

Policy brief | Addressing skill mismatch for SME's digital transition

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Executive summary

Digitalisation offers the potential to unlock unrealised growth across European SMEs. However, there are a number of hurdles that inhibit the adoption of digitalising technology, the most significant being lack of skills and understanding around digitalising technologies and their implementation. Whilst other factors, including access to finance, limits adoption this paper focuses on addressing the skills gap.

This paper addresses three sectors: cultural and creative industries and tourism. Sectors which have a greater 50% contribution to value added, have above average specialised personnel and the potential for a green transition.

This paper proposes four areas for policy focus:

- Partnership framework with universities – designed to facilitate upskilling through cooperation between small and medium-sized enterprises (SMEs) and universities. Particularly through the use of internships and mentorships.
- Training programs focusing on skills and knowledge including manuals and sector specific programs.
- Financial support through a digitalisation tax credit.
- Awareness campaign – focused on skills

Introduction

SMEs are the foundation of the European economy accounting for 64% of employment and 52% of value added. Despite their significance they represent the diverse cohort with no singular set of defining features with distinct sectors having different problems, needs and solutions. Digitalization, however, has been identified as a broad common theme for improvement across most SMEs. Whilst specific solutions will vary across sectors, digitalisation has the potential to reduce costs and working capital requirements, as well as improve organisational and administrative processes. Adoption, however, has been slower than expected leaving potential productivity improvements unmet. Whilst adoption hurdles vary two key factors have been identified: lack of skill and knowledge within SMEs and a labour market deficit. Meaning, SMEs tend to lack the capacity to adopt digitalising technology themselves and are unable to hire the right candidates to fill that gap.

This situation is compounded by a context of high inflation which is acting as a resource constraint – reducing the cash available for investment, reducing employment growth, and creating wider environmental uncertainty. This paper proposes policy solutions that address the digitalisation skills gap both within SMEs and the labour market deficit targeting productivity improvements. It recommends developing a partnership

framework between SMEs and universities as well as training programs, financial support through tax credits and an awareness campaign.

Literature review

How to encourage technology adoption among SMEs

In the last years, policymakers and researchers alike have reached a consensus that digitalisation is the way forward to achieve progress and raise productivity (OECD, 2021; The European Commission, 2021; Ziółkowska, 2021; Cichosz et al., 2021). However, there is a lack of understanding when it comes to the role of public support to encourage the digitalisation of SMEs (Rupeika-Apoga et al., 2022), leaving it unclear which intervention is the most effective for whom and in which context. This is due to a multifaceted mix of different factors, including the existence of complex barriers, missing reliable policy evaluations and the presence of knowledge gaps (Phipps and Fuller, 2022). Digitalisation, referring to the adoption of digital technology, is a complex process, requiring multiple steps:

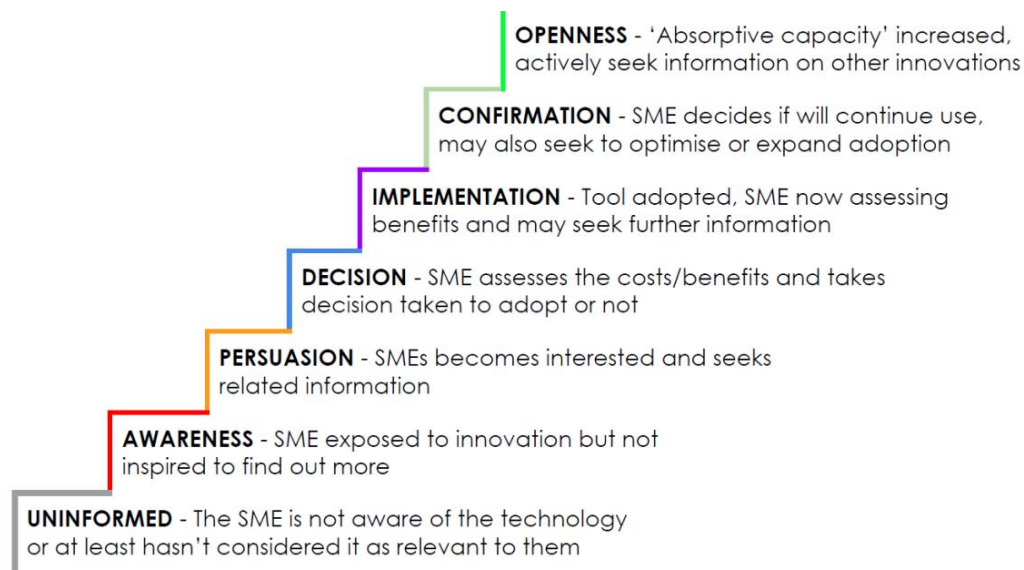


Figure 1. Different stages in SMEs' technology adoption

Source: Phipps and Fuller (2022)

