Regional Innovation Monitor

Regional Innovation Report (Upper Austria)

To the European Commission
Enterprise and Industry Directorate-General
Directorate D – Industrial Innovation and Mobility Industries

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The Regional Innovation Monitor (RIM)\(^1\) is an initiative of the European Commission’s Directorate General for Enterprise and Industry, which has the objective to describe and analyse innovation policy trends across EU regions. RIM analysis is based on methodologies developed in the context of the INNO-Policy Trendchart, which covers innovation policies at national level as part of the PRO INNO Europe initiative.

The overarching objective of this project is to enhance the competitiveness of European regions through increasing the effectiveness of their innovation policies and strategies. The specific objective of the RIM is to enhance the scope and quality of policy assessment by providing policy-makers, other innovation stakeholders with the analytical framework and tools for evaluating the strengths and weaknesses of regional policies and regional innovation systems. RIM covers EU-20 Member States: Austria, Belgium, Bulgaria, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, the Netherlands, Poland, Portugal, Romania, Slovakia, Spain, Sweden and the United Kingdom.

This means that RIM does not concentrate on Member States where the Nomenclature of territorial units for statistics NUTS 1 and 2 levels are identical with the entire country (Estonia, Latvia, and Lithuania), Malta which only has NUTS 3 regions, Slovenia which has a national innovation policy or Cyprus and Luxembourg which are countries without NUTS regions.

The main aim of 50 regional reports is to provide a description and analysis of contemporary developments of regional innovation policy, taking into account the specific context of the region as well as general trends. All regional innovation reports are produced in a standardised way using a common methodological and conceptual framework, in order to allow for horizontal analysis, with a view to preparing the Annual EU Regional Innovation Monitor reports.

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\(^{1}\) http://www.rim-europa.eu
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Executive Summary

1. Introduction: Main recent trends in the Regional Innovation System

Upper Austria is the leading manufacturing and exporting region of Austria. Within the manufacturing sector high-technology firms account for more employment than on the Austrian average, a clear indication of a certain technology and innovation orientation of the manufacturing sector. However, knowledge-intensive services are less important in Upper Austria than in Austria as a whole.

Regarding R&D and innovation performance, Upper Austria can be described as a “medium performer” compared to the Austrian average, but as a “top performer” compared to the EU. With a quite strong university- and non-university research landscape, the region can rely on certain research- and technology-potentials in the public sector. However, issues like knowledge- and technology transfer, science-business networks and the diffusion of technologies remain critical fields for public intervention. In contrast to the strong innovation output and activities of the business sector, Upper Austria performs only on average with a view to the innovation dimension “enablers” (i.e. tertiary education, life-long learning, public R&D, broadband).

2. Major innovation challenges and policy responses

Challenge 1: Leverage public R&D

As documented by the data and also confirmed in the course of the expert interviews, government spending for R&D as well as higher education R&D are clearly below the national average. Given the nearly average GDP of Upper Austria, the lag in public R&D funding has both a relative as well as absolute dimension, and stands in contrast to the above average R&D performance of the business sector. Thus, from a technology and innovation policy point-of-view, the relatively weak public research base forms the major bottleneck both in terms of a possible transfer of technologies and research results into the business sector as well as knowledge in the form of qualified persons.

Challenge 2: Focus on new technologies and respective innovations

The region shows a quite competitive business sector particularly regarding the manufacturing branches with priorities in automotive, mechanical and plant engineering, machine-building, metal production and processing, food industry, polymers and medicine technologies. In general the industry structure can be described as medium-technology oriented – which in a way applies to Austria as a whole – but nevertheless should be characterised as highly innovative. The development and adoption of new technologies is primarily pushed by “mature” industries, leading-edge technologies or new technological trends like energy technologies, e-mobility, biotechnology, nanotechnology and environmental technologies are only tackled tentatively.
Challenge 3: Support knowledge-intensive services and linkages to “mature” industries

Inversely to the importance of the manufacturing sector knowledge-intensive services are underrepresented in Upper Austria. The division of labour within the knowledge-generating and innovation process is not particularly well advanced; positive self-dynamic processes with positive feedback-loops between the different regional actors are unincisive. Especially high-technology regions are characterised by competitive manufacturing firms and knowledge-intensive services at the same time. Thus, Upper Austria and ultimately the regional innovation policy have to find ways on how to support knowledge-intensive service firms, either within the context of current initiatives/programmes (e.g. as part of the cluster initiatives) or in the form of new support schemes.

3. Innovation policy governance

Upper Austria is a federal state of the Republic of Austria. Each Austrian state has an elected legislature, a state government, and a governor. Despite this constitutional set-up, Austrian Länder are both formally and practically less independent than German Länder. Beginning in the mid 90s the federal states started to implement their own RTI policies with a strong focus on innovation. However, as the federal states in Austria together account for merely 5% of the total Austrian R&D expenditures, it becomes obvious that the federal level plays a significant role regarding R&D support for innovative enterprises and public research institutes. In this respect the Austrian Research Promotion Agency (Österreichische Forschungsförderungsgesellschaft – FFG) is the central organisation in Austria to promote applied research and development.

