

SAXONY-ANHALT

Inspiring Germany's future
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Saxony-Anhalt: A state of culture and technology

Best known for its industrial and cultural heritage, the German federal state of Saxony-Anhalt is the ideal place to invest, live and work in today

As the birthplace of the Reformation five centuries ago and the cradle of Bauhausian industrial modernism in the 1920s, Saxony-Anhalt has always been a fertile home for world-changing ideas.

Located at the heart of Germany, the eighth-largest of the country's 16 states is still taking a lead in global revolutions, having built on its strengths in chemical, engineering, automotive and food industries to become a force in technologies covering areas such as batteries, hydrogen, the bioeconomy, life sciences, medtech, digitalization, industry 4.0, electric mobility, renewable energy, sustainability and smart materials. Throughout the state are thriving clusters for many of those sectors that include collaborative scientific institutions, established companies and startups. Among them are a growing number of global players like Akzo Nobel, Bayer, Borealis, IBM, IDT Biologika, Merck and Novartis, along with international entrepreneurs and others that have chosen to invest in the dynamic region. As Sven Schulze, State Minister for Economic Affairs, Tourism, Agriculture and Forestry, puts it: "Investors are

"International companies appreciate our outstanding infrastructure, innovative research landscape, effective transfer of technology, qualified workforce and attractive funding."

Dr. Reiner Haseloff, Minister President

turning their attention to Saxony-Anhalt, which is on the way from being an insider tip to becoming an economic hitmaker."

Analysis of just a few recent investments illustrates how the state has pivoted toward high-tech and green industries. For instance, Finland's UPM is investing in a refinery that will extract biochemicals from sustainable wood, while the U.K.'s AlgaeCytes is setting up the world's first algae-based biorefinery. Both projects will further boost Saxony-Anhalt's bioeconomy, which already generates over 16 percent of its industrial revenues. Oil and gas multinational TotalEnergies, on the other hand, is capitalizing on the state's expansive hydrogen expertise and infrastructure in a joint venture with Fraunhofer researchers and the German electrolyser manufacturer Sunfire to create synthetic methanol from locally produced hydrogen.

Saxony-Anhalt has also accrued projects across the e-battery value chain, running from Dutch company AMG's building of a lithium hydroxide refinery, through to Tesvolt's establishment of Europe's first e-battery giga factory. One of the state's most recent investors is another good example: this March, Intel announced that its capital, Magdeburg, had seen off global competition to be the site of a new \$17-billion semiconductor factory. Dr. Reiner



Collegiate Church of St. Servatius in Quedlinburg

Haseloff, Minister President of Saxony-Anhalt, sums up some reasons why the small region is so attractive to enterprises like these: "National and international companies appreciate our outstanding infrastructure, innovative research landscape, effective transfer of technology, qualified workforce and attractive funding."

125 million consumers—25% of Europe's total population—live within 500 kilometers of the state and that market is accessible through a transportation and logistics network containing pan-European expressways, Leipzig-Halle International Airport, over 3,000 kilometers of railway tracks and 600 kilometers of waterways with 18 ports. As it strives to phase out coal by 2038, the region's green energy infrastructure is also well developed, with wind and solar already supplying about 60 percent of its electricity, far ahead of the average in Germany. Saxony-Anhalt's climate for business and investment is a cut above others as well.

Aided by economic development agency Investment and Marketing Corporation (IMG) Saxony-Anhalt, enticing incentives can be quickly accessed and links are easily made with authorities or partners. Among those potential partners are 29 research institutes, 12 centers of research and development excellence, two universities and eight universities of applied sciences that make up one of Germany's densest research landscapes. Saxony-Anhalt's further education institutions provide practical training to around 55,000 students a year in total, with an impressive 90 percent of the state's skilled workforce having completed professional or university courses.

A truly special and unique location

One crucial advantage for international companies, entrepreneurs and others is the incredible quality of life on offer in welcoming Saxony-Anhalt. For instance, there are abundant career opportunities in future-focused businesses and institutions. It also leads its nation in services for parents, with all children up to the age of 14 having a statutory right to full-day care. Living, land and housing costs are substantially below the German average as well, while world-class internet connections are available in vibrant, cosmopolitan cities and the region's idyllic countryside, which helps explain why almost 32 percent of all startups are based in rural communities. Saxony-Anhalt is stunning in terms of both its natural environment and its vast cultural



Dr. Reiner Haseloff
Minister President



The oldest Gothic cathedral in Germany is in Magdeburg

resources, factors that enthrall residents and visitors. Indeed, the state has recorded higher annual growth in tourist numbers than any other part of the country in recent years.

