way possible.

Calculation of the sport share in PRODCOM-codes

Subsequently, the sport share for the PRODCOM 8-digit-codes were calculated in the following way, based on these data:

- **export value** (CN, intra-EU + extra-EU), aggregated data of all EU member states for the years 2012 – 2016 (to calculate a 5-year average to compensate for differences in the data) from the Eurostat international trade data with CN 8-digit-codes
- **sport share in the defined CN 8-digit-codes** according to the definition file, rounded in 10%-steps for further calculations – the sport shares are applied to the CN-data in order to provide a realistic picture of the sporting goods sector

First Step: For each year (2012, 2013, 2014, 2015 and 2016), the export value of sporting goods for each CN 8-digit-code that was defined as sporting good was calculated =

export value

multiplied by

the sport share

Second Step: For each year (2012, 2013, 2014, 2015 and 2016), the sport share for each PRODCOM 8-digit-code was calculated =

sum of the export value of sporting goods (result of the first step) of all CN 8-digit-codes that correspond to one PRODCOM 8-digit-code

divided by

sum of the export value of the whole corresponding PRODCOM 8-digit-code

The **third step** of the procedure consists of the calculation of a 5-year average based on the result of step 2, with the **result** of receiving a consolidated sport share for every PRODCOM 8-digit-code.

Table 44: Sporting goods in PRODCOM-codes by product categories

Product Category	Prodcom 2016 Code	Prodcom 2016 Description	Sport share in rounded 10%-steps
Sport equipment	32.30.11.31	Skis, for winter sports	100
	32.30.11.37	Ski-bindings, ski brakes and ski poles	100
	32.30.11.50	Ice skates and roller skates, including skating boots with skates attached; parts and accessories therefor	100
	32.30.12.00	Snow-ski footwear	100
	32.30.13.00	Water-skis, surfboards, sailboards and other water-sport equipment	100
	32.30.14.00	Gymnasium or athletics articles and equipment	100
	32.30.15.10	Leather sports gloves, mittens and mitts	100
	32.30.15.30	Golf clubs and other golf equipment (including golf balls)	100
	32.30.15.50	Articles and equipment for table-tennis (including bats, balls and nets)	100
	32.30.15.60	Tennis, badminton or similar rackets, whether or not strung	100
	32.30.15.80	Balls (excluding golf balls, table-tennis balls, medicine balls and punch balls)	100
	32.30.15.90	Other articles and equipment for sport and open-air games, n.e.c.	100

Product Category	Prodcom 2016 Code	Prodcom 2016 Description	Sport share in rounded 10%-steps
	32.30.16.00	Fishing rods, other line fishing tackle; articles for hunting or fishing n.e.c.	100
Boats	30.12.11.00	Sailboats (except inflatable) for pleasure or sports, with or without auxiliary motor	100
	30.12.12.00	Inflatable vessels for pleasure or sports	100
	30.12.19.30	Motor boats and motor yachts, for pleasure or sports (excluding outboard motor boats)	10
	30.12.19.70	Other vessels for pleasure or sports n.e.c.; rowing boats and canoes	100
Motorcycles	30.91.11.00	Motorcycles and cycles with an auxiliary motor with reciprocating internal combustion piston engine $\leq 50 \text{ cm}^3$	40
	30.91.12.00	Motorcycles with reciprocating internal combustion piston engine $> 50 \text{ cm}^3$	40
	30.91.13.00	Side cars for motorcycles; cycles with auxiliary motors other than reciprocating internal combustion piston engine	40
	30.91.20.00	Parts and accessories of motorcycles and side-cars	40
Bicycles	30.92.10.00	Bicycles and other cycles (including delivery tricycles), non-motorised	50
	30.92.30.10	Frames and forks, for bicycles	50
	30.92.30.60	Parts and accessories of bicycles and other cycles, not motorised (excl. frames, front forks, lighting or visual signalling equipment of a kind used on bicycles)	50
Wearing apparel	14.13.11.20	Men's or boys' waistcoats, anoraks, ski-jackets, wind-cheaters, wind-jackets and similar articles, of knitted or crocheted textiles (excluding jackets and blazers)	60
	14.13.13.20	Women's or girls' waistcoats, anoraks, ski-jackets, wind-cheaters, wind-jackets and similar articles, of knitted or crocheted textiles (excluding jackets and blazers)	60
	14.13.21.30	Men's or boys' waistcoats, anoraks, ski-jackets, wind-jackets and similar articles (excluding jackets and blazers, knitted or crocheted, impregnated, coated, covered, laminated or rubberised)	60
	14.13.31.30	Women's or girls' waistcoats, anoraks, ski-jackets, wind-jackets and similar articles (excluding jackets and blazers, knitted or crocheted, impregnated, coated, covered, laminated or rubberised)	60
	14.19.12.10	Track-suits, of knitted or crocheted textiles	100
	14.19.12.30	Ski-suits, of knitted or crocheted textiles	100
	14.19.12.40	Men's or boys' swimwear, of knitted or crocheted textiles	100
	14.19.12.50	Women's or girls' swimwear, of knitted or crocheted textiles	100
	14.19.22.10	Other men's or boys' apparel n.e.c., including tracksuits and jogging suits (excluding waistcoats, ski-suits, knitted or crocheted)	50
	14.19.22.20	Other women's or girls' apparel n.e.c., including tracksuits and jogging suits (excluding waistcoats, ski-suits, knitted or crocheted)	60
	14.19.22.30	Ski-suits (excluding of knitted or crocheted textiles)	100
	14.19.22.40	Men's or boys' swimwear (excluding of knitted or crocheted textiles)	100
	14.19.22.50	Women's or girls' swimwear (excluding of knitted or crocheted textiles)	100
	14.19.23.70	Gloves, mittens and mitts (excluding knitted or crocheted)	60
	14.19.32.00	Garments made up of felt or non-wovens, textile fabrics impregnated or coated	40

