



Austria\*

\* Information Technology Industry

# Content

Content.....	2
Austria as a high tech nation.....	3
Mental and Technological Assets .....	4
Traffic Telematics .....	6
Semiconductors.....	8
Medical Informatics and Bio Informatics .....	10
Digital Image Processing/Computer Vision.....	12
e-Tourism.....	15

## **Editorial**

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# Austria as a high tech nation

## Austria's performance in selected areas of digital technologies

Austria's digital economy has grown to an overall volume of € 32 bn. in 2005 which is a plus of about 9 per cent compared to 2004. The domestic market has grown by 3.2% to € 21.8, exports and foreign activities have risen by 10% to € 10.1 bn. Multinationals grew by 9.7%, Austrian companies by 5.3%. Abroad, Austrian companies showed revenues of € 3.5 bn. multinationals € 6.4 bn.

Austria's digital industry shows a considerable multinational presence – partly because Austria and in particular Vienna is a main hub for the ICT business in Central and Eastern Europe. This explains the high share in exports and foreign activities. The Vienna headquarters of companies like Siemens, Hewlett Packard or SAP handle markets from Slovakia to sometimes even Central Asia or the Middle East and Africa.

60% of all ICT exports and foreign revenues come from Central and Eastern Europe, 25% from the EU-15 countries. Although exports to Western Europe have risen in absolute figures, their share in overall exports has come down from 27% in 2004.

Export market no. 3 is America (9%) with the USA as the main market, although both Canada as well as Latin America become more important.

Although ranking 4<sup>th</sup> only, for Austria the most exciting markets beside Central and Eastern Europe are definitely the countries in South East Asia and India.

Austria's largest ICT segment has been and still is telecommunication. 2005 showed a plus of 7.6%, revenues rising to € 9.4 bn. whereas the domestic market only grew by 0.7%, exports and activities abroad grew by almost 25%. This is partly due to increased activities by Telekom Austria → [www.telekom.at](http://www.telekom.at) and its daughter company Mobilkom → [www.mobilkom.at](http://www.mobilkom.at) who took over several mobile providers in South Eastern Europe during recent years.

Austria is an import market for classic hardware, i.e. PCs, servers and notebooks, but highly productive and expansive in derivative hardware fields, such as industrial automation, telecommunication and computer components, semiconductors and production equipment for such products. Altogether this segment earned € 5.7 bn. in 2005, 54% of which came from exports.

Austria's software industry (software and services) in 2005 experienced a rather unexpected soar with a growth of 9.5% to € 2.3 bn. (+3.6% in 2004), where medium sized enterprises showed the strongest performance.

In Austria, about 21,000 licences have been issued for ICT related enterprises. About 2,000 of these dominate the industry, about 1,000 enter annual rankings and 600 are active in exports or abroad. With roughly 2,500 new companies in 2005, the industry ranks 2<sup>nd</sup> in Austria's entrepreneurial rankings.

In 2005 Austria's ICT industry counted about 130,000 employees and freelancers, which is a remarkable plus of 14% compared to 2004. Of these, about 111,000 are working in export oriented companies. Austrian ICT companies employ about 15,000 people abroad, mainly in Central and Eastern Europe.

Vienna hosts most of Austria's ICT companies (7,700) and therefore employs the biggest workforce (87,000, a plus of 18% vs. 2004). Most of the big players are located in Vienna (Siemens, Telekom Austria, Kapsch, IBM, Philips, Raiffeisen Informatik, VA Tech Sat, Alcatel, Hewlett Packard, SAP, BEKO etc.)

## **Mental and Technological Assets**

The fact that it is mainly small and medium sized companies that make Austria's high tech success stories abroad is certainly a result of three specifically Austrian attributes which one might call a veritable USP: A unique combination of innovation (Austria ranks 5 in The European Union's Innovation Scoreboard, see

→ [http://trendchart.cordis.lu/reports/documents/Country\\_Report\\_Austria\\_2005.pdf](http://trendchart.cordis.lu/reports/documents/Country_Report_Austria_2005.pdf)), technological precision and mental and social flexibility. That last capacity has had a strong impact on Austria's position in Central and Eastern Europe, where the country ranks among the world's top investors.

Technological precision is a traditional value in Austria. So two of Austria's best performing ICT related industry segments are industrial automation, semiconductors and semiconductor production technology. Industrial automation is a derivative of Austria's long history of post-war industrialisation; semiconductor technology is rather new for Austria but seems to become one of the country's high tech highlights.

