

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

Results regional analysis: Usti region

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Institut für Geographie und Regionalforschung



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The Team behind the analysis



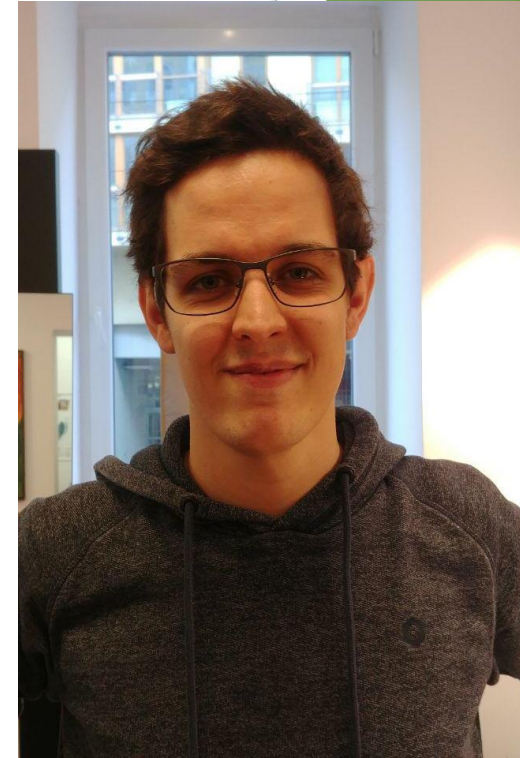
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**Balazs Pager,
Postdoctoral researcher**



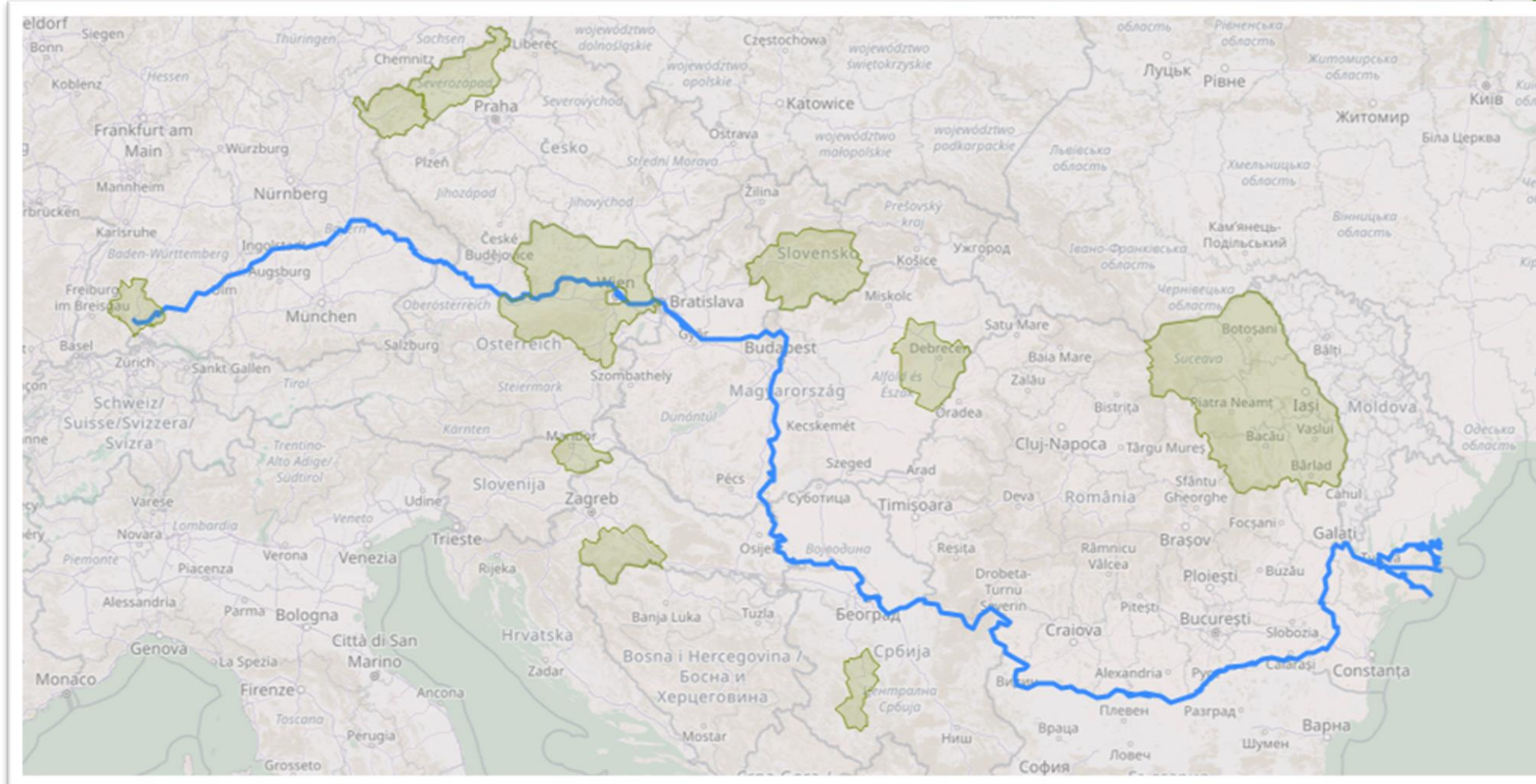
**Veronika Desch
Student Assistant**



**Simon Baumgartinger,
Postdoctoral researcher**



RIS4Danu: Setting the scene



Source: RIS4Danu Website



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Conceptual background

A normative turn in regional innovation policies (RIPs)

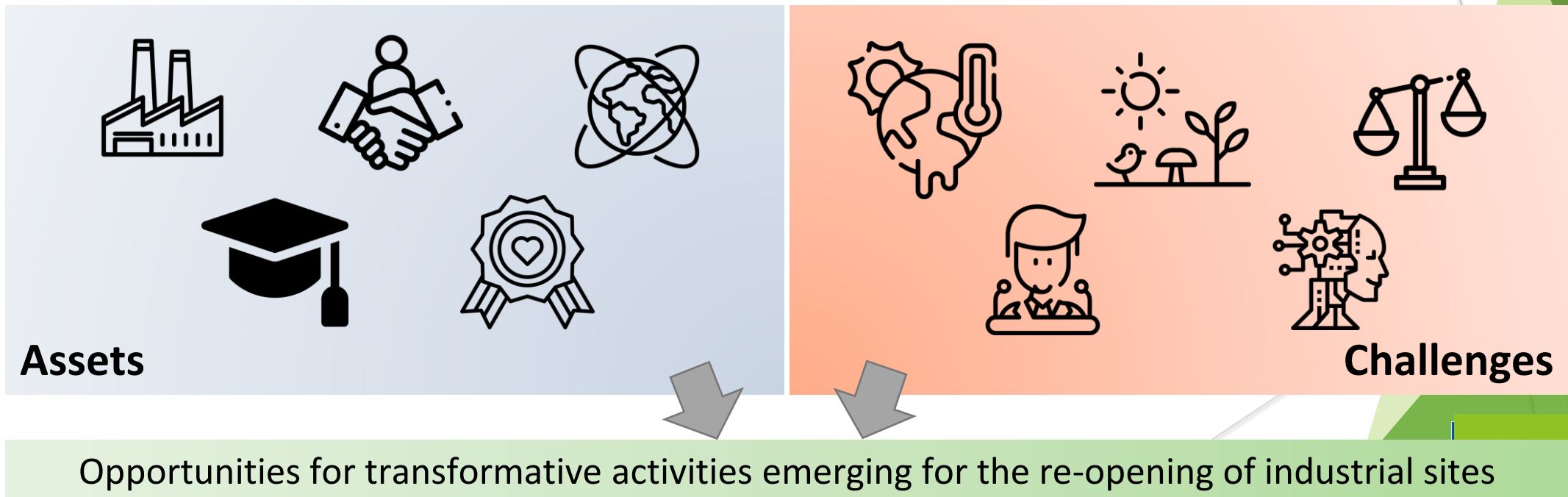
- ▶ RIPs have come along way --> from “one size fits all” approaches to “building on each region’s strengths, competitive advantage and potential for excellence” (European Commission, 2014)--> Smart specialization as one key outcome of this development



