



STATE OF THE ART REPORT in UNIVERSITY- INDUSTRY CO-OPERATION AT REGIONAL LEVEL

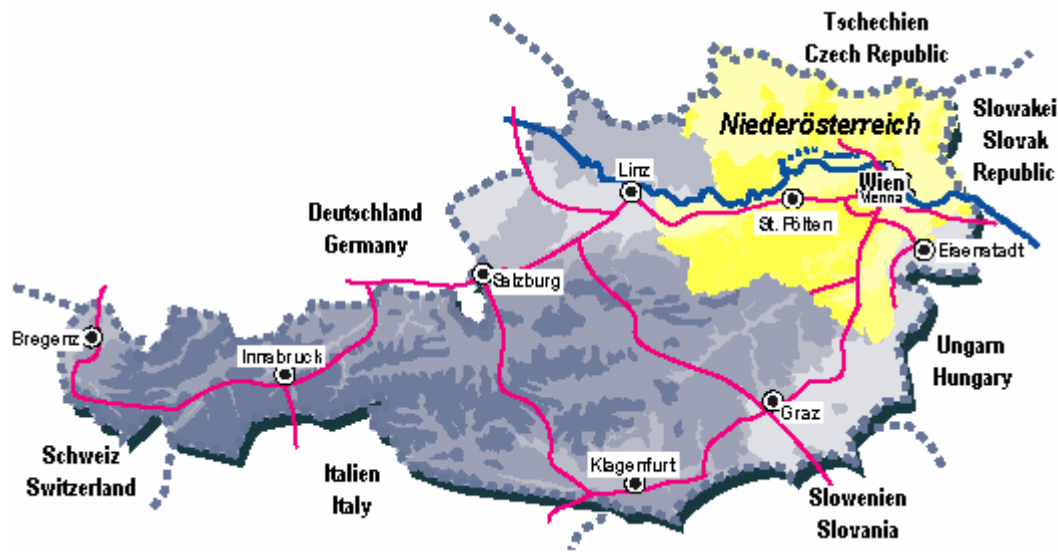
Lower Austria

[Version 07/11/2006, TIM Lab, DUK Krems]

University Industry Co-operation at Regional Level

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1 Background



Niederösterreich (Lower Austria) is often described as the 'province around Vienna' because, from a geographical point of view, Vienna, which is Austria's capital and at the same time a separate federal province, is located in the centre of Niederösterreich - similar to the situation of Berlin and Brandenburg in Germany. Vienna had also been for a long time the seat of the provincial government of Niederösterreich and it was not until 1986 that St Pölten was chosen as its provincial capital. In 1997, the provincial government, provincial administration and provincial parliament, followed by other important institutions were transferred to St Pölten.

Niederösterreich has the **largest area and the second largest population** (after Vienna) of the nine federal provinces in Austria. Niederösterreich is bordered to the north by the Czech Republic and to the east by Slovakia, where the river system of Thaya and March marks the frontier line. In the south, the foothills of the Eastern Alps form a natural boundary with Steiermark. In the south-east, Niederösterreich borders the Burgenland and this is where the province also has a share in the Pannonian Plateau, which then stretches into Hungary which is a scant 4 km away.

The **Danube** plays a very prominent role in both topographical and historical terms. This river, which was once the northern boundary of the Roman Empire, is the lifeline of the region and divides Niederösterreich into a northern part with the Wald- and Weinviertel and a southern part with the Most- and Industrieviertel. The Danube has been of great importance since historical times as a transport artery, and today it forms part of the Rhine-Main-Danube canal, linking the Atlantic to the Black Sea.

Niederösterreich is also important from the economic point of view, for this province generates the bulk of Austria's **agricultural produce** as well as featuring a highly developed industrial sector. In addition, the region has major sources of raw materials as well as extensive leisure facilities which offer good tourist connections.

Political & financial aspects (university & research sector)

Austria has a federal governmental system. This means that the central government is supported with 9 federal governments (Bundesländer). They have quite a strong political influence due to the tax income they get directly or via a key from the central government.

When entering the European Union additional funding is in addition to be administered. The process of coordinating different interests - which are substantiated by budgetary financial means – is not an easy one. This is certainly one of the major problem areas.

The position of the universities with their traditional “freedom of scientific research & teaching” is also quite different from the goals of the enterprises. In addition the financial dependence from the central federal government has the effect that this is the major partner for them. Due to changes in the legal situation more freedom and self responsibility for the university this situation will change over the years.

Hence the dialogue between the sectors university- economy is not too easy, partly also due to the scientific language. From the perception of the SME's this could have the character of a hurdle.

In this paper quite a lot information will be presented which covers whole Austria to provide for the reader with a comprehensive view of this small EU member country.

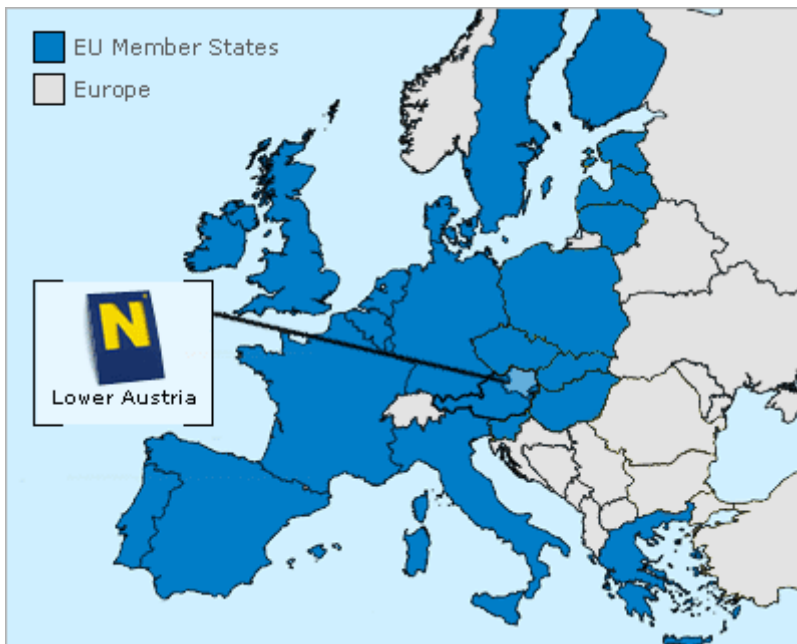
GDP of Lower Austria

with a total of 31.279 mio €

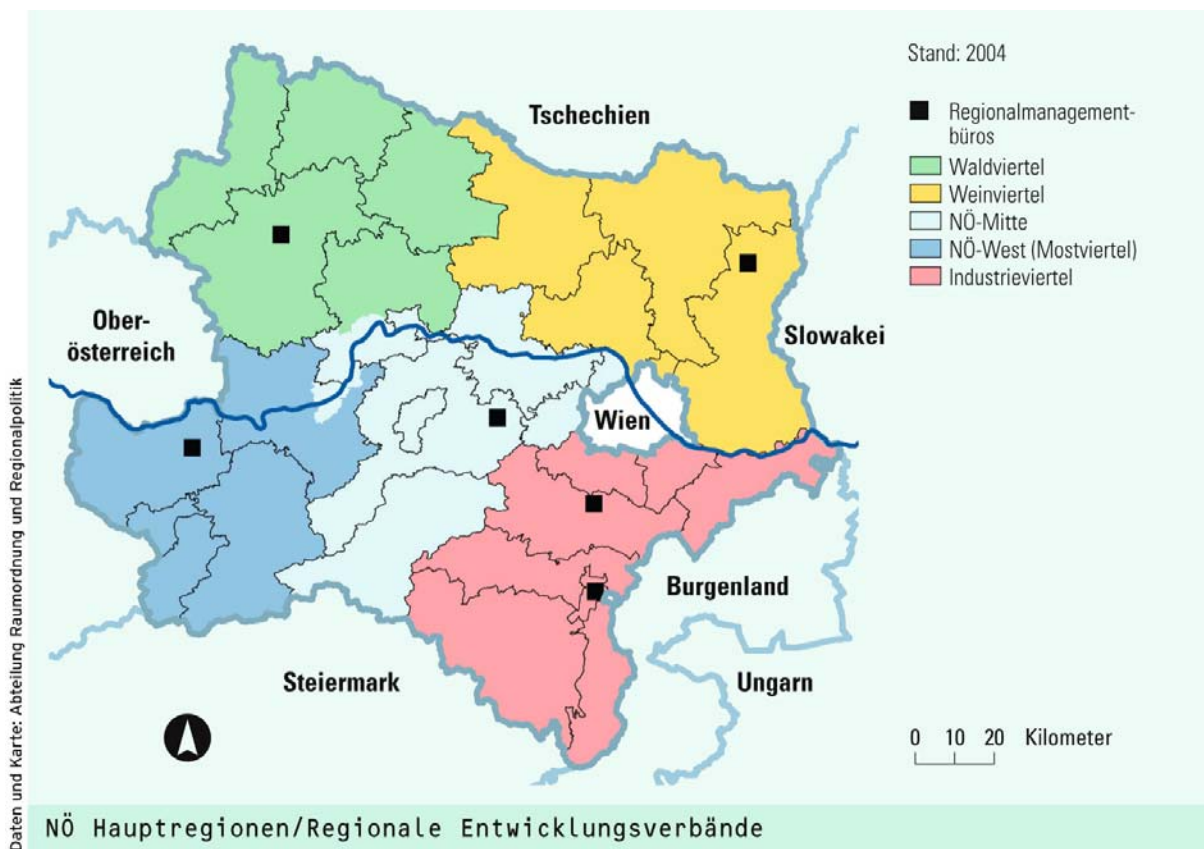
Sector	% of Lower Austria	Comparison with % of Austria	Relative position of country : % of whole Austria
Primary sector Agriculture & wood	3,83	1,93	0,59
Production, thereof	35,83	30,06	5,49
Mining	0,73	0,40	0,11
Material production	23,6	19,37	3,61
Energy & water	2,69	2,61	0,41
Construction	8,8	7,67	1,35
Services, thereof	60,34	68,0	9,24
Trading & repair	12,85	12,94	1,97
Tourism & lodging	2,95	4,55	0,45
Transportation & telecommunication	7,85	7,42	1,2
Banking & insurance	3,74	5,27	0,57
Renting, building transfer services	12,9	17,28	1,97
Public administration, army, social insurance	6,32	5,97	0,97
Education	5,75	5,38	0,88
Health	4,92	5,32	0,75
Services	2,8	3,73	0,43
Private households	0,27	0,25	0,04
Total	100 %	100 %	15,31 %

2 Socioeconomic structure of the region

Location of Austria in the European Union



Lower Austria with its 5 subregions



Lower Austria's selected spatial features

- * relatively low population density (81 inhabitants per sq km)
- * Provincial capital St. Pölten with 49,300 inhabitants
- * 66% of the provincial population live in rural areas,
 - 18% in the Lower Austrian part of Vienna's agglomeration area,
 - 16% in 6 medium-sized town regions
- * Administrative areas:
 - 21 administrative districts + 4 cities with their own statutes,
 - 573 municipalities,
 - 5 regional development associations with separate regional management offices
- Regionalmanagement Europaregion NÖ-Süd
- Regionalmanagement Industrieviertel
- Regionalmanagement Mostviertel
- Regionalmanagement NÖ-Mitte
- Regionalmanagement Weinviertel
- Regionalmanagement Waldviertel:
- Regionalmanagement Wien-Umland

* **Significant socio-economic structural change** to a service industry-oriented region with powerful industry and trade base (% of jobs):

Sectorial structure	farming & forestry	Industry / trade	service industry
1961	36.0	39.0	25.0
1981	15.8	42.5	41.7
2001	7.8	33.5	58.6