As Upper Austria developed an innovation strategy already in the 1990s, there is a wealth of experience of how to design, implement and adapt policies while involving regional stakeholders. The current innovation and research policy is based on a strategy laid down in the programme “Innovative Upper Austria 2010plus” which runs from 2010 to 2013. The financial volume of the programme arises out of the share of Upper Austria as well as the funds from “third parties”. The overall budget for the whole period 2010-2013 amounts to €450m, whereupon the government of Upper Austria contributes €150m; the additional €300m come from project partners and third parties (private companies co-financing as a rule).

The strategic programme is not only limited to the funding of research and new technologies, rather than to the support of broad-based innovations on the firm and corporate level, regarding public procurement, transport, marketing and distribution, financing, sustainability and environmental protection, in the fields of education and qualification, location and business development and public administration. With a view to the regional portfolio of innovation support measures, a quite broad set of funding schemes have been implemented over the last decade. As a rule, soft loans, grants and the financing of on-going investments of firms in the course of RTDI-projects are characteristic elements of the different programmes. The different schemes cover the whole range from applied-oriented single firm R&D and innovation activities, to R&D co-operation projects (network and cluster support), technology-specific support (Eco-Energy, Energy technologies) and the funding of assistants for innovation.
4. Conclusions: future actions and opportunities for innovation policy

Since 1998, the Upper Austrian innovation policy as well as its location and technology policy has clearly contributed to the successful techno-economic development of the region. The establishment and subsequent development of intermediary organisations are key features of the systematic shaping of the regional innovation system. Thus, a combination of network- and technological infrastructure measures; establishing and development of an institutional set-up (“capacity building”), regionally adapted innovation support measures in the form of concrete programmes and initiatives, and a systematic and participative strategy process are the main success factors of the regional innovation policy.

The concrete measures to be implemented are modern and are based on long-lasting experience regarding their design, their constant adaptation to changing framework conditions and their efficiency. The most recent approaches focus on the targeted development of locations in Upper Austria, the upgrading of venture capital (to support highly innovative, risky ventures), the support of start-up companies and development of young technology-oriented firms and the further simplification of administrative decisions. The Upper Austrian economic and innovation system can be characterised as an example of a region with a strong manufacturing sector and a solid technological basis. The regional case teaches us certain lessons that may be valid for similar regions modernising their economy on the basis of mature industries.
1. Main Trends and Challenges in the Regional Innovation System

1.1 Recent trends in regional economic performance

In 2008, regional GDP was €44.75b, accounting for about 16.5% of Austrian GDP. Regional GDP per capita reached €33,600 which amounts to 98.8% of the Austrian and 133.8% of the EU27 average. As a percentage of the EU average the Upper Austrian GDP amount to 134%, which is only slightly below the Austrian average of 136%. Compared to the other Austrian regions Upper Austria ranks on fifth place behind Vienna (178%), Salzburg (155%), Vorarlberg (143%) and Tirol (140%).

Regarding the real growth of regional gross value added since 2001 Upper Austria performs on average above Austria as a whole – with the exception of 2006 – and significantly above the EU29 (see figure 1-1). Quite remarkably, Upper Austria shows a quite stable development in 2007/2008 with a constant high growth rate of nearly 4% - a period when the financial crisis in the rest of Austria and the EU27 already caused a severe decline in the economic capability.

Figure 1-1 Real growth rate of regional gross value added (percentage change on previous year)

The economically active population in the region amounts to 622,600 (25 years or over), i.e. 16.8% of national total. In 2009 most employees worked in services (64.3%), while 35.0% worked in the manufacturing sector and 0.5% in the agricultural sector. The regional labour force amounted to 0.721 million, 17.3% of national total. The most important regional industries are: the automotive sector, machine building, metal processing and manufacturing, chemicals, plastics, paper, wood, and automation.

Upper Austria accounts for 16.7% of the Austrian gross value added; the manufacturing sector accounts for 22.7% and the service sector for 14.0%. The most important industries in the service sector are business-oriented services, wholesale/retail/trade/repair of motor vehicles and health and social work (Statistics Austria). Furthermore, tourism plays a certain role.
Important regional employers in the automotive sector include the Miba-Group, Banner Batteries, FACC, BMW Motor Production, Austria Metall AG, voestalpine, BRP Rotax, Plasser und Theurer, and Engel Austria. 40.7% of Austrian automotive output is produced in the region. The Upper Austrian industrial structure is characterised by a presence of many major industrial sectors, a concentration around the cities of Linz, Steyr, and Wels and above average export orientation and research intensity as well as a highly qualified labour force. Likewise, it is characterised by a number of large firms a large number of small and medium sized enterprises, most of them active in technological niches. About 1,000 foreign firms are located in Upper Austria.

In 2010, unemployment in Upper Austria was low at 3.2% by Austrian (3.7%, 2010) and certainly European (8.3%, 2008) standards. Moreover, there is a clear trend that the unemployment rate has developed better than on national average.

