

6

Lessons from 12 regional case studies

This chapter summarises the key findings from 12 regional cases studies conducted over the course of this project across four OECD countries that include France, Germany, Italy and Slovenia. The case studies cover a diverse range of rural areas (non-metropolitan close to a medium-sized city, non-metropolitan close to the small city, and remote rural regions) as well as various types of manufacturing activities. These case studies deliver a practical deep dive into how manufacturing can evolve as a continued source of regional development, particularly with the right strategies, resources and co-ordination across policy areas. The chapter takes stock of some of the main recommendations identified in the case studies.

Rural manufacturing observed

The tertiarisation of our economies and delocalisation of industry to emerging economies has brought about an interesting debate for rural places since they do not have the agglomeration effects and density to be productive in services. Industry has been the backbone of many rural areas and continues to provide many jobs, income and security. Manufacturing has one of the highest multiplier effects and is a strong driver of productivity and innovation, particularly in rural areas. Recent global events such as the COVID-19 pandemic and Russia's war of aggression against Ukraine have further fuelled conversations pertaining to reshoring and nearshoring¹ in OECD countries, leading to opportunities for rural areas within to profit from these changes.

As such conversations relating to industrial policies have reignited whilst acknowledging the importance of a place-based approach. Industry can be a source of prosperity, particularly for rural regions. Economic and social prosperity go hand in hand and must take account of the digital, technological and ecological transitions. Such conversations highlight how national industrial strategies that are based on a good understanding of the resources across their territory and with effective communication across the levels of government can also lead to successful regional development.

This section draws out the key findings from four country case studies conducted over the course of this project. They provide an opportunity to test the frameworks developed in earlier chapters and help understand how manufacturing has been evolving in rural regions. They also help better understand the impact megatrends have in manufacturing and rural development and draw lessons on effective policy responses.

The case studies were selected to cover the range of different types of rural areas (non-metropolitan close to a medium-sized city, non-metropolitan close to a small city and remote rural regions). They were also selected to cover the various types of manufacturing through the typology developed based on the share of manufacturing employment over the last two decades (traditional, moving up, moving down, stable manufacturing hubs). Table 6.1 indicates these groupings, noting the boundaries align with the OECD TL3 typology and thus may not match national or local statistical groupings.

Table 6.1. Case study regions

Region	Country	Manufacturing typology	Type of TL3 region
Jura	France	Traditional	NMR-R
Gers	France	Upgrading	NMR-R
Tarn-et-Garonne	France	Downgrading	NMR-M
Goriška	Slovenia	Stable	NMR-S
Koroška	Slovenia	Traditional	NMR-R
Podravje	Slovenia	Upgrading	MR-M
Grosseto	Italy	Stable	NMR-S
Arezzo	Italy	Traditional	NMR-S
Hochsauerlandkreis	Germany	Vanishing	NMR-M
Tuttlingen	Germany	Traditional	NMR-M
Sigmaringen	Germany	Upcoming	NMR-S
Ostprignitz-Ruppin	Germany	Upgrading	NMR-R

Note: Manufacturing typology relates to the change in the share of employment in manufacturing relative to other regions in that country. See Chapter 4 for further explanations. Geographical typology refers to OECD TL3 typology defining metropolitan (large MR-L and medium MR-M) and non-metropolitan regions (near a large city NMR-M, near a small city NMR-S and rural region NMR-R) across five types (see Box 2.1 for further details).

What was most notable in each of the regions was how closely the sense of regional identity was tied to the manufacturing conducted there. This confirms the findings from earlier chapters relating to the path dependency of manufacturing with regards to a source of economic development but also an integral part of the social fabric. Analogous to the emergence of personal identities around traditional artisanal skills in the pre-industrial era, several regional industrial identities have emerged since the Industrial Revolution. Local products have made their places of origin famous, leveraging local assets and skillsets to build a source of identity, pride and prosperity. In some cases, particularly in Italy, clusters of small and medium-sized enterprises (SMEs) developed around several traditional sectors (e.g. textiles, footwear, furniture), forging regional industrial identities that were strengthened by the close co-operation of their component SMEs in tightly bound local subcontracting networks.

Over the case studies, there were several areas of policy challenges and opportunities that stood out across several regions.

- Existing **clusters** were utilised as a reactive forum through collaborations relating to regulations, gas price shocks or COVID-19 vaccine supply concerns. However, there are opportunities to better utilise these networks formed within clusters alongside universities and technology hubs to orientate production to greener and higher value-added items.
- Increasing the focus on **digital infrastructure** in rural places was identified as an opportunity to better benefit from the growing importance of service-related occupations in manufacturing, which are, on average, 30% of jobs in OECD countries but closer to 90% in higher technology manufacturing.
- Almost all case studies identified **skills** shortages. The case studies, however, showed the need to match existing efforts to attract talent, with efforts to improve employer demands to align with the future direction of the sector, this through improving the employer's understanding of the evolution of the future of rural manufacturing as well as designing training courses that match rural needs.
- Many case studies showed how **land use** permits and regulatory barriers represented a bottleneck for entrepreneurial activity. With regard to effective land use, the case studies also revealed different visions across levels of government on the ambition of manufacturing with cultural preservation. Finding better agreements and alignment of policy can reduce substantial planning permission delays.
- The case studies revealed that not all firms interviewed and examined had strong **ambitions** of integrating into global value chains. Other ambitions were voiced. Policies should recognise the importance of cultural heritage production as well as global value chain inputs to increase the potential opportunities for high value-added production.
- Several cases showed a disconnection between **visions and strategies** specific to rural manufacturing across ministries and levels of government. Thus, opportunities to better align these visions through collaboration and information sharing exist.
- Against prior belief and despite what many policy makers anticipated, access to funding by smaller firms was not the **main challenge**. Improving the **entrepreneurial culture** may help many agriculturally focused SMEs orientate to higher value-added activities through enhanced linkages to manufacturing and tourism. At the same time, highly productive and ambitious firms should be supported by building SME-multinational/large **firm linkages** to allow knowledge absorption.

