



SAXONY-ANHALT

Investment and
Marketing Corporation

MECHANICAL AND PLANT ENGINEERING

www.invest-in-saxony-anhalt.com

SAXONY-ANHALT A REGION YOU CAN PROFIT FROM LONG-TERM

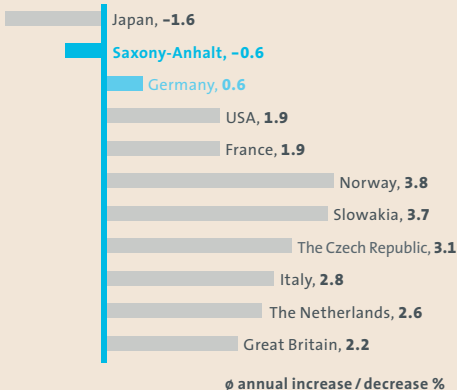
- ▶ **Productivity** – the fastest-growing state in Germany in terms of labour productivity and competitive unit labour costs
- ▶ **Competence and success** – a highly qualified, motivated workforce ensures your long-term success
- ▶ **Flexibility** – quick authorisation phase, rapid project realisation and swift market entry due to efficient partners
- ▶ **R&D Profit Centre** due to first-rate, industry-oriented R&D regional culture; qualified young engineers
- ▶ **Reductions in cost** – maximum grants lower your investment, R&D and training costs



Rotors on a direct drive for bucket-chain excavators at FAM in Magdeburg

- ▶ **Quality and innovation from Saxony-Anhalt** – Made in Germany – the hallmark of state-of-the-art technology and precision
- ▶ **Infrastructure** – high-performance and comprehensive; excellent logistics links to the European markets
- ▶ **Security of investment** – legal security and favourable conditions help you to secure long-term success
- ▶ **Service free of charge** – professional establishment management by the IMG

UNIT LABOUR COST DEVELOPMENT 2000-2010* International comparison (*prognosis)



INVESTMENT COST GRANTS

Medium-sized company (max. support 40%)

Example: Investment assets (not including property) which are eligible for support and subsidies **25 million €**

New, long-term workplaces 50

Investment subsidy

20 % x 23 million € (Machines, plants) 4.6 million €

10 % x 2 million € (Buildings) 0.2 million €

Investment subsidy

20 % x 23 million € 4.6 million €

30 % x 2 million € 0.6 million €

Total: Subsidies and grants 10.00 million €

WELCOME TO SAXONY-ANHALT COMMITTED TO QUALITY

The high-performance region for mechanical and plant engineering

- ▶ Germany, as a strong industrial basis, guarantees a high level of demand in the home market
- ▶ Mechanical and plant engineering: one of the largest and most important industrial industries in Saxony-Anhalt
- ▶ Tradition leaves traces: 150 years of experience in the sector:
 - ▶ 215 enterprises with approx. 15,400 persons employed*
 - ▶ turnover approx. 2.2 billions €**2008, enterprises > 20 persons employed
- ▶ Core competence in high-tech production of the highest technical and technological standard
- ▶ Top-class industrial small and medium-sized businesses – innovative suppliers with strong potential for growth – leaders in their specialist sectors
 - ▶ Mechatronics
 - ▶ Components and systems for the photovoltaic and wind energy industry
 - ▶ Special purpose machines for high-precision manufacturing processes
 - ▶ Machine tools
 - ▶ Lifting devices and means of conveyance
 - ▶ Pumps and compressors
- ▶ Strong R&D culture for mechanical engineering ensures a solid foundation for your challenges now and in the future
 - ▶ Virtualisation of productions and processes, strategic product planning
 - ▶ Individual, customer-tailored, production-integrated solutions right up to turnkey solutions



Unique design on a tool changer, Laempe & Mössner GmbH, Barleben

INNOVATIVE, HIGH-GROWTH COMPANIES REINFORCE THE BENEFITS PROVIDED BY SAXONY-ANHALT

	▶ Drive technology, casting
	▶ Agricultural machinery
	▶ Wind power plants
	▶ Bulk material plants, conveyor systems
	▶ CNC controlled turning centres
	▶ Pumps
?	▶ When can we expect you in Saxony-Anhalt?

