



Co-financed by the European Regional Development Fund

Inspire Policy Making with Territorial Evidence

ESPON MISTA

SURE PROJECT

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ESPON MISTA TEAM

Politecnico di Milano, LATITUDE, MRI, WIFO

Valeria Fedeli, Adrian Hill, Peter Huber

Summary

<https://www.espon.eu/mista>

1. THE MISTA PROJECT: OBJECTIVES AND AIMS

Exploring the new relationships between the industry and the city?

2. NEW LENSES TO LOOK AT THE “PRODUCTIVE” “CITY”

Innovative data-mining

3. LEARNING FROM STAKEHOLDERS’ CITIES

Exploring case studies, interacting with stakeholders’ cities

4. SEEKING FOR INSPIRATION

The Atlas of Inspirational cases

5. POLICY RECCOMENDATIONS

Main inputs for cities and metropolitan areas

1

ESPON MISTA PROJECT

Exploring the new relationships
between the industry and the city



1.1 MISTA PROJECT IN A NUTSHELL

- **MISTA** – Metropolitan Industrial Strategies & Economic Sprawl is an ESPON TARGETED ANALYSIS Project
- **MISTA – Stakeholders:** City of Vienna (lead stakeholder) (AT), City of Oslo (NO), City of Berlin (DE), City of Warsaw (PL), Riga Planning Region (LT), Turin Metropolitan City (IT), Verband Region Stuttgart (DE)
- **MISTA – The research question/ The policy problem:**
 - **Metropolitan areas are** challenged by the restructuring of their economic base – **decline in manufacturing activities**
 - **Businesses** looking for **new well-connected sites** – relocating in fringes of metropolitan areas or abroad / new economic functions' **in inner-city areas**
 - **Is it possible to build a new alliance between the city and the industry or shall we accept de-industrialisation?**

1.2 MISTA MAIN RESEARCH HYPOTHESIS

1. Post-industrial society or hyper-industrial society

- Manufacturing remains a crucial pillar of urban economy, but less visible than in the past, often hidden by the way we collect data
- **The economic market is more and more a moving continuum, rather than a set of clearly separated sectors**

2. Post-urban world

- **Cities are changed and we need to go beyond a traditional urban imaginary:** adopt a perspective able to integrate the urban within a wider regional dimension, if not a global and translocal one.

1.3 MISTA APPROACH

- REGIONAL PERSPECTIVE
- TRANSLOCAL PERSPECTIVE
- INNOVATIVE DATA MINING
- CONTEXT MATTERS
- LOOKING INTO THE FUTURE
- USABLE KNOWLEDGE for POLICY DESIGN

	Sectors with the highest number of employees	Sectors with a significantly higher share of employees than the national average	Strength or opportunities in local productive economies	Sectors creating threat
Berlin	logistics, construction and wholesale trade	passenger and freight transport, utility and waste management,	freight rail transport, passenger air transport, courier activities	pharmaceuticals, manufacture of plastic, manufacture of machinery, repair of machinery
Oslo	construction, wholesale, transportation	wholesale of household goods, foods, air transport	wholesale of household goods, communication equipment, passenger rail land and air transport	construction of roads and railways
Riga (Latvia)	transportation, wood processing	transportation, wood processing, processing of fish	manufacture of wood and furniture, passenger and freight transport	manufacture of metal products, manufacture of dairy products
Stuttgart	manufacture of motor vehicles, construction materials, manufacture of machinery	manufacture of motor vehicles, manufacture of machine tools	freight rail transport, wholesale of communication equipment, passenger air transport, courier activities	manufacture of general and special purpose machinery, repair of metal products
Turin	manufacture of motor vehicles, construction, freight transport	manufacture of motor vehicles, manufacture or aircraft machinery	manufacture of cutlery and general hardware, manufacture of motor vehicles, manufacture or aircraft machinery	manufacture of medical instruments
Warsaw	wholesale, passenger and freight transport	passenger air transport, manufacture of domestic chemicals, manufacturing of pharmaceuticals	manufacture of dairy products, manufacture of bakery and food, printing and service activities, manufacture of gas, waste collection, warehousing	manufacture of metal products, sale of motor vehicles
Vienna	wholesale, construction, transportation	passenger air transport, manufacture of gas	wholesale of information and communication equipment, freight rail transport, passenger air transport	manufacture of plastic, manufacture of electricity distribution appliances, repair of machinery, wholesale of machinery

Table 2.1: The most relevant productive sectors of the stakeholder metropolitan areas

Main (shared) challenges and conflicts of future development in manufacturing

- The dispersed location of manufacturing results in commuting that can cause **traffic problems** (all stakeholder areas).
- For foundational forms of manufacturing (manufacturing that the city depends on), the movement away from the city results **in direct deficiencies** (Berlin, Oslo).
- Strong population growth and related housing development are consuming industrial land which threaten with **reduction of jobs and their diversity** (Oslo, Vienna).
- Growth of larger businesses requires suitable space for new development, while contiguous developable land is limited (Stuttgart metropolitan area).
- **Demand for and supply of labour in manufacturing do not match**. This results in unemployment of low or unsuitably skilled labour on the one hand and a demand for specific skilled workforce on the other (all stakeholder areas).
- Industry has left, or has undergone a strong re-organisation of production, and the resulting abandoned **brownfield areas** are causing problems (Turin, Riga).

■ .

Competition vs available space for foundational activities

- The stakeholder areas (being major metropolitan areas of Europe) are all undergoing similar restructuring of their economies that result in **decreasing share of manufacturing in employment.**
- However, this restructuring process, under increasing growth pressure in most of the stakeholder areas, has **different spatial and structural consequences,** linked to the differences in the competition for industrial land.
- In those stakeholder areas where the growth pressure is lower and there are brownfield areas available (e.g. Turin), the major challenge **is making the local industry more competitive.**
- While in areas where there are **no land reserves and the growth pressure** is intense, manufacturing may leave the urban core causing deficiencies with regard to foundational activities and to the lack of jobs for the lower skilled (e.g. Oslo).

Strengthening the core activities versus diversification.

- The manufacturing profile of the core cities and the agglomerations are in most cases different.
- There is **a potential of strengthening the links between inside and outside** of core city productive activities which may be able to increase the knowledge base of the metropolitan area.
- There are different strategies to do that, either **to strengthen** the core activities of the metropolitan areas (what happens in Stuttgart or Turin) or create a more dispersed economic structure based on small scale manufacturing sectors with high growth potential (as in Oslo or Vienna).

Dependence on strong metropolitan governance.

- Seen from **outside metropolitan areas** are the economically feasible territories of productive industries.
- From local perspective, the **optimal distribution of activities**, supported by proper land use, labour force capacity and transport patterns, is of crucial importance.
- In reaching this local optimisation, even the strong metropolitan areas turn to be weak in terms of **lacking effective governance systems**.
- The different interests of individual municipalities in the metropolitan space make the **coordination on metropolitan level** rather complicated – but a must in order to boost innovation and keep basic industrial functions in the metro areas.

Finding smart local strategies.

- Several good initiatives were revealed in stakeholder cities also on the metropolitan level to ensure more balanced development of different functions and modernisation of industry though they still play marginal role.
- Smarter use of financial incentives, planning and taxation tools and making the process of **spatial planning and economic development more participative on local and metro level** might lead to more favourable results in terms of keeping and modernising industry

Recommendation 1 (KNOWLEDGE PRODUCTION):

Cities and metropolitan need clear insights on industrial processes and their impacts

R.1.1 More in depth data analysis is needed to underpin strategic decision making regarding the value of production activities within the local economy

R.1.2 Cities and metropolitan areas must constantly remain engaged with the production activities and processes in order to help facilitate strategic knowledge production and exchange.

