



Research in Austria

Your Advantages at a Glance

© Westend61 / GUSTAFSSON

ABA – Invest in Austria At Your Service

Do you want to establish a company in Austria or intensify your research activities here? Regardless of whether it involves selecting a site, the search for employees or tax issues, ABA – Invest in Austria is the first point of contact.

Companies aiming at doing research or investing in Austria will find the experts of ABA – Invest in Austria to be precisely the sparring partners they need.

The ABA team supports you unbureaucratically, competently and at no charge on all questions and issues relating to

- site selection
- market opportunities
- labour and tax laws
- contact to public authorities and funding bodies
- the search for cooperation partners and experts

Since its founding in 1982, ABA – Invest in Austria has achieved a lot:



Why Conduct Research in Austria?

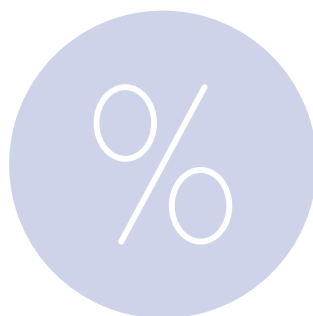
The Top Reasons in a Nutshell

Companies operating and researching in Austria benefit from many advantages, for example:



Strong funding

14 percent research tax credit for large companies and SMEs



Attractive tax benefits

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



Security and stability

Reliable conditions for your company and employees



Excellent specialised employees

A top-notch educational system and international researchers



Business meets science

First-class universities and research centres – closely networked with companies



Productive business location

Outstanding employees and dynamic growth

Austria: A Country for Research Facts and Figures

The willingness to invest and a dynamic research scene characterise Austria as an R&D location.

In 2020, Austrian expenditures on research and development totalled about € 12.1 billion. Accordingly, R&D spending equalled 3,23 percent of the country's gross domestic product (GDP).

- Austrian companies account for 40 of all research expenditures,
- whereas the public sector contributes approx. 27 percent,
- 16.5 percent (approx. € 2 billion) is financed by foreign companies or the EU

In 2020, Austria's business community applied for more than € 1 billion in research tax credits for the very first time. Applications were submitted for at least 9,700 projects, of which 80 percent were on the part of SMEs.

Active research community

More than **71,000 researchers** work in Austria at the present time, of which approx. 70 percent carry out corporate research and about 25 percent work in **higher education**. And Austria's offering here is worth a closer look. 22 public universities, 13 private universities and 21 universities of applied sciences with more than 640 degree programmes are located in Austria. 376,000 students are currently studying at these higher education institutions. The numerous technical secondary schools (HTL) and schools featuring practice-oriented training comprise a further strength of Austria.

Non-university research in Austria also enjoys a worldwide reputation. The 65 outstanding research facilities include

- **Austrian Academy of Sciences (AAS)**, uniting 28 research institutions
- **Austrian Institute of Technology (AIT)**, Austria's largest research and technology organisation
- **Institute of Technology Austria (IST Austria)** in Lower Austria, standing for leading-edge research in biosciences, physics, chemistry and mathematics, employing scientists from all over the world and
- **Silicon Austria Labs (SAL)**, a top European research centre for electronic-based systems (EBS).

→ www.ait.ac.at
 → www.oeaw.ac.at
 → www.ist.ac.at
 → www.aws.at
 → www.silicon-alps.at