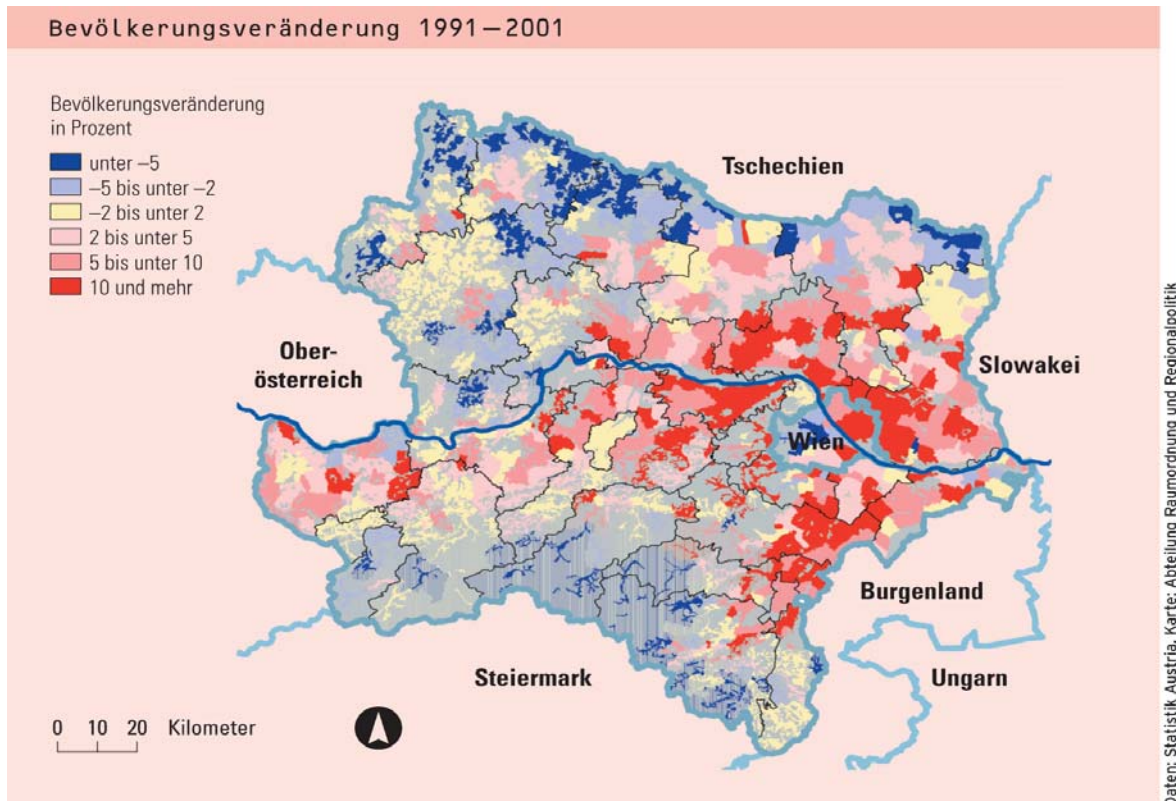
- * Natural diversity:
 - share of Central Europe's different major landscapes:
 - Alps, Bohemian Massive, Alpine Foreland and Danube Valley
 - Carpathian Foreland, Viennese Basin
- * Excellent position/business location qualities: The commercial hub of the Central-European East-West and North-South connections:
 - East-West: Alpine Foreland – Danube Corridor
 - North-South: former Amber Road/eastern border of the Alps or "Thermenlinie" (hot springs line) - Semmering – Norische Senke basin – Italy
- * Austria's historic core area (residences along the Danube in the Middle Ages), oldest industrial area in the Danube monarchy
- * Growing dominance of the metropolis Vienna (1.550m inhabitants), the Gateway City for the eastern half of Europe

Selected key data

Position	In the North-East of Austria (the province around Vienna)
Area	19,174 km ²
Population	1.55 million, with a steady increase in the past decade
Households	approximately 623,000
Citizenship	Austrians: 93,92 %
EU-citizens (except Austrians)	1,56 %
Non-EU-citizens	Total of 4,52 % with people from former Yugoslavia 2,4 % and Turkish nationality 1,3 %
Capital	St. Pölten (49,000 inhabitants)
Districts	25 administrative districts
Municipalities	573 (=24,3 % of Austria)
Major rivers	Danube, Enns, March, Thaya, Traisen, Ybbs
Highest elevation	Schneeberg (2.076 m)
Lowest point	Municipality of Berg in the district of Bruck/Leitha (129 m)
Provincial boundaries	414 km (Czech Republic: 333 km, Slovakia: 81 km)
Links	www.niederoesterreich.at www.austria.info
Employed people	525,000 people
unemployment rate - 2005	nearly 10 %, close to the Austrian average

Changes in the population over the years ...

Year	inhabitants	population density
2001	1,542.574	80,44
2002	1,547.696	80,70
2003	1,552.848	80,97
2004	1,563.872	81,55



3 Characteristics of the University-Cooperation in the region

Used source for this chapter:

*“Knowledge & technology transfer in Austria”,
a situation analysis from TECTRANS NETWORK, 20. November 2003*

Summary: Despite numerous measures for the intensification of the transfer of technology a systematic development and/or access to existing technological resources of economics and science is not yet given in Austria. Apart from efficient communication and information structures also ever a wide binding more importantly becoming in the course of the globalization of research is missing to international transfer of technology nets. Findings are based on 85 structured depth interviews, which were led in the summer 2003 with representatives by enterprises as well as research and conveyer systems. In the available study the current conditions knowledge and of the transfer of technology in Austria are pointed out. By analysis of the most frequent points of criticism in the context of closed Workshops with relevant experts a detailed list was provided by obstacles as well as appropriate recommendations. Further exemplary suggestions for the improvement of the transfer of technology in Austria could be seized by the comparison with international Best Practice models.

Some conclusions:

RIS++ Program

Lower Austria will only succeed in strengthening the competitiveness of Lower Austrian companies and to stand its ground in the European context if it concentrates on the core competencies and the major location factors. For this purpose, five core areas were distilled in the framework of the Regional Innovation Strategy; today, these are the corner pillars of the Regional Innovation System under which the single actions are co-ordinated.

3.1 Description of the actors

3.1.1. University and research system – Lower Austria

IMC University of Applied Sciences Krems	http://www.imc-krems.ac.at/	
St. Pölten University of Applied Sciences	http://english.fh-stpoelten.ac.at/	
University of Applied Sciences Wiener Neustadt	http://www.fhwn.ac.at/	
Danube University Krems	http://www.donau-uni.ac.at/	
New Design University	http://www.ndu.ac.at/	
Department for Agrobiotechnology, IFA-Tulln	http://www.ifa-tulln.ac.at/	

Education in Lower Austria - year 2001

Data	people	percentage
Inhabitants	1,545.813	
Age group 15-59, male	477.057	
Age group 15-59, male, female	462.633	
Total working age group	939.690	100 %
Age group 15-59, university degree	57.885	6,16
Age group 15-59, college degree	28.236	3,0
Age group 15-59, higher vocational education	82.390	8,7
Age group 15-59, higher education (Matura)	56.558	6,0
Vocational education	164.902	17,5
Apprenticeship	449.416	47,8
basic education – 9 years	442.852	47,1
Staff in research & development, (Source ÖNACE per 6/2006)	1.676	0,18

Source: Franz Vogl post.ru2statistik@noel.gv.at

a) University

Austria has 21 universities and one University Centre for Further Education in Krems (Danube University Krems). All persons who have a general university entrance certificate or a Berufsreifeprüfung or have passed a university entrance exam are entitled to enter the university degree programmes.

The **Danube University Krems** in Lower Austria enjoys a special position. When the new Federal Law came into force (Spring 2004) this university became the University Centre for Further Education Krems and an equal

partner of the Scientific Community in Austria and Europe . Currently over 3,228 students from 42 countries are enrolled in more than 130 university programmes. The university awards internationally-recognised postgraduate qualifications (MBA, MSc , MA , M.E.S, etc.).

Students from Lower Austria, year 2004/2005:

University	3661, thereof woman	2067
Colleges	1536,	605

Source: *statistical yearbook 2005*

b) FH / Fachhochschulen

The Concept of the Fachhochschule (FH)

In order to widen the scope of higher education, study courses have been offered at Fachhochschulen in Austria since the 1994/95 academic year. Their educational focus is both academic and vocational, and the curriculum includes compulsory professional practical training. The number of students per year and study course is limited, necessitating an admission procedure. In Lower Austria there are currently approximately 1,200 places for first year students. The basic admission requirement is a general university entrance certificate (Matura, Berufsreifeprüfung or university entrance exam) or a relevant professional qualification.

Since the 2003/04 academic year there have been three different types of Fachhochschule study programmes in Austria : bachelor, master and degree programmes. For the degree programmes the duration of study is 8 semesters, for bachelor programmes 6 semesters and for master programmes 2 to 4 semesters. Graduates of degree or master programmes are entitled to enrol in Ph.D. studies at university, which last a further two semesters.

The three Fachhochschulen in **Krems, St. Pölten and Wr. Neustadt** (with affiliated institutes in **Tulln and Wieselburg**) offer a total of 19 FH-degree programmes. Eleven of these will be converted to bachelor/master programmes. Currently approximately 4,640 students are enrolled at Fachhochschulen in Lower Austria

c) Further career-oriented learning

The modern working world is subject to unpredictable change and as a result career-driven further education has particularly high worth. The first port of call for business training in Austria is **WIFI**, the Institute of Business Promotion, established by the **Chamber of Commerce**. Lower Austria's WIFI, with over 3,500 school events and more than 44,000 participants, is undisputed number one when it comes to career-oriented training and further education. Offering 900 courses, the emphasis on the curriculum lies in information technology. In addition there are a number of courses characterised by university-style teaching, earning successful students academic qualifications. Since autumn 2001 the Lower Austrian WIFI have been running a new cluster of IT training course units, established in co-operation with the **HTL / Höhere technische Lehranstalten** and vocational colleges. The promotion of business involves comprehensive training as well as offering career advice. WIFI's Career

Information Centre provides group and one-on-one sessions for young people as well as adults. Approximately 3,500 aptitude tests are conducted annually to help Austria's youth select the most suitable career. At the department of Trade's Career Week young people can gain a practical insight into their career prospects in over 100 internships.

d) Innovation

Lower Austria's Regional Innovation Centres (**RIZ**) are tailoring their information and training schemes specifically for young entrepreneurs, business and management. Seminars and apprenticeships offered as part of training schemes provide concise and practical further education. The make-up of this training covers a whole range of areas, from business studies to business English and IT courses. Since autumn 2001 Lower Austria has been operating a completely new education model for IT jobs: the **TecNetAcademy** of Lower Austria. The Regional Innovation Centre in Lower Austria, teams of experts from amongst career advisors, IT professionals from Lower Austrian WK as well as the national Academy all played a big part in devising this new model. With this modular, career-focused IT qualification Lower Austria is setting new standards in education. Graduates can be confident in handling the IT infrastructure once settled in their chosen industry, take the development of hardware and software to decisive new levels whilst being able to support other IT users competently. The TecNetAcademy also offers an impressive range of options for higher education.

e) LINKS of relevance

Organisation for University Development <http://www.noebildung.at>
In 2000 the organisation was commissioned by the Lower Austrian Regional Authority to take over the co-ordination and administration of the University of Applied Science (Fachhochschule) and university systems in Lower Austria. It has also been charged with drawing up a concept for the entire tertiary education system.

They offer detailed information on technical colleges and universities in Lower Austria. There's also a list of all courses on offer in Austria and links to further educational establishments and institutes.

http://www.noebildung.at/bildung/Default_english.htm

Lower Austrian Landesakademie <http://www.noelak.at>
The Landesakademie's task is to build forward-thinking core competences, ensuring an innovative contribution to Lower Austria's development as a region. An education atlas of Lower Austrian can be found here.

Donau-Universität Krems <http://www.donau-uni.ac.at/en/index.php>
Donau-Universität Krems, the only postgraduate university in Austria, offers studies in the areas of: economics and management sciences, environmental and medical sciences, telecommunications, information and media, European integration and the arts. One further main research field is biomedicine.

Fachhochschule Wiener Neustadt http://www.fhwn.ac.at/e_index.aspx
Wiener Neustadt's technical college is the largest in Austria with 1,700 students. This is a practical, success-oriented research and educational institute with a regional connection. Following studies are available in Wiener Neustadt: precision, systems and information technology, economics, logistics, production and process design and geo-information technology.

FH-Studies at Wieselburg <http://www.wieselburg.fhwn.ac.at>
This branch of Wiener Neustadt's technical college offers courses in product and project management.

FH-Studies in Tulln <http://www.tulln.fhwn.ac.at>
This branch of Wiener Neustadt's technical college offers a course in biotechnical procedures.

Fachhochschule Krems http://www.imc-krems.ac.at/e_index.aspx
There are six courses of study at IMC-Fachhochschule Krems: tourism management and leisure science, export-oriented management, business management and electronic business management (both also as part-time courses for those in employment), health management, medical and pharmaceutical biotechnology.

FH-Studies in St. Pölten <http://www.fh-stpoelten.ac.at>
This institute in St. Pölten offers four courses of study: telecommunications and media, media management, SimCom – simulation-supported news technology, and social work. □

Forum Erwachsenenbildung / Grown Up education
<http://www.noebildungsinfo.at>
This forum for adult education has the entire spectrum of courses on offer.

