The Regional Annex to the National RIS 3 for the Zlín Region

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Analytical Part

1. Position of the Region

Economic performance puts the Zlín Region among average regions of the Czech Republic, despite it having experienced the highest rate of GDP per capita growth after Prague and the South Moravian Region from 2005 to 2011. The Development Strategy of the Zlín Region for 2009 – 2020 (as updated in November 2013) describes the years 2006 – 2009 as a convergence period when the Region's GDP per capita was nearing the average of both the Czech Republic and the EU. However, the economic crisis has caused a decline the Region's economy is only slowly emerging from and the economic development in the years 2010 – 2011 was divergent. While the economic crisis was not immediately felt in the Zlín Region, it had more severe consequences, most notably a surge in the unemployment rate, which was above the Czech Republic's average from early 2009 to September 2013.

The low investment activity of the Zlín Region is not conducive to strengthening its future competitiveness. This was already true before the economic crisis, which has further compounded the problem. The Zlín Region currently occupies the penultimate position in the country in terms of gross fixed capital formation per capita. This is due to both the Region's low attractiveness for foreign investment and a lack of domestic investment in the Region. Investment activity is not growing despite the high success rate, compared to other regions of the Czech Republic, of applicants for support from structural funds in the current programming period.

The Zlín Region relies heavily on industry, with its manufacturing industry accounting for the highest share of employment and added value among all regions of the Czech Republic. In the post-crisis period, industry is further strengthening its position in the Region at the expense of the service sector and is expected to continue playing a key role in both employment and RDI activities in the years ahead. A closer look at the industry structure shows that the manufacture of rubber and plastic products (CZ NACE 22) is an overwhelmingly dominant industry in the Region (both in terms of revenue and employment). This position is largely due to the presence of major tyre manufacturers in the Region (Continental Barum – the Region's largest employer, Mitas), which are growing dynamically. Also growing are important plastics companies, which are building on activities of the former Research Institute for Rubber & Plastics Technology and on R&D facilities of the Plastics Cluster and of the Centre for Polymer Systems, which is being built at Tomáš Baťa University in Zlín (TBU). Other industries that are significant in terms of number and overall employment include the manufacture of fabricated metal products, except machinery and equipment (CZ NACE 25), manufacture of food products (CZ NACE 10), manufacture of machinery and equipment n.e.c. (CZ NACE 28) and a host of other industries (e.g. chemical, aircraft, electrical engineering, wood and

furniture industries). Besides the above-mentioned Plastics Cluster, the Moravian Aerospace Cluster and the Aerospace & Astronautics Technology Platform operate in the Zlín Region.

Except for a few industrial giants, the economy of the Zlín Region is composed mostly of small and medium-sized enterprises. No company in the Region employs over 5,000 people and only six relevant companies have a staff of over 1,000 (Continental Barum, Tajmac-ZPS, ON Semiconductor, Česká zbrojovka, Slovácké strojírny and Fatra). Like other regions of the Czech Republic, the Zlín Region relies heavily on export, in particular to EU markets. Tyres account for nearly a quarter of exports, electronic components for a tenth, automotive parts and accessories for about 5% and fabricated metal products and plastic products for over 2%. With this structure, the Region has the potential to focus on medium high-tech and, to a lesser extent, on high-tech industries, especially electrical engineering and automotive industries.

Periodic surveys by the CZSO show that businesses in the Zlín Region have an above-average innovation performance (6th position among Czech regions in terms of the share of innovation companies). Also statistics of use of innovation grants place the Zlín Region among above-average regions. However, a comparison of revenue and added value in industry indicates that the Zlín Region is slightly below average among Czech regions. The reason for this is that the majority of innovation companies in the Region centre their attention on (and use grants for) lower-level innovations, focusing on their existing markets and customers. The number of companies launching breakthrough products that open new markets is low in the Zlín Region. However, the economic crisis and the associated slump in contracts have prompted some of the Region's companies to change their strategy. Realising the need to focus on innovations and search for new market opportunities (and using the support available for these activities) may be a strong impulse for enhancing the Region's competitiveness.

Human resources are an issue that representatives of companies from the Region mention most frequently as a barrier to innovation performance. The nationwide shortage of qualified, in particular technically educated, staff for R&D and for the manufacture of innovated products is even more acute in the Zlín Region because of its peripheral location, low salaries and a generally lower quality of life (in terms of the availability of necessary education services, health care, leisure activities etc.) compared to some more attractive regions. The Zlín Region is experiencing selective migration as, in particular, graduates and qualified staff search for and find new opportunities in Brno or Prague. Concurrently, the Region is not attractive enough to draw qualified staff from elsewhere (other Czech regions or from abroad). In order for the Region's innovation performance to increase, it is essential to stem the drain of qualified staff and encourage them to return or come to the Region. It is also necessary to better educate human resources in the Region and strengthen the cooperation of innovation companies and schools, especially with technical disciplines at secondary schools and relevant disciplines at Tomáš Baťa University in Zlín (TBU).

The shortage of qualified human resources is impacting not only companies but also the newly built applied research facilities at TBU where the full effect is felt of the competition from universities that are also implementing projects funded from the Operational Programme Research and Development for Innovations (OP RDI). Since highly qualified researchers seek employment in research teams in more attractive locations/regions, it may prove difficult to fill some of the positions in the applied research centres that are under construction in the Zlín Region.

2. R&D in the Region, Innovative Business

In terms of the R&D expenditure to GDP ratio, the public sector in the Zlín Region spends only a fifth to a tenth of the private sector's expenditure. While there has been a marked increase in R&D expenditure in the Czech Republic over the last years (as well as in its ratio to GDP), in the Zlín Region that expenditure remained largely flat in the public sector and developed similarly to the economy in the private sector. This said, R&D expenditure by the public sector, represented mainly by TBU, is growing now. The same holds true for R&D human resources whose number has also been growing in recent years. In this respect, it is necessary to overcome the shortage of qualified human resources as described in the preceding chapter.

A comparison of R&D results in terms of granted patents confirms the private sector totally dominates over the public sector, although TBU has obtained new patents in recent years. In order to enhance the economic benefits of R&D activities, more emphasis must be placed on the commercialisation of R&D outputs, thereby strengthening the relevance the research teams that are being formed in the Region within S3. Teams with the greatest potential are being formed within the Centre for Polymer Systems (CPS) and the Centre for Security, Information and Advanced Technologies (CEBIA-TECH) at TBU, which have received financial support from the OP RDI and are looking to expand the existing and establish new cooperation with companies in the Region. In cooperation with the Region's leading plastics companies, the CPS is involved in a Competence Centre programme (the 'Centre for Advanced Polymer and Composite Materials' project).

The Region's private sector includes a host of companies with R&D activities. The Region's successful companies with a strong focus on innovations operate, in particular, in the plastics, aircraft, engineering, electrical engineering, ICT, defence and metalworking industries.

There is a lot of R&D activity going on in the plastics industry, where TBU's Centre for Polymer Systems is playing a major role, developing cooperation in particular with members of the Plastics Cluster, which brings together manufacturers of a wide range of plastic products from composites, sandwich panels, piping systems, packaging material, film, insulation systems, flooring to plastic components for vehicles and many other applications. In addition to cooperating with TBU, several secondary schools and other support organisations, the Plastics Cluster is also involved in national support programmes and international projects (participation in a number of projects under the 7th framework project, especially in the Clusterplast project). Since some of the production of Plastics Cluster members is for the automotive industry, the Plastics Cluster cooperates, on an inter-regional basis, with the Moravian-Silesian Automotive Cluster and the West Slovakia Automotive Cluster. Research by the CPS and plastics companies in the Region focuses on new raw materials, new technologies (nano, eco, bio) and products (e.g. composites, biofilm, sanitary and safety packaging) for use in a variety of industries – the automotive and aircraft industries, food-processing industry, health care, engineering, building industry and many others.

