SMART SPECIALISATION STRATEGY SERBIA

SUSTAINABLE DEVELOPMENT GOALS

# STI for SGDs in Serbia in the context of Smart Specialisation Strategy - progress

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# Serbia: STI reform process

- Comprehensive reform of the STI sector is ongoing process
- New model for financing research activities has been piloted
- **Serbian Government adopted the Smart Specialization Strategy (4S) on 27th February 2020**
- Ministry of education, science and technological development, together with JRC, UNIDO and Cabinet of Serbian Minister in charge for Agenda 2030, organized on 27th February 2020 **one-day workshop "Smart specialization for sustainable development goals".**
- The aim of the workshop was to conduct stakeholder and expert validation of the SDG challenges.
- Within inter-ministerial working group for monitoring the implementation of the 2030 Agenda in Serbia, will be established sub-unit for STI for SDGs.

# Serbia: development of national STI roadmaps for SDGs

- The development of national STI Roadmap for SDGs is based on an adapted smart specialisation methodology, with an increased focus on the SDGs as key framework for the strategy, and further attention to **societal** and **environmental** issues, adding to the economic, innovation, scientific and technological dimensions.

- the objective of the current stage is to identify a set of main challenges connected with Sustainable Development Goals (SDG) in Serbia, and to identify the scientific, technological and innovative **potential** (STI) that can be **mobilized** to answer these challenges as a part of smart specialisation strategy

# Methodology

1. What are the present national priorities to achieve Agenda 2030 in Serbia?
2. Which challenges resulting from SDG goals and targets are most important in statistical terms?
3. What are the areas of specialisation and excellence of the Serbian STI ecosystem that can be mobilised to answer the challenges resulting from SDGs?
4. What are the knowledge gaps between the identified SDG challenges and STI potentials?
5. Which international STI collaboration networks and partnerships match the identified knowledge gaps and potentials?
6. How do the identified challenges, potentials and knowledge gaps relate to Smart Specialisation priority domains in Serbia?

To establish the framework for priority-setting by identifying **main challenges** in Serbia in the framework of the SDGs

To analyse the **Serbian SDG oriented STI ecosystems** and external collaborations, in support of smart specialisation implementation and the design of STI roadmaps for the SDGs

# Process

To identify **ex-novo set of priorities**, at the SDG goal and SDG target levels:

- [**Documentary analysis**] of the national SDG policy framework in Serbia, including the main challenges indicated in official documents.
- [**Statistical assessment**] of the key challenges resulting from SDGs at the target level, from the UN's Global SDG Indicators Database.

and **validated with national stakeholders**.

For the second set of questions **four main data sources** have been used:

- Scientific publications, from Scopus (Elsevier)
- Research and innovation projects supported by Horizon 2020
- Research and innovation projects funded by the Serbian Innovation Fund
- Serbian patents filed in any office included in the EPO's Open Patent Services database, particularly the Intellectual Property Office of the Republic of Serbia