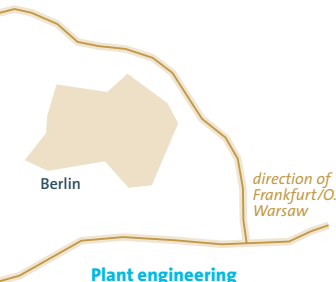
FACTS AND FIGURES FOR BUSINESS INDUSTRY IN GERMANY

- ▶ Production volume approx. € 195 billion (2008)
- ▶ Production growth of almost 9% (2008)
- ▶ Increase in production performance of 40% within the past 5 years
- ▶ Domestic market for mechanical engineering of € 103 billion
- ▶ Germany – world champions in export
- ▶ German companies apply for 28% of all patents in the field of mechanical engineering
- ▶ 6,000 companies employ 965,000 highly-qualified employees

source: VDMA

Compressors, pumps and fittings

- 1 Armaturenwerk GmbH
- 2 Hydraulik Seehausen GmbH
- 3 Namac Maschinenbau GmbH & Co. KG
- 4 KSB AG
- 5 odesse Pumpen- u. Motorenfabrik GmbH
- 6 WILO AG
- 7 DVA Deutsche Vacuumapparate Holland-Merten GmbH



Plant engineering

- 1 AAR-Montagen GmbH Brauer und Wolter
- 2 AD-Industry Group
- 3 AMB Anlagen Maschinen Bau GmbH
- 4 Anlagenbau Sandersleben GmbH
- 5 AWT Umwelttechnik Eisleben GmbH
- 6 Bohlen & Doyen GmbH
- 7 CEMAG Anlagenbau GmbH
- 8 Dessauer Instandhaltung und Montage GmbH (DIM)
- 9 Diehl & Schwiercz; Wasser, Gas und Umwelttechnik GmbH
- 10 ENERCON Gruppe
- 11 Fangmann Industrie GmbH & Co. KG
- 12 Heinz Wegwart u. Partner Stahl- und Anlagenbau GmbH
- 13 MCE Industrietechnik GmbH
- 14 NiRoVe Industrie Service GmbH
- 15 Öhmi Anlagentechnik GmbH
- 16 Pamo Reparaturwerk GmbH
- 17 ThyssenKrupp Industrieservice GmbH
- 18 Weber Rohrleitungsbau GmbH & Co KG
- 19 Witte & Wiederhold Industriemontagen GmbH

Combustion engines

- 1 Neue Maschinenbau GmbH
- 2 SKL Motor GmbH
- 3 WTZ für Motoren- und Maschinenforschung Roßlau GmbH

Materials handling

- 1 ABP Maschinenbau GmbH
- 2 ASW Automation, Sonder- und Werkzeugmaschinenbau GmbH
- 3 Bauer GmbH
- 4 Doppstadt Calbe GmbH
- 5 FAM Magdeburger Förderanlagen und Baumaschinen GmbH
- 6 Jungheinrich AG
- 7 Krafotec Pannier GmbH Wittenberg
- 8 Kranbau Köthen GmbH
- 9 MINDA Industrieanlagen GmbH
- 10 Nani Verladetechnik GmbH & Co. KG
- 11 RULMECA FAA GmbH
- 12 Schmiedl Metall- und Fördertechnik
- 13 Wangemann & Co. GmbH

Machine tools / tool and mould construction

- 1 Fertigungstechnik Weißenfels GmbH
- 2 EMAG Werkzeugmaschinenfabrik Zerbst GmbH
- 3 Gehring Naumburg GmbH & Co. KG
- 4 H & B Omega Europa GmbH
- 5 EMCO Magdeburg AG
- 6 Metec Metallwarentechnik GmbH
- 7 PGM Stahl, Behälter, Apparate- und Werkzeugbau GmbH
- 8 Schiess GmbH SMTCL
- 9 SM Calvörde Sondermaschinen bau GmbH & Co. KG
- 10 Sondermaschinenbau Köthen GmbH
- 11 Vorrichtungsbau GIGGEL GmbH
- 12 Werkzeugmaschinenfabrik Zerbst GmbH (WEMA)
- 13 WEROS Werkzeug- und Formenbau GmbH

Special purpose machines

- 1 Chocotech Wernigerode GmbH
- 2 GAW Getriebe & Antriebstechnik Wernigerode GmbH
- 3 JCB Vibromax Bodenverdichtungsmaschinen GmbH
- 4 KTF Kunststofftechnik Förderstedt GmbH & Co. KG
- 5 MMW Gruppe
- 6 PM-TEC Walzen GmbH
- 7 PRÄMAB Präzisionsmaschinen- und Anlagenbau GmbH und Co. KG
- 8 SATVIA Maschinen- und Bohrgerätebau GmbH
- 9 SKET Maschinen- und Anlagenbau GmbH
- 10 SKET Verseilmaschinenbau GmbH
- 11 STE-Schwingungstechnik GmbH