An important role in R&D in the Region is played also by the aircraft industry, represented by manufacturers of aircraft and related components, avionics and instrumentation. The key companies are grouped in the Aerospace & Astronautics Czech Technology Platform, which has prepared the Strategic Research Agenda of the Czech Aircraft and Space Industry until 2025, including a detailed implementation plan. While the agenda covers all important activities in the Czech Republic, it is the Zlín Region where a large portion of aircraft development (EV-55 Outback, L 410) is taking place. In addition, important companies cooperating in aircraft manufacture in Kunovice and Uherské Hradiště

have founded the Moravian Aerospace Cluster with the ambition to develop a world-class aircraft industry and participate in international cooperation. The key academic partners for these activities include Brno University of Technology (BUT) and Czech Technical University in Prague (CTU), and cooperation has also been established with the Aerospace Research & Testing Institute in Prague and leading companies, in particular from the South Moravian Region and the Vysočina Region. Aircraft companies take an active part in international cooperation with major aircraft manufacturers and their development and design facilities are also used by the automotive industry (in particular Škoda Auto) where R&D focuses primarily on functional design and better safety standards.

The manufacture of electronic components and electrical equipment can be considered the third most important area in terms of R&D in the Zlín Region. It is developing successfully in particular in Rožnov pod Radhoštěm, Holešov and the Uherské Hradiště area. The industry focuses primarily on semiconductor technology (power supply of electric appliances), photovoltaics (solar cells and photovoltaic systems), measuring instruments and smart electrical equipment. The companies are involved in a variety of R&D projects at the national, and to some extent international, level. Their main academic partners include universities in Brno, Prague and Pilsen, while potential also exists for some cooperation with TBU (Faculty of Applied Informatics). There are some links with the aircraft and automotive industries, the building industry, engineering and, to a lesser extent, with a host of other industries.

Engineering and the defence industry are other major sectors where companies from the Region have R&D capacities. These are, in particular, innovations in precision engineering (automatic multi-spindle machine tools), manufacture of handguns, manufacture of stair lifts for disabled persons etc. These sectors are interlinked as precision engineering manufactures machine tools for the defence (and the automotive) industry, as cooperation exists with the aircraft industry and as the defence industry works with plastics companies on R&D focused on replacing metals with suitable plastics. A large group of the Region's metalworking companies is also involved in the cooperation. The main academic partners for R&D include Brno University of Technology, VSB-Technical University in Ostrava, Czech Technical University (CTU) in Prague, VÚTS Liberec and University of West Bohemia in Pilsen. In addition to the links to the above-mentioned strong sectors in the Region, there is also focus on the electrical engineering industry and ICT. Some engineering companies from the Zlín Region are members of the Engineering Manufacturing Equipment technology platform and cooperate in specific projects with their partners in the Czech Republic.

Despite being predominantly industrial, the Zlín Region is also home to several highly innovative organisations in the service sector, notably in ICT. ICT activities are developed at TBU's Faculty of Applied Informatics and by the CEBIA-TECH Applied Research Centre, which received funding from the OP RDI. Companies focus on turnstile and identification systems and on system integration of software, technologies and business processes.

In Zlín, there are also important R&D activities (at an international level) in specialist health care, namely ophthalmology and reproductive medicine. The Region's specialised facilities have state-of-the-art equipment and their experts participate in global R&D and its application in services that are demanded by patients from both the Czech Republic and other European countries.

Companies from the Zlín Region pursue R&D activities also in other areas. Prime examples include the building industry (new construction materials and systems), chemical products and explosives,

glass production, crop production, waste processing and reuse, water and soil decontamination and waste water disposal.

The vast majority of the Region's R&D activities are based on long-term, historical ties with partners from the Czech academic and business sectors. The business sector has local (or Czech) owners and own R&D activities. However, there are a few exceptions, e.g. the ON Semiconductor facility in Rožnov pod Radhoštěm has an important position within the entire holding and produces R&D outputs for both the U.S.-based parent company and its affiliates.

A specific situation exists in the rubber industry, which, while being one of the Region's crucial industries in terms of employment, revenue and exports, is not an important innovator. This is largely because the foreign owner of Continental Barum, a key company, undertakes its R&D activities in Hanover and, to some extent, in Púchov. Yet, Continental Barum Otrokovice is making efforts to strengthen its position within the group and pursue its own R&D activities in cooperation with TBU, the group members based in Púchov, Slovakia, and with other rubber companies in the Region.

Of the industries cited above, only plastics companies and, to a lesser degree, ICT can find a suitable academic partner in the Zlín Region. In key R&D activities, companies establish cooperation with BUT (in particular engineering, electrical engineering and aircraft industries), VSB-Technical University in Ostrava and other technical universities in Brno, Prague, Pilsen, Liberec and elsewhere. Although TBU neither has a strong position in nor focuses on fields corresponding to innovation activities of all of the Region's key industries, it may, along with other R&D institutions outside the Zlín Region, be an important partner for companies in the implementation of S3 RDI projects. TBU's focus and demand for its services, in particular in the field of polymers (CPS), ICT (Faculty of Applied Informatics and CEBIA-TECH), materials engineering (Faculty of Technology), industrial engineering (Faculty of Management and Economics) and industrial design (Faculty of Multimedia Communications), provide a solid basis for identifying areas for extensive R&D cooperation leading to innovations in the Region's companies. The R&D potential of TBU's above-mentioned faculties is also evidenced by the R&D results listed in the Register of Information on Results – RIR.

Data on participation of the Zlín Region's companies in R&D grant programmes shows that the most used are programmes at the national level, be it the Operational Programme Enterprise and Innovation (OP EI) financed from structural funds or the state-financed TA CR programmes (Alpha, Competence Centres) and the past programmes of the Ministry of Industry and Trade of the CR (MIT) (TIP, Impuls, Tandem). The number of participations of the Zlín Region's entities in international projects (the Seventh Framework Programme, Eureka, Eurostars) is significantly lower but not much different from most other regions (placing the Region into the first half of all Czech regions). The Zlín Region ranks among the most active ones in national programmes. Namely in the OP EI, the Zlín Region consistently comes fourth in the number of projects and funds received (after the Central Bohemian, South Moravian and Moravian-Silesian regions). However, the Region's position in terms of average subsidy per project is below the average. This means the Region has a higher number of less costly projects than other regions, which perhaps confirms the information in the previous chapter that focus is placed primarily on lower-level innovations, i.e. without R&D partners. In this respect, companies must be encouraged to cooperate in order to strengthen and fully unlock their innovation potential and future competitiveness.

3. Public Administration and its Role in the Region's Innovation System

Main Analytical Documents

The Region's major analytical documents include **the Analysis of the Zlín Region's Innovation Potential** (Technology Innovation Centre, 2009), a direct survey conducted among companies operating in the Region. The Analysis also includes an evaluation of implemented and planned support tools, identifying TOP 10 support tools for use by the Region's companies. The Analysis contains a fairly detailed examination of the following areas – human resources and education, research, development and innovation activities, cooperation in RDI activities, innovation infrastructure and business support. The document was used in formulating the Regional Innovation Strategy of the Zlín Region for 2013 – 2020 (ZR RIS 2013 – 2020) and, despite coming from 2009, many of the areas and barriers it identifies are still current.

