

Additive Manufacturing: Current and Future Opportunities

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Additive manufacturing (AM), commonly referred to as 3-D printing, has changed the manufacturing paradigm. Traditional manufacturing has focused on material removal and optimization of manufacturing lines for efficiency, but AM has broken open the design space and enabled more on-demand manufacturing. As AM has significantly advanced beyond prototyping towards manufacturing, integration with subtractive manufacturing and digital manufacturing technology present unique opportunities for the future in Manufacturing 4.0. This talk will discuss the current and future state of the art in:

- Material and process developments and the impact for industrial applications
- AM as a cyberphysical system - and unique cybersecurity challenge for digital manufacturing
- Digital thread intersections, including digital twin and data management
- Coupling functional and structural materials for a new design space