Why You Should Research in Austria:

Industry 4.0

The Best Contact Partner for Business Location Issues

ABA – Invest in Austrian offers you comprehensive service – from funding and market opportunities to tax regulations. Experienced ABA experts provide you with unbureaucratic support, putting their know-how at your disposal – at no charge at all.

Are you considering setting up business operations in Austria or intensifying your research activities? ABA – Invest in Austria assists you with a complete range of cost-free services, including competent consulting in selecting an optimal site, support in dealing with public authorities and funding bodies, on tax and labor issues or in identifying contact partners. In addition, ABA supports you with its broad-based network of experts and cooperation partners.

More information at: investinaustria.at

Why You Should Research in Austria

Seven reasons why you will have optimal conditions here

Strong funding

14% research tax credit for large companies and SMEs

Research infrastructure

Thanks to high public investments

Tax advantages

e.g. 30% tax deduction for migrants working as scientists and researchers

Stability

Security and quality of life for your company and its employees

Top researchers and specialized employees

Outstanding specialists thanks to technical schools and top international researchers

Closely meshed network

Close ties between the scientific and business communities

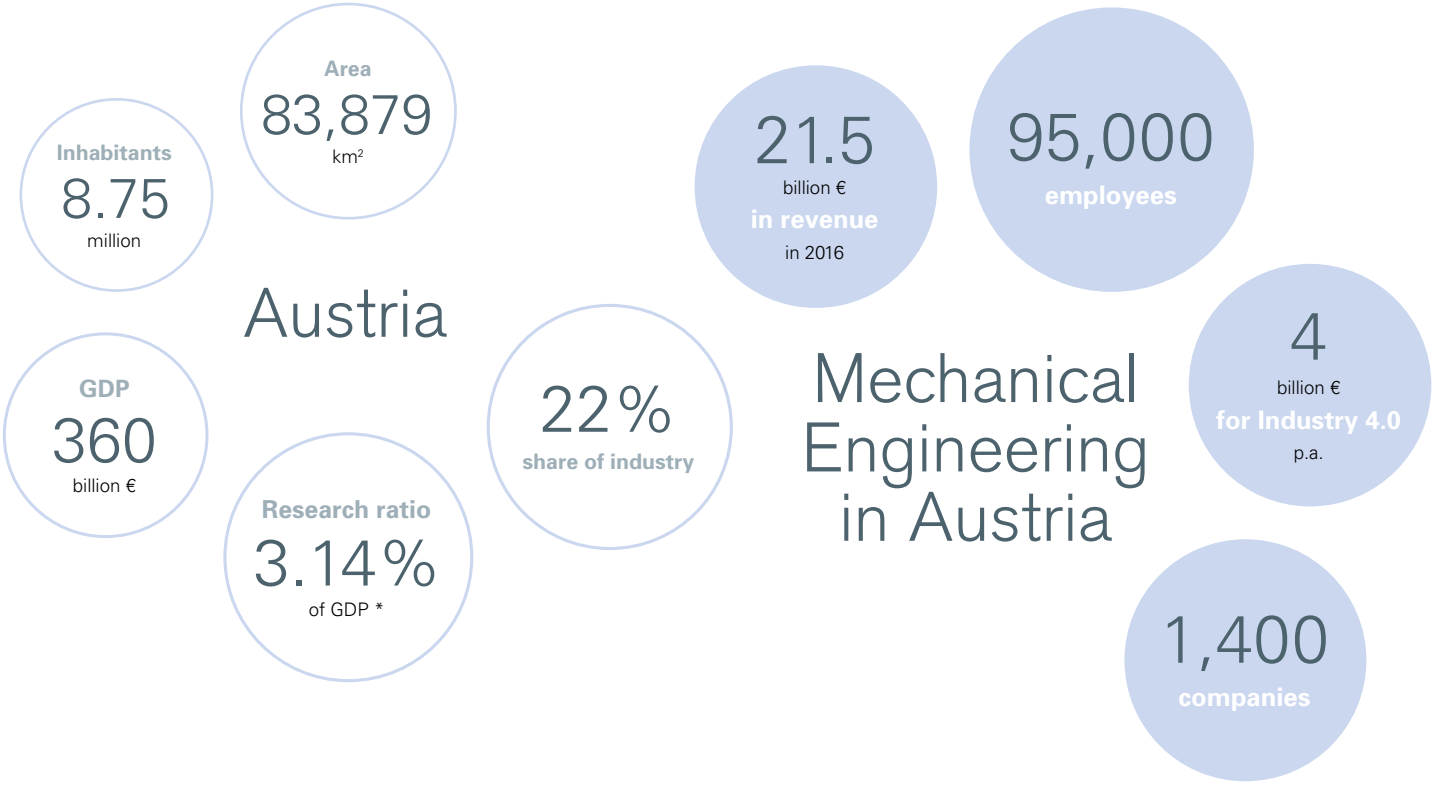
Diverse ecosystem

Fascinating ecosystem featuring a highly interdisciplinary approach and diversity

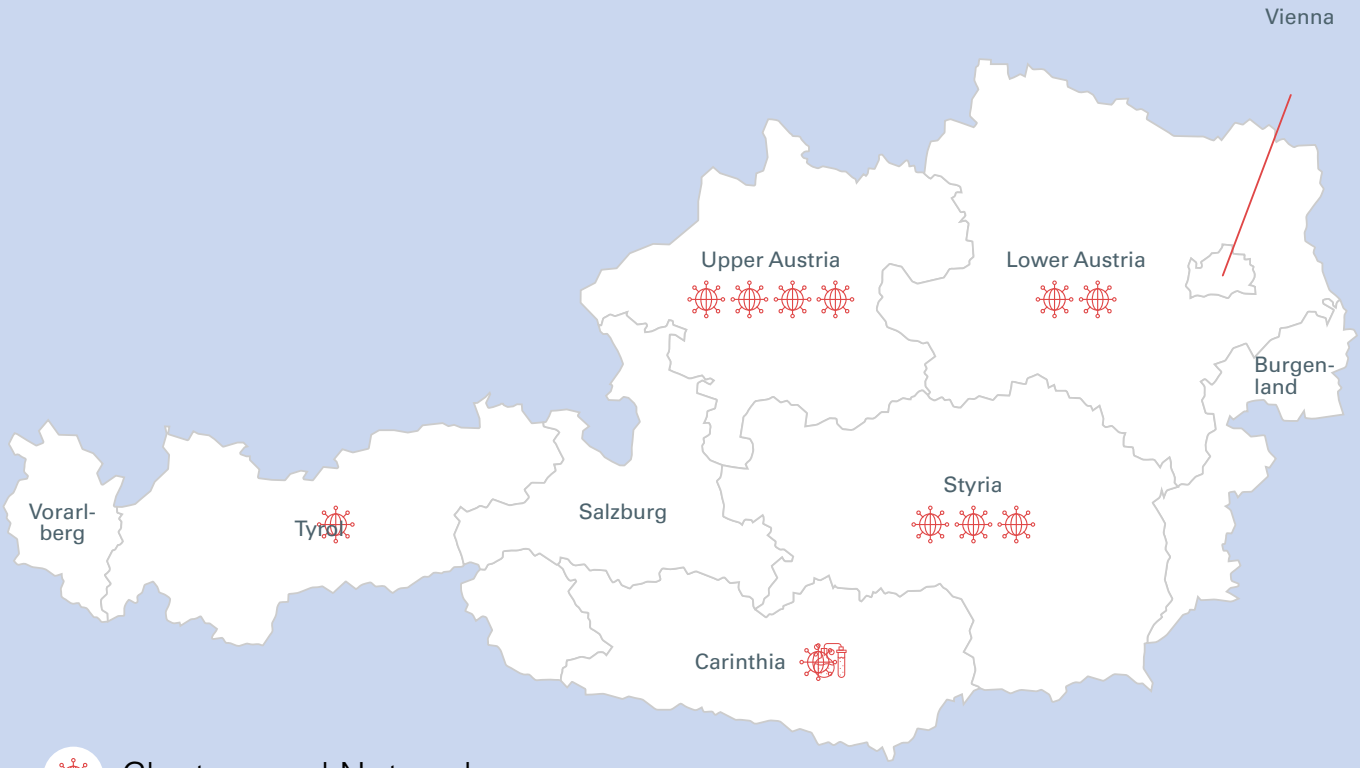
Established Strengths, Top-Notch Infrastructure