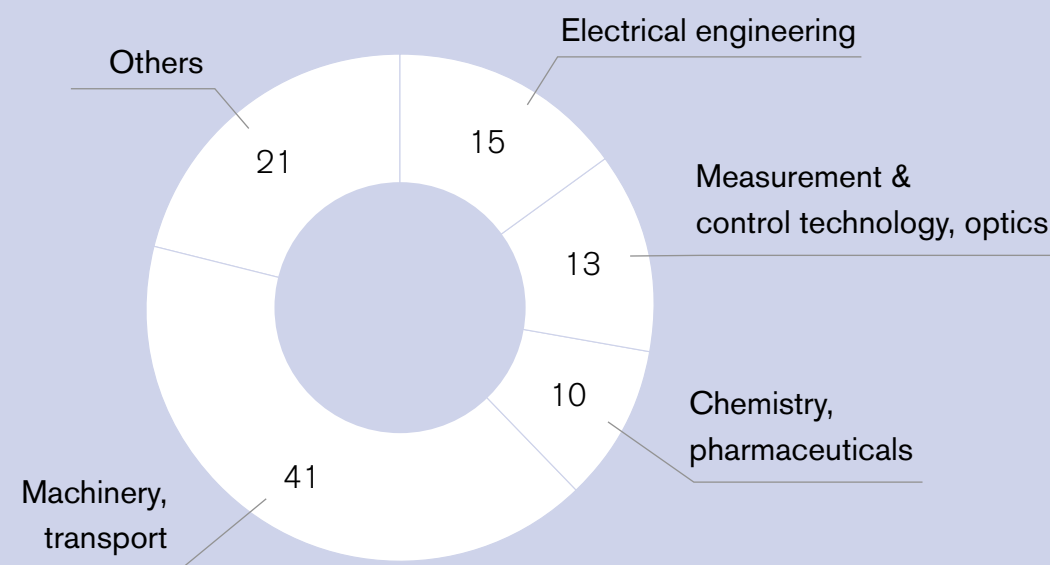
Dynamic inventiveness

Brilliant minds – great ideas: Austrian companies and researchers registered 2,341 new patents at the European Patent Office (EPO) in 2019. Over the last five years the number of Austrian patent applications increased consistently.

Patents by industry

in percent

Source: BMVIT



Research Champions

R&D expenditures 2019 as a percentage of net turnover

Source: Trend Top 500, 2020

Company	%
Infineon Technologies Austria	16.86
S&T	15.18
ams	13.85
Boehringer Ingelheim	13.81
Kapsch Group	11.85
AVL List	10.20
Pierer Mobility (KTM)	9.11
Siemens Österreich	7.93
BMW Motoren	7.70
Andritz	1.72

This is how Companies Benefit from Business Location Austria

Austria makes innovation possible – through tax advantages and attractive research funding, amongst other initiatives.

This is how companies can profit from the business location of Austria:

Research tax credit

Companies can claim a tax credit amounting to 14 percent of their research expenditures. This attractive research tax credit has a proven effect on the business location decisions of many research-based firms. Applications can be submitted by every company investing in research, innovation and development, regardless of its size, sector or corporate structure. The payment takes place as a cash payment - quickly and unbureaucratically. In-house research as well as contract research are encompassed in the research tax credit.

Tax allowance

Firms operating in Austria also profit from a 30 percent tax deduction on the income of migrants working as scientists and researchers - and they are entitled to this tax allowance for a period of five years.

Funding

→ www.ffg.at
→ www.fwf.ac.at
→ www.aws.at

- The Austrian Research Promotion Agency (FFG) is the national funding institution for corporate research and development in Austria. Funding volume in 2020: € 855 million.
- The Austrian Science Fund (FWF) supports basic research. Approved funding volume in 2019: € 237.4 million. A total of 707 projects were funded (2017: 642).
- Austria Wirtschaftsservice GmbH (AWS) is a development bank for companies, providing low-interest loans and grants. Funds granted in 2020: 1,050 million.

The total amount of Horizon 2020 project funding allocated to Austria has now reached €1.46 billion. The majority of Austrian participations (37.6%) under Horizon 2020 come from the business enterprise sector, of which almost two-thirds are small and medium-sized enterprises (SMEs).



© Westend61 / Christian Vorhofer

What else the Country has to Offer

Highly qualified employees and a unique quality of life: Austria combines these strengths – and a lot more.

An outstanding research location requires excellently trained and motivated specialised employees. Austria's educational system offers an optimal framework.

- Austria's **educational expenditures** are significantly higher than the OECD average. About 90% of young adults in Austria have a secondary level II education (OECD average: 83%). 70% of pupils in the upper secondary schools conclude a vocational education program (OECD average: 46%)
- The so-called **"dual educational system"** providing a sound education in a vocational school complemented by apprenticeship training is considered to be an international success model. Moreover, Austria offers higher technical colleges for all disciplines. Afterwards, one can begin a professional career or study at a university.