Product Category	Prodcom 2016 Code	Prodcom 2016 Description	Sport share in rounded 10%-steps
Weapons and ammunition	25.40.12.50	Shotguns, rifles, carbines and muzzle-loaders (including punt-guns, combination shotgun-rifles, sporting guns made to resemble walking sticks) (excluding military firearms)	100
	25.40.13.00	Cartridges and other ammunition and projectiles and parts thereof, including shot and cartridge wads (excluding for military purposes)	50
Footwear	15.20.21.00	Sport footwear with rubber or plastic outer soles and textile uppers (including tennis shoes, basketball shoes, gym shoes, training shoes and the like)	100
	15.20.29.00	Other sport footwear, except snow-ski footwear and skating boots	100
Made-up textile articles (except apparel)	13.92.22.30	Tents (including caravan awnings)	70
	13.92.22.50	Sails	100
	13.92.22.70	Pneumatic mattresses and other camping goods (excluding caravan awnings, tents, sleeping bags)	60
	13.92.23.00	Parachutes and rotochutes, parts and accessories (including dirigible parachutes)	100
	13.92.24.30	Sleeping bags	70
Aircrafts	30.30.20.00	Balloons, dirigibles and other non-powered aircraft, for civil use (including sounding, pilot and ceiling balloons, meteorological kites and the like)	100
	30.30.32.00	Aeroplanes and other aircraft of an unladen weight <= 2,000 kg, for civil use	50
Rubber tyres and tubes	22.11.12.00	New pneumatic tyres, of rubber, of a kind used on motorcycles or bicycles	40
	22.11.15.70	Inner tubes, of rubber	20
Motor vehicles	29.10.52.00	Motor vehicles specially designed for travelling on snow, golf cars and similar vehicles	50
Billiard	32.40.42.10	Articles and accessories for billiards (excluding mechanical counters, time meters and cue racks)	100
Direction finding compasses	26.51.11.20	Direction finding compasses (including magnetic, gyroscopic, binnacle and position finding)	50

Source: Austrian Institute for SME Research, VVA

12.3.3. Definition of sporting goods in NACE-codes

For the **manufacturing sector**, the following data / information was used to identify the sport share in NACE-codes:

- Sporting good-related share in production at 4-digit level by aggregation of 8-digit-PRODCOM data, which is identical with the NACE 4-digit level
- Sporting good-related share in trade at 4-digit level by aggregation of corresponding 8-digit-CN data
- Share of sporting good-related production codes (8-digit level) within a 4-digit level code, calculated from the amount of sporting good-related production codes within a 4-digit-level code

For the **wholesale / retail trade sector** as well as **services**, where detailed data (more detailed than 4-digit level) at EU level is not available in any other classification, the sport shares were calculated / assessed by

- taking into account NACE data at national level³³⁹ (from national Structural Business Statistics), as countries might have applied different NACE classifications for their 5-digit- and 6-digit level codes, e.g. United Kingdom and Germany. For instance, the indicator “employment” can be taken into account in order to assess whether an economic activity can be assigned to sporting goods or not. Calculate the shares of 5- or 6-digit codes in NACE 4-digit codes.
- Share of sporting good-related CPA codes (6-digit level) within a 4-digit level code, calculated from the amount of sporting good-related production codes within a 4-digit-level code.

Based on this information, it was possible to arrive at a categorisation of sporting good-related NACE 4-digit-codes by using the categories “totally” (100%), “mainly” (50-99%) and “partly” (20-49%). For the data analysis, the “totally sports” and “mainly sports” codes were taken into account as a whole, i.e. no sporting goods share was applied. The NACE-codes “partly sports” were used for the indicators “turnover” and “value added” with their respective sporting goods share; they were not used for the indicators “number of enterprises” and “persons employed”.