Assets

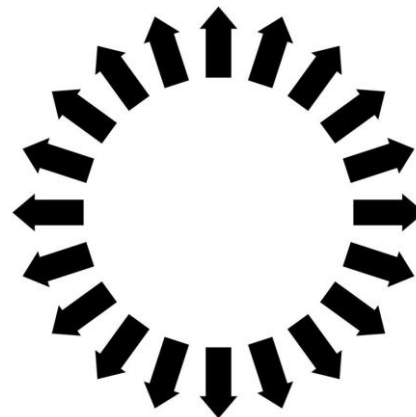
A normative turn in regional innovation policies (RIPs)

- ▶ 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

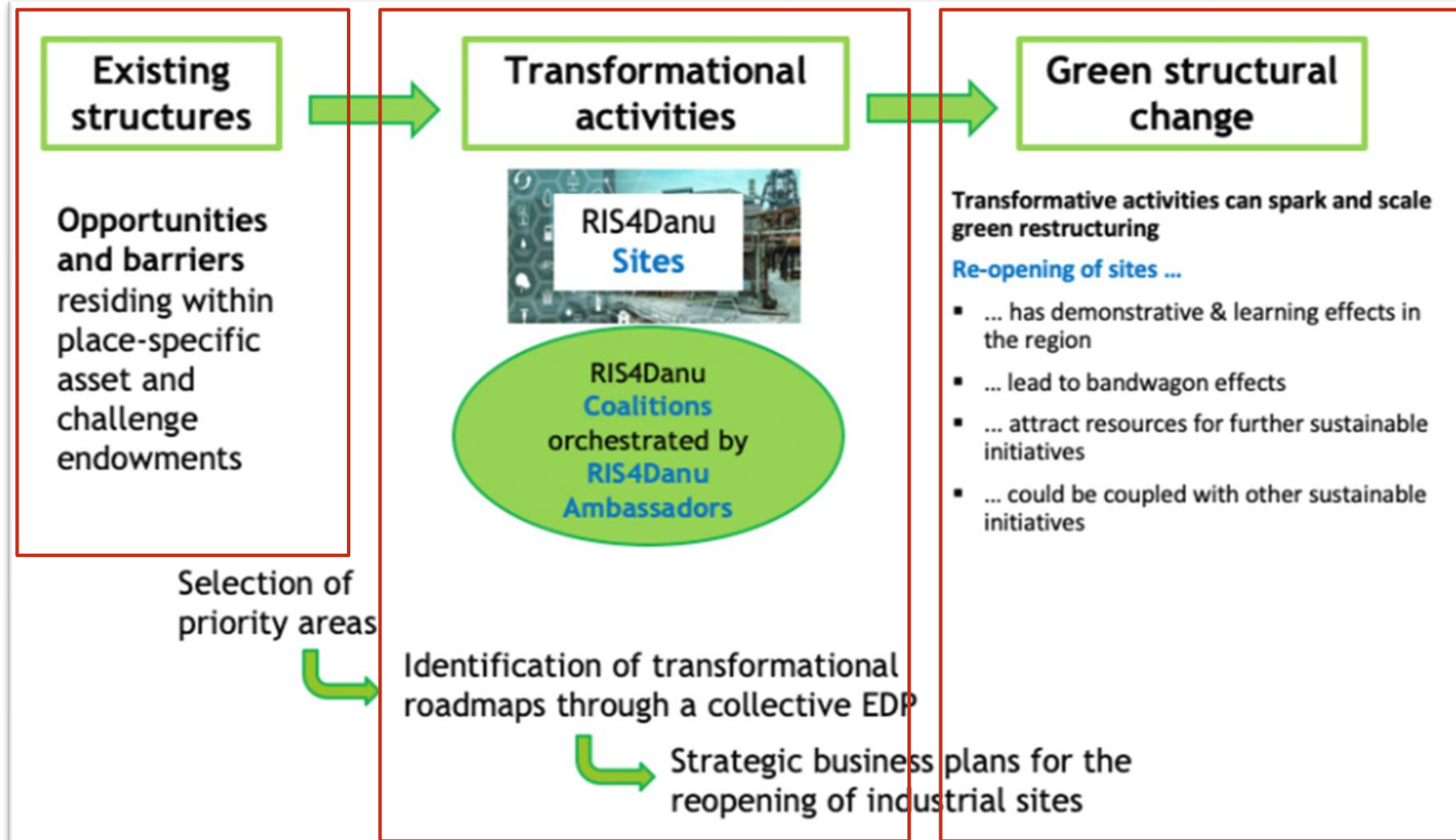


Industrial sites as platforms for regional change

- ▶ 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



Trippl et al., 2022



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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: Usti region