Furthermore, Austria is the most liveable country of the world (according to the World Competitiveness Yearbook 2020). For this reason, it is a magnet attracting companies from all over the world and their employees.

- The consulting company Mercer rated Vienna as the city with the highest quality of life in the world in 2019 (for the tenth straight year).
- Generally, the country offers a unique quality of life thanks to its rich cultural heritage and scenic diversity.
- Other advantages include the low crime rate, high level of social security and an attractive recreational infrastructure.



Artificial Intelligence Keeping a Pulse on Companies

EnliteAI, full-service provider for artificial intelligence, closes the gap between research and practical applications.

→ www.enlite.ai

The Viennese company EnliteAI shows how internal processes in firms can be directly improved using artificial intelligence (AI).

EnliteAI works with companies of all sizes to optimise their daily business operations with the help of artificial intelligence – from an AI strategy and prototyping to project delivery. Where can AI be optimally deployed in the company and achieve a maximum impact? The experts for deep learning and software engineering clarify this on the basis of a precise analysis of business processes from a product or service perspective.

Regardless of whether the priority is to increase customer contacts, improve quality controls, raise revenue of the online shop or enhance the precision of business processes, the suitable AI method can help a company to clearly achieve these objectives and optimally use in-house data.

Comparisons for a Feeling of Certainty

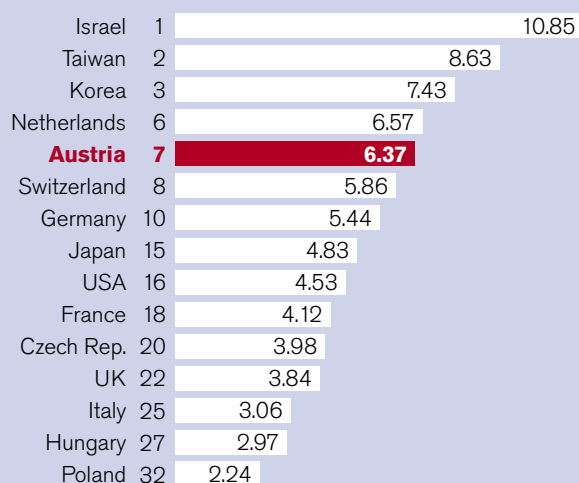
Austria is on its way towards becoming a European research trailblazer. Be part of this success story.

Austria also sets international benchmarks with respect to its commitment to research and development.

- Austria ranks among the very few European countries which have surpassed the EU’s declared target of achieving a research ratio of 3% of the gross domestic product (GDP) by 2020. And it has done this for six straight years.
- Austria currently invests 3.19% of its GDP in research and development. Accordingly, it is second in the EU (after Sweden) with respect to private sector research investments.
- In an OECD study, Austria is given an outstanding sixth-place rating and even ranks ahead of strong innovative countries such as the USA and China in a global comparison.
- R&D investments increase at a much higher rate than economic growth. R&D expenditures climbed by a nominal 71 percent in the years 2009 to 2019, whereas BIP expanded by 39 percent. This shows that the Austrian economy is emerging as an increasingly research-intensive nation.
- In the latest “European Innovation Scoreboard”, the Alpine Republic is ranked ninth and thus continues to belong to the group of “Strong Innovators” in the EU.

R&D personnel in companies

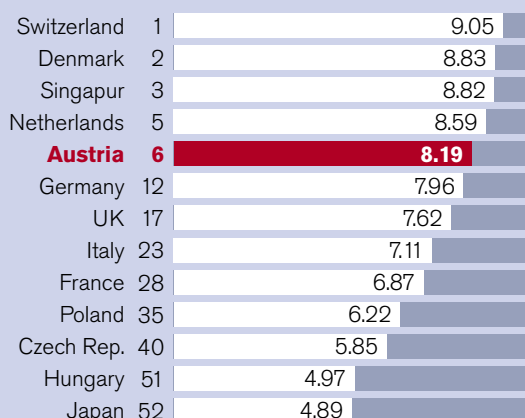
Full-time equivalent per 1,000 employees



