



Saxony-Anhalt – Land of Chemistry

Chemical and plastics processing industry
in Saxony-Anhalt



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2011

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Editorial

Prof. Dr. Birgitta Wolff

Dr. Paul Kriegelsteiner

Dr. Bernd-O. Kruse





Ladies and Gentlemen,

The chemical industry has played a vital role in the industrial sector in Saxony-Anhalt for many years now. Generating 14 percent of overall turnover and employing 9 percent of the total workforce, it has a leading position among the various industries in our federal state. In terms of exports, it is top of the pile. The chemical industry makes up one fifth of all industry export turnover in Saxony-Anhalt.

So, it's all the more pleasing that the local chemical industry has had such a strong start to 2011. At the home of the central German chemical industry, turnover from January to March rose to 1.9 bn Euro. Seasonally adjusted in comparison with the previous quarter, turnover has risen by more than 21 percent. Compared to the same quarter the previous year, business volume has risen by a third. The main impetus behind this rapid development has been the classic chemical industry. The pharmaceutical industry has contributed nearly 300 m to this sector's turnover in the federal state.

Investing in innovations is an absolute necessity if we want to continue to drive growth forward and ensure competitiveness, because knowledge is increasingly becoming a decisive production factor. This is also expressed by the federal state government's extensive promotion of research infrastructure development. One example of this is the "Chemisch-Biotechnologisches Prozesszentrum CBP" (Chemical-Biotechnological Process Centre) in Leuna, which is being established jointly by the federal state and the Fraunhofer-Gesellschaft. It shall enable enterprises to replace crude oil with renewable raw materials such as straw, wood and microalgae on an industrial scale. Furthermore, the federal state government is intending to re-adjust investment assistance. In the future, focus will be put on enterprises carrying out intensive research and innovation activities as well as on future-proof careers with suitable and acceptable salaries.

In addition to economic development, meeting future demand for skilled personnel also has to be a top priority on the political agenda. As far as I'm concerned, this aspect is going to be one of the most important challenges to the economy and the federal state government in Saxony-Anhalt.

Prof. Dr. Birgitta Wolff
Minister of Sciences and Economic Affairs of the Federal State of Saxony-Anhalt

**„The success story of the East German
chemical industry goes on... “**



The chemical industry feels comfortable in Saxony-Anhalt, its home country in the East. We are still Saxony-Anhalt's number one branch - and is treated accordingly. Here our industry is accepted, acknowledged and liked by the people, media and politics. We are known as reliable employers with outstanding training, income and career opportunities. Here it is understood that our industry is a problem solver in healthcare, energy, climate protection, mobility and demographic change. Our industrial innovations are the key to an increasing quality of life and sustainable development. And politicians and media have learned the lesson: it was the industry who has played a significant role in overcoming the economic crisis.

No clouds to be seen? Well, it is also a fact that we are facing an aging workforce. Demographic change is rolling and our companies know how this is like. The restructuring after the reunification created a workforce that is age wise significantly different from the one in Western Germany. While we have more older and younger people on board the share of the 40-49 year old is lower. In other words: many retirees also mean a lot of new job opportunities. The East-German chemical industry reacted right in time upon the declining number of school graduates. For years we have invested heavily in schools, vocational trainings and trainee programs. Today we therefore have an above average share of older as well as younger employees. Don't be surprised if we are the ones to trigger new rules within employment relationships soon, too.

In East Germany „change“ has become a wide spread experience and is understood as synonymous with progress. Companies have recognized the necessity to actively shape the future challenges that come in conjunction with demographic change. For qualified applicants this means: Welcome to the East! This is where careers are being started!

Dr. Paul Kriegelsteiner
CEO Landesverband Nordost, Association of the Chemical Industry (VCI)



Counting 274.000 Employees and more than 2.650 firms and an annual turnover of 51.3 Mrd Euro the plastics converting industry is one of the most important branches of German industry. The German Association of Plastics Converters (GKV) represents the interests of its supporting organisations and acts as an organ of the mostly medium-sized companies of our highly innovative branch in contact with political decision makers and the public.

The chemical industry in the state of Saxony-Anhalt has an excellent tradition. The plastics converting industry looks on decades of successful development. Outstanding Know-how and commitment of employees, entrepreneurial skills and the activities of national industry organisations and regional co-operations and networks between economy, science and politics enabled this success. The positive image of plastics will be enforced through the risen public awareness plastics products are considered to be essential for sustainable development.

The representation of interest and the communication of the situation and the challenges of our branch to the public and the political decision makers is a permanent task on regional and national level. The decisions concerning electrical power supply in the future e.g. will not stay without consequences for the competitiveness of our industry. Politics will be called to be more attentive to the consequences of energy political decisions on job security and economic power in Germany.

We will continue to use networking, regional and interregional co-operation so that a positive development for our industry in Germany will be initiated.

In this spirit I am looking forward on our close co-operation.

Dr. Bernd-O. Kruse
President General Association of the Plastics Processing Industry (GKV)

The Dynamo of Economy in Saxony-Anhalt

Chemical and plastics industry with a high sales productivity

Saxony-Anhalt is the heartland of Central German chemistry. Its tradition of chemical and plastics industry is not the only point in favour. The chemical and plastics branch is one of the Land's leading economic sectors. Even in times of financial turmoil and economic difficulties this branch has been the economic backbone of the state's economy. The comparatively high importance of the pharmaceutical sector, in terms of overall industrial share, as well as the not so relevant export quota have dampened the negative effects of the crisis on the chemical sector in Saxony-Anhalt.

Saxony-Anhalt is one of the most dynamic economic regions in Germany.

This is also a benefit for the companies of the chemical and plastics sector.

In more than 200 firms with 23 200 employees a total turnover of over eight billion Euro has been generated in the year 2010. In the chemical industry 11 000 employees helped to achieve this result, generating almost 5,2 billion Euro. In the plastics manufacturing industry 8 400 employees have generated a turnover of 1,8 billion Euro. This equals one third of the overall turnover of this sector in all New Laender.