Boasting 60,000 cultural, architectural, historical and archaeological monuments, it is the heartland of German history. Among a cornucopia of castles, palaces, cathedrals, picturesque old towns and 1,000 parks are five spectacular UNESCO World Heritage Sites. At the Martin Luther Memorials, you can visit the houses and churches where the Reformation's instigator lived and worked, while nearby Dessau hosts the largest number of buildings

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Sven Schulze, State Minister for Economic Affairs, Tourism, Agriculture and Forestry

associated with the Bauhaus school, which settled in the town in 1925 and transformed it into a capital of modernism. Two more World Heritage Sites are awe-inspiring monuments of the Middle Ages: Naumburg cathedral and Quedlinburg, a medieval city of half-timbered houses and cobbled alleys that wind up to a hill-top castle and church. The fifth site is entirely different: the 18th-century Garden Kingdom of Dessau-Wörlitz is the jewel of a Garden Dreams trail that connects the region's 43 most beautiful and historic landscaped gardens. Other treasures noted by UNESCO include the Bronze Age Nebra Sky Disc, the world's oldest representation of the cosmos, which is listed on its Memory of the World Register.

The region also has a strong heritage in art, theater and, especially, music. Handel, Bach, Telemann and Weill lived and composed there and their music is celebrated at performances throughout the year. Far from being preserved in aspic, however, culture is alive and flourishing in Saxony-Anhalt. The annual MELT! Festival, for example, is among Europe's biggest contemporary music events. The state's main cities—Magdeburg and Halle—are also constantly evolving, with billions of euros having been invested in their refurbishment and modernization in recent years. Today, the two riverside metropolises successfully blend their cultural history with small galleries, street art, designer and artisan workshops, plus a plethora of performing and visual art venues.



The glorious Garden Kingdom of Dessau-Wörlitz

It's not just the state's cultural heritage that UNESCO has recognized. The wetlands of its Middle Elbe Biosphere Reserve are a UNESCO study location for sustainable development and Harz National Park is part of the Global UNESCO Network of GeoParks. Throughout Saxony-Anhalt are unspoiled landscapes that run from lowland meadows to forests and magical mountains, which are complemented by innumerable rivers and lakes. That makes it a paradise for lazy walks, boat trips and tranquil picnics, as well as for more strenuous activities. The invigorating possibilities include hiking, horse riding, sailing, surfing, rock climbing, cycling on 40,000 kilometers of rural paths and flying along Europe's longest double-rope slide that spans a breathtaking river gorge.

With three Michelin-starred venues and many other traditional, creative and international restaurants across the state, Saxony-Anhalt's unique culinary delights are also worth investigating. Some of its standout products are Harz cheese, Halloren balls from Germany's oldest chocolate factory, wines from its Saale-Unstrut region, the world's oldest branded beer Garley and craft beers from emerging breweries. Overall, as Schulze says: "It's a beautiful, livable and culturally rich region. We look forward to welcoming visitors and new residents who want to discover it."



Sven Schulze
State Minister for Economic Affairs, Tourism, Agriculture and Forestry

Introducing Saxony-Anhalt



Population:
2.2m



Total area:
20,451 km²



Capital city:
Magdeburg



No.1 for investments:
In eastern Germany

A perfect ground for startups

Saxony-Anhalt has created the perfect conditions for tech-focused entrepreneurs in diverse industries to prosper

Startup activity in Saxony-Anhalt has gained significant momentum in recent years, with innovative companies emerging in numerous sectors that are rapidly attracting global interest from customers and investors.

“Traditionally, Saxony-Anhalt fosters excellent startups in mechanical engineering, information technology and life sciences, but more and more of our startups with business models based on environmental, health, sustainability, social and other issues are getting attention,” reveals Daniel Worch, managing director of Univations, a company owned by Martin Luther University Halle-Wittenberg that is tasked with supporting startups, managing innovation and accelerating knowledge transfer throughout the region.

Although Saxony-Anhalt’s startup ecosystem is not the largest in Germany, one major advantage for young companies is an extremely strong support network that connects all stakeholders. Economic development agency Investment and Marketing Corporation (IMG) Saxony-Anhalt is always on hand to assist international entrepreneurs wanting to move to the region or to link up global companies and investors with local innovators, for instance. Award-winning Univations is also a central cog of the ecosystem, Worch explains: “We’re a link between startups and investors, plus relevant partners from business and science. We work very closely with all chambers, authorities, universities,

“Traditionally, Saxony-Anhalt fosters excellent startups in mechanical engineering, information technology and life sciences.”

Daniel Worch, Managing Director, Univations

institutes, science parks, business angels and other capital providers.” Among its projects that are backed by state and European-Union funding, Univations’ HIER.we go! online portal is a comprehensive information source for startups. Another of its crucial initiatives is InvestForum, through which it has provided 300 startups with free coaching and workshops, while its investor matching services have brokered €70 million in funding for the investment-ready firms it has mentored.

A second benefit is well-established local sources of public and private funding, such as the state-owned Investment Bank Saxony-Anhalt and Mittelständische Beteiligungsgesellschaft Sachsen-Anhalt, whose shareholders are banks, insurance firms, chambers and business associations. The most prominent source is IBG Beteiligungsgesellschaft Sachsen-Anhalt, a state-owned venture capitalist with investment funds worth over \$160 million that currently has around 50 tech-based companies in its portfolio. Since 2015, its funds have been overseen by the experienced German VC fund manager bmp Ventures. “We started investing in tech startups in 1997 and have a track record of over 250 investments, 100 exits and 20 initial public offerings. We’re hands-on VC



Europe’s Solar Valley is seeing a startup boom

managers focused on motivated entrepreneurs that want to build up companies in high-growth markets,” says bmp’s managing partner, Jan Alberti.