12.3.4. Definition of sporting goods in trade data according to the Harmonised System (HS)

Table 45: Detailed list of sport goods by HS by aggregate

PROD_SP	LABEL	HS 2007	DESCRIPTION
SKI	Snow-skis and other snow-ski equipment, ski-boots, cross-country ski footwear and snowboard boots	9506.11	Skis
		9506.12	Ski-fastenings (ski-bindings)
		9506.19	Ski equipment for winter sports
		6402.12	Ski-boots, cross-country ski footwear and snowboard boots with outer soles and uppers of rubber or plastics
		6403.12	Ski-boots, cross-country ski footwear and snowboard boots with outer soles of rubber, plastics, leather or composition leather and uppers of leather
SKATE	Ice skates and roller skates, including skating boots with skates attached	9506.70	Ice skates and roller skates, including skating boots with skates attached
WATER	Vessels for pleasure and sport, sailboats, sailboards, other water-sport boats and boards and water-sport equipment	9506.21	Sailboards
		9506.29	Water-skis, surf-boards, sailboards and other water-sport equipment
		8903.10	Inflatable vessels for pleasure or sports
		8903.91	Sailboats, with or without auxiliary motor for pleasure or sports
		8903.92	Motor boats, other than outboard motor boats for pleasure or sports
		8903.99	Vessels for pleasure or sports; rowing boats
GOLF	Golf clubs and other golf equipment	9506.31	Golf clubs, complete
		9506.32	Golf balls
		9506.39	Golf equipment (excl. balls and complete clubs)
RACKET	Articles and equipment for table tennis; tennis, badminton and similar rackets	9506.40	Articles and equipment for table tennis
		9506.51	Tennis rackets, whether or not strung
		9506.59	Badminton and similar rackets, whether or not strung
BALL	Tennis balls, inflatable	9506.61	Tennis balls

339 We screened data in countries where NACE codes in SBS are available at very detailed 5-digits and 6-digit-level – this is usually the case in the larger EU countries (e.g. United Kingdom, Germany, Italy, France).

PROD_SP	LABEL	HS 2007	DESCRIPTION
	balls, other balls (excl. golf balls, and table tennis balls)	9506.62	Inflatable balls
		9506.69	Balls (excl. inflatable, tennis balls, golf balls, and table tennis balls)
GYMSWIM	Articles and equipment for general physical exercise, gymnastics or athletics, sport and outdoor games, swimming and paddling pools	9506.91	Articles and equipment for general physical exercise, gymnastics or athletics
		9506.99	Articles and equipment for sport and outdoor games, swimming and paddling pools
FISHING	Fishing rods, fish-hooks, fishing reels and other fishing equipment	9507.10	Fishing rods
		9507.20	Fish-hooks, whether or not snelled
		9507.30	Fishing reels
		9507.90	Line fishing tackle n.e.s; fish landing nets, butterfly nets and similar nets; decoys and similar hunting or shooting requisites
CYCLE	Bicycles and other cycles (including delivery tricycles), not motorised	8712.00	Bicycles and other cycles (including delivery tricycles), not motorised
CHUTE	Parachutes (including dirigible parachutes and paragliders) and rotochutes; parts thereof and accessories thereto	8804.00	Parachutes (including dirigible parachutes and paragliders) and rotochutes; parts thereof and accessories thereto
SPWEAR	Swimwear, ski-suits, gloves designed for use in sports	6211.11	Men's or boys' swimwear (excl. knitted or crocheted)
		6211.12	Women's or girls' swimwear (excl. knitted or crocheted)
		6211.20	Ski suits (excl. knitted or crocheted)
		6112.20	Ski-suits, knitted or crocheted
		6112.31	Men's or boys' swimwear of synthetic fibres, knitted or crocheted
		6112.39	Men's or boys' swimwear of textile materials, knitted or crocheted (excl. synthetic fibres)
		6112.41	Women's or girls' swimwear of synthetic fibres, knitted or crocheted
		6112.49	Women's or girls' swimwear of textile materials, knitted or crocheted (excl. synthetic fibres)
		4203.21	Gloves, mittens and mitts specially designed for use in sports
FTWEAR	Sport footwear	6402.19	Sport footwear with outer soles and uppers of rubber or plastics
		6403.19	Sport footwear with outer soles of rubber plastics leather or composition leather and uppers of leather (excl. ski-boots cross-country ski footwear snowboard boots and skating boots with ice or roller skates attached)
		6404.11	Sport footwear; tennis shoes, basketball shoes, gym shoes, training shoes and the like
SHOTGUN	Sporting, hunting or target-shooting shotguns	9303.20	Sporting, hunting or target-shooting shotguns, with at least one smooth barrel (excl. muzzle-loading firearms and spring, air or gas guns)
		9303.30	Sporting, hunting and target-shooting shotguns with one or more rifled bore

Source: Eurostat, International trade in sporting goods by HS

12.3.5. Literature / sources consulted in the context of the definition of sporting goods

Literature / reports

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KBA (2016): Bestand an Personenkraftwagen nach Segmenten und Modellreihen. https://www.kba.de/DE/Statistik/Produktkatalog/produkte/Fahrzeuge/fz12_b_uebersicht.html

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Statista (2017): Footwear market in Europe.
<https://www.statista.com/outlook/11000000/102/footwear/europe>

Online resources

European Binding Tariff Information (EBTI): BTI Consultation, referring to many different CN-codes.

http://ec.europa.eu/taxation_customs/dds2/ebti/ebti_consultation.jsp?Lang=en

Internet research on different kinds of weapons and their use

Trade Helpdesk of the European Commission: classification of clothes and textiles.