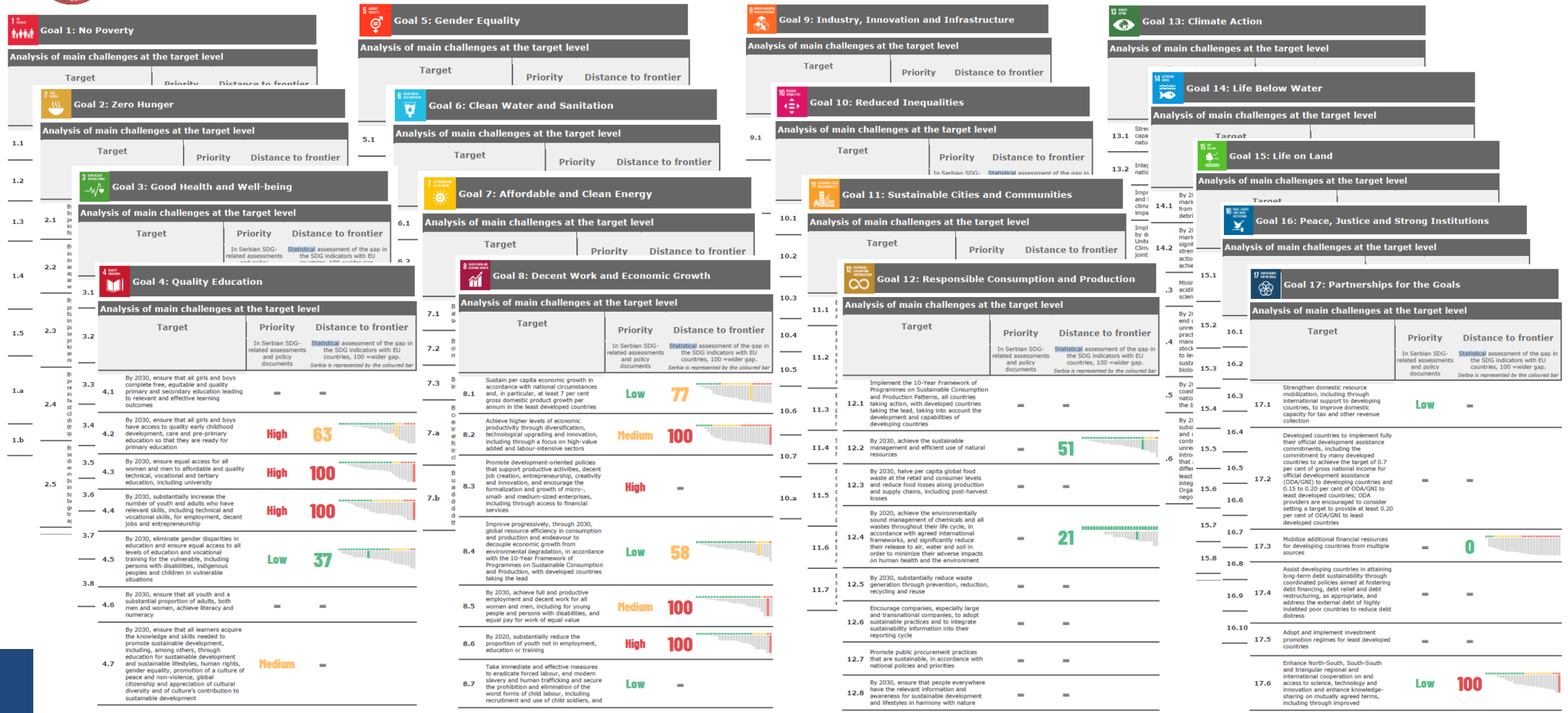
**Natural Language Processing (NLP) techniques** have been employed to automatically parse the text of each STI record (titles, abstracts, descriptions) and, through **machine learning**, to extract relevant information used to link the records to SDGs.
A **controlled vocabulary** of key terms specifying the semantic content of each goal has been used to identify pertinent terms in the analysed texts and to classify the records as thematically related to the SDGs.

# SDG prioritisation from the documentary analysis and the statistical assessment

| Higher-priority challenges | Middle-priority challenges | Lower-priority challenges |
|---|---|---|
| 1. No Poverty | 5. Gender Equality | 2. Zero Hunger |
| 3. Good Health and Well-being | 6. Clean Water and Sanitation | 12. Responsible Consumption and Production |
| 4. Quality Education | 7. Affordable and Clean Energy | 13. Climate Action |
| 8. Decent Work and Economic Growth | 11. Sustainable Cities and Communities | 14. Life Below Water |
| 9. Industry, Innovation and Infrastructure | 17. Partnerships for the Goals | 15. Life on Land |
| 10. Reduced Inequalities | | 16. Peace, Justice and Strong Institutions |

- The ranking of goals, validated with national stakeholders, results from the combination of the two methodologies, which offer complementary qualitative and quantitative information for identifying the main challenges in the framework of the SDGs in Serbia.