About one fifth of the overall turnover of the manufacturing industry in Saxony-Anhalt is generated within these three branches. As a matter of fact, the exports turnover share was even higher counting one third of all turnover realized by companies in the manufacturing industry of the state.

The strengths of the chemical and plastics processing industry in Saxony-Anhalt can be traced back to high investments, resulting in an intense modernization of plants, very well qualified employees and efficient forms of organization, as they for example had been found in the chemical parks. Since 1991 about 1,15 billion Euro from the joint task programme "Amelioration of the regional economic structure" have been granted to Saxony-Anhalt. They have been distributed among 339 investment projects with an overall investment volume of 5,77 billion Euro. Among the latter are also 259 projects with a total investment volume of 2,56 billion Euro which have been funded with 535 billion Euro out of the EU-structural funds ERDF.

The chemical sites of Saxony-Anhalt have been proofed to be utterly attractive for foreign investors. More than one fourth of all jobs created by foreign investors have been created in the chemical industry. The chemical and plastics branch in Saxony-Anhalt is characterized by small- and medium-sized businesses. Only ten percent of all chemical businesses are regarded as large-scale companies. Yet with the majority of employees they produce more than a half of turnover. In the plastics processing industry, however, first of all medium-sized companies generate the largest business volume. They do also employ the majority of staff.

Saxony-Anhalt – Land of Chemistry



Production of chemical goods
Production of rubber and plastics commodity

Source: Statistics Agency Saxony-Anhalt

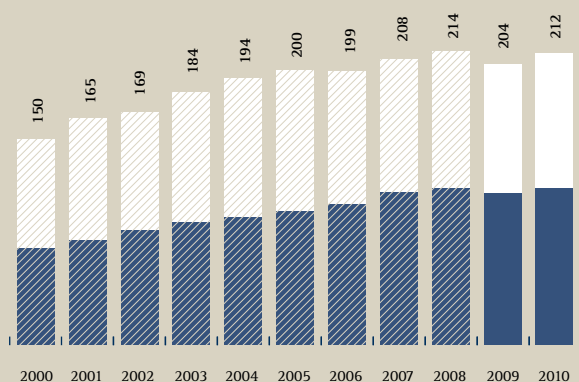
Calculation: isw GmbH

Note: companies with 20+ employees

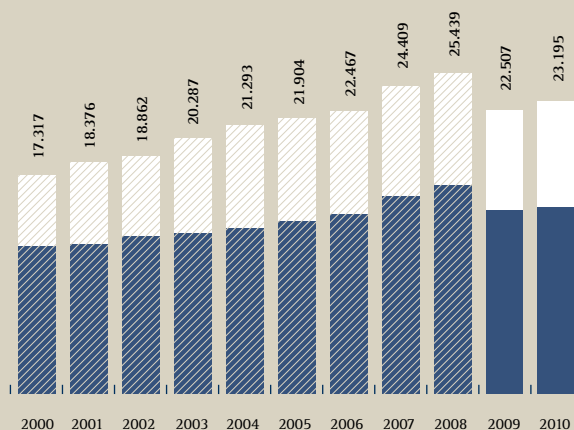
Attention: Please note from 2009 changeover to Classification of Economic Activities, 2008 edition (WZ 2008)