<http://trade.ec.europa.eu/tradehelp/>

Sports retailers Sportscheck (Austria) and Galeria Kaufhof (Germany)

Interest groups

Confederation of the European Bicycle Industries (CONEBI): assessment on the sporting goods share in CN-codes related to bicycles

Federation of the European Sporting Goods Industry (FESI): assessment on the sporting goods share in CN-codes related to clothes / textiles

12.4. Annex 4: Full list of interview/survey questions

12.4.1. Survey questionnaire

Survey questionnaire

I. About you

1. Name of organisation:
2. Your name and position in the organisation:
3. Email address:
4. Your organisation/company is:
 - Sporting goods manufacturer
 - Sporting goods association
 - Sector association
 - General business association (including SMEs)
 - Chamber of commerce
 - Sport federation/club
 - Trade union
 - Research centre
 - Education or training institution
 - Public authority
 - Other (please specify)
5. If other, please specify
6. In which countries is your company/organisation located?

For companies:

7. What are the main sporting goods manufactured by your company?
 - Manufacture of footwear
 - Manufacture of weapons and ammunition
 - Manufacture of motor vehicles
 - Building of pleasure and sporting boats
 - Manufacture of bicycles and invalid carriages
 - Snow-skis and other snow-ski equipment, except footwear; ice skates and roller skates; parts thereof
 - Snow-ski footwear
 - Water-skis, surfboards, sailboards and other water-sport equipment
 - Gymnasium, fitness centre or athletics articles and equipment
 - Other articles and equipment for sport or outdoor games; swimming pools and paddling pools
 - Fishing rods, other line fishing tackle; articles for hunting or fishing
 - Wholesale of clothing and footwear
 - Retail sale of sporting equipment in specialised stores
 - Tarpaulins, awnings and sunblinds; sails for boats, sailboards or landcraft; tents and camping goods (including pneumatic mattresses)
 - Parachutes (including dirigible parachutes) and rotochutes; parts thereof
 - Tracksuits, ski suits, swimwear and other garments, knitted or crocheted
 - Manufacture of other wearing apparel and accessories
 - Other
8. How big is your company?
 - Micro (0-9 employees)
 - Small (10-49 employees)
 - Medium (50-249 employees)
 - Large (>250 employees)
9. What is your turnover?
 - < € 2 m
 - between € 2 m and € 10 m
 - between € 10 and € 50 m
 - >€ 50 m

II. SWOT													
What are the main threats and opportunities of the European sporting goods sector? <i>By using the grids, please score each of the factors below, from relevant threat (-5) to neutral feature (0) up to great opportunity (+5).</i>													
	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	I don't know	
Economic factors													
General growth of the sector globally													
Trends and forecasts in global demand													
Trends and forecasts in employment													
Level of income in Europe													
Level of prices in Europe													
Low-cost production in non-EU countries													
The state of the economy in Europe													
Markets and competition													
Market competition at national level													
Market competition at European level													
Market competition at global level													
Availability of cheaper products													
Geographic fragmentation of demand (e.g. high demand of winter sporting goods in Austria compared to Malta)													
Growth of niche sport													
Diversity of products													
Counterfeit products													
Political factors													
Protectionist forces at international level													
National incentives and promotion of healthy lifestyle (their importance/impact on sporting goods industries)													
European incentives and promotion of healthy lifestyle (their importance/impact on sporting goods industries)													
National laws, regulations and standards													
European laws, regulations and standards													
Initiatives from public authorities to foster the competitiveness of the sporting goods industry													
Social and demographic factors													
Individual and collective behaviours with respect to sport activities													

Diversification of social factors (such as age, education, income, sex, etc.)													
Consumer awareness (i.e. price, quality, environmental standards, responsible production methods)													
Technology and innovation													
Smart textile usage or E-textiles (fabrics that enable digital components and electronics to be embedded in them)													
Value-chains/product innovation													
User-driven innovation processes													
Human resources													
Availability of skills in Europe													
Availability of training facilities (schools, apprenticeships, universities)													
Demographic change (i.e. decline of the workforce)													
What are the main weaknesses and strengths of the European sporting goods sector? <i>By using the grids, please score each of the factors below, from relevant weakness (-5) to neutral feature (0) up to great strength (+5).</i>													
	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	I don't know	
Clustering and partnerships													
Cooperation with other businesses and organisations													
Clustering initiatives (to promote innovation and diversification across the value chains, knowledge sharing and capacity building, as well as cooperation between businesses and R&D bodies, etc.)													
Management and financing													
Management structures													
Work organisation forms													
Working conditions													
Staff reward / remuneration systems													
Business financing													
Quality management strategies													
Marketing and innovation													
Industry-specific know-how													
Access to knowledge and technologies													
Expertise in specific technologies													
Competitive pricing													
Image of the sporting goods sector													