Austria stands out with a good environment for Industry 4.0

Everyone is talking about Industry 4.0. After the third Industrial Revolution - the digital revolution - the challenge is now to link production with modern information and communications technologies. This refers to the intelligent meshing of production, from planning, manufacturing and logistics to high quality services. Austria stands out here, offering fertile breeding ground for research and development due to its established strengths in the fields of ICT, mechatronics and electronics. This is complemented by initiatives and programs driving Industry 4.0 forward, as well as the ongoing expansion of the research infrastructure, for example in the form of pilot factories. Moreover, Austria offers a dense network of clusters and competence centers in different areas, promoting the cooperation between science and business. The close interrelationship of theory and practice has a long tradition In the Alpine Republic, starting with its educational system.



* Estimate 2017



Clusters and Networks

Upper Austria	Mechatronics Cluster
	Automotive Cluster
	Silicon Alps
	MTC Medical Technology Cluster
Lower Austria	Mechatronics Cluster
	Technopol Wr. Neustadt
Styria	Automotive Cluster Styria
	Styrian Automation Technology Platform
	Silicon Alps
Tyrol	Mechatronics Cluster Tyrol
Carinthia	Silicon Alps

Digital assistance systems Robotics Security & Safety
Production Simulation
Predicitve Analytics Automation
Predictive Maintenance

Practice-oriented Research in Pilot Plants

Business and science work hand in hand to develop new production methods

→ www.jku.at
→ www.tuwien.ac.at
→ www.tugraz.at

An excellent education also requires an excellent infrastructure - which Austria offers in the field of Industry 4.0 thanks to its pilot plants. Austria's first pilot plant is operated by the Vienna University of Technology in Seestadt aspern (Vienna's Urban Lakeside). As a demonstration plant for smart production and cyber-physical production systems, the facility focuses on new concepts and solutions for multi-variant serial production (low volume - high mix) in the field of discrete manufacturing.

Other pilot plants are being created in Upper Austria and Styria in order to optimally link science and business at other universities. The Graz University of Technology is conducting research at its smartfactory@tugraz into agile production concepts of the future which ensure data security. In contrast, the LIT Factory at Johannes Kepler University Linz is working on new types of partial frontier production technologies with high processing engineering and digital innovation potential.

Business-Oriented Education for Success

Innovative companies find the best minds in Austria

Top researchers as well as highly-qualified specialized personnel are required for practical implementation in order to make innovations marketable. The business location of Austria offers both. There is a long tradition here of application-oriented education, whether at the numerous higher technical colleges (HTL), schools featuring practical technical training or at the 22 public universities, twelve private universities or the 21 universities of applied sciences offering more than 550 different courses of study.

In particular, the Vienna University of Technology, Graz University of Technology and Johannes Kepler University Linz stand out in the area of Industry 4.0. Moreover, universities of applied sciences such as the St. Pölten University of Applied Sciences, the University of Applied Sciences FH Joanneum and the University of Applied Sciences Technikum Wien also attach great importance to this.