Upper Austria is also the most export-oriented region in Austria, accounting for 27.8% of national exports alone. About 40% of exports from Upper Austria are constituted by goods from the automotive and the machine-building sector; a further 30% are contributed by metal production and processing, office machinery and chemicals. The export quota in the automotive sector was 87% in 2007, closely followed by 74% in office machinery as well as machine building. Many other sectors display export quotas above 60%, which is high even by Austrian standards.

Technology and knowledge-intensive firms are quite relevant for the Upper Austrian region. High-technology firms account for 1.18% of the overall regional employment, which is slightly above the Austrian average of 1.12% - a clear indication of the importance of the manufacturing sector as a whole and their technology orientation in particular. However, inversely to the comparatively importance of the manufacturing sector stands the knowledge-intensive service sector which accounts for 26.4% of the total regional employment. Compared to the Austrian average of 31.5% Upper Austria lags somewhat behind with a view to the service led structural change. Together with Burgenland and Vorarlberg Upper Austria is third to last regarding the importance of knowledge-intensive service firms.

In summary Upper Austria is the leading manufacturing and exporting region of Austria. In 2007 the share of Upper Austria on all Austrian exports of goods reached a new record with 27.8%. However, 70% of the total exports rest upon five major sectors: automotive, machine building, metal production and processing, office machinery and chemicals. Within the manufacturing sector high-technology firms account for more employment than on the Austrian average, a clear indication of a certain technology and innovation orientation of the manufacturing sector. However, knowledge-intensive services are less important in Upper Austria than in Austria as a whole.
1.2 Recent trends in regional innovation performance

**Main Trends**

In terms of R&D and innovation performance, Upper Austria can be described as a “medium performer” compared to the Austrian average, but as a “top performer” compared to the EU.

The RTDI sector in Upper Austria is clearly business oriented by Austrian standards. The share of regional business expenditure on R&D amounts to 80.5% compared to the national average (66%). Nonetheless, in 2007 the overall expenditure on R&D per GDP (2.33%) remains below national average (2.51%). However, the region’s overall expenditure on R&D contributes 15.2% (€1,045m) to the Austrian total, in line with the region’s 16.5% GDP share. In terms of business sector R&D (25.4% of national total, €4846m), the region ranks even higher. R&D expenditures of the business sector as a percentage of GDP amount to 2.1%, which is above the national average of 1.77%. In contrast to the strong performance of the business sector, government spending for R&D (0.04%) is clearly below the national average (0.13%). Similarly the higher education institutions in Upper Austria are below the Austrian average regarding R&D expenditures. The respective figure amounts for Upper Austria to 0.19% of GDP (compared to 0.6% for Austria).

In 2008, with a total number of 542, the region had the highest number of R&D performing firms in Austria. Similarly, the number of EPO patent applications per 1,000 inhabitants (0.19) exceeds Austrian average (0.15) and makes up 21.9% of national total, 1.3 times its share in GDP. In 2006 the Austrian federal government spent only 5.6% of its total expenditures for R&D in Upper Austria (€85.5m). However, the region spent an over proportional amount of national regional level allocations with 9.5% of federal total (€20.9m).

Nonetheless, the local industry is systematically involved in joint research programmes with partners from public research, and many SME are regularly and actively involved in such projects by the Technologie Marketing Gesellschaft (TMG), Upper Austria’s economic development agency.

Regarding the overall performance in innovation activities, Upper Austria belongs to the group of medium-high innovators (on a scale from high- to low-innovators) according to the 2009 Regional Innovation Scoreboard. With this performance Upper Austria shows a relative stable development since 2004. On a more detailed level, Upper Austria is particularly strong with a view to firm activities and outputs. In both categories Upper Austria belongs to the high innovators and therefore is among the leading regions in Europe. However, regarding the innovation dimension “enablers” (i.e. tertiary education, life-long learning, public R&D, broadband) Upper Austria has only been grouped as average innovator.

**Table 1-1 R&D expenditure in Upper Austria 1998-2007**

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<tbody>
<tr>
<td><strong>GERD</strong></td>
<td>Million €</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of GDP</td>
<td>1.27</td>
<td>1.68</td>
<td>1.87</td>
<td>2.27</td>
<td>2.33</td>
</tr>
<tr>
<td><strong>BERD</strong></td>
<td>% of GDP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of GDP</td>
<td>1.08</td>
<td>1.44</td>
<td>1.65</td>
<td>2.06</td>
<td>2.1</td>
</tr>
<tr>
<td><strong>GOVERD</strong></td>
<td>% of GDP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of GDP</td>
<td>0.05</td>
<td>0.04</td>
<td>0.04</td>
<td>0.04</td>
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</tr>
<tr>
<td><strong>HERD</strong></td>
<td>% of GDP</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>% of GDP</td>
<td>0.15</td>
<td>0.2</td>
<td>0.18</td>
<td>0.18</td>
<td>0.19</td>
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</tbody>
</table>

Source: Own figure, Eurostat data.
Table 1-2 R&D Intensity in Upper Austria in Comparison to Austria and the EU27