Sponsorship agreements for sport events																			
Business and product development																			
Enterprise size																			
Participation in global value-chains and international trade of goods																			
Outsourcing production to independent third-party suppliers																			
Development of innovative products and services																			
In-house product design																			
Online retail sales (e-commerce)																			
If there are other internal/micro factors not included, please specify and score accordingly:																			
<p>I. Additional questions</p> <p><i>For all types of stakeholder:</i></p> <p>1. Are you aware of any public initiatives to foster competitiveness of the sporting goods industry in your country?</p> <ul style="list-style-type: none"> • Yes • No <p>(Please provide details)</p> <p>2. If yes, have you benefited from such initiatives?</p> <ul style="list-style-type: none"> • Yes • No <p>(Please provide details)</p> <p>3. In your view, at which stage of the production chain would public initiatives to support competitiveness of the sporting goods industries be most useful?</p> <ul style="list-style-type: none"> • Workforce training & skills • Support for new market entrants • Support for innovation and new technologies in the production process (e.g. digitisation, automation) • Support for product diversification • Support for selling within the EU Single Market (i.e. within the EU) • Support for selling outside the EU Single Market • Other (please specify) <p>4. In your view, what should be the role of the European Commission in supporting the sporting goods industry in Europe?</p> <p>(Please justify your answer in the box below)</p> <p>5. In which stage of the production chain does Europe have the biggest potential to innovate?</p> <p>(Please justify your answer in the box below)</p> <p>6. How would you describe the evolution of production costs of sporting goods in the last decade in Europe and outside Europe?</p> <p>Europe</p> <ul style="list-style-type: none"> • Production costs have reduced significantly • Production costs have reduced somewhat • The production cost has been stagnant 																			

- Production costs have increased somewhat
- Production costs have increased significantly

Outside Europe

- Production costs have reduced significantly
- Production costs have reduced somewhat
- The production cost has been stagnant
- Production costs have increased somewhat
- Production costs have increased significantly

Please explain your answer

7. Is the vocational training system in your country appropriate for the needs of the sporting goods manufacturing sector?

- Yes
- No
- I don't know

(Please justify your answer in the box below)

8. In your view, how could the vocational training system for sporting goods manufacturing be improved?

(Please justify your answer in the box below)

9. Is there any other information or issue not covered by the preceding sections that you wish to bring to the attention of the European Commission?

(Please justify your answer in the box below)

For sport federations/clubs:

10. Which of the following methods are typical for your federation/club to procure the sporting goods (outfits and equipment) you use? (Please tick all that involve significant amounts of goods)

- Supplied at no charge by a sponsoring sporting goods manufacturer
- Supplied at no charge by another sponsor
- Purchased at significantly reduced prices due via sponsorship agreements
- Purchased at market price (may include quantity rebates)

11. Is your main outfitter (supplying jerseys, pants, shoes etc.) a national or EU brand?

- A national brand
- A brand from the European Union
- A brand from a third country
- I don't know

12. Is the main supplier of your equipment (balls, rackets, nets etc.) a national or EU brand?

- A national brand
- A brand from the European Union
- A brand from a third country
- I don't know

13. How likely is it that you would choose a brand from the European Union for your equipment?

- Very likely
- Somewhat likely
- Somewhat unlikely
- Very unlikely

14. In your opinion, how competitive are outfit suppliers from the European Union in comparison with suppliers from third countries? (1 – very uncompetitive, 5 – very competitive)

- Purchase price

- Total life-cycle cost (considering durability, cost of cleaning, repair etc.)
- Quality aspects
- Reliability of supply (on time)
- Brand image
- Corporate Social Responsibility considerations
- Other (please specify)

15. In your opinion, how competitive are equipment suppliers from the European Union in comparison with suppliers from third countries? (1 – very uncompetitive, 5 – very competitive)

- Purchase price
- Total life-cycle cost (considering durability, cost of cleaning, repair etc.)
- Quality aspects
- Reliability of supply (on time)
- Brand image
- Corporate Social Responsibility considerations
- Other (please specify)

16. How could European outfit or equipment suppliers best improve the competitiveness of their offer?

(Please justify your answer in the box below)

17. Would you agree to be re-contacted to take part in an in-depth interview on the topic?

- Yes
- No

(If yes, please indicate an email address and phone number where we can reach you)

12.4.2. Interview guide

Name:

Organisation:

Position:

Interview guide:

Overview of the sector:

1. How would you assess the situation and development of the sporting goods industry in your country over the last 10 years?
2. How would you assess the situation and development of the sporting goods industry in Europe over the last 10 years? What about the international sporting goods industry?

