Freistaat Thüringen

Mechanical Engineering.

Digital production from Thuringia.

Mechanical engineering is the fastest-growing industry in Thuringia despite ever intensifying competition. This clearly shows that the state offers excellent conditions for generating innovations and launching internationally successful products. Implementing automation strategies enables local companies to assert their leading position in the global market place.

Mechanical engineering in Thuringia at a glance[1]:

- 440 companies[2]
- Around 18,000 employees
- Sales of over € 3.1 billion
- Export share of 42.8 %
- 50,000 students, including 19,000 on engineering courses
- Attractive customers, suppliers and co-operation partners of the metalworking industry are located nearby.

Source: [1] Thuringia State Statistical Office, [2] own computations based on LEG-UTD

Seize the opportunities that our region offers.

Benefit from a first class business location in the heart of Europe, from highly skilled workers and a world-class research infrastructure.

We provide full-service support for any investment project – from site search to project implementation and future expansions. Please contact us.

@ www.invest-in-thuringia.de/en/industries-technologies/industryprofilemechanicalengineering/

Main production areas

Core competences:	Special machine engineering focused on:	Specialist areas:
› Laser Technology	› Automation Technology	› Fine- and Micromechanics
› Rapid Tooling	› Modern Tool and Mold Making	› Precision Parts
› Robotics	› Software and Hardware	› Mechatronics
› Additive Manufacturing		› Automation/Machine Learning
› Machining		› Assisted Robotics
› Metal Processing		› Service Robotics
› Materials Technology and Textile Processing		› MSR and Sensor Technology

Innovation through cooperation.

The Thuringia Center for Mechanical Engineering (ThZM) acts as an innovation partner for modern mechanical engineering technologies. It supports industrial companies in all stages of their process and production chain and finds expert cooperation partners for solving their research and development projects.

Research organizations participating in the ThZM:

- GFE Society for Production Engineering and Development Schmalkalden
  www.gfe-net.de
- Günter Köhler Institute of Joining Technology and Materials Testing, Jena
  www.ifw-jena.de
- Ilmenau University of Technology
  www.tu-ilmenau.de
- Ernst Abbe University of Applied Sciences, Jena
  www.eah-jena.de
- Schmalkalden University of Applied Sciences
  www.hs-schmalkalden.de/en

These bodies support businesses in all phases of product development – from the initial idea to market readiness.
www.maschinenbau-thueringen.de

Areas of expertise of the ThZM

THÜRINGER ZENTRUM FÜR MASCHINENBAU

Versatile production methods and manufacturing chains

Interactive assistance systems for production

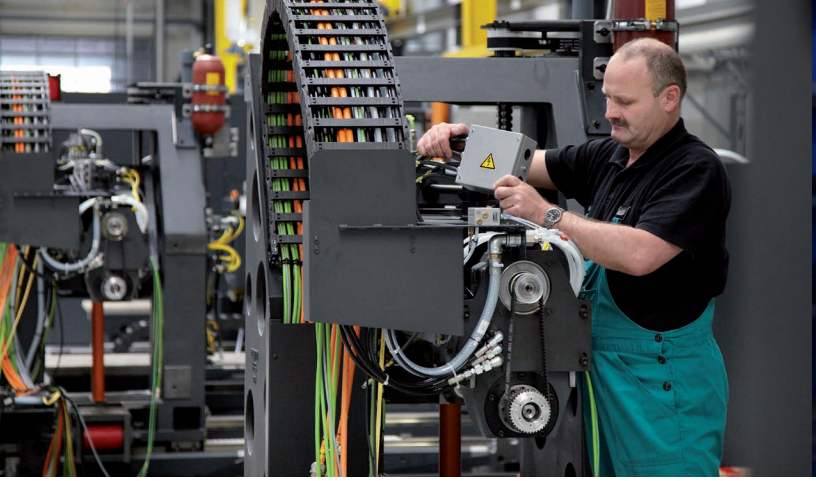
Adaptive process and versatile quality control

FerMeTh – the Cluster for Production Engineering and Metalworking in Thuringia
The FerMeTh serves as a cooperation platform for firms operating in the Thuringia metalworking industry. It helps them sustain their competitiveness and so secure their long-term market opportunities.

Mittelstand 4.0 Competence Center Ilmenau
The concept of „Mittelstand 4.0“ stands for „Industrial IoT for medium-sized businesses“. The competence center in Ilmenau showcases real-life demonstration and implementation projects, thus offering a hands-on approach to digitalization. It supports local companies to set up automated solutions in response to the practical challenges they are facing. Five model factories located in Ilmenau, Jena, Schmalkalden and Sondershausen show examples of digital production solutions and invite other entrepreneurs to try them out.

“Made in Germany stands for the German culture of quality and excellence. Our production in Thuringia embodies this culture. In Thuringia, we have integrated our award-winning EXPRESSIT e-commerce Platform into a state-of-the-art manufacturing environment.”

Stephen Eddowes, CEO of
Delta Shelving Systems GmbH



Specialized and highly motivated workforce.

Thuringia offers mechanical engineering firms a pool of qualified personnel of outstanding quality – from excellently skilled workers in all the necessary technical professions to highly qualified graduate engineers and software developers.

University education

Thuringia's technically oriented universities are continuing with the state's long engineering traditions. In the 2018/2019 winter semester alone, not less than 1,200 students were enrolled on mechanical engineering courses. Ilmenau University of Technology and Schmalkalden University of Applied Sciences have repeatedly achieved leading positions in the university rankings of the German weekly newspaper "DIE ZEIT" and the Centre for University Development (CHE).