No comparison with previous figures is possible

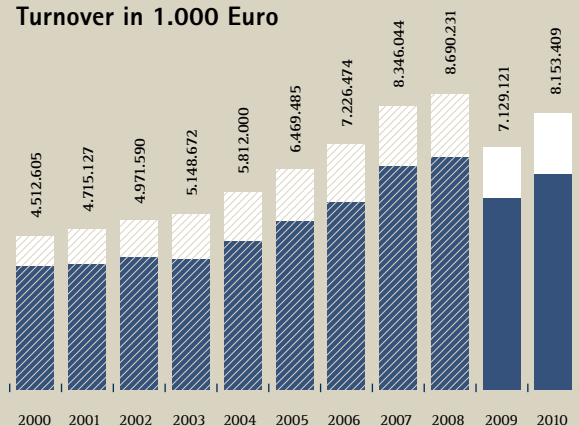
Number of companies



Employees

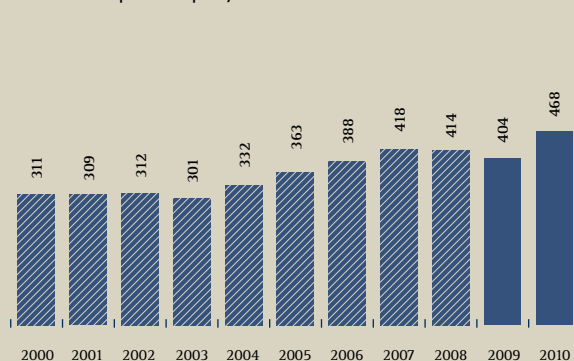


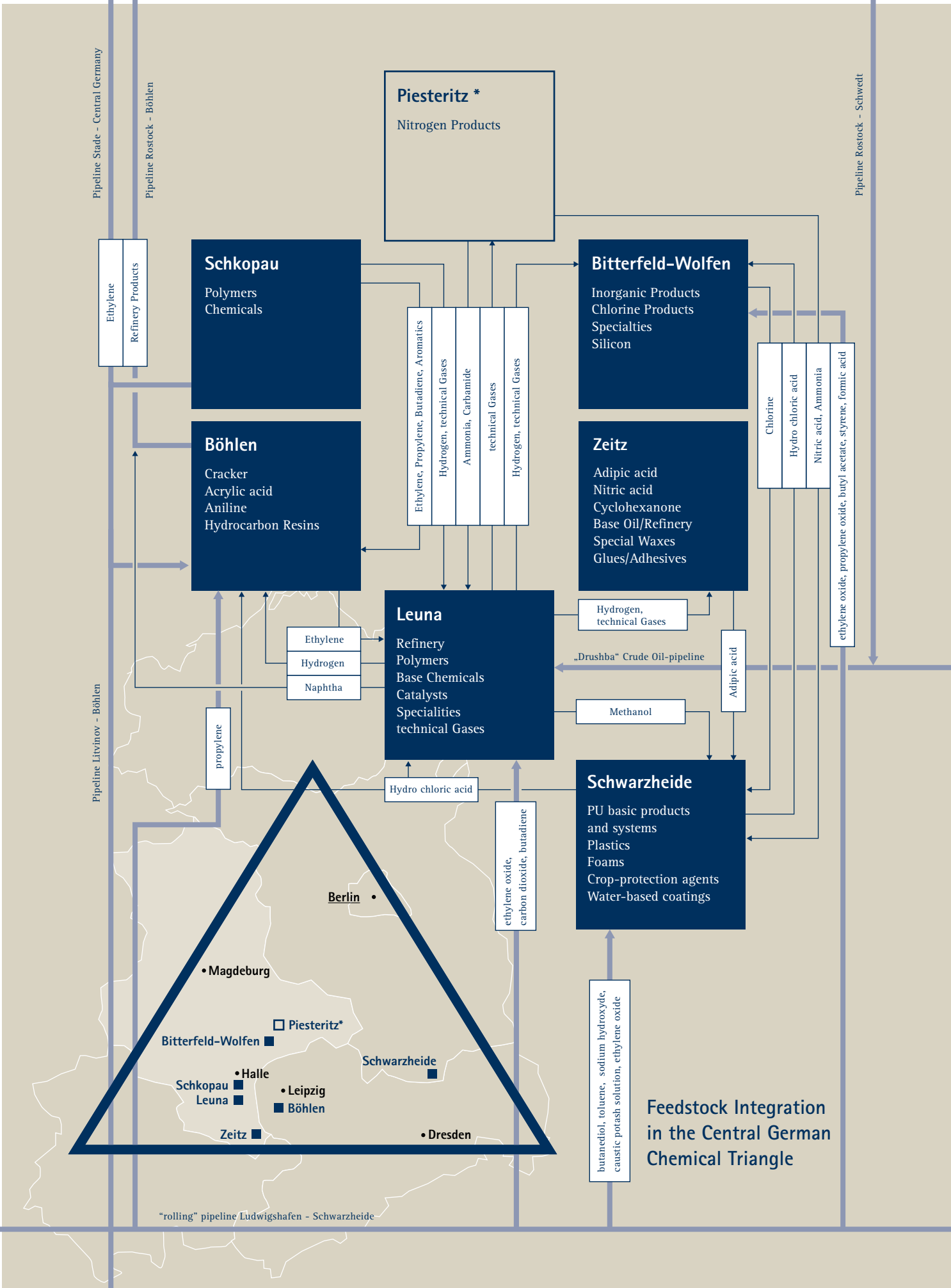
Turnover in 1.000 Euro



Sales productivity

Turnover per employee in 1.000 Euro





Chemical Parks in Saxony-Anhalt Both Birthplace and Pioneer

Competence and focus on innovation create added value for investors

The Central German chemical sites are pioneers in the global reorganization process of the chemical industry. Since the beginning of the 1990ies at Saxony-Anhalt's large chemical sites in Leuna, Bitterfeld Wolfen, Schkopau an Zeitz as well as in Böhlen (Saxony) and in Schwarzheide (Brandenburg) more than 17 billion Euro have been invested in the restructuring and modernization of infrastructure and production plants. At the large chemical sites are more than 28 000 people employed today. Beyond these sites chemical parks belong to the most important generators for the regional economic development today.

This development is confirmed by the businesses' activities in the chemical parks. "Of 574 million Euro that have been invested at Leuna site during the last five years, 85 per cent have been executed by already located businesses. Within the next years investments of about 230 million Euro are planned", as Andreas Hiltermann, CEO of InfraLeuna GmbH, states. Also at the chemical park Bitterfeld Wolfen it is planned to expand four businesses for 200 million Euro until 2012. "During the last years we succeeded in creating ideal site condition for investments in industrial and commercial field. Due to our experience and excellent relations to key positions we will be able to support interested investors also within the next years", Matthias Gabriel, CEO of P-D ChemiePark Bitterfeld Wolfen GmbH, says. Wolfgang Bauer, head of Infra-ZeitzServicegesellschaft mbH, is convinced that "innovative strategies of the businesses paired with the site's ideal general conditions are the key for the success of the chemical and industrial park of Zeitz." Despite these strong market dynamics the sites' competitiveness and new industrial locations have to get on strengthened. So lately Dow ValuePark in Schkopau was powered by the official launch of FraunhoferCenter for Module Technology, and also here further businesses aim for an addition to capacity of all in all 100 million Euro until 2012.

The Chemical Triangle with a chemical park area of all in all more than 5 500 hectare provides an all-embracing resources - and synergy potential. The pipeline route from the Baltic harbour in Rostock to the sites of Schkopau and Böhlen secures a low priced raw material supply.

The region's chemical excellence is characterized by specific know how. It results from the successful completion of a complex transformation process: Central Germany is the major "birthplace" of the chemical park concept. It has been realized by example by establishing infrastructure corporations as InfraLeuna GmbH, Infra-Zeitz Servicegesellschaft mbH and P-D ChemiePark Bitterfeld Wolfen GmbH, by founding the ValueParks of Dow Olefinverbund GmbH in Schkopau and by opening the BASF site in Schwarzheide for investors. In doing so the chemical sites pursue new approaches of their cooperation. Supported by the federal state of Saxony-Anhalt they founded the CeChemNet network in 2002. By their experience, service and products chemical park corporations and chemical firms make new located businesses at the site directly concentrate on efficient production of innovative commodity.