<table>
<thead>
<tr>
<th></th>
<th>2007 as % of GDP</th>
<th>GERD</th>
<th>BERD</th>
<th>GOVERD*</th>
<th>HERD</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU27 - European Union</td>
<td>1.85</td>
<td>1.18</td>
<td>0.24</td>
<td>0.42</td>
<td></td>
</tr>
<tr>
<td>Austria</td>
<td>2.51</td>
<td>1.77</td>
<td>0.13</td>
<td>0.6</td>
<td></td>
</tr>
<tr>
<td>AT11 – Burgenland</td>
<td>0.62</td>
<td>0.55</td>
<td>:</td>
<td>:</td>
<td></td>
</tr>
<tr>
<td>AT12 – Niederösterreich</td>
<td>1.21</td>
<td>1.1</td>
<td>0.07</td>
<td>0.04</td>
<td></td>
</tr>
<tr>
<td>AT13 – Wien</td>
<td>3.61</td>
<td>2.13</td>
<td>0.28</td>
<td>1.16</td>
<td></td>
</tr>
<tr>
<td>AT21 – Kärnten</td>
<td>2.68</td>
<td>2.4</td>
<td>0.07</td>
<td>0.21</td>
<td></td>
</tr>
<tr>
<td>AT22 – Steiermark</td>
<td>3.74</td>
<td>2.62</td>
<td>0.16</td>
<td>0.97</td>
<td></td>
</tr>
<tr>
<td>AT31 - Oberösterreich</td>
<td>2.33</td>
<td>2.1</td>
<td>0.04</td>
<td>0.19</td>
<td></td>
</tr>
<tr>
<td>AT32 – Salzburg</td>
<td>1.06</td>
<td>0.63</td>
<td>0.06</td>
<td>0.37</td>
<td></td>
</tr>
<tr>
<td>AT33 – Tirol</td>
<td>2.41</td>
<td>1.29</td>
<td>0.07</td>
<td>1.04</td>
<td></td>
</tr>
<tr>
<td>AT34 – Vorarlberg</td>
<td>1.38</td>
<td>1.27</td>
<td>:</td>
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</tbody>
</table>

* for Austria and its regions 2006.
Source: Own figure, Eurostat data.

Human Resources in Science and Technology (HRST) account for 35.0% of the total employment in Upper Austria. The respective figure for Austria is 36.8%, slightly above the respective value for Upper Austria. However, the dynamic regarding the development of HRST since 2001 is quite impressive in Upper Austria: Between 2001 and 2010 the value increased from 27.7% to 35.0%; in the same period HRST in Austria as a whole increased by only 6.8%.

Research Landscape

Upper Austria possesses a large number of institutions in the areas of R&D and technology transfer, which are linked by the Upper Austrian Innovation Network. The institutions include both university- and non-university research. Currently there are 4 universities, 4 universities of applied sciences, and 10 other public research institutes. Additionally, there are 4 technology parks, 9 competence centres, 17 so called ‘Impulszentren’, and 7 CDG-Laboratories. At the centre of Upper Austria’s research landscape is the Johannes Kepler University with its Engineering and Natural Science, Economics and Social Sciences and Legal faculties. The Linz University of Arts and Industrial Design, the private Catholic Theological University of Linz and the Anton Bruckner private University of Linz round off the range of universities in Upper Austria. A practical education at university level is offered at the four universities of applied sciences in Linz, Hagenberg, Wels and Steyr. Courses range from Health and Social Matters (FH Linz), IT and Media (FH Hagenberg), to Mechatronics, Bio- and Environmental Engineering (FH Wels) and Management and Leadership (FGH Steyr).

According to Eurostat, there were 21,272 students in Upper Austria in 2006. In February 2010, three more competence centres were granted in Upper Austria under the COMET programme and the rest of them received fresh funding. Nonetheless, the local higher education system with its 860 FTE R&D personnel has to be considered weak compared to other Austrian regions like Vienna (7,203), Styria (2,673) or Tyrol (1,766). Likewise, the non-university public research system (e.g. 107 R&D personnel FTE) is weaker than in Vienna (1,620), Styria (290) or Lower Austria (190).
Enterprise Sector

Upper Austria plays a significant role in Austria in terms of R&D activities of its business sector. According to recent figures, 25.4% of all Austrian R&D expenditures are financed by companies located in Upper Austria. Together with Vienna, Kärnten, and Steiermark Upper Austria is in the top group regarding R&D intensity of the business sector. The business sector accounts for 80.5% of the total regional R&D expenditures, which is far more than the Austrian average of 66% (see Standort- und Technologiebericht OÖ 2008). Compared to previous years, the R&D expenditures of Upper Austria's business sector are quite stable on a very high level. The regional innovation system is obviously based on a strong entrepreneurial basis.

Among the 20 enterprises with the highest R&D expenditures in the business sector seven are located in Vienna and four in Upper Austria and Steiermark respectively. With 542 companies Upper Austria in 2007 was the Bundesland with the highest number of R&D oriented companies among all Austrian regions. In comparison Vienna domiciles 481 R&D oriented companies, Steiermark 381 and Lower Austria 372 (see Statistical News11/2008).