Whilst these areas were common across many of the regions, some were more prominent in specific ones. Table 6.2 outlines more clearly where these overlaps exist. It is to be noted that the table highlights relative gaps and does not indicate that related challenges do not exist there. For example, whilst the regions in the study in Germany and Slovenia also faced struggles relating to accessing labour, the depth of this challenge can be considered less so than those in France and Italy. One reason relates to the geographic proximity to relevant labour markets being greater in the former two countries' regions.

Table 6.2. Commonalities in policy challenges across case study regions

Concrete challenges	France	Germany	Italy	Slovenia
Labour shortage	x		x	
Education/skills mismatch	x	x		x
Limited access to stable funds			x	x
Infrastructure deficits, e.g. transport, broadband	x	x		x
Limited access to land for expansion		x		x
Low attention to climate change mitigation practices			x	
Limited innovation		x	x	x
Lack of attractive work environments	x	x		
Inflexible regulatory environment		x		x
Need for access to futures/foresight training	x	x	x	x

The case studies provided an opportunity to understand the drivers of change in employment manufacturing over the last two decades and, thus, the required policies to push forward their development. As the case studies were selected based on the typology developed in earlier chapters, comparisons across regions using this typology were clearer to make. Our data analysis identified no clear silver bullet for a moving-up region relative to another. Figure 6.1 identifies the traditional regions within the case study. Each is in a different stage and, thus, the focus of their policies is best placed under these umbrellas.

Figure 6.1. Industrial transition policies differ based on starting positions

Case study and policy examples based on current stage of manufacturing

Traditional - Peak (e.g. Tuttlingen, DE)	Traditional - Still (e.g. Podravje, SI)	Traditional - Mature (e.g. Arezzo, IT)	Traditional - Sunset (e.g. Jura, FR)
<ul style="list-style-type: none"> • Provide policy support to aid the transformation through ideas creation, noting they will not remain as profitable without change given the nature of the automotive and medical sectors. 	<ul style="list-style-type: none"> • Attempt to reach the cutting edge in existing fields and make use of new technologies in neighbouring fields to maintain prominence. 	<ul style="list-style-type: none"> • Be cognisant of forthcoming sectoral challenges and build on existing expertise to explore new areas for manufacturing. 	<ul style="list-style-type: none"> • Reorientate to new sectors that are based on the natural assets to form green sustainable production. Focus on wider structural challenges to aid attraction and retention.

Country-specific assessment and recommendations

The following chapter briefly introduces the manufacturing landscapes in the regions studied across the four countries and provides a range of recommendations. More in-depth information can be found in the individual reports found adjacent to this document.

France

Description

France's manufacturing sector ranks 8th in the world (Polyglot Group, 2023^[1]) in terms of economic size. The case study focused both on the regions but also the national strategy of Industrial Territories (*Territoires d'industrie*, TI) policy, which is part of a state and regional strategy for industrial regeneration and regional development. The two cases were selected in collaboration with the *Agence nationale de la cohésion des territoires* (ANCT) to provide a concrete description of challenges and good practices. These were the inter-departmental TI Gers/Tarn-et-Garonne (Occitanie region) and the TI Haut-Jura in the Jura department (Bourgogne-Franche-Comté region).

Main findings

With the TI programme, France is seeking to re-industrialise and strengthen regional development and cohesion. The aim is to strengthen the country's competitiveness and industrial sovereignty by building on local dynamics and tackling the structural deficit in the balance of trade.

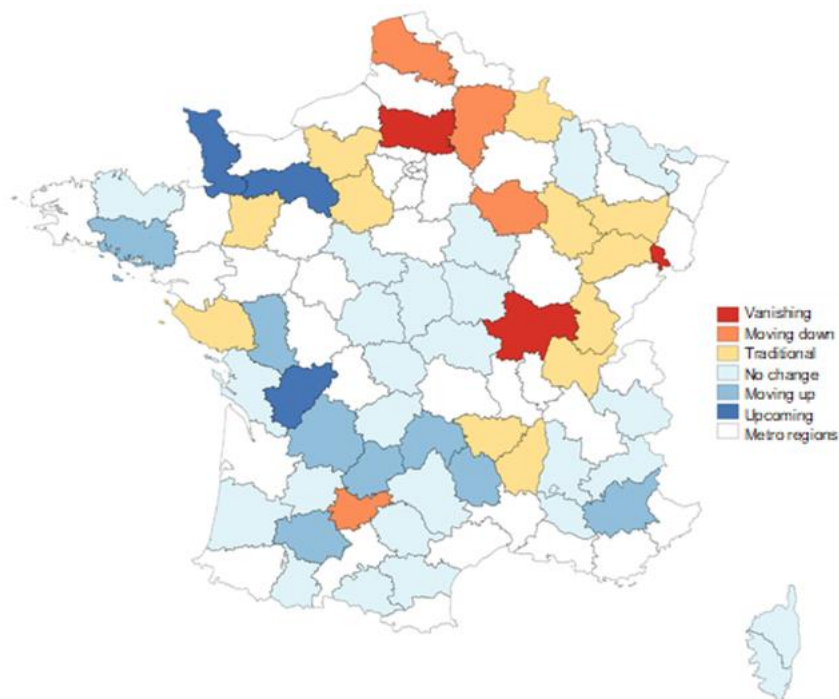
Since 2018, this programme has aimed to implement concrete responses to the challenges industry faces in rural areas, in particular employee mobility, land availability and skills development. The TI programme is structured around several key areas: the attractiveness of rural areas for industrial jobs; training, recruitment and mobility of employees to meet companies' labour needs; the digital and ecological transition; the availability of land and the revitalisation of brownfield sites, in particular by simplifying administrative procedures. A key strength of the programme is that it mobilises national, regional and local players in support of the development of regional industry and brings together local partners in each TI region around a private (industry) and public (locally elected representative) pairing to build a tailor-made action plan based on the issues and needs expressed at the local level.