- 12 Stromag Dessau GmbH Kupplungs- und Bremsenwerk
- 13 SYMACON Engineering GmbH
- 14 VEM Motors GmbH

Other mechanical engineering products

- 1 A.T.A. Anlagentechnik Aschersleben GmbH & Co. KG
- 2 AMS Arneburger Maschinen- und Stahlbau GmbH
- 3 Brüning Maschinenbau und Montageleistungen GmbH & Co. KG
- 4 Burger Maschinen- und Anlagenbau GmbH
- 5 Doosan Babcock Energy Germany GmbH
- 6 Eilslebener Maschinen-, Anlagen- und Stahlbau GmbH (EMAS)
- 7 Genthiner Maschinen- und Vorrichtungsbau GmbH (GMV)
- 8 Großanlagen- und Schwermaschinenbau Dessau GmbH
- 9 Halberstädter Technische Werkstätten GmbH (Hatewe)
- 10 Maschinenfabrik Thale GmbH (MFT)
- 11 Pfaff Maschinenbau GmbH
- 12 SMB Schönebecker Maschinenbau GmbH

Process technology machines and apparatus

- 1 Emde Industrietechnik GmbH
- 2 MABA Spezialmaschinen GmbH
- 3 VKK Standardkessel Köthen GmbH
- 4 VTA Gesellschaft für Verfahrenstechnik und Apparatebau mbH

Research and development

- U University
- FH University for applied sciences
- 1 FASA e.V.
- 2 Fraunhofer-Institut für Fabrikbetrieb und -automatisierung
- 3 Max-Planck-Institut für Dynamik komplexer technischer Systeme
- 4 Fraunhofer-Institut für Werkstoffmechanik
- 5 Institut für Automation und Kommunikation e.V.
- 6 Schweißtechnische Lehr- und Versuchsanstalt Halle GmbH
- 7 Experimentelle Fabrik
- 8 VDTC-ProDiMa
- 9 PIZ IF Rota
- 10 Kreativitäts- und Kompetenz-Centrum (CCC)
- 11 FEV DLP GmbH



A REFERENCE FOR THE INVESTMENT LOCATION OF SAXONY-ANHALT: THE NEW ENDURANCE TEST CENTRE IN BREHNA



PROJECT

- ▶ **Investor:** FEV Motorentechnik GmbH, Aachen
- ▶ **Company:** FEV Dauerlaufprüfzentrum GmbH, Brehna, Saxony-Anhalt
- ▶ **Product:** 31 engine and drive line test stands
- ▶ **Area:** 6 ha
- ▶ **Investment:** € 50 million
- ▶ **Employees:** 120
- ▶ **SOP:** First quarter 2009

Test centre: Tests future generations of engines on test stands outside the vehicle in realistic boundary conditions

"The region's approving authorities in particular were highly cooperative and processed the authorisation rapidly within a period of five weeks after submission of the application documents – an exceptionally short time compared to the rest of Germany.

Locations in Saxony-Anhalt become even more attractive if you consider further advantages provided such as the substantially lower additional expenditure during the ramp up phase, the build-up and maintenance of know-how, the logistics, the stability of the legal boundary conditions and the investment subsidies.

It has emerged that the theoretical potential for cost savings in the so-called low-salary states are relativised in terms of personnel by the consistent and high proportion of investment in the infrastructure."

Dr. Ing. Stefan Trampert,
Managing Director FEV Dauerlaufprüfzentrum GmbH, Brehna

OPERATIONAL CRITERIA

Potential for cost savings

- ▶ Personnel (modern standard and future salary development)
- ▶ Build-up and maintenance of know-how
- ▶ Investment, operating and additional expenses
- ▶ Location-related residual value of properties after period of utilization

Quality of project processing

- ▶ Employee qualifications
- ▶ High level of training, proximity to colleges and universities
- ▶ Availability of resources / fuel

Logistics

- ▶ Connections to Aachen and FEV customer locations
- ▶ Flight connections / frequency
- ▶ Motorway connections, motorway quality

