

Sustainable **S**mart **S**pecialisation for the **R**e-opening
of **I**ndustrial **S**ites in the **D**anube Region (RIS4Danu)

Results regional analysis: Banská Bystrica region



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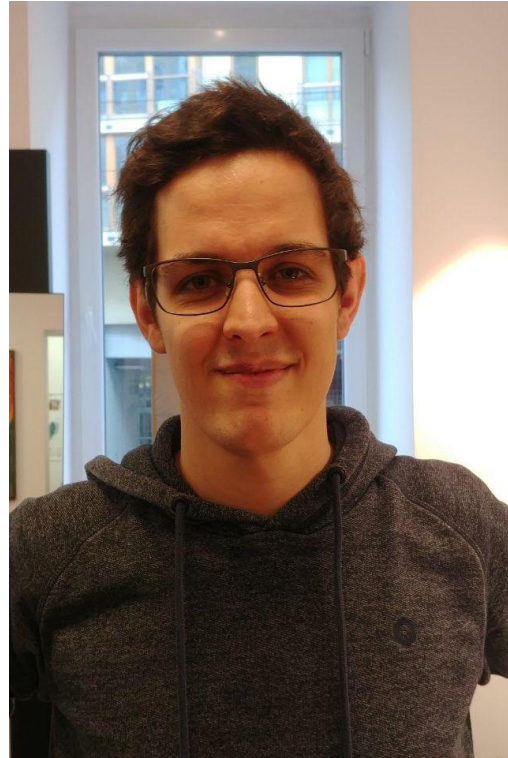


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The Team behind the analysis



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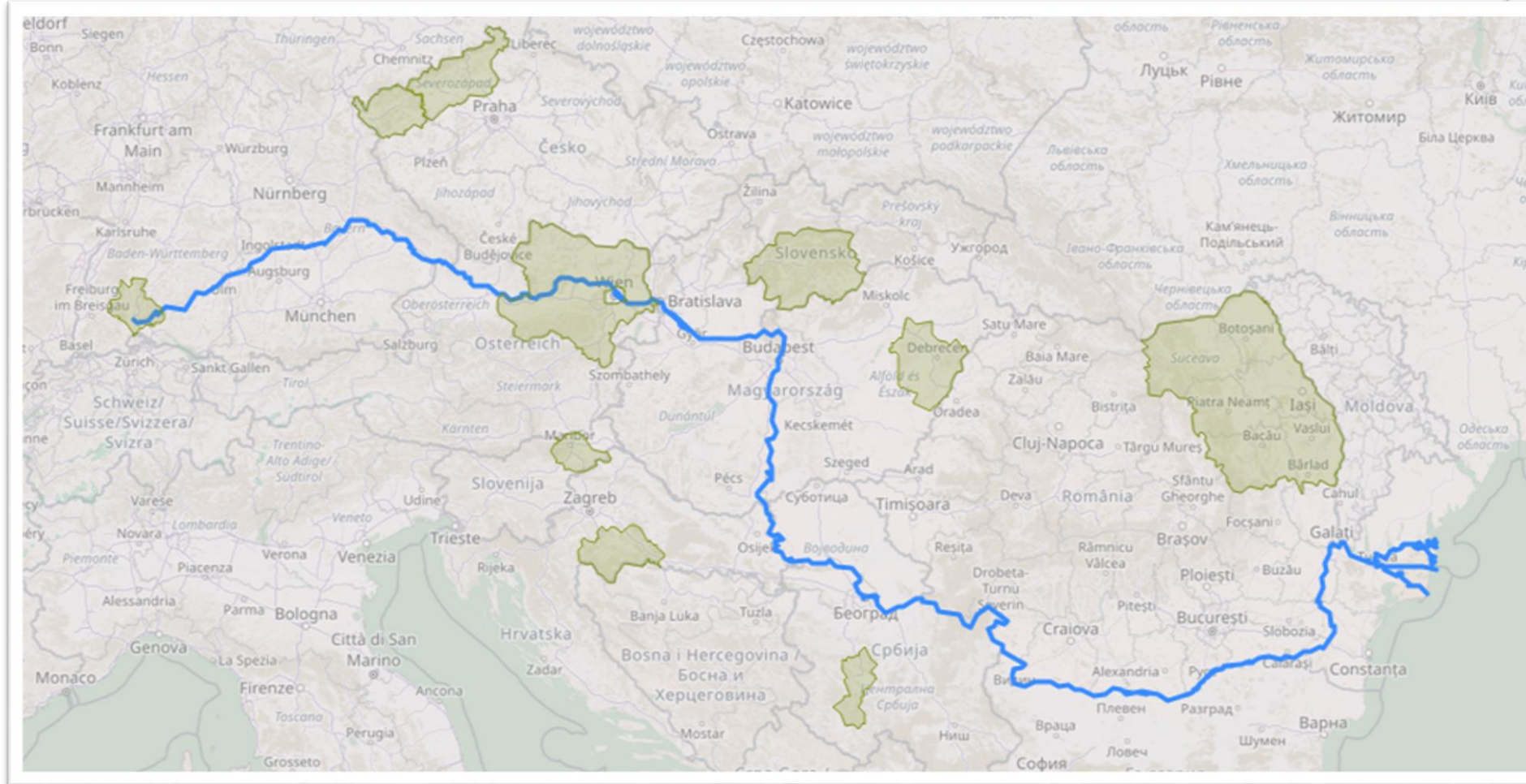
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Student Assistant**



**Balázs Páger
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RIS4Danu: Setting the scene



Source: RIS4Danu Website



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Conceptual background

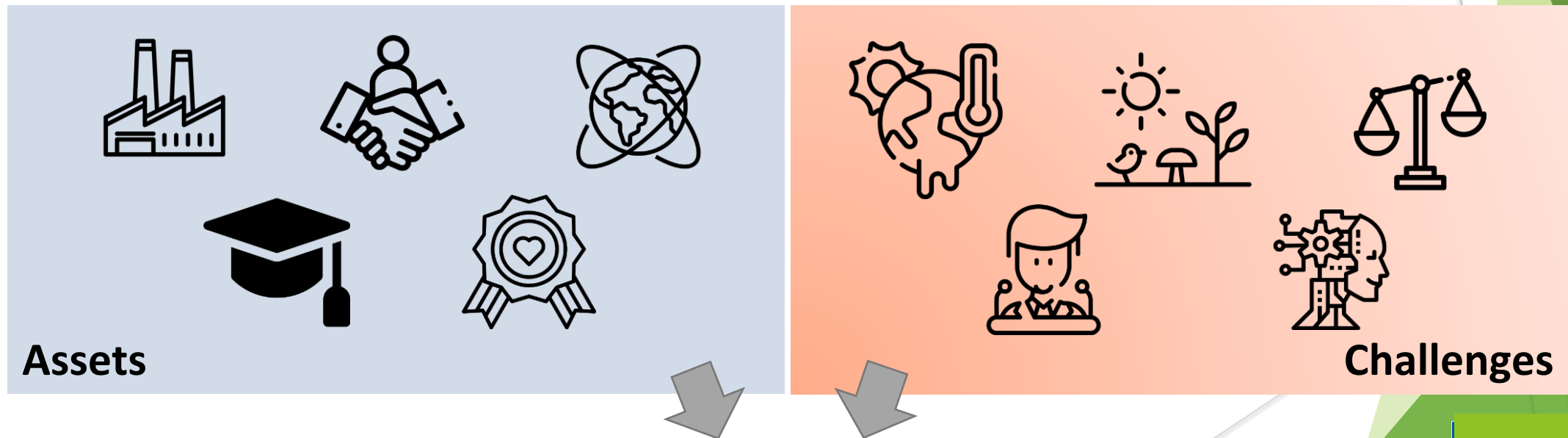
A normative turn in regional innovation policies (RIPs)