Source: World Competitiveness Yearbook 2020

University education

10 = meets the needs of a competitive economy



Source: World Competitiveness Yearbook 2020

Collaboration to Achieve Goals

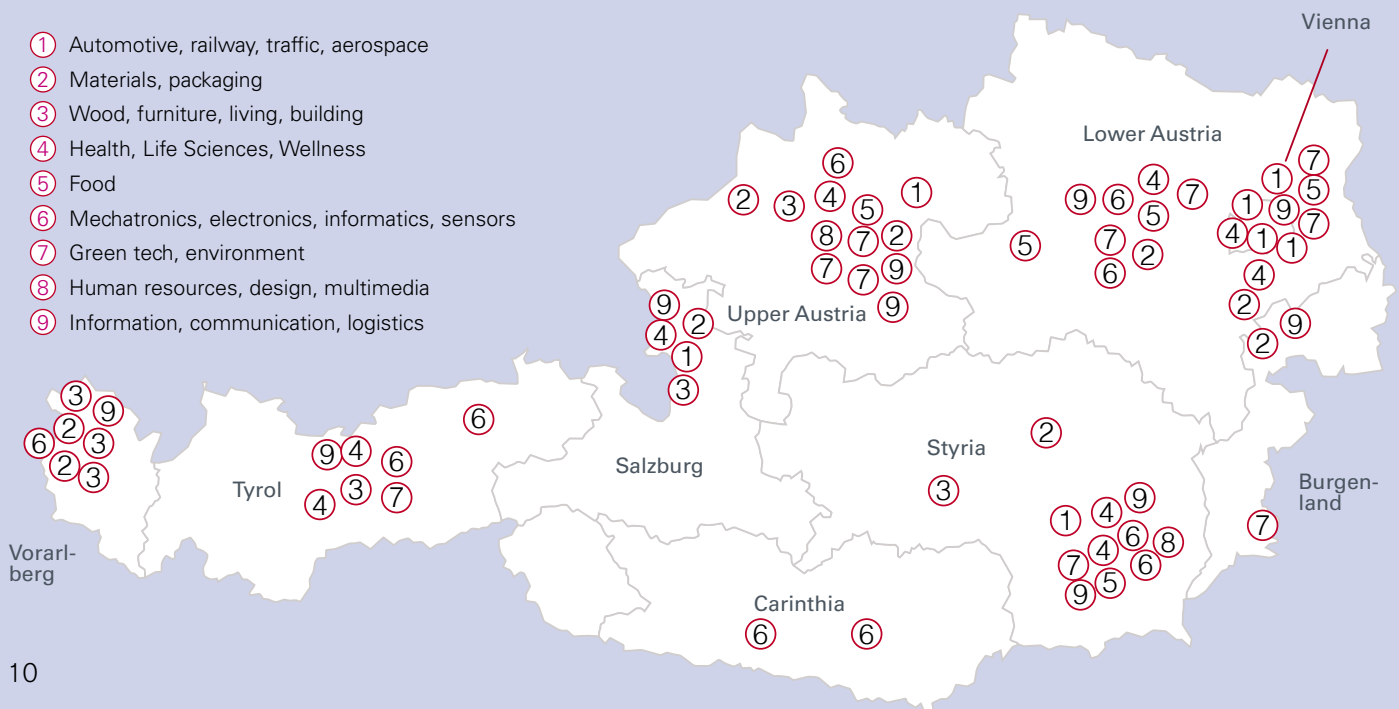
Business and research work particularly closely and successfully together in Austria.

Austria is in the top ranks of Europe when it comes to the cooperation of universities and the corporate sector. The country places second among all European nations, surpassed only by Finland, but ahead of leading innovative countries such as Sweden, Denmark, Netherlands and Great Britain. Accordingly, Austria offers optimal preconditions for the quick and efficient transfer of new processes, technologies and services.

