YOUR ROOM FOR IDEAS
www.makerlabs.ovgu.de
WHERE DO I FIND THE RIGHT LAB?
Campus Universitätsplatz

(A) Additiv+
Metal 3D Printing
G12, Room 005

(B) AWI-Lab
Work Sciences Laboratory
G10, Room 043

(C) FabLab
Rapid Prototyping
G12, Room 005

(D) FinTech
Financial Services
G22A, Room 004

(E) FLEXtronic
Flexible Printed Boards
ExFa, STIMULATE | Room 1.14

(F) InnoLab IGT
Medical Technology
University Hospital | Block 65, Zenit 1

(G) IP-LogMo
Logistics & Mobility
Machinery Room 11.2

(H) Performance Lab
Diagnostic & Training Equipment
Sports Hall 2, Test Room 2

(I) Transfer and Entrepreneur Centre (TUGZ)
Services for Innovation Projects
G18, 5. OG

BACKGROUND

The MakerLabs at Otto von Guericke University Magdeburg are eco.-INCUBATORS funded by the state of Saxony-Anhalt.
In the prototype and startup workshops, students and research assistants from any university, non-university research institutions and universities of applied sciences in the state of Saxony-Anhalt can familiarise themselves with new technologies in practice and progress their own ideas to the point of setting up in business.

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BACKGROUND

With its Selective Laser Melting system, Additiv+ provides the opportunity to manufacture fatigue endurable and heavily stressed components from steel, aluminium, CoCr or even titanium. The lab targets the fields of mechanical engineering, materials engineering and medical technology. The provision of surface finishing equipment and optical measuring devices enables continuous quality control.

POSSIBILITIES/FACILITIES

- Additive manufacturing in metals
- Residual stress measurement via x-ray diffractometer
- Surface analysis with confocal microscope
- Vibratory finishing system
- Drag finishing system
- Electropolishing equipment

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BACKGROUND

The AWI-(Work Sciences-) Lab provides the infrastructure for developing and testing innovative product, process and service solutions in the “Working Environment 4.0” field. Under the expert supervision of the Department of Work Science, interested students are given the opportunity to make their business ideas reality within the pre-startup phase. Oriented towards the key markets of Machine and Plant Construction and Healthcare and Nursing, the focus in the AWI-Lab is on the different possibilities for the respective scenarios.

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POSSIBILITIES/FACILITIES

Assembly 4.0:
- Collaborative Robot (Rethink Robotics: Sawyer)
- Motion capture system (Xsens: MVN Link)
- Camera- and sensor-supported assembly workstations

Healthcare 4.0:
- Exoskeleton (German Bionic: Cray X)
- Smart floor (Future Shape: SensFloor)

Collaboration 4.0:
- AR-/VR-Technology (Microsoft: Hololens, Samsung: Odyssey)
- 360*-3D-Camera (Insta360: Pro 2)
- Various digital aids (tablets, smartphones, smartwatches)
BACKGROUND

The FabLab is the Swiss Army knife of the Maker Labs. Equipped with a multitude of digital and conventional manufacturing machines, the FabLab is ideal for low to mid-threshold product developments in the fields of mechanical engineering and mechatronics. Based on the first FabLab of Professor Neil Gershenfeld, the prototype workshop strives to adjust to the needs of users continually and to implement new manufacturing potential from the maker and hacker scene into its own machinery pool.

POSSIBILITIES/FACILITIES

- Rapid Prototyping via 3D printing (FFF/FDM, SLA, Polyjet)
- CNC milling and turning
- Water jet cutting
- Laser cutter
- Hand tools and assembly workstations
- Rapid tooling and manufacturing via injection moulding machine
- Small soldering workstation
- Various electrical hand tools
- CAD and CAM workstations
- 3D scanning via a hand scanner

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BACKGROUND

The FinTech – Financial Technology Maker Lab is a real-world laboratory for the development and testing of innovative concepts and potential solutions. In future, the progressive digitalisation and increasing acceptance of cryptocurrencies, especially blockchain technology, will have a considerable influence on the real industrial and banking sectors. The aim of the FinTech lab is to support the development of relevant new product and service ideas in the field of financial technologies. To this end, the use of state-of-the-art hardware and software applications is consistently advanced.