- ▶ RIPs have come along way --> from “one size fits all” approaches to “building on each region’s strengths, competitive advantage and potential for excellence” (European Commission, 2014)--> Smart specialization as one key outcome of this development



A normative turn in regional innovation policies (RIPs)

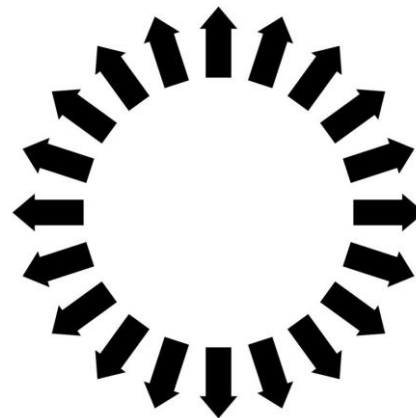
- ▶ RIPs in an era of grand societal challenges --> normativity & contribution to addressing these challenges --> “Third wave of innovation policy” (Schot & Steinmüller, 2018)
- ▶ Not only assets differ, but also challenges and their regional manifestations



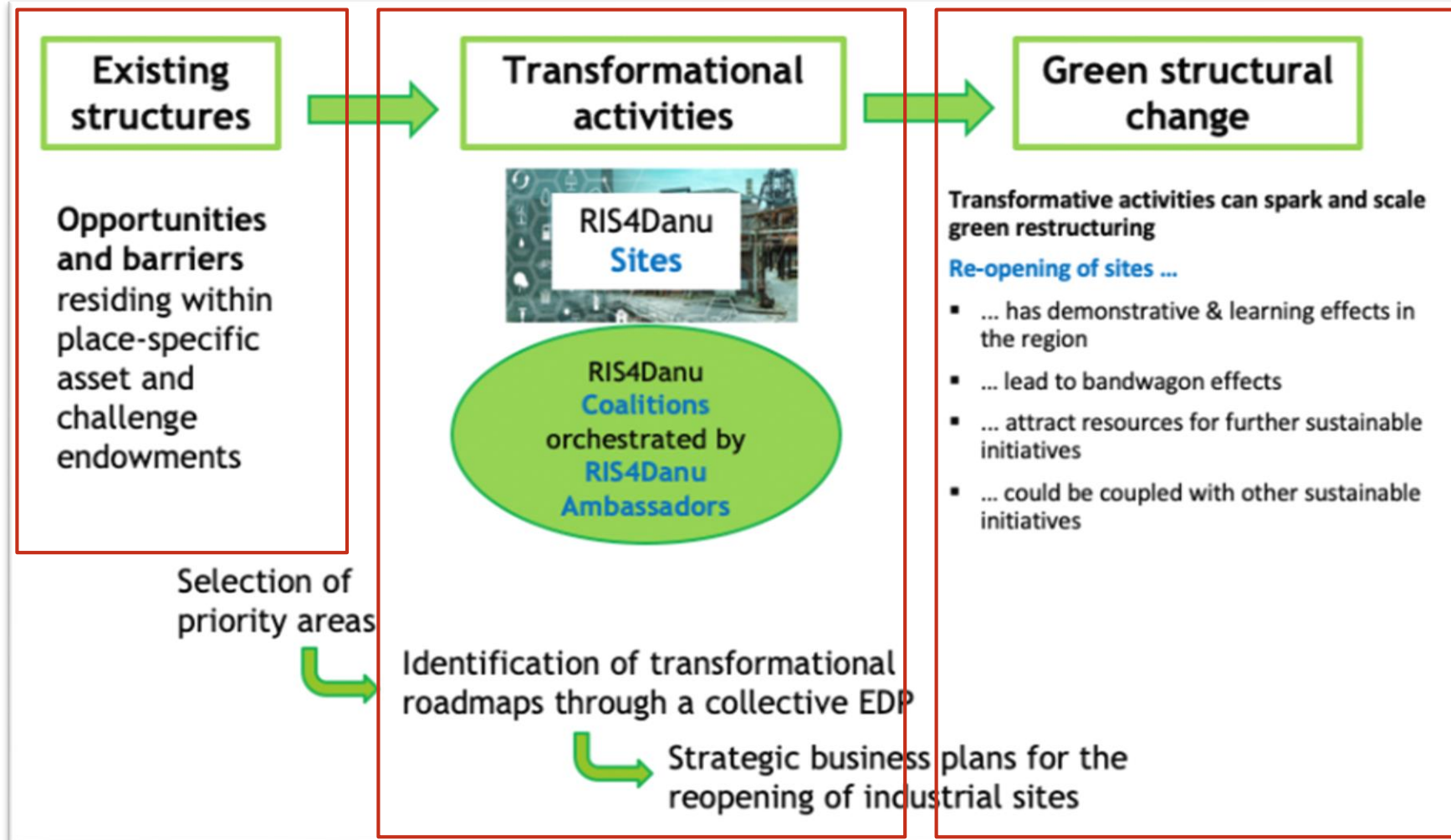
Opportunities for transformative activities emerging for the re-opening of industrial sites

Industrial sites as platforms for regional change

- ▶ Reopening of **closed industrial sites** --> “anchors” for transformative change, as an opportunity to bring regional **stakeholders together** in order to identify and discuss challenges and potential solutions
- ▶ From “small wins” to larger impact via “propelling mechanisms” (Termeer and Dewulf, 2019)
 - ▶ Mechanism I: “Learning by Doing”
 - ▶ Mechanism II: “Logic of attraction”
 - ▶ Mechanism III: “Bandwagon effects”
 - ▶ Mechanism IV: “Coupling”



Conceptual background: Summary



Source: Trippel et al. (2022)



Disclaimers

- ▶ Challenges are big & beyond the reopening of this single site --> **pragmatic, positive vision for a sustainable future**
- ▶ We are not going to present roadmaps or solutions, but **potential starting points for an Open Entrepreneurial Discovery Process**
- ▶ RIS4Danu: **2 years, 11 regions**