The following paragraphs try to give an overview on Austria's major segments within the digital industry.

## Industrial Informatics

Austria has been experiencing a soaring development in areas such as industrial automation („Smart Factory“), automotive IT, embedded systems, facility automation, supply chain management, logistics, simulation, robotics, RFID, optimisation, analysis and forecasting. Although the companies involved count among the so called hidden champions, they count, together with traffic telematics, among Austria’s strongest export assets.

About a 150 companies made € 1.5 bn. in 2005 (+14.5%), employing about 10,000 people. The segment ranks top in Austria’s digital industry and has been showing constant growth rates for years. Its export quota is 60% on average, some of the major companies show export quotas up to 100% though, such as Bernecker&Rainer → [www.br-automation.com](http://www.br-automation.com), VA Tech Sat → [www.sat-automation.com](http://www.sat-automation.com), which meanwhile belongs to Siemens → [www.siemens.at](http://www.siemens.at), KEBA → [www.keba.at](http://www.keba.at), Salomon → [www.salomon.at](http://www.salomon.at), Omicron → [www.omicron.at](http://www.omicron.at), Sigmatek → [www.sigmatek.at](http://www.sigmatek.at), Abatec → [www.abatec.at](http://www.abatec.at), Bachmann Electronic → [www.bachmann.at](http://www.bachmann.at) or S.I.E. → [www.sie.com](http://www.sie.com). Several of these own subsidiaries worldwide.

Most of these enterprises cluster around the cities of Graz (Automotive), Linz (Industry), Villach (Semiconductors) and, of course, Vienna.

Export markets are mainly Western Europe, North America and the Far East. Contrary to the general trends to import new technologies from North America or South East Asia, research and development in this field are mainly of domestic origin. Top quality research derives from intensive cooperation with major universities in Vienna, Graz, Linz and Innsbruck.

Best practice examples are e.g. semiconductor producer NXP → [www.nxp.com](http://www.nxp.com) (formerly Philips semiconductors) who runs its worldwide development center in the outskirts of Graz, or the Austrian subsidiary of Munich’s chip specialist Infineon → [www.infineon.at](http://www.infineon.at) who, during recent years, has been constantly transferring competence to Austria’s Infineon facility at Villach. Infineon Austria develops and manufactures semiconductor solutions for the automotive industry and thus concentrates 80% of the company’s overall chip production and 20% of worldwide research at Villach. Infineon also runs two external research facilities in Linz (DICE, → [www.dice.at](http://www.dice.at)) and in Graz. Villach is also responsible for sales in South Eastern Europe and their new development facility in Romania. Infineon Austria has set benchmarks with developing the world’s fastest VDSL processor with more than eight million transactions per second in 2001.

KEBA AG → [www.keba.at](http://www.keba.at) in Linz is a specialist for industrial and banking automation and has recently entered a joint venture with Germany’s SEW-Eurodrive-Group → [www.sew.de](http://www.sew.de) to work on comprehensive motion control solutions. SEW-Eurodrive is a manufacturer of motion solutions from motors to electronic applications.

### Some Top Austrian Solution Providers for Industrial Automation (Selection)

Bernecker & Raine → [www.br-automation.com](http://www.br-automation.com)  
 VA Tech SAT → [www.sat-automation.com](http://www.sat-automation.com)  
 Knapp Gruppe → [www.knapp.com](http://www.knapp.com)  
 KEBA AG → [www.keba.com](http://www.keba.com)  
 ILS GmbH → [www.ils.at](http://www.ils.at)  
 Intesy → [www.intesy.biz](http://www.intesy.biz)  
 Salomon Automation GmbH → [www.salomon.at](http://www.salomon.at)  
 Tecwings GmbH → [www.tecwings.at](http://www.tecwings.at)  
 Bachmann electronic GmbH → [www.bachmann.info](http://www.bachmann.info)  
 Omicron → [www.omicron.at](http://www.omicron.at)  
 Ecolog → [www.ecolog.at](http://www.ecolog.at)  
 Sigmatek GmbH & Co KG → [www.sigmatek.at](http://www.sigmatek.at)  
 efinio Ingenieure → [www.efinio.com](http://www.efinio.com)  
 Brother International Austria GmbH → [www.brother.at](http://www.brother.at)  
 Novar Austria (Honeywell) → [www.novar.at](http://www.novar.at)  
 M&R Automation → [www.mr-automation.at](http://www.mr-automation.at)  
 ETM AG → [www.etm.at](http://www.etm.at)  
 Panasonic Electric Works Austria GmbH → [www.panasonic-electric-works.at](http://www.panasonic-electric-works.at)  
 S.I.E. → [www.sie.at](http://www.sie.at)  
 Abatec AG → [www.abatec-ag.com](http://www.abatec-ag.com)  
 IVM Technical Consultants Wien GmbH → [www.ivm.at](http://www.ivm.at)  
 Contec GmbH → [www.contec.at](http://www.contec.at)  
 Daimler Chrysler CS → [www.daimlerchrysler-cs.com](http://www.daimlerchrysler-cs.com)  
 Techsoft Datenverarbeitung GmbH → [www.techsoft.at](http://www.techsoft.at)  
 Bruck Technologies GmbH → [www.brucktech.com](http://www.brucktech.com)  
 Abis -GmbH → [www.abis-software.com](http://www.abis-software.com)