Thus, to drive the adoption of digital technology it is necessary to first provide information about technologies available, to create awareness and spark interest so the SME searches for more related information. After assessing the costs and benefits, it takes the decision whether to adopt a novel technology or not and implements it by embedding the technology in its existing operating ways. The SME will decide then whether it will carry on using it, and might seek more information on how to increase adoption. With higher absorptive capacity, the SMEs will likely actively look for more information on other innovations.

A large number of SMEs are convinced that the digital transition cannot be done successfully without different public support measures (Rupeika-Apoga et al., 2022). Previous literature has pointed out a

multitude of ways in how technology adoption can be fostered¹, including putting in place common standards (Blind, 2013), providing business advice (What Works Centre for Local Economic Growth, 2016) or training entrepreneurs (McKenzie et al., 2021). To provide value for policymakers, we are focusing on specific policies such as collaboration with universities. Collaborating with universities can help SMEs to overcome one of the biggest challenges when facing digitalisation: lack of skills. A recent survey shows that SMEs struggle with the lack of employee skills, with one in five small businesses and one in three mid-sized businesses reporting this as the most pressing challenge (GetApp, 2020). The surveyed firms also plan to invest in the training of their employees. Working with universities could enable them to overcome the pressing challenge of lacking skills, by working together with students that are specialised in those skills needed by the SME.

Moreover, there are substantial gaps when it comes to digital technology adoption (see Figure 2 in the appendix). Targeted policy intervention for a highly digitalised SMEs with 240 employees is very different than for a micro enterprise with 2 employees not possessing any digital technology. Deciding which group of SMEs to target has been a major challenge, as it depends on the goal the policy maker is trying to achieve and in addition the academic literature has been surprisingly scarce on why to focus on one group versus the other. For this policy brief, we focus on groups of SMEs that fulfil three criteria. First, they are in an industry that substantially contributes to value added. Second, they have above average specialised personnel. Third, they have potential for a green transition as well. Out of fourteen industrial ecosystems, the following three fulfil all three criteria: cultural and creative industries and tourism. Contributing to value added refers to making up more than 50% of the value added created by six industries, out of fourteen and potential for a green transition means possessing the internal capacity for a change towards sustainability and the availability of green jobs (The European Commission, 2022). For simplicity reasons, we are focusing on one group, which is cultural and creative industries, and how their digital transition can be encouraged due to collaboration with universities.

Evidence of successful partnership between firms and universities

Anderson et al (2021) show in their study how a well-studied partnership between students and retail firms helped the latter in achieving modernisation and improving their sales. In particular, in their experiment they changed the approach of relying on retailers to independently translate theoretical lessons or advice into business skills and apply them to their shop, as it is considered lengthy and uncertain by the company. Instead, their approach involves making physical changes directly at the retail shop, bypassing the typical theory-skill-application process of training and consulting programs. This allows for modernisation interventions to be implemented through local university students and graphical instruction manuals rather than professional management consultants.

¹ For an overview of a larger set of potential public policy interventions to foster digitalisation of SMEs see OECD (2021), for a systematic review of academic literature see Alfaro-Serrano et al. (2021) and for an overview of current and past interventions see Phipps and Fuller (2022).

The intervention itself consisted in establishing a partnership between a firm and a Modernisation Agent, who was a top university student specialising in business, economics or related fields. The Modernisation Agent conducted several sessions that were solely focused on implementing modernization structures through hands-on training. These Agents were supervised and trained by senior managers from a well-known international NGO, who also conducted two site visits on the firm premise. Business owners also spent additional hours on their own after each session to ensure that modernising structures were fully integrated.