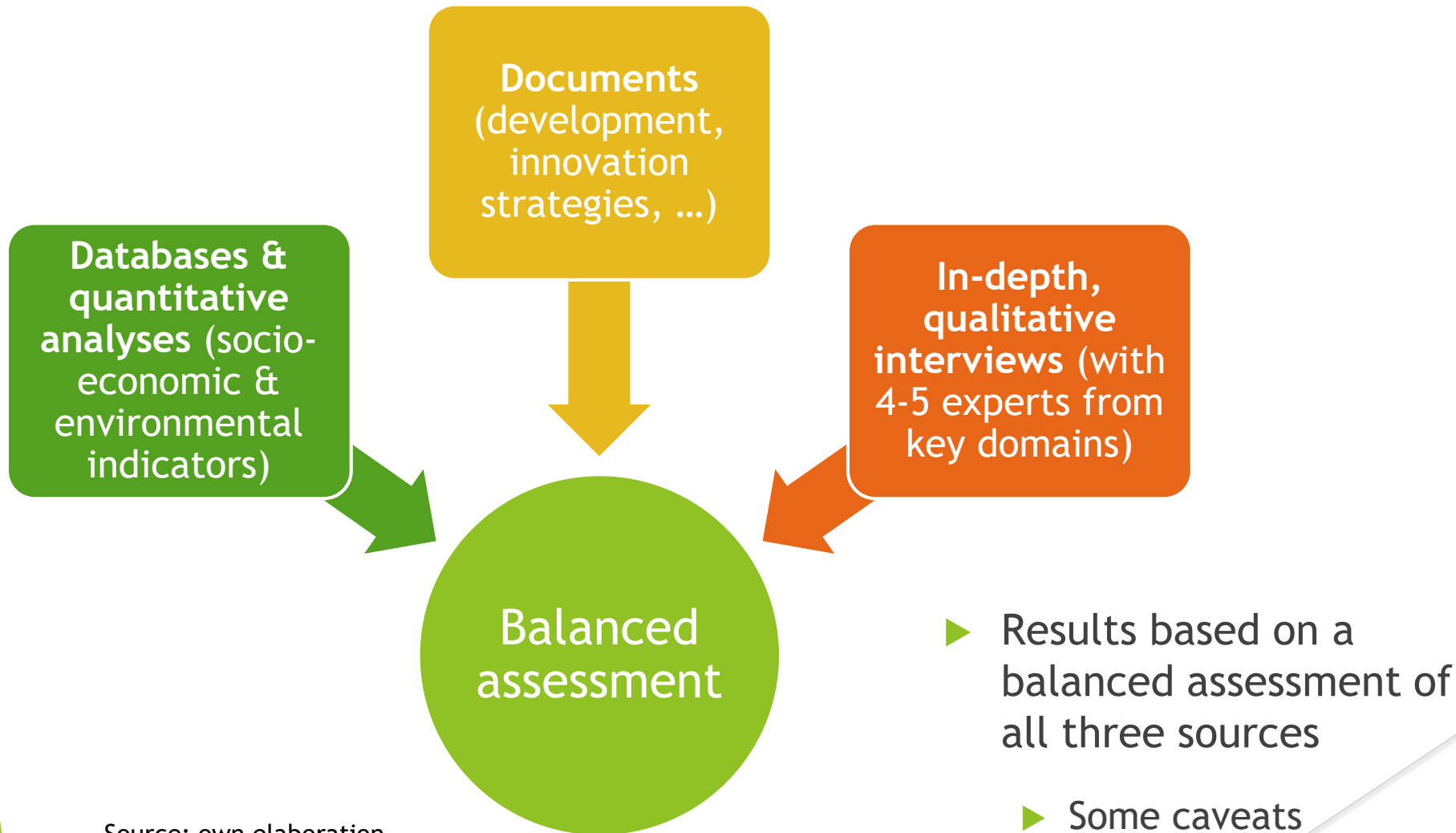


Content of Analysis

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



Methods



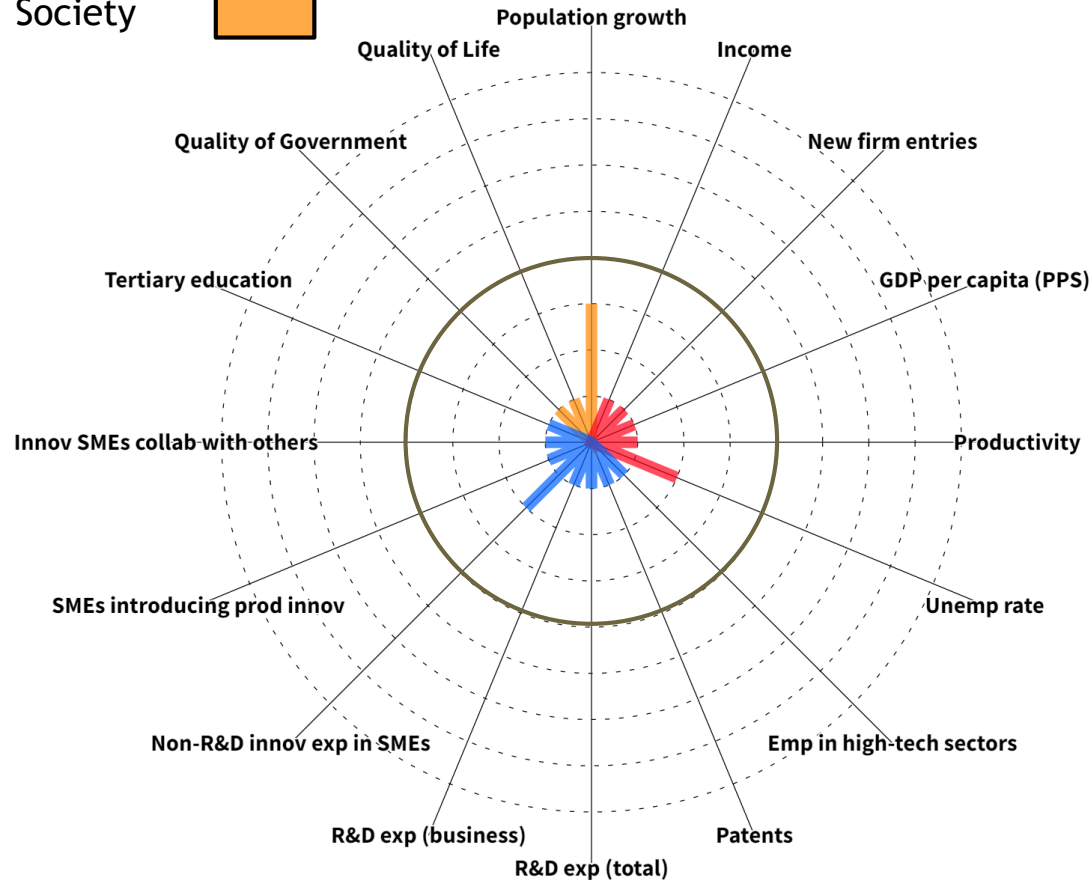
Source: own elaboration



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Severozapaden (CZ04)

Legend:
Economy
R&D&I
Society



Reg Inno Scoreboard (2021): Emerging innovator

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

- Specialised construction activities (7.29%)
- Manufacture of fabricated metal products (6.42%)
- Manufacture of motor vehicles, trailers and semi-trailers (4.76%)

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

- Manufacture of rubber and plastic products (+41.8%)
- Manufacture of motor vehicles, trailers and semi-trailers (+20.3%)
- Manufacture of chemicals and chemical products (+20.1%)

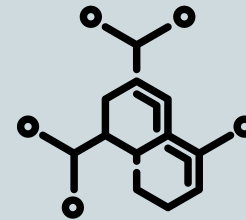
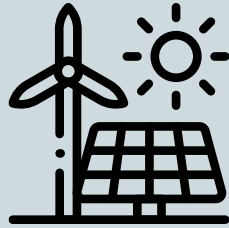
*Only those activities have been included in which at least 1.5% of the total number of persons employed has been working



Documents: Key transformative fields

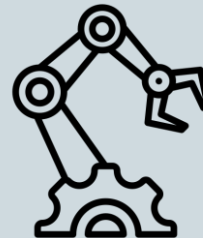
S3-Czechia: Usti region - “Traditional areas”

Energy, Resources & Reclamation
(alternative energy, new sources and uses, site remediation & decontamination, other minerals)



Organic & inorganic chemistry
(green chemistry, hydrogen, circular economy, nanotechnology, water use)

Glass & porcelain
(nanosurfaces, a creative use of glass and new materials)



Mechanical engineering, mechatronics & automotive
(industrial automation & robotization, additive technologies)

Documents: Key transformative fields

S3-Czechia: Usti region - “Emerging areas”

Mobility

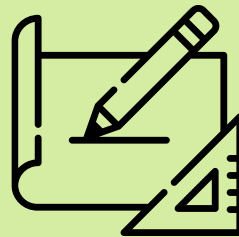
(New materials, hydrogen mobility, electromobility, automatic control systems, autonomous vehicles)



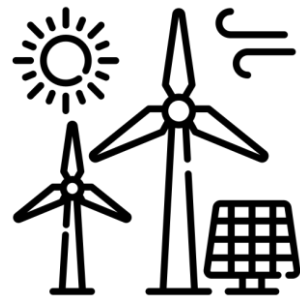
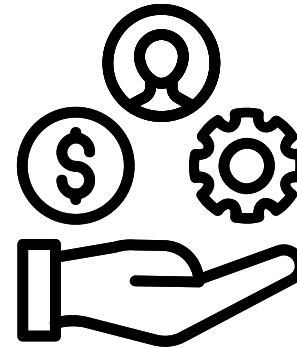
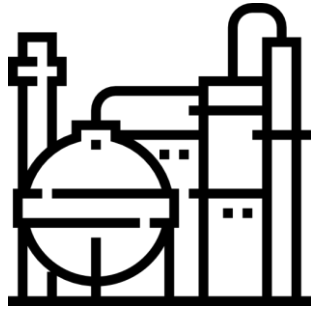
Smart Cities

(energy efficiency of buildings, public transport and reducing the environmental burden)