R.1.3 - Production systems are most effective at a metropolitan scale and metropolitan authorities can support territories and actors to better contribute in the wider value chain

Recommendation 2: SPATIAL FORESIGHT

Industrial Location factors and urban agglomeration factors are still partly dependent on the XXth century principles , but both core cities and metropolitan areas can foster new spatial conditions of dialogue between the industry and the city spatial foresight)

R. 3.1 - Core city level recommendations:

R.2.1.1 - The core city should take a strategic position on the most effective use of its industrial land in order to embed manufacturing and productive activities within its local economy.

R.2.1.2 - Core cities should be able to enhance a joint dialogue with other municipalities and develop partnerships to facilitate innovation processes in industrial relocation.

R.2.1.3 - Local public authorities have limited tools to select and attract production activities that could be beneficial to the city, but can have a role in preserving industry space and land in the city for production

R.2.1.4 - Cities should use their capacity for dialogue and negotiation to activate or steer the market.

R.2.1.5 - Pressure on rezoning industrial land should be relieved through intensification, mixed-use buildings and strong zoning controls.

R. 2.1.6 - Cities can develop tools to guarantee better quality productive spaces.

R. 2.1.7 - Redevelopment of brownfield industrial land can be used to modernise links to a city's industrial heritage local economy while also providing space for compatible demands for space.

3.2 Specific metropolitan level recommendations

R. 2.2.1 - Metropolitan governance can play a crucial role in developing an integrated vision, strategy and services to attract businesses.

R.2.2.2 - Metropolitan areas should explore new tools to support economic development for industrial land, manufacturing and productive activities.

R.2.2.3 - Metropolitan areas should support small municipalities providing the knowledge, competencies and resources needed to interpret and implement metropolitan plans.

R.2.2.4 - Compensation or equalisation mechanisms are needed to reinforce territorial cohesion.

R.2.2.5 - Metropolitan areas should actively support brownfield regeneration, in order to reduce sprawl and urban blight.

Recommendation 3: Metropolitan leadership

Production activities are changing due to global processes (such as digitalisation and the 4th Industrial revolution). Metropolitan areas must guide the process of embracing new technology or supporting the transition of their local economy

R. 3.1 - Well functioning metropolitan areas are built on a robust organisational structure based on commitment from its local public authorities.

R.3.2 - Metropolitan areas should be frontrunners of (technology) change and develop strategic visions based on new transcalar alliances.

R. 3.3 - The economic success of urban regions and metropolitan areas will heavily depend on the prosperity of new manufacturing cycles.

R.3.4 - Metropolitan areas should assist citizens to cope with economic change by gaining new skills and knowledge.

R.3.5 - Industrial development requires suitable conditions for innovation.

Recommendation 4: Collaboration

Financial, technical and strategic tools are important success factors for local/metropolitan level strategies for industrial land and productive activities.

R.4.1 - Local stakeholders should be involved in planning and development to build institutional capacity.

R. 4.2 - Mission driven projects and alliances can help achieve common goals or vision.

R.4.3 - Public-private partnerships and agencies can play a pivotal role in developing competitive market ready projects.

2

The present and future of manufacturing in cities and metropolitan regions

Results of the data analysis



Content & Structure

Three central questions:

1. Why care about production (in cities)?
2. How is manufacturing developing in the major metropolitan regions of Europe?
3. Are there differences between cities?

Structure:

1. Data and definitions
2. The importance of production for cities
3. Development of production in cities
4. Empirical SWOT Analysis

Data and Defintions

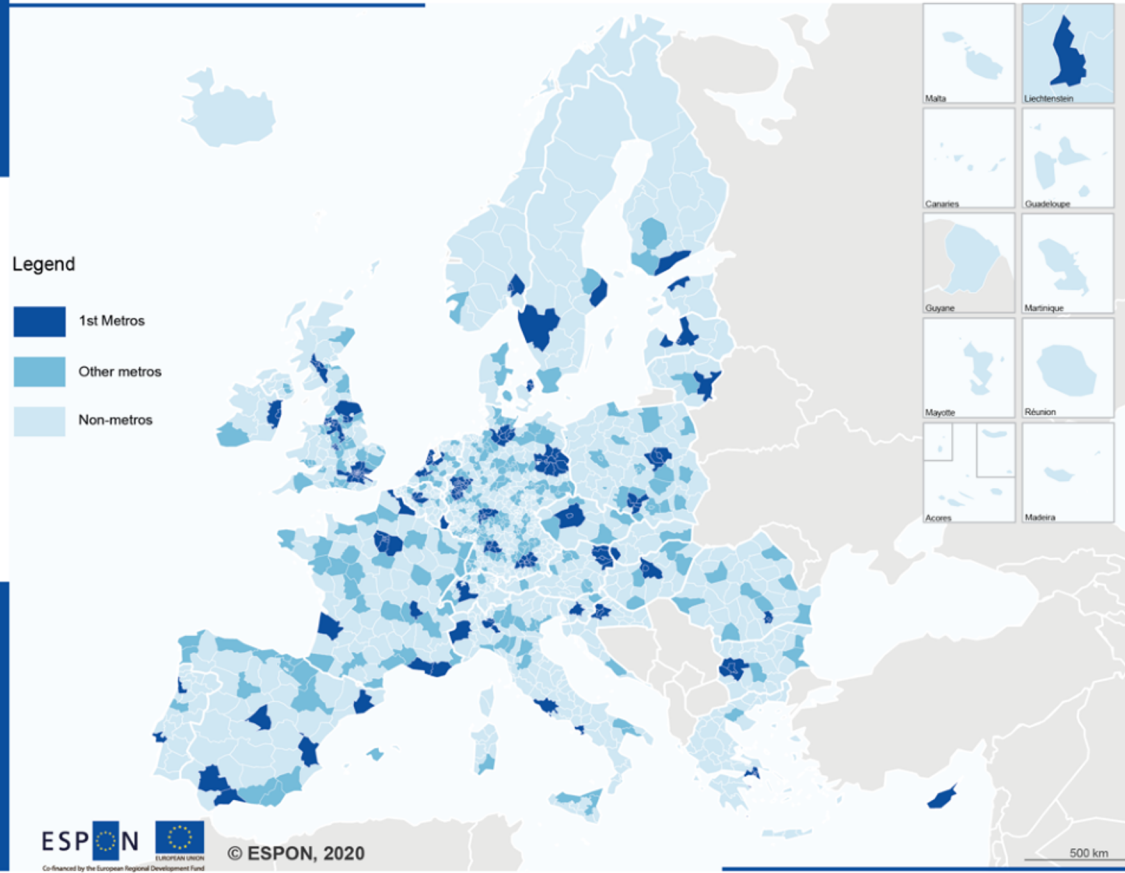
2.2 MISTA DATABASES

- **ARDECO database (JRC/EC)**
 - NUTS 3 time series data (1991-2017) on economic accounts indicators (incl. employment and GVA)
 - Combined with EUROSTAT MR typology on (functional) Metro Regions (> 250.000 Inhabitants)
 - Data on 289 Metro Regions; subdivided by several types of Metro Regions
- **Eurostat Structural Business Survey (SBS)**
 - Available at NUTS 2, NACE 2-digit level since 2008
 - Used for sectoral/industry development of metropolitan areas (NUTS2)
- **European Labour Force Survey (ELFS)**
 - Used for analysis of employment structure by educational attainment and occupation in metropolitan regions (NUTS 2)
- **Local data from stakeholder areas**
 - Employment data on NACE 3 digits at NUTS3 level or lower