Regional analysis: Banská Bystrica region

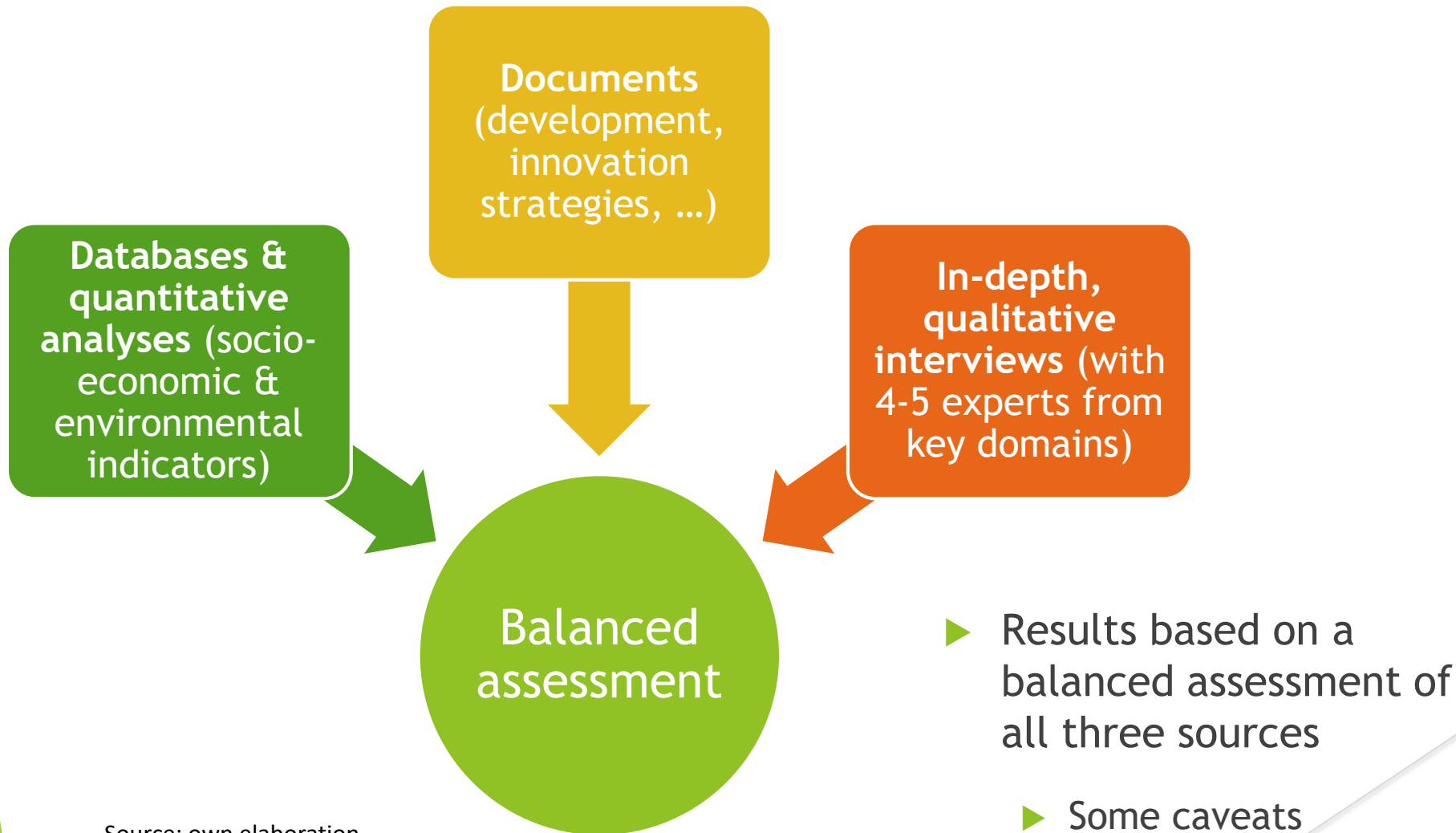


Content of Analysis

- I. Methods
- II. General regional conditions & innovation strategies
- III. Regional Challenges
- IV. Regional Assets
- V. Conclusion



Methods



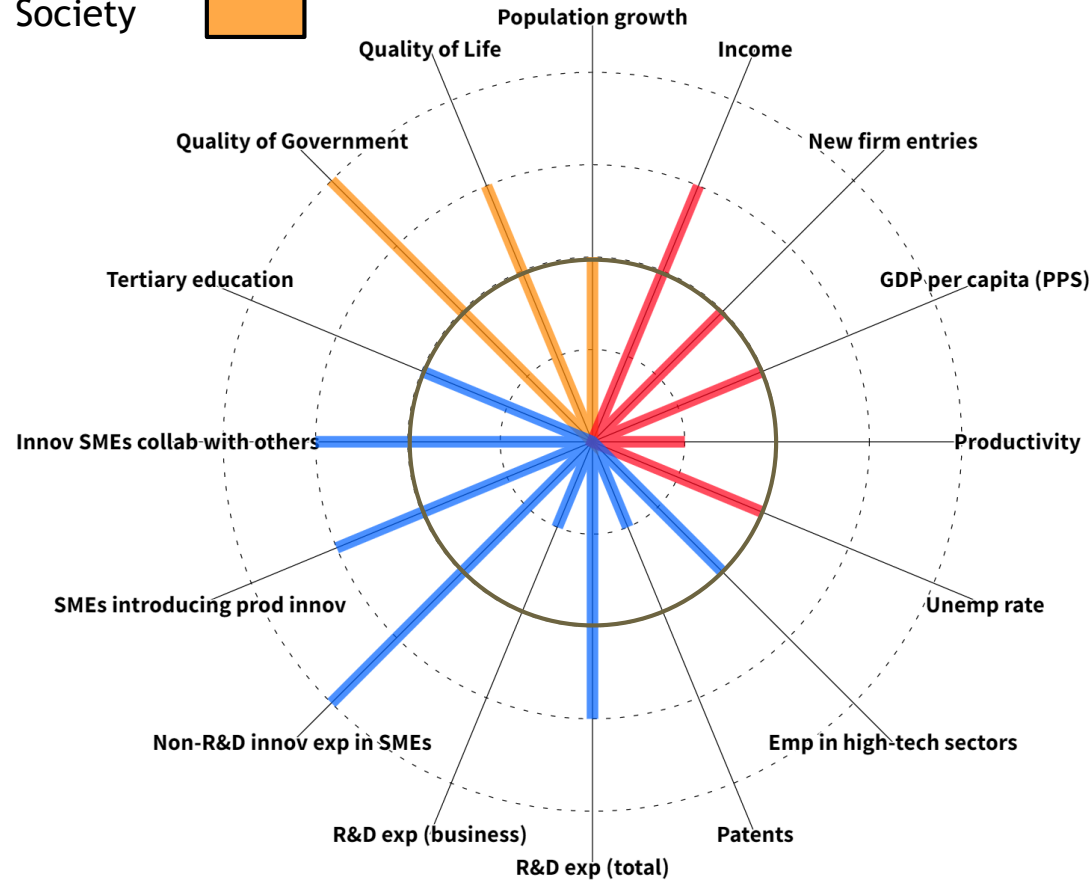
Source: own elaboration



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Stredné Slovensko (SK03)