# SDG targets (within prioritized goals) assessment and relative priorities establishment

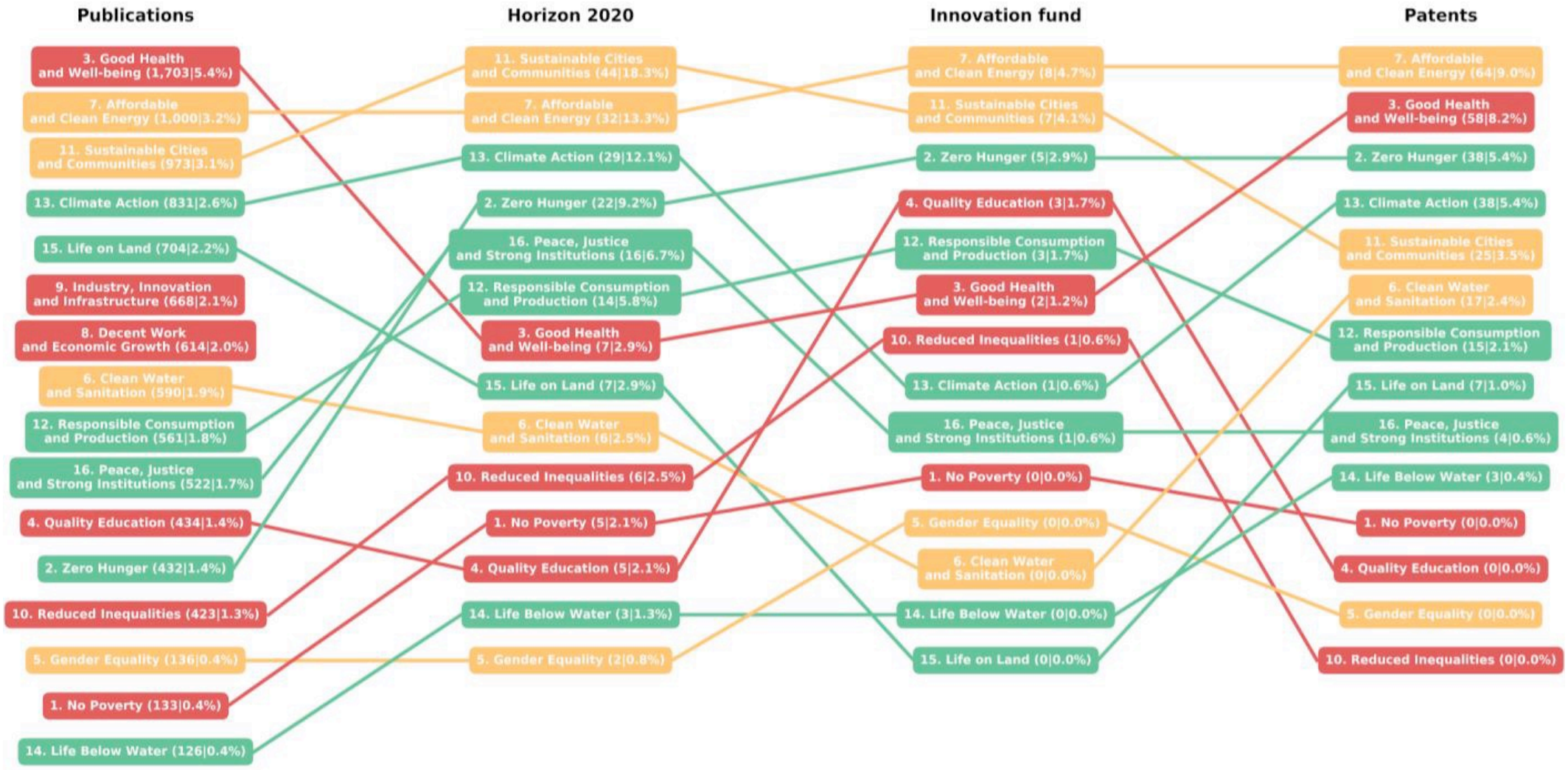


# Results

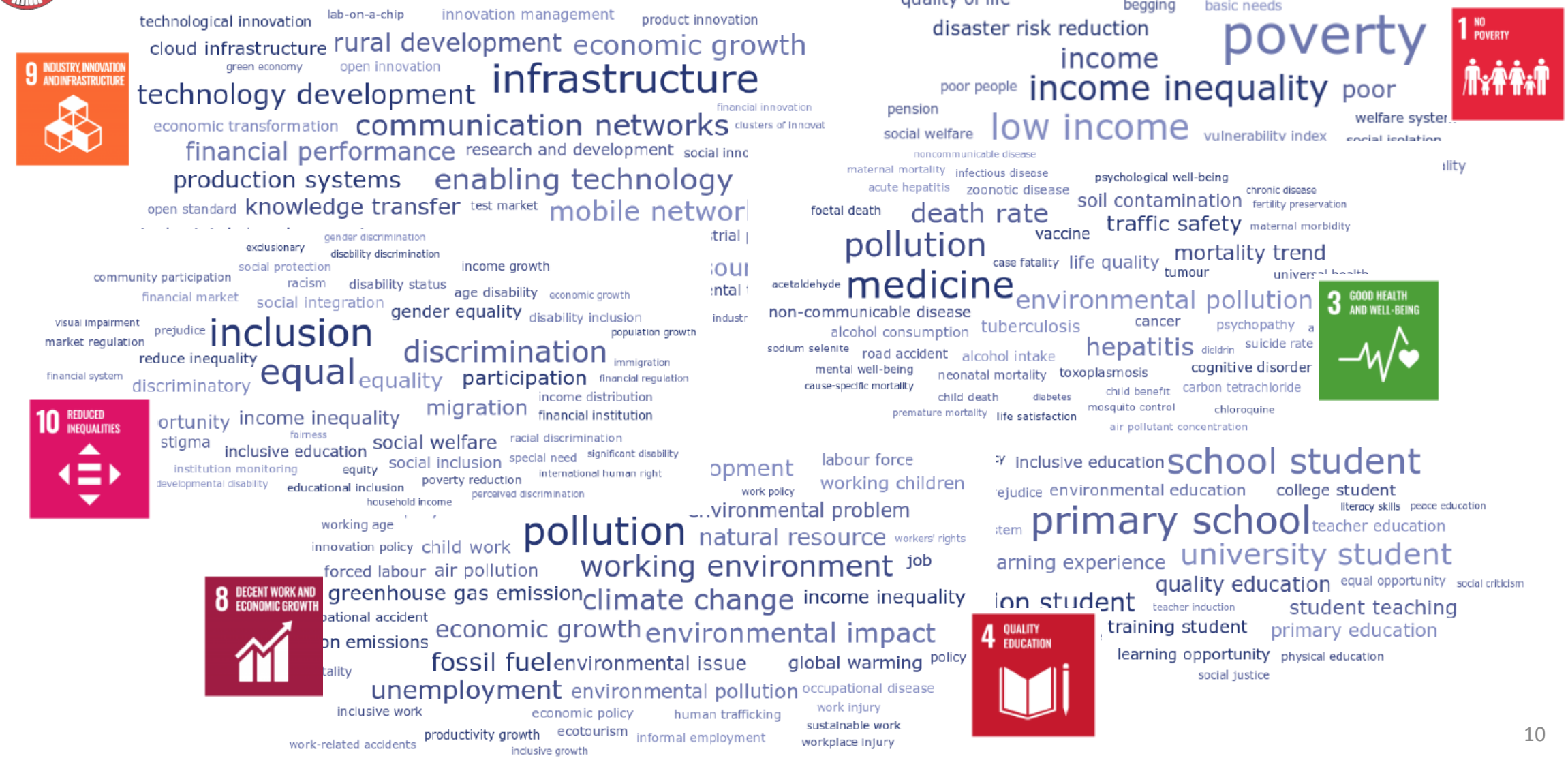
- Social (particularly welfare-related) and economic-related Sustainable Development Goals are a more pressing challenge for Serbia.

- On the contrary, environmental and climate-related goals are generally understood as less priority in the analysed documentation, and Serbia is in a better position relative to EU leaders in the statistical assessment.