After the successful reorganization Central Germany's chemical sites are in a new phase of development. By the growing tendency to more and more high-duty and innovative products for special fields of application the cooperation between producers, fabricators and research institutions gained in importance. This interface between economy and science contributes to improve the research infrastructure for the whole Central German chemical region. Thereby each site in the network sets own priorities in the field of research and development. So new business at Dow ValuePark for example are provided vast capacities by the Fraunhofer Institutes for polymer synthesis for Mechanics of Materials and applied research in the field of Silicon Photovoltaics.

Central Germany is home of Chemistry

Central Germany is a home of chemistry. There are about 800 chemical and plastics companies in Saxony, Saxony-Anhalt, Thuringia and Brandenburg. More than half of them directly or at least partly directly work together in the Cluster Chemistry/Plastics Central Germany, which bundles and coordinates its members' strengths. That platform for cross-regional cooperation was initiated and founded by home industry in 2003. Here small sized and medium sized companies as well as their respective associations, education and research institutions, service providers, and political and administrative actors work together. The future cluster understands itself as an umbrella of all branch activities in Central Germany. It is set up upon established network structures and cooperation. Its activities aim to to develop value chains starting from scientific research activities, continuing with the exploitation of raw materials and finishing with the fabrication of end products.

The Central German corporate landscape is characterized by chemistry. There are 300 manufacturers of chemical and pharmaceutical products. Furthermore, there are 500 companies producing rubber and plastics commodity. In total, they employ about 80 000 persons. Other clusters, with which the Cluster Chemistry/Plastics Central Germany has established cooperation, focus on solar and photovoltaic industry, automotive and track car engineering, aviation industry, logistics, optoelectronics, machine and plant construction, biotechnology as well as mining and energy. The Cluster accompanies them by applying innovative plastic technology because as for example the light weight construction cannot do without it due to the substantial role of plastics in the 21st century. To many problems it is plastics that offer solutions.

Among the actors of the chemical and plastics processing industry are twelve academic and non-academic research institutions as well as six competence centres with the respective profile.

“Central Germany has become a competence centre for polymer production and processing again. Innovative companies and well recognized research institutions are the basis for a sustainable development in the region”, emphasizes Dr. Christoph Mühlhaus, the Cluster's founding spokesman and former CEO of Dow Olefinverbund GmbH. In his opinion the Central German Chemical triangle has become an internationally competitive chemical and plastics region.

The Cluster Chemistry/Plastics Central Germany is facing the challenge to exploit additional feedstock by using brown coal and biomass. They are supposed to complete the already existing petrochemical raw material stock putting an end to the one-sided dependence from oil and gas and therefore preparing for the Post-Oil-Era.

The exploitation of local raw materials is one of the promising perspectives of the chemical industry in Central Germany in the heart of Europe. It is aimed for a technology leap in the exploitation and processing of local coal. A chemical-biotechnological processing centre (CBP) of the Fraunhofer Institute in Leuna under construction is supposed to close the gap between lab work and industrial exploitation.

Moreover material application of CO₂ by renewable electricity is considered to be one of the Cluster's future challenge. Such innovation shall clear the way for a CO₂-free coal chemistry in Central Germany. This is part of the “Europe 2020” strategy of the European Commission. Just as well the cluster focuses on thematic key aspects in order to overcome the effects caused by the recent economic and financial crisis and to face long-term structural challenges as an ageing society, technological change, and global warming. Economy is supposed to grow intelligently, which means knowledge and innovation based. Thereby supporting research and development, academic education and life-long learning is essential. So a sustainable growth based on an ecological and competitive economy dealing responsibly with exhaustible resources is needed.



Features of the Cluster Chemistry/Plastics Central Germany

Pioneer global structural change of chemical industry,

Cross-sectional with chemical and plastics processing industry,

Participation of employers' associations **VCI** and **GKV** as well as **IG BCE***,

Cross-regional with companies and networks from the federal states of Saxony, Saxony-Anhalt, Thuringia and Brandenburg,

Integration of networks of chemical and plastics processing industry,

Strategy dialogs include **Land Governments**,

Internationally positioned by active collaboration with the **ECRN***.

*

VCI: Association of the Chemical Industry
GKV: General Association of the Plastics Processing Industry
IG BCE: Industrial Union of Mining, Chemistry, Energy
ECRN: European Chemical Regions Network

Cross-sectional Added Value as Dynamo of Growth

Innovations emerge more and more at the interface to other sectors.

Taking that into account the Cluster Chemistry/Plastic Central Germany cooperates amongst others with players from the following sectors:

Automotive	construction industry
Mining/Energy	Biotechnology
electronics, electrical engineering	wood, furniture and paper industry
Logistics	aircraft industry
forestry and agriculture	Machine- /Plant Engineering
Optoelectronics	railway vehicle manufacturing
Photovoltaik / Solarindustrie	Medical Engineering
wind energy power plant construction	

Greater Demands – New Structure



Since the platform's founding in 2003 the demands on the Cluster increased distinctively. Hence, with the beginning of 2009 a new structure has been established: The sectors of Chemistry, Plastics, Chemical Parks and Feedstocks have each an own spokesman. This enables a closer cooperation with associations and representatives of other branches.