WIFI <http://www.noewifi.at>
The Wirtschaftsförderungsinstitute offers a comprehensive programme degree courses and further training, with the focal point being the field of IT. This site gives an overview of courses, sponsorship and events. Entrepreneurs can find information on employment law, employee training and running a business. WIFI will also offer support in decisions on training and choosing a career or course of study.

Federal Ministry for Education, Science and Culture <http://www.bmbwk.gv.at>
The homepage offers an overview of the country's educational institutes. Its focal points are education and schools, culture, science and research, Europe and the world, universities and studying. Students and researchers can find information here about new bills, research projects and (EU) announcements.

Landesschulrat für Niederösterreich <http://www.lsr-noe.gv.at>
This site offers useful and valuable information on the region's schooling system: forms, current press releases, information on seminars, further education and events can be viewed and/or downloaded. There are contact

links to doctors and school psychologists in the information section.

Vienna University <http://www.univie.ac.at> English version

The Vienna University is Austria's oldest and largest institute of education and research. There are approximately 80,000 students currently enrolled and around 6,000 people employed in the areas of research, education and administration. The university has eight faculties and 172 institutes and collaborates with numerous foreign scientific institutes.

Vienna University of Technology <http://www.tuwien.ac.at>
Approximately 25,000 students are currently enrolled at the TU. The spectrum of courses and research opportunities ranges from theoretical natural sciences to purely technical disciplines and integrated scientific subjects. There are 15 degree and two short-term courses, as well as two courses of further education.

Vienna University of Economics and Business Administration
<http://www.wu-wien.ac.at>
There are currently approximately 22,000 students at the Wirtschaftsuniversität. The WU is the largest educational establishment for economic and social sciences in Austria and nurtures its close contact to over 160 foreign partner universities. Thanks to the diversity of disciplines there is a wide range of research activity here also.

Universität für Bodenkultur <http://www.boku.ac.at>
Approximately 5,000 students are enrolled at the Universität für Bodenkultur in Vienna. There are six courses of study. BOKU is a research and education centre for renewable resources. Through the combination of natural sciences, technology and social sciences, knowledge of the ecological and economic sustainable use of natural resources in a harmonious cultivated landscape is increased.

University of Veterinary Medicine Vienna <http://www.vu-wien.ac.at>
Approximately 2,800 students are currently enrolled at Vienna's University of Veterinary Medicine. From a total of 7 Departments 4 are forming the animal hospital, additionally there are 3 further research institutes.

Business Promotion <http://www.loweraustria.biz/>
Lower Austria offers enterprises a wide range of sponsorship. The level of investment depends on each project's merits and the classification of the planned location within the EU. The Department of Business Promotion operating from the offices of the Lower Austrian Local Government manages the Lower Austrian Business Sponsorship and Structural Improvement Fund. For this reason it is the central hub of sponsorship in Lower Austria and takes on a proportionate responsibility in furthering the development of the Regional Innovation Strategy (RIS). With its own programme of sponsorship, important cornerstones of the strategy are covered. Within the parameters of sponsorship initiative, innovation, research and development, young businesses receive financial support with fledgling projects. A further advantage for businesses is guidance through the TIP (Technology & Innovation Partner). They are able to

benefit from competent consulting and information services in addition to the information product 'Innovation Survey' and the internet resource INFINÖ. The NÖG offers businesses and organisations the following as part of sponsorship: investment in fixed assets, comprehensive consulting services and active delivery of commercial as well as non-commercial consultancy. Alongside NÖG's own advisory resources, enterprises and organisations are also able to take advantage of low interest loans. Lower Austria's Department for the Promotion of Tourism offers a helping hand to projects and business focused around the tourist and leisure industries. Through targeted financial help the competitive nature of Lower Austria's tourism should take an upward turn. For this reason high value is placed on securing more businesses and jobs within those businesses, aiming for the highest possible net product for the Lower Austrian economy as a whole. To complement the region's active sponsorship of commerce the specialist bank NÖBEG – NÖKGB offers advice for small and medium-sized businesses and support in financial business.

Business Sponsorship in Lower Austria <http://www.wirtschaftsfoerderung.at>
The Business Sponsorship and Structural Improvement Fund's homepage gives information on all the possibilities for sponsorship in the fields of innovation, research and development, investment, cooperation, new markets and local supply.

Lower Austrian Government <http://www.noel.gv.at>
The Lower Austrian regional government's homepage offers an overview of politics, administration and details of individual departments and their areas of responsibility.

NÖBEG – NÖKGB <http://www.noebeg-noekbg.at>
Lower Austria's Bürgschafts GmbH and Beteiligungsfinanzierung GmbH are credit institutions which specialise in the promotion of medium-sized businesses in Lower Austria. They take on responsibility for obtaining finance and provide risk capital.

Austria Wirtschaftsservice GesmbH <http://www.awsg.at>
Offers multiplexed information on sponsorship for and financing of small and medium-sized companies, young high-tech companies, university researchers and inventors in Austria. This central service institution arose of the fusion of FGG, BÜRGES and Innovationsagentur

ecoplus Ltd <http://www.ecoplus.at/ecoplus/>
ecoplus is the business agency of Lower Austria and has bundled its diverse services into five fields of competence: business locations, networks and cluster building, support to catalytic projects, technology and EU enlargement

ERP-Fonds <http://www.erp-fonds.at>
ERP-Fonds is a client-oriented service institute for sponsorship in Austria

Forschungsförderungsfonds für die gewerbliche Wirtschaft <http://www.fff.co.at>
Offers innovations sponsorship in the areas of applied research, development and transfer of production. Sponsorship includes personal costs for the

development, research, set-up and model as well as 50% of the development costs in the form of allowances and low interest loans.

Der Wissenschaftsfonds

<http://www.fwf.ac.at>

Offers sponsorship of precisely transcribed research projects from all scientific fields. Its goals are to promote new blood in scientific areas, to stimulate a European research collaboration, public relations work serving scientific research and the provision of a suitable broadening and exploitation of research projects

Österreichische Kontrollbank AG

<http://www.oekb.at>

Offers project finance, export finance and export insurance. Consignments or payments take place in Austria so a positive effect on the Austrian balance of trade can be expected

Lower Austrian Sponsorship of Tourism

<http://www.noe.gv.at/service/wst/wst3/index.htm>

An overview of the opportunities for tourism sponsorship in Lower Austria, information on general sponsorship regulations and EU competition.

Environmental Subsidy of the Lower Austrian Province

<http://www.noe.gv.at/service/RU/RU3/umweltfoerderungfuerbetriebe.htm>

Subsidies can be awarded for investments made by enterprises that aim to save energy and that avoid waste production and air, water and noise pollution.

Ecomanagement Lower Austria

<http://www.oekomangement.at>

Ecomanagement aims to: reduce the repercussions of production and operation on the environment (e.g. reduce waste and emission) through technical and financial support, utilise potentials for cost reduction (i.e. use resources and energy more efficiently) and to sustain the conformity to laws and standards in the long-term

Austrian Hotel and Tourism Bank

<http://www.oeht.at>

The Austrian Hotel- und Tourismusbank Ges.m.b.H. (ÖHT) specialises in financing and sponsoring investment in tourism.

3.1.2 Industries

Number of enterprises - with employed persons in Austria, per 12/2005
298.772 with 2,097.358 employed

50, 1 %	just the owner
40 %	1-9 employees
8,1 %	10-49
1,5 %	50-249
0,3 %	more than 250

Lower Austria- industrial lead companies

Source: Industry magazine, 08/2006, Austria's top 250 industry companies

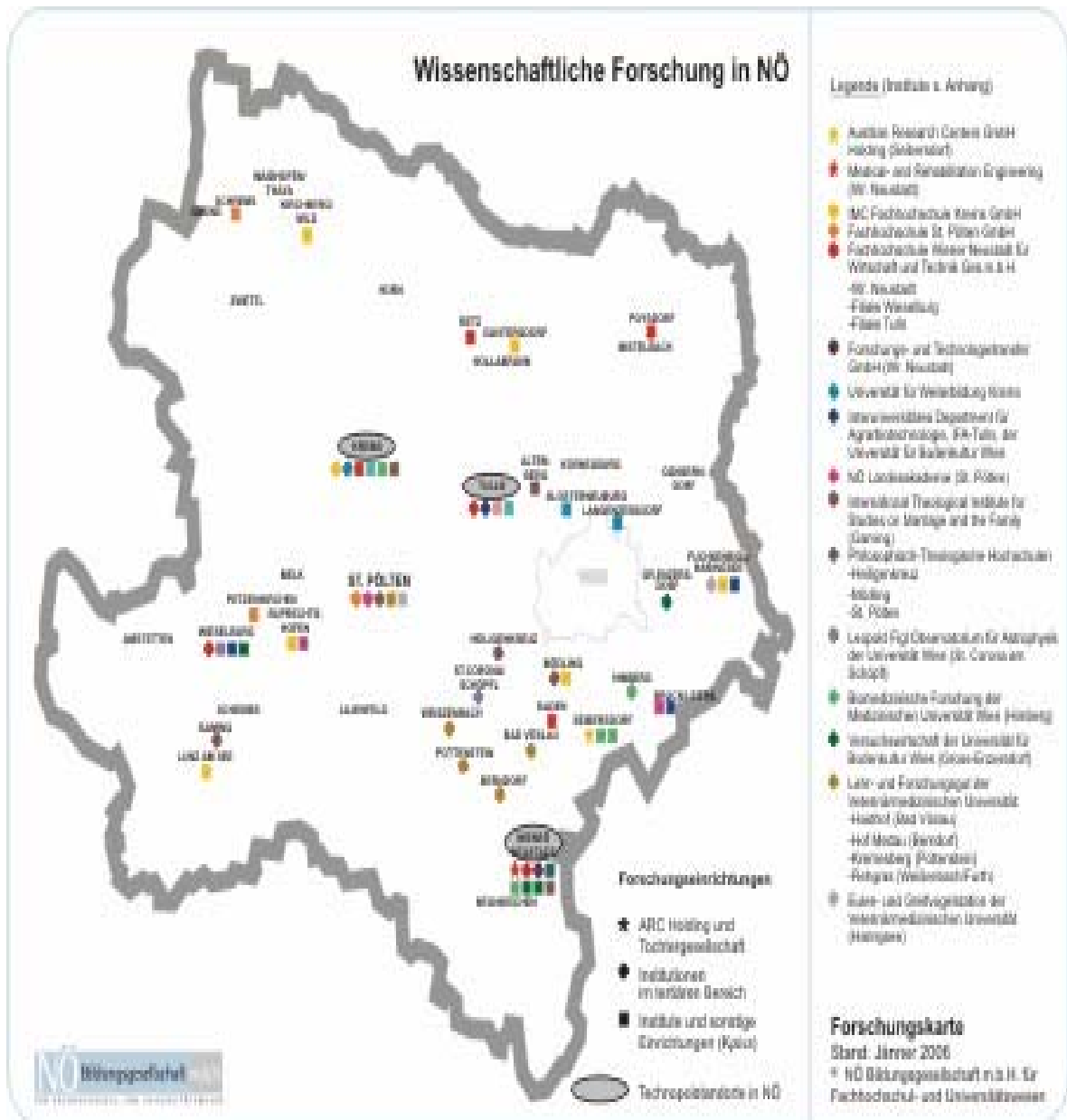
Rank	Post	Location	Name	Branch	Turnover 2005, mio €
030	2320	Schwechat	Borealis Polyolefine GmbH	Plastics	953
034	2023	Pitten	W. Hamburger	Paper, packaging	850
037	2754	Waldegg-Wopfing	Schmid Industrieholding GmbH	Building materials	810
038	3300	Amstetten	Umdasch AG	Shop interior, Concrete encasing	724
040	2355	Wiener Neudorf	Pipeline International GmbH	Plastic manufacturing	711
045	3531	Brand	Stora Enso Timber AG	Wood industry	Ca. 630
050	3182	Markt/Lilienfeld	CAG Holding GmbH	Glass, alu, ..	577
073	2320	Schwechat	HTM Sport- & Freizeitgeräte AG	Sports articles	360
079	3500	Krems	Eybl International AG	Automotive	345
083	3341	Ybbssitz	Welser Profile AG	Metal	302
086	2000	Stockerau	J.u.A. Frischeis GmbH	Wood industry	291
088	2700	Wiener Neustadt	Triumph Int. AG	Textile	290
089	3943	Schrems	Moeller Gebäudeautomation KG	Electronics	Ca. 300
091	3100	St. Pölten	Voith Paper GmbH	Machinery	287
093	2500	Baden	NÖM AG	Food	276
098	3943	Schrems	Elk Fertighaus AG	Prefabricated houses	250
102	3353	Seitenstätten	Lisec	Machinery	238

			Unternehmensgruppe		
116	2551	Enzesfeld	Austria Buntmetall AG	Metal industry	217
123	2560	Berndorf	Berndorf AG	Machinery, metal ind.	200
134	2435	Ebergassing	Intier Automotive Eybl GmbH	Automotive	181
136	3250	Wieselburg	Zizala Lichtsysteme GmbH	Automotive	177
141	2630	Ternitz	Schoeller-Bleckmann Oilfield Equipment AG	Oilfield equ., metal	172
163	2344	Mödling	KBA Mödling AG	Machinery	147
173	3300	Pöchlarn	Bramac Dachsysteme International GmbH	Roofing & building mat.	132
182	2560	Berndorf	FAG Austria AG	Bearings	126
189	3380	Pöchlarn	Vetropack Austria AG	Glass, packaging	121
190	3340	Waidhofen	Bene AG	Office furniture	121
195	2353	Guntramsdorf	DuPont Performance Coatings Austria GmbH	Chemicals	113
204	2552	Hirtenberg	Kromag Metallindustrie GmbH	Metal	106
213	3500	Krems	Dynea Austria AG	Chemicals	101
214	2551	Enzesfeld	Rexam Beverage Can Enzesfeld GmbH	Packaging	100
226	2100	Leobendorf	Franz Haas Waffel- u. Keksanlagen-Industry GmbH	Machinery	88
229	2540	Bad Vöslau	Vöslauer Mineralwasser AG	Mineral water	86
234	2460	Bruck/Leitha	Bunge Austria GmbH	Animal food	85
238	2120	Wolkersdorf	Kotanyi GmbH	Spices, food	83
247	3265	Allhartsberg	Ybbstaler Fruchtsaft GmNH	Food industry	75
250	3380	Pöchlarn	Garant-Tiernahrung GmbH	Animal food	71

Sorted after turnover !