Study programs:
Bachelor and Master courses in Mechanical Engineering, Mechatronics, Automation Technology, Production Technology as well as Neuroinformatics and Cognitive Robotics are offered by the following universities:

- Ilmenau University of Technology
- Schmalkalden University of Applied Sciences
- Ernst Abbe University of Applied Sciences Jena
- Bauhaus-Universität Weimar
- Erfurt University of Applied Sciences
- University of Cooperative Education Gera-Eisenach
- University of Applied Sciences Nordhausen

Mehnert Lab Erfurt
The idea of the Mehnert Lab is to gain practical experience in handling the machines. That's why, in addition to new media, the Mehnert Lab primarily uses their customers' original machines. During training, the participants learn how to deal with challenges they will face on the job – but under expert guidance and without the time pressure of an ongoing production process. This is how we combine theory and practice under real-world conditions to create a lasting experience.

www.mehnert.de

"There is a tradition of mechanical engineering in Thuringia, which manifests itself in the form of innovative products. It is the supply of good and skilled labor that was a decisive factor for us."

Horst Keller, CEO of Horsch Maschinen GmbH

Basic and further training

To ensure that the mechanical engineering sector continues to have a sufficient pool of skilled labor in the future, Thuringia places a strong focus on qualification. Young people can train for skills, for example, in the fields of metal cutting, mechanical and plant engineering and tool and mold making.

Selected training vocations:

- Cutting machine operator
- Industrial mechanic
- Metalworker

Thuringia also specifically promotes and supports training cooperations in the metalworking sector. For example, businesses and vocational training institutes have formed alliances at regional and local level to be able to train more young people and retrainees. The Chambers of Industry and Commerce (CIC's) and Chambers of Craft Trades also offer further training programs.

WIS – the further training information system of the CIC:
www.wis.ihk.de

Further training activities offered by the Erfurt Chamber of Craft Trades:
www.hwk-erfurt.de

Success made in Thuringia

Thuringia offers outstanding innovation and growth opportunities for firms working in special machine construction and robotics. This is clearly demonstrated by the following companies that have successfully implemented automation concepts.

3D-Schilling GmbH
For more than 20 years, 3D-Schilling from Sondershausen has been offering rapid prototyping and rapid manufacturing using various technologies like stereo lithography, laser sintering, vacuum casting as well as prototypes from original materials, tool making and engineering services.

Bystronic Maschinenbau GmbH
Bystronic is a Swiss company with worldwide operations, supplying application-compliant systems and services for laser and water jet cutting processes and bending technology. Every consumer comes into indirect contact with the bending machines produced by about 200 employees at the production and development center in Gotha. It is here that, among many other things, aircraft components, automobile parts and even washing machine panels are formed.

HORSCH Maschinen GmbH
In Ronneburg near Gera, HORSCH operates one of the most modern production facilities for agricultural machinery in Europe. Located directly adjacent to the A4 motorway, the plant displays great potential for further growth and and additional production expansion.

MetraLabs GmbH
MetraLabs are specialists in mobile service robotics with long-term experience. In 2007, the company launched the first interactive shopping robot in the world. Since then, MetraLabs has developed over 250 robots for various applications worldwide. Collectively, their robots have accumulated more than 70,000 km of driving experience.

Schuler Pressen GmbH, branch "Umformtechnik Erfurt"
Umformtechnik Erfurt is a subsidiary of the Schuler Group in Europe devoted exclusively to production and service. It manufactures systems for the automotive, supplier, electrical and domestic appliance industries. Its products range from welding components of up to 230 tonnes in weight to mechanical machining and installations involving a variety of mechanically driven presses as well as complex plants and machinery.

Selected companies

avateramedical Mechatronics GmbH, *Ilmenau*

Batix Software GmbH, *Saalfeld*

Deckel Maho Seebach GmbH, *Seebach*

Diebold Nixdorf Technology GmbH, I *lmenau*

Drehtechnik Jakusch GmbH, *Saalfeld*

FCT Ingenieurkeramik GmbH, *Frankenblick*

Gardner Denver Thomas GmbH, *Ilmenau*

GKN Sinter Metals GmbH, *Bad Langensalza*

Glatt Ingenieurtechnik GmbH, *Weimar*

Häcker Automation GmbH, *Waltershausen*

Jenoptik AG, Geschäftsbereich Laser- und Materialbearbeitung, *Jena*

Kaeser Kompressoren AG, *Gera*

Kern Technik GmbH & Co. KG, *Schleusingen*

Lehmuth GmbH, *Meiningen*

LPKF SolarQuipment GmbH, *Suhl*

N3 Engine Overhaul Services GmbH & Co. KG, *Arnstadt*

RSP GmbH, *Saalfeld*

ruhlamat GmbH, *Marksuhl*

Samag Saalfelder Werkzeugmaschinen GmbH, *Saalfeld*

Schubert & Salzer Feinguß Lobenstein GmbH, *Bad Lobenstein*

Sumitomo (SHI) Demag Plastics Machinery GmbH, *Wiehe*

SOMAG AG, *Jena*

VACOM Vakuum Komponenten & Messtechnik GmbH, *Großlöbichau*

ZF Friedrichshafen AG, *Gotha*

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Our consulting services are free. Simply set an appointment with our experienced investor service team.

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