The TI programme covers 149 territories – inter-municipalities or groups of inter-municipalities – located in rural areas, peri-urban areas and small and medium-sized towns throughout France and the French overseas territories. These areas have a strong industrial identity and know-how and are seeking to strengthen their industrial dynamics and strategies. In the TI regions, the industrial employment rate is higher than elsewhere (15.3% on average compared with 9.5% outside the IT regions).

The TI programme makes it possible to target all existing or dedicated strategies, policies and budgets around reviving industrial activity on the ground. Each TI is based on a contract, which may or may not be formal, setting out the social commitments of the project sponsors, the region, the state and its operators, and the various public and private partners for a period of four years. This contractual framework enables the specific objectives of the project to be aligned with regional and national guidelines. For the second phase of the programme (2023-26), the five priorities are skills, innovation, land, the ecological and energy transition, and governance and management of the programme. The evaluation of the TI programme on the implementation of the 2019-22 period will begin with this second phase.

The two regions of France vary in their definition of the degree of manufacturing. Figure 6.2 illustrates these regional classifications across France. Focusing on the regions for the case study, Tarn-et-Garonne (Occitanie region) appears to be a *département* that has seen a decline in manufacturing activity. This *département* is surrounded by others, including the Gers, where manufacturing activity has stagnated or even increased. On the other hand, the region of Haut-Jura in the Jura department (Bourgogne-Franche-Comté region) appears to be a traditional manufacturing centre where activity in this sector has been high over the last two decades and continues to be so. Note that the regions are bordered differently from that of the TI programme and are instead based on OECD TL3 definitions (see Fadic et al. (2019^[2])).

Figure 6.2. Manufacturing activity by manufacturing type across France



Source: Based on the OECD Regional Statistics (database), <https://www.oecd.org/regional/regional-statistics/>

Policy recommendations

Recommendations cover both those for implementation by the regions themselves and considerations at the national level regarding the TI programme. Recommendations cover policy tools with a wide area of focus including the development of a strategy and visions, skills and labour policies, entrepreneurial support and a broader physical, digital and regulatory environment.

Table 6.3. Table of recommendations for France

Recommendation	Sub-recommendation
Strengthening the evaluation, monitoring and supervision of the <i>Territoire d'industrie</i> (TI) programme	Promote the implementation of a TI programme evaluation system
	Continue the deployment of TI programme operational monitoring tools
	Promote the development of a formalised TI action plan in all territories
	Encourage more mixed project ownership
	Strengthen the steering and promote the supervision of the dialogue sessions organised within the framework of the TI programme
	Promote engineering through the recruitment of a project manager in all TIs
Encouraging the creation of one-stop shops to better inform and support	Promote the pooling of information through the establishment of one-stop shops
	Strengthen support systems for young entrepreneurs in the industrial sector
Strengthening the rebound of industrial to promote industrial job creation	Generalise the industrial rebound system to a system similar to that of France Relance
Meeting the challenge of recruitment and skills	Strengthen the adequacy of training for industrial professions
	Extend the scope of the Passerelles Industries scheme to a regional scale
Working to improve the attractiveness of territories and their companies	Improve corporate "employer branding" to combat negative preconceived ideas
	Promote campaigns to attract jobs in TI regions
	Promote company visits to students and candidates during the application process
	Strengthen the attractiveness of TI through an offer of day nurseries in companies
Fostering innovation and co-operation in information technology (IT)	Promote a cluster strategy in TI regions
	Promote the development of advanced technologies in the manufacturing sector
	Consider the creation of a digital platform for a systematic exchange of information and projects between research and industry in key areas of IT
	Strengthen links between industrial companies and competitiveness clusters
Other specific recommendations on the industry in France	Simplify online aid applications, particularly in the face of rising electricity prices
	Support production process innovations to cope with rising energy prices
	Strengthen co-operation with neighbouring territories

Slovenia

Description

Over the decades, Slovenian industrial strategy has focused successfully on attracting foreign investment in high-technology industries such as electronics, pharmaceuticals, automotive and aerospace. Through the promotion of innovation and technology transfer, as well as investment in infrastructure and education, it has built a plethora of national champions. The geographical distribution of the density of these success stories, however, is not equal. Earlier periods of transition saw a rise in inequality between urban and rural areas and many rural areas experienced declines in rural populations. Through various European Union funds, Slovenia has actively focused on improving quality of life in rural areas through initiatives such as improving rural healthcare, education and transport services. Today, whilst these disparities have decreased and Slovenia performs well in indicators such as employment rates, its overall global competitiveness is stagnating. In addition, with more recent challenges, such as rising energy costs and consequences of the COVID-19 pandemic, a new approach that effectively utilises its resources across its various regions can help Slovenia achieve its potential and simultaneously reduce regional inequalities.