### Traffic Telematics

Austria has achieved a top position in traffic telematics. This is a result of public funding combined with highly innovative developments. Today, Austria is leading in fields such as road pricing, tunnel surveillance, logistics and maritime navigation. The companies involved are Euroypass Austria → [www.go-maut.at](http://www.go-maut.at), a daughter company of Austria's expressway builder ASFINAG → [www.asfinag.at](http://www.asfinag.at). Kapsch AG → [www.kapsch.net](http://www.kapsch.net) and Efkon AG → [www.efkon.com](http://www.efkon.com) are harsh competitors in road pricing projects from Austria to Australia.

Road pricing systems by Kapsch are a worldwide success. Presently Kapsch is installing systems in the Czech Republic and Serbia. Before, the company won tenders in Spain, Portugal, Mexico and Australia. The microwave technology developed by Kapsch Traffic.com has also been implemented in France, the Netherlands, Denmark, Sweden, Norway, Finland, Italy, Slovenia, Croatia, Poland, Greece, Turkey, Switzerland and the UK. Its biggest project so far has been Austria's road pricing system for trucks which has been implemented nationwide.

Kapsch' biggest competitor is Efkon who has equipped Germany's road pricing system. Efkon is busy in South East Asia and has contracted an order for a multi application clearing House in India in 2005. The project is a joint venture of India's second largest petroleum company and the country's second largest bank and offers gas station customers to pay their fuel bills by RFID chip card. Efkon planned and implemented the system at 2,000 gas stations, delivered the network and equipped the clearing house and the billing system. The annual clearing volume is about half a billion €.

### **Embedded Systems**

Embedded systems are among the fastest growing segments in ICT. Today, more than 90% of all processors go to devices different from classical computers. According to experts, in 2020 there will be more than 40 billion devices controlled by embedded systems.

Austria has developed a very competitive embedded systems industry. Research has been funded by Austria's Ministry of Technology → [www.bmvit.gv.at](http://www.bmvit.gv.at) since 2001. Several universities and Austrian Research Centers ARCS → [www.arcs.ac.at](http://www.arcs.ac.at) are involved in numerous projects.

One of these is STEACS – Systematic Test of Embedded Automotive Communication Systems, developing methods to avoid failure in automotive electronics. It is a joint venture of the Vienna based company Decomsys → [www.decomsys.at](http://www.decomsys.at) together with the Embedded Computing Systems Group (ECS) at Vienna's University of Technology <http://ti.tuwien.ac.at/ecs> and Technikum Wien college. → [www.technikum-wien.at](http://www.technikum-wien.at). The project is based on FlexRay → [www.flexray.com](http://www.flexray.com), an internationally standardised communication protocol for dependable data transfer between electronic and mechanic car components. In Austria, several specialised companies have joined FlexRay, such as an affiliate of Austria's embedded systems pioneer TTTech → [www.tttech.com](http://www.tttech.com), AMS → [www.austriamicrosystems.com](http://www.austriamicrosystems.com), Decomsys, AVL List → [www.avl.com](http://www.avl.com), and Austrian Research Centers.