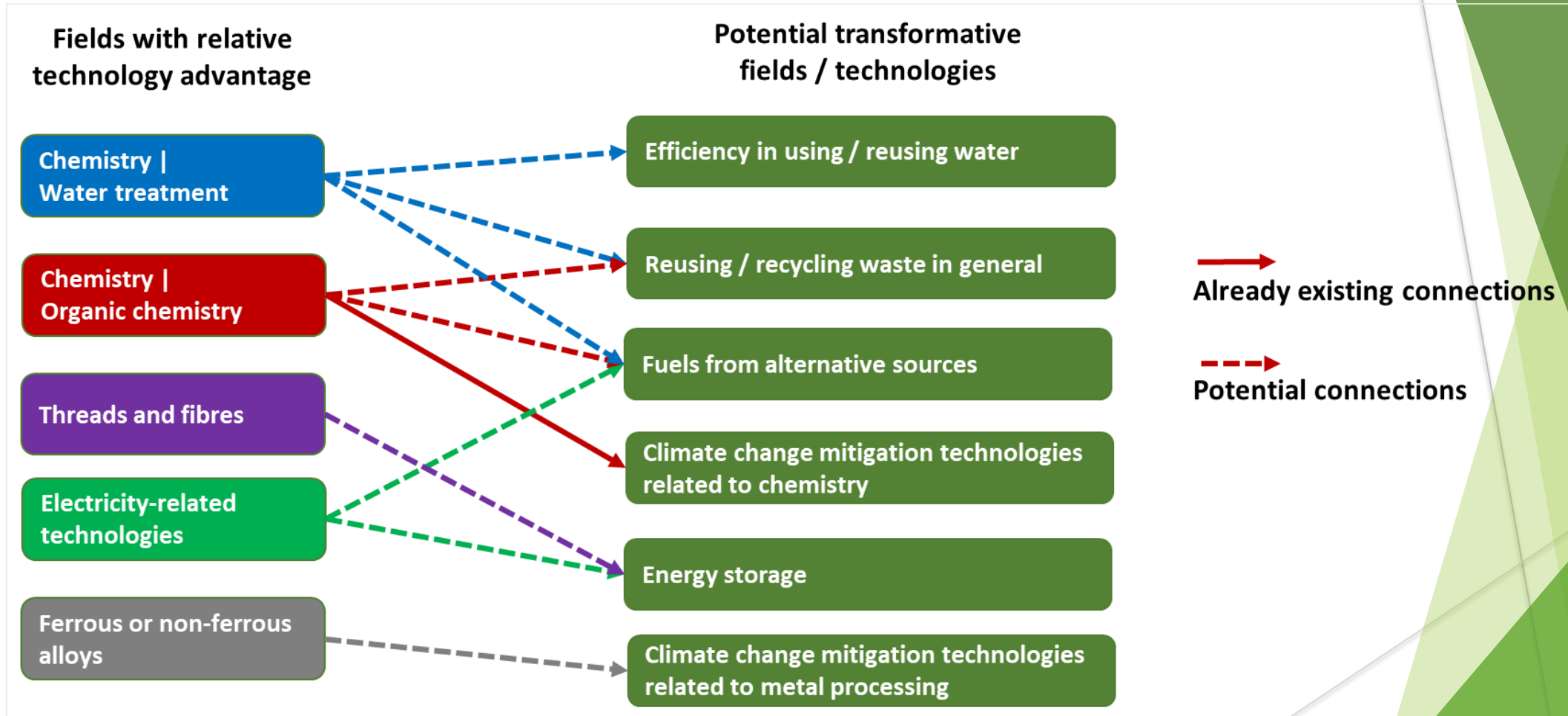
Cultural & creative industries (design and applied arts)



Assets



University and R&D activity



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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Industrial heritage in its tangible and intangible forms

“And they have many years tradition to hundreds or thousands of years. For us it's important to create the own Czech companies or labels, because they will have the headquarters here, not in the Asia.”

“Our mining industry it's not deep mining, it's surface mining. Our employees are usually electricians, locksmiths, drivers, [...] in the mines or power stations, there are a lot of people with this, let's say, not only university level, but those high school level skills.”

Interviews with regional experts

“I think that the opportunity is using the brownfields and the infrastructure that is existing and to rebuild existing companies in the chemistry industry and energy industry to innovative tasks.”

“I think it [the rearrangement of global value und supply chains] is connected with the coronavirus, because, you know, when the China stops exporting goods, then quite a lot of companies rebuild their facilities in Europe. And that's the point. I think the opportunity is a very good thing. I think this is one of the nice opportunities to rebuild these old industries in the region.”

Interviews with regional experts



Exploiting/reconfiguring assets and towards new sustainable paths

Indicator	Ranking of Ústi nad Labem region
Potential for electricity generation by land area of wind onshore (MWh/km ² , 2018)	10 th / 14 Czech regions
Technical potential of electricity generation per land area by small hydropower (<10MW) (GWh/km ² , 2018)	3 rd / 14 Czech regions
Potential for electricity generation by land area of solar photovoltaics (MWh/km ² , 2018)	9 th / 14 Czech regions
Primary energy potential per land area of biodegradable wastes and biogas - projection for the year 2030 (GWh/km ² , 2018)	11 th / 14 Czech regions
Primary energy potential per land area of biofuels from agricultural products - projection for the year 2030 (GWh/km ² , 2018)	4 th / 14 Czech regions
Primary energy potential per land area of forestry products and forestry residues (excluding material use projected for the year 2030) - projection for the year 2030 (GWh/km ² , 2018)	7 th / 14 Czech regions
Primary energy potential per land area of geothermal heating - projection for the year 2030 (ktoe/km ² , 2018)	3 rd / 14 Czech regions

Source: The dataset of the ESPON "Locate" project



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The right conditions & resources for change are in place

“Now, when we are talking about limiting of the coal mining, we are also talking about the sustainability and building up a new environment after these activities. And mainly we are beginning to look at the region in a different way. We start to think what shall we do about it? How shall we work with these places?”

Interview with regional expert

*“There are many groups of people who are very interested in the future development of the region. And nowadays there are some projects that we are trying to develop and move forward to bring some new opportunities to the region. We can talk about **hydrogen topics**, we can talk about some extra money that are coming from the **European Union through operational programs, just transition fund.**”*

Interview with regional expert



Geographical location - Accessibility and cross-border cooperation

Conversion and support of biodiversity

Water protection

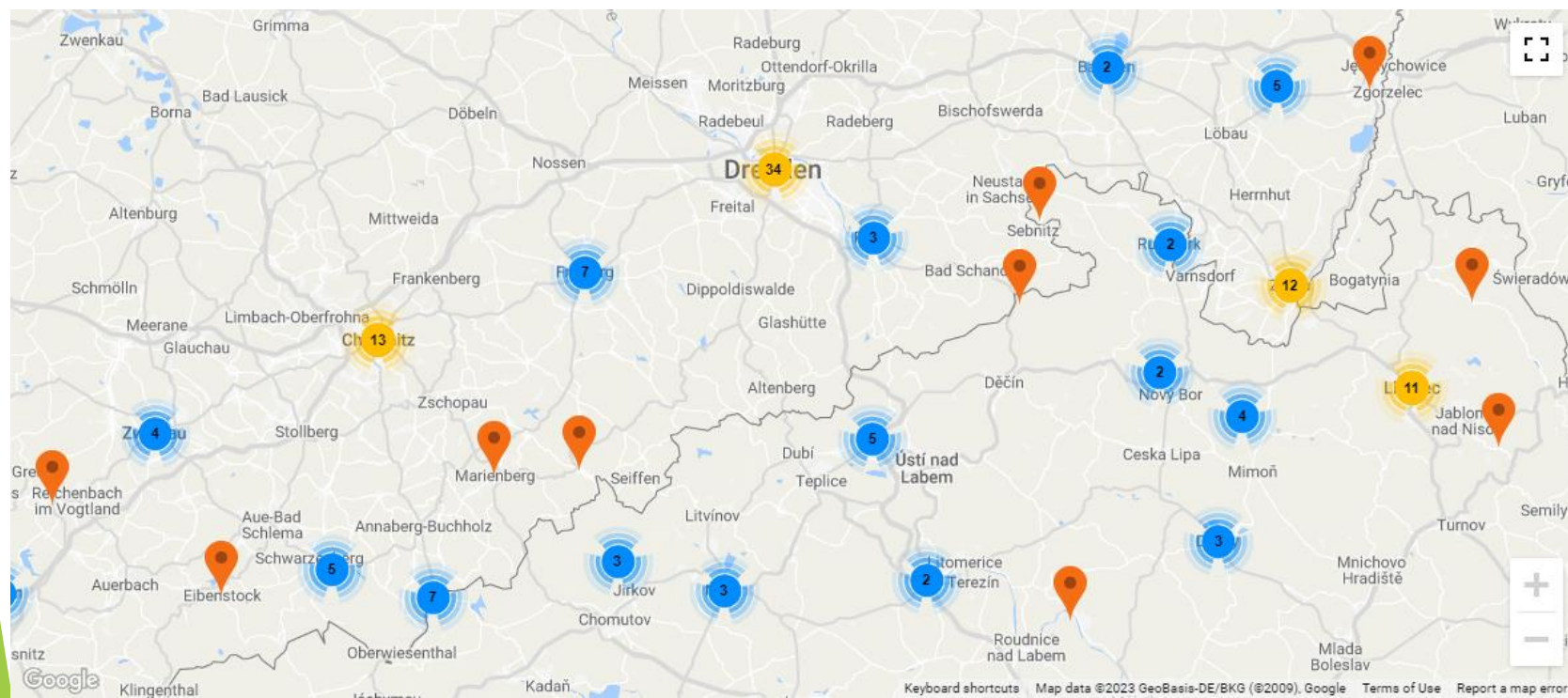
Efficiency

Specific objectives of the Czechia-Saxony Interreg programmes (Source: keep.eu)