Preliminary results of the SWOT analysis:

1. The preliminary results of the study identified some of the weaknesses of the European sporting goods industry. What is your opinion about the preliminary findings?
2. Which other factors (framework conditions) constitute **weaknesses** of the sporting goods industry and hamper the development of the sector?
Please consider: at national level, at EU level, at international level

Major weaknesses: Business financing, Enterprise size, Outsourcing production to independent third-party suppliers.

1. The preliminary results of the study showed that there are major and less pronounced opportunities of the European sporting goods industry. What is your opinion about the preliminary findings?
2. What other factors constitute **opportunities** for the sporting goods industry?
Please consider: at national level, at EU level, at international level

Major opportunities: General growth of the sector globally, Trends and forecasts in global demand, Growth of niche sport, Diversity of products, National and European incentives and promotion of healthy lifestyle (their importance/impact on sporting goods industries), Individual and collective behaviours with respect to sport activities, Consumer awareness (i.e. price, quality, environmental standards, responsible production methods), Smart textile usage or E-textiles (fabrics that enable digital components and electronics to be embedded in them), Value-chains/product innovation, User-driven innovation processes.

Less pronounced opportunities: Trends and forecasts in employment, Level of income in Europe, Level of prices in Europe, The state of the economy in Europe, Market competition at national, European and global level, Geographic fragmentation of demand (e.g. high demand of winter sporting goods in Austria compared to Malta), National and European laws, regulations and standards, Initiatives from public authorities to foster the competitiveness of the sporting goods industry, Diversification of social factors (such as age, education, income, sex, etc.), Availability of skills in Europe, Availability of training facilities (schools, apprenticeships, universities).

1. The preliminary results of the study showed that there are major and less pronounced threats of the European sporting goods industry. What is your opinion about the preliminary findings?
2. What other factors constitute **threats** for the sporting goods industry?
Please consider: at national level, at EU level, at international level

Major threats: Low-cost production in non-EU countries, Counterfeit products, Protectionist forces at international level.

Less pronounced threats: Availability of cheaper products, Demographic change (i.e. decline of the workforce).

Additional questions:

3. How do you assess the role of governance, policies and strategies in supporting the development of the sporting goods sector?
Please consider: at regional level, national level, at EU level
4. How would you describe the evolution of production costs of sporting goods in the last decade? Please explain your answer.
Please consider: at national level, at EU level, at international level

5. Is the vocational training system appropriate for the needs of the sporting goods manufacturing sector? How could this be improved?

Please consider: at national level, at EU level

6. In your view, at which stage of the production chain would public initiatives to support competitiveness of the sporting goods industries be most useful? Please explain your answer.
7. Are you aware of any public initiatives to foster competitiveness of the sporting goods industry in your country?
8. What would still be needed to foster development of the sporting goods industry?

Please consider: at regional level, at national level, at EU level

9. Where do you see the main areas for intervention / support? Please explain.

Prompt: At local / regional level, at national level? At EU level?

10. Do you have any other recommendations on how the European sporting goods sector can be improved?

12.5. Annex 5: Breakdown of survey responses

12.5.1. Breakdown of total survey responses

Table 46: Ranking of threats and opportunities factors as rated by 119 survey respondents

The main threats and opportunities of the European sporting goods sector		Average ratings – overall
Economic factors	General growth of the sector globally	2.6
	Trends and forecasts in global demand	2.3
	Trends and forecasts in employment	1.2
	Level of income in Europe	1.4
	Level of prices in Europe	0.5
	Low-cost production in non-EU countries	-1.2
	The state of the economy in Europe	0.7
Markets and competition	Market competition at national level	0.6
	Market competition at European level	0.5
	Market competition at global level	-0.11
	Availability of cheaper products	-1.0
	Geographic fragmentation of demand (e.g. high demand of winter sporting goods in Austria compared to Malta)	0.2
	Growth of niche sport	2.5
	Diversity of products	2.2
	Counterfeit products	-1.8
Political factors	Protectionist forces at international level	-1.2
	National incentives and promotion of healthy lifestyle (their importance/impact on sporting goods industries)	2.4
	European incentives and promotion of healthy lifestyle (their importance /impact on sporting goods industries)	2.5
	National laws, regulations and standards	0.1
	European laws, regulations and standards	0.4
	Initiatives from public authorities to foster the competitiveness of the sporting goods industry	1.4
Social and demographic factors	Individual and collective behaviours with respect to sport activities	2.5
	Diversification of social factors (such as age, education, income, sex, etc.)	1.8
	Consumer awareness (i.e. price, quality, environmental standards, responsible production methods)	2.1
Technology and innovation	Smart textile usage or E-textiles (fabrics that enable digital components and electronics to be embedded in them)	2.2
	Value-chains/product innovation	2.5
	User-driven innovation processes	2.3
Human resources	Availability of skills in Europe	2.0
	Availability of training facilities (schools, apprenticeships, universities)	2.0
	Demographic change (i.e. decline of the workforce)	-0.3

