Name	Professor Dr.-Ing. Julian Polte LinkedIn Homepage Chair
Title / Function	*Managing Director:* Institute for Machine Tools and Factory Management IWF *Head of Chair:* Machine Tools and Technologies for Additive Manufacturing of Precise Metallic Components (MTAP) Institute for Machine Tools and Factory Management IWF *Deputy Director:* Fraunhofer Institute for Production Systems and Design Technology IPK *Head of Business Unit Production Systems:* Fraunhofer Institute for Production Systems and Design Technology IPK *Acting Head of Business Unit Ultra- and High-Precision Technology:* Fraunhofer Institute for Production Systems and Design Technology IPK
Affiliation	Technical University Berlin (TUB) Institute for Machine Tools and Factory Management IWF Chair Machine Tools and Technologies for Additive Manufacturing of Precise Metallic Components (MTAP) Fraunhofer Institute for Production Systems and Design Technology IPK
Country	Germany

Short biography

Prof. Dr.-Ing. Julian Polte studied Mechanical Engineering at Brandenburg University of Applied Sciences, where he received his Dipl.-Ing. (FH) degree in 2010. He subsequently completed his Master of Science in Production Technology at the Technical University Berlin in 2012 and received awards from the Association of German Engineers (VDI) for his academic achievements at both institutions. Following these achievements, he pursued his doctoral studies at Technical University Berlin, earning his Dr.-Ing. degree in 2017 with a specialization in ultra-precision cutting.

Since 2012, he has held various leadership positions, consistently expanding his scope of managerial responsibility. Currently, he serves as Managing Director of the Institute for Machine Tools and Factory Management IWF at Technical University Berlin and Head of Chair

as Professor while concurrently holding the position of Deputy Director of Fraunhofer IPK. In this dual capacity, he has spearheaded and continues to lead two business units with multiple departments of the Fraunhofer IPK at the same time. Professor Polte`s experience includes the leadership of over 100 bilateral projects successfully conducted in collaboration with industry partners. Furthermore, he contributes to industrial development as Co-Chair of the Additive Manufacturing Working Group at the Association of German Tool and Moldmakers (VDWF e.V.) and as the elected Vice Chairman of the Advisory Board for the Automotive Transformation Network Berlin-Brandenburg (ReTraNetz-BB). His professional profile is further complemented by his roles as Project Manager of the Fraunhofer Lighthouse Project EMOTION and as a member of the Board of Directors of the High-Performance Center for Digital Networking (LZDV).

He is actively involved in academic teaching and supervision, particularly in the fields of additive manufacturing and precision engineering. His extensive contributions to the scientific community include editorial, reviewing, and committee activities. These responsibilities involve evaluating research proposals and scientific journals, notably for the German Research Foundation (DFG) and the International Academy for Production Engineering (CIRP), as well as international conferences in the field of manufacturing and materials engineering. Between 2018 and 2020, he held the status of Research Affiliate at CIRP, completing the maximum duration possible for this affiliation. Since 2024, he is a member of the editorial board of Progress in Additive Manufacturing. His academic profile is further distinguished by contributions to international standardization and scientific bodies, encompassing active roles within ASTM and DIN, alongside his involvement in the young researchers' initiative of the German Academic Society for Production Engineering (WGP).

Prof. Polte's expertise encompasses the entire spectrum of production technology, ranging from ultra-precision and high-precision cutting to non-conventional processes such as EDM and additive manufacturing. A central pillar of his research involves manufacturing technologies, process development, and machine tool development for advanced production systems. By integrating Artificial Intelligence and human-AI-machine teaming, he continues to orchestrate complex industrial ecosystems at the intersection of teaching, research, and large-scale industrial application. His scientific impact is substantiated by a prolific record of over 250 publications, including peer-reviewed journal articles and conference papers, as well as patents and keynote presentations at leading international conferences and forums.

Committed to fostering an inclusive academic environment, he actively establishes and supports initiatives aimed at increasing the representation of women in Engineering. Since 2024, he has been involved in dedicated teaching and workshop formats for women in additive manufacturing at the Technical University of Berlin, alongside mentoring and advocacy in cooperation with national and international programs such as Fraunhofer TALENTA and IGSTC. His activities also include the organization of workshops in cooperation with the Girls Gearing Up International Leadership Academy and hosting events as part of Girls' Day initiatives, contributing to the promotion of young female talents in engineering.