Legend:
Economy
R&D&I
Society



▪ **Reg Inno Scoreboard (2021): Emerging innovator +**

Top 3 industrial activities (% of the total workforce, 2019):

- Specialised construction activities (10.46%)
- Manufacture of fabricated metal products (5.33%)
- Manufacture of motor vehicles, trailers and semi-trailers (4.95%)

Top 3 most dynamic industrial activities* (growth rate of the workforce in the period 2014-2019):

- Manufacture of motor vehicles, trailers and semi-trailers (+34.9%)
- Construction of buildings (+23.6%)
- Specialised construction activities (+22.5%)

*Only those activities have been included in which at least 1.5% of the total number of persons employed has been working



Documents: Key development fields - national framework

Traditional areas of economic specialisation (RIS3SK):

- Automotive and mechanical engineering industries
- Consumer electronics and electrical equipment
- Information and communication products and services
- Production and processing of iron and steel

Prospective areas of specialization (RIS3SK):

- Automation, robotics & digital technologies
- Processing and increasing the value of light metals and their alloys
- Manufacturing and processing of plastics
- Creative industry
- Increasing the value of domestic raw material base
- Support of the smart technologies in the field of source and waste processing of light metals and their alloys.

Source: Research and Innovation Strategy for Smart Specialization of the Slovak Republic



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Documents: Key development fields

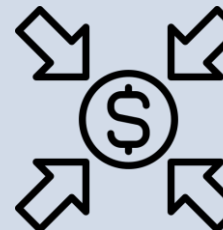
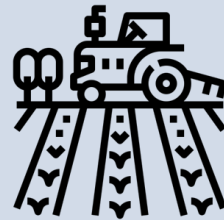
Slovakia Catching-up Regions. Banská Bystrica Region: Key development dynamics

Manufacturing legacy
(linking emergent industries based on mechanical engineering legacy to growing automotive sector)



Tourism
(harnessing natural beauty as well as industrial heritage, promoting tourism all over the region)

Agriculture
(increasing share of activities with higher added value by focus on agro-processing)



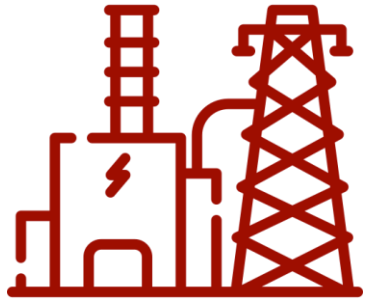
Being more strategic about FDI attraction
(better use of local knowledge in investment attraction)

Challenges

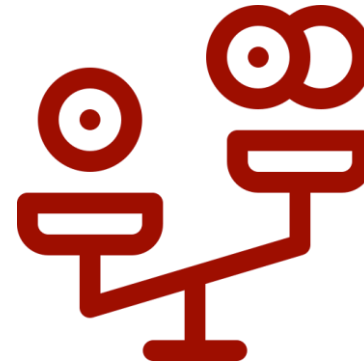
Societal challenges



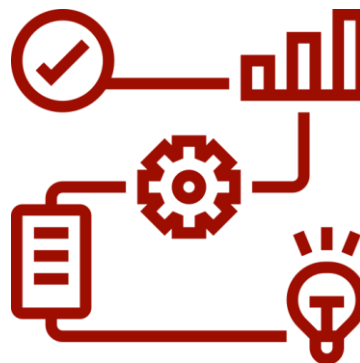
Energy-intensive industries



Regional disparities



Fragmentation and lack of trust



Planning issues

Societal challenges

Brain drain and scarcity of professionals

- “I think that our region is [...] with the biggest brain drain and migration towards other regions or Western countries. And if [companies] needed some engineers, [...] this is a very big challenge [...] to find some really good young people. [...] Some of these biggest companies provide [scholarships] to and pay them during the studies and then employ the person [...] still, it's a big challenge [...].”

Grey economy & unemployment

- “Many people are unemployed, but only on the paper and the employment office. They have their job but in the grey economy. [...] And if we cannot create a positive environment for enterprises and for people for living conditions, [...] the problem [...] will be here with us for [...] more years.”

Signs that some parts of the region are left behind

- “The gap between the cities, also in our region, and rural areas is widening. [...] There is already a disenchantment with politics in the rural region. [...] The transition and transformation process is not so easy, and you have to do a lot more. [...] Rural areas [...] are more and more disconnected and disengaged. And it is more difficult in weaker regions [...] like Banská Bystrica.”

Regional disparities

Area	Without education		Primary		Secondary without school-leaving exam		Secondary with school-leaving exam		University		Unknown	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Slovakia	2.74	2.54	11.31	11.79	24.52	16.14	35.84	36.91	19.82	28.51	5.78	4.11
Banská Bystrica (region)	3.44	3.39	13.55	14.40	24.35	16.33	36.50	37.61	16.65	24.25	5.51	4.03
Banská Bystrica (district)	1.33	1.13	7.88	7.43	17.03	11.11	40.50	39.83	28.28	37.31	4.97	3.19
Rimavská Sobota (district)	6.58	6.80	22.97	25.40	25.19	16.15	29.53	31.82	9.74	14.95	5.99	4.89
Veľký Krtíš (district)	3.34	3.56	12.85	15.44	32.28	22.45	35.42	37.68	10.93	17.04	5.18	3.84
Žarnovica (district)	1.92	1.75	9.73	10.62	27.81	17.97	40.44	41.96	15.40	24.88	4.70	2.81

Source for the tables:
Census 2021 data by
the Statistical Office of
the Slovak Republic

Area	Connected to Waste Water Treatment Plant (% of pop.)	Connected up to public sewage system (% of pop.)	Supplied by water from public water-supply system (% of pop.)
Banská Bystrica (region)	60.8	63.3	87.8
Banská Bystrica (district)	81.0	83.8	99.6
Rimavská Sobota (district)	45.8	45.8	68.5
Veľký Krtíš (district)	47.3	47.3	92.6
Žarnovica (district)	46.0	52.7	88.8



Fragmentation and lack of trust

“We just started to work on it. Because the lack of trust is the biggest problem in Slovakia, maybe bigger than the lack of money or the problem [...] transport infrastructure. [...] [We have] the strengths of the research and the research organisation or research capacity [...] and we try to connect these stakeholders, very important. [...]”