Dr. Christoph Mühlhaus

is the Cluster's spokesman since its founding in 2003, which essentially goes back to him. Until his retirement he was CEO of Dow Olefinverbund GmbH.

www.cluster-chemie-kunststoffe.de



Andreas Hiltermann

takes responsibility for the sectors of Chemical Parks and Feedstocks. The CEO of InfraLeuna GmbH represents the chemical parks network CeChemNet, a major interest group within the Cluster.

www.infraleuna.de



Wolfgang Blümel

is spokesman for the sector of Chemistry. The graduate engineer is DGM of the Association of Chemical Industry, Landesverband Nordost.

www.nordostchemie.de



Dr. Gunthard Bratzke,

the CEO of the isw Corporation for Scientific Advise and Service in Halle offers comprehensive academic backing.

www.isw-gmbh.de



Dr. Reinhard Proske

represents the sector of Plastics. He studied chemistry at the Clausthal-Zellerfeld University of Technology, where he also obtained his doctorate on engineering. Dr. Proske is the founder and chairman of Board CircleSmart-Card AG and Past President of the General Association of the Plastics Processing Industry (GKV).

www.gkv.de



Strategy Dialog as Model

The Cluster's work is characterized by close cooperation with all players and especially by the dialog with the Land Government. The Cluster Chemistry /Plastics Central Germany realizes the following ideas:

Coordination and Cooperation

This field supports to connect persons already involved and also to integrate new partners.

New possibilities of cooperation are identified along the value-added chain, and building up new networks is initiated. Moreover cross-sectional cooperation with other clusters is encouraged.

Forming strategies

It is aimed to recognize and name the cluster players' interests. Together with the Land Government cluster strategies shall be developed. Needful operation and implementation measures have to be derived from that. The strategy dialog with the government of Saxony-Anhalt is taken as model. In the coalition agreement of 2011 between CDU and SPD the coalition partners judge the current cluster work as exemplary for the cooperation of economy and politics.

Innovation

A Central German innovation landscape, which is determined by chemistry, shall be developed.

Founders, companies and scientists are purposefully supported, and by a roadmap process the main research of universities and institutes is suited to the innovation need of firms. Innovation transfer and an enlarged attendance at support programmes are especially promoted. Moreover the IQ Cluster Innovation Prize (Prof. J. Nelles Prize) is awarded once a year.

International Contacts

Small- and medium-sized businesses are supported in establishing international contacts. Beyond that cooperating with the European Chemical Regions Network (ECRN) is a main focus of cluster work.

Participating in EU cooperation projects and EU support programmes is promoted. The Cluster Chemistry /Plastics actively accompanies initiatives on European level, e.g. the High Level Group for competitiveness of chemical industry, the ChemLog initiative for building up a Central- and Eastern European feedstock integration by developing chemical logistics, and ChemClust – a platform for exchanging experience in cluster and innovation politics.

Public Relations

The cluster initiates topic-oriented events and also provides opinion making and lobbying.

The Chemical and Plastics Industry of Saxony-Anhalt is a Varied Landscape

Many research and development institutions are located near to large production plants – centred in the Land's south

The map of the research and development institutions of the chemistry and plastics branches across Saxony-Anhalt is a varied one. It shows the concentration as well as the diversity of institutions. Even if most of them are located in the Land's south, and even though there are white gaps, establishments as the Centre of Fibre Compounds Haldensleben, the Institute for Varnish and Coating in Magdeburg, the Institute for Plastics Technology and Plastics Recycling in Weißandt-Görlau or the Agrochemical Institute Piesteritz (AIP) show, that Saxony-Anhalt as a whole is the home of chemistry and plastics.

Halle is of special meaning. Located next to the chemical sites of Bitterfeld, Schkopau and Leuna, the city is a centre of institutions for research and teaching. As there are for example the Martin-Luther University Halle-Wittenberg with its institutions and chairs especially in chemistry, the Fraunhofer Institute for Mechanics of Materials (IWM) Halle as well as the Max Planck Institute for Microstructure Physics (MPI).

Also the city of Merseburg attracts research institutions. The University of Applied Sciences Merseburg (FH) makes its name more and more towards chemistry and plastics. The Fraunhofer Pilot Plant Centre for Polymer Synthesis and Polymer Processing (PAZ), the Academy Central German Plastics Innovation (AMK), the Institute for Polymer Feedstocks e.V. (IPW) and the Plastics Competence Centre Halle/Merseburg (KKZ) operate close to industry in Schkopau. The Institute of Commodity Reclamation (IfN) works close to Zeitz in Elsteraue.

At Bitterfeld-Wolfen site the Science and Technology Park (TGZ) provides good opportunities for business locations. In Merseburg the Centre of Innovation and Technology offers young employers excellent conditions when starting their economic independence, whereas Halle provides the Technology and Start-up Centres at Weinberg Campus.

Facing the tradition as well as the Land's concentration of chemistry and plastics producing companies and their institutions, it is not surprising that also many cross-regional networks in the chemical and plastics branch run their offices in Saxony-Anhalt. As e.g. the Central European Chemical Network CeChemNet, the Innovation Cluster „Polymer Technology“ Halle-Leipzig or POLYKUM, the Association for the Promotion of Polymer Development and Plastics Engineering in Central Germany, respectively.

Players Saxony-Anhalt

Haldensleben ● 16



Magdeburg ● 7

Chemical Sites

- A Agro-Chemiepark Piesteritz
 - > Nitrogen production (SKW), Melamine production (AMI), Agrochemical Institute (ACI) www.skwp.de
- B ChemiePark Bitterfeld Wolfen
 - > Varnish feedstocks, pharmaceutical products for self-medication, ion exchangers www.chemiepark.de
- C Dow ValuePark®
 - > Dow: synthetic rubber, PET, polypropylene, processing of polystyrene, polyethylene Plastics (granules) in ValuePark®
 - > Dow Competence Centre for Synthtic Rubber, Dow Competence Centre for PET, PAZ Fraunhofer Pilot Plant Centre for Polymer Synthesis and Polymer Processing www.dow.com/valuepark
- D Chemical site Leuna
 - > Production of mass-produced and specialty chemicals, plastics, plastics additives, adhesives, resins, fuels, chemical catalysts, lubricants, technical gases, power generation www.infraleuna.de
- E Chemie und Industriepark Zeitz
 - > Adipic acid production (Radici), adhesive production, production of waxes and additives, Competence Centre for industrial-scale biotechnology and biomass production www.industriepark-zeitz.de