The winner of the Ministry of Technology's 2005 embedded systems call was "SENSE" (Security-enhanced Near Field Communication Systems), developing electronic vouchers and tickets. Another interesting project is QCC, a microchip offering secure data communication based on quantum cryptography. Both projects were submitted by Graz University of Technology → [www.cs.tugraz.at/cs/de/aboutus/awards/index.html](http://www.cs.tugraz.at/cs/de/aboutus/awards/index.html). QCC is a joint venture together with Siemens' Austrian based Programmes & Systems Development group PSE → [www.pse.at](http://www.pse.at) and the ICT department of Austrian Research Centers → [www.smart-systems.at](http://www.smart-systems.at).

**Embedded Systems developers in Austria (Selection)**

Abatec AG → [www.abatec.at](http://www.abatec.at)  
 ACP → [www.acp.at](http://www.acp.at)  
 Active Photonics → [www.active-photonics.com](http://www.active-photonics.com)  
 Atronic → [www.atronic.com](http://www.atronic.com)  
 AVL → [www.avl.com](http://www.avl.com)  
 Bernecker & Rainer → [www.br-automation.com](http://www.br-automation.com)  
 Decomsys → [www.decomsys.com](http://www.decomsys.com)  
 Dewetron → [www.dewetron.com](http://www.dewetron.com)  
 Dorner → [www.dorner.at](http://www.dorner.at)  
 Ebner Electronic → [www.ebner-electronic.at](http://www.ebner-electronic.at)  
 Gantner Electronic → [www.gantner.com](http://www.gantner.com)  
 Graf Gruppe → [www.grafgroup.com](http://www.grafgroup.com)  
 HBM → [www.hbm.at](http://www.hbm.at)  
 Infineon Österreich → [www.infineon.at](http://www.infineon.at)  
 Kapsch AG → [www.kapsch.net](http://www.kapsch.net)  
 Magna Steyr → [www.magnasteyr.com](http://www.magnasteyr.com)  
 MSS Elektronik → [www.msselektronik.com](http://www.msselektronik.com)  
 SEZ AG → [www.sez.com](http://www.sez.com)  
 Siemens Österreich → [www.siemens.at](http://www.siemens.at)  
 TTTech AG → [www.TTTech.com](http://www.TTTech.com)

More companies to be found on The Embedded Systems Knowledge Base → [www.embase.at](http://www.embase.at)

**Semiconductors**

The main actors in semiconductor technology are big multinationals. Three of them have based important research and development as well as production facilities in Austria: NXP → [www.nxp.com](http://www.nxp.com), formerly Philips Semiconductors, Infineon → [www.infineon.at](http://www.infineon.at) and Vishay → [www.vishay.com/contact?id=37](http://www.vishay.com/contact?id=37). A range of smaller Austrian companies develop highly specialised semiconductor products.

NXP is running its development center for contactless RFID semiconductors in Gratkorn, close to the provincial capital of Graz. This facility and their Austrian headquarter in Vienna employ roughly 620 people and lead worldwide markets both in technology and sales in their field. NXP is Europe's second largest semiconductor producer. Their technology works for about 80% of electronic passport systems worldwide.

Infineon → [www.infineon.at](http://www.infineon.at) at the Southern town of Villach offers a range of 850 microelectronic products. Their core competence is electronics for automotive and industrial applications, where Infineon is world market leader. Their annual output is 17 billion chips.

Infineon runs a research affiliate called DICE → [www.dice.at](http://www.dice.at) in Linz. It is a spin off of Linz' Johannes Kepler University, a highly innovative company and one of Infineon's largest development centers for high frequency technology. DICE employs a hundred specialists for concept planning, analog and digital circuit design and application engineering. Their products range from transceivers to entire chip sets for custom cellular standards such as GSM, UMTS, CDMA2000 and DVB-H.