Another analytical document (which was used in preparing the ZR RIS 2013 – 2020) is **the Analysis of the Manufacturing Industry of the Zlín Region** (Sociotrendy, 2011/2012), which contains, inter alia, a scenario of development of the manufacturing industry and identifies new technologies that are expected to impact the Zlín Region's manufacturing industry in the long term.

Other relevant documents include two analyses conducted by TBU: **the Analysis of Cooperation of Tomáš Baťa University in Zlín with the Application Sector** and **the Analysis of the Potential for Cooperation between the Application Sector and Tomáš Baťa University in Zlín.** Both of the analyses examined areas of cooperation between TBU's faculties and companies or institutions and barriers to their cooperation on both sides. Possible areas for future cooperation were highlighted, the main ones being Automation, Control Equipment, Electrical Engineering, Process Management, Manufacturing Engineering, Chemistry, Materials Technology etc.

Strategy Documents

The key strategy document of the Zlín Region is **the Development Strategy of the Zlín Region for 2009 – 2020** (ZR DS 2009 – 2020). Its aim is to define a scenario that will allow the Region to come closer (or achieve) the average economic level in the European Union, across all areas. The document's section on innovations and R&D highlights the fact that insufficient attention is paid to the integration and coordination of activities of support organisations in the Zlín Region, as a result of which the required synergies of cooperation and effective services for companies do not occur. Fulfilling the ZR RIS 2013 – 2020 will also help fulfil the ZR DS 2009 – 2020.

The key document for RDI and business support is the Regional Innovation Strategy for 2013 – 2020, which sets out the fundamental vision '***The Zlín Region – a competitive region open to innovations and cooperation'.*** The ZR RIS 2013 – 2020 targets two priority axes – Human Resources for Innovation and Competitiveness (priority axis A) and Support Infrastructure for Innovation and Competitiveness (priority axis B). The vision is being implemented through concrete actions under the Action Plan of the Regional Innovation Strategy for 2013 – 2020 (AP ZR RIS) – currently for the 2013 – 2014 period. With one exception (the 'innovation vouchers' activity), the ZR RIS 2013 – 2020 does not deal primarily with direct support for concrete innovation projects of companies in the Zlín

Region. Instead, it focuses on building and supporting system tools that create an environment conducive to the implementation of these projects and to the cooperation of companies – not only with other companies within sector or interdisciplinary alliances but also with educational and science and research institutions and support organisations. The ZR RIS 2013 – 2020 and the related AP ZR RIS provide the basic framework for public administration's interventions in this area. The approved ZR RIS 2013 – 2020 builds on the previously approved ZR RIS 2008 – 2013 document. In 2005, the Zlín Region and TBU founded a service organisation – Technologické inovační centrum s.r.o. (TIC). The organisation is tasked with implementing concrete actions and activities under the ZR RIS 2013 – 2020.

The RIS3 strategy being prepared, in particular the regional annex for the Zlín Region, may, in this context, be aligned with the structure of the ZR RIS 2013 – 2020, especially in terms of vision and focus on horizontal themes. Likewise, the action plan can serve as background material for planning and preparing concrete interventions within the S3 proposal part.

Interventions of Public Administration

The Zlín Region implements numerous interventions in relation to the Action Plan of the ZR RIS, both through its own personnel and through its service organisations (mainly TIC), in such case co-funding is provided in the form of a public service obligation. In addition to support for start-ups through a business incubator, examples of activities include education in business and entrepreneurship (workshops, best business plan contest, new idea generation support, networking) and an offer of financial tools to support business and cooperation in RDI (microcredit, regional credit, innovation vouchers, contact point for venture capital). This also includes tools focused on RDI activities of existing companies and on their cooperation (the 'Innovation Platform of the Zlín Region' pilot project, consulting in R&D programmes) or PR services for innovations of the Zlín Region (the 'Innovation Company of the Zlín Region' contest, Innovation Bulletin, Innovation Portal). The above activities are very difficult to evaluate since their impact on the Region's economic indicators is hard to measure – however, the AP ZR RIS contains measurable indicators of output and outcome for each intervention and these are evaluated by the steering committee of the ZR RIS 2013 – 2020 (in particular the following indicators are covered: number of supported persons, occupancy rate, number of supported companies, number of new jobs, funds provided, number of implemented projects, number of new business plans, number of supported projects etc.). Essential monitoring indicators were set up within the implementation of the ZR RIS 2013 – 2020. However, the implementation of the AP ZR RIS will not be evaluated until 2014. From 2011 to 2012, the business incubator and the TIC Science and Technology Park (Business Innovation Centre Zlín) supported 53 companies, created 21 new jobs [1] and provided 10 favourable-term microcredits. During three years of innovation vouchers, nearly CZK 17.2 million was distributed among companies and 124 projects were supported.

Based on the experience with the current implementation of these activities in the Region, one can say that tools and activities intended especially for students and start-ups are implemented best with

[1] Results of TIC activities supported by the Zlín Region within the public service obligation – this is a direct result of the RIS or regional interventions.

respect to outputs and demand (this does not mean they do not require further development). However, there are major gaps in support for existing companies and their RDI activities (this is limited mostly by the quality of available services, low demand, a narrow range of interventions aimed at the business sector) and in real transfer of knowledge (foundation of spin-offs, sale of solutions). For a list and more details of selected existing interventions see the analytical material for the preparation of this document.

From 2005 to 2013, science and technology parks and business incubators were built in several towns of the Zlín Region (Slavičín, Kunovice, Valašské Klobouky, Vsetín) using the OP IE and OP EI (Prosperity Programme) grant programmes. Most of these projects are implemented and co-funded by local self-governments, having a limited regional impact and not involving the Zlín Region. Some of them are beyond their sustainability period and no longer pursue their original objectives. Other entities that have established business incubators, science and technology parks and technology transfer centres are TIC, TBU and Industry Servis ZK, a.s. (the operator of the Holešov Strategic Industrial Zone). From 2005 to 2013, more than ten infrastructure projects focused on the construction of business incubators and science and technology parks were implemented in the Zlín Region using grants (Prosperity), a fairly large number considering the Region's size and R&D capacity. The problem to some extent is that these projects are mostly limited to the provision of basic technical and administrative services and of business support services, education, training etc. Some of them focus on consulting in the area of business and R&D financing, arranging R&D cooperation or on intellectual property protection. Save for a few exceptions, there is a shortage of expert services focused on knowledge transfer at the national (international) level.

In total, the above-mentioned business incubators and science and technology parks had approx. 10,490 square meters of leasable space in 2011. Their occupancy rate was 83% and the number of resident companies, employees and new jobs was 83, 185 and 24 respectively. Approx. 10,590 square meters of leasable space were available in 2012 (occupancy rate: 76%, resident companies: 74, employees: 149, new jobs: 30[2]).

4. Main Actors in Innovation System – Results of Stakeholder Analysis

A) Private Sphere (Business Sector)

Key stakeholders for RIS 3 in the business sector in the Zlín Region were selected using a variety of databases. Primary data concerned the involvement of companies in the implementation of RDI projects at the international (the Seventh Framework Programme, Eureka, Eurostars) and national level (programmes of the Technology Agency of the CR – Alpha, Omega, Competence Centre; programmes of the Ministry of Industry and Trade – TIP, Impuls, Tandem; OP EI – programmes Potential, Innovations). Use was also made of data from the Technological Profile of the CR (www.techprofil.cz) and the Czech Business Tigers rankings (www.stiky.cz). In addition to this publicly available data, the Zlín Region has data from companies that enrolled in 2009, 2010 and 2012 in the

[2] These are aggregated values for the said BI's and STP's in the Zlín Region including results of TIC activities.

