

# Institute for Machine Tools and Production Processes (IWP)

## Chair of Forming and Joining, Chair of Production Systems and Processes (PSP)

### About this organisation

#### Machine translation

This organisation has been machine-translated based on data provided in German.

The TUC stands for high-profile, cutting-edge research. Under the guiding principle "Knowledge.creates.work", the pressing social issues of the future are already being addressed today in the key areas of energy-efficient production processes, the human factor in technology and intelligent systems and materials, and promising solutions are being found through the results of basic and application-oriented research.

The IWP Institute is an internationally recognised centre for research and development in the field of production technology. In addition to basic research, the industry-orientated focus of research and the development of industry-compatible, energy- and resource-efficient production processes is a key component. Materials relevant to lightweight construction (steel, aluminium, magnesium, FRP) and profile-intensive structures play a special role here. We are also involved in the further development of virtual and augmented reality as well as the digital twin for industrial use. The IWP has many years of experience in technology and process development as well as visualisation and is an innovative partner to industry for solving current problems. The employees have the relevant expertise and can draw on the implementation and organisation of research projects of various sizes and sponsors.

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Saxony  
Germany

[www.tu-chemnitz.de/mb/iwp/](http://www.tu-chemnitz.de/mb/iwp/)



#### Organisation type

University or higher education institution

#### Sectors



#### Employees

50 up to 249

#### Turnover

n/a

#### Funding

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### About this organisation

<b>Main areas covered</b>	Tools, WZ machines, production
<b>Infrastructure</b>	Test field - Forming, Virtual Reality Centre Production, Laboratory - Materials testing, Laboratory - Optical metrology, Climate cell
<b>Certifications</b>	DIN EN ISO 9001
<b>Keywords</b>	Roll forming, Incremental forming, Energy and resource efficiency, Digital twin, Virtual and augmented reality
<b>Memberships</b>	AVARE network, Network META, Network big, Network Scale, Innovation Network Mechanical Engineering Sac

### Overview of lightweighting expertise

#### Machine translation

This organisation has been machine-translated based on data provided in German.

Manufacturing  
Research   Development   & Supply

#### Offer

##### Products

Parts and components, Machines and plants,  
Tools and moulds



##### Services & consulting

Consulting, Testing and trials, Prototyping,  
Validation, Simulation, Technology transfer



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Manufacturing  
Research   Development   & Supply

#### Field of technology

##### Design & layout

Lightweight manufacturing, Lightweight design, Hybrid structures, Lightweight construction concepts, Lightweight material construction



##### Functional integration

Material functionalisation



##### Measuring and testing technology

Component and part analysis, Visual analysis (e.g. microscopy, metallography), Materials analysis, Destructive analysis, Non-destructive analysis



##### Modelling and simulation

Processes, Materials



*Plant construction & automation*

*Recycling technologies*

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Manufacturing  
Research   Development   & Supply

#### Manufacturing process

Additive manufacturing

Coating (surface engineering)

Fibre composite technology

#### Forming

Bending, Compression moulding, Stretch forming, Thermal converting, Deep-drawing, Rolling



#### Joining

Welding



Material property alteration

Primary forming

Processing and separating

Textile technology

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## Overview of lightweighting expertise

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Manufacturing  
Research   Development   & Supply

#### Material

*Biogenic materials*

*Cellular materials (foam materials)*

*Composites*

*Fibres*

#### Functional materials

*Piezoelectric materials*

✓      ✓

#### Metals

*Aluminium, Magnesium, Steel*

✓      ✓

#### Plastics

*Thermoplastics*

✓      ✓

*Structural ceramics*

*(Technical) textiles*

## Contacts

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**Contacts**

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