2.1 MISTA REGIONAL SCOPE

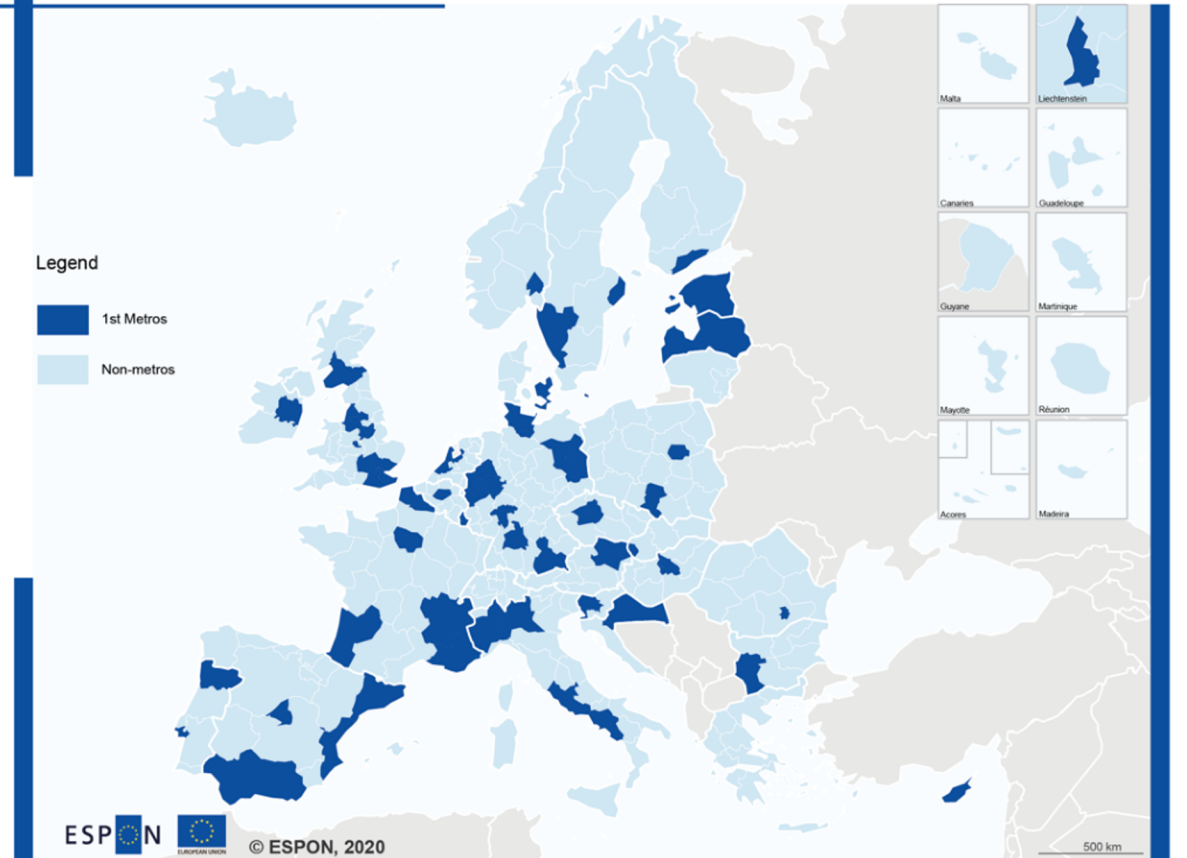
NUTS 3

Metropolitan regions



NUTS 2

Agglomeration areas



Territorial level: NUTS 3 (version 2019)
 Source: ESPON MISTA Project, 2019
 Origin of data: Eurostat, 2016, ESPON Wide MapKit
 © Eurostat for administrative boundaries

Territorial level: NUTS 2 (version 2019)
 Source: ESPON MISTA Project, 2019
 Origin of data: Eurostat, 2016, ESPON Wide MapKit
 © Eurostat for administrative boundaries

Q: RegioDatabase (Eurostat); WIFO calculations.

2.3 INDUSTRIAL SECTORS ANALYSED

- Transport and logistics (NACE H),
- wholesale and storage (NACE 46 + 45),
- competitive production (NACE C),
- production for local markets (NACE C),
- material services including building sector (NACE F),
- general workshops, repair services (NACE 95).

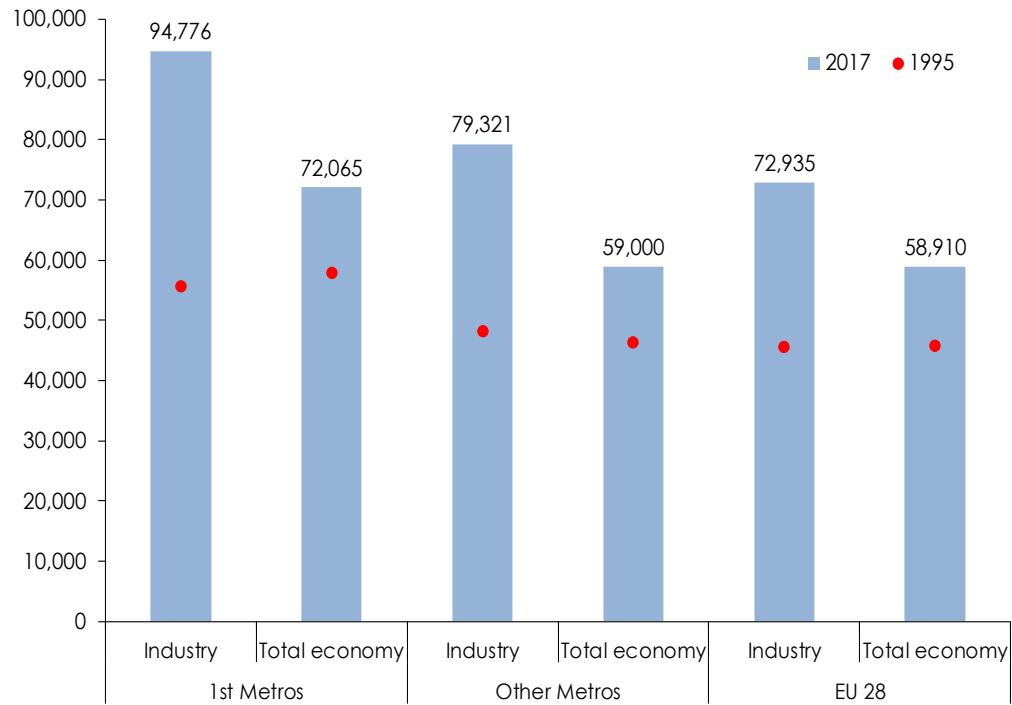
The importance of production in metropolitan regions

Production is important...