The region of Podravje, although presenting many rural aspects with regard to the OECD typology, is considered a medium-sized metropolitan region. The region has seen an increase in manufacturing over the last 20 years. It is home to several important industries, including paper production and developing

interests in pharmaceuticals and automotive manufacturing. Goriška is defined as a non-metropolitan region close to a small city and has been somewhat involved in the manufacturing sector over the last 20 years with limited change in its share of employment in manufacturing relative to other regions in Slovenia. Based in the west of the country, it is considered a positive region with many economic indicators above the Slovenian average. Koroška, on the other hand, is a non-metropolitan rural remote region that has been a traditional manufacturing hub for several decades, being a region in the top quintile of manufacturing employment in Slovenia over this time period with a particular focus on wood, metalworks and more recently electronics.

Figure 6.3. Manufacturing activity by manufacturing type across Slovenia



Source: Based on the OECD Regional Statistics (database), <https://www.oecd.org/regional/regional-statistics/>

Main findings

The regions studied hold a great number of assets, potential and opportunities. First, Slovenian industrial champions are international, innovative and strong performers. Spin-offs creating new companies around them provide a strong anchor for the regions. At the same time, some niches could be even better explored and could increase competitiveness by seeking alternative programmes.

The high quality of life present in the regions is a key pillar of regional attractiveness. The outdoor pursuits, fresh air and other assets in terms of quality of life are often sought after and some firms are leaning into this. What is more, Slovenians are attached to their regions, with populations amongst the lowest ranking in terms of mobility. Even when they leave cities in search of better job opportunities, they often remain attached to their regions of origin, actively seeking opportunities to return. This attachment must be capitalised upon.

Middle-sized farms have the biggest potential. Young farmers taking over with higher education link with manufacturing and schemes such as “intergenerational transfer of knowledge”- where the transferee transfers knowledge for three years after the handover the farm to the new generation and receives payment for this knowledge transfer, can further boost this transition.

The case study also pointed to a few challenges and areas of opportunity, which, if tackled effectively, could strongly boost the performance of the manufacturing sector and regional development. They include the following.

- **Improving multi-level governance:**
 - Regions want their regional development plans to be systematically and effectively heard. Whilst formal channels exist, their mechanisms are unclear and underutilised. Thus, an effective process would be highly beneficial.
 - There are no meaningful **integrated** strategic documents and there is a significant lack of co-ordination capacity and oversight. Each ministry or region has its own approach at the national level, often with overlapping goals. The new restructuring of ministries since the field visits aims to advance on this front.
 - There is room to better integrate and align regional development policy and rural policy.
 - Vertical and horizontal co-operation should be improved in order to encourage collaborative strategies and goal-setting between all kinds of actors – public institutions, research and academia and businesses, among others. Communication between regional development agencies and national bodies can be improved.
 - On some occasions, bureaucracy was identified as a bottleneck in the development of projects, both publicly (roads) and entrepreneurially (land).
- **Challenges related to companies:**
 - In some regions, skills shortages are driven partly by depopulation due to their lack of attractiveness to a young, educated workforce. However, there is a strong role for companies themselves to improve attractiveness, including upgrading and replacing routine tasks with automation to make use of the higher-educated workforce and non-financial company incentives.
 - Labour shortages also require a more flexible education system.
 - Although there are sufficient resources available for research and development (R&D) and innovation activities, more can be done to incentivise a culture and open model of innovation by widening the economic base of participants in the schemes.
 - Business zones could be more operational and better managed.
 - There is insufficient valorisation of local value chains in products of competitive advantage (agri-food industry) and strengthening of the network between stakeholders from different industries in local areas (farmers, Hotel/Restaurant/Cafe, distributors, retailers...) and inter-industry organisations.
- **Infrastructure-related issues**, particularly the lack of connectivity, remain a regional problem that is often highlighted:
 - Granting process is slow for both housing for (immigrant) workers and for the development of businesses.
 - Transport infrastructure makes logistics particularly difficult, specifically road improvements and a need for revamping railway lines (people and goods) to increase the movement of people and goods in a relatively small country.
 - Advertisement of existing high well-being standards, including cycle paths and tourism infrastructure, could be improved, increasing the attractiveness of life in rural areas.
 - Management of water and protected areas could also be improved.
- Globally, regions would like the national governments to take into consideration the following **challenges**:
 - Give continuity to projects and activities after European Union funds have run out.

- Have a wider strategic view of the education system and links to university hubs and talent centres that consider future developments such as the rise in artificial intelligence.
- Better interlink the different innovation hubs (parks, centres, incubators) to ensure they are not fragmented and can take on the advantages of the innovation ecosystem developed.
- Help promote the concepts of ecoregions (green industry, green agriculture and food production, green tourism). An example that can be further replicated is the current scheme for medium-sized farms who can apply for all investment interventions and receive support in the form of grants of up to 50%, and up to 75% for investments that have a beneficial effect on the environment go a long way.
- Help link manufacturing sectors to wider sustainable tourism to create more value-added in manufacturing activities.
- Further build cross-border co-operation/development and reduce the current cross-border gap and retain the highly skilled labour currently moving away.

Policy recommendations

The case studies identify several broad recommendations for Slovenia as a whole as well as recommendations for each of the three regions across a number of areas. These are summarised in the following table.