To ensure that the interventions made by the company were strong and had a lasting effect on the treated firms, three additional steps were taken. Firstly, a diagnostic was provided by the Modernization Agent during their first visit, which helped identify areas of strength and weakness, allowing the firm owner to make an informed decision about which structures to implement. The firm owners were also responsible for purchasing the materials required for implementation, ensuring careful consideration in the selection of structures. Secondly, the company prioritised depth over breadth, and trained Modernization Agents accordingly to focus on making a few lasting modernization changes rather than covering many areas. Thirdly, a graphical instruction manual was designed as a novel pedagogical tool and given to every treated firm owner to aid in their modernization efforts.

Not only the study found an improvement in the sales performance of the treated firms (+ 15-19%) but helped in understanding the behavioural choices of the traditional retailers towards modernisation. In fact, many businesses avoid modernisation of their environment (especially external and visible modifications) because they fear losing low-income consumers, who could perceive a modern store as too expensive.

Coates, N., and Cottam, E. (2019) showed in their study how the Northumbria University's Digitally Enabled Business Clinic (DEBC) enables businesses to engage with university students and access free business consultancy, providing the latest knowledge from a range of disciplines and leading to positive business outcomes.

They stated that nearly half of SMEs find it challenging to innovate due to a lack of time, staff or knowledge. Additionally, many micro businesses and SMEs are occupied with day-to-day tasks and are unaware of available technologies or business practices that could increase their productivity. Though consultancy services are an efficient source of business advice, many SMEs lack the time or resources to access them. In addition, university business schools are an under-utilized resource due to a lack of effective marketing and engagement and they can appear complex and even impenetrable to SMEs that do not have the time, or the resources to navigate their way through. Additionally, SMEs face barriers to accessing free, high-quality, and neutral consultancy services due to public financing constraints.

SMEs get free consultancy to solve a real business problem of their choice, while students acquire practical experience that sets them apart in the job market, and the university benefits from a powerful tool for engaging with industry and generating impact. The DEBC not only offers a free and neutral service with professional indemnity insurance, but it also allows SMEs to benefit from diverse knowledge across multiple disciplines and gain fresh perspectives from students. By following the university's strategy and promoting

local business growth, the program also provides students with valuable real-world experience and enhances their education and job prospects.

This programme is reported to have been quite successful, based on surveys of clients that evaluate their satisfaction in different areas of intervention of the business clinic, that mainly focus on a combination of enabling SMEs to adopt existing technology and embrace modern business practice.

Policy recommendations

To address the problem of skills mismatch in the cultural and creative sector, we recommend implementing a policy that encourages cooperation between SMEs and universities. This collaboration focuses on promoting the transfer of knowledge, skills and knowledge between academia and industry, creating a more skilled workforce that better meets the needs of industry. The policy includes the following measures:

Establishment of partnership framework: A partnership framework should be established to facilitate cooperation between small and medium-sized enterprises (SMEs) and universities. This framework will facilitate cooperation in areas such as research and development, education and training, and knowledge sharing. By working with universities, small businesses can better understand the skills needed in their industry and identify areas where their employees need upskilling.

Universities can set up internships or design projects under certain courses, letting students have the opportunity to solve business problems in the real world, connecting the theory to practical experience. Students serve as a digitalization agent and are sent to the SMEs, helping them identify digitalization gaps and implement improvement plans. The projects help small businesses have access to the knowledge, skills and free labour force, and develop the skills through learn-by-doing when cooperating with the students. Meanwhile, the students gain practical experience.

Mentorship programs may be included in partnership frameworks. Mentors can be the senior managers in big, digitized firms who have practical experiences in the industry, and the professors in the university who specialize in the cultural and creative sector, serving as industry mentors and academic mentors respectively. Their role is to assist the students in understanding the cultural and creative industry, assessing their digitalization plan, and supervising them in adopting digital technologies in the SMEs. Seminars can also be held for both the students and SMEs by the mentors. The mentorship is aimed at improving the student's ability in utilising their skills, influencing the SMEs' impression about the digitalization approaches through successful real-world cases, and solving their problems when implementing the projects.

These programs help small businesses develop the skills they need to use digital technologies effectively. However, smaller businesses in this group may face greater challenges in moving to digital technology. In such cases, additional interventions such as "technical assistance packages" may be considered. Recent evidence shows that measures targeting small businesses can be successful. For example, a "technology support package" consisting of telephone and face-to-face support resulted in two-thirds of his rural micro enterprises adopting technology and continuing to use it (Burchell and Wallis, 2021).