Table 47: Ranking of weaknesses and strengths factors as rated as rated by 119 survey respondents

The main weaknesses and strenghts of the European sporting goods sector		Average ratings – overall
Clustering and partnerships	Cooperation with other businesses and organisations	1.6
	Clustering initiatives (to promote innovation and diversification across the value chains, knowledge sharing and capacity building, as well as cooperation between businesses and R&D bodies, etc.)	1.3
Management and financing	Management structures	1.3
	Work organisation forms	1.0
	Working conditions	1.7
	Staff reward / remuneration systems	1.5
	Business financing	0.7
	Quality management strategies	1.9
Marketing and innovation	Industry-specific know-how	2.6
	Access to knowledge and technologies	2.7
	Expertise in specific technologies	2.6
	Competitive pricing	1.5
	Image of the sporting goods sector	2.7
	Sponsorship agreements for sport events	2.0
Business and product development	Enterprise size	0.7
	Participation in global value-chains and international trade of goods	1.5
	Outsourcing production to independent third-party suppliers	0.5
	Development of innovative products and services	2.6
	In-house product design	2.6
	Online retail sales (e-commerce)	2.1

12.5.2. Sporting goods manufacturers

Table 48: Ranking of weaknesses and strengths factors as rated by sporting goods manufacturers (by company size)

The main weaknesses and strengths of the European sporting goods sector		Average rating for all companies	Breakdown by company size			
			Micro	Small	Medium	Large
Clustering and partnerships	Cooperation with other businesses and organisations	1.3	1.0	1.4	0.5	2.4
	Clustering initiatives (to promote innovation and diversification across the value chains, knowledge sharing and capacity building, as well as cooperation between businesses and R&D bodies, etc.)	1.1	0.1	2.3	0.5	2.6
Management and financing	Management structures in Europe	1.6	1.1	1.2	2.0	3.1
	Work organisation forms in Europe	1.4	0.8	1.4	2.5	2.4
	Working conditions in Europe	2.1	1.8	1.8	3.5	2.6

The main weaknesses and strengths of the European sporting goods sector		Average rating for all companies	Breakdown by company size			
			Micro	Small	Medium	Large
	Staff reward / remuneration systems	1.9	1.6	1.4	3.0	2.6
	Business financing	1.1	0.2	0.7	3.3	2.9
	Quality management strategies	2.4	1.9	2.4	3.3	3.0
Marketing and innovation	Industry-specific know-how	2.9	2.3	3.1	4.0	3.5
	Access to knowledge and technologies	2.8	2.1	2.8	4.3	3.6
	Expertise in specific technologies	2.7	1.9	2.8	3.5	3.9
	Competitive pricing	1.7	0.6	2.5	4.0	1.8
	Image of the sporting goods sector	2.7	2.3	2.8	4.0	3.1
	Sponsorship agreements for sport events	1.7	1.3	1.5	3.5	2.3
Business and product development	Enterprise size	0.8	-0.2	0.8	4.0	2.0
	Participation in global value-chains and international trade of goods	1.7	0.8	1.3	4.5	2.8
	Outsourcing production to independent third-party suppliers	0.9	0.7	0.4	1.8	1.7
	Development of innovative products and services	2.6	1.3	3.5	4.3	3.3
	In-house product design	3.2	2.4	3.6	4.5	3.6
	Online retail sales (e-commerce)	2.3	2.0	1.4	4.5	3.4

Table 49: Ranking of threats and opportunities factors as rated by sporting goods manufacturers (by company size)

The main threats and opportunities of the European sporting goods sector		Average rating for all companies	Breakdown by company size			
			Micro	Small	Medium	Large
Economic factors	General growth of the sector globally	1.9	2.1	2.4	2.3	0.6
	Trends and forecasts in global demand	2.0	1.9	2.5	2.0	1.6
	Trends and forecasts in employment	0.9	1.2	1.2	0.8	-0.3
	Level of income in Europe	1.2	1.3	1.3	1.3	0.9
	Level of prices in Europe	0.7	0.5	1.3	0.3	0.5
	Low-cost production in non-EU countries	-1.1	-1.7	-1.2	-2.0	1.0
	The state of the economy in Europe	0.8	0.6	1.2	0.8	0.8
Markets and competition	Market competition at national level	0.1	-0.1	0.9	-2.3	0.5
	Market competition at European level	0.1	0.5	0.4	-2.0	-0.3
	Market competition at global level	0.1	0.3	-0.1	0.0	0.0
	Availability of cheaper products	-0.8	-0.3	-0.8	-1.3	-1.5