In terms of IBG’s funds specifically, bmp’s goal is to invest in innovative, scalable ideas with unique selling points in sectors that reflect Saxony-Anhalt’s economic priorities, such as digital solutions, industrial technologies, life and material sciences, cleantech and mobility, he states: “In many cases, we’re the first institutional investor in our portfolio companies and we ensure financing for at least two years, either alone as lead investor or with co-investors. Typically, we invest over several financing rounds.”

Just a few examples of the locally founded startups that are thriving in IBG’s portfolio are Paxly, an e-procurement platform for cardboard that has transformed the German packaging market; Baby Sweets, an online shop for unusual baby clothes and accessories; pure-systems that has developed world-leading software for production-line management; and Twinner, a company with a unique system for generating 3D digital twins of cars. As well as IBG, Twinner’s investors include the Japanese industrial and automotive conglomerate Sojitz Corporation, while its most recent Series B funding round raised a further €40 million. Those investors and international clients like BMW, VW and Renault believe it can become a global standard for the online selling and leasing of used vehicles. “Twiner provides the most advanced image-capturing technology and inspection system for the remarketing process,” enthuses Gilles Meriadec, business director of Renault’s Factory VO in France, which is using the technology to digitalize up to 45,000 used vehicles a year before refurbishing and reselling them.

As well as supporting businesses founded in the region, “bmp invests IBG funds in outstanding startups that aim to have a footprint in Saxony-Anhalt. Due to our approach, we’ve attracted several great startups to the state,” asserts Alberti. An illustration of this is Solar Materials, which has joined the region’s expanding circular economy to pilot and scale up its recycling technologies that economically recover all raw materials from obsolete solar panels. Two others are Conceptboard, whose online whiteboard for digital collaboration is now used by more than 2 million people in 100 countries, and Coman Software that spun off from a Berlin-based company with the help of \$1.2 million in funding from IBG. Today, Coman’s process-management software for plant construction in the automotive, mechanical engineering, construction and other industries is an essential tool for global companies like Siemens, Daimler and BMW.



Saxony-Anhalt is a hotspot for medical technologies

A further factor driving the region’s success as a base for entrepreneurs is its geographical position. “Saxony-Anhalt is very centrally located in the middle of Germany: Berlin can be reached in about an hour, Munich in three and Frankfurt in 2.5, while Halle-Leipzig Airport is a European flight hub. Saxony-Anhalt also stands for good childcare, a high standard of leisure activities and a comparatively low cost of living,” Alberti comments. In addition, notes Worch, “The state contains the perfect infrastructure for startups. There are inexpensive and very well-equipped work spaces and, in contrast to some startup hotspots, you can find qualified employees at a suitable price.” Those elements have helped enable the quick expansion of businesses like Tesvolt, which began life in a Saxony-Anhalt garage, became a global leader in energy storage after building Europe’s first gigafactory for commercial battery storage systems and is now moving into hydrogen projects. According to Simon Schandert, one of its founders: “You have to be somewhere where you have the best chance of solving problems and where you have access to good conditions. Saxony-Anhalt is a highly promising choice for company location projects.”

Many of the region’s startups were founded by people who studied or worked at its first-class universities and research institutes, and they retain close connections with them as they grow. For instance, medtech firm Surag, which has created a plug-and-play sensing system that is revolutionizing keyhole surgery, came out of Otto von Guericke University Magdeburg and still works from its campus. Also in the health arena is PerioTrap Pharmaceuticals, a spin-off from the Fraunhofer Institute for Cell Therapy and Immunology Halle, that is developing innovative treatments for periodontitis. And another example is Neotiv, which raised €10 million in November 2022 in a pre-Series A financing round led by Capricorn Partners, High-Tech Gründerfonds and IBG to accelerate its digital platform for early Alzheimer’s screening. For Neotiv’s CEO and co-founder Chris Rehse: “Being located in Saxony-Anhalt is a unique opportunity. World-renowned research centers like the German Centre for Neurodegenerative Diseases and the Institute of Cognitive Neurology and Dementia Research offer us a vital environment for transferring groundbreaking science into products that have high value.”

The region also boasts a wide range of industrial parks and clusters of excellence that provide startups with services and space, Alberti says: “Saxony-Anhalt has many excellent clusters in various fields of technology. An innovation hub for medtech has been formed in Magdeburg, for example, while Bitterfeld-Wolfen Chemical Park has emerged as a cluster for chemistry

Saxony-Anhalt: 6 key advantages for establishing and growing innovative businesses



A strong support network of business, science and financial partners



Well-established public and private sources of capital and research funding



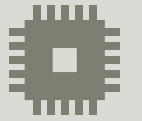
Quick and easy access to markets and suppliers **throughout Europe and beyond**



Competitive costs for living, work spaces and hiring highly **qualified local employees**



Close proximity to world-class and collaborative universities and research institutes



Clusters of excellence for a range of technologies that help **accelerate business growth**

and cleantech startups. In life sciences, the Weinberg Campus, as the largest science park in central Germany, stands for its excellent infrastructure and an accelerator that supports early-stage companies.”