The main production segments of large companies in Lower Austria are machinery, wood industry, food.

3.1.3 Technology centres



Erhalter	Institute und sonstige Einrichtungen	Standort
■ AGES (Bund)	Österreichische Agentur für Gesundheit und Ernährungssicherheit Ges.m.b.H. und Bundesamt für Ernährungssicherheit	
	-Institut für veterinärmedizinische Untersuchungen	Mödling
	-Institut für Bienenkunde, Abt. Bienenbiologie und -erzeugnisse	Lunz am See
	-Versuchstation Fuchsenbigl	Haringssee
	-Versuchstation Grabenegg	Ruprechtshofen
	-Versuchstation Grossnondorf	Guntersdorf
	-Versuchstation Schönfeld	Kirchberg/Wild
■ BMLFUW	Bundesamt für Wasserwirtschaft	
	-Institut für Kulturtechnik und Bodenwasserhaushalt	Petzenkirchen
	-Institut Ökologische Station Waldviertel	Schrems
■ BMLFUW	Bundesamt für Weinbau	
	-Außenstelle Baden	Baden
	-Außenstelle Krems	Krems
	-Außenstelle Poysdorf	Poysdorf
	-Außenstelle Retz	Retz
■ BMLFUW	Bundesamt und Forschungszentrum für Wald	
	-Außenstelle Tulln	Tulln
■ BMLFUW	Höhere Bundeslehr- und Versuchsanstalt für Gartenbau	
	-Außenstelle Königshof	Bruck/Leitha
	-Außenstelle Zinzenhof	Ruprechtshofen
■ BMLFUW	Höhere Bundeslehr- und Forschungsanstalt für Landwirtschaft, Landtechnik und Lebensmitteltechnologie, Francisco-Josephinum	Wieselburg
■ BMLFUW	Höhere Bundeslehranstalt und Bundesamt für Wein- und Obstbau	
	-Versuchsgut Agneshof	Klosterneuburg
	-Versuchsgut Götzhof	Langerzerdorf
■ BVW (Bund)	BVW Landwirtschaftliche Bundesversuchswirtschaften GesmbH	
	-Zentrale Wieselburg	Wieselburg
	-Betriebsstätte Königshof	Bruck/Leitha
	-Biobetrieb Rutzendorf	Fuchsenbigl
■ Christian Doppler Labore	Spezifische Adsorptionstechnologien in der Medizin	Krems
	Mykotoxinforschung am Analytikzentrum IFA Tulln	Tulln
■ IMA GmbH	Integrated Microsystems Austria	Wr. Neustadt
■ Knet-Kompetenznetzwerke	AAR-Luftfahrt / Verbund- und Leichtwerkstoffe	Seibersdorf
	ARGE Kompetenznetzwerk Antriebssysteme der Zukunft	Seibersdorf
	eTourism (anet) Kompetenzknoten Krems Research	Krems
	RENET - Energie aus Biomasse, Kompetenzknoten Wr. Neustadt	Wr. Neustadt
■ Kalus-Kompetenzzentren	ABC Austrian Bio Energy, Außenstelle Wieselburg	Wieselburg
	ACT research GmbH (Austrian Center of Competence for Tribology)	Wr. Neustadt
	ECHEM Kompetenzzentrum für Angewandte Elektrochemie GmbH	Wr. Neustadt
■ Land NÖ	NÖ Institut für Landeskunde	St. Pölten
■ Ludwig Boltzmann Institut	Institut für Geschichte des ländlichen Raumes	St. Pölten
■ ÖAW	FISS, Forschungsstelle für integrierte Sensornsysteme	Wr. Neustadt
	Institut für Realkunde des Mittelalters und der frühen Neuzeit	Krems
	Institut für Evolutions- und Kognitionsforschung, Außenstelle Altenberg (Bereich theoretische Biologie)	Altenberg

3.2 Training and the labour market

Public representation of the interests of all workers and employees vis-à-vis the federation, the province and the economy is handled by the Chamber of Labour. It is designed to provide every individual worker with information and advice, in particular in legal affairs.

The co-ordination and organisation of the labour market policy is handled by the federal ministry. The Federal Labour Market Service (AMS) issues directives which are applied by its 23 regional branches with due regard to regional developments and specific features at the provincial level. In addition, the province of Niederösterreich also pursues active labour market policies. In 1999, the province of Niederösterreich agreed the 'Territorial Employment Pact for Niederösterreich' with the Federation for the sake of the co-ordination of employment, education and arbitration measures for the groups at a disadvantage in the labour market.

In general, this section will show the educational programmes offered by universities. In this sense, it should be pointed out whether these programmes take into account the new demands from society, whether the regional socioeconomic needs are taken into account for the “design” of them and to what extent these needs are integrated into them.

On the other hand, it should be also considered the main tools and instruments used by universities to facilitate graduates the transition to the labour market (e.g. employment offices, employment observatories, employment bureau, etc.) and the resources used for this purpose (number of staff, total budget, cooperation with other entities, etc.).

In addition, it will be analyzed the importance that the university devotes to the lifelong learning, training and further education, in special, to those persons who are technicians, executives, and so on. Information about the number of programmes offered, number and labour-status of students enrolled in those programmes is also requested.

The **Danube University Krems** is the leading Austrian university for postgraduate education in Europe. Its range of courses lead to full academic degrees. Collaborative schemes established with select universities and research institutes guarantee a fruitful exchange within the scientific community.

A project due to be completed in 2006 transformed the Donau Universität Krems into a campus after the international model, to be known as **Campus Krems**. Following the establishment of vocational college study paths in 1994/5 the higher education sector is very grounded in practical learning. The length of study at a vocational college is eight terms, inclusive of one term's work experience. Once the studies have been completed, students in any technical field receive the title of Diplom Ingenieur/In (FH) – equivalent to Master of Science - and in non-technical subjects Magister/Magistra (FH) - Master of The Arts.

Danube University Krems has specialised in post-graduate academic studies and offers exclusive courses in the fields of Economics and Management, Telecommunications, Information and Media, European Integration, Environmental and Medical Sciences as well as of Cultural Studies.

Being a European model project, Danube University Krems combines high quality in education, research and consulting with excellent customer orientation and service. New standards in postgraduate university studies are set through our commitment to the principles of lifelong learning and through our international orientation.

Donau-Universität Krems
Dr.-Karl-Dorrek-Straße 30
3500 Krems
Tel.: +43 2732 893 6000
Fax: +43 2732 893 4000
E-mail: info@donau-uni.ac.at
www.donau-uni.ac.at/en

There are numerous organisations acting in Lower Austria who provide vocational training, please see above the relevant links. In many cases they get additional funding from the federal work market organisation AMS to be able to structure their offer. The role of the university for not enrolled students is presently not very enhanced.

3.3 Innovation and territory: An approach through the University-Industry cooperation

Here examples of existing cooperations are given from participating Research organisation from Lower Austria in the framework of the project
<http://www.innovatives-oesterreich.at/wps/portal>

[For more details – please go to Annex 1]

AAR Austrian Aeronautics Research
AC²T research
CD Labor für Mykotoxinforschung
ECHEM
Austrian Academy of Sciences (ÖAW)

3.3.1 Quantifying the cooperation

Here we provide an overview on the major actors which operate in the research sector and who are engaged in some forms of cooperation.

Austrian Cooperative Research

Only a few small and medium sized enterprises (SMEs) can afford their own R&D personnel. Therefore, they need the assist [more] Cooperative research and innovation, SMEs 1020, Vienna

Austrian Research Centers GmbH

ARC Austrian Research Centers GmbH (ARC) is the largest non-university research organisation in Austria. With 10 units and a [more] 1010, Vienna

Christian Doppler Forschungsgesellschaft

The non-profit association Christian Doppler Forschungsgesellschaft (CDG) aims at promoting developments in the areas of [more] Cooperation science and industry 1040, Vienna

JOANNEUM RESEARCH Forschungsgesellschaft mbH

With 14 research units, JOANNEUM RESEARCH is one of the largest, non-university research establishments in Austria. Our [more] Applied research/ development, consulting 8010, Graz Styria

Ludwig Boltzmann Association

Through the promotion and the support of applied and basic research at our own institutes, the Ludwig Boltzmann Associat [more] 1010, Vienna

VTÖ

Austrian Association of Technology Centers The Austrian Association of Technology Centers (VTÖ) is an independent speaker and lobbyist for all "technology oriented.." Networking, Lobbying, Public Relations 1030, Vienna

Governance bodies

Austrian Council

The main task of the Austrian Council for Research and Technology Development is to consult the Austrian Federal Governm [more] Advisory Body 1220, Vienna

Federal Ministry of Economics and Labour The Federal Ministry of Economics and Labour is responsible for economic policy issues, enterprises, innovation and tech [more] legal terms, r&d related programmes, cooperation science/industry, technology transfer 1011, Vienna

Federal Ministry of Transport, Innovation and Technology The Federal Ministry of Transport, Innovation and Technology promotes the further development and active use of innovati [more] Promotion of technological innovation 1010, Vienna

FORNE – Forschung für Nachhaltige Entwicklung Sustainable development has an ever increasing importance in politics and society. This concept is not just concentrate [more] Research Strategy for Sustainable Development

Promotion

ACstyria Autocluster GmbH ACstyria Autocluster GmbH was founded with the awareness that the global competitiveness of Austria depends on local fac [more] Networking, promotion, marketing 8074, Grambach/ Graz Styria

Amt der Vorarlberger Landesregierung Abt. VI/a Allgemeine Wirtschaftsangelegenheiten The positioning of Vorarlberg as a ``Top European Region`` is the goal of the ambitious economic policies of the provinc [more] Promotion, research, trainings 6901, Bregrenz Vorarlberg

Austria Wirtschaftsservice Gesellschaft mbH Austria Wirtschaftsservice Gesellschaft mbH (**aws**) was set up by the Federal Ministry of Finance and the Federal Ministry [more] Economy related Promotion 1030, Vienna Vienna

build! Gründerzentrum Kärnten GmbH build! is the Graduate Centre for Entrepreneurship in Carinthia, with offices for entrepreneurs in both Klagenfurt and V [more] 9020, Klagenfurt Carinthia

Center for Academic Spin-offs Tyrol (CAST) CAST is the entrepreneurial centre for Tyrol's universities, technical colleges and non-university research institutions. [more] University spin-offs 6020, Innsbruck Tyrol

ecoplus. The Business Agency of Lower Austria Ltd. ecoplus, the business agency of Lower Austria, has bundled its diverse services into five fields of competence: business [more] infrastructure consultancy, business promotion 1010, ViennaVienna

ecoplus, the business agency of Lower Austria, has bundled its diverse services into five fields of competence: business locations, network and cluster building, support to catalytic projects, internationalisation and technology. ecoplus establishes business parks in all regions, helps businesses get set up, advises investors, is involved in impulse centres, and supports and advises regional projects and initiatives, is responsible for building networks and clusters in Lower Austria and is implementing the Technopol Programme in Lower Austria. ecoplus also sponsors interregional projects especially with the new EU member states and offers concrete support: a professional service and complete infrastructure, advisory capabilities and offers of sponsorship for regional initiatives and project representatives.