- The world's largest producer of passive electronic components, Vishay Semiconductor → [www.vishay.com](http://www.vishay.com), is based at Voecklabruck in Upper Austria. This plant is the company's competence center for diodes, rectifiers and transistors and manages the company's DiRecT Division in international procurement, research, logistics, quality control and controlling. The division also manages Vishay's plants in Heilbronn (Germany), Budapest and Gyöngyös in Hungary, and Shanghai.
- The largest Austrian semiconductor producer is Austria Microsystems (AMS → [www.austriamicrosystems.com](http://www.austriamicrosystems.com)), specialised in analog integrated circuits for applications in communication, industry, and the medical and automotive industries. The company has an export share of 99%. Major markets are Europe (69%), North America (18%) and the Asia/Pacific region (13%).
- In 2000, AMS bought the Graz based chip design center CISS → [www.ciiss.co.at](http://www.ciiss.co.at). The CISS staff was, among other highlights, leading in developing a 3D ultrasound device. Their main customers were the Geneva based nuclear research centre CERN and Motorola. They have partnerships with Infineon, Philips and Ericsson.
- Vienna's On Demand Microelectronics → [www.ondemand.co.at](http://www.ondemand.co.at) is a worldwide leader of IP and SOC (Systems on Chip) solutions for telecommunication and multimedia. On Demand has developed an innovative architecture for parallel processors called the Vector Signal Processor (VSP) for applications in digital consumer electronics such as digital TV sets and set top boxes. Their research activities focus on developing algorithms as well as analog, digital and mixed signal chip design. OnDemand is a spin off of Analog Devices' Austrian subsidiary and owns sales offices in Munich, Austin/Texas and Taipei.
- Nanoident AG → [www.nanoident.com](http://www.nanoident.com) is another highlight of Austria's highly specialised semiconductor scene, producing optoelectronic sensors based on organic semiconductors. Nanoident is the world's first producer of photonic polymeric sensors for high volume industrial applications.

Austria has a small but vivid scene of producers of semiconductor manufacturing devices. Among them, SEZ AG → [www.sez.at](http://www.sez.at), based in Villach, has been writing another international success story. SEZ develops and produces machines for the chemical surface treatment of silicon wafers for 90 of the world's leading semiconductor companies. They have a unique patent on their Spin Process Technology. With more than 1,000 systems installed they are world market leaders and run facilities for development, production, service and sales in Europe, Japan, Asia-Pacific and North America.

Datacon → [www.datacon.com](http://www.datacon.com) is another supplier of the semiconductor industry, producing high precision machines for wafer treatment and setting world wide standards. Datacon is a daughter company of the Dutch EV Group → [www.evgroup.com](http://www.evgroup.com) and runs 21 subsidiaries worldwide.

Mechatronic systemstechnik → [www.mechatronic.at](http://www.mechatronic.at) leads the world's markets in thin wafer handling. They also develop and produce other solutions for the industry, such as clean room assembling.

Austria's semiconductor industry reached a volume of € 1.4 bn. In 2005 (+24% vs. 2004), employs about 5,000 people and has an export share of 98%.

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## Medical Informatics and Bio Informatics

These segments show excellent prospects, both economically as well as scientifically. More than 30 internationally recognised enterprises specialise in niches ranging from hospital information systems to telesurgery. One of the highlights is Upper Austria's Kretztechnik AG, a subsidiary of General Electric → [www.gehealthcare.com](http://www.gehealthcare.com). Since 1989, Kretztechnik has been developing world leading 3D systems for ultrasound diagnostics.

A much younger company is VBC genomics → [www.vbc-genomics.com](http://www.vbc-genomics.com) developing bio chips which can determine entire allergy profiles from a single drop of blood or the subtle changes in a human genetic profile. These chips are the first ones worldwide.

Vienna based Tiani AG is producing tools for 3D diagnostics and solutions for teleradiology, i.e. the digital archiving and transferring of x-ray images (PACS, „Picture Archiving and Communication System“). Before Tiani's development, complex 3D rendering was expensive and needed high performance workstations. Tiani enables hospitals to work with regular PCs. Tiani have installed their system with numerous major clients all over Europe, starting with one of the world's first and largest image data management systems at Innsbruck's University Clinic. Tiani was bought by the German GWI AG who then was taken over by Agfa Healthcare → [www.agfa.com/germany/de/he](http://www.agfa.com/germany/de/he).

Philips Medical Systems Austria → [www.philips.at/medical](http://www.philips.at/medical) offers an interesting combination of PACS (see above) and Application Service Providing which does not only provide a large bandwidth of digital medical services but also a high degree of security guaranteed by two redundant data centers run by Philips.

T-Mobile's Austrian affiliate T-Systems → [www.t-systems.at](http://www.t-systems.at) is the company's central competence center for e-health. T-Systems Austria runs i.s.h.med., a hospital information system fully integrated in SAP at 240 locations worldwide. In Austria, i.s.h.med. was successfully implemented in several provincial clinics as well as in Vienna.