Educational opportunities

Employability of young people

Tourist appeal

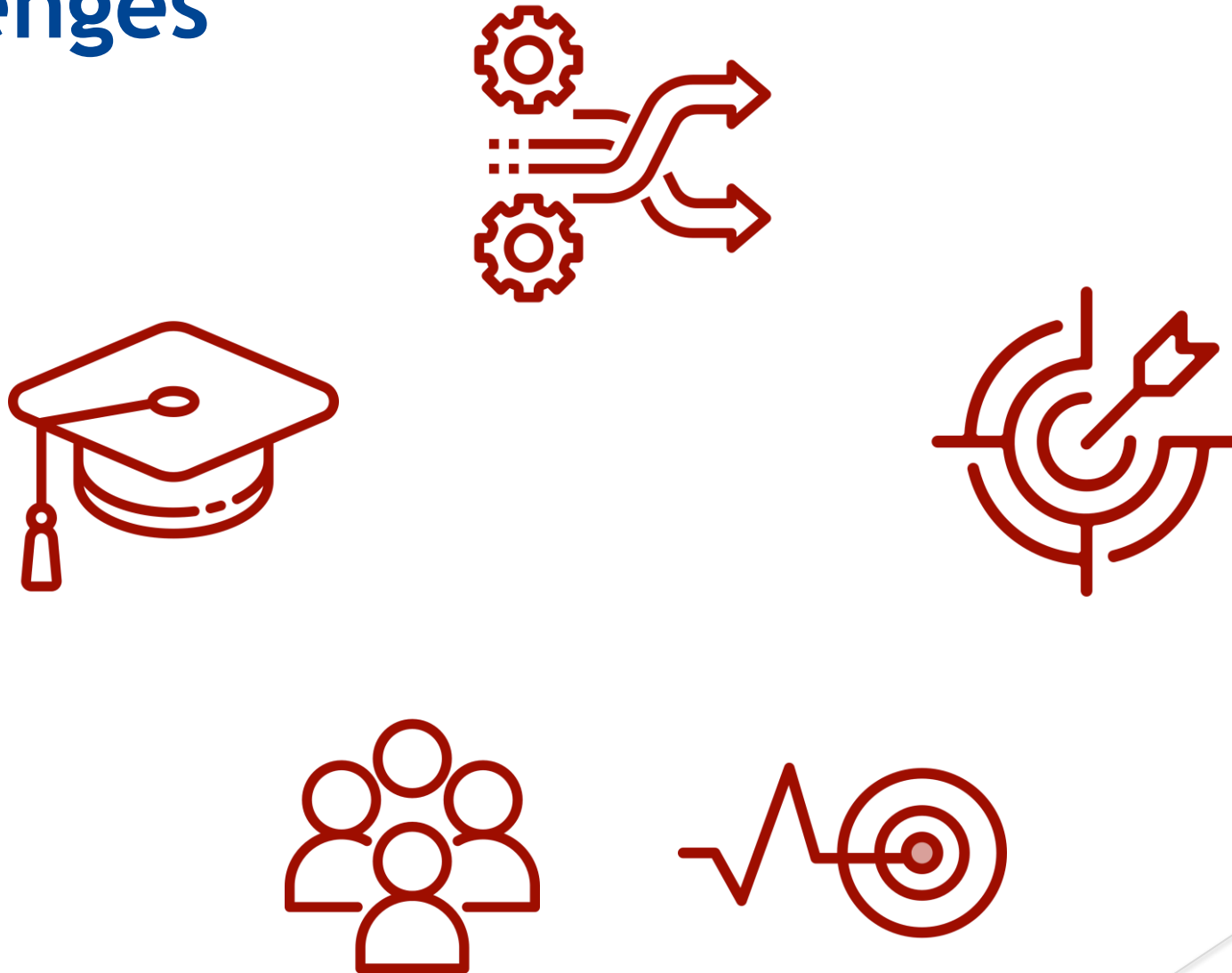


Source: keep.eu



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Challenges



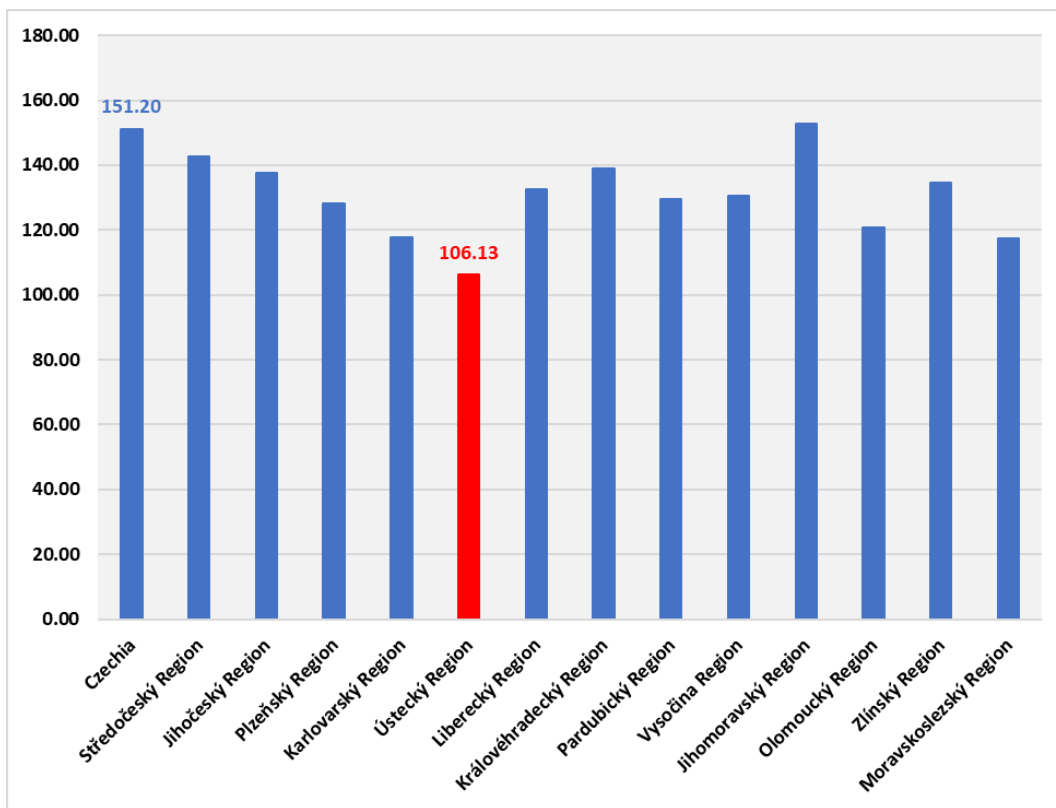
Vulnerability & high transformation needs

Branches	The position of the region in terms of relative employment share within the branch
Manufacture of textiles	2 nd / 8 cohesion regions
Manufacture of paper and paper products	1 st / 8 cohesion regions
Manufacture of chemicals and chemical products	1 st / 8 cohesion regions
Manufacture of other non-metallic mineral products	1 st / 8 cohesion regions
Manufacture of basic metals	2 nd / 8 cohesion regions
Manufacture of fabricated metal products, except machinery and equipment	2 nd / 8 cohesion regions
Repair and installation of machinery and equipment	2 nd / 8 cohesion regions