Wittenberg ● 1 A

Weißandt-Görlzau ● 6

Bitterfeld-Wolfen ● 18 B

Halle/Saale ● 3 11 13 19

Merseburg ● 5 9 10 12 14 15 17

Schkopau ● 4 C

Leuna ● 2 D

Research and Development

- 1 Agrochemical Institute Piesteritz e.V. (AIP) | www.aip.uni-halle.de
- 2 Chemical-Biotechnological Process Centre (Fraunhofer CBP), Leuna | www.igb.fraunhofer.de; www.infraleuna.de
- 3 Fraunhofer Institute for Mechanics of Materials IWM Halle, Halle (Saale) | www.iwm.fraunhofer.de
- 4 Fraunhofer Pilot Plant for Polymer Synthesis and Polymer Processing PAZ, Schkopau | www.polymer-pilotanlagen.de
- 5 UAS Merseburg (FH), Department INW Engineering and Natural Sciences, Merseburg | www.fh-merseburg.de
- 6 Institute for Plastics Technology and –recycling e.V. (IKTR e.V.), Weißandt-Görlzau | www.iktr-online.de
- 7 Institute for Varnish and Coating e.V. (ILF), Magdeburg | www.lackinstitut-magdeburg.de
- 8 Institute of Commodity Reclamation (IfN), Elsteraue OT Tröglitz | www.ifn-gmbh.info
- 9 Institute for Polymer Feedstocks e.V. (IPW), Merseburg | www.ipw.uni-halle.de
- 10 Plastics Competence Centre Halle/Merseburg (KKZ), Merseburg | www.kkz-halle-merseburg.de
- 11 Martin Luther University Halle-Wittenberg, Institute for Technical Chemistry and Macromolecular Chemistry, Halle (Saale) | www2.chemie.uni-halle.de
- 12 Martin Luther University Halle-Wittenberg, Chair for Plastics Engineering, Merseburg | www.kunststofftechnik.uni-halle.de
- 13 Max Planck Institute for Microstructure Physics Halle (MPI), Halle (Saale) | www.mpi-halle.mpg.de
- 14 Polymer Service GmbH Merseburg (PSM), Merseburg | <http://polymerjoppnet2.biz/>
- 15 Academy Central German Plastics Innovation AMK, Merseburg | www.hs-merseburg.de/amk/
- 16 Centre for Fibre Compounds Haldensleben GmbH (ZFH), Haldensleben | www.zfhaldensleben.de

Tröglitz ● 8

Zeitz ● E

Technology and Start-up Centres

- 17 The Merseburg Innovation and Technology Centre GmbH (mitz), Merseburg | www.mitz-merseburg.de
- 18 Science and Technology Park (TGZ) Bitterfeld-Wolfen GmbH, Bitterfeld-Wolfen | www.tgz-chemie.de
- 19 Technology and Start-up Centres and BioCentre at weinberg campus Halle | www.weinbergcampus.de

Central German Networks

- > 4chiral – Network | www.4chiral.net
- > CeChemNet – Central European Chemical Network | www.cechemnet.de
- > Innovative Brown Coal Integration Central Germany ibi | www.ibi-mitteldeutschland.de
- > Innovation Cluster "Polymer Technology" Halle-Leipzig | www.fraunhofer.de/institute-einrichtungen/innovationscluster/PolymerTechnologie.jsp
- > Innovativer Regionaler Wachstumskern – ReactiveWetCoating 2 | www.wetcoating.de
- > Central German Network Rapid Prototyping | www.rp-netzwerk.de
- > NEMO NETWORK "Nano-NaRo-Polymer-Products" | www.nano-naro-polymer-products.de
- > POLYKUM e.V. "Association for the Promotion of Polymer Development and Plastics Engineering in Central Germany" (Saxony-Anhalt) | www.polykum.de
- > Special-purpose Association for the Promotion of Mechanical and Process Plant Engineering FASA e.V. | www.fasa-ev.de

5

Chemical Parks

ChemiePark Bitterfeld-Wolfen, Chemical site Leuna, Dow ValuPark® Schkopau/Böhlen,
Agro-Chemiepark Piesteritz, Chemie und Industriepark Zeitz

15

Research Competence Centres

See page 17

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Companies

Number of chemical processing and rubber and plastics processing companies in Saxony-Anhalt in 2010

Source: Statistics Agency Saxony-Anhalt

Note: companies with 20+ employees

23.195^{*}

Employees

Number of employees in the sector of producing chemical goods and rubber and plastics commodity in Saxony-Anhalt in 2010

^{*}Additional effects on the development of employment by up- and downstream branches

Source: Statistics Agency Saxony-Anhalt

8.153.409.000

Euro Turnover 2010

Turnover in the sector of producing chemical goods and rubber and plastics commodity in Saxony-Anhalt in 2010

Source: Statistics Agency Saxony-Anhalt

Reducing the environmental pollution by **95%**

while increasing turnover by 1.5 times at the same time since the German reunification

Short Ways to Markets and Suppliers

Chemical logistics are getting more and more important for Saxony-Anhalt

Since the eastern European expansion of the EU Saxony-Anhalt is in the centre of the European Economic Area. Due to its geographical location ten out of 17 traffic projects “German reunification” are passing the Land. There are five rail-, four road- and one waterway project. Among an employer-friendly policy of new business locations, fast approval procedures, it is the outstanding traffic infrastructure that provided the Land to become a hub of international logistics. It becomes more and more significant as a junction of transport and logistics between east and west. The new freight junction of DHL (logistics subsidiary of Deutsche Post) at the Intercontinental Airport Leipzig/Halle is an important instance. It is for the south of Saxony-Anhalt as important as the extension of docks in Magdeburg for the Land’s north. The ways to suppliers and markets in the east as well as in the west are comparatively short.