Higher technical colleges (Höhere Technische Lehranstalten – HTL)	Focus areas: mechanical engineering, electrical engineering, information technology, electronics, industrial engineering
Universities of Applied Sciences	University of Applied Sciences FH Joanneum, St. Pölten University of Applied Sciences, University of Applied Sciences Technikum Wien, University of Applied Sciences FH Campus Wien, University of Applied Sciences Upper Austria, MCI Management Center Innsbruck, University of Applied Sciences Wiener Neustadt, FH Kufstein Tirol University of Applied Sciences, Carinthia University of Applied Sciences, IMC University of Applied Sciences Krems, Salzburg University of Applied Sciences, Campus 02 University of Applied Sciences
Universities	Vienna University of Technology, Graz University of Technology, Johannes Kepler University Linz, University of Innsbruck, Alpen Adria University of Klagenfurt, Montanuniversität Leoben

International Research Under Austrian Leadership

SemI40 – one of Europe‘s largest Industry 4.0 research projects

→ www.infineon.com

The cooperation of business, science and teaching has a long tradition in Austria, also on an international level. One current example is the research project „SemI40“ (Power Semiconductor and Electronics Manufacturing 4.0). Launched in 2016, this three-year project under the leadership of Infineon Austria involves 37 partners from five countries researching on the further development of adaptive, self-controlled factories. The project will focus on the areas of „intelligent production“ and „cyber-physical production systems.“ Secure data traffic within and outside the factories plays a key role. With a volume of 62 million Euro, the research project ranks among the largest Industry 4.0 projects in Europe.

Research Centers for the Factories of the Future

Best conditions for production research

Austria scores high in areas of relevance to Industry 4.0, also in European comparison, thanks to high research funding for production research, investments in the research infrastructure, for example in the form of pilot plants, as well as its university and non-university research. For example, the Austrian Institute of Technology (AIT), Austria's largest research and technology organization, carries out research in the fields of security & safety and mobility.

Joanneum Research is concentrating its research efforts on robotics, and Johannes Kepler University Linz initiated the focal area of artificial intelligence. The Competence Centers for Excellent Technologies (COMET centers) also deal with issues of relevance to Industry 4.0. An additional example is the newly-created industrial research center Pro2Future (Products and Production Systems of the Future) specializing in future production systems and products.

Vienna	Austrian Institute of Technology (AIT), Austrian Cooperative Research (ACR), VRVis Research Center for Virtual Reality and Visualization, Austrian Center for Digital Production (CDP), Secure Business Austria (SBA) Research, Fraunhofer Austria Research
Carinthia	CTR (Carinthian Tech Research)
Styria	Know Center (Research Center for Data-Driven Business and Big Data Analysis of the Graz University of Technology), Virtual Vehicle Research Center, Materials Center Leoben (MCL), Polymer Competence Center Leoben (PCCL)), Joanneum Research
Lower Austria	Austrian Excellence Center for Tribology (AC2T), Austrian Center for Medical Innovation and Technology (ACMIT)
Upper Austria	Products and Production Systems of the Future (Pro²Future), Linz Center of Mechatronics (LCM), Software Competence Center Hagenberg (SCCH), Upper Austrian Research GmbH (UAR), PROFACTOR GmbH
Vorarlberg	V-Research
Salzburg	Salzburg Research

14 Euros Tax Credit for Every 100 Euros in R&D Investments

Suitable funding for good ideas

Research takes place in many places. For this reason, small and medium-sized enterprises (SMEs) as well as large companies are equally supported. Thanks to the generous research tax credit, 14% of R&D expenditures incurred by research-based firms can be deducted for tax purposes. The research tax credit comprises an effective complement to direct research funding.

Attractive tax advantages

Furthermore, Austria offers attractive tax advantages. There is a tax deduction for migrants working as scientists and researches applying to 30% of research-related income, and can be utilized for a period of up to five years. The tax-exempt apprenticeship allowance, tax loss carryforwards and the possibility to transfer hidden reserves are also among the tax incentives available to companies. Austria with its average effective tax burden of 22.4% ranks in the middle of the pack in the EU.

Direct funding programs for R&D champions

→ www.aws.at
→ www.ffg.at

The Austrian Research Promotion Agency FFG and Austria Wirtschaftsservice (aws) support research-based companies through direct funding programs. FFG funds application- and business-oriented research. A total of EUR 615 million was invested in 2016, and 3,307 new projects were approved. As a funding bank, aws supports entrepreneurs and established companies in all phases of their corporate life cycle, providing loans, grants, guarantees as well as participation and equity capital. In 2016, financing amounted to about EUR 811 million.