Regarding R&D personnel in the business sector 7,885 persons (FTE) were employed in this particular area in 2009. In absolute numbers this is the second place behind Vienna with 10,337 persons (FTE). In total Austrian enterprises employed more than 38,000 R&D persons. As share of R&D personnel in the business sector at the total employment Upper Austria is on third place with 1.11% (again behind Vienna with 1.3% and Steiermark with 1.27%), but above the Austrian average which amounts to 0.94% (in 2009).

1.3 Identified challenges

With regard to the economic and innovative performance Upper Austria is in the upper middle field among Austrian regions but certainly in the top group compared to Europe. Most of the economic and RTDI indicators suggest a strong economy with significant technological and innovation activities which, however leaves room for improvement. Regarding the public research and intermediary infrastructure like technology parks, competence centres and “Impulszentren” Upper Austria can rely on various Institutions partly with strong interlinkages to high technology or knowledge-intensive firms. However, despite a broad research infrastructure public R&D funding remains significantly below the Austrian average.

Challenge 1: Leverage public R&D

As documented by the data and also confirmed in the course of the expert interviews, government spending for R&D as well as higher education R&D are clearly below the national average. Given the nearly average GDP of Upper Austria, the lag in public R&D funding has both, a relative as well as absolute dimension, and stands in contrast to the above average R&D performance of the business sector. Thus, from a technology and innovation policy point-of-view, the relatively weak public research base forms the major bottleneck both in terms of a possible transfer of technologies and research results into the business sector as well as knowledge in the form of qualified persons.
Challenge 2: Focus on new technologies and respective innovations

The region shows a quite competitive business sector particularly regarding the manufacturing branches with priorities in automotive, mechanical and plant engineering, machine-building, metal production and processing, food industry, polymers and medicine technologies. In general the industry structure can be described as medium-technology oriented – which in a way applies to Austria as a whole – but nevertheless should be characterised as highly innovative. The development and adoption of new technologies is primarily pushed by “mature” industries; leading-edge technologies or new technological trends like energy technologies, mobility, biotechnology, nanotechnology and environmental technologies are only tackled tentatively.

Challenge 3: Support knowledge-intensive services and linkages to “mature” industries

Inversely to the importance of the manufacturing sector knowledge-intensive services are underrepresented in Upper Austria. The division of labour within the knowledge-generating and innovation process is not particularly well advanced; positive self-dynamic processes with positive feedback-loops between the different regional actors are unincisive. Especially high-technology regions are characterised by a competitive manufacturing firms and knowledge-intensive services at the same time. Thus, Upper Austria und ultimately regional innovation policy have to find ways on how to support knowledge-intensive service firms, either within the context of current initiatives/programmes (e.g. as part of the cluster initiatives) or in the form of new support schemes.
2. Innovation Policy Governance

2.1 Degree of institutional autonomy

The institutional role of regions in research governance

Beginning in the mid 90s the Federal States (“Bundesländer” or provinces) started to implement their own RTI policies with a strong focus on innovation. In total, the Federal States together account for approximately 5% of the total Austrian R&D expenditures. Some big national funding programmes, e.g. the competence centre programme COMET or the Austrian NANO-Initiative, are co-financed by the Federal States (Hofer, 2009) while the programmes themselves, are primarily implemented by state agencies. The “Plattform FTI Österreich” aims to improve communication and coordination between state agencies and federal states (Plattform FTI Österreich, 2010). While in general the regional level is not very important compared to the state level and the industrial sector both in R&D financing and R&D performance, there are spatial differences of R&D performance with a concentration of R&D in the capital city Vienna and in Styria. These two regions are both exceeding the Austrian average in terms of GERD in % of gross regional product (Erawatch Country Report Austria 2010).

Upper Austria is a federal state of the Republic of Austria. Each Austrian state has an elected legislature, a state government, and a governor. Despite this constitutional set-up, Austrian Länder are both formally and practically less independent than German Länder.

Final responsibility for Innovation Policy in Upper Austria is borne by the regional government's office with its directorates for "education and society" as well as “regional planning, the economy and rural development”.

There are, however, a number of additional players, which are relevant for both design and implementation of Innovation related policies.

The Council of Research and Technology in Upper Austria, constituted by 29 high-level members from the fields of academia and industry provides advice to the government with a long-term strategic perspective.

The Technologie- und Marketinggesellschaft m.b.H. (TMG), in contrast, designs Upper Austria's location and innovation policy with a mid-term perspective and serves as a central contact point to companies considering to locate business operations in Upper Austria. It was formed in 1998 as a result of the "Upper Austria 2000+ Strategic Programme" and its mandate was renewed by the strategic programme "Innovative Upper Austria 2010".

Another important player is the Clusterland Oberösterreich GmbH. Since 1998, clusters were gradually developed in Upper Austria. Initially clusters and networks were directed by TMG. In 2006, the administration of the cluster support programme was contracted out to the Clusterland Oberösterreich GmbH jointly owned by TMG (61%), the Upper Austrian Chamber of Commerce, and the Federation of Austrian Industry.
2.2 Institutional-set up, co-ordination and implementation mechanisms

**Institutional Set-up**

Final responsibility for Technology and Innovation Policy in Upper Austria lies within the regional government’s office with its directorates for “education and society” (department education, research and youth) as well as “regional planning, the economy and rural development” (department economic affairs). Both directorates are responsible for the design and administration of research, technology and innovation policies. The implementation, coordination and integration of “strategic intelligence” however are accomplished by additional institutions or organisations (see below).