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POSSIBILITIES/FACILITIES

• Development and use of blockchain/smart contract system solutions
• Capital market licence
• MATLAB/Simulink 2017b
  (1 x commercial licence)
• Prototype solar plant
  Smart Grid/Smart Metering
• 8 PC work areas plus a dual-monitor PC workstation for commercial use
• Lego Mindstorm EV3 and Lego Energy Packages for prototype construction
• a large selection of sensors and equipment for IoT-devices and prototypes
BACKGROUND

Today, electronic components can be found in almost every product used in everyday life. The Flextronic Maker Lab enables users to develop electronic products and corresponding components. Flextronic supports planning, circuit design, board design and manufacturing.

POSSIBILITIES/FACILITIES

- Open Source software solutions for independent circuit and printed circuit board design
- Manufacturing of multi-layer and flexible printed boards
- Assembly and testing of electronic circuits
- 3D printing and CNC milling of electromechanical components and housings

CONTACT

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INNOLAB IGT – IMAGE GUIDED THERAPY

Innovation laboratory for the development of tools and equipment for image guided therapy

BACKGROUND

The concept of the InnoLab IGT (Image Guided Therapy) Maker Lab follows a combination of “design thinking” and the BIODESIGN concept from Stanford University (identify, invent and implement) of so-called “unmet clinical needs”. Initially, the NEEDS are identified in close cooperation with clinical users. Then a subsequent translation of ideas for possible solutions are devised and tested for practical suitability in the IGT incubator. In addition to creative office for brainstorming, a lab for electronics and prototyping, there is a simulations operating room for test and evaluation.

POSSIBILITIES/FACILITIES

Simulations Operating Room:
- Endoscopy (Olympus)
- Ultrasound (Clarius, GE, Well.D)
- Tracking (Brainlab)
- Navigation (Piur Imaging)
- RF Generator
- Robotic arms (Franka Emika)

Prototyping Lab:
- 3D printing
- Tools for mechanical and electronic processing
- Measurement and test benches
- Phantomes/phantom construction

Creative Office:
- Individual and group workstations
- Smartboard
- PCs

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BACKGROUND

The IP-LogMo – Intelligent Prototypes for Logistics and Mobility MakerLab has portable machine tools, a very well-equipped prototype assembly area for aluminium and steel processing, plus a prototype shop with hand tools. The Maker Lab provides the conditions for producing prototypes for intelligent transport and mobility solutions (see, e.g. Intralogistics).

POSSIBILITIES/FACILITIES

Countless possibilities for metal and wood processing, including:
• Aluminium- & steel welding
• Grinding of tubes and sheet plates
• Chamfering of sheet plates
• Bending of tubes

Various machines for tube, sheet and wood processing, including:
• combined tube, profile and belt sander
• Notching machine
• Folding machine/sheet metal bender
• Pipe bending machine
• Workshop/indoor crane
• Lifting table and workbenches

CONTACT

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BACKGROUND

The Performance Lab is a breeding ground for ideas in the field of human performance capability and is oriented to the following key areas:

- Optimisation of psychological, physical and psycho-social performance prerequisites
- Development of functional diagnostic methods
- Development of new technologies and diagnostic methods for the recording of health and performance-relevant factors
- Examination of acute and chronic effects of stresses and strains
- Development/optimisation of high-performance sport-specific treatment and rehabilitation strategies

POSSIBILITIES/FACILITIES

- Neuro-feedback (HEG)
- Mobile EEG
- Transcranial stimulation
- Eye tracking
- Spiroergometry
- Motion capturing
- Balance measurement
- Biofeedback – breathing sensor technology
- EMG
- Skin conductance
- HRV
- Movement behavior
- Functional movement Screen
- Hand strength measurement

CONTACT

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BACKGROUND

The Transfer and Entrepreneur Centre at Otto von Guericke University Magdeburg coordinates the knowledge and technology transfer of the university and in particular has the objective of transferring high-potential research findings into the regional and national economy and making them accessible for all market participants. It facilitates contacts and markets the results of research. Furthermore, it supports spin-off companies in all stages of the startup process.