In addition, the Austrian Science Fund (FWF) supports fundamental research. The FFG Startup Funding program assists Startups by providing project financing comprising up to 70% of total costs. The aws Startup Center offers an extensive support package to new companies.

Attractive Research Location

Good grades for Austria's research infrastructure

University professor Wilfried Sihn is making great strides in advancing Industry 4.0 research in Austria. For example, on the basis of intelligent data analyses, Wilfried Sihn developed a model on behalf of Opel Vienna enabling innovative maintenance and servicing strategies. Born in Germany, Sihn joined the Vienna University of Technology in 2004, and heads Fraunhofer Austria Research GmbH there.

Why are you conducting research particularly in Austria?
After spending a long time in Stuttgart working for the Fraunhofer Institute, I was offered a chair professorship at the Vienna University of Technology, and the opportunity to build up Fraunhofer in Austria. This combination was very enticing, because I had already previously supported projects in Austria and recognized the business location to be an innovative industrial country.

What makes Austria as a research location especially interesting when it comes to Industry 4.0?
Austria is innovative, and its research landscape and funding system is actually better compared to Germany. The country is very well positioned, particularly in the field of production technology. On the one hand, this is due to its targeted programs, and on the other hand its excellently organized research infrastructure, both on a university and non-university level.

Wilfried Sihn, Vienna University of Technology, Managing Director, Fraunhofer Research

→ www.fraunhofer.at

Milestone for the Swiss Company ABB

The road to global market leadership goes through Salzburg

Since July 2017, the global automation specialist Bernecker & Rainer (B&R) of Austria has served as the worldwide center for machine and factory automation of the Swiss industrial giant ABB. The electronic group ABB is a market leader in the field of industrial automation, and a trailblazer when it comes to digitalization and Industry 4.0. The company operates in more than 100 countries, employing a workforce of about 136,000 employees.

Franz Chalupecky,
Chief Executive Officer
ABB AG Austria

Thanks to the acquisition of B&R, ABB has further expanded its leading role in industrial automation. What was the decisive reason for taking over the Austrian company B&R?
This transaction was a real milestone for ABB, due to the fact that B&R closes an historical gap in our automation offering. B&R is a pearl in the world of machine and industrial automation, more or less the Microsoft story but in the field of industrial automation. From a strategic perspective, this is the most important deal ABB has ever been involved in. Our new Austrian subsidiary is expanding rapidly. Over the last 20 years, the producer of machine and factory automation has increased its revenue by 11% each year on average. This is more than double the growth rate for the market as a whole. Generally speaking, such a rate Is only generated by young companies. Thanks to B&R, ABB has clearly become the second largest provider on the market for industrial automation. Our objective is to be a world market leader in industrial automation.

What activities are you planning in Austria?
We are further expanding our research activities in Austria. For example, a total of 80 developers will be working at our research facility in Salzburg in the future, focusing on robotics, control technology and industrial communication. The direct proximity to the Techno-Z research center and the Department of Computer Sciences at the University of Salzburg as well as the higher technical college HTL Salzburg provides us with decisive benefits. The automation of machines and factories is an integral aspect of the Fourth Industrial Revolution, and key global technology of the Internet of Things (IoT).

→ www.abb.com
→ www.br-automation.com

Deciding in Favor of Austria

International players are convinced of the merits of Research Location Austria

Foreign companies in Austria with Industry 4.0 competencies (selection)