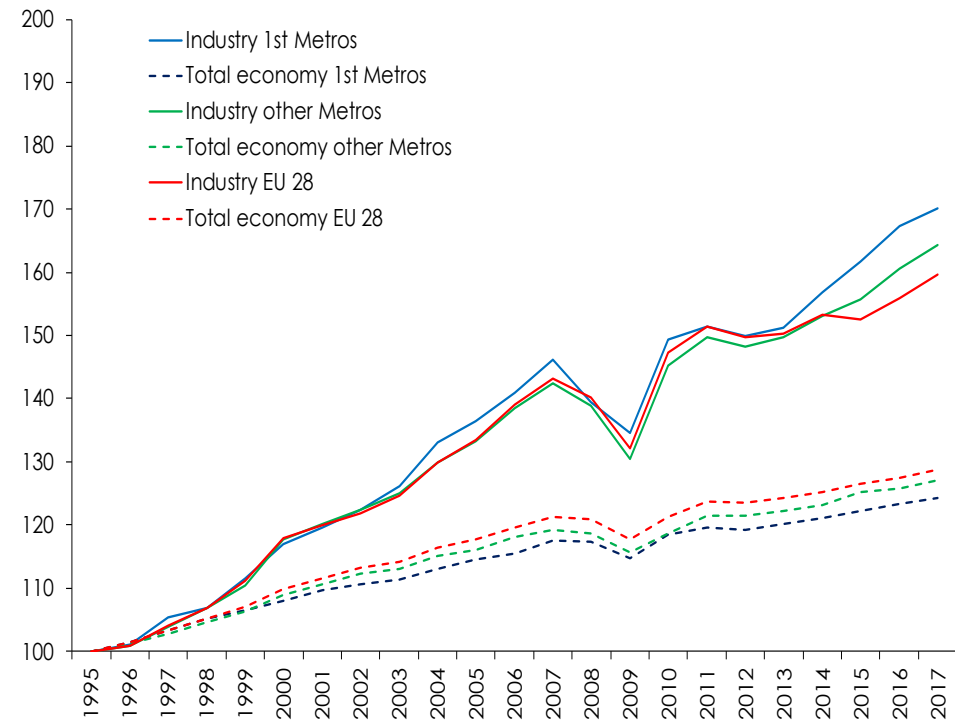
- **As a driver of innovation:**
In 2018, manufacturing alone accounted for over 60% of total business R&D in the EU and Norway.
- **As a “productivity machine” and therefore also for wage growth:**
Productivity and wage advantages of industry increase with metropolisation: industrial productivity in constant prices rose by between 70% (metro regions) and 60% (all EU regions) in the period 1995 to 2017,
- **In securing export and as a carrier of service exports:**
World-wide trade in goods exceeds world wide service exports by a factor of 3 (19:6 trillion). Service content of goods exports is 30%.
- **For the European Production system in general:**
More than half (54%) of the workforce in European industry (or 19.8 million people) is employed in metropolitan regions and almost two thirds (64%) of the industrial output of the European Union is generated in these regions.

Productivity in the production sector

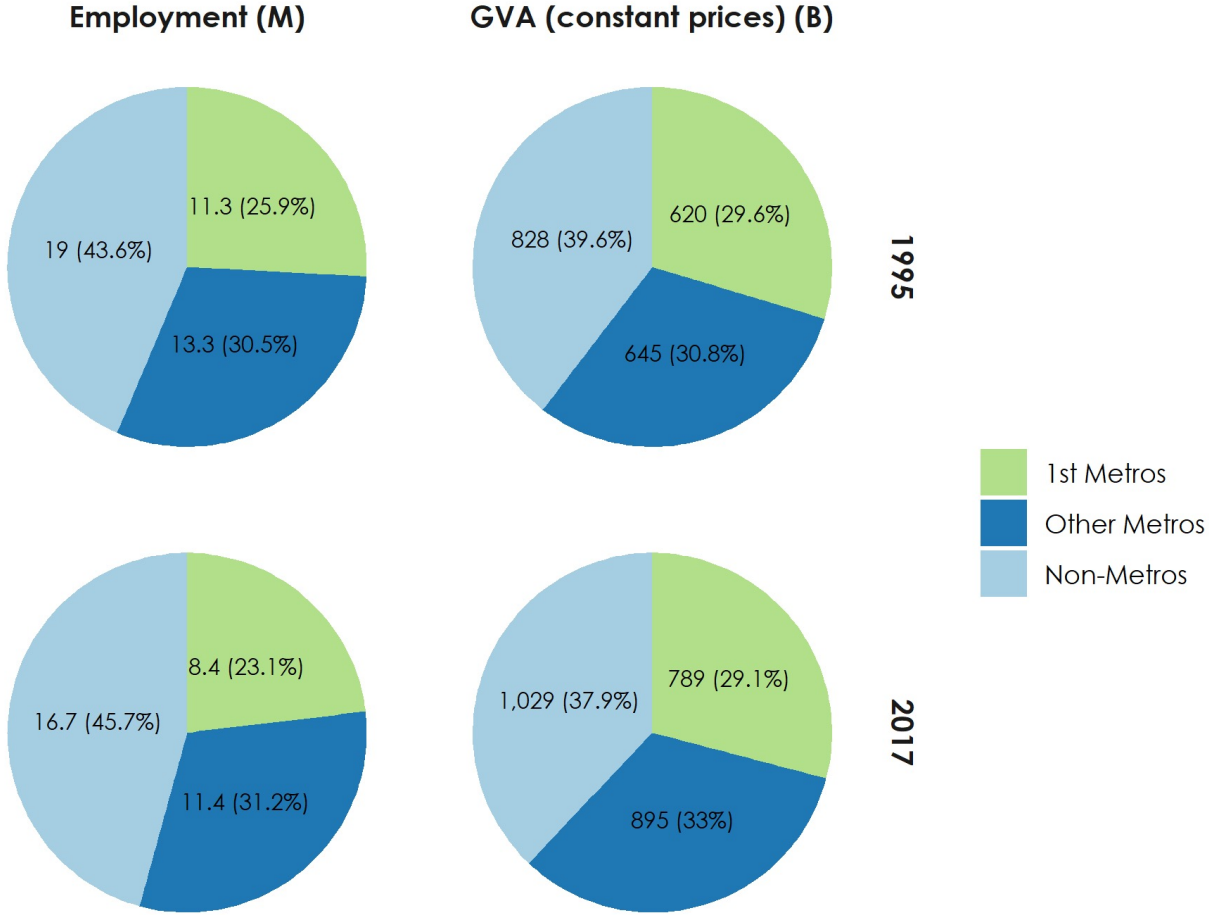
Levels (in €)



Dynamics (1995=100)