Also the chemical and plastics processing industry profits by Central Germany's development into a hub of logistics. About ten million tons of chemical goods have been trans-shipped in Saxony-Anhalt in 2002, and even 25.5 million tons in 2007. In the following years a freight transport volume of 50 to 55 million tons annually is intended. In any other freight branch of Saxony-Anhalt a similarly high dynamic is to be seen.

Excellent conditions for shifting the chemical industry's traffic flows have been created by a new terminal for combined road and rail traffic at ValuePark® near Schkopau. The Central German chemical sites have a long-range pipeline system at their disposal. Dow Chemical pipelines for raw material supply extend to the coasts. All that meets the chemical logistics' special needs. To improve access to future markets especially in Eastern Europe the logistic structures in Saxony-Anhalt are expanded in view of current and forthcoming commodity flows. Another terminal with national as well as international orientation shall be built at Leuna site.

Railway and inland waterway transportation gets more and more important for trans-shipping chemical goods. Centres of logistics have to be expanded and interlinked for attracting investors. The Land Government presses for the rail connection Erfurt – Halle / Leipzig to be finished. Furthermore it campaigns European pipeline networks. Like connections to and across the Baltic States, to Russia, Belarus and the Ukraine on one hand and connections to the Czech Republic and farther to the southeast European states on the other hand, as the Land Government's logistic concept states. Alternatively combined transport chains to the Baltic harbours would be suitable.

To cope with the fast growing meaning of logistics for the chemical industry, the project ChemLog has been developed by the European Chemical Region Network ECRN and the Cluster Chemistry /Plastics Central Germany together with the government of Saxony-Anhalt.

ChemLog is a European cooperation project between regions chemical associations and research institutions across Germany, Poland, the Czech Republic, Slovenia, Hungary, Austria and Italy. It intends to strengthen the chemical industry's competitiveness by better surrounding conditions for logistics in Central and Eastern Europe.

According to ChemLog a hub is developed in the South of Saxony-Anhalt to bundle chemical goods transports heading for Eastern Europe. Already existing as well as planned terminals at Schkopau, Leuna, Halle and Leipzig-Wahren are to fulfill hub functions by cooperating and interlocking. ChemLog promoted the development of the railroad line Knappenrode-Horka without further delays. This railroad line is part of the pan-European transport corridor III which passes Germany, Poland and the Ukraine on the way to Moscow. The Italian ChemLog partners support terminal development along the transportation route from Northern Italy to Moscow to offer specific services for the chemical industry. For example tank cleaning facilities are planned to be built along this route.

In Slovakia, Hungary and the Ukraine there are only a few intermodal terminals to be found, tank cleaning facilities are planned to be developed at Zahony (H), Dobra (SK) und Cop (UK). Furthermore, ChemLog asks for improving transport connections beyond EU borders as well as harmonisation of national standards, customs regulations and handling of border procedures.



Holistic approach for recruiting skilled employees in the chemical and plastics processing industry



Source: German Federal Employment Agency, regional direction Saxony-Anhalt-Thuringia employers' sector
 Branch overview chemical and plastics processing industry: analyses and evaluation of skilled workers' status in the chemical and plastics processing industry in Saxony-Anhalt and Merseburg Employment Agency status as of 15th August 2011 - 220.5-5211B

New Ways to Face the Expected Lack of Skilled Employees

Industry's players work hand in hand

Skilled workers in the chemical and plastics manufacturing industry are increasingly scarce in Saxony-Anhalt. The demographic change as well as increasing mobility leads to the fact that upholding the amount of skilled workers has become one of the main tasks for companies as well as for education and research institutions. Companies, associations, schools, networks, societies as well as trade unions have realized this problem.

They have employed a bundle of diverse measures to face the threat of having a lack of skilled workers. These measures go along with the skilled workers maintenance pact ("Fachkräftesicherungspakt") which has been established in 2010 by the state government of Saxony-Anhalt together with other partners. For instance, the cooperation between universities, business and schools should be strengthened in order to motivate students for MINT-study programs (MINT= mathematics, informatics/computer science, natural sciences and technology) and to bind engineering graduates to Saxony-Anhalt. The College of Merseburg, which has established a new engineering study programme for plastics technology in 2010, is looking jointly with the chemical park Leuna in the framework of an "Engineers-Offensive Chemistry/Plastics Central Germany" for new ways to attract young professional. This new form of attraction/recruitment has the purpose to interest students already at a very early stage for natural science and technical jobs as well as for internships at the respective companies. As a matter of fact, college and companies can link this activity to diverse other efforts which have been in place for years intending to enhance the interest and competence of students in the area of natural sciences and technical studies. This is also true for the students' laboratory "Approachable Chemistry" ("Chemie zum anfassen"), for the students' laboratory "Understanding Technology" ("Technik begreifen") as well as for the project "Schoolgirl Technology Club Merseburg". Partly, students from 2nd grade onwards are already the target group for these initiatives. The Friedrich-Ludwig-Jahn elementary school Leuna has won the German innovation price for sustainable education in the year 2008. The price was awarded not only but also because of the schools' offer to attend chemistry working groups already before 1st grade in the neighborhood of large chemistry companies.

The Federal Employment Agency, regional office Saxony-Anhalt/Thüringen, considers job orientation in child daycare facilities to be already a possibility of skilled workers recruitment for the chemistry and plastics sector. Further, the Employers Association Nordostchemie is also committed to offer job orientation at the age of Kindergarten onwards till the end of grammar school. However, it is not only focusing on students but also on teachers. Their training is as much supported as regular chemistry lessons. In the framework of the campaign "Pro Chemistry Lesson" over 100 000 Euro of funding have been donated since 2004 to schools in the neighborhood in order to support lessons. The formation initiative of chemistry employers, namely "Work and Life", is pursuing jointly with the trade union mining chemistry energy, the employers association Nordostchemie, and the training support company Chemie GmbH a common strategy called "Chemie4You". This strategy offers schoolgirls and boys the chance to get informed about the numerous formation possibilities existing in this line of business.