'Innovation Company of the Zlín Region' contest and data from surveys, workshops and working groups that helped formulate the first Regional Innovation Strategy of the Zlín Region (2006 – 2007) and update it in 2011 – 2012. Data on the use of regional support tools (in particular innovation vouchers) and on involvement in clusters and technology platforms is monitored at the regional level.

Most key companies, whose RDI activities and potential were analysed, operate in the plastics industry, aircraft industry, engineering, electrical engineering, defence and metalworking industries. These are companies having their own R&D facilities and manufacturing mainly products for end customers or supplying the automotive, aircraft, electrical engineering and building industries. Each of these entities participates in a variety of R&D projects with partners from both the academic and private sectors and some are also members of international research consortia.

B) R&D Institutions

The public sector's R&D facilities focus on the following fields:

- Chemistry (TBU),
- IT, electrical engineering and security systems (TBU),
- Plastics (including sanitary materials) and rubber industries (TBU),
- Shoe and leather industries (TBU),
- Defence industry (Military Technical Institute of Armament and Ammunition in Slavičín),
- Engineering (TBU),
- Food, fat, surfactant and cosmetics technology (TBU),
- Agriculture, forestry wood processing (Mendel University in Brno; Forestry and Game Management Research Institute; Agricultural Research Institute in Kroměříž).

A comparison of the focus of the Region's R&D facilities with the key industries (rubber and plastics industries, electrical engineering industry, engineering) and cross-sectional industries (automotive and aircraft industries and ICT) shows some misalignment. It can be said that the focus of the Region's R&D institutions does not correspond fully with the main industries. This is especially true about the range of R&D facilities for industrial activities of companies in engineering, one of the main sectors.

Plastics Industry

The Region is home to many facilities doing research and development in the processing of plastics and rubber. The processing of rubber, the manufacture of machinery and, to some extent, the chemical industry have started building on R&D in the processing of plastics. Major public facilities doing R&D in the processing of plastics and rubber include TBU's Faculty of Technology and TBU's Centre for Polymer Systems. 6 out of 10 institutes of the Faculty of Technology focus on plastics. They explore polymeric processes and conduct research into plastics, rubber and composite materials.

Engineering Industry

The Region's only facility with R&D activities in engineering is the Institute of Manufacturing Engineering (IME) of TBU's Faculty of Technology. Using also simulations, the Institute conducts research into the construction of tools, devices and production machinery for the processing of

polymers. It designs and tests surface treatment of moulds, extrusion dies and other metal components and employs unconventional methods of machining polymeric materials, composites and metals.

ICT and Electrical Engineering

Perceived as prestigious, ICT ranks among sectors with the greatest innovation potential. The entire ICT sector is defined as a combination of economic activities (fields) making products (technologies) and providing services that are primarily intended for the processing, communication and distribution of information electronically, including recording, storage, transmission and display of information. Of the ICT sector, ICT production falls within industry (the so-called ICT sector of the manufacturing industry). ICT production includes industries that are primarily involved in the production of devices and equipment necessary for electronic processing of data and information (ICT products). Important ICT research facilities operate in the Region. These are TBU's Faculty of Applied Informatics and its regional research centre TBU CEBIA-TECH in the public sector and research facilities of companies.

Relevant R&D institutions in the Zlín Region's public sector include in particular Tomáš Baťa University in Zlín, the Military Technical Institute of Armament and Ammunition in Slavičín, the Testing Laboratory of Joinery Products in Zlín (a branch of Mendel University in Brno) and the Kunovice branch of the Forestry and Game Management Research Institute.

C) Innovation (Support) Infrastructure and Regional Self-Government

The Zlín Region – plays a key role in creating the regional innovation system – the bearer of strategy documents (ZR RIS 2013 – 2020), funding and implementation of interventions, a co-founder of TIC (50% share), of Regionální podpůrný zdroj, s r.o., and Industry Servis ZK, a.s. (100% share).

Technologické inovační centrum s.r.o. – a service organisation of the Zlín Region and TBU – implementation of the ZR RIS 2013 – 2020, for activities see the overview of the public administration's interventions.

The Regional Chamber of Commerce of the Zlín Region – represents the interests of approx. 400 companies from the Region, bringing together the district chambers of commerce from Zlín, Uherské Hradiště and Vsetín. It serves as a contact point for comments on legislation. With respect to business support, the Chamber provides advice on starting a business, helps formulate business plans, provides grant management services and general education and training (e.g. in taxes, accounting, legislation). While its pro-innovation activities and direct participation in implementing the ZR RIS 2013 – 2020 are minimal, the Chamber is expected to get involved, in particular, in human resources related activities and in activities aimed at increasing export performance of the Region's companies (through the Eastern Markets Contact Centre affiliated with the Regional Chamber of Commerce of the Zlín Region).

The Kroměříž District Chamber of Commerce – the scope of its activities is identical to that of the Regional Chamber of Commerce of the Zlín Region except for the Eastern Markets Contact Centre.

Regionální podpůrný zdroj, s.r.o. – manages selected financial tools – microcredit, regional credit.

Industry Servis ZK, a.s. – operates the Holešov Technology Park (the company is also responsible for the Holešov Strategic Industrial Zone project).

Tomáš Baťa University in Zlín – operates two science and technology parks and a technology transfer centre.

The CzechInvest Regional Office – takes an active part in selected activities (e.g. partnership in contests and training courses, membership in working groups and steering committees etc.).

The Zlín Region Energy Agency – its activities include providing consulting services and energy consulting and initiating and preparing energy projects. The Agency's services focus on more complex projects of the Region, towns, villages, businesses and non-profit organisations.

Operators of other business incubators and science and technology parks in various parts of the Region. These entities were established by municipalities within the Region (and other partners) and pursue local interests. Their activities have a local impact at the town/village level and are not in any way influenced by the Zlín Region. These entities include Agentura pro ekonomický rozvoj Vsetínska o.p.s. (Vsetín Business Incubator), Regionální centrum kooperace a.s. (Slavičín Science and Technology Park), Valašskoklobouckéé podnikatelské centrum s.r.o. (Valašské Klobouky Business Incubator) and Podnikatelský inkubátor Kunovice – Panský dvůr, s.r.o.

The so-called Innovation Infrastructure of the Zlín Region was created in 2008, a network of the above organisations with the aim of coordinating and promoting activities, running joint projects etc. While there is/was significant cooperation between some members, the implemented joint activities usually serve the purposes of individual members (PR, sharing expertise, addressing specific problems with project sustainability), having a minimum impact on the business sector.

In general, it can be said that while the Region has a sufficient innovation infrastructure, there is a shortage of high-quality services and of genuine support for cooperation between companies and RDI institutions. The available services (training, basic consulting etc.) often overlap whereas high-quality and specialised services are provided to a very limited extent or not at all.