The department of education, research and youth is in charge of research at the regional universities and universities of applied sciences, while the department of economic affairs is responsible for the funding of technology and innovation in the enterprise sector. This includes the responsibility for the state-owned Technologie- und Marketinggesellschaft as Upper Austria’s location and innovation agency. The concrete activities of the two departments comprise the innovation network with a multitude of research institutes, technology and start-up centres, competence centres, etc., the elaboration and further adaption of the strategic programme Upper Austria 2010plus and the funding of technology and research (with its cluster support, project based funding of research, energy technology and innovation assistants). There are three strategic programmes in Upper Austria focussing on innovation, technology and research; the volume of regional technology- and innovation support incl. the ERDF funds amount to €1.5b in the period 1998-2013.

An important actor regarding innovation policy in Upper Austria is the Technologie- und Marketinggesellschaft m.b.H. (TMG) as Upper Austria’s location and innovation agency. TMG - founded at the end of 1991 - has two core Business Areas consisting of Location Marketing and Innovation & Technology. Together with its partners, TMG forms a company group, which offers a range of innovation services. In addition, TMG exercises a control and co-ordination function within Upper Austria’s Innovation Network. It designs Upper Austria’s location and innovation policy and serves companies as a central contact point (one-stop shop) for the location of businesses in the region.

TMG’s most important goals and assignments include a) the enhancement of the innovative strengths and productivity of companies, in order to secure their competitiveness; b) the expansion of the research and technology infrastructure and the raising of the R&D quota; c) the further development of strategic, economic programmes and the co-ordination of their implementation; d) the support of business location and expansion, as well as key tourism projects; e) the securing, development and marketing of industrial land in co-operation with local authorities and public sellers; f) the national and international marketing of the Upper Austrian business and technology location.

As regards innovation and technology TMG is a major player in the coordination and development of the strategic economic programme plus accompanying activities, like the benchmarking report (report on the innovation performance indicators in Upper Austria), location and technology report, and the active participation in EU projects and initiatives. Furthermore TMG is responsible for the development of research-, knowledge- and innovation structures (Upper Austrian Innovation Network), which includes network coordination and support of the development and growth of the innovation network. Finally TMG is a key management authority of innovation related infrastructure investments: These include Upper Austrian Research (100% TMG holding), CATT Innovation Management GmbH (100% TMG holding) and Clusterland OÖ GmbH (61% TMG holding) (see below).
Co-Ordination Mechanisms
In addition to the coordination activities of TMG, the newly founded Innovation Holding of Upper Austria is the main strategic and organisational authority regarding innovation policy in Upper Austria and marks the most important coordination mechanisms in Upper Austria. Members of the innovation holding are the key actors of the Upper Austrian education-, basic-research and applied-research landscape: the University of Applied Science, the Education Group (an innovation centre at the interface of media and pedagogics), Upper Austrian Research (UAR, the state-owned research organisation), the TMG with its subsidiaries (CATTT, Clusterland Oberösterreich, 15 technology centres), the Regional Management OÖ GmbH and the Creative. Region Linz & Upper Austria GmbH (the newly established agency responsible for the creative economy in Upper Austria).

Implementation Mechanisms
Upper Austria possesses a quite extensive network of institutions and mechanisms to implement regional technology, research and innovation policy. In this regard, the Innovation Network – managed and coordinated by TMG (see above) – is crucial, both in terms of the technological infrastructure and the organisations behind it. In Upper Austria, a network of 21 Technology- and Impulse centres and 10 clusters can be regarded as the backbone of the regional technological infrastructure. The technology- and impulse centres pursue the following objectives:

- Support to the establishment and development of innovation and technology-oriented firms,
- Support to innovation-, technology- and knowledge-transfer within the region,
- Participation in regional economic development,
- Support to regional cooperation and integration into extra-regional networks.

As the centres are regarded as regional hubs for technology transfer, nearly all districts of Upper Austria are equipped with centres – funded by the Upper Austrian government. The centres are organised as service-, start-up-, technology- and innovation centres or science parks and have specific thematic foci. The project “Network of the Upper Austrian Impulse Centres” is supported by Upper Austria’s ERDF programme.

In addition to the technology- and impulse centres, Upper Austria has positioned itself as a region in which clusters and respective policies and innovation networks are essential cornerstones – both with a view on policy strategies and their implementation in terms of concrete measures. Thus, the policy for economic development and technology set a focus on clusters and networks – as a strategy for companies to sustain innovation and competition. This idea will be continued systematically in the future based on the strategic program “Innovative Upper Austria 2010plus” (see below).

Since 1998, clusters were gradually developed in important economic branches in Upper Austria:

- automotive,
- plastics,
- eco-energy,
- furniture & timber construction,
- food,
- health technology,
- mechatronics and environmental technology.
In addition, inter-branch networks have been set up in the fields of human resources, design & media, logistics and energy efficiency. Policy targets of the inter-branch networks are: a) strengthening the competence of SMEs in specific themes, b) inter-branch know-how transfer, and c) innovation through competence.