Share of metro-regions in EU-wide production

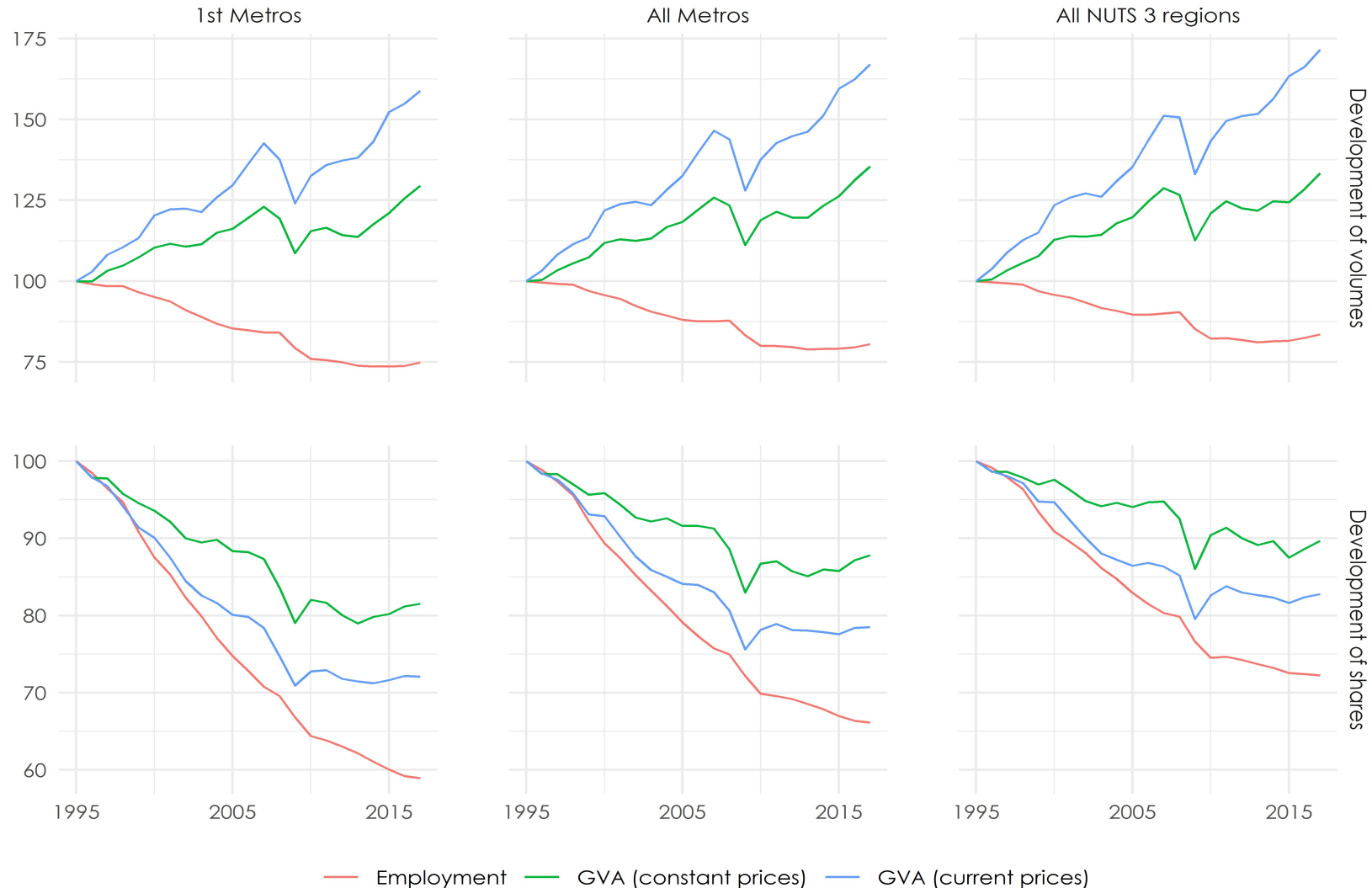


The development of production in metropolitan regions

Empirical evidence suggests a new perspective on de-industrialization in urban agglomerations...

- After a substantial decline in the employment and GVA share in cities since the 1970's, we are in a **much more stable development since the mid, late 2000s.**
- Although there has **been a clear downward trend in industry** (i.e. NACE sectors B to E) employment in most European urban areas, **developments in terms of GVA were far from uniform and strongly influenced by metro characteristics.**
- The bulk of the “decline” in industrial employment is due to a substantial upgrading of industrial production (i.e. productivity growth) within cities.

Development of production sector (1995=100)



Components of employment loss in production

4-way-decomposition; 7 stakeholder metro regions

1995 – 2017, cumulative change in %; Components in %-age points

	Employment Change (%)		Contribution to Employment Change of (percentage points)		
			Productivity growth	"Real" deindustrialisation	Performance of Metro Region
1st Metros	-25.2	-49.1	-18.5	+8.2	+34.3
Berlin	-25.1	-42.9	-9.0	-3.2	+30.0
Oslo	-28.9	-62.0	-29.8	+24.0	+38.8
Riga	-14.4	-60.9	-65.3	+19.6	+92.3
Stuttgart	-0.6	-54.7	+15.4	+4.5	+34.1
Torino	-28.2	-15.7	-22.1	-2.4	+12.1
Warszawa	+37.6	-50.7	-35.3	+27.0	+96.6
Wien	-32.6	-40.3	-16.3	-11.4	+35.5

Q: ARDEO database (JRC/EC); Calculations by MISTA Team.