5. SWOT analysis

Strengths	Weaknesses
Position of the Region	
• The strong position and growth potential of some industries (notably plastics, rubber, electrical engineering, metalworking, engineering, aircraft, chemical and food-processing industries). • The Region's industrial tradition, people's positive attitudes to traditional fields. • The Czech ownership of the majority of the companies improves their speed of response to the current market situation and opportunities.	• The absence of effective dialogue at the regional level (public, research, private sectors) and a limited knowledge of what innovation companies really need (fragmentation of the innovation system). • The Region is not attractive enough to draw and retain qualified staff for RDI activities. • Weak specialisation of the Region's RDI potential and its PR at an international level. • Limited resources of the Zlín Region (and other public budgets) for RDI support in the Region.
Innovative business	
• An above-average number of innovation companies in industry within the Czech Republic. • The potential and existing cooperation of companies through industry clusters (Plastics Cluster, Aerospace Cluster), technology platforms (aerospace and astronautics) and competence centres (plastics industry, engineering). • A sufficiently large and technical capacity of the existing support infrastructure for innovation projects. • Experience with financial tools for innovation support (e.g. innovation vouchers). • Experience with building business infrastructure (science and technology parks, business incubators, development areas) and offering support services. • The Region's companies are exceptionally active (compared to other Czech regions) in implementing innovation projects supported by grants.	• Past innovations have a low effect on the Region's economic indicators (interregional comparison of revenue and value added in industry in relation to innovation companies). • Companies do not believe in developing cooperation with R&D organisations and other firms. • A lack of cooperation and coordination by support organisations in implementing projects for innovations of companies. • Insufficient use of capacities or unsuitable focus of business incubators, science and technology parks and other support tools.
R&D	
• TBU and its wide range of fields of study and suitable R&D capacities, in particular in the plastics industry, ICT, materials and industrial engineering and industrial design. • The existence of business R&D capacities, especially in industry. The presence of testing and certification organisations (in particular of the Institute for Testing and Certification).	• Low international engagement of the Zlín Region's RDI activities, relocation attractiveness for new organisations from elsewhere. • The academic sector is insufficiently motivated to cooperate with innovation companies. • R&D institutions are not prepared enough to cooperate with companies (insufficient use

	of intellectual property protection by the academic sector and its insufficient ability to create R&D outputs that can be commercialised).
Human resources for innovation and R&D	
• Experienced R&D teams and skilled staff, in particular in the Region's industrial companies. • A satisfactory network of secondary technical schools interested in cooperation with companies. • A growing proportion of university-educated population in the Region.	• A shortage of technical graduates and their insufficient qualifications and language skills. • Low salaries in the Zlín Region compared to other Czech regions. • The non-existence of tools that would attract talented RDI human resources to the Region. • Continued selective migration from the Zlín Region (talents, experienced staff and graduates are leaving - brain drain) • TBU is understaffed for R&D cooperation with companies.

Opportunities and threats

Opportunities	**Threats**
Political/legislative influences	
• Use of support funds of the EU Cohesion Policy 2014-2020 to support innovation projects that increase the competitiveness (revenues) of companies. • Use of support funds of the EU Cohesion Policy 2014-2020 to ensure the effective functioning of the innovation infrastructure and to develop sophisticated services. • Political decisions and legislative measures to better motivate the academic sphere to cooperate with the Region's companies in R&D (university funding reform).	• The risk of support tools for RDI at the national and European level being misaligned with the needs of companies from the Zlín Region.
Economic/financial impacts	
• Use of financial support tools to encourage plans and projects with a strong innovation potential.	• A global decline in demand and resultant lower demand of existing markets (in particular the automotive industry and transport) for products and innovations from the Zlín Region.
Social/demographic influences	
• The arrival of investors doing R&D and able to establish cooperation with the Region's R&D facilities. • The focus of major European and non-European research programmes on fields covered by the R&D facilities that are being built in the Zlín Region.	• Growing competition from neighbouring regions in terms of attractive job offers for qualified staff. • Relocation of R&D operations of companies from the Zlín Region to regions with better academic facilities.
Technological aspects	

• Involvement in international projects (e.g. Horizon 2020) and opportunity to participate in excellent R&D in relevant fields.	• The isolation of regional companies and failure to follow development trends in key industries.

6. Methodology of Regional Annex Formation

The Regional Annex was prepared from May 2013, based on the structure defined by the contracting authority and subsequently by the processor at the national level. The analytical part uses publicly available data from the CZSO and other public sources. Preparations for the analytical part included examining available regional documents that are of strategic importance to the Region – the Development Strategy of the Zlín Region for 2009 – 2020 and the Regional Innovation Strategy of the Zlín Region, plus other development documents and studies from the last three years. The analytical part assesses the position of the Zlín Region in the Czech Republic, the structure of R&D capacities in the Region, the innovation system and the structure of key economic industries.

Available data on the business and academic environment was summarised in a stakeholder analysis. The analysis provides information about the key stakeholders in the regional innovation system. These were identified using several criteria (hard economic data – headcount, turnover, R&D expenditure etc.) and databases – a MEYS database, a CzechInvest database (use of subsidies within the OP EI, the Innovations Programme, Potential), TIC database (the 2010 Survey of the Innovation Potential of the Zlín Region) and a Zlín Region database (monitoring of RDI activities of companies, involvement in the Sixth Framework Programme, the Seventh Framework Programme, GA CR, TIP, involvement of companies in Innovation Vouchers of the Zlín Region, cooperation in preparing and updating the ZR RIS 2013 - 2020). The stakeholder analysis identifies entities that should comment on the Region's draft RIS 3 in the next phases and be involved, in whatever form, in its implementation – e.g. through participation in the Innovation Platforms or membership in the managing authority.

The proposal part is based on the analyses and the problems identified therein and on the development potential and specifics of the Zlín Region. Three vertical priorities were identified and are reflected in the draft Implementation Structure of the S3 Strategy (Regional Annex for the Zlín Region). The processor's recommendations were also taken into account in preparing the Regional Annex and in defining the vertical priorities.

7. Proposal of the Region's specialisation – domains for RIS 3

In proposing domains/specialisation for RIS 3 in the Zlín Region, a table was created combining strong industries in the regional economy (with R&D facilities) and areas receiving innovations implemented by concrete representatives of these industries. This is shown in the following table:

Industries/services	New materials	Surface treatment	Design & ICT solutions	Design	Safety	Energy savings	Eco-innovations	Smart systems
Plastics Industry	**	**	*	*	*		*	
Rubber industry				*	*			
Metalworking industry	*	*	**	*				
Aircraft industry	*	*	**	**	**	*		*
Engineering			**	*	*	*		*
Electrical engineering industry			*	*	*	**		**
ICT			*	*	**			**
Food-processing industry					*			
Chemical industry	**				*		*	

* = Focus of RDI activities of the Region's companies ** = Strong focus of RDI activities of the Region's companies

The data was discussed with key innovation companies from each of the industries. The 3 domains defined below were chosen for discussion that was held within innovation platforms and attended by relevant companies with R&D potential and by representatives of research institutes.

The S3 domains of the Zlín Region are defined as follows:

A) INNOVATIVE APPLICATION OF POLYMERS

- This is application of polymers in a wide range of industries that will have, in particular, one of the following characteristics:
    - New, polymer-based materials (including application of nano- and biotechnologies, combined materials, composites)
    - Addition of active substances with specific effects (e.g. sensory, microbial, nanoparticles etc.)
    - Surface treatment and coatings

- Innovations and lower energy consumption of manufacturing processes and products
- Design with added value for the user
- User safety:
  - Functionality of materials and products,
  - Health and sanitary safety,
- Eco-innovations – making materials and products more eco-friendly (e.g. new recycling technologies)
- Innovations in production raw materials, new product composition with more recycled content

B) INNOVATIONS IN DESIGN ACTIVITIES

- This includes design activities in a wide range of industries (with a focus on the aircraft industry and engineering) that will have, in particular, one of the following characteristics:
  - New and extensively innovated technologies, processes and design solutions, integral structures
  - New materials and surface treatment for better properties of structures
  - Use of new and innovated raw materials and innovations of methods for their processing
  - Innovations and lower energy consumption of manufacturing processes
  - Design with added value and comfort for the user
  - Better product safety and reliability
  - Energy-efficient and eco-friendlier products
  - Design of advanced semiconductor components

C) SMART AND EFFICIENT ELECTRONIC SYSTEMS

- This concerns the design and programming of electronic systems (automatic control systems) that are used in a wide range of industries and will have, in particular, one of the following characteristics:
  - Smart design or ICT solution, smart installation
  - Design with added value for the user
  - Emphasis on comfort and user-friendliness, focus on disadvantaged groups in society – assistive technology (a socially friendly and communicative ICT solution)
  - A safe and reliable design or ICT solution
    - HW and SW data protection from external threats
    - User safety – safe operation and reliability of security and control systems
  - An energy-efficient solution
  - Measuring systems for avionics
  - Specific software applications (EMBEDDED software)

- Specific interdisciplinary applications of electronics (e.g. active film)
- Advanced semiconductor materials and components

Proposal Part of Regional RIS 3

Vision

The Zlín Region – a competitive region open to innovations and cooperation.