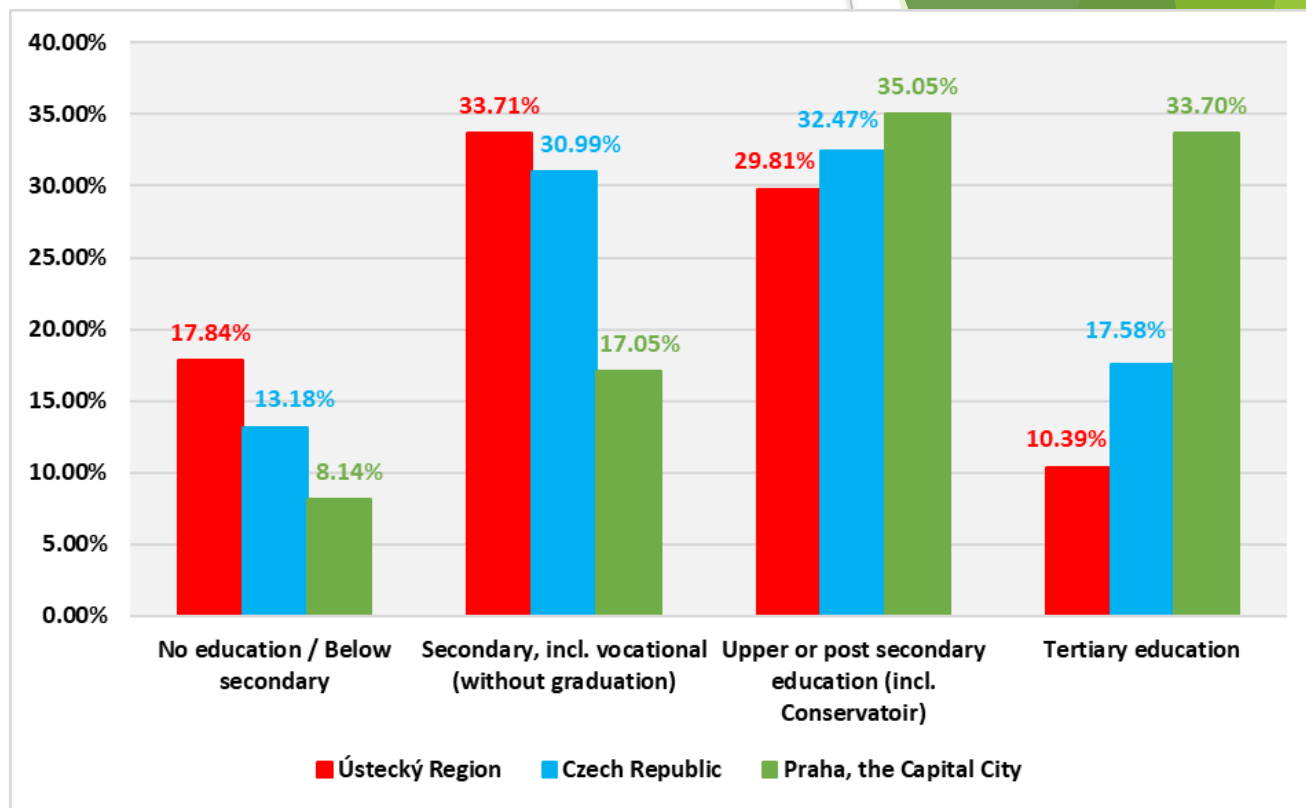
Authors' edition using Eurostat data and the classification of energy-intensive industries by Trinomics et al. (2020)



Low educational attainment, lack of entrepreneurial activity



The number of **economically active businesses per 1,000 people** (2021)
Source: Czech Statistical Office – Census Data 2021



Population aged 15 years and over by the **highest educational attainment** in the Ústi nad Labem region (2021)
Source: Czech Statistical Office – Census Data 2021

Societal challenges: Outmigration, brain drain, unemployment and demography

Indicator (latest data in the brackets)	Severozápad				Czechia			
	2005	2010	2015	Latest	2005	2010	2015	Latest
Early leavers from education and training (% , 2021)	10.3	11.3	14.5	14.1	6.2	4.9	6.2	6.4
Young people neither in employment nor in education and training (% , 2021)	24.6	20.6	19.6	18.6	16.9	12.9	11.8	10.9
Persons at risk of poverty or social exclusion (in % , 2020)	28.4	21.3	21.7	17.8	19.6	14.4	14.0	11.9

Source: Selected societal challenges of Ústi nad Labem region, Source: Eurostat

„Social instability affects the will and perspective of educated people to live in these regions and to raise their families there” -> “a need to give a perspective for people, companies, municipalities...for the future”

RE:START Program



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Weak absorptive capacity: challenge to turn impulses into concrete activities

“Well, the plans are ambitious. It's about three or two and a half years back when the region got the opportunity to come with strategical projects. As I mentioned, there is this transition fund, and the region was asked to prepare some strategical projects. So, I think that we have collected several ideas, maybe... I think there were about 100 of them and then we had to make a selection and choose the ten best ideas. And these projects are quite ambitious. So I think that that's nothing that we should be feeling ashamed for. But the realization is the other story. This is the thing that's not happening often. We are very weak in the realization stage.”

Interview with regional expert

“This transformation historically was focus on inviting foreign investors. Yes, it was a very important topic for us, and we financed many new green greenfield where we established new industrial sites for new foreign investors from all walks from Japan to America. But mostly what they bring to us, where some of the factories connected with some completing of components, not so much advanced business. And this is this this period is ending now because it doesn't create a high productivity in the future.”

Interview with regional expert



Lack of common vision

“Moreover, and relatedly, the Ústecký region has no shared vision thus far: ‘As a region, it has no vision or at least no one knows about it’ (public stakeholder, November 2021); ‘the region does not have a vision, ordinary people do not believe that the region is capable of change’ (public stakeholder, March 2021).”