“If you have trust and you find good partners for cooperation, then it is not that difficult to find the money or to get some financing. But the trust and the willingness to cooperate, it's very much it's really on the top. [...] If you see some kind of [study] on the EU level, then you see that Slovakia is on the very bottom, that people don't trust anything. [...] I don't know if it is mentality or what it is, but we never knew how to really cooperate in Slovakia. And the [last] three years just worsened the situation.”

All quotes are derived from the interviews with regional experts



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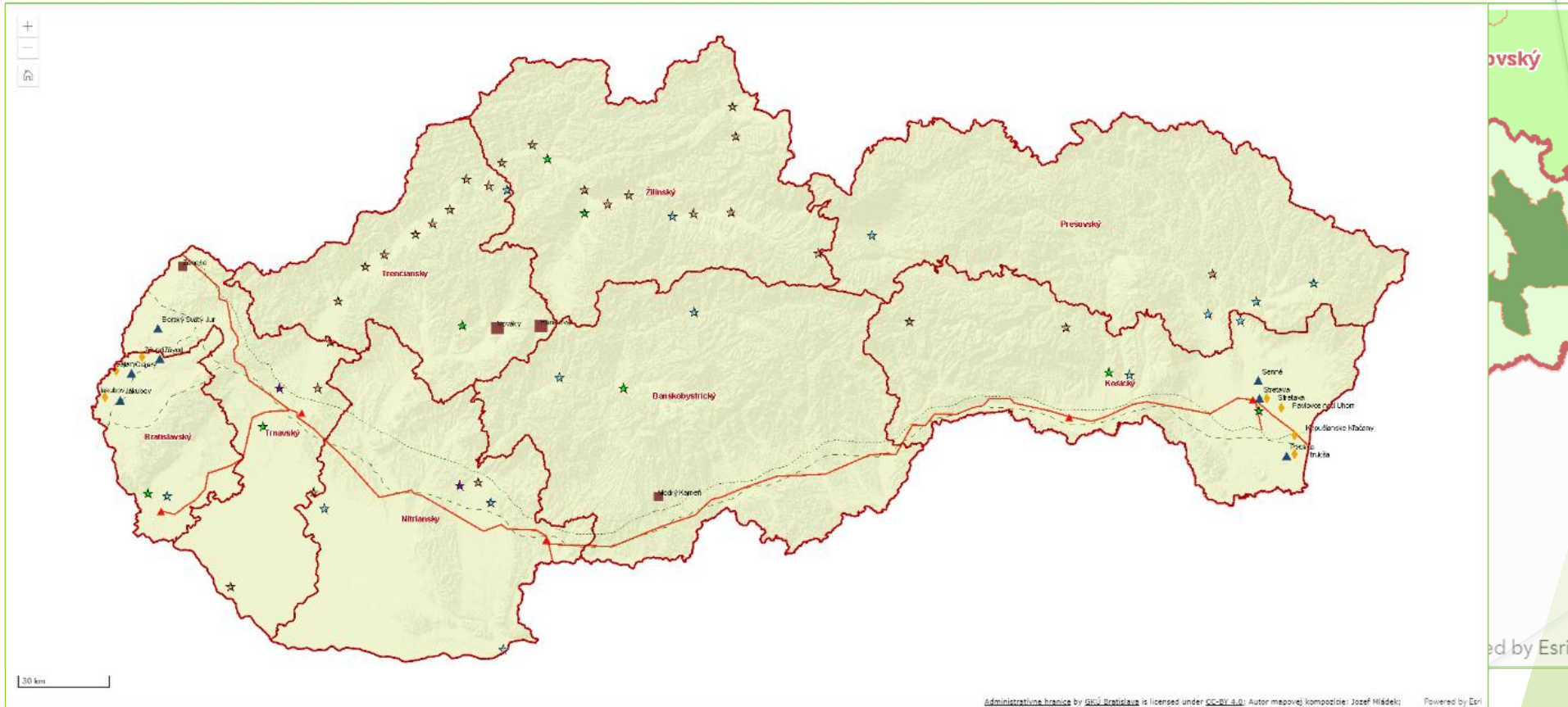
Planning issues and underutilization of EU fundings

“Well, this is more discussion on national level and how the money is going to be used. [...] The problem of Slovakia is that most of this kind of things is on the national level, and the regional governments don't have enough money to finance for. And also, the competences lie on national government that is not very willing to let the regions decide for themselves. Also, that the EU funds are mostly distributed from Bratislava. Big issue and big problem in Slovakia. Because if the money were on the regions and the regions themselves could decide what they will finance that then we can have a quite different story in Slovakia.”

Interview with regional expert



High energy intensity with limited energy generation potential



Source: Atlas Krajiny Slovenskej Republiky;

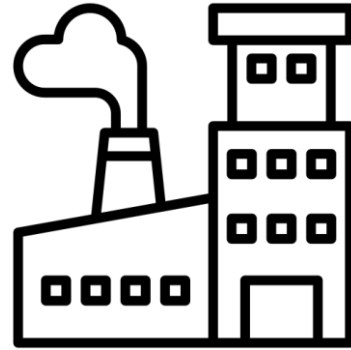
Activities: Energy and Industry Geography Lab by ERE;



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Assets

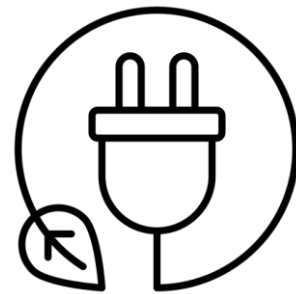
Industrial heritage



Touristic potential



R & D impulses



Geothermal heat and biomass



The conditions to rethink agriculture and forestry

Industrial heritage

“Mechanical engineering, for example, was traditionally very strong here. [...] I think I see the potential not only in the companies but also in the population because, traditionally, there are also a lot of people who are trained in this field. [...] Yes, I think that just the engineering industry, that could be the third sector. [...] And a green industry is emerging there, so to speak.”

Interview with regional experts

“Sometimes even companies initiated [these] circular issues because they, for example, want to reuse their waste [...] Maybe if there were more support, there would be more companies to get to think about or think about these issues [or] they need some initiatives to get together these companies that could be somehow compatible [...] with the production and reusing and so on. But it is, again, about trust and cooperation. [...]”