# Distribution of STI activities by goal (coded by priority level) and data source



# Serbian STI activities and results based on the most frequent SDG-related keywords for higher-priority challenges



# Most related S3 priority domains to the Sustainable Development Goals

- All Serbian smart specialisation priority domains can find opportunities and have potential to tackle the Sustainable Development Goals.

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| | Information and communication technologies | Food for Future | Creative Industries | Future Machines and Manufacturing Systems | Energy Efficient and Eco-Smart Solutions | Key Enabling Technologies |
|---|---|---|---|---|---|---|
| Goal 1. No Poverty | Indirect | Indirect | | | | |
| Goal 2. Zero Hunger | | Direct | Indirect | Indirect | Indirect | Indirect |
| Goal 3. Good Health and Well-being | Direct | | Indirect | | Indirect | Indirect |
| Goal 4. Quality Education | Direct | | Direct | | | |
| Goal 5. Gender Equality | Indirect | | Indirect | | | |
| Goal 6. Clean Water and Sanitation | | Indirect | | Indirect | | Indirect |
| Goal 7. Affordable and Clean Energy | Direct | Indirect | Indirect | Indirect | Direct | Indirect |
| Goal 8. Decent Work and Economic Growth | Indirect | Indirect | Indirect | Indirect | Indirect | Indirect |
| Goal 9. Industry, Innovation and Infrastructure | Direct | Indirect | Indirect | Direct | Indirect | Direct |
| Goal 10. Reduced Inequalities | Indirect | | Indirect | | | |
| Goal 11. Sustainable Cities and Communities | Indirect | | | Indirect | Indirect | Indirect |
| Goal 12. Responsible Consumption and Production | | Indirect | Direct | | Indirect | Indirect |
| Goal 13. Climate Action | | Indirect | Indirect | Indirect | Indirect | Indirect |
| Goal 14. Life Below Water | | Indirect | Indirect | Indirect | | |
| Goal 15. Life on Land | | Indirect | Indirect | Indirect | Indirect | |
| Goal 16. Peace, Justice and Strong Institutions | *Transversal to all S3 priority domains* | | | | | |

# More information on the STI for SDGs Roadmap and 4S

- https://rsjp.gov.rs/en/news/smart-specialisation-a-modern-approach-to-economic-development/
- https://s3platform.jrc.ec.europa.eu/pilot-methodology

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*Transversal to all S3 priority domains*

# STI for the COVID-19 response

The present crisis showed how important it is to understand and be able to mobilise the STI potential in times of crisis: In the case of Serbia the rapid response included:

- Development of the Elisa-based test for anyone testing for COVID-19 by one of the Serbian institutes
- Special call for projects by Innovation Fund, with 12 projects executed
- A new call for scientists by Science Fund
- New lab for PCR testing
- More than 100 researchers engaged to run the analyses
- Working group providing scientific and technical information to the health HQ on daily basis

The work on STI for SDGs roadmap should provide the long-term basis for knowledge-based recovery and fast response in case of future crises

# STI for SDGs Roadmap as a pathway to green and sustainable recovery: Next steps

Two main directions of mobilization of the stakeholders to address SDG-related challenges and to pursue innovation and development opportunities in the framework of the SDGs:

1. In SDG challenges with **sufficient capacities** in the Serbian STI ecosystem:
    a. Mobilise the knowledge and private sector in pursuing SDG-oriented innovations, particularly in the framework of the smart specialisation priorities, benefiting from the entrepreneurial discovery process and the funding and implementation of support programmes.
    b. Mobilise and leverage the expertise of the knowledge sector, the public sector and non-for-profits in localising solutions to the SDG challenges in better public policy, social innovation and social, economic and sustainability transformations.
2. In SDG challenges presenting STI knowledge or **competence gaps** in the Serbian STI ecosystem:
    a. Build capacities in the public, private and third sector, which requires longer term science and innovation policy in the framework of STI roadmaps for the SDGs.
    b. Support partnerships with international actors to import skills and accelerate the capacity-building of local actors.
    c. Leverage SDG-related assessments and policy design to advance scientific knowledge and build linkages between the existing actors.

# Thank you!

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