

CORNET Call for Proposals: International Collective Research

--- Organisation profile Fraunhofer IWU ---

Organisation:	Fraunhofer-Institute for Machine Tools and Forming Technology (IWU)
Website address:	https://www.iwu.fraunhofer.de/
Organisation typology:	Research Centre
Sector:	<ul style="list-style-type: none"> x Materials x Construction and Production x Measurement and Information
Field of specialisation:	Production technologies, Construction, Automation & Monitoring, Industry 4.0
Expertise offered:	<p><u>Automation & Monitoring / Industry 4.0:</u></p> <ul style="list-style-type: none"> - development of industrial automation solutions and kernel functions for industrial control systems (Motion Control, CNC, PLC, Robot control) - application of machine learning methods in industrial applications and development of software for highly parallelised data processing and sensor-data fusion & big-data analysis - <u>inline inspection</u> systems for different part types (sheet metal parts, coating, thin films, plastics, wood, ..) with <u>multi-sensor or image processing</u> systems - condition monitoring and <u>monitoring of production systems</u> <p><u>Production technologies:</u></p> <ul style="list-style-type: none"> - forming and press applications: tool & process design, hot and cold forming, <u>incremental forming</u>, high speed forming, material characterisation, simulation, ... - <u>3D-printing, additive manufacturing</u> - <u>cutting technologies</u>: grinding, honing, milling, cryonic machining, numerical simulation, optimisation of CNC machining operation, CAM-systems, ... - assembly systems and joining technologies, metal foams <p><u>Machine tools:</u></p> <ul style="list-style-type: none"> - property characterisation and optimisation (<u>thermal behaviour</u>, <u>dynamic & static properties</u>, energy consumption) - development of parallel and serial machine tool kinematics, design and optimisation of hydraulic and servo-electric <u>forming machines</u>, robot applications and design of adaptronic systems
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