Table 6.4. Table of recommendations for Slovenia

Area	General comment	Goriška	Podravje	Koroška
Skills	Match existing efforts to attract talent with efforts to improve employer demands to align with the future direction of the sector.	Continue the utilisation of Smart specialization (S4) to consider which education programmes to develop. Prevent early school leaving in vocational and professional secondary education through increased interactions with local businesses, e.g. high school internships.	Retain highly skilled, sectoral-relevant workforce already successfully nurtured through scientific institutions in the region by improving the non-financial offers of local firms and encouraging firm upgrading, particularly of SMEs.	Continue to build on R&D co-operation between universities and SMEs. When implementing policies for inclusive employment, strategically consider current training allocations, e.g. build on health centre research for low-skilled social employment in the sector and digital skills for disincentivised youth, etc. in the manufacturing sector. Encourage commuting from within Slovenia with greater opportunities for occasional remote work, etc.
Green economy	Consider inputs (e.g. green energy), operations and products (e.g. strategic orientation of regional economic outputs) equally.	Further explore potential wind power as an energy source. Make better use of the woodland economy as a strategic sector.	Further explore the potential of solar power as an energy source. Consider examples from other OECD cities to tackle water governance concerns. Use LEADER ² initiatives to highlight the benefits and methods of green transitioning to small farmers.	Further explore potential solar power as an energy source. Use LEADER initiatives to highlight the benefits and methods of green transitioning to small farmers. Attempt to reduce mining processing outputs. Beyond wood, consider the green production of its S4 sectors, e.g. information and communication technology (ICT).

Area	General comment	Goriška	Podravje	Koroška
Land use	Work across levels of government to have a clear vision that matches sectoral ambition with spatial planning to reduce the currently substantial planning permission delays.	Work in greater collaboration with neighbouring regions towards solutions on housing for migrants, who likely do not have the same cultural aversion to commuting. Formulate a clearer long-term strategy for spatial planning.	Better management of the business districts could help alleviate some spatial planning concerns. Continued co-ordination of visions with the national spatial planning agency,	In addition to orienting towards less land-intensive ICT sectors, consider land use availability just as rigorously for more circular manufacturing.
SME access to capital	Improve the knowledge of existing funds within a wider set of SMEs. Encourage utilisation of funds through building a greater entrepreneurial culture and take note of the risk sharing between public and private sectors.			
Clustering and networks	Make more use of existing networks.	Consider limiting the number of sectors prioritised to provide the best service to the limited few.	More explicitly link work from universities and hubs to existing rather than forthcoming industries.	Use the knowledge hub as a location to test disruptive innovation policies through the implementation of a regulatory sandbox.
Digital and physical infrastructure	Ensure good infrastructure to make the most of the digital goal in the industrial strategy.	Consider rail lines. Focus on improving digital infrastructure, which ranks poorly within Slovenia and across the OECD.	Rethink the benefits of an airport and direct funds to forming more direct infrastructure to global value chain target regions across the European Union.	Consider using the old train lines for trains as well as tourism. Co-ordinate with national levels in reducing further delays of the highway.
Market orientation	Consider different strategies for firms at different points of the productivity distribution.	Build stronger cross-border co-operations with Italy and leverage the cultural and heritage manufacturing industry.	Formulate a supply chain directory to aid investment activities and better monitor the benefits of foreign direct investment-SME linkages.	Increase collaborations with Austria to share lessons and increase tradable activities, particularly relating to the development of the wood sector.
Regulation	Consider reducing gold plating, find a balance between flexible regulation and continued accessibility for local levels and firms.			
Multi-level governance	Change the dynamic from co-operation focused on projects to co-operation focused on strategies. Work closely across levels of government to tackle alternatives to European Union funding to reduce delays and gaps.			

Germany

Description

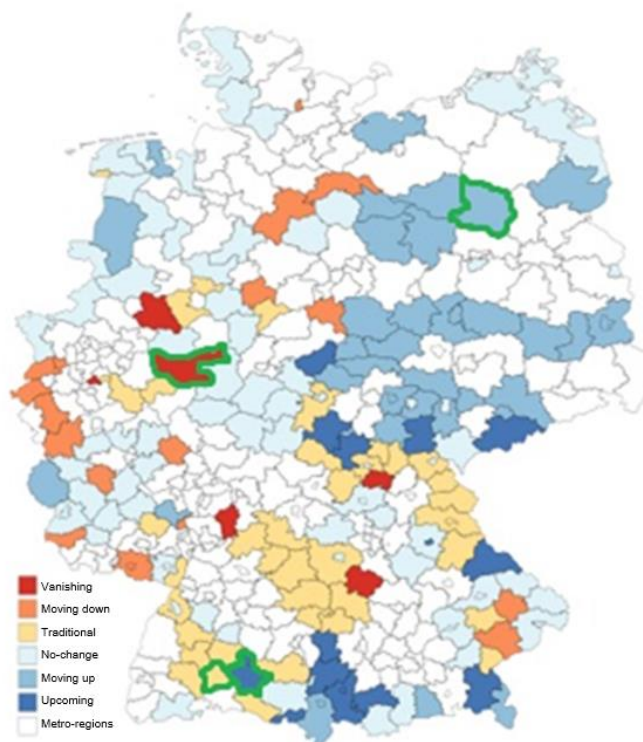
Germany has a well-developed and strong manufacturing sector that makes an important contribution to rural productivity and the well-being standards of rural citizens. Manufacturing, on average, employs 23% of the rural workforce and contributes to 28% of rural gross value added (GVA) in Germany. Regionally, however, contributions can vary significantly based on the regional economic profiles.