Saxony-Anhalt is home to a number of impressive general and industry-specific accelerators, with Weinberg’s being focused on health, medicine, chemistry, the bioeconomy, energy and recycling. One recent graduate of its accelerator is Marco Götz, co-founder of matrihealth that is making natural wound dressings from elastin: “I was particularly impressed by how many small, highly innovative companies and startups there are at the campus, alongside the large institutes and research facilities. This generates an exciting, motivating atmosphere.”

Probably the best place to uncover the next generation of Saxony-Anhalt innovators is the annual InvestForum Pitch Day, where startups and founding projects present their concepts to global investors. “It gives investors the opportunity to recognize the great potential of our startup scene, establish contacts and sound out potential business relationships,” says Sven Schulze, State Minister for Economic Affairs, Tourism, Agriculture and Forestry. “Saxony-Anhalt will continue to create startup-friendly conditions and to drive startups forward.”

Europe's center for high-tech and green investments

Thomas Einsfelder, Managing Director, Investment and Marketing Corporation (IMG) Saxony-Anhalt, presents a new hotspot for investors

Saxony-Anhalt has positioned itself on the radar of investors. As head of the economic development agency Investment and Marketing Corporation (IMG) Saxony-Anhalt, what are some of the state's strengths?

It is an up-and-coming federal state in Germany that has undergone tremendous development. 10 years ago, we had a gross domestic product of roughly €50 billion. By the end of 2021, that had risen by about 20 percent to €63 billion, which is extremely solid growth over such a short period. Within the last five years, we have also attracted 272 new investment projects worth €3.2 billion that have created 7,776 new jobs and there are a variety of factors that have contributed to that. For instance, we've been an industry-focused location for over 150 years and have always been strong in forward-looking, innovative areas such as mechanical engineering, chemicals and the automotive sector, all of which are industries that have continued to advance here.

Overall, the state is future-oriented and technology savvy, with a well-trained workforce, highly skilled talent and an immensely robust scientific landscape that includes a rich density of research institutions. We also have two prominent universities in Magdeburg and Halle that focus on



Thomas Einsfelder
Managing Director
IMG Saxony-Anhalt



300 automotive industry suppliers are based in Saxony-Anhalt

mathematics, engineering, medical science and computer science, while our business and research sectors are closely intertwined. In addition, we are conveniently located between Berlin and Hanover at the heart of Germany and Europe, and one of our advantages is that we have very modern transport infrastructure in terms of motorways, railways, waterways and Germany's second-largest cargo hub—the airport of Leipzig-Halle.

To help maintain Saxony-Anhalt as an industrial and research hotspot, IMG acts as a partner for all potential and established investors, which receive advice from us regarding, for instance, potential partners in technology, funding, financing and marketing. We're a small state, which enables our government and other institutions to react with agility in its investment and business processes. However, even though we are small, there's substantial industrial space available here for large-scale investments.

2021 saw a record number of investors moving into Saxony-Anhalt. IMG was involved in 68 new projects, most of which concerned high-tech industries. Is that trend continuing in 2022?

This trend is certainly continuing as Saxony-Anhalt has become interesting for major investments by global companies that now recognize it as a region of future technologies and the government has set up a special unit to offer optimal support for this type of project. This year, we were thrilled when Intel decided that our capital Magdeburg is the right location for a

A dynamic destination for forward-focused international investors



GDP has risen **20%** in 10 years to reach **€63bn** in 2021



Between 2017 and 2021, IMG attracted investments worth **€3.2bn** to Saxony-Anhalt



2022 investment commitments include **€17bn** from Intel and over **€225m** from Avnet



Leipzig-Halle airport is Germany's **2nd-largest** cargo hub



Home to **29 business-oriented** research institutes



60% of Saxony-Anhalt's energy mix is green

mega semiconductor factory. It's among the largest inward investments Germany, and indeed the European Union, has ever seen. In February, leading U.S. technology company Avnet revealed it is investing over €225 million in a high-performance distribution center for semiconductors and electronic components here. On a site covering around 190,000 square meters, this eco-certified logistics center will serve Europe's growing market for these products. Avnet has stated that the main factors behind it choosing the city of Bernburg for the facility were Saxony-Anhalt's central European location and the convenient connection to Leipzig-Halle airport, while IMG's rapid assistance on planning requirements for the site paid off as well.

Saxony-Anhalt also stands out for its high-tech bioeconomy and is making a name as a destination for investors prioritizing sustainability in a broad range of sectors. Why is it so successful in these areas?

Our bioeconomy is booming and one reason for that is our extensive chemical industry, which has a focus on green issues and is working together with players in the bioeconomy sector on ways to replace fossil fuels—for example, by making plastics from alternative materials such as wood or sugar. Saxony-Anhalt has the capabilities to scale up bioeconomy processes like that and we have many investment projects in this area. In terms of investors in other industries that want to make their processes more sustainable, 60 percent of the energy produced in Saxony-Anhalt is green—we generate significant amounts of wind and solar power. Our energy mix is much greener than you typically find in Germany, but energy costs here are at par with the rest of the country. We also offer extensive plug-and-play hydrogen infrastructure that includes a large hydrogen pipeline and a platform for testing electrolyzers. To put it simply, Saxony-Anhalt has the means to make production green.

