



Expert Group Meeting on “STI Roadmaps for SDGs – paving the pathways for sustainable recovery and future resilience”

Online informal expert consultation – Part 2- 30 June 2020

The consultation was held virtually. About 80 participants joined the meeting.

Flash report

The second part of this informal expert consultation focused on the implementation of the STI for SDGs roadmaps in the context of their contribution to sustainable recovery and future resilience. Countries, regions, cities and international partnerships presented and discussed the roadmap implementation experience based on the challenges and achievements in implementing Smart Specialisation as localised roadmaps for transformation and for the achievement of the SDGs. These presentations were the basis to elaborate suggestions on how to better use STI to deliver post- crisis recovery and strengthen resilience. The potential application of the STI for SDGs roadmaps and smart specialisation to support the economic and social recovery and greener development models were discussed.

Key messages:

- European Commission-JRC continuous to be committed to supporting UN Inter-agency Task Team on Science, Technology and Innovation for the SDGs , (IATT) as well as EU and non-EU countries at national sub-national levels in their effort to achieve SDGs by the development and implementation of STI for SDGs Roadmaps.
- Adopting integrated approach that takes into consideration complex systems and interdependencies is key to achieve the 2030 Agenda in a synergetic way, avoiding unnecessary tradeoffs.
- Innovation policy needs to embrace directionality, ambition and resilience to respond to societal and sustainability needs. Therefore, policy makers need to revisit strategic goals.
- Although SDGs are not mandatory in Smart Specialisation strategies, a number of countries, sub-national entities and international partnerships have decided to address them.

- International interregional Partnerships for Smart Specialisation connect Quadruple Helix actors (governments, knowledge institutions, private sector and civil society), develop shared vision and shared goals that place people and the planet at the centre, work across the territories and leverage private investment.
- STI roadmaps are well suitable to implement structural changes and this can be key to be used for the achievement of the SDGs.
- The SDGs proved to be a common vocabulary to communicate with stakeholders at different levels (local, regional, national).

Highlights from the Opening remarks

Alessandro Rainoldi (Head of Territorial Development Unit, Joint Research Centre (JRC), European Commission) delivered opening remarks welcoming all participants and thanking them for their willingness to share and discuss their experience on STI for SDGs roadmap development. He stressed that little is known about specific approaches and practices emerging at national and subnational (including city) levels as well as among the international partnerships. The webinar was thus an opportunity to discuss and learn from the peers and international experts how STI for SDGs roadmaps are being understood, developed and implemented at different territorial levels. He also highlighted the role of JRC in the IATT and the JRC contribution to UN-IATT products including the UN-IATT Guidebook and Background Paper on STI for SDGs roadmapping methodologies, UN-IATT Global Pilot Programme with the specific support to Serbia as a pilot country. Finally, he reaffirmed JRC commitment in terms of continuous support to methodological and conceptual work as well as the Global Pilot Programme.

Highlights from Session 1

‘Smart specialisation and Place-based STI Roadmaps for SDGs – the EU Experience and worldwide application’

The scale and level of ambitions of Agenda 2030 call for unprecedented mobilisations building upon individual and collective efforts for the realisation of SDGs. In the majority of cases indeed, sustainability challenges cannot (or can hardly) be solved by individual organisations, nor by isolated administrations, neither by single countries; they often require sustained commitment, long term planning and multi-stakeholder coalitions. This has been done in the European Union, where the Green Deal and contribution to Agenda 2030 have become the priority for the European Commission and EU Member States. Smart Specialisation and other place-based STI Roadmaps allow for “translation” of the global and European agendas into context-specific solutions at different territorial levels (localisation of the SDGs). However, taking sustainability into account at all stages and levels of STI-policy making requires new approaches and revised methodologies. The experience of the global COVID-19 pandemic highlights even further the importance of understanding, developing and mobilising STI ecosystems and its actors so they can help addressing imminent and longer-term challenges.

The key question of this session was: How can Smart Specialisation and other STI for SDGs Roadmaps contribute to the sustainable COVID-19 post-crisis recovery and future resilience?

Monika Matusiak (Coordinator for Smart Specialisation and Sustainable Development Goals, Joint Research Centre, European Commission) explained the key trends and developments concerning the contribution of Smart Specialisation Strategies (S3) to Agenda 2030. Although the S3 concept was developed before the adoption of SDGs, the analysis of the priorities adopted at national and subnational level as a result of bottom-up processes shows that many of them directly contribute to SDGs and their targets. The work undertaken now by the Joint Research Centre of the European Commission has an objective of further inclusion of SDGs in the S3 design, implementation and monitoring process. The pilot methodology for the design phase has now been implemented in Serbia, a pilot country in the UN Global Pilot Programme on STI for SDGs Roadmaps, with good results. It includes:

- mapping of SDG challenges based on policy documents and statistical analysis at target level,
- identification of STI potential for each SDG based on scientific publications, patents and publicly funded STI projects;
- Mapping of the existing international collaboration networks for SDGs based on co-publications, co-patenting and joint project applications.