- Sigmaringen has a heterogeneous manufacturing profile without a clear hub or centre. Most companies are dispersed and part of different sectors. This makes the region more resistant to sector-specific shocks but also reduces benefits due to limited cluster activities. Overall, manufacturing includes a variety of mechanical engineering activities, from vehicle construction to aerospace technology, as well as the production and processing of rubber and plastic goods. Sigmaringen has an above-average manufacturing GVA (32%) and employment share (30%). It has also seen an increasing employment share over the past years relative to other regions, making it an upcoming manufacturing hub.
- Tuttlingen is Germany's manufacturing champion, with a highly specialised economy. The district GVA has a 57% manufacturing share and 49% manufacturing employment share, higher than any other sector or other rural district in Germany or the OECD. The district's manufacturing sector can be classified as traditional and innovative, with a high potential for scalability and tradability. The

region is known for producing medical devices, surgical instruments, orthopaedic solutions and diagnostic systems.

- Ostprignitz-Ruppin, located in the state of Brandenburg, has been experiencing new economic dynamism since German reunification. In recent years, it has particularly benefitted from the proximity to the federal capital of Berlin. The district was able to significantly reduce unemployment between 2005 and 2020, from 16% to 3%, and has experienced a fast increase in manufacturing labour productivity from around USD 62 000 to USD 87 000 (over the period of 2005 to 2020), thus catching up with other manufacturing regions and categorised as a moving up hub. At the same time, Ostprignitz-Ruppin is remote and has a lower population density (40 inhabitants per square kilometre) than the rural average in Germany (138 inhabitants per square kilometre). It also has a greater focus on agriculture and forestry industries than other case study regions.
- Hochsauerlandkreis is the geographically largest district with the second lowest population density in the state of North-Rhine Westphalia. It has a robust economic base with an above-average specialisation in manufacturing. Manufacturing accounts for 30% of Hochsauerlandkreis regional GVA and 27% of its employment share. Yet, compared to other rural places in Germany, the district shows below-average performance in manufacturing labour productivity (USD 86 112 compared to USD 91 312 rural average in 2019) and has slightly decreased employment shares in manufacturing over time (27% in 2019 compared to 29% in 2005 and close to 32% in 2000). Traditionally, the building industry, particularly lighting, has a strong presence, accounting for 65% of the European market. Likewise, automotive and medical technology manufacturing as well as timber production, are well represented.

Figure 6.4. Manufacturing activity by manufacturing type across Germany



Source: Based on the OECD Regional Statistics (database), <https://www.oecd.org/regional/regional-statistics/>

Main findings

More broadly, Germany does not have a specific rural manufacturing policy. Policies that are relevant for rural manufacturing can broadly be categorised into: i) regional economic development policy, which focuses largely on addressing disadvantaged areas and building bottom-up structures; ii) rural development policy, which focuses on raising well-being standards and service delivery; and iii) industrial policy support structures that do not have any regionally specific components but which are focused on SMEs. This report finds that the different policy areas relevant to rural manufacturing are gradually complementing each other, a welcomed and important development to address rural development challenges in a holistic manner. In selected industries such as the automotive sector, place-based policy is moving towards taking a more proactive stance, focusing increasingly on anticipating upcoming and ongoing transformation processes for strong rural regions.

Still, ongoing megatrends and structural change pose challenges to German's policy-making process, exposing a lack of agility and dynamism in its design and implementation. To ensure rural firms remain competitive, policies need to adjust and respond more quickly to changing external conditions that are shaped by digitalisation, amongst other factors.

Germany may benefit from increased policy agility and experimentation in policy making to accommodate for fast-paced change and potential future shocks through foresight, greater evaluations and increased co-ordination and expanding the use of regulatory sandboxes.

Skills availability remains a challenge, both in remote regions and regions with good links to key cities where salaries are higher. Despite the flexibility of curricula and many technical colleges in the regions, a clear indication of direction is challenging to identify across stakeholders. Thus, there is a need to map the skills needs of today and to those that are forthcoming. This should be done regularly to update state and regional policy accordingly. Developing crosscutting skills in digitalisation (e.g. digital literacy) and sustainability through integration. Increasing efforts to attract and retain youth, women and migrants through various flexible training programmes as well as links across the private sector and academia could aid in this challenge.

Land use planning at the state and regional levels is currently one of the largest barriers to scaling up for many thriving entrepreneurs. Allowing more flexible approaches through the establishment of specific zones in a community can help. This is because they are more open to experimentation and temporary uses as well as fostering inter-communal co-operation for land development. Bureaucratic barriers across access to programmes were also established as challenges to entrepreneurial growth.

Policy recommendations

Overall, the case studies revealed two overarching areas of focus:

- Building vibrant ecosystems through the establishment of an entrepreneurial culture in schools via links with firms, encouraging state-run structural programmes that follow a bottom-up development and aid information sharing across states.
- Facilitating access and uptake of support programmes by reducing bureaucratic barriers and increasing digitalisation (European Union, federal and state levels) and improving navigation (state and regional levels).

In addition, the table below highlights key policy recommendations for each region.