The main threats and opportunities of the European sporting goods sector		Average rating for all companies	Breakdown by company size			
			Micro	Small	Medium	Large
	Geographic fragmentation of demand (e.g. high demand of winter sporting goods in Austria compared to Malta)	-0.2	0.1	-0.5	0.7	-1.0
	Growth of niche sport	2.2	2.4	2.0	3.3	1.3
	Diversity of products	1.8	1.4	2.5	3.5	1.3
	Counterfeit products	-1.1	-0.8	-0.1	-3.3	-2.0
Political factors	Protectionist forces at international level	-0.7	-0.5	-0.5	-0.5	-1.7
	National incentives and promotion of healthy lifestyle (their importance/impact on sporting goods industries)	1.8	1.4	1.5	3.3	2.9
	European incentives and promotion of healthy lifestyle (their importance/impact on sporting goods industries)	2.2	1.8	1.9	3.8	2.8
	National laws, regulations and standards	-0.1	0.1	-0.7	1.8	-0.8
	European laws, regulations and standards	0.1	0.2	-0.3	1.8	-0.6
	Initiatives from public authorities to foster the competitiveness of the sporting goods industry	0.8	-0.1	0.8	3.3	1.4
Social and demographic factors	Individual and collective behaviours with respect to sport activities	2.1	2.2	1.6	2.3	2.8
	Diversification of social factors (such as age, education, income, sex, etc.)	1.5	1.6	1.7	2.0	1.1
	Consumer awareness (i.e. price, quality, environmental standards, responsible production methods)	2.0	1.6	2.1	2.0	2.8
Technology and innovation	Smart textile usage or E-textiles (fabrics that enable digital components and electronics to be embedded in them)	1.7	1.3	0.9	3.0	3.0
	Value-chains/product innovation	2.4	1.8	2.4	3.5	3.1
	User-driven innovation processes	2.2	1.7	1.8	3.5	3.1
Human resources	Availability of skills in Europe	1.5	0.9	1.7	2.3	2.1
	Availability of training facilities (schools, apprenticeships, universities)	1.3	1.1	0.9	2.5	1.5
	Demographic change (i.e. decline of the workforce)	-0.5	-0.4	-1.1	2.3	-1.4

12.5.3. Sporting goods retailers

Table 50: Ranking of weaknesses and strengths factors as rated by European sporting goods retailers

The main weaknesses and strengths of the European sporting goods sector		Average ratings for sporting goods retailers
Clustering and partnerships	Cooperation with other businesses and organisations	1.8
	Clustering initiatives (to promote innovation and diversification across the value chains, knowledge sharing and capacity building, as well as cooperation between businesses and R&D bodies, etc.)	1.0
Management and financing	Management structures	1.1
	Work organisation forms	1.2
	Working conditions	1.6
	Staff reward / remuneration systems	2.0
	Business financing	-0.1
	Quality management strategies	1.6
Marketing and innovation	Industry-specific know-how	3.0
	Access to knowledge and technologies	2.8
	Expertise in specific technologies	2.3
	Competitive pricing	0.9
	Image of the sporting goods sector	2.8
	Sponsorship agreements for sport events	1.9
Business and product development	Enterprise size	0.8
	Participation in global value-chains and international trade of goods	1.4
	Outsourcing production to independent third-party suppliers	0.1
	Development of innovative products and services	2.8
	In-house product design	2.5
	Online retail sales (e-commerce)	0.9

Table 51: Ranking of threats and opportunities factors as rated by European sporting goods retailers

The main threats and opportunities of the European sporting goods sector		Average ratings for sporting goods retailers
Economic factors	General growth of the sector globally	2.8
	Trends and forecasts in global demand	2.5
	Trends and forecasts in employment	1.6
	Level of income in Europe	1.5
	Level of prices in Europe	-0.1

The main threats and opportunities of the European sporting goods sector		Average ratings for sporting goods retailers
Markets and competition	Low-cost production in non-EU countries	-1.4
	The state of the economy in Europe	1.2
	Market competition at national level	0.5
	Market competition at European level	-0.2
	Market competition at global level	-0.7
	Availability of cheaper products	-0.9
	Geographic fragmentation of demand (e.g. high demand of winter sporting goods in Austria compared to Malta)	0.3
	Growth of niche sport	2.6
	Diversity of products	1.9
	Counterfeit products	-1.5
Political factors	Protectionist forces at international level	-1.1
	National incentives and promotion of healthy lifestyle (their importance/impact on sporting goods industries)	1.5
	European incentives and promotion of healthy lifestyle (their importance /impact on sporting goods industries)	1.3
	National laws, regulations and standards	0.1
	European laws, regulations and standards	0.8
	Initiatives from public authorities to foster the competitiveness of the sporting goods industry	1.4
Social and demographic factors	Individual and collective behaviours with respect to sport activities	2.9
	Diversification of social factors (such as age, education, income, sex, etc.)	2.1
	Consumer awareness (i.e. price, quality, environmental standards, responsible production methods)	2.3
Technology and innovation	Smart textile usage or E-textiles (fabrics that enable digital components and electronics to be embedded in them)	1.2
	Value-chains/product innovation	1.7
	User-driven innovation processes	1.9
Human resources	Availability of skills in Europe	1.8
	Availability of training facilities (schools, apprenticeships, universities)	1.7
	Demographic change (i.e. decline of the workforce)	0.8

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