This vision is contained in the updated ZR RIS 2013 – 2020 document, which the Council of the Zlín Region approved in March 2013. The vision is an abridged version of the previous vision from the first document on the regional innovation strategy from 2008, which remains valid until 2020 (although it was originally intended for fulfilment by 2013). In a wider context, it says that the Zlín Region has the potential to foster an innovative environment. This potential will be developed further in order to make the Zlín Region an attractive place for innovation companies. The Zlín Region will have high-quality innovation, R&D and consulting facilities in place and their mutual relations will be set up. High-quality workforce will be built in the Zlín Region and motivated to remain there, and its structure will meet the market needs. Concurrently, opportunities will be created to attract highly-qualified workforce to the Region. Targeted support will be provided to innovation activities and cooperation between the science and research sector and the private sector both within and outside the Region (inter-regional and international cooperation). All of this will be aimed at promoting economic growth in the Zlín Region.

Identified Horizontal Priorities of the Zlín Region – Draft

Key Change Areas

Key change area A: QUALIFIED RDI HUMAN RESOURCES

The Zlín Region is facing a shortage of qualified workforce. Its causes lie in the low number of important technical and natural science disciplines at the Region's universities, in insufficient cooperation between companies and educational institutions and in low interest in the study of technical and natural science disciplines and the related decline in standards required from students of and graduates from these disciplines. Other causes include low attractiveness of the Region for immigration, low salaries and the related drain of qualified workforce to regions with better pay and quality of life.

These causes manifest themselves in particular in those fields where graduates are required to have better qualifications or quality. As RDI is one of such fields, a key change area has been proposed to ensure a sufficient number of qualified staff for RDI activities in the Region's companies and academic institutions.

This key change area should comprise activities aimed at developing the necessary human resources (from primary schools to postgraduate study at universities), at attracting human resources from both other Czech regions and abroad and at retaining them in the Region. The development of human resources requires completing the existing education structure to ensure it meets the needs of RDI activities in the Region. This involves, first and foremost, raising the attractiveness of technical education and strengthening cooperation between companies and schools in order that the disciplines and capacities offered by secondary schools and universities are better aligned with labour market needs.

In order to draw and retain qualified staff for RDI activities, the attractiveness of the Region for R&D staff must be enhanced by ensuring a motivating working environment and remuneration. It is desirable to prepare a support tool that will help attract highly qualified staff and/or retain talented graduates. This tool will allow innovation companies to test how employees handle specific tasks and to decide whether to offer them long-term motivating conditions.

<table>
<tr><th colspan="3">Key change area A: QUALIFIED RDI HUMAN RESOURCES</th></tr>
<tr><td colspan="2">Strategic objectives in the key change area A:

➢ Strategic objective A.1. Ensuring qualified staff for RDI needs</td><td>Indicators of strategic objectives / key change areas:

• Employers' satisfaction with professional competence of graduates (the initial value will be the subject of the first survey)</td></tr>
<tr><td colspan="3">Strategic objective A.1. Discussions with companies highlight that there is a key need to align the education system with the labour market. The number of graduates from technical and natural science disciplines at both secondary schools and TBU is falling in the Zlín Region, reflecting the current demographic trend. In addition to the absolute decline, the ratio of graduates with technical degrees to all graduates from secondary schools and universities is also decreasing. Another widely discussed issue is the low quality of graduates with technical degrees as a result of a lack of alignment between education at schools and company needs. The objective is to raise interest in technical and natural science disciplines (starting with primary school pupils) and strengthen the cooperation of secondary technical schools and TBU with innovation companies through support in the education system and support for leisure and non-formal education. It is also necessary to focus on work with talented children and create conditions for their individual development.

The defined strategic objective also addresses the issue of selective migration from the Zlín Region as qualified R&D staff are leaving for better conditions elsewhere (Brno, Ostrava, Prague). This is also true about talented graduates who look for attractive jobs and cannot find them in the Zlín Region. In addition to the drain of qualified staff, the Zlín Region is not, for a variety of causes (peripheral position, low salaries, lower service standards), attractive enough to draw qualified people from elsewhere. Therefore, the objective is attract staff to the Region and retain them in RDI (in both the academic and business sectors).</td></tr>
<tr><td>Specific objectives</td><td>Specific objective indicators</td><td>Typical activities / projects / operations[3]</td></tr>
<tr><td rowspan="2">Specific objective A.1.1. Raising interest in technical and natural science disciplines</td><td>• The ratio of students enrolling in technical and natural science disciplines at secondary schools to the total number of secondary school students</td><td>Positive PR of technical and natural science disciplines towards the general public (e.g. press releases, PR articles, open door days in companies etc)</td></tr>
<tr><td>• The number of secondary school students enrolling in technical and natural science courses</td><td>Summer schools organised in cooperation with research organisations and the application sphere</td></tr>
</table>

[3] This is an indicative list of possible type activities and projects that will be modified, supplemented or extended during RIS3 implementation. Specific activities will be listed in the Action Plan.

	at universities	*Support for leisure and non-formal education of children, pupils and students to nurture their technical and natural science skills*
		Cooperation of the Region's primary and secondary schools in technical education
		A research popularisation project to stimulate young generation's interest in research and creative activities
Specific objective A.1.2. Aligning education programmes with HR needs of companies	• Number of entities/persons involved in these activities • Employers' satisfaction (fulfilment of employers' needs) with vocational school standards and graduate profiles, in cooperation with employers	*Placements and internships for students*
		Participation of experts from companies in technical and natural science disciplines taught at secondary schools and universities
		Internships for secondary school teachers in companies
		Mobility for students and university lecturers, joint education of PhD students
		Alignment of competencies of secondary school and university graduates with business needs
		A regional observatory of the labour market and competitiveness
		A regional platform for cooperation between employers, schools, education authorities and other partners playing a role in the labour market (e.g. by establishing and developing an Employment Pact)

Specific objective A.1.3. Nurturing gifted and talented individuals in the technical and natural science area	• The ratio of kindergartens, primary and secondary schools with tools for talented children /pupils/students to the total number of schools in the Zlín Region • The number of individuals involved	*The preparation and implementation of tools to identify and work with gifted and talented children, pupils, students* *The preparation and implementation of individual programmes to nurture exceptionally talented individuals*
Specific objective A.1.4. Attracting and retaining qualified RDI staff	• The number of supported RDI staff	*The preparation and implementation of tools to attract qualified RDI staff to the Zlín Region and of tools to retain the staff in the Region - a support financial tool*
Strategies and regional documents that are used as a basis for strategic and specific objectives: - The Regional Innovation Strategy of the Zlín Region 2013 – 2020 (Priority Axis A: Human Resources for Innovation and Competitiveness) - The Development Strategy of the Zlín Region until 2020 (objective 2.1. Improving workforce competitiveness in a knowledge-based economy)		
Conditions and barriers for the implementation of interventions in the key change area: • *Interest of pupils and students in technical and natural science disciplines + their potential (study results)* • *Interest of primary and secondary schools in more cooperation with businesses* • *Rising standards of technical education at secondary schools and universities* • *Opportunities for and motivation of companies to participate in educational programmes at secondary schools and universities + ability to share knowledge and get directly involved in education* • *A gradually improving quality of life in the Region (salaries, availability of services, support for the social inclusion of family members etc.) for qualified staff from elsewhere* • *A sufficient number of RDI activities in the Region that will involve talented graduates, a well set-up motivation system*		