Table 6.5. Table of recommendations for Germany

Ostprignitz-Ruppin	Sigmaringen	Tuttlingen	Hochsauerlandkreis
Develop marketing and services targeted at young people from the region to return leveraging connections to Berlin. With its Landeplatz initiative, it could specifically try to integrate offers for graduates.	Advance on developing digital connectivity in the region as fast and as efficiently as possible to create baseline conditions for innovation.	Continue efforts to further strengthen local company collaboration and support small companies to adjust to the EU medical regulation.	Leverage the collaborative regional strength created through the South-Westphalia Agency and build on renewed support from the North-Rhine-Westphalia structural programme REGIONALE 2025 to foster local branding and increase attractiveness for companies and skilled workers.
Continue to leverage the highway connection and to attract businesses and offer development potential for manufacturing firms.	Leverage research, innovation and entrepreneurial activities of the newly founded Innovation Campus for instance, through knowledge transfer activities such as work placements of researchers and entrepreneurs.	Align SME support with local digitalisation support. Attract investors to fill funding gaps for entrepreneurs.	Continue to push for swift solutions to transport connection issues with the districts' road maintenance authorities, to ensure the viability of manufacturing businesses that rely on exporting goods from the region.
Increase innovation potential and entrepreneurial culture by establishing Makerspaces or Living Labs and combining digital skills development for firms. Specific innovation opportunities present themselves in the bioeconomy, linking to already present agricultural and forestry industries.	Benefit from cluster effects via greater collaboration with the neighbouring district of Tuttlingen. Increase potentials for shared service delivery, land or infrastructure development, with options such as better cross-district train connections, sharing on-demand mobility services or merging efforts for identification and development of industrial land.	Foster cultural change within existing, successful companies to enhance innovation, risk-taking and a new way of work.	Assist SMEs in reducing emissions through the use of local facilities and knowledge transfer. Investigate the possibility of a rural living lab or regulatory sandbox to further push the boundaries of innovation for sustainable production with local firms. Encourage a scale-up of culture.

Italy

Description

Italy is one of the strongest manufacturing countries in the European Union, ranking third (after France and Germany) in terms of total manufacturing turnover and value-added, second after Germany in terms of total employment and first counting the total number of enterprises (Eurostat, 2023^[3]). The structure of manufacturing in Italy is mostly based on SMEs. These, on average, are smaller than the other EU direct competitors and are mostly located in relatively small territorial areas with a high level of specialisation in some sectors. These areas are usually recognised as being the site of clusters, also known as Italian industrial economics or industrial districts.

The Italy case study on rural manufacturing focuses on two regions in the wider region of Tuscany of Arezzo and Grosseto. Tuscany is one of the Italian regions where manufacturing has for a long time been, and still is, one of the main drivers for economic development. Economically, Tuscany was harder hit by the consequences of the COVID-19 pandemic than other regions of Italy due to its specialisation in the production of semi-durable consumer goods, which have suffered a fall in demand, particularly foreign demand, and to a greater extent than other types of production. Tuscany is also more dependent on tourist spending, which has been significantly affected by this crisis. Both manufacturing and tourism quite promptly recovered in the pandemic aftermaths, although not necessarily to their full extent.

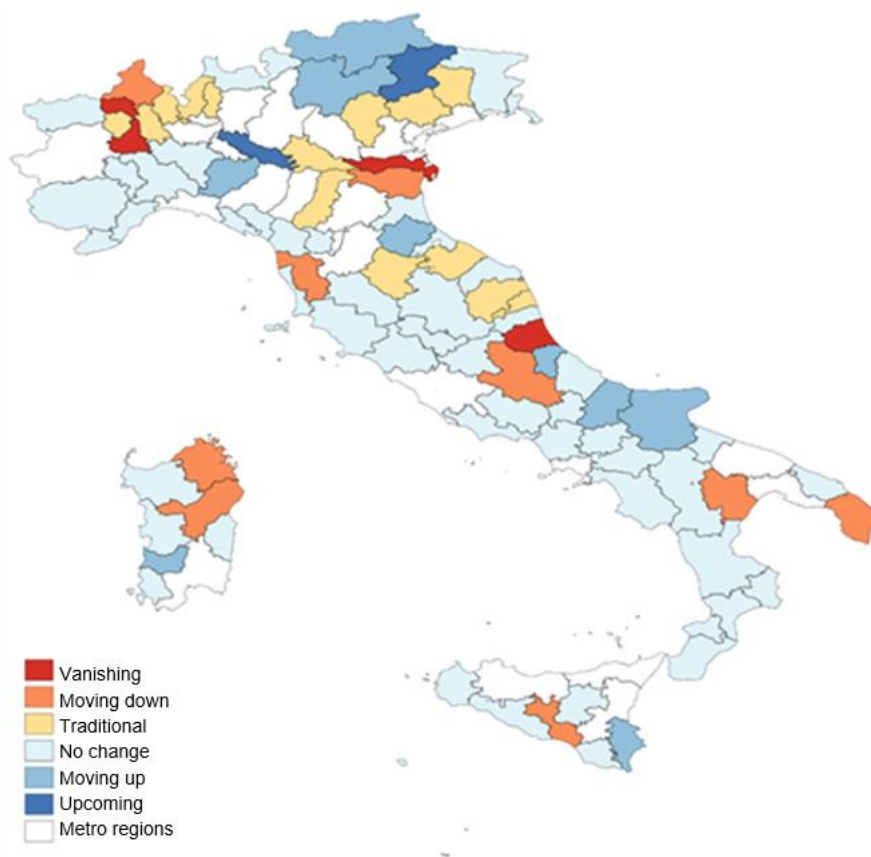
The two regions, however, are very different both geographically and in manufacturing specialisations:

- Arezzo's economy is highly developed in terms of manufacturing (26.35% of its GVA), whose share on the regional GVA is 60% higher than the Italian average. It has a strong SME endowment with industrial districts specialising in jewellery – the leading district of the province with about

1 300 companies and 9 000 employees – textile and apparel, leather and footwear. Several companies are located next to urban centres and most in the surrounding rural areas. In addition, the GVA share generated by agriculture in Arezzo (3.2%) is almost twice the Italian rural average (1.9%). As such, Arezzo has a prominent manufacturing sector that has developed in a rural environment where agriculture is still important for the local economy.