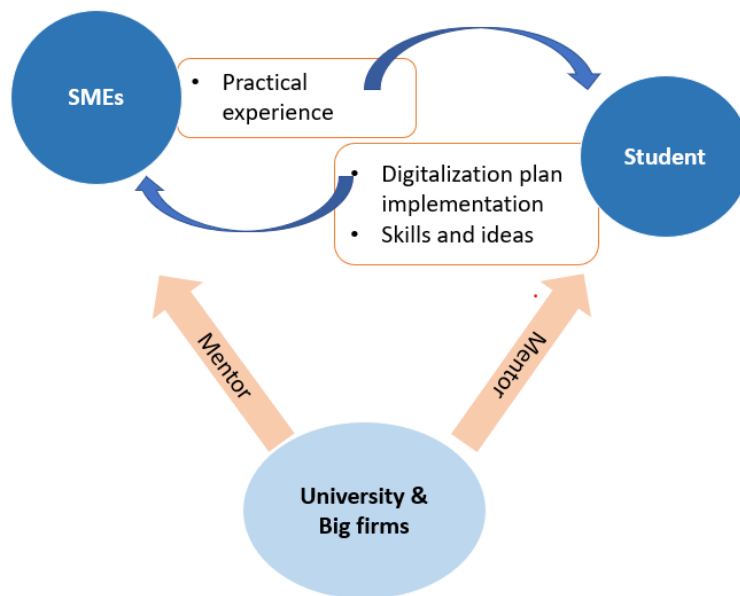


Figure 2. Student project framework

Training program development: Training program development is important to ensure that SMEs in the creative industries have access to relevant skills and knowledge. To achieve this, universities should conduct research and develop relevant training programs to identify the future of skills that industry will need in the digital age. By comparing the current skills landscape of the SMEs and the future of skill needs, universities could recommend targeted training areas for the program. In addition, programs should be tailored to the specific needs of the creative industry and involve small business stakeholders to ensure relevance. These programs can cover a wide variety of skills, including technical skills related to digital technologies, as well as soft skills such as communication, teamwork and creativity.

To further assist in the adoption of these training programs, universities may develop graphic manuals to help small businesses identify the skills they need in their employees and select appropriate training programs. This handbook integrates best practices and lessons learned from implementing training programs and is updated based on feedback from small businesses. Ultimately, the development of research-based training programs not only supports the growth and development of SMEs in the creative industries, but also contributes to the long-term sustainability of the industry as a whole.

Financial support provision: Financial support is essential to encourage SMEs to participate in the partnership framework. Digitalisation tax credits may be given to SMEs to help cover the costs associated with participation. The level of support may vary depending on the size and needs of the SME and should be evaluated based on the size, scope and expected results of the project. In addition, SMEs that invest in employee education and training may be offered tax incentives to further encourage their long-term growth which in turn, delivers benefits to the development of local SME ecosystems.

Financial support must not only cover the initial costs of setting up the partnership, but also provide ongoing support throughout the life of the project. To ensure that SMEs are motivated to actively participate in partnerships, financial support should be tied to the evaluation of project results, with additional financial support given for successful outcomes. This approach encourages small businesses to invest in partnerships and lead to success within a set time and budget.

Awareness raising: SMEs may not fully understand the long-term negative effects of not having the right skills, such as reduced productivity and competitiveness. Thus, an awareness-raising campaign can be implemented to educate SMEs on the importance of skills-job matching, the benefits of collaborating with universities, and the availability of support programs to assist SMEs in addressing skill mismatches.

Awareness campaigns may include workshops, seminars and training for small businesses in the creative industries. These sessions can focus on the benefits of matching skills to the job, identifying skill mismatches, and the support programs available to close skill gaps. Collaborating with universities can be highlighted as a valuable resource for small businesses to access the latest industry knowledge and expertise and create a talent pipeline for future jobs.

Monitoring and evaluation: The M&E framework is essential to ensure that the partnership framework is effective in improving workers' skills and industry competitiveness. By collecting and analyzing data, partnerships can identify areas that need improvement and make evidence-based decisions to improve partnership performance.