Key change area B: IMPROVING THE INNOVATION PERFORMANCE OF COMPANIES

The problem of the Zlín Region is that the vast majority of companies focus mostly on lower-level innovations, without cooperating with partners and without much impact on future competitiveness. The potential for the cooperation of companies with R&D institutions or with other businesses, be it within clusters or across sectors, is underused. Despite support tools like innovation vouchers (provided in the Zlín Region since 2012), both companies and R&D institutions (represented primarily by TBU in the Zlín Region) perceive persistent barriers to cooperation. Whether it is disagreement between companies and R&D institutions over costs, schedule and format of cooperation outputs or low motivation of some R&D facilities, more needs to be done to align and more closely connect the academic and business world of R&D. Short-term experience with innovation vouchers shows that while the newly built applied research centres (CPS and CEBIA-TECH, supported from the OP RDI) are very active in searching for partners and establishing cooperation, the activity of other relevant facilities is lower. However, in order to meet project indicators and achieve long-term sustainability, the applied research centres still need to become more active in cooperation with companies. Besides the above causes of non-cooperation, companies also point out that outputs of R&D facilities fail to meet the quality standards the companies require.

Since approximately 2005, a multitude of activities have taken place in the Region to enhance the cooperation of companies – in particular cluster initiatives. Several clusters were created based on the identified potential, but the Plastics Cluster is the only one to be fully functioning now. Some of the clusters and groups have a great potential for future joint R&D projects, e.g. the Moravian Aerospace Cluster, the Aerospace and Astronautics Technology Platform etc. An interdisciplinary platform for cooperation in open innovations was initiated in the Zlín Region in 2012 and pilot-tested in a closed group of 13 major companies. 13 joint cooperation projects took place within the platform – problem definition and solution by using partner capacities.

The insufficient cooperation of the Region's companies in innovations shows especially in their low involvement in international RDI projects. A CZSO survey suggests that the proportion of the Region's businesses cooperating with partners in technical innovations is consistent with the Czech average, however the position of the Region's businesses in terms of cooperation with EU partners is below average (second from the bottom among regions). Within the RIS of the Zlín Region, the involvement of several companies in projects under the Seventh Framework Programme was initiated. However, the number of international projects involving the Zlín Region remains low and some companies were more or less a formal partner in the projects, without the access to R&D results that the more experienced partners had.

The proposed key change area aims at implementing innovations (especially of higher levels) in the Zlín Region's companies by strengthening regional, inter-regional and international cooperation with R&D institutions within clusters and other sector groups and by strengthening cooperation in open innovations. It is also important that businesses are sufficiently informed of successful innovation companies, opportunities for cooperation and support tools.

Participating in international R&D projects (HORIZON, COSME) as equal partners or leaders will also help companies that are major innovators in the Region (i.e. businesses developing own products with an ambition to succeed in global markets) to increase their innovation performance.

<table>
<tr><th colspan="3">Key change area B: IMPROVING THE INNOVATION PERFORMANCE OF COMPANIES</th></tr>
<tr><td colspan="2">Strategic objectives in the key change area B:

➢ Strategic objective B.1. Increasing the number of innovations in companies</td><td>Indicators of strategic objectives / key change areas:

• Non-investment/investment R&D expenditure in the business sector
• The number of companies whose annual non-investment R&D expenditure exceeds CZK 10 million (CZK 3 million if having fewer than 30 employees)</td></tr>
<tr><td colspan="3">Strategic objective B.1.: The objective is to ensure that the Region's companies focus more on innovations (especially those of higher levels). In order to meet the objective, support will be provided in particular to those projects of companies that will develop new or innovate existing products with R&D institutions and in cooperation with or within sector or interdisciplinary groups. This covers cluster projects, projects of companies cooperating within competence centres (plastics industry, engineering, paints etc.) and others. An interdisciplinary platform was launched in the Region in 2012, involving major companies and promoting cooperation in joint projects in open innovations. RDI projects will be initiated and run to help companies achieve higher-level innovations. It is also important that the Region's businesses are sufficiently informed of support available for their innovations through modern media and communication channels. Started by the Zlín Region in 2009, the 'Innovation Company of the Zlín Region' contest is one of the motivators for higher-level innovations and recognition for companies that succeed in this area. In addition, targeted support will be provided to enhance non-technical competencies of companies in order that their innovations succeed in the market (in particular abroad). Increasing the innovation performance of companies requires that both companies and R&D institutions have high-quality facilities (in particular with world-class technology), enabling them to perform R&D tasks and launch innovated products as soon as possible.</td></tr>
<tr><td>Specific objectives</td><td>Specific objective indicators</td><td>Typical activities / projects / operations[4]</td></tr>
<tr><td>Specific objective B.1.1. Initiating the implementation of RDI projects of companies and sector and interdisciplinary groups</td><td>• Non-investment/investment R&D expenditure in the business sector

• The number of companies whose annual non-investment R&D expenditure exceeds CZK 10 million</td><td>Consulting, workshops and initiation activities (an opportunity for participation in international projects and networks, provision of expert services, consulting in RDI grants)</td></tr>
</table>

[4] This is an indicative list of possible type activities and projects that will be modified, supplemented or extended during RIS3 implementation. Specific activities will be listed in the Action Plan.

	(CZK 3 million if having fewer than 30 employees)	*A database of interdisciplinary cooperation plans (www.otevreneinovace.cz) and active search for cooperation opportunities in the database*
Specific objective B.1.2. Raising companies' awareness of and interest in innovations	• *The number of companies participating in the contest* • *The number of entities addressed by the information and communication tools* • *The number of participants, including an evaluation of their satisfaction*	*Information and communication tools to raise public awareness of RDI activities (website, printed matter, other media and activities)*
		The 'Innovation Company of the Zlín Region' contest (www.inovacnipodnikani.cz/soutez)
		Activities to strengthen contacts and trust between R&D institutions and companies – information and cooperation platforms, networking events
Specific objective B.1.3. Improving the availability of external R&D capacities for innovations by companies	• *The number of supported projects including an evaluation of satisfaction and an evaluation of implementation*	*A financial tool for activities like proof of concept*
		Innovation vouchers
		Increasing the efficiency and professionalism of commercialisation processes of R&D results within R&D institutions or organisations providing these services to R&D institutions
Specific objective B.1.4. Enhancing non-technical competencies of companies to ensure their innovations	• *The number of supported companies that*	*Seminars, workshops and consulting in strategic management, marketing,*

succeed in the market	*participate in events and use services, including an evaluation of satisfaction*	*innovation management*
		Services helping to identify opportunities in foreign markets and facilitating export contracts
		Seminars and experience sharing with regional companies operating in foreign markets
Specific objective B.1.5. Expanding/modernising capacities for the implementation of specific RDI activities in the Region	• *Investment in RDI capacities within grant programmes*	*Grant programmes to expand or modernise existing facilities for concrete plans of innovation companies, clusters and R&D institutions*