- Grosseto is a large, sparsely populated rural province with a focus on the primary sector, with manufacturing less of a focal point. It has developed a food processing sector inland, with small, scattered artisanal workshops often devoted to offering services, such as equipment maintenance and repair, etc., to local agriculture producers. Some SMEs are suppliers of regional industrial districts located in other bordering provinces. In addition, the province features some industrial manufacturing activities which are located along the Tyrrhenian Coast, with a few big chemical plants (sulphuric acid, titanium oxide) in the municipality of Scarlino.

Figure 6.5. Manufacturing activity by manufacturing type across Italy



Source: Based on the OECD Regional Statistics (database), <https://www.oecd.org/regional/regional-statistics/>

Main findings

The case studies reveal a number of challenges, opportunities and policy recommendations. If tackled effectively, the challenges could boost the performance of the manufacturing sector and regional development. These include the following elements:

- **Pursuing a higher degree of integration between rural development and industrial policy can lead to more effective actions for rural manufacturing at all levels.** Rural manufacturing is not a policy domain per se. Still, a number of policies and programmes offer a wealth of opportunities for rural manufacturing, particularly with the use of Italy's Inner Areas Strategy³ that allows the differentiation between rural areas to be very clearly identified and developed. A higher and stronger integration between sectoral and territorial policies is yet to be seized.
- **Steps to address the skills gap are slowly being taken but more can be done.** There are skill gaps in both regions due to a combination of ageing, brain drain, lack of or weak proximity services, perceived marginality of remote rural areas, etc. At the same time, a well-structured education and training system is in place at the larger regional scale but also often with quite a capillary presence at the local level. Tackling this paradox requires parallel action in two factors:
 - Making matchmaking between skills offer and demand perform better as a system, with training institutions and businesses finding new and more effective communication and collaboration channels.
 - Enhancing the appreciation of local quality of life in rural environments and in smaller centres as a source of attraction, which is already a trend triggered by the COVID-19 crisis.
- **Accessibility challenges remain, including physical transport infrastructure deficiencies, digital connectivity bottlenecks and difficult access to primary services.** Small businesses are particularly sensitive to these framework-enabling conditions. Targeted policy responses are needed to allocate public resources effectively with the aid of public-private common initiatives and investments.
- **Traditional know-how must embrace change and innovation.** Rural businesses often specialise in niches linked to traditional know-how and local consolidated cultural heritage, and show a smaller tendency and less openness to innovation. In such contexts, path dependency is a common risk affecting local industrial systems that must be rectified in order to make use of the special skills and take advantage of new markets and globalisation directions.

Policy recommendations

The case studies identify a number of broad recommendations for the two provinces across a number of areas.

Table 6.6. Table of recommendations for Italy

Arezzo	Grosseto
Counteract the lack of qualified workers in the more specialised sectors and a demand-offer mismatch through improved strategic partnerships with the abundant local universities and academic institutions.	Harness strategic synergies and close co-operation across neighbouring territories and jointly use foreign direct investment to encourage the establishment of new economic activities rooted in existing local enterprises to support processes of expansion, modernisation or co-location.
Leverage the experience of the Arezzo Hub as a strategic catalyser for considering skills of the future to widen the scope of what is possible locally.	Utilise the national inner areas strategy in conjunction rather than competition with LEADER and other such programmes which can catapult this action.
Place the circular economy objective higher up the priority list to help overcome excessive energy demand challenges of the manufacturing sector, leveraging on valuable local experiences, such as the local	Further innovate the food industry to mitigate climate risks to existing flagship products (wine and olives at first).

Hydrogen Industrial District.	
Use circular economy goals to leverage the links between high-quality agricultural output and tourism for a symbiotic approach to achieving a sustainable future.	Improve local co-ordination to form a unique and consistent framework for pursuing stronger and more effective co-ordination among the different policies down on the ground.
Open up the already dynamic local entrepreneurial sphere to new sectors beyond fashion, building on other competitive sectors such as ICT, agri-food or recovery of waste materials.	

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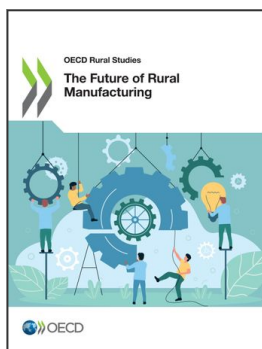
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Notes

¹Reshoring can be defined as bringing business operations, manufacturing, or sourcing activities back to the company's home country. Nearshoring can be defined as relocating operations to a neighbouring or nearby country, typically within the same region or continent. See <https://www.thomasnet.com/insights/reshoring-vs-nearshoring/>

² EU based concept relating to links between activities for the development of rural economy, see https://ec.europa.eu/enrd/leader-clld/leader-toolkit/leaderclld-explained_en.html for more details.

³ See https://ec.europa.eu/enrd/sites/enrd/files/tg_smart-villages_case-study_it.pdf for a comprehensive definition of the strategy for inner areas.



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