In the context of worker skills and industry competitiveness, an M&E framework can help measure the impact of the partnership in the following ways:

- a) **Assessing the relevance of partnership objectives:** The M&E framework can help determine whether the partnership objectives are relevant to the needs of workers and the industry. This can be achieved by conducting surveys, focus group discussions, and interviews to gather feedback from stakeholders.
- b) **Tracking progress towards partnership goals:** The M&E Framework helps track progress toward partnership goals by defining metrics and setting goals. For example, if one of the goals of the partnership is to increase the number of workers with a particular skill, the M&E framework will measure the number of trained workers, the number of job openings requiring the skillset, and the number of workers hired.
- c) **Identification of barriers and challenges:** The M&E Framework helps identify barriers and challenges that prevent the partnership from achieving its goals. This can be achieved by conducting regular evaluations of partnerships and using data to identify areas for improvement.
- d) **Improving partnership performance:** The M&E framework helps improve partnership performance by using the data collected to make evidence-based decisions. For example, if data indicates that a

particular training program is not effective in improving workers' skills, the partnership can modify the program or develop a new, more effective program.

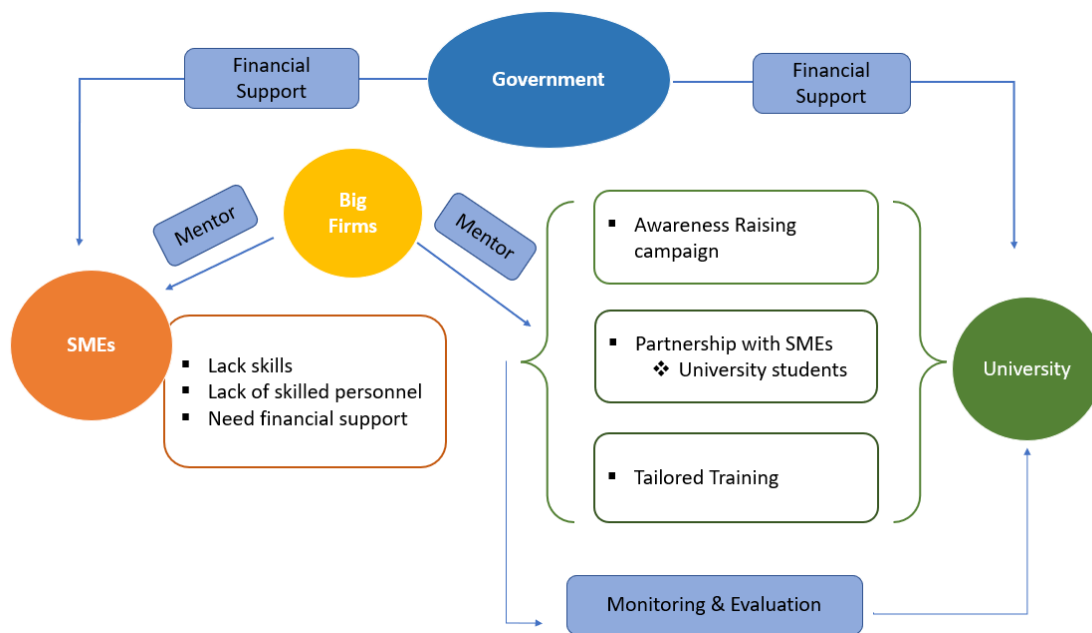


Figure 3: Policy Recommendation Framework

Conclusions

This paper has provided an outline policy solution that targets the digitalisation skills gap, seeking to improve the adoption of digitalising technology by addressing the skills gap both within SMEs and at the labour market level. It has recommended developing a partnership framework between SMEs and universities as well as training programs, financial support through tax credits, and an awareness campaign.