AME international → [www.ame-international.com](http://www.ame-international.com) is a full service provider for hospital technology, based in Vienna. A few outstanding references are fully digitalised hospitals in Selayang (Malaysia) and Durban (South Africa). Recently, AME installed and has been running a health insurance system for 2.5 million clients of a Romanian health insurance company.

In 2005, German Vitaphone introduced a cellular phone with Electrocardiogram and GPS functions for elderly people, offering more security in daily life. The phone was developed by one of Flextronics' → [www.flextronics.com](http://www.flextronics.com) Austrian works at Althofen (Carinthia). The phone can record a 3 channel ECG by positioning the device on the chest at the heart's location. The Data go to Vitaphone's medical call center 24/7 and can alert an emergency, if necessary.

Inte:Ligand → [www.inteligand.com](http://www.inteligand.com) is an excellent example for Austria's niche oriented high tech SMEs. The company is specialised in simulation programs for the development of new pharmaceuticals. Their latest program "ilib diverse" helps avoiding mistakes in the composition of medication and thus accelerates the development process.

Austrian Healthcare Competence Group (AHCG → [www.ahcg.at](http://www.ahcg.at)) is an association of companies focussing on digital solutions for healthcare and offers standardisation and convergent technologies for all application areas. The group streamlines knowledge and achievements from different disciplines and profits from synergies. This allows tailor made solutions and faster implementation coupled with reduced maintenance requirements. The group's members are Progress Software, PCS Professional Clinical Software, Dabac, DPW H.R. Software, BrainWare, Büll Informatik and Assista Laborelectronic.

### **Solution Providers for Medical ICT (Selection)**

AME international GmbH → [www.ame-international.com](http://www.ame-international.com)  
 Apus Software GmbH → [www.apus.co.at](http://www.apus.co.at)  
 Asys Hitech → [www.asyshitech.com](http://www.asyshitech.com)  
 ATS Advanced Technical Solutions → [www.ats-vienna.com](http://www.ats-vienna.com)  
 BMS Austria → [www.bms-austria.com](http://www.bms-austria.com)  
 Büll informatik GmbH → [www.buell-informatik.at](http://www.buell-informatik.at)  
 CNSystems GmbH → [www.cnsystems.at](http://www.cnsystems.at)  
 Computer Consulting Marian → [www.ccm2000.com](http://www.ccm2000.com)  
 CSP GmbH → [www.csp.at](http://www.csp.at)  
 D.A.T.A. → [www.data.at](http://www.data.at)  
 Dr. Sögner & Partner → [www.supa.co.at](http://www.supa.co.at)  
 EDV 2000 GmbH → [www.edv2000.co.at](http://www.edv2000.co.at)  
 EuroSystems → [www.eurosystems.at](http://www.eurosystems.at)  
 GE Medical (Kretztechnik AG) → [www.gehealthcare.com](http://www.gehealthcare.com)  
 Hewlett Packard → [www.hp.com/at](http://www.hp.com/at)  
 IGV → [www.igv.co.at](http://www.igv.co.at)  
 Innomed GmbH → [www.innomed.at](http://www.innomed.at)  
 Insight Instruments → [www.insight.co.at](http://www.insight.co.at)  
 Inte:Ligand → [www.inteligand.com](http://www.inteligand.com)  
 Lorenz Bitsche → [www.bitsche.at](http://www.bitsche.at)  
 medical net GmbH → [www.hcs.at](http://www.hcs.at)  
 Oeser GmbH → [www.telemedizin.at](http://www.telemedizin.at)  
 Patidoc → [www.pcs.at](http://www.pcs.at)  
 Philips Medizinische Systeme Österreich → [www.medical.philips.com](http://www.medical.philips.com)  
 Sailer Software → [www.reha.at](http://www.reha.at)  
 SAP → [www.sap.at](http://www.sap.at)  
 SOS Software Service GmbH → [www.sosgmbh.at](http://www.sosgmbh.at)  
 Systema → [www.systema.co.at](http://www.systema.co.at)  
 T-Systems Austria → [www.t-systems.at](http://www.t-systems.at)  
 Telekom Austria Business Solutions → <http://business.telekom.at>  
 Tiani Medgraph GmbH → [www.agfa.com](http://www.agfa.com)  
 VBC Genomics → [www.vbc-genomics.com](http://www.vbc-genomics.com)  
 Wienkom → [www.wienkav.at/igv](http://www.wienkav.at/igv)

## Digital Image Processing/Computer Vision

The highly complex technologies around digital image processing and computer vision have seen some remarkable development in Austria. A considerable range of universities, research institutes and private enterprises have achieved excellent results and opened new fields of application. Compared to the trivial recognition and identification of shapes from yesterday, today's successes in tracking and tracing, damage verification, quality inspection and even chemical analysis are striking.