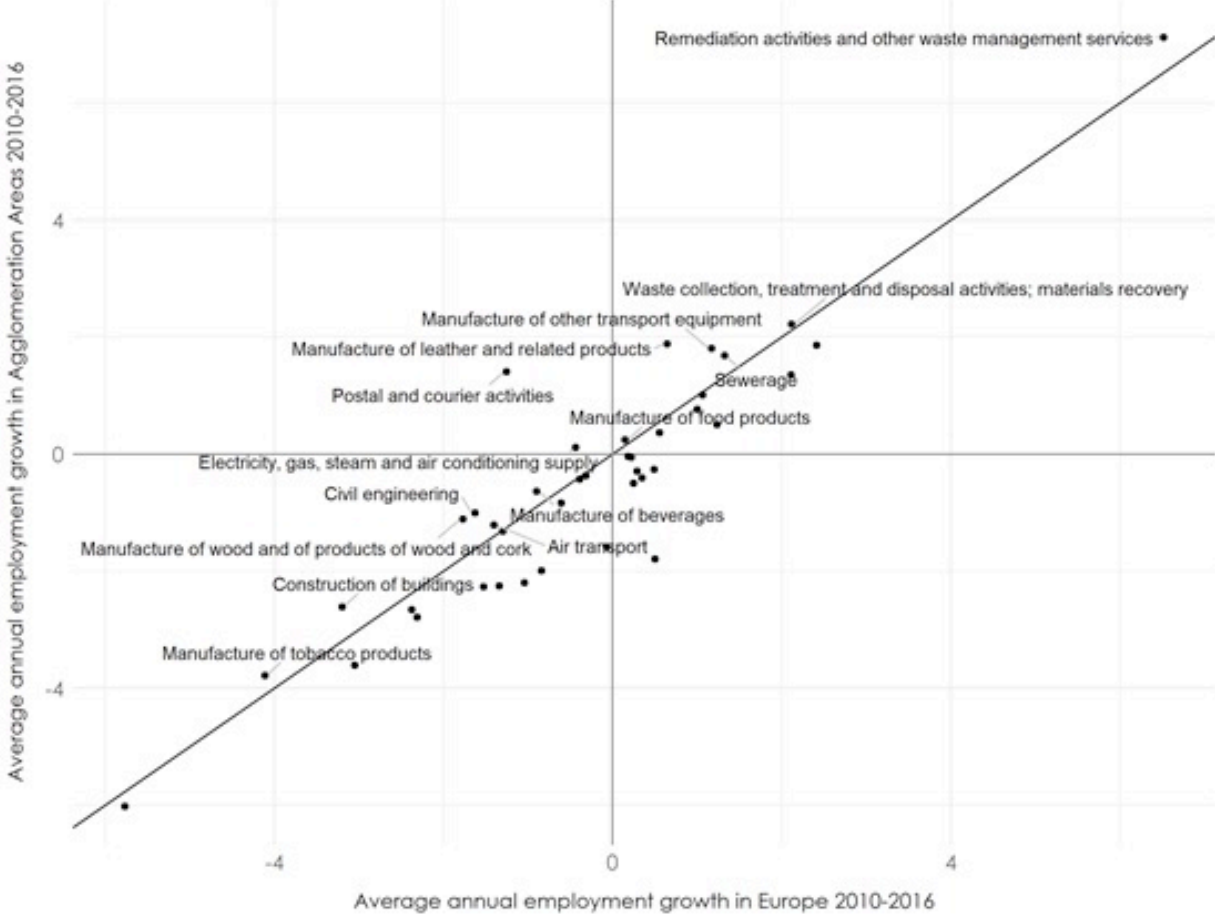


Some sectors and branches are returning to metropolitan regions

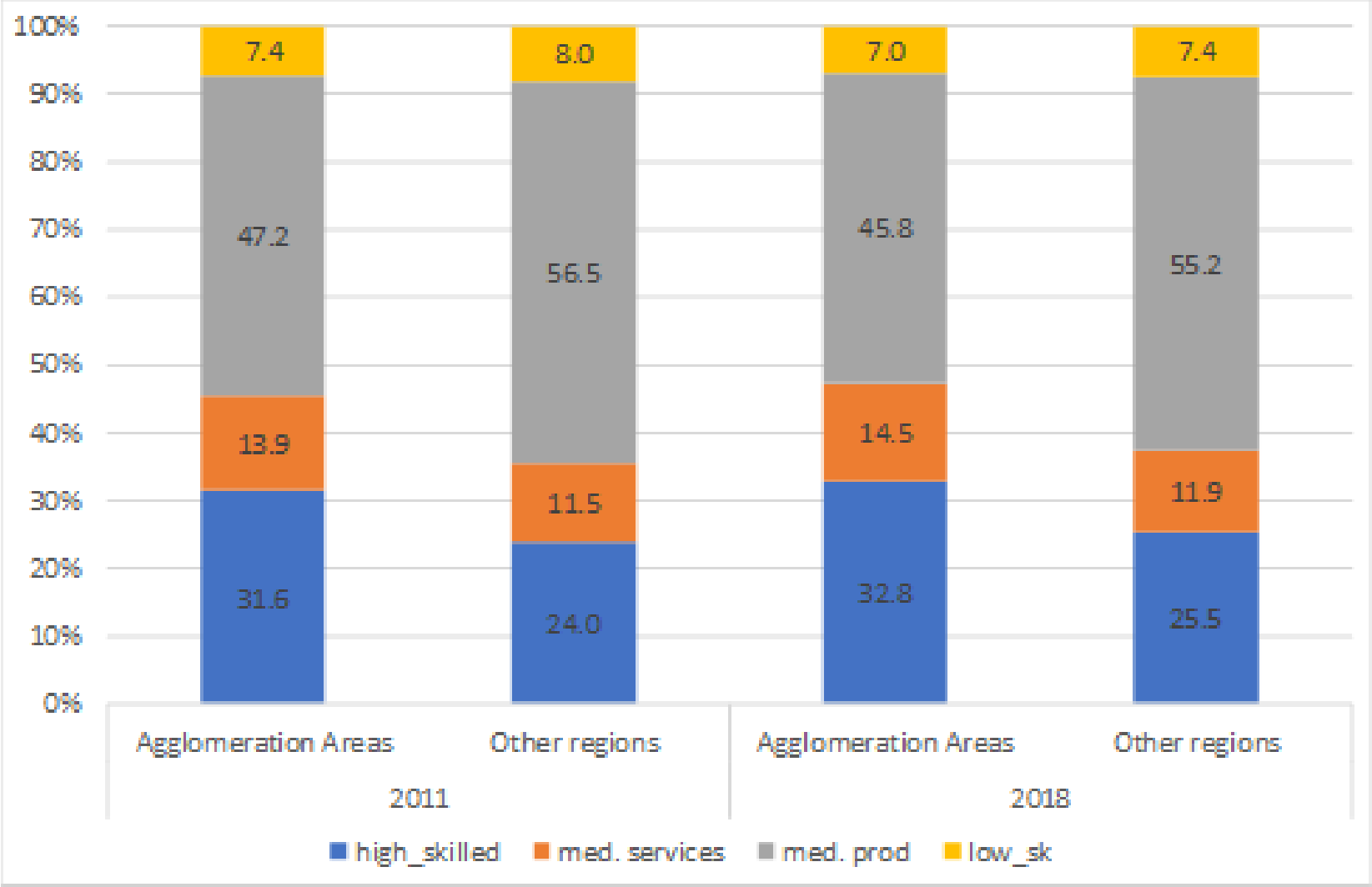
- 1. Utilities and logistics and sectors related to circular economy activities,**
whose development is mainly influenced by the growing urban populations and the need for public services and mobility.
- 2. High-tech and high skilled manufacturing branches,**
whose development is mainly driven by the locational advantages of cities (qualifications, important research centres, etc.).
- 3. Consumer oriented branches with a high degree of product differentiation,**
that profit from population growth as well as the increased desire of consumers for differentiated but locally produced goods

Outside these sectors, functional specialisation of production within cities on dispositive and service oriented functions within production continues.

NACE 2 digit industries with above average annual growth rates



Employment structure in production by occupation



Differences between cities (From „stylized fact“ to „place based policy“)

Background

Motivation

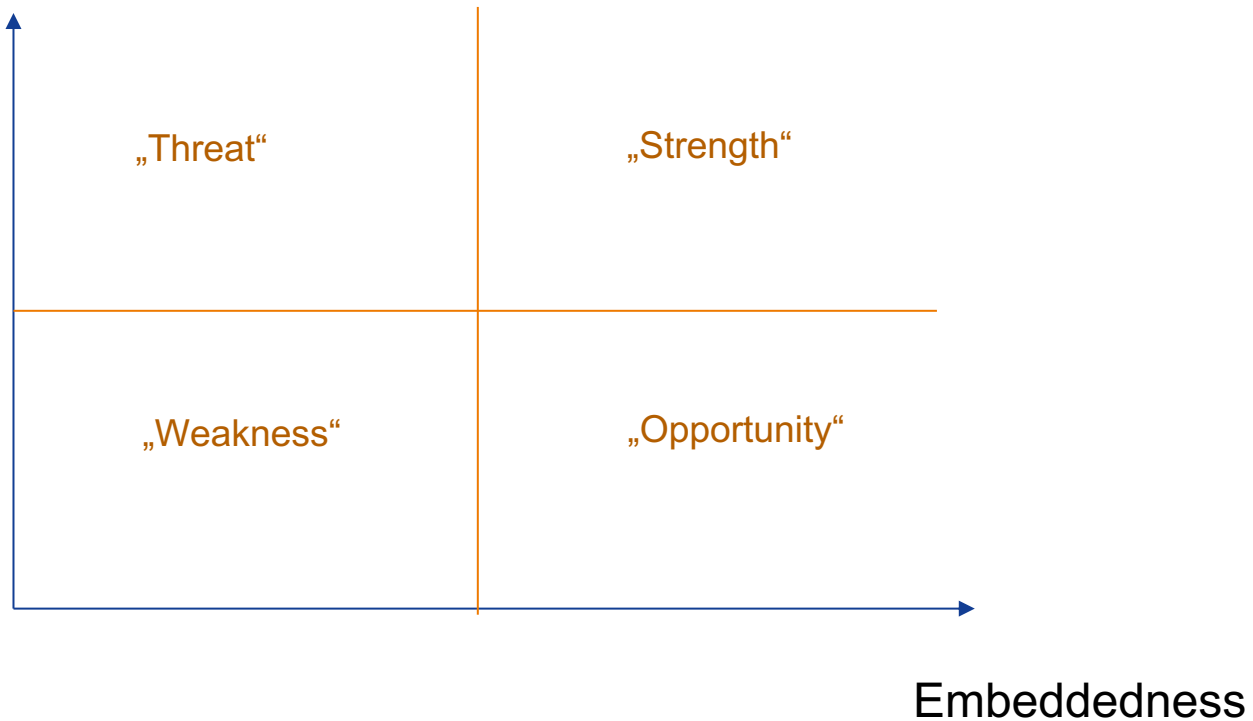
- One stylized fact found in the report is the huge heterogeneity among cities by size, function, location
- This suggests that city specific factors (e.g. policy, history, institutions) play a huge role in the development of production in cities
- Policies should take account of these specifics (& studies should aim to analyse them)

Approach

- In MISTA one possible way to highlight this heterogeneity was explored
- Central idea: Production develops along „technological paths“, and industries sharing a „common knowledge pool“ in the region face better development perspectives than ones that are isolated.