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Appendix

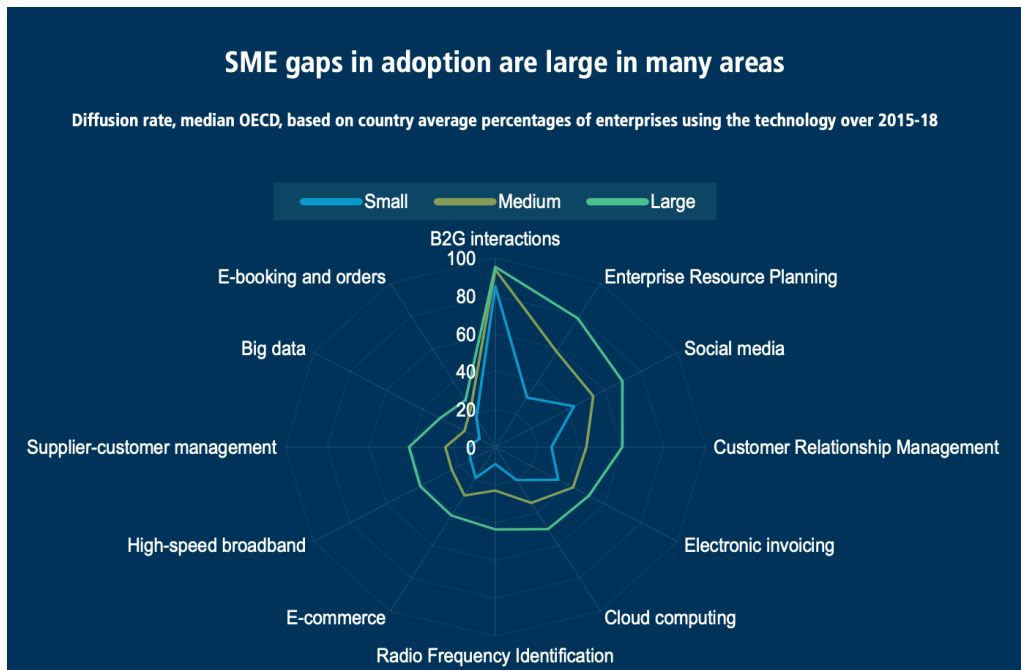


Figure 4: SME gaps in technology adoption, excluding enterprises with 10 or less employees
Source: OECD, 2021

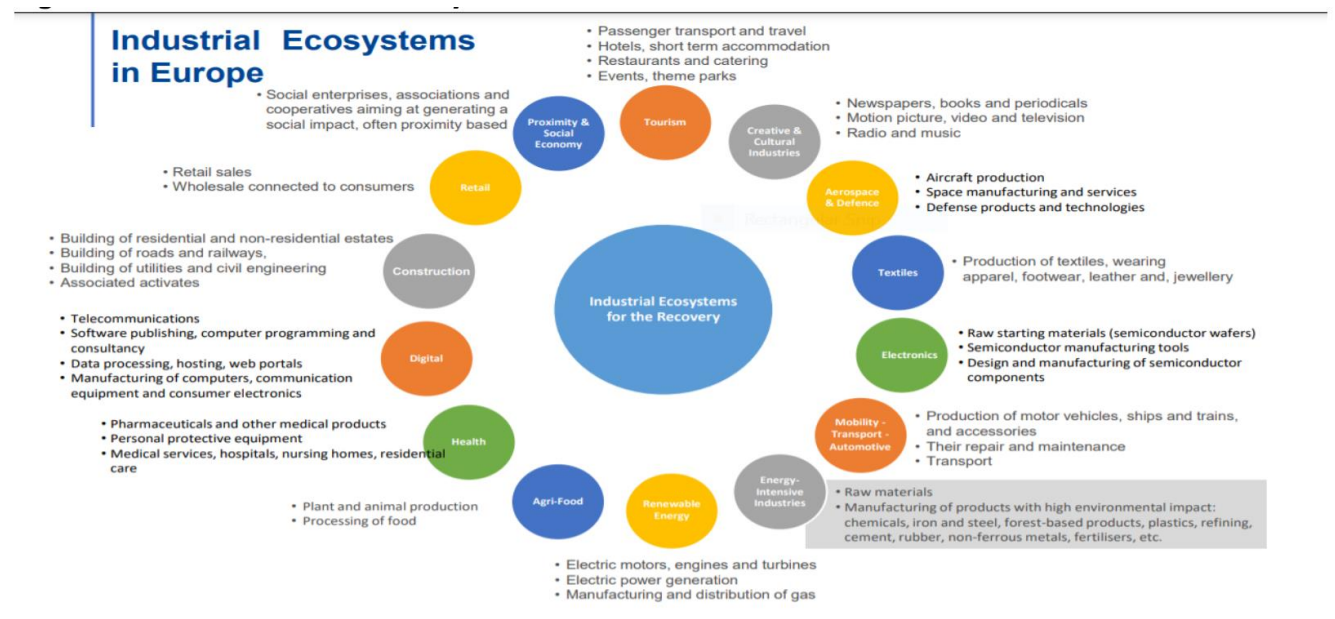


Figure 5: The 14 industrial ecosystems and their industries

Source: The European Commission (2022)