Entrepreneurial risk

- ▶ Stability of legal boundary conditions
- ▶ Maintenance of schedule
- ▶ Employee availability

Criteria for suitable industrial areas

- ▶ Quality, condition of building land, layout, size of area
- ▶ Transport connections
- ▶ Authorisation regulations, practical procedures by local authorities, personnel expense in terms of time until authorisation is issued
- ▶ Connection capacities for supply and disposal

ANALYSIS OF VARIOUS LOCATIONS

	Theoretical potential for cost savings*	Quality*	Logistics	Risk
South Germany	--	+	+	+
West Germany	0	+++	+	+
East Germany	+	+	+	+
Eastern Europe (PL, CZ)	++	--	0	--
India	+++	--	--	--

MAIN CRITERIA FOR DECIDING ON A LOCATION

Total costs ¹⁾	Personnel costs	Investment/ amortisation	Total costs ²⁾	Additional expenditure on the ramp up phase
104	110	100	104	0
100	100	100	100	0
92	85	100	92	0
88	50	100	88	--
84	25	100	84	--

*Also fuel ** On demand access to FEV facilities/AC



“Progress and innovation are established here.”

Prof. Dr.-Ing. habil. Dr.-Ing. E. h. Michael Schenk, Head of the Fraunhofer Institute for Factory Management and Automation IFF

CLUSTER BUILDING THE FUTURE TOGETHER

FASA – ADMINISTRATION UNION FOR THE PROMOTION OF MECHANICAL AND PLANT ENGINEERING

- ▶ Partners in the development and implementation of innovative concepts
- ▶ Helps to set up cooperation networks
- ▶ Accelerates collaboration between science and industry
- ▶ Supports partnerships between globally-active system providers and promotes the application of innovative information and communication technologies
- ▶ Accelerates innovation processes and their transfer into companies

www.fasa-ev.de

SMAB-(Special Purpose Mechanical and Plant Engineering)

- ▶ Fluidised bed technology
- ▶ Development of technologies for processing large and special purpose machines and cast parts
- ▶ Development and production of equipment for rolling mills, open-cast mining and power plants,
- ▶ Wind power plants, biogas plants, geothermal energy plants
- ▶ Use of virtual technologies
- ▶ Links between mechanical engineering and medical technology

www.cluster-smab.de

HIGH LEVEL OF INNOVATION POTENTIAL, SOLUTIONS FOR OPTIMUM ENGINEERING

VDTC – VIRTUAL DEVELOPMENT AND TRAINING CENTRE OF THE FRAUNHOFER INSTITUTE FOR FACTORY MANAGEMENT AND AUTOMATION IFF, MAGDEBURG

- ▶ Customer-tailored solutions via interactive simulations for planning, testing and operating technical systems along the digital process chain:
 - ▶ Virtual engineering for the development of products, processes and systems
 - ▶ Virtual factory layout and assembly planning
 - ▶ Product optimisation by inspecting complex functions
 - ▶ Qualification and further training of specialist personnel using real controls on a virtual model
- ▶ Systems for networking virtual interactive information for the Plant Management

www.vdtc.de



PIZ IF ROTA– Product development and innovation centre for integrated rotational machining manufacturing cells

- ▶ Exclusively equipped technical centre for the development of innovative process technologies for high-precision processing of assorted turned parts

Otto-von-Guericke University, Magdeburg

- ▶ Planning, design, manufacture of machines, apparatus and plants
- ▶ Logistics and material flow technology
- ▶ Development, processing and inspection of innovative materials
- ▶ Factory planning and management
- ▶ Fluidised bed technology

www.fmb.ovgu.de

YOUR PARTNER

- ▶ for site selection
- ▶ for subsidy and financing issues
- ▶ for dealing with authorities
- ▶ for full line project management

*All inquiries are kept strictly confidential.
Our services are free of charge!*



Investment and Marketing Corporation Saxony-Anhalt

Am Alten Theater 6
D-39104 Magdeburg
Germany
Tel. +49 (0) 391 568 990
Fax +49 (0) 391 568 9950

www.invest-in-saxony-anhalt.com



Dr. Carlhans Uhle

Managing Director

Tel. +49 (0) 391 568 9911

welcome@img-sachsen-anhalt.de



Andrea Voß

Senior Manager

Tel. +49 (0) 391 568 9929

andrea.voss@img-sachsen-anhalt.de

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