All clusters and networks, which were directed by Upper Austria’s location and innovation agency (TMG) till the end of 2005, are now part of the Clusterland Oberösterreich GmbH. Since January 2006, Clusterland Oberösterreich GmbH is now operationally active. Legitimate owners are TMG with 61%, Upper Austrian Chamber of Commerce, and the Federation of Austrian Industry with each 19,5 %. See below for more context information (chapter 3.3.: Best practice case).

Another important implementation mechanism is the CATT Innovation Management GmbH (under the ownership of TMG). CATT supports and accompanies Upper Austrian companies and institutions in matters related to national and international innovation management with a focus on research, mobility and innovation funding, technology transfer and intellectual property rights. CATT promotes innovative collaborations and helps to stimulate technology-intensive innovation between universities and business in order to guarantee international competitiveness of Upper Austrian enterprises. Furthermore, CATT provides solutions to R&D needs by providing a single point of targeted access to the pool of expertise in the academic research throughout Upper Austria. CATT helps to facilitate the flow of knowledge from the academic sector into the commercial world with a focus on the whole innovation management process. In detail CATT services cover the following areas: a) The evaluation of research ideas with regard to market viability; b) Consulting concerning intellectual property rights; c) Involvement of experts; d) RTD funding consulting; e) Initiation of RTD co-operations; f) Technology licensing; g) Mobility and assignment of trainees and top specialists; g) Innovation management training.

Finally, Upper Austrian Research (UAR) can be regarded as another implementation mechanism. The objective of UAR is the development of the Upper Austrian research- and technology location. UAR is co-owner of 9 research companies and the Upper Austrian high-tech incubator and within this context offers companies access to R&D capacities in the following technology fields:

- Information and communication technology,
- Lightweight construction and new materials,
- Mechatronics,
- Life Science,
- Entrepreneurship.

UAR’s focus is on enterprises having a demand for technologies as well as R&D competencies, which are not covered by the existing institutions. Within this context UAR can be described as a transfer and technological advisory institution.
2.3 Availability and use of policy intelligence tools

Within the process of the development of policy strategies Upper Austria uses different policy intelligence tools on different levels. The most important body is certainly the **Upper Austrian Research and Technology Council**, which played an active role within the development of the two recent innovation strategic programmes of Upper Austria, the programme „Innovative Upper Austria 2010“ and the follow-up „Innovative Upper Austria 2010plus“. The key task of the Research and Technology Council is to advise the Upper Austrian government in the following fields:

- Preparation of concrete and result-oriented recommendations in order to strengthen the position of Upper Austria in international research- and technology-cooperation;
- Elaboration of suggestions on how science-business interaction can be strengthened and specifically how university-based research and the regional economy can be linked;
- Contribution to the elaboration of a future concept for regional research and technological development;
- Preparation of suggestions for concrete measures to implement the proposed recommendations and monitoring the implementation step by step.

The Research and Technology Council is an independent, pro-active high-level expert board, which is committed to the RTDI location Upper Austria. The council is „free“ in their strategic work – without immediate realisation-pressure. The members of the council act independently of organised power of parties, organisations or individuals. The Council comprises 28 members (one chairman, one deputy, 25 members with voting power and one advisory member without voting power).

As mentioned above the Council played an active role within **the launch of the government’s innovation strategy process**, which was co-ordinated by the **Upper Austrian Technology and Marketing Company (TMG)** representing another important policy intelligence tool (see above). Regarding the strategy process 250 experts from business, science and thematic departments were involved in total. Characteristic for the elaboration of the strategy was a tight and efficient process with an adjacent appraisal in order to integrate all relevant stakeholders. From a policy perspective two departments of the regional government (department of research, department of economic affairs) or their political heads are in charge of the innovation strategy (see chapter 3). The strategy process, which resulted in 14 strategies, 37 measures and 120 projects were elaborated on the basis of the Strategic Guidelines of the Research and Technology Council.

In addition to the Council and the TMG, the above-mentioned **Innovation Holding of Upper Austria**, as the main strategic and organisational authority regarding innovation policy in Upper Austria, can also be regarded as a policy intelligence tool for the regional government.

Regarding further policy intelligence tools like evaluation, external consultancy, technological foresight, roadmapping or the development of techno-economic scenarios, no significant activities have been implemented in the last couple of years. Thus, the government of Upper Austria uses intelligence tools primarily in terms of the integration of stakeholders into the strategic process ("legitimation by negotiation"), rather than within the context of “outsourcing” to scientific institutions. More broad-based reports to analyse potentials and challenges for the regional economy or innovation system have occasionally been commissioned to specific institutions. However, the most recent “Location- and technology-report for Upper Austria” (2008) – with results of the strategic programme “Innovative Upper Austria“ has been elaborated by the TMG.
2.4 Key challenges and opportunities

Opportunity 1: Wealth of Experience in the design and implementation of modern innovation policy measures

Over the last 10-15 years, the Upper Austrian government gained a wealth of experience in the design and implementation of modern innovation policy measures. More recently, measures like clusters, competence- and impulse centres have been added to the agenda. The regional cluster policy for instance and the respective management organisation Clusterland GmbH can be regarded as a best practice measure which is also well regarded by the neighbouring Bavarian cluster politicians. The various measures have been further developed over the years and specifically adapted to the changing needs of the regional companies, particularly SMEs.