These elements are the building blocks for the STI for SDGs Roadmap for Serbia, which is being developed with JRC and UNIDO support as an action Plan to the recently adopted Smart Specialisation Strategy for Serbia.

The further JRC work in this area will include trying the new methodology in the interested EU Member States and regions and scaling up JRC support to more Global Pilot Countries.

Michal Miedzinski (Senior Research Associate, Institute for Sustainable Resources, University College London) delivered a presentation on the topic of reframing innovation policy for SDGs. First, he stressed that innovation policy is by definition about change, however now it is expected to foster a change in a specific direction: support transformation towards a sustainable future. Second, innovation policy is expected to support systemic transformation by fostering transition of socio-economic and socio-technical systems towards sustainable alternatives. The current context of the post-COVID-19 recovery emphasizes the need to develop policy capabilities to address most urgent societal needs as well as to better anticipate and adapt to unexpected challenges (resilience). This new situation calls for a stronger directionality and opens a window of opportunity for strengthening challenge-driven innovation policy by balancing its mission orientation with embedding directionality in a wider innovation ecosystem.

To better respond to societal challenges innovation policy makers need to revisit strategic goals and instrument mix as well as redesign governance and policy

process. Michal Miedzinski discussed features of policy mix which help to align policy with the ambition of the SDGs:

- Strategic orientation – shared direction of travel expressed in binding goals and science-based targets aligned with the SDGs,
- System innovation – policy instruments and missions aimed at transforming socio-technical and socio-economic systems,
- Variety of innovation pathways – support for variety of innovations and transition pathways towards sustainability (e.g. experimentation; phasing in and phasing out),
- Comprehensiveness and coherence – mutually reinforcing policy instruments, horizontal and vertical consistency and coherence of policy mix,
- Transformative impact – effectiveness of policy instruments evaluated and measured as a contribution to sustainability transitions,
- Governance, including processes supporting new partnerships, local experimentation (exploration of alternative pathways) and collective learning.

Mr. Miedzinski also talked about the key similarities and differences between Smart Specialisation and STI for SDGs roadmaps. Among the similarities he mentioned: policy relevant strategic processes focused on STI, multi-stakeholder processes, and a degree of methodological resemblance. The major differences are: political rationale and context; governance; implementation and incentive regimes; and monitoring and evaluation systems. He finished off by a question: How to design and introduce positive and negative incentives for including the SDGs in S3 strategies on all governance levels (e.g. prizes, funding, conditionality)?

Caroline Zimm (Research Scholar, IIASA, Austria) presented the 2020 Report by The World in 2050 (TWI2050) initiative. The 2020 Report is entitled 'Innovations for Sustainability: Pathways to an efficient and sufficient post-pandemic future' and it will be officially launched on 7 July during the UN High Level Political Forum. She stressed that an integrated approach taking into consideration complex systems and interdependencies is needed to achieve objectives of 2030 Agenda in a synergistic way. The following example of an integrated approach was made: how can we feed a world population of 9 billion and ensuring their good health while preserving biodiversity and avoiding negative environmental consequences by 2050? The objective of the SDGs is to achieve social and economic sustainability within a stable Earth system. Mrs. Zimm talked also about the paradox of innovation. Innovation can be technological, social or behavioral, or institutional. On the one hand, innovation can provide the solutions to achieve the SDGs. On the other hand, innovations can cause new problems that need to be solved and this needs to be taken into account when supporting innovation. Therefore, innovation is not always positive, it has to be acknowledged that innovation can have a negative impact on humans and the planet, which we should aim to control for and mitigate. Finally, she spoke about the transformational power of granular technologies such as e-scooters,

PV panels, wind mills (modular and scalable) that show to diffuse faster, have higher learning rates and are more equitably distributed.

Highlights from Session 2

‘Virtual poster session: the implementation examples of Smart Specialisation Strategies – Innovation for Sustainability’:

The poster session of local, regional, national and interregional partnerships inspirations for the application of Smart Specialisation as a localised and transformative STI for Sustainable Development Goals Roadmaps.