Strategies and regional documents that are used as a basis for strategic and specific objectives:

- The Regional Innovation Strategy of the Zlín Region 2013 – 2020 (Priority Axis B: Support Infrastructure for Innovation and Competitiveness)
- The Development Strategy of the Zlín Region until 2020 (objective 1.1. Application and sharing of research and development results in innovation companies)

Conditions and barriers for the implementation of interventions in the key change area:

- *Companies' interest in cooperation, recognition of benefits and growing trust in RDI cooperation*
- *The motivation and ability of the academic sector to generate high-quality outputs for the Region's innovation companies*
- *The professional capacity of support organisations able to obtain new information and contacts and promote cooperation in concrete projects*
- *Finding suitable foreign partners for RDI projects of regional companies*
- *Finding high-quality providers of expert consulting services for businesses and using their services within support schemes*
- *Companies' willingness to search for new opportunities and invest in RDI facilities*

Key change area C: INCREASING THE NUMBER OF NEW BUSINESS PLANS

The low level of education creativity and a lack of systematic and hands-on education in entrepreneurship at both secondary schools and TBU are some of the factors that cause students to have little interest in starting their own business. Other factors impacting the number of new businesses include a lack of seed capital and the non-existence of motivation and of a suitable financial tool for activities such as spin-offs. A regional financial tool called 'Microcredit' was prepared in the Zlín Region in 2007 and is provided to companies based in business incubators in the Zlín Region. However, Microcredit is a purpose-designed programme, not a comprehensive financial support solution. In general, it can be said that while the Region's network of business incubators and science and technology parks is sufficient in terms of space, there is a shortage of high-quality services and of support for cooperation between companies and RDI institutions. The services available within the existing innovation infrastructure (training, basic consulting etc.) often overlap whereas high-quality and specialised services are provided to a very limited extent or not at all.

<table>
<tr><th colspan="3">Key change area C: INCREASING THE NUMBER OF NEW BUSINESS PLANS</th></tr>
<tr><td colspan="2">Strategic objectives in the key change area C:

➢ Strategic objective C.1. – Increasing the number of people starting their own business</td><td>Indicators of strategic objectives / key change areas:

• The level of new business activity
• The number of new start-ups and spin-offs supported through the support system and their survival rate within 3 years of receiving support</td></tr>
<tr><td colspan="3">Strategic objective C.1. – Entrepreneurship education and the learning of fundamental principles of business are major drivers for business activities of young people. In the Zlín Region, we attach importance to such activities since they stimulate new business opportunities that may have a high added value. The activities include supporting new ideas from secondary school and university students, with an emphasis on cooperation in education and the subsequent provision of incubation services. The support for the creation of new business opportunities must be backed by developing related high-quality services and by a fully functional acceleration programme. It is important to raise the interest of educational institutions and engage experts or successful entrepreneurs in these activities.</td></tr>
<tr><td>Specific objectives</td><td>Specific objective indicators</td><td>Typical activities / projects / operations[5]</td></tr>
<tr><td rowspan="4">Specific objective C.1.1. – Raising interest in and awareness of business</td><td rowspan="4">• The number of current business plans within the support system

• The proportion of business plans in the support system progressing from preparation to implementation</td><td>Support in identifying business talents, including consulting activities for starting business</td></tr>
<tr><td>Contests, inspirational events to identify new business talents (e.g. ‘the best business plan’ contest, 24-hour business marathon etc.)</td></tr>
<tr><td>Education and educational programmes in entrepreneurship (e.g. as optional subjects, courses at secondary schools, public education courses, workshops etc).</td></tr>
<tr><td>Development programmes for the start-up community (e.g. activities like the Start-up 23 Club, support for specific groups</td></tr>
</table>

[5] This is an indicative list of possible type activities and projects that will be modified, supplemented or extended during RIS3 implementation. Specific activities will be listed in the Action Plan.

		to start business, networking events), support for co-working centres
		Acceleration programmes
Specific objective C.1.2. – Improving the quality and scope of incubation services	• The survival rate of start-ups after three years of their foundation in the system	*Setting up and developing incubation programmes, obtaining professionals who provide services in these programmes (service improvements, new services, hiring experienced entrepreneurs as mentors, co-funding consulting services)*
		Educating employees/professionals who participate in providing services in incubation programmes
		Cooperation and PR of business incubators and science and technology parks (marketing for the BI's and STP's including marketing support for their clients)
Specific objective C.1.3. – Creating conditions and improving the access of starting entrepreneurs to sources of funding	• The number of plans that will be supported from public funds • The number of companies funded by venture capital	*Microcredits (favourable-term loans for incubated companies – the 'microcredit' tool of the Zlín Region)*
		Bridging period vouchers for persons preparing to start their business
		Search for investors, preparations of business plans and companies for the entry of investors (development of services provided by the contact point for venture capital, scouting)
Strategies and regional documents that are used as a basis for strategic and specific objectives: - The Regional Innovation Strategy of the Zlín Region for 2013 – 2020, the Action Plan of the RIS for 2013 – 2014 - The Development Strategy of the Zlín Region until 2020 (objective 1.3. Strengthening the role of small and medium-sized enterprises)		
Conditions and barriers for the implementation of interventions in the key change area: • *A lack of motivated young people seeking self-fulfilment through own business* • *An insufficient interest of schools in entrepreneurship education* • *A low quality of business plans*		

Implementation Structure in the Zlín Region

<table>
<tr><td colspan="2">

- **The Regional Innovation Council:** its role is performed by the STEERING COMMITTEE OF THE REGIONAL INNOVATION STRATEGY IN THE ZLÍN REGION *(created in 2005, the body is convened approx. once or twice a year and its composition is identical to a regional innovation council within the meaning of RIS 3)*

</td></tr>
<tr><td>

- Members (organisations) of the Regional Innovation Council by entities:

</td><td>

- The Zlín Region – governor and other members selected by the Council of the Zlín Region
- Tomáš Baťa University in Zlín
- Technologické inovační centrum s.r.o.
- CzechInvest, regional office
- Association for the Development of the Zlín Region
- The Plastics Cluster
- The Regional Chamber of Commerce of the Zlín Region
- JVM-RPIC, spol. s r.o.
- Representatives of innovation platforms (currently 3 representatives of companies)

</td></tr>
<tr><td>

- Has a regional innovation council been established (within the meaning of RIS 3)?

</td><td>

- *Yes, it has (the extension of the RIS steering committee by representatives of businesses participating in innovation platforms was approved by the Council of the Zlín Region on 10 March 2014)*

</td></tr>
<tr><td colspan="2">

- **Innovation platform for:** *Innovation platforms are established in accordance with the identified domains of specialisation:*
  - *Innovative application of polymers*
  - *Innovations in design activities*
  - *Smart and efficient electronic systems*

The platforms are established as informal open platforms without membership registration. They were established on 14 February 2014.

</td></tr>
<tr><td colspan="2">

Expected executive unit for the coordination and implementation of the regional RIS3:

Technologické inovační centrum s.r.o.

Founders (owners):

The Zlín Region – 50% share

Tomáš Baťa University in Zlín – 50% share

</td></tr>
<tr><td>Is or was the executive unit assigned to implement or coordinate activities under the regional innovation strategy?</td><td>Yes</td></tr>
<tr><td>Regional S3 Manager</td><td>Mgr. Daniela Sobieská</td></tr>
<tr><td>Is the Regional S3 Manager part (e.g. employee) of any regional organisation?</td><td>Executive Officer, Director of Technologické inovační centrum s.r.o.</td></tr>
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