Empirical Swot Method

Localisation



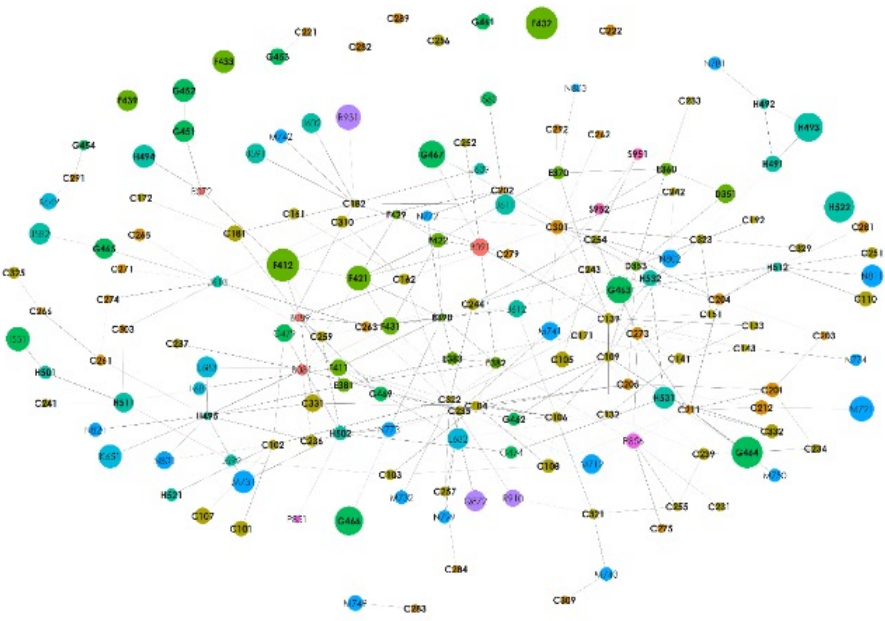
Measuring „Localisation“ and „Embeddedness“

Through network analysis

- **Localisation** = coefficient of localisation
- **Embeddedness** = localisation of branches where the intensity of labour flows between industries is high

Networks for metropolitan regions

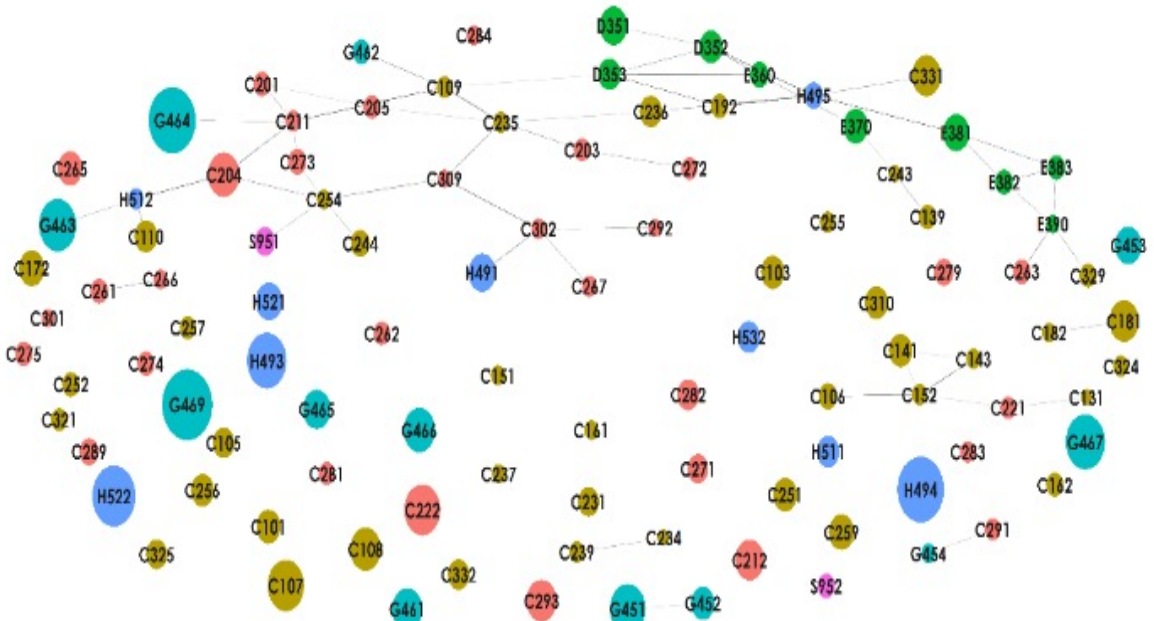
Oslo



- A-B: Agriculture, Forestry, Mining
- D+E+F: Utility Industry, Construction
- K-L: Financial, Real Estate Activities
- P: Education
- C1: Industry - Technology
- G+I: Trade, Accommodation
- M+N: Business Services
- S+T: Other Service Activities
- C2: Industry - Other Sectors
- H+J: Transportation, ICT
- O-Q+R: Public Services

Employed Persons ● 5.0k ● 10.0k

Warszawa



- C1: Industry - Technology
- D+E+F: Utility Industry, Construction
- H+J: Transportation, ICT
- C2: Industry - Other Sectors
- G+I: Trade, Accommodation
- S+T: Other Service Activities

Employed Persons ● 5.0k ● 10.0k ● 20.0k

Central findings and implications

Findings

Policy Implication

General „stylized facts“ hold but the sectors identified as strength, weakness & opportunity differ substantially between cities



In different cities the same „branch“ may require different forms support

Network structures differ between cities (e.g, diversity and density)



Different cities may require different overarching strategies

Networks change in different ways when looking only at the city.



Co-operation strategies and governance structures may be needed in different metro regions

In a nutshell...

1. There are a number of reasons why production in metro-regions is important for economic development
2. Recent trends provide a „cautiously optimistic view“ on the future development of production in metropolitan regions.
3. This applies in particular to utilities, circular economy, logistics and „customized“ production as well as to dispositive functions
4. Fostering the development of production, however, needs policy support
5. These policies need to be evidence and place based and will differ between regions

Thanks for your attention!