Katerina Ciampi Stancova (Scientific and Policy Officer, Joint Research Centre, European Commission) showed and described 12 posters: 2 posters at the national level (Australia and Poland), 3 at subnational level (the Italian region of Abruzzo, the Finish region of South Finland, the Dutch region of the Northern Netherlands), 1 at city level (Sofia in Bulgaria), and 6 posters of the international partnerships (5 in the area of agri-food and one in area of innovative textile). Many posters include specific application cases and investment commitments, where projects supporting innovation for sustainability have been launched and led to investment or wide stakeholder mobilisation. It needs to be pointed out that the Sustainable Development Goals (SDGs) are not mandatory in Smart Specialisation Strategies. Nevertheless, a number of countries, sub-national entities and international partnerships have decided to address them.

All 12 posters are attached to this document as an Annex.

Highlights from Session 3

‘Localised STI Roadmaps for sustainability – a pathway for sustainable recovery and future resilience?’:

STI roadmaps and actions plans are expected to be deployed at the subnational, national and global levels. They aim at accelerating the development and adaptation of innovative solutions to reach our sustainability goals by 2030. The specific trajectories and institutional settings set up to harness STI for SDGs will differ across territories, countries, regions, cities, reflecting the variety and plurality of socio-institutional contexts, resources, capabilities and levels of development.

Smart Specialisation Strategies (S3) are localised or place-based transformative STI agendas. Smart specialisation, as localised research and innovation policy has been implemented under the EU Cohesion policy to foster regional innovation systems for sustainable growth. Smart specialisation offers a flexible methodology and governance approach to enable territories to select and support a few STI domains and activities. These activities are undertaken in order to address localized or place-specific and people-centred challenges. In the Smart specialisation framework, the priorities are mainly defined and formulated on the basis of in-depth territorial diagnostics and participatory dialogues. These dialogues are called ‘entrepreneurial

discovery processes'; they are also privileged 'spaces' to build up a shared vision for local development while leaving-no- one and no-place-behind.

The growing interest in Smart Specialisation and the European experiences have prompted several developments worldwide. A number of countries have now adapted the approach as localised innovation-led transformation agendas with an increasing focus on SDGs as key framework for setting targets and ambitions. The presentations in this session illustrated and showcased localised or place-based smart specialisation strategies for transformation at different geographical levels in the sustainability framework. They focus in particular on their current experiences and practices on Smart Specialisation Strategies for Sustainable Development, also tackle the issue on how can an SDG-oriented Smart Specialisation Strategy help build pathways for sustainable recovery and future resilience in the present COVID-19 crisis and recovery context.

The presentations and discussion covered the following questions:

- How does your smart specialisation strategy integrate the social, economic and environmental dimensions in order to enable the achievement of SDGs? What are the main related challenges (for the design, implementation and/or monitoring) what are the lessons learnt?
- What are the main milestones and instruments of your smart specialisation strategy for achieving sustainable territorial transformation?
- To which extent and how do you align your current S3 priorities challenges and objectives with the goals and targets of the Agenda 2030 of the UN?
- How can SDG/sustainability-oriented Smart Specialisation Strategies support post-crisis recovery and prepare for future challenges?

Beata Lubos (Deputy Director, Innovation Department, Ministry of Economic Development of Poland) highlighted that innovation is a way to do something smart, socially responsible and that improves the quality of life of people. In the Polish case, the discussion of societal challenges aligned to the SDGs (health, aging population, energy, etc.) is the starting point to define the thematic objectives of the partnerships and the design of Smart Specialisation strategies. Specific societal challenges were identified in the Polish research network. They include Health, Sustainable economy & energy, Digital transformation, Smart mobility. Education is a horizontal action of the strategy: the actions focused on identifying the missing skills that should be strengthened. The S3 matrix in Poland is very complex, including the national and regional strategies and this poses challenges in terms of synergies, but on the other hand it addresses sustainable territorial cohesion. Beata Lubos highlighted that there is no better way than innovation to address the current crisis. For the first time Poland was able to establish a working group that can be mobilised during the emergency to act fast.

Nina Therese Maubach (Special Adviser, Global Development, Research Council of Norway - RCN) stressed the need for STI-roadmaps to secure sustainable societies. 12 ministries are responsible for the implementation of the SDGs, and many do this in ways that also include research. Nina Therese Maubach highlighted that the RCN focused on pioneering research and innovation efforts for sustainability across

subject fields, sectors and funding sources. The RCN works on the reorientation of research and innovation efforts in the organisation's main five strategic areas in a more sustainable direction. Norway's STI roadmaps for the 21st century aims at aligning funding and actions, after jointly agreeing on the path ahead. For many of these roadmaps there are in place monitoring mechanisms to ensure that the strategic ambitions are put into actions and that the overall goals are achieved. Nina Therese Maubach provided some examples on the health sector (health&Care21) that aims at aligning efforts and funding to improve effectiveness and quality of services particularly in the primary health care. The second strategy presented focuses on improving the quality and effectiveness of services and follow-up of vulnerable children and adolescents (ChildrenYouth21) and it will be completed by the end of this year. Nina Therese Maubach highlighted three main conclusions from Norway's experience: government's commitment is needed to secure the allocation of resources and the alignment and adaptation of protocols and legislation; all relevant stakeholders have to be involved to understand the real challenges and mobilize available resources; STI roadmaps are well suitable to implement structural changes and this can be key to be used for the achievement of the SDGs.