As the electric-vehicle (EV) revolution continues to gather pace, can Germany's automotive industry keep its competitive edge globally?

Part of our state's heritage is a network of 300 automotive industry suppliers and we've recently amassed a lot of international investors around EVs, particularly in relation to lithium. That's mainly because you need a central location to produce and distribute lithium and batteries, and we are close to huge EV production facilities of Tesla and Volkswagen. As well as proximity to big vehicle manufacturers, investments are being driven by our green energy, the chemical engineering know-how of our universities and the opportunity to make partnerships here. Our downstream e-battery industry is also remarkable: we have a strong thread of research going on in battery recycling and great battery testing facilities, for instance.

How attractive are Saxony-Anhalt's cities for those considering investing, living or working in the state?

The high quality of life in Saxony-Anhalt has helped us attract many investors. I would like to illustrate this by looking at Halle. Within that city is Germany's second-largest park for tech industries, which is strong in biotechnology, life sciences and pharmaceuticals. It's also a beautiful, green city, with the River Saale flowing through it and a historic landscape: if you're a fan of architecture, you can find great buildings from every century, from medieval Gothic to Renaissance Baroque and contemporary industrial style. Halle is also a university city full of culture, art, a lively social scene, cozy co-working spaces and it's easily traversable by bicycle. Saxony-Anhalt as a whole is the perfect place to live and work.

A Silicon Junction that connects the EU

In March 2022, Intel announced that it would be developing a mega semiconductor factory in Magdeburg. Worth \$17 billion, two state-of-the-art facilities will cover 1,000 square hectares and will be 100-percent powered by green energy. We asked Christin Eisenschmid, managing director of Intel Germany, what the deciding reasons were for choosing the capital city of Saxony-Anhalt as the location for this substantial investment project.

Germany's skilled workforce and central geographical location were important factors, but it shouldn't be forgotten that Germany

Germany's skilled workforce and central geographical location were important factors, but it shouldn't be forgotten that Germany is the fourth-largest economy worldwide. The country also offers an unparalleled ecosystem of small and medium-sized enterprises, suppliers and houses many so-called hidden champions. In addition, the city of Magdeburg itself provides the necessary infrastructure and space, plus it scores highly due to its close proximity to universities.

“At the center of Europe and with top talent, superb infrastructure and an existing ecosystem of suppliers and customers, Saxony-Anhalt is an ideal place to establish a new hub.”
Christin Eisenschmid, Managing Director, Intel Germany

Intel CEO Pat Gelsinger coined the term Silicon Junction in relation to your new factory acting as a hub for advanced chip making. Could you describe Intel's Silicon Junction concept in more detail?

At the center of Europe and with top talent, superb infrastructure and an existing ecosystem of suppliers and customers, Saxony-Anhalt is an ideal place to establish a new hub. Intel plans to refer to the Magdeburg site as the Silicon Junction that is connecting technology. This Silicon Junction will serve as the connection point for other centers of innovation and manufacturing across the European Union: besides this leading-edge semiconductor factory in Germany, there are plans to establish a new research, development (R&D) and design hub in France, and to expand capacities in R&D, manufacturing and foundry services in Ireland, Italy, Poland and Spain.

More than 3,000 jobs will be created at Intel Magdeburg and many others in companies that will supply it. In your experience, how important are soft location factors for attracting the international talent Intel needs in order to prosper?

As a company, Intel offers an extensive package of benefits for employees and their families, such as performance rewards, a stock program or sabbatical programs. Besides that, soft factors can definitely make a location more attractive. Intel assesses a possible new location according to some general parameters of livability. All indicators of a high quality of life are important, which include elements such as education, leisure activities and cultural offers.

Excellence in sustainable chemistry

Saxony-Anhalt has capitalized on its traditional strengths in chemistry to emerge as an innovative hub for green chemicals and hydrogen

Among the attractions for investors in Saxony-Anhalt are twelve Centers of Excellence, where businesses and researchers innovate together to take products from initial ideas to global markets in sectors such as chemicals, pharmaceuticals, medtech, e-mobility, the bioeconomy and hydrogen.

Each location combines the talents and resources of leading industry players, startups, universities and research institutions, as well as relevant component manufacturers, technical colleges and other service providers. As befits the state's heritage, five of the centers are large-scale chemical parks that form the core of the renowned Central German Chemical Triangle. Overall, more than 500 companies employ around 23,000 people, generate about €9 billion a year and work alongside 15 research centers in these five parks. Collectively, they cover the value chain from basic chemicals to finished products, and they are driving global innovation in areas like agrochemicals, pharmaceuticals, synthetic resins and fibers, fine and specialty chemicals, chemistry for electric drives and batteries, sustainable chemistry and high-performance materials.

“The biggest global trends in chemistry are renewable materials, the circular economy and hydrogen, and we are attracting important investments in these areas.”