Addressees: Austrian and foreign investors
Companies, local authorities, associations, regional managers, researchers
<http://www.ecoplus.at> www.loweraustria.biz

Entwicklungsagentur Kärnten GmbH Entwicklungsagentur Kärnten GmbH was set up to encourage innovation and economic development in the Province of Carinthia [more] Investor service, Networks, Entrepreneurs, Exports 9020, Klagenfurt Carinthia

ERP – Förderungen für Innovation, Wachstum und Beschäftigung (ERP Fund)
The ERP Fund is a customer-oriented, service institution for promotion in Austria. Easy access to funds is guaranteed th [more] Innovation promotion, technology transfer 1031, ViennaVienna

FFG - Austrian Research Promotion Agency In June 2004, the Austrian Research Promotion Agency (FFG) was created to bundle research promotion in Austria. The FFG [more] Applied research, industrial research 1010, Vienna Vienna

FMB Facility Management Burgenland GmbH FMB Facility Management Burgenland GmbH (FMB) was set up by Wirtschaftsservice Burgenland AG WiBAG in 2002 with the goal [more] Facility Management, tenancy, support service for tenants, technical services 7000, Eisenstadt Burgenland

FWF Austrian Science Fund The Austrian Science Fund (FWF) is Austria's central body for the promotion of basic research. It is equally committed t [more] Basic research, research projects 1040, ViennaVienna

Holzinnovationszentrum GmbH (HIZ) The Styrian timber industry is traditionally an important economic branch. HIZ has the goal of promoting Styrian wood p [more] Infrastructure, networking, promotion 8040, Zeltweg Styria

INiTS Universitäres Gründerservice Wien GmbH The INiTS Universitäres Gründerservice Wien GmbH started its support and consulting activities for entrepreneurs in 2002 [more] Networking, Coaching, Finance, Infrastructure 1030, ViennaVienna

Oberösterreichische Technologie und Marketinggesellschaft m.b.H. (TMG)
The Upper Austria Technologie und Marketinggesellschaft m.b.H. was set up to position Upper Austria as a top region tech [more] Innovation, technology transfer, location development, networking 4020, Linz Upper Austria

RIZ Regionale Innovationszentren in Niederösterreich Holding Ges.m.b.H.
Good planning is needed to turn an innovative idea into a business concept. RIZ (Regionale Innovationszentren in Niederö [more] infrastructure, business plans 2700, Wiener Neustadt Lower Austria

Good planning is needed to turn an innovative idea into a business concept. RIZ (Regionale Innovationszentren in Niederösterreich Holding Ges.m.b.H.) offers professional help right from the pre-seed phase of commercial ideas to the drawing up of business plans. This service includes coaching and consulting

in the start-up phase, as well as initial consulting and briefings. Furthermore, RIZ helps find cost-effective office and production space. RIZ also helps the search for business partners thanks to its membership of numerous national and international networks.

In terms of focus, RIZ supports companies in geographic information systems (GIS) and information and communications technology (ICT), bio-medicine, human ecology and rapid prototyping branches.

RIZ works as an important impulse provider and regional development promoter in Lower Austria in its service-provider role for start-ups.

Addressees: Start-up companies <http://www.riz.at>

Salzburg Agentur StandortAgentur Salzburg GmbH SalzburgAgentur is a marketing company set up by the Province and City of Salzburg. It offers local and foreign companies [more] Consultancy, infrastructure, networking, film productions 5020, Salzburg Salzburg

Science Park Graz Science Park Graz is an open, academic entrepreneurial centre. Students, graduates and university science staff interest [more] Technology Transfer, Spin-offs 8010, Graz Styria

Styrian Business Promotion Agency (SFG) The Styrian Business Promotion Agency (Steirische Wirtschaftsförderung) is a modern economically-oriented service enterprise [more] Consulting, promotion of strength fields, promotion of research and development projects, clusters & networks, knowledge transfer 8020, Graz Styria

tech2b Gründerzentrum GmbH tech2b's goal is to help create successful spin-offs based on the expertise of scientists coming from industry and science [more] Technology Transfer, Spin-offs 4020, Linz Upper Austria

Tirolean Future Foundation The Tirolean Future Foundation is a public fund set up by the Province of Tyrol. Its task is to secure existing jobs and [more] technology transfer, networking, qualification 6020, Innsbruck Tyrol

Upper Austrian Research GmbH (UAR) Upper Austrian Research GmbH (UAR) has the goal of strengthening technology transfer from science to industry in the area [more] Technology transfer, contract R&D 4020, Linz Upper Austria

Vienna Business Agency The Vienna Business Agency is the central economic-policy instrument of the City of Vienna. Its goal is to strengthen V [more] Infrastructure, networking, promotion, marketing 1010, Vienna Vienna

Vienna Science and Technology Fund (WWTF) Vienna Science and Technology Fund (WWTF) is a promotional establishment for science and research in Vienna. The private [more] Promotion of research 1090, Vienna Vienna

Wirtschaftsservice Burgenland AG - WiBAG Wirtschaftsservice
Burgenland AG (WiBAG) helps companies to take advantage of Burgenland's
unique business promotion an [more] Consulting, marketing, promotion 7000,
Eisenstadt Burgenland

ZIT Zentrum für Innovation und Technologie GmbH ZIT is a unit of the
Vienna Business Promotion Fund and the City of Vienna's Technology &
Innovation Agency. ZIT's goal [more] technology transfer, -promotion, -
networks 1010, ViennaVienna

Zukunftsfonds Steiermark Styria's economic strengths are its research
and high-tech competences, its position as a bridging point between the EU
[more]Industry, Science, Research, Culture 8010, Graz Styria

4 Innovation policy

As introduction some data is given on budgets from the side of the **federal government** as follows:

Research budget – Austria 2006

2,43 % of total GDP, detailed as follows:

Federal government	1,92 billion €
Provincial “	0,33
Enterprises	2,86
Foreign investors	1,06

Research budgets of the main federal ministries

(year 2005 with total of 1,538 mio e) in %

Education	65,9
Finances	15,1
Transport, Innovation & technology	14,1
Agriculture, wood industry, environment, water	3,1

Federal research budget and its target areas

(year 2005 with total of 1,538 mio €)

Target area	in %
General knowledge increase !?	29,5
Health	22
Commerce & industry	18,9
Social & socioeconomic development	8,5
Earth, atmosphere, space	6,5
Agriculture, wood industry	4,9
Environment protection	3,6
Transport, traffic, telecommunication	2,9
Energy (production, storage, distribution)	1,7
Education	1,5
Other	1,4

Economic policy in Lower Austria / Niederösterreich

In the framework of the Niederösterreich economic offensive powerful stimuli are supposed to be applied for dynamic and sustainable development, in order to strengthen the economic performance of the province and its regions and to establish Niederösterreich as an attractive economic location in Europe.

The focus of the economic promotion lies in the strengthening of the economic structure of Niederösterreich through the backing of significant qualitative development and investment measures by regional businesses. The main sectors involved are:

- * Innovation, research and development for the application of the results of the industrial research in improved products, services or production processes through the economy,
- * Technology and technology transfer for the sake of the building and expansion of centres of technological competence and technology transfer institutions; Start-ups and business relocations to create qualified jobs and improve the regional economic structure;
- * Structural improvement to improve added value and boost economic growth; Internationalisation - the new opening up of foreign markets which were previously closed - to strengthen the international profile of Niederösterreichs' economy, and
- * Co-operation to strengthen the collaboration between SMEs or between SMEs and research institutions in research and development, procurement, production and sales/exports.

The main and political responsibility lies at the Office of the Lower Austrian government:

Amt der NÖ Landesregierung
 Economic Department
 Landhausplatz 1
 3109 St. Pölten
 Tel.: +43 2742 9005 0
 E-mail: post.wst2@noel.gv.at
www.noel.gv.at/service/wst/wst2/index.htm

Innovation und Technology in Lower Austria

Due to the increased European and global economic competition between regions and locations activity is needed, such as intensifying of the innovation in connection to stimulate new and high technology.

Due to the quantitative saturation in many markets only quality is the key for competition. All areas such as procedures, products, services are of relevance.

Upgrading of the human capital for the economy of Lower Austria is the key element with R&D, increasing technology content, cooperation & clustering, tailored economy related infrastructure.

The companies in Lower Austria suffer in terms of competition from their small size and hence limited own resources. To improve their international competitiveness via innovation the solution can only be found with external resources, cooperation, networking.

The following aims shall warrant the regional development:

- More innovation & technology orientation via closer cooperation between economy, science, applied research, qualified training organisations, public administration, bodies of interest, regional development.
- Further development of the innovation system. The existing system shall be further tailored and developed.
The key is the close interaction of possibly all actors involved in the innovation process (companies, research and training organisations, centers for innovation & technology, administration, bodies of interest). The regional innovation systems will focus the activities and create a supporting environment. It is based on the 5 strategic corner stones of innovation, technology, cooperation, internationalisation, new company creation.
- Supporting the SME's. The regional innovation systems are specially geared to support SME's. Via improved networking between SME, innovation oriented service providers and technology suppliers the existing deficits shall be reduced.

Regional innovation

Elements to enable added value on the location are knowledge, infrastructure. For the companies it are the branches, functions, organisation.

On the level of networking it is various meshed networks on the local/regional level with the international/global level.

Centers für competence, technology, regional innovation

Ease and speeding up the permanent innovation process are the goals.

* Competence & technology center serve to develop new specialized products or technologies. Close cooperation between universities, research centers, regional enterprises is needed. Creation and enhancement of industrial clusters shall be achieved via the specific knowledge.

* Innovation and impulse centres will support structural changes in the industry. The regional economic structure is improved via activation of the potential for new enterprises.

* Localisation: the competence & technology centres shall be within short reach to the universities, FH's, research centers. The innovation centers shall be built decentralized in defined development areas with their centres.

As „engine“ for a dynamic innovation activity & technology development the two research triangles can be seen: Wiener Neustadt-Seibersdorf-Mödling and Krems -St. Pölten-Tulln.

They should be extended and their synergistic function should be increased.

* Economy related services

The enhancement shall take into consideration the network of the centres. The prerequisites for new enterprise foundations shall be improved.

* Informatics & communication technology.

All regions of Lower Austria shall be accessed and networked.

* Telematic infrastructure

Increase the level of ICT penetration in SME's

The chamber of commerce has made substantial and effective efforts to improve this subject. Lower Austria has a good level of PC solutions using broadband and mobile communication elements.

Also in remote areas to compensate the attractiveness of densely populated areas. The possibilities of modern ICT shall enable: complete coverage of remote areas with broadband. Results should influence in a positive way the population (telework) and the level of supported services (teleshopping, telebanking, telelearning, E-Government). Activities in this direction together with increased awareness should be supported (example „telematics region Waldviertel“).

* International networking

The presently existing networks for an exchange of know-how between Lower Austria & leading technology regions in the EU („European Regions of Excellence“) shall be extended.

Lower Austria shall also act within the „Vienna Region“ in the sectors of innovation & communication as a hub for central Europe and cooperate with regions and towns of the neighbours in the East and West.

Considering the aggravating economic competition between the regions and locations within Europe an intensification of the innovation activity is in Lower Austria, connected with an appropriate technology offensive, indispensable. The rapidly growing export-oriented sector of the down-Austrian economy, in particular the industry, is exposed to a strengthened competition pressure in view of the globalization, the European domestic market and the European Union extension by internationally acting large-scale enterprises as well as by offerers from the reform states/European Union entry countries with their substantial cost advantages (wages, energy prices). If other more cheaply produce, then the domestic economy must manufacture better products, which obtain a larger acceptance on the market. In a world only the qualitative the competition advantage can bring industriellen to the quantitative saturation. The answer to the challenges, in addition, dangers by internationalization and globalization can lie therefore only in an intensified innovation activity in all ranges (procedures, products and services).

An appropriate "humanresource-specialised Upgrading" of the Lower-Austrian economy - supported by research and development, rising technology intensity, co-operation and clusterings, custom-made economic infrastructure and a qualification up-to-date and meeting demand - should be strategic basic orientation, in order to be able to maintain ground in the changed surrounding field. In the comparison with the prominent restaurant regions of Europe most Lower-Austrian enterprises have a competitive disadvantage due to their small size and the associated scarceness at own resources however. In order to be able to improve their international competitive ability, the enterprises of Lower Austria are with their innovation activities therefore to a considerable degree on

external resources and appropriate co-operation as well as network formations dependent.