Several Austrian university departments and independent institutes are focussed on computer vision, such as Vienna's VRVis (Center for Virtual Reality and Visualisation → [www.vrvis.at](http://www.vrvis.at)) or some departments of ftw (Telecommunication Research Center Vienna → [www.ftw.at](http://www.ftw.at)). The two companies are about to merge and to acquire new partners in the industry to widen their international outreach and to profit from synergies.

Automation specialist Festo → [www.festo.at](http://www.festo.at), a Vienna subsidiary of its German homophone, is developing compact cameras surveying fast movements. Their field of application are rapid automated processes in the industry to monitor production efficiency and the manufacturing of components. The cameras manage high speed image processing and can memorize video sequences themselves. The technology has been developed entirely in Austria in a joint venture with Vienna's University of Technology.

Hot Vision → [www.hotvision.at](http://www.hotvision.at) is a company specialised in combining image processing, robotics and automatisisation. Alicona Imaging → [www.alicon.com](http://www.alicon.com) works in a similar segment, focussing on 3D micro and nano metrology. Alicona is the largest enterprise of its kind in Austria.

Geoville → [www.geoville.com](http://www.geoville.com) applies computer vision to the geospatial field. One of their more recent customers is the city of Shanghai who asked Geoville to monitor the city's development from space. Gepard → [www.gepard.at](http://www.gepard.at) records and processes meteorological data. ArtiBrain → [www.artibrain.com](http://www.artibrain.com) positions computer vision systems in road tunnels to monitor the traffic, recognising dangers such as traces of lubricant, smoke or individuals moving on the road.

### Solution Providers for Computer Vision (Selection)

Alicona Imaging → [www.alicon.com](http://www.alicon.com)

Artibrain → [www.artibrain.com](http://www.artibrain.com)

EVK → [www.evk.biz](http://www.evk.biz)

GeoVille → [www.geoville.com](http://www.geoville.com)

Gepard → [www.gepard.at](http://www.gepard.at)

Hot Vision Research → [www.hotvision.at](http://www.hotvision.at)

Vexcel Imaging (2006 von Microsoft übernommen) → [www.vexscan.com](http://www.vexscan.com)

## e-Government

Austria is Europe's leading nation in e-government. Austria's best practice examples such as [help.gv.at](http://help.gv.at) → [www.help.gv.at](http://www.help.gv.at), [FinanzOnline](http://FinanzOnline) → [www.finanzonline.at](http://www.finanzonline.at) for tax paying transactions or ELAK (Electronic File, a document management and archiving system for public administration) have received several national and international awards and are excellent points of departure for an efficient and comprehensive electronic administration.

A study by Austria's Fessel GfK → [www.gfk.at](http://www.gfk.at) shows significant growth in acceptance and usage. More than 70% of Austria's internet users appreciate e-government, 45% have used several e-government applications so far. This is a growth rate of 137% compared to 2004. 80% of all internet users consult the internet first for contacts with public administration instead of going there physically. More than 60% would prefer e-mail notification to snail mail.

Austria made its first steps in e-government in 1996 when Unisys Austria → [www.unisys.at](http://www.unisys.at) and Austrian e-government pioneer Fabasoft → [www.fabasoft.at](http://www.fabasoft.at) together with several partner companies implemented an initial solution for the Electronic File (ELAK).

Austria started exporting its e-government success on a larger scale when in 2005 after a test phase for 970 users in three Bavarian authorities the Bavarian government ordered Fabasoft's e-Gov Suite for all of its 90.000 civil servants in the state's administration. This project has been the biggest for Fabasoft so far and is probably the biggest one in Europe.

Today, Fabasoft's eGov Suite works in four European countries: Switzerland (Federal administration), Germany's Ministry of the Interior, Baden-Wurtemberg's State Council, UK (Public Record Office) and Austria. Here the software runs in the Ministries of the Interior and for Environmental Protection and works for the City of Vienna's building administration.

In 2006, the latest version of Fabasoft's E-Gov-Suite was ranked among the world's best products and attributed „potential for market leadership“ by London's renowned Butler Group.