Dr. Christof Günther, Managing Director, InfraLeuna

As well as networking opportunities and substantial space to grow, residency in the parks brings other benefits. All contain cutting-edge infrastructure plus technology, logistics and security services that enable plug-and-play efficiency. All are well connected to Europe's transport network via road, rail and Leipzig-Halle airport. And all share a feedstock integration system that ensures a rapid, cheap supply of raw materials. Each park is distinctly different, however. The oldest, 1,200-hectare Bitterfeld-Wolfen Chemical Park, is home to businesses of all sizes and ages, including entities such as Dow, Bayer, AkzoNobel and ICL. It specializes in areas like chlorine, phosphorous, color, pharmaceuticals, fine chemicals, alloys, plastics, solar and battery technologies, with the Netherlands' AMG currently constructing a \$120-million refinery for lithium hydroxide there.

Powered by solar and with an on-site facility producing methane from maize, Zeitz Chemical and Industry Park is also making a name for itself as a location for green chemistry, particularly in relation to water-intensive industries. On the site at the moment, for instance, Ukraine's Interstarch is



Leuna is the heart of the Central German chemical triangle

converting wheat into industrial starch, while U.S.-based Puraglobe's process for manufacturing base oil from spent oil is significantly reducing carbon emissions. The remaining three Centers of Excellence are plastics-focused Schkopau-Böhlen Dow Value Park, Piesteritz Agro-Chemical Park and Chemical Site Leuna, the country's largest park for the industry.

Since 1990, 100 firms that include Domo, Dow, Shell and TotalEnergies have invested over €9 billion in Leuna, a figure that is rising sharply, says Dr. Christof Günther, managing director of the site's operator InfraLeuna. “We're experiencing dynamic growth, with companies currently investing more than €2 billion. The biggest global trends in chemistry are renewable materials, the circular economy and hydrogen, and we're attracting important investments in these areas. Decisive factors in this include our competitive and comprehensive infrastructure and excellent supply of green energy.” Among the site's latest investment projects, Finland's UPM is constructing a €750-million biorefinery to create next-gen biochemicals from locally sourced sustainable wood, Japan's Topas Advanced Polymers is installing a new plant for innovative, easily recyclable plastic and Linde is building the world's largest plant for generating and liquefying green hydrogen, which will double the local gas group's hydrogen production to 3,200 metric tons.

Saxony-Anhalt has been developing its hydrogen economy for decades and is seen as a model region for the fuel's development, notes Günther. “Leuna is at the heart of that, as the hydrogen we produce is already supplied to clients through Central Europe's second-longest pipeline system for the gas. We also have the Fraunhofer Hydrogen Lab Leuna, which includes an industrial-scale test platform.” Saxony-Anhalt's pioneering competences in hydrogen extend beyond a single park. The world's first underground hydrogen storage facility is being established in the state, for instance, while the new H2 test village at Bitterfeld-Wolfen Chemical Park is used for projects that aim to assimilate hydrogen into future mobility and as an energy carrier for industry, commerce or houses.

The state intends to retain its position as one of Europe's most innovative hubs for sustainable chemistry, Günther stresses. “We will carry on investing strongly in the development of our infrastructure, so that companies continue to find the optimal conditions for growth and new projects here.”



Dr. Christof Günther
Managing Director
InfraLeuna

A healthy location for innovators in life sciences

The state's concerted cultivation of its pharmaceutical, biotechnology and medtech industries helped the world fight back against COVID-19

Saxony-Anhalt has long been a prime location for innovation in life sciences, with high-performance clusters, Centers of Excellence and government bodies encouraging both investments and profitable collaborations between companies, research institutions and universities in pharmaceuticals, biotechnology and medtech.

The state's pharmaceutical sector alone generates over €1 billion in export revenues a year from businesses that include subsidiaries of international giants such as Bayer and Sandoz, world-leading local firms and emerging high-tech specialists. They are supported in bringing new products to market rapidly by the close presence of active ingredient, packaging, equipment, contract research and other suppliers. One hotspot for pharmaceuticals is Biopharmapark Dessau, a 136-hectare center of excellence offering cutting-edge infrastructure and services that are specifically designed to meet the industry's needs. Among the tenants of the spacious industrial park are Merz, the global operator in aesthetic- and neurotoxin-related pharmaceuticals, and Ceva, the front-runner in animal health that has production and innovation centers at the site. Another, IDT Biologika, illustrates a core strength of Saxony-Anhalt: vaccines.

IDT is one of the world's most important developers and contract manufacturers of virus vaccines, viral vectors and other biologics, with a workforce of 1,600 in Biopharmapark providing worldwide clients with end-to-end services from preclinical research to commercial supply. IDT's response to COVID-19 demonstrates how adeptly the state's pharmaceutical industry responds to challenges: as well as initiating the development of its own vaccine with the German Center for Vaccine Research, it formed early partnerships with both Johnson & Johnson and AstraZeneca to manufacture their vaccines for global distribution. IDT was able to start producing vast quantities of these vaccines quickly by adjusting its workflows, but is now investing €100 million in the expansion of its manufacturing plant that will make it the biggest facility of its type in Europe.