POSSIBILITIES/FACILITIES

- Individual consultancy on startup matters
- Upskilling through training sessions, workshops and coachings
- Creative workspace through various coworking programmes
- Application for property rights and exploitation of research results
- Marketing of innovations at trade fairs and exhibitions
- Facilitating partner contacts via networking events, specialist conferences, competitions

CONTACT

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HIER INVESTIERT EUROPA IN DIE ZUKÜNFT UNSERES LANDES.
www.europa.sachsen-anhalt.de
OVERVIEW OF ALL ego.-INCUBATORS IN THE STATE OF SAXONY-ANHALT

Otto von Guericke University Magdeburg
- Additiv+
- AWI-Lab
- FabLab
- FinTech
- FLEXtronic
- InnoLab IGT
- IP-LogMo
- Performance Lab

Magdeburg-Stendal University of Applied Sciences
- Competence in Quality (Magdeburg)
- Medical Technology (Magdeburg)
- Material Surfaces (Magdeburg)
- Friction Welding / Industry 4.0 (Magdeburg)

Anhalt University of Applied Sciences
- Image.Knowledge.Gestaltung (Dessau-Roßlau)
- Hybrid AR-VR Lab (Bernburg)
- User Experience and Resilience (Bernburg)

Martin Luther University Halle-Wittenberg
- Startup Workshop Life Sciences (Halle/Saale)
- Startup Workshop NanoWerk (Halle/Saale)
- Incubator IT & Media (Halle/Saale)
- Incubator Nutrition & Agricultural Technology (Halle/Saale)

Merseburg University of Applied Sciences
- Startup Workshop Rapid Prototyping
# Overview of All ego.-Incubators in the State of Saxony-Anhalt

## Magdeburg-Stendal University of Applied Sciences

**Competence in Quality**
The laboratory is used to develop new surface properties (area for modern technical measuring technology).

**Medical Technology**
The laboratory aids the creation of optimum process chains in medical technology.

**Material Surfaces**
The laboratory makes available resources for specific surface technology and diagnostics.

**Friction Welding / Industry 4.0**
A modern friction welding centre with industry skills 4.0-compatible integration of operating data is available in the laboratory.

## Anhalt University of Applied Sciences

**Image.Knowledge.Gestaltung**
The aim of the Image.Knowledge.Gestaltung ego.-INCUBATOR is to realise applications, equipment and methods in the context of data and image acquisition.

**Hybrid AR-VR Lab**
The Hybrid Environment and Product Visualisation using Augmented, Mixed and Virtual Reality Technologies ego.-INCUBATOR is a laboratory for the development of services (through to applications) in these areas.

**User Experience and Resilience**
The User Experience and Resilience ego.-INCUBATOR supports startups for the development and quality improvement of technical products and systems in terms of their user-friendliness and sustainability.

## Martin Luther University Halle-Wittenberg

**Startup Workshop Life Sciences**
The equipment in the laboratories in the Life Sciences Startup Workshop, includes the following: Electrophoresis machines, flow cytometers, plate washers/plate readers, PCR and gel documentation.

**Startup Workshop NanoWerk**
In the NanoWerk startup workshop, the well-equipped laboratories contain, among other things, a combined atomic force microscope/scanning tunnel microscope (AFM/STM), a near-field optical microscope, a microscope camera and an ion beam preparation tool.

**Incubator IT & Media**
The equipment in the IT and Media Workshop enables users to develop and test their own products for virtual and augmented reality applications and in the field of artificial intelligence/robotics as well as for 3D cinema, and to carry out acceptance studies.

**Incubator Nutrition & Agricultural Technology**
In the field of nutrition and agricultural technology, laboratories are equipped for the development and manufacture of food prototypes and their analysis.

## Merseburg University of Applied Sciences

**Startup Workshop Rapid Prototyping**
In the laboratory techniques and technologies are provided for product development in the fields of art and design, architecture and engineering.

## Otto von Guericke University Magdeburg

**MakerLabs (Page 2-10)**
Come and develop into our MakerLabs

REGULAR OFFICE HOURS
MONTHLY GUIDED TOURS