Infineon Technologies Austria AG	Infineon develops and produces semiconductor and system solutions serving as „enablers" for Industry 4.0. In addition to Germany, Austria is the only business location where Infineon bundles its competencies for research development, manufacturing and global business responsibility. Infineon is a trailblazer in the field of networked production, and already opened up a new building complex in Carinthia in 2015 for production as well as R&D operating according to the principles of Industry 4.0. Infineon applies the solutions developed in Austria throughout its entire global network.
Atos IT Solutions & Services GmbH	The French IT service provider Atos has been operating a competence center for Industry 4.0 in Vienna-Aspern since October 2016. It works closely together with the Pilot Factory 4.0 of the Vienna University of Technology.
NXP Semiconductors Austria GmbH	As one of the world's leading companies in the field of microelectronics, the Dutch firm NXP has a competence center for secure contactless identification systems in Austria. More than 500 international employees work on developing new innovative solutions for the business areas of Secure Transactions & Identification as well as Automotive.
Siemens AG Austria	This leading German technology company operates several competence centers in Austria, amongst others in the fields of automation, automotive and aerospace. Moreover, the Siemens Industrial Manufacturing, Engineering and Applications (SIMEA) plant in Vienna develops and manufactures innovative electronic products and systems in the area of industrial automation.
B&R Industrial Automation GmbH	The provider of industrial automation has been part of the Swiss ABB Group since 2017, and is thus the global center for machine and factory automation within the Group.
PIA Automation	The German company PIA Automation acquired the Austrian specialist M&R Automation in 2017 in order to strengthen its capabilities in the fields of powertrain, e-mobility, Industry 4.0 and service along the entire production chain.

Innovations Made in Austria

Startups from Austria also embark on international careers

Austria has developed lively Startup scene, particularly over the past few years. The Pioneers Festival, one of the largest Startup shows in Europe, takes place in Austria, and Central Europe's largest Startup hub – weXelerate – was launched in Vienna in 2017. Industry 4.0 is one of the focal points of the hub's activities. Therefore, it comes as no surprise that Austria has become increasingly attractive to Startups, but also for investors. This is because Austrian Startups have also expanded internationally.

Lithoz GmbH	specializes in the development and production of materials and generative production systems for 3D printing of high-performance ceramics
kpibench GmbH	offers a performance management system for industrial plants
sensideon GmbH	is one of the first companies in the world to make the SAW transponder system for object identification (RFID) and radio sensor system available to a broad-based industrial clientele
Tablet Solutions GmbH	helps industrial companies to digitalize their operations on the basis of its WorkHeld software
testify	makes digital quality controls digital, mobile and simple
Blue Danube Robotics	has developed „Airskin", a tactile sensor skin, thus making the cooperation of people and machines possible without the need for a safety fence
Holo-Light Gmbh	is developing an Industry 4.0 software for the HoloLens, and has already set up a subsidiary in Germany

Individualized Production and Simple Data Recording

Austrian startups offer innovative solutions for Industry 4.0

Demand for individualized products is growing, especially in high-price segments such as in the automobile industry. However, production conditions are still lagging behind. This is precisely the focus of the Austrian software specialist nxtControl, which is working on aligning IT and automation on all levels. The Startup established in 2007 has the goal of revolutionizing the world of automation from the bottom up. In June 2017, this idea served as the basis for the exit to the French multi-billion euro group Schneider Electrics, one of the top three global players in the field of energy technology and automation. Why did the French firm have so much interest in nxtControl? The real-time control software of nxtControl not only enables the automation of complex industrial facilities, buildings and machines in a shorter time than other technologies which are currently available, but also enables users to effectively manage the resulting complexity.

www.nxtcontrol.com

The industrial services provider LineMetrics was founded in Austria in 2012, and developed a technical solution enabling a company to record measurement values and indicators in a very simple manner. This is done by means of sensors and a cloud solution for data analysis. The solution is primarily applied in an industrial environment when it comes to measuring the efficiency of machinery in industrial plants. In this case, it does not matter If the firm aims to record plant performance indicators, energy consumption or quality data.

Today LineMetrics solutions are used in more than eight countries. Its customers include multinationals such as Magna and Rotax, but the company also offers solutions to small and medium-sized enterprises. Amongst other steps, LineMetrics lured an investment from the Swiss company Martin Global AG in October 2015 as part of its internationalization efforts.

www.linemetrics.com

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