Other pharmaceutical and biotech companies are based at Technology Park Weinberg Campus in Halle, the largest site for life and material sciences in central Germany. At this center of excellence, over 100 companies work alongside renowned research institutes and the Martin Luther University of Halle-Wittenberg, while its innovation hub for entrepreneurs



Close to 5,000 people work in Saxony-Anhalt's pharma industry

has helped launch about 200 startups to date. Notable examples include Verovaccines, a spin-off from the on-site university, which is developing revolutionary animal vaccines from yeasts.

Many of the park's tenants are innovators in medtech, a sector in which Saxony-Anhalt boasts around 120 companies overall. Those firms are producing solutions covering all aspects of health, with conspicuous strengths being e-health, imaging, autonomy in old age, prostheses and surgical robots. Among the global players in the state are Chile's Novoplast, which specializes in small-diameter hoses, and Mecotec, a leader in high-tech cooling chambers for the health, wellness and sport industries.

In 2020, Mecotec made international headlines for its pioneering development of stationary and mobile container units that safely transport and cool the BioNTech-Pfizer mRNA COVID-19 vaccine and similar products. These unique units can maintain vaccines at a temperature of -80°C, store over 500,000 doses and operate for 24 hours without an external power source. “Innovative solutions are required for the storage and distribution of COVID-19 vaccines and we're delighted that we're contributing to that due to our 20 years of experience in industrial deep cooling,” says Enrico Klauer, Mecotec's managing director. “Our containers cover the entire logistics chain, from deep freezing of the vaccine directly after its manufacturing to withdrawal at distribution centers.” As a result of its innovation, Mecotec expects to double in size over the next five years.

“Innovative solutions are required for the storage and distribution of COVID-19 vaccines and we're delighted that we're contributing to that.”

Enrico Klauer, Managing Director, Mecotec

Numerous other firms can now take advantage of Saxony-Anhalt's increasing investment in its medtech capabilities to grow their businesses. For instance, an industrial cluster for medtech and plastics has formed in the town of Halberstadt and two other hubs have been established in the capital. The first is a medtech research campus that is a joint venture between Otto von Guericke University Magdeburg, Siemens Healthcare and the STIMULATE association of companies and research institutions. The second is the Health + IT Campus, which is providing local and international startups with affordable space and accelerator services to promote Saxony-Anhalt's next generation of high-tech life science innovations.

The spirit of innovation and forward planning

Dr. Reiner Haseloff, Minister President of Saxony-Anhalt, introduces a region that is central to the future economies of Germany and Europe

Home to 2.2 million people, Saxony-Anhalt has a reputation as a hub for innovative industries. How does it stand out from other German states?

Saxony-Anhalt lies at the heart of Germany and Europe. Because of that central location, it functions as an interface between the markets in Western and Eastern Europe. It also has well-developed infrastructure, including freeways, rail, waterways and Halle-Leipzig Airport, one of Europe's leading air-freight hubs. Saxony-Anhalt is a traditional industrial location, particularly for chemical and mechanical engineering. But companies in many other sectors have moved to the region, from automotive industry suppliers to manufacturers of renewable energy systems. In addition, we have a dense network of outstanding universities and research institutions.

What are your government's goals for the region's economy and how are international investors contributing to those?

It's important to us that sectors with a strong tradition here, such as the chemical and food industries, have good future prospects. But it's not simply a question of business as usual—these industries need to grow and develop. As a region, we make every effort to promote innovation: in the case of the chemical industry, this means, for example, putting emphasis on a circular economy and increased use of new fuels like green hydrogen. Therefore, in 2021 Saxony-Anhalt adopted a new hydrogen strategy with the aim of establishing a green-hydrogen economy in collaboration with businesses, suppliers and research institutions.

“The arrival of Intel will make us one of the world's most strategically important business locations.”

Dr. Reiner Haseloff, Minister President

On the other hand, we're bringing industries into the region that are not currently here or are under-represented. Our objectives are diversification plus increased independence for Germany and Europe, and the best illustration of this policy is Intel's plan to invest €17 billion on a gigafactory in our capital Magdeburg. It's one of the largest investment projects in Europe at the moment and will make Saxony-Anhalt the center of European chip production.

Alongside that, other investment projects are underway. For example, the Finnish company UPM is building a €550-million biorefinery that will manufacture chemicals from wood. Because of its favorable position at the heart of Europe, Saxony-Anhalt is also becoming a popular location for the logistics industry and Avnet, one of the leading suppliers of electronic compo-



Intel CEO Pat Gelsinger with Dr. Reiner Haseloff in Magdeburg

nents globally, is investing €225 million to set up its largest European logistics center here. A final illustration would be Linde's construction of the world's largest plant for green-hydrogen production, which is nearing completion.

With 60 percent of Saxony-Anhalt's energy coming from renewables, the state is rapidly transitioning away from fossil fuels. What opportunities does this present to investors?

Sustainability, environmental awareness and social responsibility have always played a special role in Saxony-Anhalt, and we're one of the leading German regions for wind and solar power. We will have completely phased out brown coal by 2038 and so the coal-mining area in the south of the state is undergoing huge structural change and modernization, which offers significant opportunities for innovative companies. To help the region manage this comprehensive transformation, it will receive up to €4.8 billion from the German government and the European Union is providing €364 million that can be used to establish or transform businesses.