The Ministry of Science and Economic Affairs (oder doch Arbeit und Soziales?) supports companies to maintain and acquire skilled workers since many years. Moreover, the state government has actively supported the formation of more than 1 000 additional teenagers to become qualified employees in the chemical industry by contributing financial support on a yearly basis to the skilled workers initiative since the mid 1990's. Numerous measures are also offered in the field of further training. These multifaceted intergenerational efforts are necessary because the amount of persons that are available to the labour market is going to decrease by 155 000 from 2010 to 2016 to a total amount of 1,07 million people. This equals a decline of ~13%. According to the Ministry of Science and Economic Affairs the amount of grammar school graduates will decrease by nearly ten percent from 18 700 to 16 960 at the same time.

Change in Chemistry Protects Environment

Industry promotes a sustainable development – water consumption, air pollution and waste drastically reduced since 1990

Nowadays Saxony-Anhalt's modern chemistry minimizes environmental pollution to an increasing degree. Extensive investments into modern plants and procedures, in which measures for environment protection have been already integrated into the process, provided for that. It has not always been this way. Up to the structural change in 1990, the chemical industry in the territory of the today's New Laender has been the number-one polluter. In 1989 the holding of plants has been in average 45 years old. By the structural change also the emissions into the environment could be drastically reduced. Water consumption had been reduced by 85 per cent since 1990. Waste disposal fell by 92 per cent. Water pollution had been reduced by 95 per cent, air pollution by 89 per cent. By to some extent considerably reduced resources in 2005 the turnover of East German chemical industry of 1989/90 could be reached again. To make that development last, the chemical industry still focuses on sustainability: The chemical parks build up a location-comprehensive management of sustainability. So not only a new quality of location development shall be achieved but also the competitiveness be raised. Sustainable location development promotes the chemical industry's role as leading branch in the Land. Thereby advantageous conditions for further businesses at the chemical locations – also of branches like automotive, solar and biotechnology - get established.



Quality of Life paired with Public Acceptance

The chemical industry has a long tradition in Saxony-Anhalt. Already at the end of the 19th century the first chemical businesses emerged here. Today the chemical and plastics industry secures more than 23 200 jobs over the complete production and value-added chain in Saxony-Anhalt. Thereby the chemical industry is highly accepted by the people living here. To keep that standing, many firms, universities, academies, research institutions, schools, inter-trade organisations and trade unions act in concert. These efforts improve the chemistry's public acceptance. They convince pupils and parents by persuasion that the chemical and plastic production is a modern branch, which offers future-proof jobs.

In Saxony-Anhalt industrial tradition is connected to a cultural history of international standing. Almost 500 years ago the Reformation spread out of this region. Saxony-Anhalt is the Land with the highest concentration of UNESCO World Heritages in Germany. As many other places, attractive cities like Halle, Magdeburg and Dessau offer a high-quality lifestyle. To some extent a thousand-year-long tradition and modern life are united. A number of museums preserve fantastic art treasures of untold worth. There is a traditionally close and manifold network of scientific and academic institutions that can compete with every other region in Germany. In Saxony-Anhalt and the neighbouring Länder of Saxony and Thuringia, 43 universities, colleges and technical colleges and altogether 80 applied institutes of national research academies are located. Leopoldina, the oldest German natural scientific academy, resides in Halle. Since 2008 it is the National Academy of Naturalists.

IMG Investment and Marketing Corporation Saxony-Anhalt

The Investment and Marketing Corporation Saxony-Anhalt (IMG) is the economic development agency of the German federal state Saxony-Anhalt. The IMG provides all services related to new business sites and supports investors as One-Stop-Agency – from acquisition to the start of production. In addition, the IMG markets Saxony-Anhalt both nationally and internationally and develops tourism concepts. All queries are treated confidentially and the services are free of charge. Saxony-Anhalt's government is the sole IMG Shareholder. IMG supervisory board chairman is Prof. Dr. Birgitta Wolff, Minister of Science and Economic Affairs.

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There are several possibilities of financial funding for companies that intend to invest in Saxony-Anhalt. We also consult you on public grant programmes for investment projects and arrange meetings with potential partners.

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Zoning plan, site development plan, EIA, permit, application, notification and administrative decision – do all these sound like gobbledegook to you? We sort out administrative procedures to make your investment happen. You can use our network in the Land's institutions to realise your project. We identify contacts in public authorities, coordinate and negotiate for you at state, district and municipal levels, and with official bodies. We were tasked by the Ministry of Science and Economic Affairs of Saxony-Anhalt to guide you through implementation of your project as a one-stop agency.

**All requests are kept in confidence
and our services are free of charge!**



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10 Advantages of Saxony-Anhalt

Flexibility

With fast approval and short project times, we make it easier for you to enter the market.

Productivity

The moderate wage costs along with a stable and secure legal system ensure you have a significant competitive advantage.

Investment Security

Saxony-Anhalt's political and legal stability makes it a reliable investment partner.

Infrastructure

Excellent transport and logistics infrastructure offers you rapid turnover.

Investment Incentives

The excellent range of incentives means that you can count on noticeable reductions in investment, trading and R&D costs.

Competence

Highly motivated and qualified workforce ensures long-term success.

Market Access

Saxony-Anhalt's central location in Europe guarantees the best access to the Eastern European economic area as the EU expands eastwards.

Dynamic Economic Area

Saxony-Anhalt receives the most foreign investment in eastern Germany.

Quality and Innovation

Made in Germany – the high-tech label receives much of its stimulus from Saxony-Anhalt.

Free Service

IMG's free, professional settlement support allows you to concentrate fully on core competencies.

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