The following development targets are aimed at:

MORE INNOVATION AND TECHNOLOGY ORIENTATION.

The innovation and technology orientation of Lower Austria are to be raised by close cooperating of economics, science, applied research, education and qualification mechanisms, public administration, protections of interests as well as regional development agencies and participants clearly.

advancement of the innovation system.

The already existing, on the need of the Lower-Austrian economy cut, is to be developed further country-wide and regionally effective innovation system. The substantial is if possible thereby cooperating all participants relevant for the innovation process (enterprises, research and educational facilities, innovation and technology centers, administration offices, interest agencies). The country-wide and regional innovation system serves for to the bundling of the activities as well as creation of creative environments. It is based on the five strategic hitting a corner columns innovation, technology, co-operation, internationalization and founder mobilization.

SUPPORT OF THE SMEs.

From the creation of regional innovation systems the small and middle enterprises are particularly to profit. By the better cross-linking of the SMEs with innovation-supporting services and technology offerers deficits are to be repaired.

COMPETENCE -, TECHNOLOGY AND REGIONAL INNOVATION CENTERS.

A high-quality infrastructure serves the easement and acceleration of the permanent innovation process. Among this high-quality infrastructure rank in particular competence and technology centers as well as regional innovation centers:

competence and technology centers serve the study and development of new special products or technologies, in close cooperating between universities, research establishments and the relevant regional enterprises. They are to support education and/or development of industrieller cluster by a widening of the cluster-specific knowledgebase.

Innovation centers (impulse centers) serve to support and contribute by an activation of the existing in each case enterprise founder and innovation potential for an improvement the regional economic structure within the country the structural change within the industrial-commercial range.

LOCATIONS

competence and technology centers are to be settled in relative proximity to the universities, professional schools or research centers of Lower Austria and Vienna. Innovation centers are to be established however in decentralized situation, particularly in selected centers of defined development areas. As "engines" for a dynamic innovation activity and technology development within the country the two "research triangles" are offered Wiener Neustadt -

Seibersdorf - Moedling and Krems on the Danube - St. Poelten - Tulln. They would be to be developed and be still strengthened in their synergy effects.

ECONOMIC-ORIENTED SERVICES.

The development of economic-oriented services is below the net of the centers to be supported. In all regions thereby the conditions for location for operating settlements and extensions are to be improved.

INFORMATION AND COMMUNICATION TECHNOLOGY.

All subspaces of Lower Austria, in particular the centers and locations, should be by efficient telecommunication systems and/or by services of the range information and communication technology (ICT) opened and interlaced with one another. A developed traffic and telecommunication system form a substantial condition, in order to achieve the polycentric organized, balanced regional structure desired.

TELEMATICS INFRASTRUCTURE ALSO OFF THE HIGH POPULATED AREAS.

From cost reasons the play of the market forces leads with the offer of telematics infrastructure to a preference of the high populated areas. Therefore measures are necessary, in order to make for areas possible off the high populated areas the use of the chances of modern ICT (connection of all settlement emphasis to broadband data networks, offer of high-quality ICT services at reasonable prices, economical public entrance to the InterNet in all municipalities, decentralized distributed "Mediatheken" etc.). The new ICT can finally substantially to it contribute to improve in the peripheral areas as in the rural area the competitive ability of there located enterprises, the employment outlook (teleworkstations) and the supplying level of the population (Teleshopping, Telebanking, Telelearning, e-Government). Activities in this direction and also the support of an appropriate consciousness-shaping (model "telematics sample region – Waldviertel") are to be supported.

INTERNATIONAL CROSS-LINKING.

The networks for a know-how exchange between Lower Austria and prominent technology regions of the European Union area ("European region of Excellence"), already existing, are to be developed further. Likewise Lower Austria is in the "Vienna region" also in the range innovation and communication as "turntable for Central Europe" to bring in itself and with the regions and cities for northern and/or eastern neighbour states cooperate.

4.1 Level of regional dezentralization

As an example, the Regional management of the Waldviertel is described.

Here the Regional development is seen management of chances. Starting from a strongly cross-regional, cross-party movement, two regional managers were appointed in 1982, after the establishment of the Waldviertel-plan, which is a development strategy for the region.

In the past 2 decades, this regional management was able to implement a host of projects through the targeted support of initiatives.

The focal point of the work has been, and still is, the promotion of co-operation projects such as the association for special crops and animal husbandry, where 1,000 farmers produce jointly in accordance with uniform guidelines and market their goods jointly under the umbrella brand name 'Waldland'. In the tourism sector, all the forces important for tourism have been brought together into a working platform.

As from 1993, the 'Waldviertel Telehaus' was set up, with the major objective of marketing regional products and services more effectively and above all jointly. Thanks to the preliminary work and the meteoric development in telematics, work in this area has made huge strides, because this was identified as an important opportunity for economic development. As a result of development into a telematic model region, there has been further work on the processing of regional material. With the use of new technologies, a new phase is due to be embarked upon in the field of regional development.

Regional Management of the Waldviertel:

DI Franz Schlögl

Am Stratzberg 1, 3910 Zwettl

Tel.: +43 2822 902 520 213

E-mail: rm-waldviertel@noel.gv.at

4.2 Main features of the regional and/or national innovation policies

Development stages of regional policy strategies in Lower Austria

From 1972 Transfer of funding capital for the benefit of problem areas and expansion of physical infrastructure (top-down approach)

From 1980 Endogenous regional development, mobilisation of region-internal potential (bottom-up approach)

From 1990 Innovation-oriented regional policy (exogenous impulses)

From 1995 Systematic regional policy: integrated regional development (participatory “golden mean“ based on EU regional programmes)

Regional policy strategies in Lower Austria

- Mobilisation of the endogenous potential of regional development
- Improvement of “soft“ business location factors: enhancement of cities, networking of regional culture
- Business-related infrastructure and regional pilot projects: realisation of thematic priorities
- Technology infrastructure: transfer facilities and competence networks
- Border region access to the Trans-European networks: railway-based goods transport, coupled with logistics facilities

The Contribution of the Objective 2 Programme to the Economic Competitiveness of Lower Austria, context for 2000 – 2006

* Extensive EU regional assistance areas in the Structural Funds period 2000 – 2006, which comprise 51% of the population, 64% of the municipalities and 72% of the area of LA.

* Border areas: 414 km of EU outside border to the Czech Republic and Slovakia – with considerable differences in prosperity, labour costs and aid schemes.

* Opening of eastern border in 1989 and EU Accession of the neighbouring countries in 2004

* Development of a central region Eastern Austria/South Moravia/West Slovakia/West Hungary with around 8m inhabitants.

General objectives

*Increase of regional GDP per capita,

*Increase average income and wage-levels

*Growth in jobs with special emphasis on jobs for women

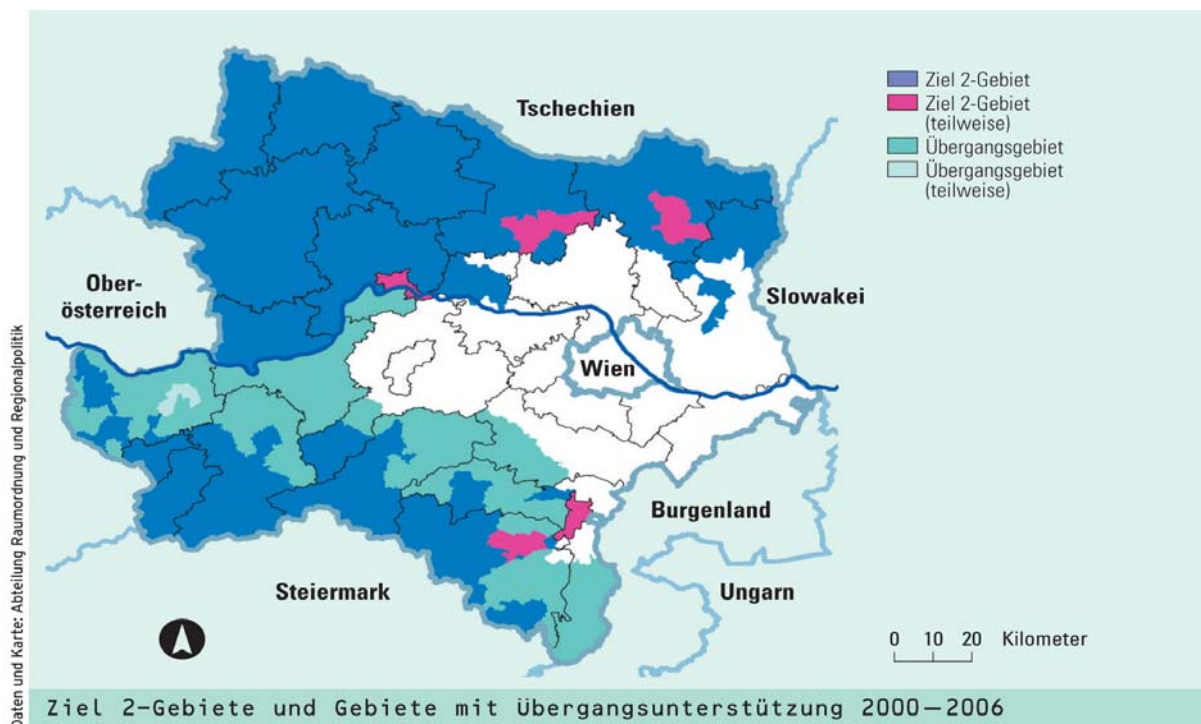
*Reduce regional unemployment, particularly for women

*Balanced regional economic development, peripheral sub-regions/Alpine sub-regions

Overall Programme Indicators (status March 2005):

- * Creation of 1.600 new jobs:
status according to the monitoring report: 2,086 (130%)
- * Structural economic development goals will be fully achieved as regards quality (innovation, RTD etc.)
- * Number of jobs secured: 16,700
status: total of 11,024 (i.e. 66 %)
- * Volume of private investment activity: EUR 545.7m, status: EUR 491.3m, (90%)
- * **targeted volume of private investment will be exceeded**
- * New founded enterprises in Lower Austria in 2005:
6.015, which is 19,4 % of total Austria.

Objective 2-Area and Phasing Out Area in Lower Austria



Objective 2 Lower Austria, EFRD Programmes , in Thousand EUR	
Plan Total	875.777
Plan Struct. Funds	77.167

20 Programme measures – 12 regional development targets

- 1 Strengthening of the RTD-potential of enterprises, SMEs
- 2 Innovation-focused infrastructure, transfer of technology
- 3 technology-oriented creation and development of new firms
- 4 support of business location and re-location, business parks
- 5 Virtual support, business cooperations and networks
- 6 Support for opening up new (international) markets
- 7 Modernise and improve existing enterprises
- 8 Develop touristic & cultural infrastructures
- 9 Cooperation of regional actors, NGOs and communities
- 10 Increase energy- and resource efficiency
- 11 Improve the attractiveness of villages and small towns
- 12 Strengthen and improve the modes of combined goods transportation

This overview was put together by the [Dept. Of Spatial Planning, Government of Lower Austria](#). Innovation and cooperation are mentioned in the items: 1,2,3,5,6 but no explicit mentioning of a University – industry cooperation is made.

If the **monetary contribution** in the selected areas of [Innovation and cooperation](#) is further analyzed from the “Rating of Individual contribution of measures to development objectives – funds used” this view is further substantiated. Total targeted funds were 243,43 Mio €.