Interview with regional experts

R & D Impulses - Research directions

Wood processing

- Biomimetic mechanisms of wood for furniture, interiors and housing
- Nanotechnological processes in the development of wood-based materials
- Ultra-low-energy green buildings based on the renewable raw material wood

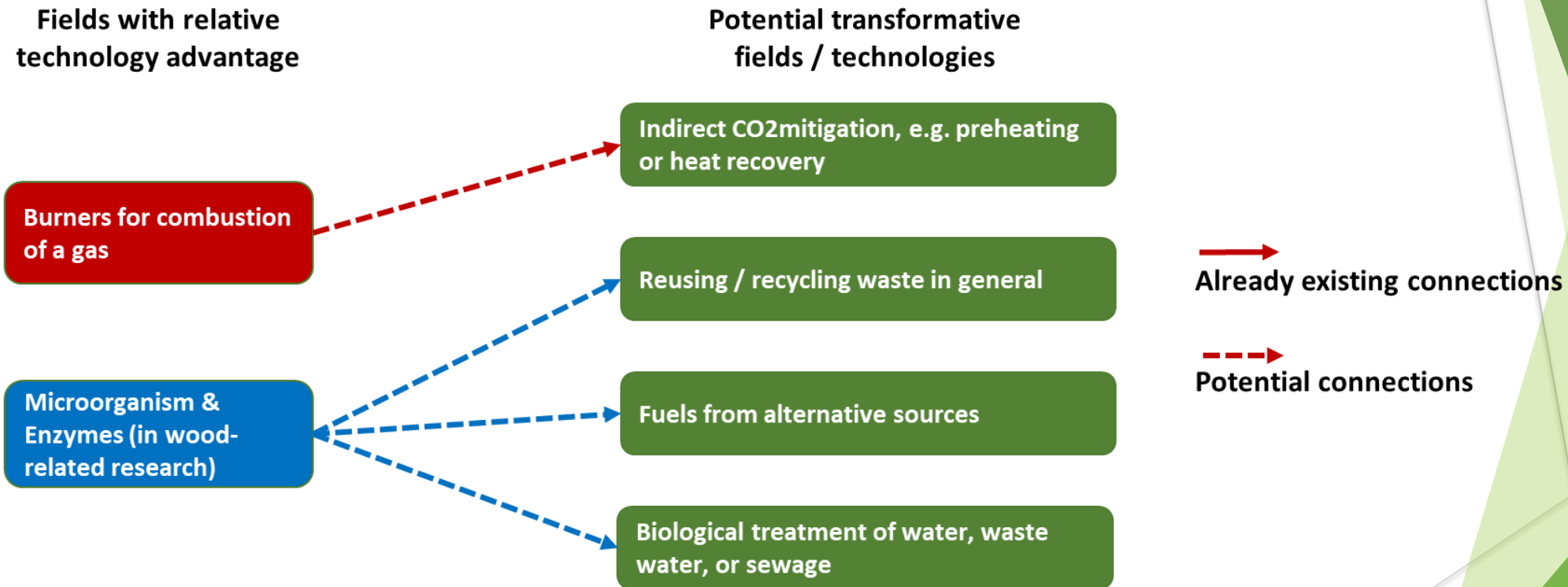
Ecological research

- Intensification of artificial forest reproduction practices under climate change
- Framework for Organisational Decision-Making Process in Water Reuse for Smart Cities
- Assessment of ecosystem services of various lowland soils and a proposal to increase their capacity

Tourism development & cultural heritage

- Reviving of cultural heritage: Social and Economic Empowerment of Rural Areas
- Innovative Cultural Tourism in European peripheries

R&D Impulses - Technologies



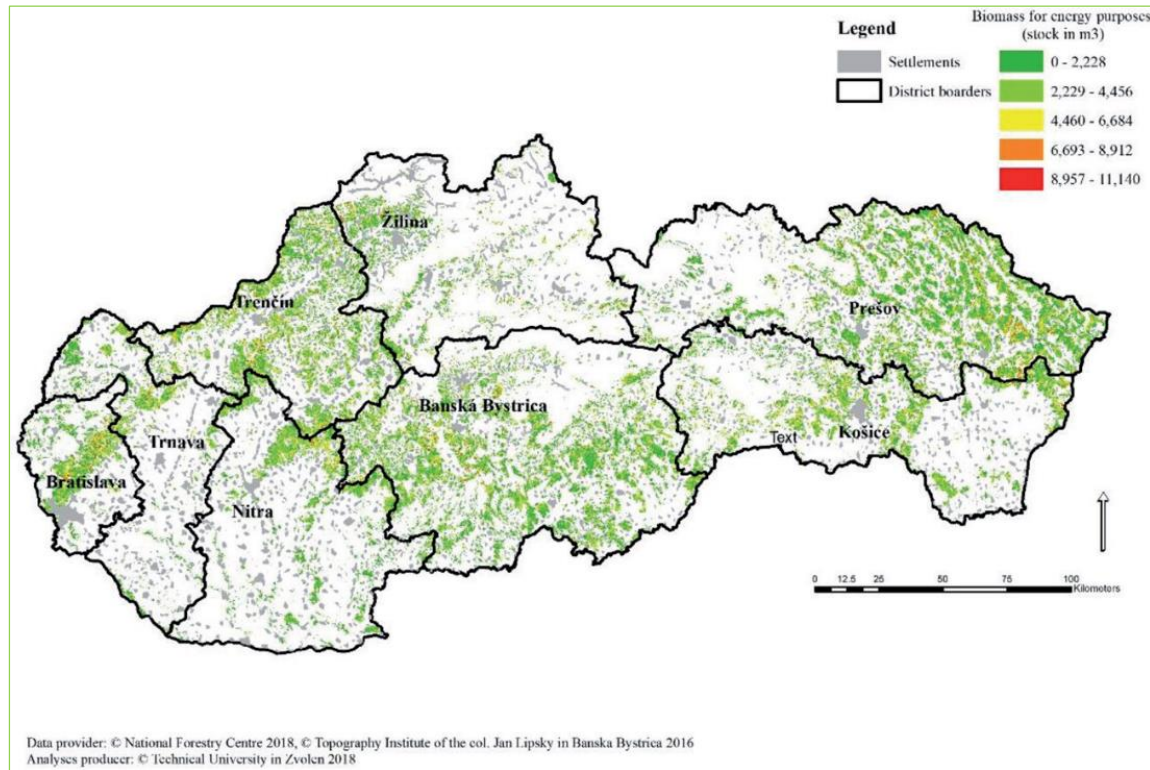
Source: Own edition based on the data of OECD Regpat Database

Note: Relative technology advantage means that a given technology field is in relative terms more frequently applied in patents of the region than in overall patents of the Czech Republic

