

Industry 4.0 technologies promise to make radical efficiency improvements to the electronics manufacturing industry

Product Watch: Advanced Manufacturing and Robotics for ICT Manufacturing

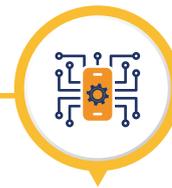
Continuous technological progress, the efficiency race and development of advanced technological infrastructure is going to accelerate the adoption of the next generation of advanced manufacturing technologies. These are primarily technologies that are referred to as Industry 4.0 or smart manufacturing and are characterised by cyber-physical systems and smart machines that are interconnected and use data to communicate.

The main technologies enabling advanced manufacturing and robotics for Information and Communications Technology (ICT) manufacturing:



Artificial Intelligence (AI)

The benefits of AI for the manufacturing systems emanate from the capabilities enabling by the AI, such as cognition, including computer vision, natural language processing, speech recognition, planning and scheduling and the ability of machines to improve their performance by analysing data.



Automation technologies

The major driving force behind the present wave of automation within the ICT manufacturing is the need to increase productivity and flexibility of production processes, improve product quality and reduce the operational and production costs.

ICT manufacturing in the context of Industry 4.0 consists of different continuously interconnected dimensions, the flows and the conversion of the digital and physical world

The interconnectivity can be established between every component, process, actor and technology in real time. Consequently, an entire ICT manufacturing system can interact with each other and is interconnected with Industry 4.0 enabling technologies.

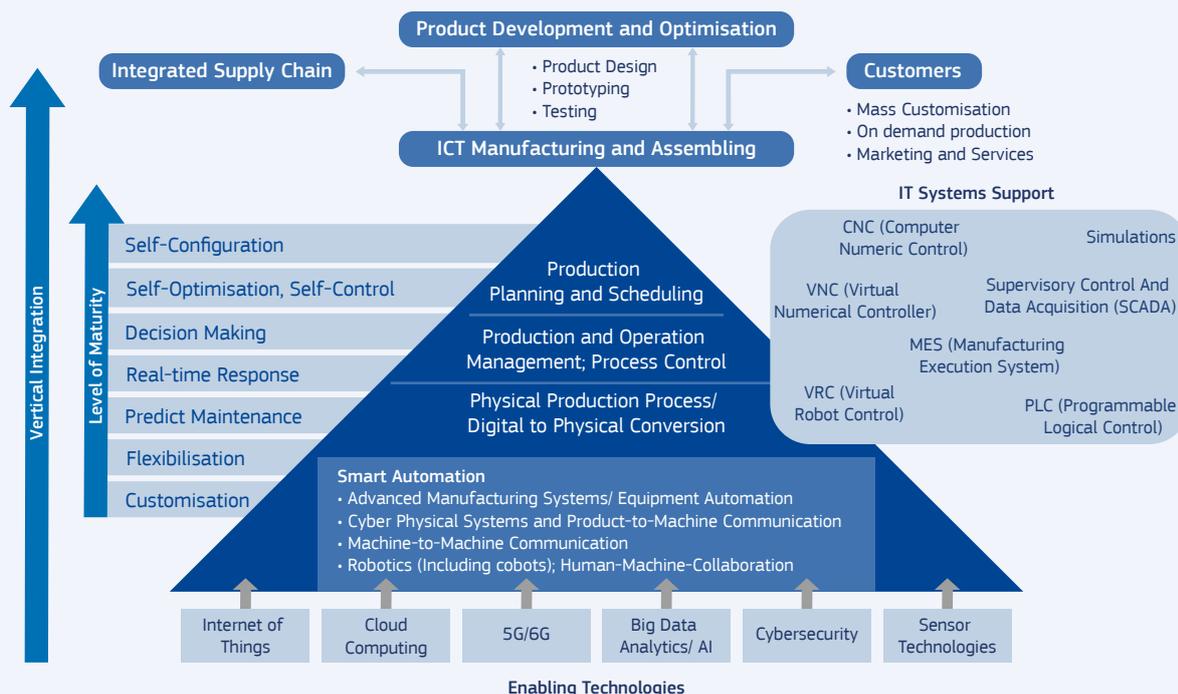
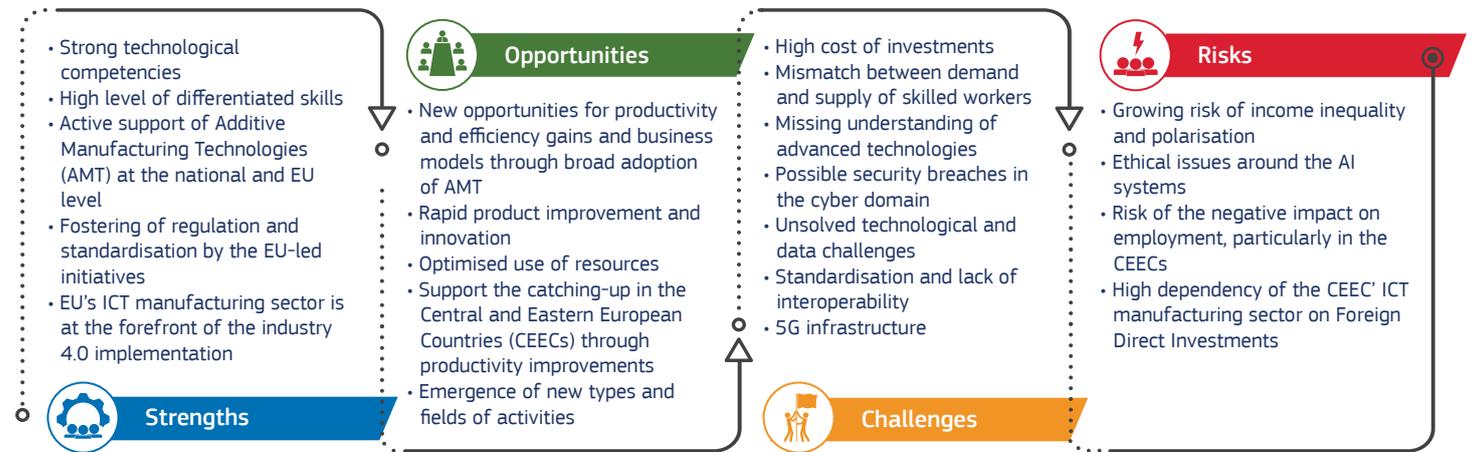


Figure: Value Chain of Industry 4.0 in ICT Manufacturing

For more information, read the full Product Watch report on Advanced Manufacturing and Robotics for ICT Manufacturing here: <https://ati.ec.europa.eu/reports/product-watch/advanced-manufacturing-and-robotics-ict-manufacturing>

EU competitive positioning for Industry 4.0 in ICT Manufacturing

Overall, it's difficult to characterise the EU in the context of advanced manufacturing technologies on a general basis. There are significant disparities across firms and individual territories in the EU. Whilst some countries (e.g. Germany, Scandinavia, Austria) have a rich heritage in advanced manufacturing drawing on established ecosystems and pro-active public policy supporting the update and upgrade of manufacturing technologies, others do not.



Industry 4.0 has the potential to transform the ICT manufacturing market and make companies more innovative, responsive and cost-efficient



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 **Product Watch** analyses novel products that are based on advanced technologies for the development of goods and services – enhancing their overall commercial and social value. It supports cluster organisations and S3 partnerships, providing intelligence on innovation areas where European regions could team up and invest together.

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