Bruce Wilson (Director, EU Centre of Excellence, RMIT University, Social and Global Studies Centre, Australia) highlighted that in Australia several projects underpin the EU Centre of Excellence's work on the New Agenda for Global Transformation. Examples include:

- A Jean Monnet Network focused on the EU's role in the implementation of the SDGs in Asia Pacific
- A Jean Monnet Centre of Excellence on Smart Specialisation and Regional Policy which has examined the value of smart specialisation in enhancing regional development in Australia and parts of Asia;
- A Victoria Government project supporting the application of smart specialisation in Gippsland, a region in the south east of Australia in transition from coal- powered electricity generation.

Bruce Wilson presented the Australian STI Priority Framework that includes the Technology Investment Roadmap – a framework to accelerate low-emission technologies (Department of Industry, Science, Energy and Resources). Australian Government has identified 9 science and research priorities, with associated practical research challenges (Australian Research Council): Food, Soil and Water, Transport, Cybersecurity, Energy, Health, Resources, Advanced Manufacturing, Environmental change. Moreover, Innovation and Science Australia recognizes the importance of STI for health, public safety & decarbonising the economy.

Bruce Wilson illustrated the case of Gippsland as a peripheral transition region: the Smart Specialisation process was introduced in November 2017 following closure of Hazelwood power station by Engie. It addresses a peripheral region, characterized by poor socioeconomic indicators, dispersed population, poor transport routes, mining/power concentrated in the Latrobe Valley, but other parts of the region were devoted to various forms of agriculture. The process followed the S3 Platform Guidelines initially, with significant local adaptation and the initial focus on STI opportunities but the real challenge has been building the regional innovation system. Bruce Wilson stressed the need to challenge a grant-driven competitive

ethos, and building capacity for cross-sectoral collaboration; also for overcoming the separation of industry and research; engaging civil society; demonstrating the importance of data; and building institutional capability. He also highlighted that in Gippsland, STI early efforts focused on vegetable waste processing producing nutrients for health markets and on possible uses of indigenous grains (in order to add value at the point of production). A strong STI agenda is emerging in renewable technologies, both massive offshore developments but also community initiatives to develop remote smart grids, smart refuges bushfires, and new systems for managing agricultural energy usage. Bruce Wilson proposed three concluding points:

- System-building collaboration is essential for innovation to flourish in achieving the SDGs
- In a peripheral coal-power region facing necessary transition, community engagement with renewable energy sources can lead to significant social and technological innovation

As the regional capability for collaborative innovation develops, new opportunities for technical innovation emerge across a range of sectors.

Luc Hulsman (Programme Manager, Northern Netherlands Alliance) highlighted that turning societal challenges into specialisation opportunities has been already at the core of the RIS3 of the Northern Netherlands since 2014. - Selecting societal challenges as priority areas for their RIS3, instead of for instance sectors or technology areas, has been a way for the region to capture the urgency and the commitment of stakeholders, which were instrumental in building an effective strategy. The region is now working on the RIS3 for the new programming period 2021-2027. In the new strategy the Northern Netherlands make several steps forward.

There has been a consensus on the alignment of S3 with the SDGs, because of the inclusiveness of the 2030 Agenda.

Luc Hulsman illustrated how the new strategy defines three transitions: from a linear to circular economy, from care to (positive) health, and from fossil to renewable energy.

In the new strategy more emphasis will be put on the implementation of the strategy, to become more effective in capturing the energy and translate this into ideas, initiatives and projects (translating strategy logic).

He illustrated the implementation phase and highlighted three main priorities for the coming years:

- Design instruments that capture essence (urgency, energy) (translate strategy logic into implementation)
- Open calls (for specific challenges) - building on experiences in current period (Open Innovation Call)
- Q4 Helix – implementation (programming, monitoring, experiments).