The e-government segment in Austria grew to a volume of € 70 million in 2005, not counting adaptations from other applications or hardware etc.

**Solution Providers for e-Government-Applications in Austria (Selection)**

a|trust → [www.a-trust.at](http://www.a-trust.at)  
Anecon → [www.anecon.at](http://www.anecon.at)  
BDC → [www.bdc.at](http://www.bdc.at)  
BEKO → [www.beko.at](http://www.beko.at)  
BRZ → [www.brz.gv.at](http://www.brz.gv.at)  
CPC Austria → [www.cpc.at](http://www.cpc.at)  
Data Systems Austria → [www.datasystems.at](http://www.datasystems.at)  
European Centre for Social Welfare Policy and Research → [www.euro.centre.org](http://www.euro.centre.org)  
Fabasoft → [www.fabasoft.at](http://www.fabasoft.at)  
Gemdat → [www.gemdat.at](http://www.gemdat.at)  
Gemdat NÖ → [www.gemdatnoe.at](http://www.gemdatnoe.at)  
Hewlett Packard → [www.hewlett-packard.at](http://www.hewlett-packard.at)  
IBM → [www.at.ibm.com](http://www.at.ibm.com)  
IMD → [www.imd.at](http://www.imd.at)  
KufGem → [www.kufgem.at](http://www.kufgem.at)  
Medix Informatik → [www.medix.at](http://www.medix.at)  
Microsoft → [www.microsoft.at](http://www.microsoft.at)  
Net@value → [www.net-value.com](http://www.net-value.com)  
PSK → [www.bezahlen.at](http://www.bezahlen.at)  
RiS GmbH → [www.ris.at](http://www.ris.at)  
SAP → [www.sap.at](http://www.sap.at)  
Telekom Austria Business Solutions → [www.datakom.at](http://www.datakom.at)  
Unisys → [www.unisys.at](http://www.unisys.at)  
VTG → [www.vtg.at](http://www.vtg.at)  
yc net:works → [www.finanzonline.at](http://www.finanzonline.at)

## e-Tourism

e-Tourism is transferring one of Austria's classical assets into the 21st century. Being a necessity to help keeping Austria's competitiveness as a tourist destination, it is also big business: Several studies show that about 17% of all Austrians and Germans meanwhile book holiday trips, hotels or tickets for concerts or theatres online. This means a growth of 300% from 2000 to 2006.

Forecasts say that in 2015 about 50% of all holidaymakers in the two countries will prefer online booking. 20% of all online users also say that in the future they will increase their online booking activities (There is a general trend to stronger acceptance of e-Business in Austria: After a low early adopters' rate, e-business shows strong growth. Austria has one of the highest rates of e-Bay users in Europe). Also, the Web has become more important as a source of information: About 40% of all internet users consult appropriate websites before booking their holiday trips.

TIScover → [www.tiscover.at](http://www.tiscover.at) is Austria's most successful travel internet platform and, in 1991, was one of the first of its kind in Europe. In 2006, TIScover recorded 385 million hits. Today, TIScover hosts information on 2,000 tourist regions and about 18,000 hotels and restaurants and received 1.3 million bookings and requests for reservation in 2005. TIScover has expanded to several Western European countries and plans to go to Central and Eastern Europe.

- NetHotels → [www.nethotels.com](http://www.nethotels.com) is also a success story. The company offers B2B and C2B bookings and has contracted about 30,000 hotels in 34 different regions worldwide. NetHotels was founded in 1995 to develop an innovative booking system for tourism. The bookings are being transferred online or via call centers 24/7.

Flights and hotel bookings on a B2B level are the core business of Vienna's Travi Austria → [www.travi.com](http://www.travi.com). Travi Austria is also the exclusive representative for the international flight booking system Galileo. They profit from the fact that more than 70% of all travel agents in Austria handle their bookings online.

Travi Austria's own solution CETS (Central European Tourism Solution) is a market leader in Austria and Germany and has a market share of 75% in Switzerland.

Feratel → [www.feratel.com](http://www.feratel.com) has been known for its live cams mainly from skiing resorts. Now they also produce tourism software and plan to expand to several European countries.

There are more companies active in this field, and a few years ago a competence and research centre for e-tourism based in Salzburg, Innsbruck, Krems and Vienna was founded to strengthen Austria's position in this field: The Austrian Network for e-Tourism anet → [www.anet-network.at](http://www.anet-network.at).