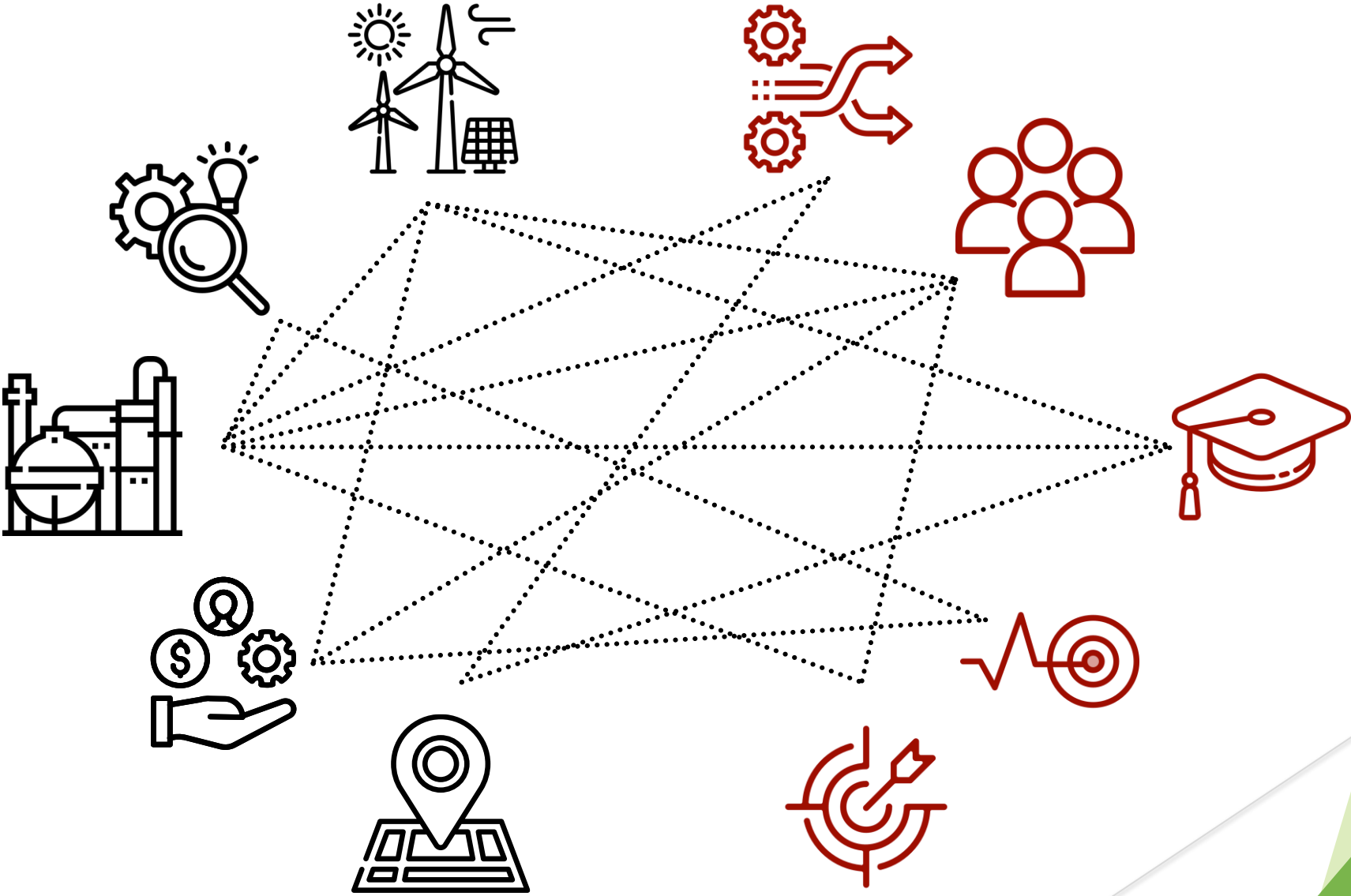
Academic paper by Blazek et al., 2023

“You can see that each department has its own director, their agenda, and they are not open to connect with the agenda of the other departments they are like separate units, not cooperating together. And they are fighting for projects. They are saying, no, this is our projects. Don't take it from us. This is our agenda. They are not open to share. Share. Ideas to share cooperation. Yeah, maybe that's a problem of our nature.”