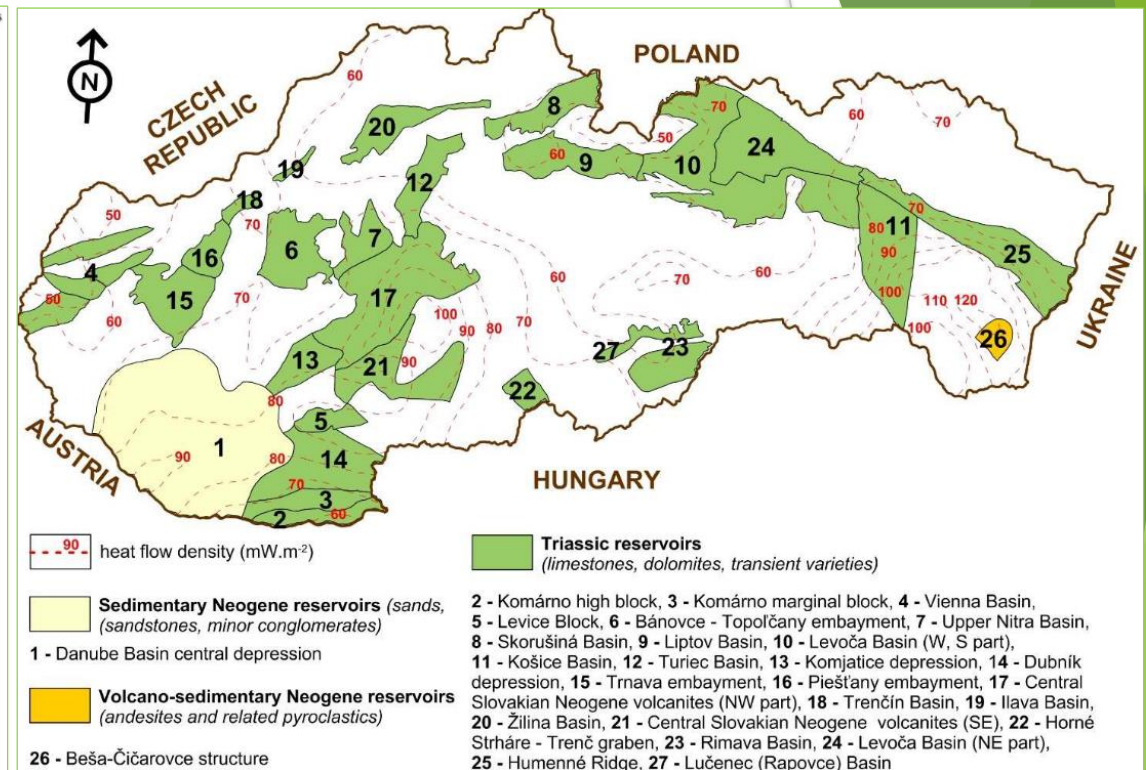


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Biomass and geothermal energy



Source: Majlingová et al. (2020)



Source: Fričovský et al. (2019)



The conditions to rethink agriculture and forestry

Traditional and strong agricultural potential

- “I think it's realistic [to redevelop agriculture in the region]. We have a really big history in agriculture and also in our nature. [...] But there's one problem [...] with the field because you have a field which has ten owners. [...] Of course, you have to cooperate with the other owners. [But] on the other hand, it is also very good for people who are long-term unemployed because you can get them and you can really fast teach them how to do that course. [...]”

Value chain of the forest as a unique opportunity

- “This region is [...] rural, and we see [...] the opportunity, not only for this region but for the whole of Slovakia, in the value chain of forest, wood and also the ecosystem services of the forest. [...] The concentration of companies, employees and training centres for wood and forestry is unique, I think, in the whole of Europe.”

Touristic potential

The number of visitors

Area	2015	2019	Increase within the period 2015-2019
Slovakia	4,330,249	6,432,934	48.6%
Bratislava (region)	1,194,479	1,586,354	32.8%
Trnava (region)	297,693	433,061	45.5%
Trenčín (region)	274,360	419,774	53.0%
Nitra (region)	261,582	369,573	41.3%
Žilina (region)	846,508	1,315,559	55.4%
Banská Bystrica (region)	448,568	743,807	65.8%
Prešov (region)	740,701	1,108,313	49.6%
Košice (region)	266,358	456,493	71.4%

Source: Statistical Office of the Slovak Republic

The number of overnight stays by visitors

Area	2015	2019	Increase within the period 2015-2019
Slovakia	12,350,080	17,703,695	43.3%
Bratislava (region)	2,554,879	3,278,025	28.3%
Trnava (region)	1,181,037	1,548,352	31.1%
Trenčín (region)	1,108,518	1,584,442	42.9%
Nitra (region)	707,945	1,081,854	52.8%
Žilina (region)	2,440,296	3,633,294	48.9%
Banská Bystrica (region)	1,397,260	2,141,489	53.3%
Prešov (region)	2,362,386	3,380,394	43.1%
Košice (region)	597,759	1,055,845	76.6%

Source: Statistical Office of the Slovak Republic

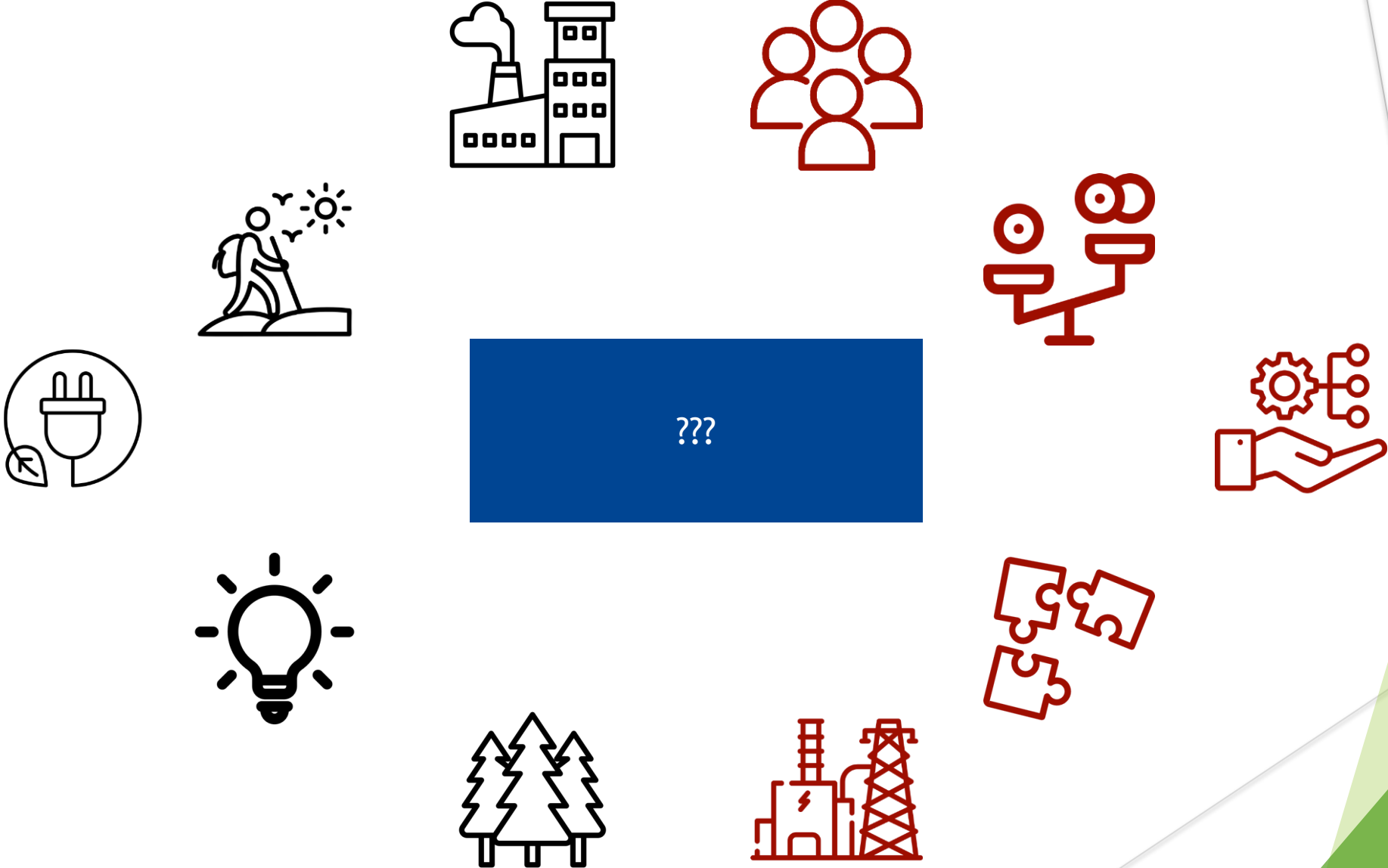
“And we need to hear more the voice of the enterprises and of the region. [...] In Banská Bystrica [...] tourism is more developed in the north because of the heritage of this country and so on. Although no valley and the South is more like... something more likely to develop natural tourism.”