Rating	Item	Measure	Mio €	%
A	M 1.1	Regional managements	2,9	1,2
A	M 1.2	Regional counselling & networking	4,2	1,7
A	M 2.7	Enterprise innovation, young entrepreneur consulting	Part of 4,9	2,0

Results from the Interim Evaluation of the Objective 2 Programme in Lower Austria

High Impacts

- * High job growth rate in the technology oriented sectors
 - * Modernisation, expansion and structural improvement mostly with existing enterprises (including tourism)
 - * creation of new firms and business locations
- flagship projects with impact on RTD and local SMEs; Strengthening of the RTD-potential of enterprises (47% of total public funding)
- * Improving the touristic and cultural infrastructure (22%)
 - * Support for business cooperations and international market presence (11%)

Lower than expected impacts

* innovation-orientated infrastructure, logistics (6%)

Added value of the EU regional policy

(Programme period 2000 – 2006)

Material and immaterial advantages:

- Additional funding monies for regional support (also for the realisation of unconventional projects that are hard to finance)
- Regional support areas (EU competition law) and Objective areas: increased focussing on activities for the benefit of structurally weak areas (instead of concentration on the development of central regions and main road axes)
- Intensifying cross-border, trans-national and interregional co-operation projects to solve common regional development problems (INTERREG)
- Activation processes and “spirit of optimism“ in structurally weak rural sub-regions (LEADER)
- **Programming system:** Partnership-based creation of **strategic guiding principles** for the development of the regions and strengthening of the willingness to **co-operate**
- Involvement of all regional-policy-related **players** (partnership principle): **more systematic co-ordination** in planning and implementation
- **Improved co-ordination** of measures with significant regional-policy-related **sector policies**
- Creation of **local activation and implementation structures** in the regions (regional managements, LEADER groups, EUREGIOs, etc.)
- **Content oriented** towards intelligent measures and high-quality projects: **innovation thrust** in problem regions
- Realisation of **projects on site** with strong **citizen involvement**: **raising the awareness** of EU co-financing, higher **identification** with EU
- **Professionalisation of regional development and support policy** (system and players) through:
- Extensive, integrated, long-term **regional programmes with clear objectives** instead of piece-by-piece planning
- **Continuity in content** and long-term **financial planning** of measures
- **Professional implementation** of EU programmes (monitoring, accompanying, controlling)
- High importance of **evaluation**
- Establishment of interregional **networks** for **sharing experience**, getting to know model projects
- **Learning effects** regarding effective regional policy between **European Commission** and **Austria**
- Relevant contribution to the development of the Austrian provinces to “learning regions“
- **General conclusion:** technical, political and material

- Added value of regional policy through both the non-material and financial participation of the EU

Record of success in figures (monitored as of 2 March 2004)

954 projects
 176m € approved funding monies (97m € EFRD)
 598m € approved project costs in total
 103m € paid funding monies (58m € EFRD)

New, innovative dimensions within the scope of measures

- Promotion of industrial/trade businesses: stricter project selection for the benefit of high-quality investment projects (instead of “watering can principle“) however higher promotion intensity
- Priority setting in the areas of operational research & development, innovation/technology
- High importance of climate and environmental protection investments and energy saving
- Encouragement of business-related “soft measures“, mostly for the internationalisation of small and medium-sized enterprises (SME), including
 - business co-operations
 - network formations, in particular with technology suppliers and consultancy facilities
 - market development, in particular directed to the reform states
- Expansion of traditional tourism support to include the growth area leisure industry: creation of attractive leisure and short-holiday zones

4.2.1 Policy tools to enhance University-Industry cooperation

The Austrian Council for Research, Technology and Development (<http://www.rat-fte.at/en.php>) was established in September 2000 to advise the Austrian government, ministers and the ‘Länder’ in all matters related to research, technology and innovation. It also helps define and monitor the national RTD strategy. It is here that you will be able to download a copy of Austria’s 2002 National Research and Innovation Plan.

Detailed information about the R&D programmes of Austria – or that of any other EU Member State – can be found on the website of the European Commission’s Community Research and Development Information Service, at CORDIS (<http://cordis.europa.eu>). For the duration of the presidency, you can access the ‘CORDIS Austrian Research & Innovation Presidency’ service (<http://cordis.europa.eu/austria/>).

You can also access individual country reports on innovation policy trends via the 'Trendchart' portal (<http://trendchart.cordis.europa.eu/>) which benchmarks innovation policies in each Member State. It is here that you will also find the European Innovation Scoreboard for 2005, as well as for previous years.

AUSTRIAN COUNCIL FOR RESEARCH AND TECHNOLOGY DEVELOPMENT

<http://www.rat-fte.at/>

Recommendations from the Austrian Council (selected items):

Special Funds ("Offensivprogramm")

A set of recommendations regards the distribution of 509 mill.Euro special funds for RTD provided by the Government for the period 2001 - 2003. The basis for these recommendations are criteria worked out by the Council together with external experts; these criteria correspond to the "Research Strategy Austria: 2,5% + plus". The Austrian Council recommended to finance programmes and initiatives implemented by universities (34,71%), by the non-university sector (28,26%) and by the economy (37,03%). All types of research are included: basic research (30,69%), pre-competitive applied research (35,08%), market-oriented applied research and development (22,13%) and technology transfer and innovation (12,1%). **Some programmes foster the cooperation between the science and the business sector.**

The Austrian Government provided further special funds for RTD for the years 2004 - 2006 (600 mill. Euro). The Austrian Council has again given recommendations on the allocation of these funds to programmes and initiatives.

Public Awareness

The Austrian Council has initiated a broad campaign to raise public awareness for science, technology and innovation: the campaign was supported by the ministries and both by employers` and employees` organisations ("Sozialpartner") and has been kicked off on September 6, 2002. A number of public awareness activities took place during the following three years. In autumn 2005 the follow-up campaign will start. For further information please refer to the website www.innovatives-oesterreich.at or contact the Austrian Council`s secretariat.

Human resources

Past analyses have clearly demonstrated that the availability of qualified manpower is one of the central problems facing the economies of highly developed countries. Therefore, when drawing up a future oriented RTD policy special emphasis must be attached to measures to ensure highly qualified human resources.

In May 2001 the Austrian Council gave a recommendation on the international mobility of researchers; within the process of amending the legislation concerning the residence and employment of foreigners in Austria, in May 2002, the Council endorsed its position and suggested a solution for scientists that

included special treatment for them and their accompanying family members, like an exclusion from immigration quota, simplified administrative procedures and specific visa for scientists that automatically entails exemption from work permit regulations and grants spouses work permit. These recommendations have not been implemented by the government.

Moreover, recommendations on the promotion of women in science and technology and on the enhancement of fellowship programmes have been given.

Thematic priorities

The Austrian Council has launched a number of initiatives to develop strengths and promote emerging technology fields for the future. Recommendations on biotechnology, nanotechnology and on information- and communication technologies, transport technologies, research for sustainable development, the social sciences & humanities and other fields of research have been given. Most of these programmes and new activities are already being implemented. Furthermore, strategies to further develop some of these fields are being developed together with the responsible ministries in several of these fields.

Promoting start-ups

Together with a working-group involving the main stakeholders the Austrian Council has developed a strategy in order to improve the promotion of innovative start-ups and seed financing in Austria. The recommendations have been published in Summer 2005.

Universities

The Council recommended to finance university research infrastructure with the special funds. Moreover, the Austrian Council strongly supports the new university law, which enables full autonomy for Austrian universities.

The various Austrian research programs can be accessed via

<http://www.appliedresearch.at/>

These programs have been set up over the years and they represent realized policy tools to influence and guide the research work done at universities in connection with the economy.

>node< New orientations for democracy in Europe **>node<** should bring the European integration process to the centre of scientific observation and analysis. The central q [more] Research, cooperation, promotion, clustering
1014, ViennaVienna

ARTIST – Austrian Radionavigation Technology and Integrated Satnav Services and Products Testbed The Austrian Radionavigation Technology and Integrated Satnav services and products Testbed (ARTIST) programme was set u [more] market potential analysis, value added services, application testbed
1010, ViennaVienna

ASAP Austrian Space Applications Programme Space is considered an area of enormous strategic importance throughout the world. Therefore, the Austrian Federal Minis [more] Space Exploration, Space Science, Satellite

and Launcher Technologies, Space Technology Transfer 1010, Vienna
Vienna

Austria Nano Initiative The Austrian NANO Initiative is a comprehensive funding programme for nano-scale sciences and nano-technologies (NANO) i [more] Technology transfer, cooperation science and industry, education and training measures 1010, ViennaVienna

Austrian Genome Research Programme GEN-AU GEN-AU concentrates on genome research in Austria and prepares this research for international competition and stronger [more] Promotion, research, cooperation, mobility 1014, ViennaVienna

Brainpower Austria Forecasts from the European Commission show that there will be more than 500,000 researchers too few in Europe by 2010. [more] Promotion of research, Networks, RTD human resources 1220, Vienna
Vienna

Bridge (TRP & Brückenschlagprogramm) Two promotion programmes have been set up under the umbrella of BRIDGE to close research gaps between fundamental and ap [more] “oriented” basic and applied research 1040, ViennaVienna

Building of Tomorrow Solar and low-energy construction, while simultaneously maintaining a high quality of living, are the most important cha [more] Research and development 1020, ViennaVienna

CIR-CE: Co-operation in Innovation and Research with Central and Eastern Europe CIR-CE (Cooperation for Innovation and Research with Central and Eastern Europe), set up by the Federal Ministry of Econ [more] Innovation, technology transfer, cooperation 1010, ViennaVienna

CONEX II – COOPERATION AND NETWORKING FOR EXCELLENCE The programme “CONEX II - Cooperation and Networking for Excellence” is mainly aimed at strengthening the internationa [more] Cooperation 1014, Vienna
Vienna

Digital Economy / ICT The programme is a pool of measures which addresses two main groups: ict producers and ict users. It aims to foster R&D [more] Promotion of ICT 1011, ViennaVienna

Energy Systems of Tomorrow The goal of the “Energy Systems of Tomorrow” subprogram is to develop technologies and concepts for an energy system whi [more] Promotion of sustainable development 1060, Vienna
Vienna

Factory of Tomorrow Applying the principles of sustainability will contribute to securing our prosperity and quality of life in the long run [more] Promotion of sustainable development 1030, ViennaVienna

FEMtech - fFORTE Under the umbrella of fFORTE, the programme FEMtech-fFORTE aims to improve access conditions for women in research and t [more] promotion 1010, ViennaVienna

fFORTE - academics Measures taken by fFORTE - academics primarily concern schools and universities as well as scientific research - choice [more] Development of human resources, training, research, gender 1070, Vienna Vienna

fFORTE-Frauen in Forschung und Technologie fFORTE is an interministerial initiative recommended by the Austrian Council for Research and Technology Development for [more] Training, research, gender, human resources 1070, ViennaVienna

FHplus FHplus has the goal of expanding application-oriented R&D competences and capacities at Austrian technical colleges. Tha [more] resources for applied R&D 1010, ViennaVienna

FIT-IT (Research, Innovation, Technology - Information Technology) The Federal Ministry of Transport, Innovation and Technology's FIT-IT impulse programme promotes cooperative research in [more] Innovation and technology transfer 1010, ViennaVienna

i2 Die Börse für Business Angels i2 is the only Austrian-wide business-angel network. It brings innovative, young projects to investors quickly and cost-[more]promotion of innovative young firms 1030, ViennaVienna

Impulse Projects – Scientists for the Economy The impulse project is part of the impulse initiative “Human Resources for the Economy” by the Federal Ministry of Trans [more] Cooperations science/ companies, knowledge-transfer 1040, ViennaVienna

iP ImpulsProgramm creativwirtschaft Forschungs-, Entwicklungs- und Innovationsprogramm Kreativwirtschaft The goal of the iP ImpulsProgramm creativwirtschaft is to strengthen the innovative potential of existing and newly foun [more] technology transfer, education, training 1070, ViennaVienna

K-ind /net Centers and networks of excellens K-ind/net centers and networks of excellence are research and transfer institutions and are under the management of indu [more] Industrial research, technological development, innovation and technology transfer, technological cooperation 1010, ViennaVienna

Kplus - Competence Centre Programme The Kplus programme is a promotion initiative for the improvement of cooperation between science and industry in Austria [more] Science - Industry Cooperation 1010, Vienna Vienna

Life Science Austria (LISA) Life Science Austria is the follow-up programme to the Impuls Programme for Biotechnology in 2002 and has started with t [more] technology transfer, regional innovation systems and –strategies 1030, ViennaVienna

Nano-technology and Micro-technology Networks The programme NANO/MIKRO -Netzwerkbildung is a module of the "austrian nano initiative" programme. It promotes the estab [more] technological cooperation, technology transfer 1011, ViennaVienna

Programm Dynamische Qualitätssicherung Geistes-, Sozial- und Kulturwissenschaften (GSK) The programme ``Dynamic Quality Assurance`` is aimed at non-univeristy humanities and social-science institutions which [more] Research, cooperation, promotion, clustering 1014, Vienna Vienna

Promotion of New Scientists The promotion of cooperation and communication between science and industry is one of main focuses of the Austrian Resea [more] Research Infrastructures (Access & Networks) 1015, Vienna Vienna

protec 2002+ - Programme for the Promotion of Technology Transfer protec 2002+ works mostly in innovation management at small- and medium-sized enterprises and networks of such companies [more] Innovation, technology transfer, cooperation 1010, ViennaVienna

proVISION - provision for nature and society proVision is a new research programme from the Federal Ministry for Education, Science and Culture focusing on "provisio [more] Research, transdisciplinarity, science/ education 1014, ViennaVienna

REGplus - Regional Innovation Promotion Infrastructure institutions provide conditions, equipment and guidance for young, innovative companies under the collect [more] Research Infrastructures (local level) 1010, Vienna Vienna