A few of the successful research facilities:

- The 47 competence centres encompassed in the research promotion initiative **COMET** (Competence Centres for Excellent Technologies) bring companies and scientific institutions together. For example, large international pharmaceutical companies rely on the know-how of the “Research Centre Pharmaceutical Engineering” (RCPE) in Graz for pharmaceutical processes and product development. Up until now the COMET program has funded projects to the amount of € 2.24 billion.
- The **Christian Doppler Research Association** is the umbrella organisation for research units with fixed terms, in which scientists work on research issues together with corporate partners. 76 laboratories are already in operation.
- **Silicon Austria Labs** (SAL) was founded to be a top European research centre for electronic-based systems (EBS). These components, assemblies and devices relying on microelectronics and nanoelectronics as well as embedded software are the technological backbone of digitalisation. They comprise the basis for intelligent products and processes focusing on Industry 4.0, Internet of Things (IoT), autonomous driving and smart energy

- www.ffg.at/comet
- www.cdg.ac.at
- www.silicon-austria-labs.com





Qualitative Leap for Factories

The learning factory is a successful example of the collaboration between business and science.

The objective of the European project Sem140 (“Power Semiconductor and Electronics Manufacturing 4.0”) is to take further decisive steps in the development of autonomous factories. On balance, 37 partners from science and industry in five countries have been working intensively on this over the past three project years since 2016. Under the leadership of Infineon Austria, significant progress has been made on processes and methods for “Industry 4.0” applications. Among the partners involved in the project are AIT Austrian Institute of Technology, AT&S Austria Technologie & Systemtechnik, AVL List, University of Applied Sciences Burgenland, Fraunhofer Austria Research, Plansee SE, the Vienna University of Technology and Alpen-Adria University Klagenfurt.

The results are a unique security concept for the networked communication of factories, a quality leap in production processes and notable improvements in energy efficiency. Machinery, plant and equipment, logistics and products communicate and cooperate across the globe and across the entire value chain via the production sites. In this way, production becomes more intelligent, faster, more efficient and more flexible.

We are pooling the strategic skills of all partners across national borders in cooperative research schemes, and through our cooperation and with findings such as those generated by the ‘Sem140’ project, we strengthen the global position of Europe as a production location.

Sabine Herlitschka, Chief Executive Officer of Infineon Austria

Bundled Competence

About 60 industrial clusters and 50 competence centres bundle innovation and expertise in the country. The networks consisting of companies and research institutions are “boosts” for the business location.

Austria boasts highly specialised and widely networked clusters, for example in the automotive, green tech, medical innovation, food, aviation and aerospace, design and wood sectors.

- www.acmit.at
- www.greentech.at
- www.a2lt.at
- www.acstyria.com
- www.automobil-cluster.at

Best practice examples in the automobile sector include **ACstyria** and the **Automotive Cluster of the Business Upper Austria**. Some 300 automotive, aerospace and rail systems specialists operate at ACstyria, generating a total revenue of more than € 17 billion and employing a staff of more than 70,000 people on balance. The Automotive Cluster of the Business Upper Austria with its approx. 250 members focuses on the future-oriented field of lightweight construction. Smaller initiatives such as „A2LT – Austrian Advanced Lightweight Technology“ and the lightweight construction platform “ECO-Materials“ rely on the power of collaboration.

Green tech and medical robotics

About 200 specialised companies and R&D organisations work together in Styria on new solutions for a clean environment. Within just one hour by car, the so-called Green Tech Valley brings together more leading green tech companies than anywhere else in the world. The regional research ratio is 4.8 percent.

Upper Austria is also considered to be a “green” location. There 250 environmental technology companies bundle their know-how when it comes to wastewater, waste, recycling, resource and energy efficiency, soil, noise and the air. At the same time, the international competitiveness of innovative SMEs is strengthened.

The “Austrian Centre for Medical Innovation and Technology” (Acmit), a competence centre based in Wiener Neustadt focusing on the development of medical robotics, opens up new perspectives in minimally invasive surgery. “Bioenergy 2020+“ with several research facilities in Austria offers successful innovations in the environmentally compatible energy generation from biomass.



Blossoming Development

Phytovalley Tyrol – a cluster of scientific facilities and companies – is conducting research into the potential of active ingredients derived from plants.

Natural ingredients enjoy great popularity at present and have been enriching research and production in the fields of medicine, cosmetics and food production for years. There is a strong demand on the part of the pharmaceutical sector for new, effective plant-based active ingredients, in light of the fact that research has only been carried out on five to ten percent of the 400,000 plants in existence across the globe.