Interview with regional expert



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Conclusion



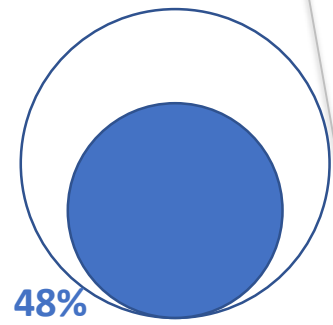
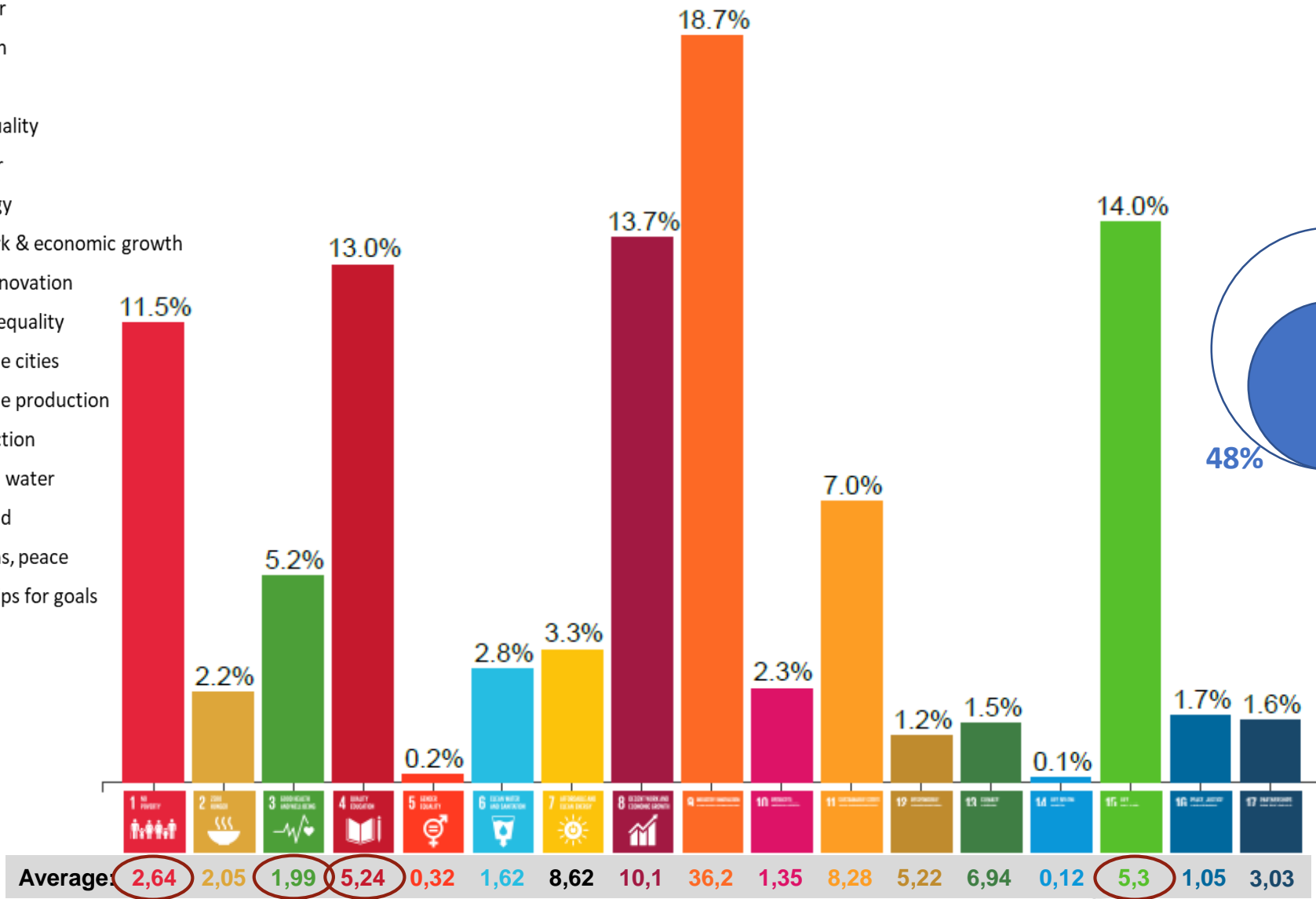
Appendix



SDG Mapping: Banská Bystrica Region

Documents: 3*
 Pages: 350
 Hits: 1.025
 Hits/Pages: 2,93

- 1: Eradicate poverty
- 2: Zero hunger
- 3: Good health
- 4: Education
- 5: Gender equality
- 6: Clean water
- 7: Clean energy
- 8: Decent work & economic growth
- 9: Industry, innovation
- 10: Reduce inequality
- 11: Sustainable cities
- 12: Sustainable production
- 13: Climate action
- 14: Life below water
- 15: Life on land
- 16: Institutions, peace
- 17: Partnerships for goals



- * Banská Bystrica Catching up: Key dynamics & regional development
- Program of economic and social development of Banska Bystrica self-governing region 2015-2023
- Strategy for creating employment with higher added value Banksa Bystrica 2021-2027

<https://knowsdgs.jrc.ec.europa.eu/sdgmapper>



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