How attractive is Saxony-Anhalt as a location for investment and business?

We welcome investors with open arms and our local government bodies work quickly and efficiently. These include the Investment and Marketing Corporation (IMG) Saxony-Anhalt, our highly agile economic development agency, plus I've also set up a special department in the state chancellery with responsibility for promoting and supporting large-scale investment projects.

Saxony-Anhalt is an up-and-coming region and the arrival of Intel will make us one of the world's most strategically important business locations. The region is a fantastic area for investment, with not only the right economic conditions but also a long, rich history and a vibrant cultural landscape. For example, Saxony-Anhalt is home to the Nebra Sky Disc, which is the world's oldest representation of the cosmos, as well as being the birthplace of Martin Luther and the Bauhaus movement—it has been giving people the freedom to develop and put new ideas into practice for centuries. This spirit of innovation and forward planning is still here today, which is why our regional motto is “moderndenken” or “think modern”. We would like to invite anyone who wants to be part of Saxony-Anhalt's booming economy to take up the opportunities that our region has to offer.



Dr. Reiner Haseloff
Minister President

Resilient and dynamic economy

Saxony-Anhalt's sustainable economic growth is supported by investments in innovation, digitalization and young businesses

In 2021, Saxony-Anhalt demonstrated the strength of its economy by recording a gross domestic product (GDP) of €67.1 billion, an uptick of 5.9 percent on the previous year.

Despite the ongoing backdrop of global challenges, the small federal state continues to post impressive results. “Our GDP grew by a further 4.5 percent in the first half of 2022 alone. That's stronger growth than the national German average and it's the fourth-best performance among the country's 16 states. Our economy has reached and exceeded its pre-COVID level, which shows its resilience and ability to pull itself out of crises,” states Sven Schulze, State Minister for Economic Affairs, Tourism, Agriculture and Forestry.

Through the close networking of science and business, we create the opportunity to bundle capacities in innovative fields.”

Sven Schulze, State Minister for Economic Affairs, Tourism, Agriculture and Forestry

Saxony-Anhalt also ranks as the top destination in Eastern Germany for inward investments, with a record 272 new projects worth €3.2 billion being attracted to the region in 2021, he adds: “Investment and settlement activity in Saxony-Anhalt have been unaffected by the crisis. We've seen particularly brisk investment in the areas of battery technology, new mobility, medical technology, biotechnology, pharmaceuticals, the bioeconomy, information and communication technology, the food industry, semiconductors and logistics.”

That list clearly illustrates how Saxony-Anhalt has built on its traditional global competitiveness in sectors like chemicals, engineering and the automotive industry to become a region for future technologies. And the state's government has provided the foundations for that transformation by promoting innovation through investments in infrastructure, research, entrepreneurial-

ism, digitalization and ensuring that 90 percent of its workforce receives professional or university education.

Notable catalysts of innovation are the region's Centers of Excellence for industry. Backed by state-of-the-art infrastructure, these act as clusters for key sectors and they include the region's five substantial chemical parks that make up the bulk of the famous Central German Chemical Triangle. At all 12 centers, multinational giants such as Akzo Nobel, Bayer, Dow, Shell and TotalEnergies work alongside young companies, universities and many of the state's 29 cutting-edge Fraunhofer, Leibniz, Max Planck, Helmholtz and other research institutes. “Within Saxony-Anhalt, clusters and networks have continuously developed into competence centers that are growth and employment engines. Through the close networking of science and business, we create the opportunity to bundle capacities in innovative fields and to mediate between theory and practice. The government supports this cooperation between companies, research and development (R&D) institutions, service providers and other relevant partners with cluster funding,” he reveals.

Another focus for the government is boosting the innovative potential of its small and medium-sized businesses through funding programs that are available for, among other things, R&D projects, loan guarantees, equity investments and digitalization. “Digitalization brings advantages and opportunities for our economy. The digital technologies being used by industries in Saxony-Anhalt are constantly being optimized, thereby increasing productivity. This enables regional economic growth, which has a positive effect on corporate growth and the labor market. Information technology has become a central competitive factor and an important driver of innovation in the region—it's permanently changing business models and facilitating new value-added processes, services and products for our economy,” the minister reveals.

Startup funding in particular plays an important role in the government's strategy for developing innovation in the region's economy, asserts Schulze: “Around €70 million is available from European Union and state funds for our start up measures, which include coaching, grants and loans for founders and their companies. There's been a shift in startup activity in Saxony-Anhalt within the last few years toward innovative, knowledge-based companies with growth potential, an upward trend corroborated by the German investment and development bank KfW's startup monitor. For us, this is confirmation that our measures to support and promote startups are bearing fruit.”



Sven Schulze
State Minister for Economic Affairs, Tourism, Agriculture and Forestry

The ideal environment for tomorrow's industries



25% of Europe's total population live within 500km of Saxony-Anhalt



60% of Saxony-Anhalt's energy already comes from green sources



2 general universities, 8 universities of applied sciences and 29 research institutes