

The advantages of applying 3D printing in the machine tool industry

Product Watch: 3D printing for the machine tool industry

Three-dimensional (3D) printing technologies represent innovative manufacturing solutions with a great potential to revolutionise manufacturing and production processes through increased design freedom. Materials for 3D printing include metals, polymers, as well as biomaterials. The growth of the machine tools industry is driven by the use of digital technologies, such as computer-aided manufacturing as well as the demand for mass production across several industries.

Future trajectories for 3D printing in the years to come include:

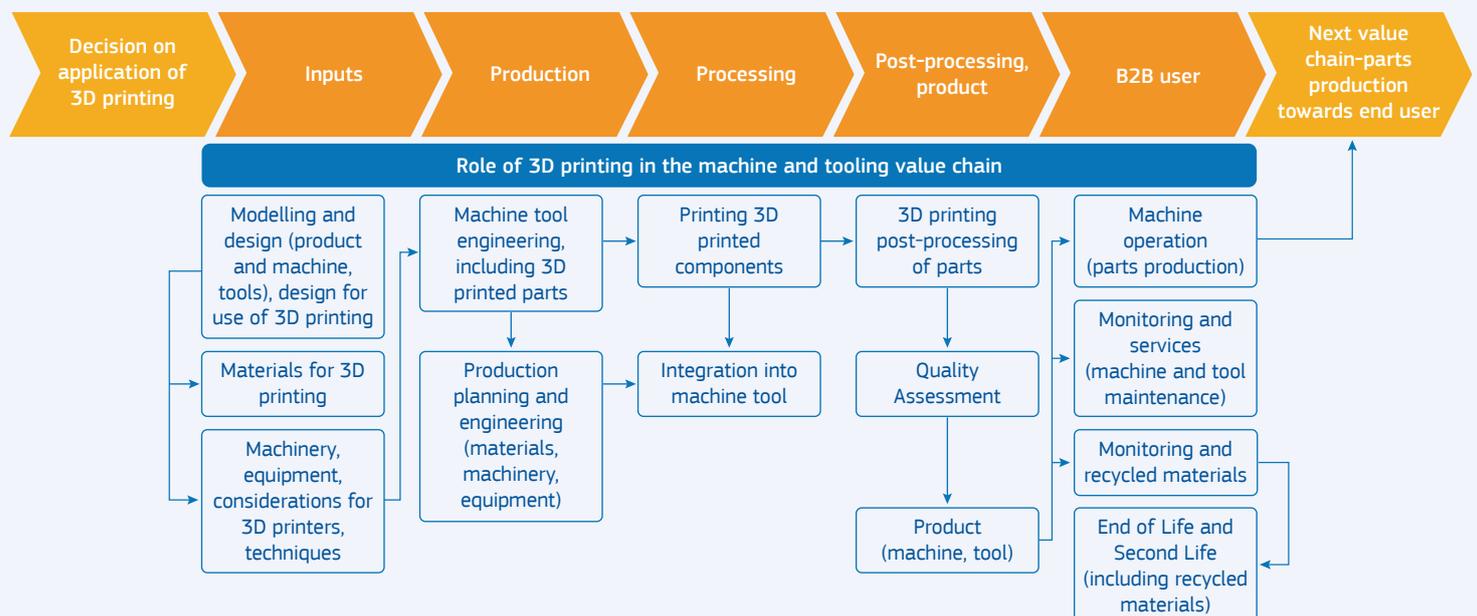


The application of 3D printing in the machine tooling industry is underexplored, whilst several industries have embraced 3D printing for tooling due to many advantages.

3D printing is a dynamic and disruptive technology that plays a key role in the future of the machine and tooling industry

The value chain structure of 3D printing can be outlined into key segments. The segments in orange depict the main elements of the machine tool value chain to produce parts in a business-to-business (B2B) setting. The parts in blue refer to the use and role of 3D printing in this specific industry.

Figure: The machine tool value chain (orange boxes) with the role of 3D printing (blue boxes)



For more information, read the full Product Watch report on 3D printing for the machine tool industry here:

<https://ati.ec.europa.eu/reports/product-watch/3d-printing-machine-tool-industry>

EU competitive positioning for 3D printing in the machine tool industry



3D printing holds a great potential outlook for the European machine tooling industry

Conclusion

Strong supporting legislation increases the uptake of innovative solutions, fostering 3D printing uptake and growth to fully benefit the sustainability potential and digital transition.

Outlook

Europe is home to some of the most renowned machine and tool industry stakeholders, as well as being a stronghold for 3D printing expertise. Bringing these two together holds a great potential outlook for the European industry.

Impact of COVID-19

The COVID-19 pandemic has put 3D printing in the spotlight, highlighting opportunities such as localised production and on-demand manufacturing, which would bring Europe among the market leaders in this sector.

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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