Ville Taajamaa (SDGs Manager, City of Espoo) highlighted that Espoo has the ambition to be the most sustainable city in Europe. The city designed a roadmap,

“Espoo Story”, and the Mayor is committed to the SDGs’ achievement. In Espoo’s vision, the SDGs are a common vocabulary to communicate with stakeholders at different levels (local, regional, national and international), a way to measure and steer development and be part of the SDG movement. The Voluntary Local Review process was a way to involve Espoo city organization and local stakeholder in the SDGs’ mapping exercise, to identify the actions that contribute to the achievement of the 2030 Agenda. Three main emerging themes were identified: “Leave no one behind”, “Let’s do it together”, and “Accelerated Action”, that are well aligned with social-cultural, ecological and economical sustainability. For Espoo the core competence is sustainable and innovative future co-creation. SDGs are also important in the Six-City smart Specialisation Strategy, which Espoo is a part of. Also other cities in this group have undertaken the Voluntary Local Reviews of SDGs. In conclusion, Ville Taajamaa highlighted three key points for successful S3 work:

- A strong commitment by top management to SDG work locally, regionally, nationally and internationally ,,,
- Cross-administrative, committed and competent organisation and sustainable development team

The ability to resist obvious conclusions and rely on ideas and messages from within the organization.

Cecilia Gañán de Molina, Expert, International Agri-Food Partnership on Traceability and Big Data presented the experience of the agri-food international smart specialization Partnership on Traceability and Big Data. This international cooperation network aims at boosting innovation and digitalisation in the European agri-food value chain, and involves 22 regional administrations from 11 countries (10 EU and 1 non-EU country).

The Partnership operates at the value chain level and connects more than 1.600 stakeholders from the regional ecosystems or nodes that are created within each partner-region (including companies, industries, universities, trade unions and civil associations). This quadruple-helix international scheme allows to identify complementarities and collective intelligence to emerge; and has the potential to create frameworks for systemic transformations.

The overall objective of this interregional network is to develop a more sustainable, responsible and competitive agri-food value chain in Europe. Societal challenges such as consumers’ involvement, food security, or environmental protection are being addressed in the specific projects of the Partnership (like Regions 4Food, Smart agrihubs, Complat or ICT Biochain), which are contributing to the achievement of different Global Goals (Objectives 2, 7, 8, 9, 12 and 17). Innovation and technology-Partnerships can therefore play a key role in the achievement of the 2030 vision, but only if social progress and sustainable solutions are prioritized.

Highlights from Closing remarks

Manuel Palazuelos Martinez (Team Leader, Smart Specialisation Platform, Joint Research Centre, European Commission) expressed his thankful words to all speakers for their rich contributions and to those who made the webinar possible. He stressed that JRC is very committed to boost implementation of Global agenda for sustainability (Agenda 2030) and continue to work to that end with all the partners including the UN, OECD, Japanese Government and the Global Pilot Countries.

Mr. Palazuelos pointed out first that Smart Specialisation strategies were originally designed as knowledge-based economic transformation agendas and the original concept achieved worldwide success. The JRC experience of working with local ecosystems and territories made it clear that not only economic but also societal and environmental aspects affect the territorial development, and they are strongly interconnected. The trend to include the sustainability into the development, implementation and monitoring of Smart Specialisation to make them greener and more perceptive to societal needs is ongoing. We need to move progressively from S3 to S4 (Smart Specialisation Strategies for Sustainability). Sustainability is in fact a cornerstone of EU policy - the European Green Deal is the new European growth strategy. Second, international experience is important because many non-EU countries are adopting Smart Specialisation and are tailoring it to meet their specific needs. The trend is growing, and the number of countries is multiplying. Third, multi-level governance is important. Smart Specialisation Strategies for Sustainability are a way in which territories at local, regional and national level and in international partnerships can achieve the objectives of the European Green Deal and Agenda 2030.

Discussion

A very lively and vivid discussion took place during the whole webinar (in the chat box and during Q&A session). A large number of questions was raised by the participants and speakers themselves. Questions were answered in writing but also discussed during the Q&A session. These are some of the questions posted:

- The indicators of STI on the SDGs are yet to be properly measured in most developing countries. Thus, on what basis can you say one is achieving the SDGs?
- Is there a contradiction between the methodology used in S3 such as scientific articles/bibliometrics (Monika's presentation) and Michal's call for targeted investments (e.g. missions) to foster sustainability transitions? In other words, are those the right metrics to guide future investments?
- Could you explain and provide an example of granular technology?
- How do you collaborate with the regional authorities to foster inter-regional collaboration on specific objectives?
- What was the response from business community to the focus on the SDGs? How has business community engaged in the roadmap design and then implementation?

This flash report was drafted by Katerina Ciampi Stancova, Monika Matusiak, and Alice Siragusa