Interview with regional expert



Conclusion

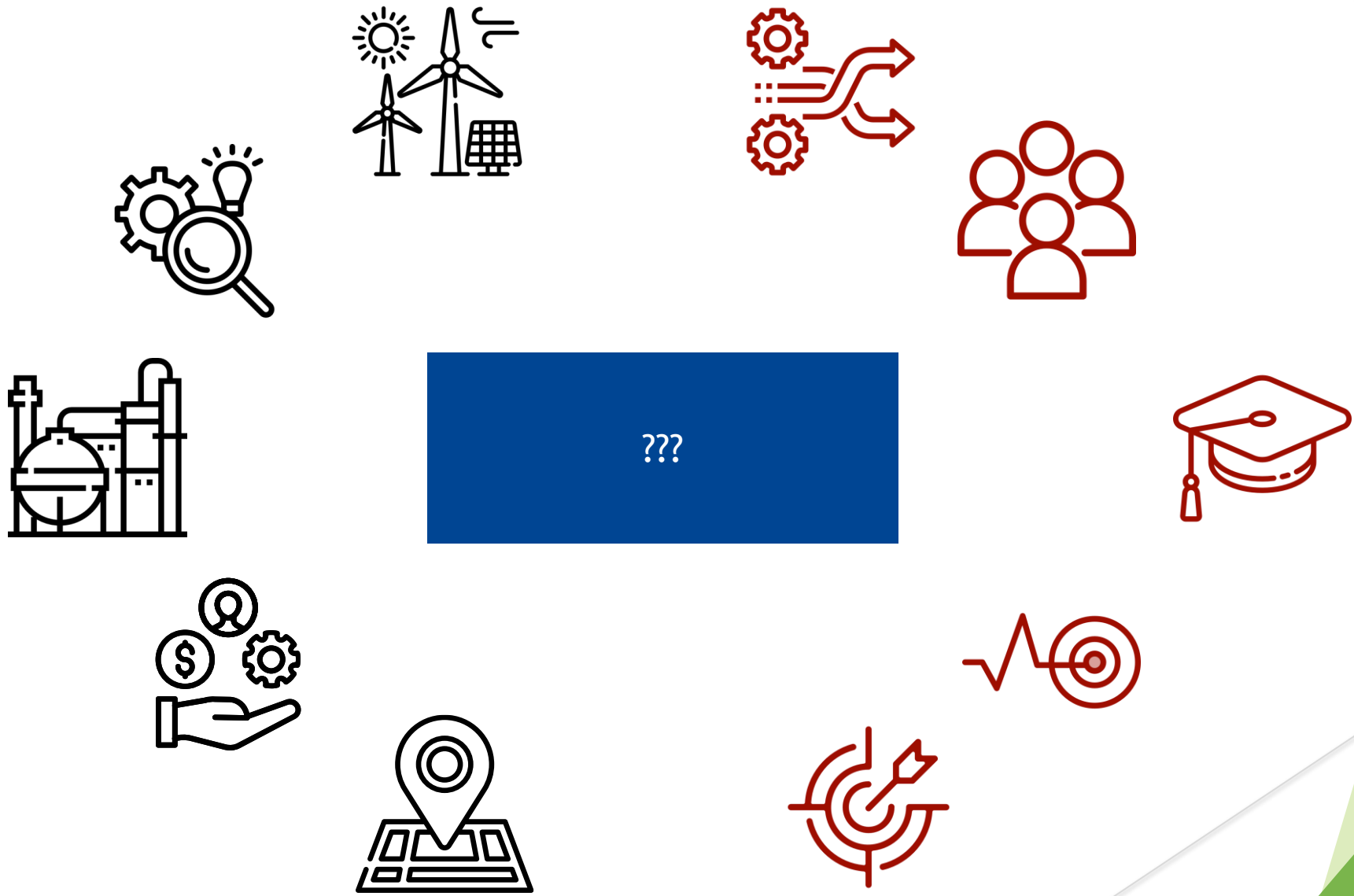


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Conclusion

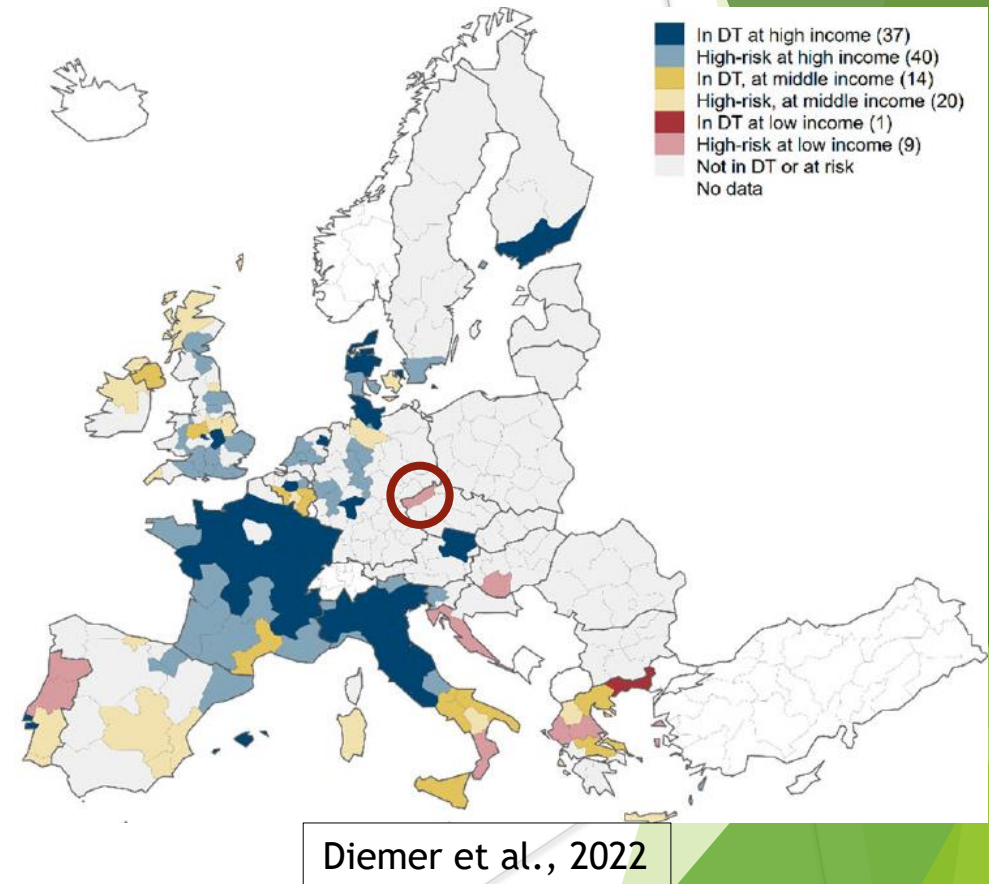


Appendix



Development trap

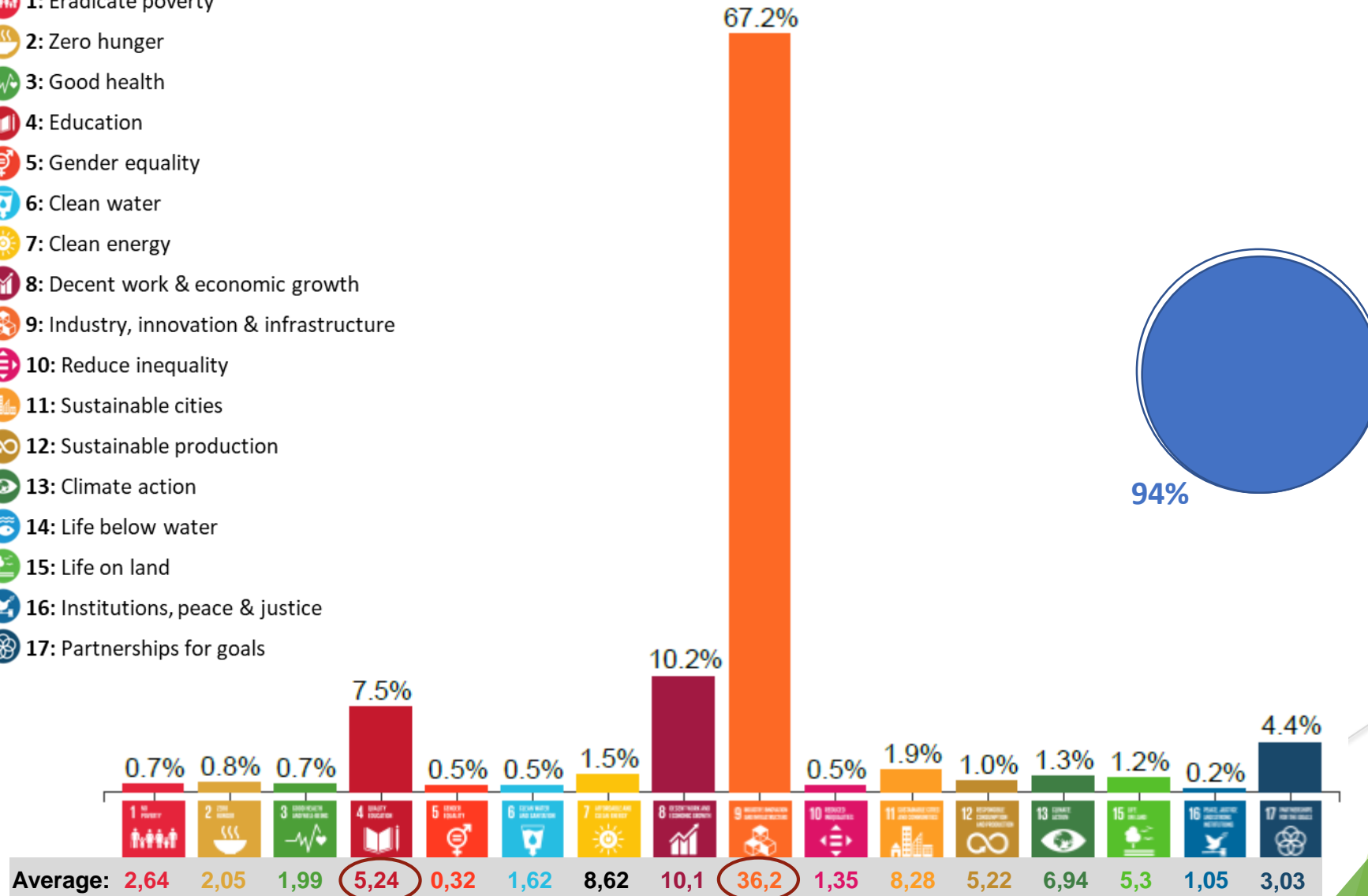
- ▶ Usti in a “High risk at low income” according to Diemer et al., 2022
- ▶ Based on a composite indicator combining:
 1. Δ of GDP per capita (at constant prices)
 2. Δ total gross value added per worker (productivity)
 3. Δ employment to population ratio
- ▶ Deviation from region’s past/national rate/European average



SDG Mapping: Usti

-  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 & infrastructure
-  10: Reduce inequality
-  11: Sustainable cities
-  12: Sustainable production
-  13: Climate action
-  14: Life below water
-  15: Life on land
-  16: Institutions, peace & justice
-  17: Partnerships for goals

Documents: 4*
 Pages: 253
 Hits: 1.447
 Hits/Pages: 5,72



- *• Regional Innovation Strategy of Usti Region 2020
- Regional Innovation Strategy of Usti Region 2014
- RIS3 Czech Republic 2021-2027
- RIS3 Strategies: Cards of regional RIS3 - Usti

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



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References

- ▶ Blažek, J., Kadlec, V. & Květoň V. 2023. The role of assets and variegated constellations of organizational- and system-level agency in regional transformation, European Planning Studies, DOI: 10.1080/09654313.2022.2163155
- ▶ CORDIS - EU research projects under Horizon 2020 (2014-2020)
- ▶ Czech Statistical Office (<https://www.czso.cz/csu/czso/home>)
- ▶ Czech Statistical Office: Census 2021 data (<https://www.czso.cz/csu/scitani2021/home>)
- ▶ Diemer, A., Iammarino, S., Rodríguez-Pose, A. & Storper, M. (2022): The Regional Development Trap in Europe, Economic Geography, DOI: 10.1080/00130095.2022.2080655
- ▶ ESPON Locate project: <https://www.espon.eu/low-carbon-economy>
- ▶ European Commission (2014): National/regional innovation strategies for smart specialisation (RIAS3). Brussels.
- ▶ European Commission (2021): Regional Innovation Scoreboard 2021. Available online: https://research-and-innovation.ec.europa.eu/statistics/performance-indicators/regional-innovation-scoreboard_en
- ▶ Eurostat: Regional statistics by NUTS classification
- ▶ Flaticon: Premium account (simon.baumgartinger-seiringer@univie.ac.at)
- ▶ JRC. 2022. SDG Mapper. Map the SDGs in any document and explore the Goals and targets in real-time. Available online: <https://knowsdgs.jrc.ec.europa.eu/sdgmapper>
- ▶ Keep.eu: Interreg projects' database of the European Commission (<https://keep.eu/>)
- ▶ Michaela Trippel, Simon-Baumgartinger-Seiringer, Veronika Desch, Sebastian Fastenrath & Balasz Pager (2022): Outline of S4 Methodology, Available online: https://ris4danu.eu/wp-content/uploads/2022/10/D3.1_Outline-of-S4-Methodology_V1.0.pdf
- ▶ OECD REGPAT Database (Spring 2022 version): <https://www.oecd.org/sti/inno/intellectual-property-statistics-and-analysis.htm#ip-data>
- ▶ Schot J. & E.W. Steinmüller (2018): Three frames for innovation policy: R&D, systems of innovation and transformative change, Research Policy, DOI: [10.1016/j.respol.2018.08.011](https://doi.org/10.1016/j.respol.2018.08.011)
- ▶ The RIS4DANU Project Website, Available online: <https://ris4danu.eu/>
- ▶ Termeer, C. & Dewulf, A. (2019): A small wins framework to overcome the evaluation paradox of governing wicked problems, Policy and Society, DOI: 10.1080/14494035.2018.1497933
- ▶ Trinomics et al. 2020. Study on energy prices, costs and their impact on industry and households. Final report. European Commission