Project results

<https://www.espon.eu/mista>

Peter Huber

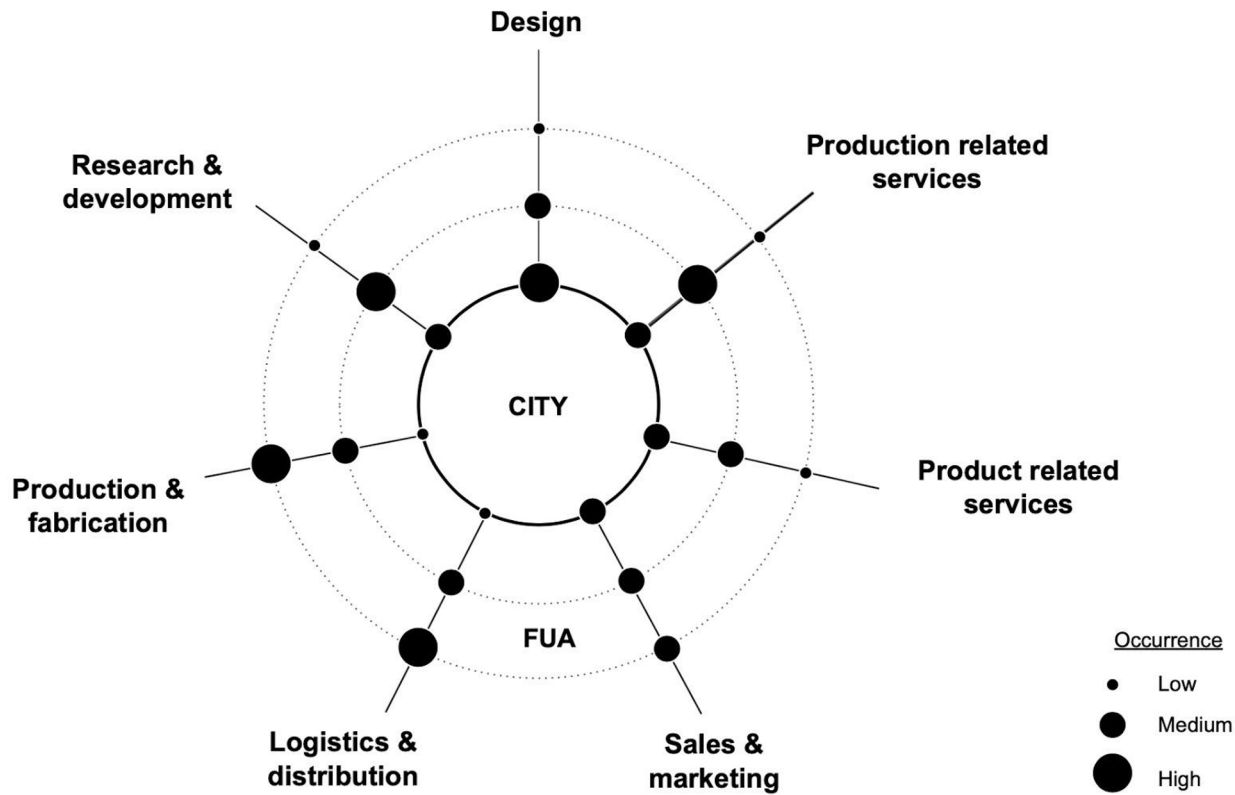
huber@wifo.ac.at

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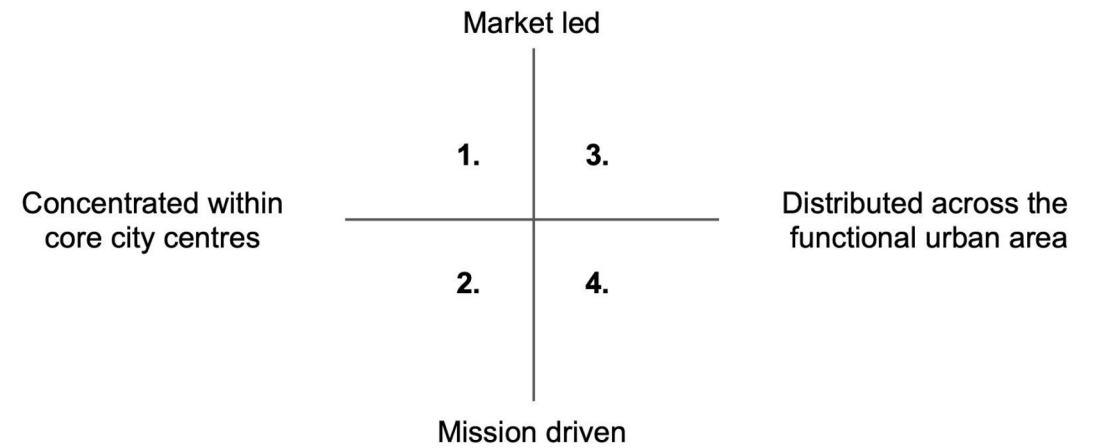
SEEKING INSPIRATION

The Atlas of Inspirational cases





Source: Based on Bryson 2009, interpretation ESPON MISTA 2020.



Source: ESPON MISTA 2020.

INSPIRATIONAL CASES

MACRO

MICRO

Which are the most relevant cases for your city?
Place a star on up to 5 of the most relevant cases.

SCENARIOS

MARKET DRIVEN

MISION DRIVEN

CONCENTRATED (CITY)

DIST (rural)

Defining space for activities in well protected zones

Providing a patchwork of land for production

Sustaining foundational productive activities & services

Developing an integrated maker region

Zoning is policy that is guided by policy.

REFLECTIONS

CITIES WORKING WITH STATEMENTS

CITIES WORKING WITH SCENARIOS

OSLO

VIENNA

BERLIN

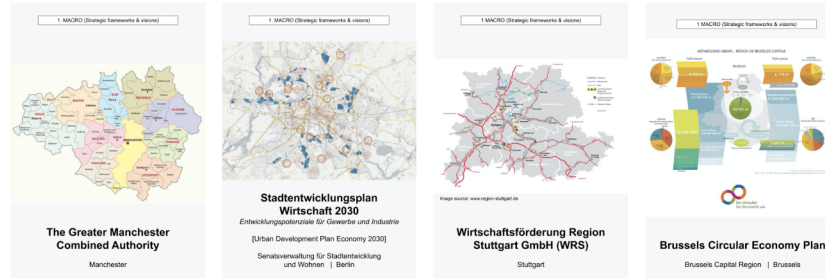
RIGA

TURIN

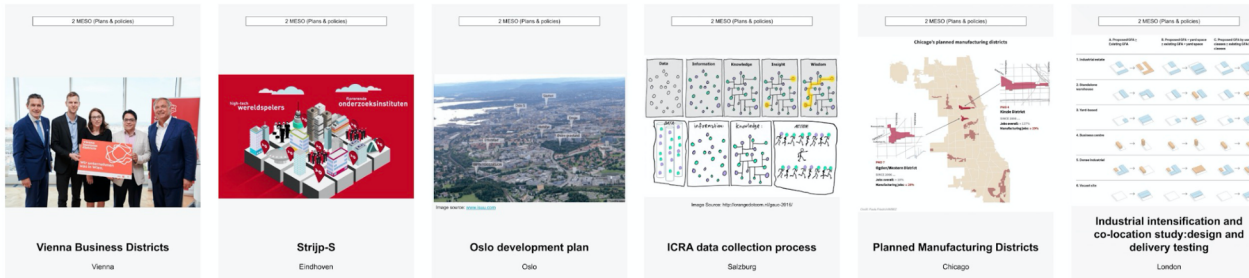
WARSAW

- The future workshop and inspirational cases workshops outputs (MISTA, 2020)

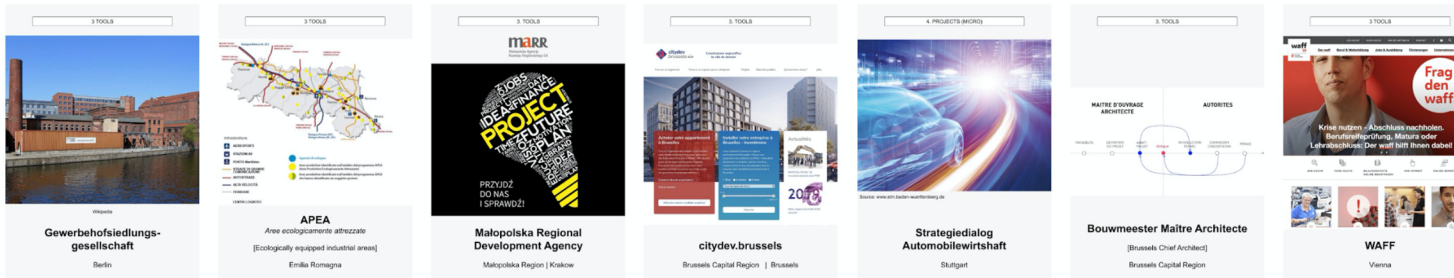
Vision (macro)



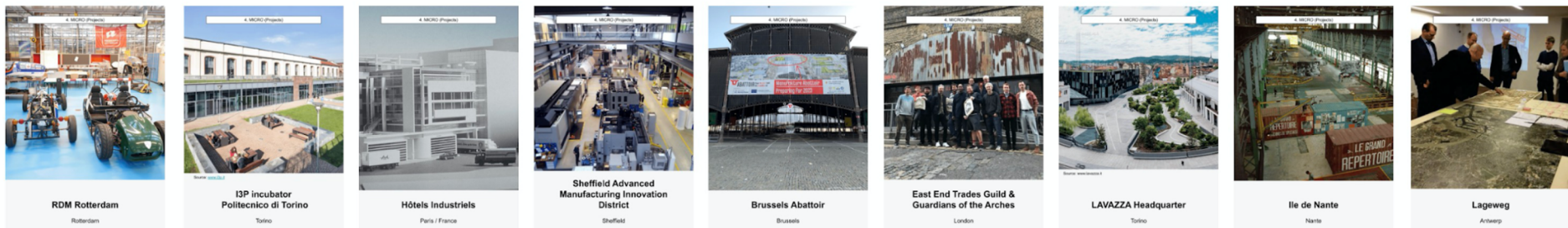
Plans & programs (mezo)



Tools



Projects (micro)



Location of selected cases

● Chicago





Co-financed by the European Regional Development Fund

Inspire Policy Making with Territorial Evidence

// Thank you

MISTA TEAM: Politecnico di Milano, Latitude, MRI, WIFO

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