→ www.uibk.ac.at/mpi
→ www.bionorica.de

Competencies and know-how in plant research are bundled and being expanded upon in Phytovalley Tyrol. An increasing number of research centres and companies are settling in Phytovalley in order to further promote the international breakthrough of this research facility.

The company Bionorica and the University of Innsbruck are among the cluster partners supporting the innovative network. For example, the newly opened Michael Popp Research Institute at the University of Innsbruck is working on research into herbal medicinal products for new therapeutic approaches to widespread diseases such as chronic inflammation, metabolic disorders such as diabetes or even to fight cancer. The Austrian Drug Screening Institute (ADSI), Bionorica Research, Tirol Kliniken, MCI and other partners complement the Phytovalley Cluster.

Phytovalley Tyrol covers the entire value chain, from basic and applied research to product development. New cultivable areas for test plants in the vicinity of Innsbruck are planned.



© Westend61 / Vitta Gallery

Optimally Supported – from the Start

Austria's startup scene is booming. Innovative entrepreneurs from within the country and abroad will find just the conditions they need – in Austria.

→ www.ffg.at
 → www.aws.at
 → www.inits.at
 → www.wexelerate.com
 → vienna.impacthub.net

- An outstanding educational level in technical fields
- An attractive financing and funding system
 - The Austrian Research Promotion Agency (FFG) funds about 100 startups each year, making some € 70 million in funding available.
 - Austria Wirtschaftsservice GmbH (AWS) also provides startup support to high-tech founders through specific programmes and company founder funds.
 - The high-tech business incubator INiTS in Vienna offers access to capital and potential partners, complemented by weXelerate, Central Europe's largest startup hub, and ImpactHub Vienna, bringing together founders, creative minds and investors.
- Successful startup clusters and coworking spaces
- Internationally acclaimed events such as ViennaUP
- An efficient network of early stage investors, incubators, accelerators and business angels
- Tax advantages such as the "privileged limited liability company" facilitating the entry into self-employment based on a reduced minimum share capital of € 5,000 compared to the normal amount of € 17,500, along with a uniform corporate tax rate of 25 percent

Thinking Machines

ToolSense helps machine manufacturers and distributors to directly network with customers and increase their productivity.

Established in 2017, ToolSense digitises after-sales processes and machinery from original equipment manufacturers and distributors. In this way, malfunctions can be predicted, and the service life of the machines can be extended. As a result, the company generates revenue growth of up to ten percent and a margin increase of up to 50 percent per machine.

→ www.toolsense.io

For this purpose, ToolSense has developed technologies in the field of cloud computing, Internet of Things and edge computing. For example, the customer can select services, enter the required information, directly book services with the producer or dealer and also pay online. Moreover, the customer can administer the machines, prevent standstills and raise productivity.

The success story began in 2016. In their spare time, Benjamin Petterle, Rostyslav Yavorskyi, Stefan Öttl and Alexander Manafi developed an anti-theft solution for devices used on construction sites. A leisure time activity turned into a seminar project at the University of Applied Sciences Technikum Wien, followed by the first prototype and a startup.

In the meantime, ToolSense employs a staff of 20 people from seven nations and works together with more than 25 manufacturers of construction machinery and equipment in Europe and the USA.

We collect a great deal of data by means of sensors mounted onto the equipment. With the help of artificial intelligence, we train a neural network capable of automatically detecting an impending malfunction. We have succeeded in developing a solution which is so small and effective that it can operate by itself on the machine.

Alexander Manafi, CEO of ToolSense



Opernring 3
A-1010 Vienna
Tel.: +43-1-588 58-0
Fax: +43-1-586 86 59
E-Mail: office@aba.gv.at
www.investinaustria.at

Editorial:
Owner&Publisher: ABA – Invest in Austria
Austrian Business Agency, Opernring 3, A-1010 Vienna
Editor-in Chief: René Siegl
Associate Editor: Karin Schwind-Derdak (ABA), Christa Danner Text und PR
Design: november-design.at
May 2021