Seedfinancing The Seed Financing programme funds the growth of innovative companies before and during their establishment, as well as [more] promotion of innovative firms 1030, ViennaVienna

TAKE OFF – Austrian Aeronautics Programme The goals of TAKE OFF are a high level of competitiveness, technology leadership, the doubling of revenues by 2010 and a [more] Technological R&D, Education, Certification, Networking 1010, ViennaVienna

TechnoKontakte Improvement of the innovative and competitive performance of Austrian companies is guaranteed by the transfer of best-pr [more] Awareness raising, management tools 1010, ViennaVienna

Technologies for Sustainable Development The impulse programme "Technologies for Sustainable Development" is aimed at initiating important innovation impulses in [more] Research and Development ,

Technology Programme "Austrian Advanced Automotive Technologies" (A3) The A3 technology programme "Austrian Advanced Automotive Technology" supports cooperative research projects conducted by [more] 1013, ViennaVienna

TECMA The patent utilisation agency Technologie Marketing Austria - TECMA, a unit of Austria Wirtschaftsservice GmbH, promotes [more] Innovation, technology transfer, patents 1030, ViennaVienna
Tecnet Tecnet is a service of the awts carried out on behalf of the Federal Ministry of Economics and Labour and provides market [more] market studies, innovation, entrepreneur 1030, ViennaVienna

The AplusB Impulse Programme Start-up activity in Austria is generally not very dynamic by international standards; this is particularly true for the [more] Promotion of innovative firms 1010, ViennaVienna

Trans-Disciplinary Research Humanities, Social Sciences and Cultural Studies (TRAFO) Humanities, social sciences and cultural studies play a central role in the evolving society of knowledge and learning. [more] Research, cooperation, promotion, clustering 1014, ViennaVienna

Translational Research Programme (TRP) The Translational Research Programme (TRP) supports research that allows scientists to extend and adapt results from the [more] "application oriented" basic research 1040, ViennaVienna

uni:invent After the University Law of 2002, universities were given the right to use inventions made during university work; at the [more] Innovation transfer, technology diffusion 1030, ViennaVienna

5 Conclusion remarks: Strengths and weaknesses of University-Industry cooperation in the region

Strengths

* Along with Lower Austria and Burgenland, Vienna forms a functioning large-scale market (3.373m inhabitants): NUTS I region Eastern Austria/“Vienna Region“. Planning community East as a platform for common regional development.

* Larger companies have already for years ongoing contacts with university institutes

* the large know-how basis from the Austrian universities is an impressive asset and can be further developed to be beneficial for the industry and the SME's in Lower Austria.

Weaknesses

* Increasingly intensified sub-urbanisation processes (1991: 143,400 commuters from LA to Vienna) with resulting density problems in the Lower Austrian outskirts of Vienna. From 1966 LA becomes a migration province, since then increasing migration gains over Vienna.

* Despite these population and settlement dynamics, there are still notable socio-economic problem areas in the parts farther away from Vienna:

- Rural-peripheral areas
- Former industrial areas
- Areas with lagging tourism

* SME's are mainly covered by the chamber of commerce and its organisation TIP which deals with innovation and technology transfer. The contact with the universities is rather quite limited.

* The multitude of parallel existing research programs is difficult to overview – even for experts. A more coherent and focused decision for a clear strategy with specific regional goals would improve the necessary target orientation. This view is also substantiated by the Advisory Council on Research for all of Austria.

6 References

The homepages of the institutions and organisations have been given in the text. Relevant information has been taken from these public available sources which represent first hand information from the actors.

Annex 1 - University industry cooperation

AAR Austrian Aeronautics Research

The network AAR is an initiative that combines and connects the technological know-how and capacities of the Austrian ae [more] material technologies
2444, Seibersdorf

Character: Research institution

Assigned ministry: Federal Ministry of Economics and Labour

Field of research: Industrial production and technologies, material technologies

Focus of research: material technologies

Research discipline(s):

light-weight structure engineering (2324)

micromechanics (2238)

materials testing (2228)

aeronautical engineering (2205)

Participation in programme(s): K-ind /net Centers and networks of excellens

Employees: 12

Abstract: The network AAR is an initiative that combines and connects the technological know-how and capacities of the Austrian aeronautics supply industry. The cluster works on research and development in connective and lightweight materials. Further tasks include strategic research programmes, technological development projects and global marketing for the Austrian aeronautics industry.

AAR has four scientific-technology focuses: simulation and modelling, material fatigue and mechanical performance, testing and certification processes and material science and processing procedures

Partners in Austria:

Austrian Reseach Centers Seibersdorf research GmbH, Seibersdorf

Institut für Leichtbau und Strukturbiomechanik, University of Technology Vienna

Institut für Allgemeinen Maschinenbau, Montanuniversität Leoben

Fischer Advanced Composite Components GesmbH, Ried im Innkreis

MAGNA STEYR Space Technology, Graz

Plansee Aktiengesellschaft, Reutte

Pankl Fahrwerks- und Antriebssysteme GesmbH, Bruck/Mur

Böhler Schmiedetechnik GmbH & CoKG, Kapfenberg

Isovolta Österreichische Isolierwerkstoffe AG, Wr. Neudorf

FWT Wickeltechnik GmbH, Neunkirchen

Austrian Aerospace GmbH, Vienna

AC²T research

Austrian Center of Competence for Tribology GmbH - Österreichisches Kompetenzzentrum für Tribologie AC2T works on solutions for product optimisation and quality assurance. Motor and bearing systems of different types are [more] industrial processing and production methods 2700, Wiener Neustadt

Character: Research institution

Umbrella organisation: Austria Research Promotion Agency
Assigned ministry: Federal Ministry of Transport, Innovation and Technology

Field of research: Industrial production and technologies, material technologies

Focus of research: industrial processing and production methods

Research discipline(s):

motor vehicle engineering (2210)

mechanical engineering (2212)

quality control (2936)

Participation in programme(s): Kplus - Competence Centre Programme

Employees: 35

Abstract:

AC2T works on solutions for product optimisation and quality assurance. Motor and bearing systems of different types are "tribologic systems" and AC2T's research objects. The focus is especially on increasing the load capacity, power density and, generally, getting better control of friction noise. Research findings are used in cog wheel mechanisms, spindle-gear mechanisms, worm gears and also in CVD units (Continuous Variable Drive). The latter are increasingly replacing conventional, differential gears in vehicles. A further research area is environmentally friendly lubricants and highly-effective lubricant systems. Here the interaction of lubricants with construction materials, the build up of reaction layers and "tribomutations" on friction-stressed surfaces are researched.

Partners in Austria:

ARCS Austrian Research Center Seibersdorf GmbH, Seibersdorf

Österreichische Tribologische Gesellschaft, Vienna

Joanneum Research GmbH, Graz

Vienna University of Technology, Vienna

Verein zur Förderung der Schalterforschung, Vienna

Andritz AG, Graz

AVL List GmbH, Graz

Berndorf Band GmbH, Berndorf

Collini Skolink GmbH, Vienna

Delphi Automotive Systems, Vienna

Ensinger Sintimid GmbH, Lenzing

Enzesfeld Caro Metallwerke AG, Enzesfeld

Hella KG Hueck & Co, Grosspetersdorf

Inspec Fibres GmbH, Lenzing

Jenbacher AG, Jenbach

Klüber Lubrication Austria GmbH, Salzburg/ Kläsern

Louis Jörg GmbH, Vienna

MAGNA Steyr Fahrzeugtechnik AG & Co KG, Graz

MAGNA Steyr Powertrain AG & Co KG, Graz

Miba Frictec GmbH, Roitham

Miba Gleitlager AG, Laakirchen

OMV AG Refining & Marketing, Vienna

Robert Bosch GmbH, Vienna

Siemens AG, A&D CD CP TW, Vienna
SKF Österreich AG, Steyr
Tyco Electronics Austria GmbH, Vienna
VOEST Alpine Giesserei Linz GmbH, Linz
Voith Paper Service GmbH & Co KG, Wimpassing, Laakirchen
International partners:
Metalor Technologies France, France
AMI DODUCO GmbH, Pforzheim, Germany
Elektrisola Dr. Gerd Schildbach GmbH & Co KG, Reichshof, Germany
Gruner AG, Basel, Switzerland
INOVAN GmbH & Co KG, Birkenfeld- Pforzheim, Germany
OMG AG & Co KG, Hanau, Germany
Optimol Instruments Prüftechnik GmbH, Munich, Germany
Voith Paper AG, Heidenheim, Germany
W.C. Heraeus GmbH & Co KG, Hanau, Germany

CD Labor für Mykotoxinforschung

This CD laboratory researches the breakdown of mycotoxins by micro-organisms. The main focus is on the natural, metabolite [more]

biology/biotechnology 3430, Tulln

Character: Research institution

Umbrella organisation: Christian Doppler Forschungsgesellschaft

Assigned ministry: Federal Ministry of Economy and Labour

Field of research: Life sciences

Focus of research: biology/biotechnology

Research discipline(s):

microbiology (4413)

microbiology (1710)

microbiology (1410)

Employees: 7

Abstract:

This CD laboratory researches the breakdown of mycotoxins by micro-organisms. The main focus is on the natural, metabolic products of moulds which are poisonous for humans and animals. The most famous of the more than 300 mycotoxins is ergot.

In addition to the analysis of metabolic processes, possible damaging metabolic products of these micro-organisms should be clarified and eliminated. Thus, the basis for fodder additives to neutralise mycotoxin poisons can be developed. Moreover, the development of mycotoxins in grain plants is studied in this CD laboratory to find strategies to avoid impurities. Simultaneously, new analytical methods should be developed to help identify different fungus poisons in very small spoors.

Partners in Austria:

Interuniversitäres Department für Agrarbiotechnologie, Tulln

Biomin, Erber AG, Herzogenburg

Biopure Referenzsubstanzen GmbH, Tulln

Romer Labs, Tulln

International partners:

R-Biopharm AG, Darmstadt, Germany

Institute of Reference Materials and Measurements, Geel, Belgium

Central Science Laboratory, York, UK

Georgia Institute of Technology, Atlanta, USA

Universität Parma, Italy

ECHEM

Kompetenzzentrum für Angewandte Elektrochemie (Applied Electrochemistry),
GmbH ECHEM - Applied Electrochemistry carries out electrochemical research
for surface treatment, energy saving and conversion [more] Energy storage and
transport 2700, Wiener Neustadt

Character: Research institution

Umbrella organisation: Austrian Research Promotion Agency

Assigned ministry: Federal Ministry of Transport, Innovation and Technology

Field of research: Energy

Focus of research: Energy storage and transport

Research discipline(s):

ecological engineering (2945)

computer-aided simulation (2939)

coating technology (2616)

chemical technology (2605)

materials testing (2122)

electrochemistry (1307)

Participation in programme(s): Kplus - Competence Centre Programme

Employees: 36

Abstract:

ECHEM - Applied Electrochemistry carries out electrochemical research for
surface treatment, energy saving and conversion, as well as environmental
technology. Electrochemical expertise should be used to improve processes
and products for these applications. Thus, for example, surfaces are endowed
electrochemically with defined characteristics or – in the area of energy saving –
emission-free energy sources are developed and another field of research is the
further development of fuel cells. Electrochemical knowledge can also be used
to treat drinking water or sewage. The area water is one of Echem's focuses in
environmental technology.

Partners in Austria:

University of Vienna, Vienna

Vienna University of Technology, Vienna

Graz University of Technology, Graz

ARCS Austrian Research Center Seibersdorf GmbH, Seibersdorf

Österreichisches Forschungs- und Prüfzentrum Arsenal Ges.m.b.H., Vienna

Land Niederösterreich, Amt der NÖ Landesregierung, Abt.

Wirtschaftsförderung, St. Pölten

Andritz AG, Graz

AT&S Austria Technologie & Systemtechnik AG, Leoben

Banner GmbH, Linz

Berndorf Metall- und Bäderbau Gesm.b.H. & Co KG, Berndorf

Berndorf Band Ges.m.b.H. & Co KG, Berndorf
D. Swarovski & Co., Wattens
Fronius International GmbH, Wels
Henkel KGaA, Vienna
Hirtenberger AG, Hirtenberg
Liebherr-Werk Linz GmbH, Linz
Maschinenfabrik KBA-Mödling AG, Mödling
Plansee Holding AG, Reutte
Robert Bosch GmbH, Vienna
Tyrolit, Schwaz
VOEST Alpine Stahl Linz GmbH, Linz
International partners:
Atotech Deutschland GmbH, Berlin, Germany

Umbrella organisations

Austrian Academy of Sciences (ÖAW)
The Austrian Academy of Sciences represents a learned society like the great European academies, on the one hand, and Au [more] innovative basic research 1010, Vienna