

Accelerating advanced technology adoption through cluster organisations and developing next generation of cluster-based industrial policies

Policy Brief on Industrial and technology clusters and cluster-based policies in times of Covid-19

Why do clusters matter for advanced technology generation and adoption?

Advanced technology development is spatially concentrated and highly nurtured by technology clusters.

Clusters gather specialised technological skillsets and create a powerful magnet.

Related industries matter for technology diffusion and support knowledge spillovers to other sectors.

Clusters represent a critical mass to compete for technological leadership.

As a response to the pandemic, governments across Europe have bolstered their actions in supporting technology development and digital transformation, while also relying on the strengths and opportunities of existing cluster initiatives.

European policy context

European cluster initiatives (e.g. European Cluster Collaboration Platform)

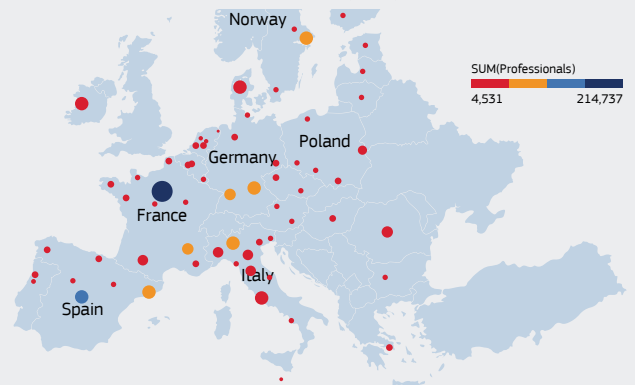
European Partnerships, Industrial Forum

Important projects of common European interest

National cluster policies

Modern national cluster policies include specific policy instruments, in particular the use of cluster initiatives. Examples are the supply chain reconfigurations in Finland and policies related to the technology/digital uptake in the Netherlands.

Concentration of professionals with advanced technology skills as published on LinkedIn (2021)



Source: Technopolis Group, based on LinkedIn data

The COVID-19 pandemic has impacted all three forces of cluster agglomeration including knowledge spillovers, labour market pooling and customer-supplier interactions

The Covid-19 pandemic has had a long-term impact on economic trajectories and on human and social capital across the globe. In particular, it has accelerated digital transformation and certain aspects of technology diffusion.



Reorganisation of cluster supply chain networks



Renewal of science-industry collaboration

Challenges of clusters faced as a consequence of the pandemic are:



Finding new ways to access talent



Reshaping global value chains

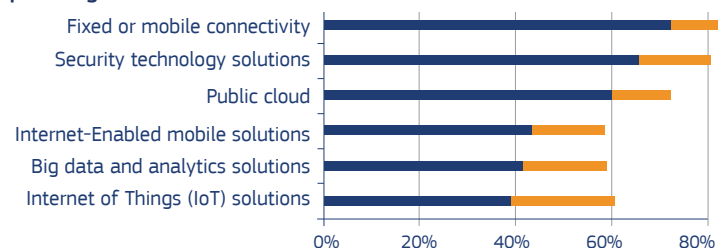


Reinforcing tech clusters and their links to other clusters

The diffusion of new technologies into the broader economy and across industries takes time and requires organisational reconfigurations. Therefore, it is even more important to stimulate actions on technology development and digital transformation by cluster initiatives.

Several advanced technologies have become more important for businesses such as connectivity, security, cloud and artificial intelligence. The bar chart shows that growing interest in advanced technologies was even there before the full effects of Covid-19 could be felt.

Which of the following technologies is your organisation using or planning to use?



Source: ATI, Advanced Technologies for Industry Survey, November 2020

For more information, read the full Policy Brief on Industrial and technology clusters and cluster-based policies in times of Covid-19 here:

<https://ati.ec.europa.eu/reports/policy-briefs/industrial-and-technology-clusters-and-cluster-based-policies-times-covid-19>

Cluster-based economic development policies need to play a stronger role in the recovery phase

While cluster organisations will play a critical role to improve the business environment, the final goal of industrial policy should be to nurture real clusters as the economic phenomenon of concentrations of related economic activities. Renewed industrial policies at European level and across Member States and regions should aim at improving the key framework conditions to create critical mass and improve the innovation milieu in order to be able to compete globally.

Recommendations for future cluster-based industrial policies are:



Polymakers will need to monitor the key performance indicators of cluster transformation including changes in employment, skills and knowledge concentration but also trade and reconfigurations of industrial value chains.



Reskilling and upskilling will need to be tightly embedded into cluster policy agendas granting a role to clusters in the Pact for Skills.



Cluster-based policies need to reconsider the cluster portfolio and help stakeholders find the new 'adjacent possible', more specifically to identify new uses for existing expertise embodied in the current industries.



Cluster policies will need to embed new business support packages.



Cluster policymakers need to rethink the purpose of their cluster portfolio and need to strengthen related activities that address a specific societal challenge.



Industrial clusters need to renew themselves through impetus for new types of entrepreneurship. Entrepreneurship policies need to be more aligned to the needs of clusters.



Cluster organisations need to help cluster members on their technological/digital transformation path by developing new, high quality business support services.

Covid-19 accelerated the digital transformation and certain aspects of technology diffusion. In such uncertain times, firms in strong clusters have better prospects and clusters are perceived as a force of resilience in times of economic crisis.

About the Advanced Technologies for Industry (ATI) project

The ATI project – funded by the European Commission – supports the **implementation** of Europe's new growth strategy with a systematic monitoring of **technological trends** and reliable, **up-to-date data** on advanced technologies.



The **Policy Briefs** analyse national and regional policy measures focused on a specific policy challenge, technological area or mode of implementation and explore policy tools that have been designed and implemented with the aim of fostering the generation and uptake of advanced technologies. The reports provide a comparative analysis of some of the most relevant national and regional examples on the policy landscape in the EU. They highlight the lessons learnt based on existing policy evaluations, monitoring or any other learning process and will present both good practices and potentially the bad ones. In the case of novel policy initiatives, they focus on the key challenges in the design process.

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