Opportunity 2: Tradition of participation of regional stakeholders in shaping the regional innovation system

The Upper Austrian innovation policy can build on a quite long tradition of participation of regional stakeholders in shaping the regional innovation system. Rather than the extensive use of policy intelligence tools like evaluation, external consultancy, foresight or roadmapping, the integration of regional stakeholders into the strategic process is a key characteristic of policy making in the region ("legitimation by negotiation"). Within this context the Upper Austrian Research and Technology Council and more recently the Innovation Holding are certainly crucial.

Challenge 1: Avoid redundancies between the different institutions

Due to the various intermediary institutions in Upper Austria, one of the main challenges is to avoid redundancies between the different actors being responsible for the implementation of the innovation policy. Currently redundancies can be observed between the Clusterland GmbH, the technology- and impulse centres, the Upper Austrian Research and CATT Innovation Management GmbH. Overlaps in responsibilities may result in a delay of strategies and implementation mechanisms.

Challenge 2: Align strong “intermediary system” to a common objective

Closely related to challenge one, the strong and complex intermediary system may result in the dominance of individual interests or objectives rather than the optimum of the whole system. Therefore, the different institutions have to be aligned to a common overall objective with clearly defined specific objectives. Innovation or institutional research points to the challenge that complex intermediary systems tend to a certain fragmentation and a lack of coherence and synergies.

Challenge 3: Improve Upper Austria’s activities in designing and shaping innovation policy on the Federal and European level

In the course of the interviews the experts expressed the need for Upper Austria to play a much more active role in designing and shaping innovation policy on the Federal and European level. Currently Upper Austria has to optimise its visibility and role within the Austrian federal system and the EU according to its techno-economic performance. In consequence, Upper Austria misses the opportunity to better participate in national and European initiatives and policy programmes.
3. Innovation Policy Instruments & Orientations

3.1 The regional innovation policy mix

In 1998, the State of Upper Austria conceived a mid-term strategy to build up regional research activities in the public as well as in the private sector. The “Strategic Programme Upper Austria 2000+” (1998-2005) was funded from regional funding, federal sources, as well as the EU Structural Funds. Its programme of action included:

- the launch of eleven cluster initiatives, which ultimately ended in the foundation of the 'Clusterland' agency in 2005;
- the establishment and maintenance of a network of around 20 technology and innovation centres (incubators);
- the establishment of competence centres, co-funded by industrial partners, national funding, and state-funding (about K-plus and K-ind/net);
- the establishment of Upper Austrian Research, a public research organisation under the ownership and supervision of the TMG.

In the meantime, Upper Austria has become internationally renowned for its Cluster Policy, featuring clusters in automotive, plastics, eco-energy, furniture & timber construction, food, health technology, mechatronics and environmental technology. In addition, inter-branch networks have been set up in the fields of human resources, design & media, logistics and energy efficiency. Under the auspices of Clusterland Oberösterreich GmbH many of those clusters have developed dynamically during the past 5 to 10 years.

Since 2005, it has been succeeded by a follow-up programme labelled 'Innovative Upper Austria 2010' (2005-2010) that foresees a total investment of €600m, thereof €300 m in the period from 2005 to 2020. The programme has been developed in close co-ordination with the Council for Research and Technology for Upper Austria.

Specific support will be given to R&D and science-industry co-operations in the technological fields of mechatronics, ICT, life science, innovative materials and logistics. Existing clusters should be further stabilised and stepwise internationalised and infrastructure development should be further supported, including the operations of the CATT, an innovation management and service company for issues of technology- and mobility support. Moreover, new impetus shall be put into human resource development as well as training and vocational education. To that aim, 18 strategies and 43 measures have been developed by 250 experts in their respective fields.

The current strategic programme for Upper Austria is called “Innovative Upper Austria 2010plus” which is not a complete new programme, rather than a follow-up document of its predecessor. The current programme covers the period 2010-2013 and contains 14 strategies, 137 measures and 120 schemes (projects). It comprises five thematic fields, which are considered as critical for the future development of Upper Austria: Research and Development, Education and Career, Networks, Economic and Technology Location Upper Austria and EU-Networking.
The role of the Federal Level

The federal level in Austria plays a significant role regarding R&D support for innovative enterprises and public research institutes. In this respect the Austrian Research Promotion Agency (Österreichische Forschungsförderungsgesellschaft – FFG) is the central organisation in Austria to promote apply-oriented research and development. The (public) services offered are primarily targeted at business-related R&D but are nevertheless open to all kinds of organisations. Since 2004 FFG has taken over the majority of research- and technology oriented programmes by the Federal Ministry of Transport, Innovation and Technology (BMVIT) and the Federal Ministry of Economic Affairs, Family and Youth (BMWFJ). The portfolio of innovation support measures implemented from the federal level in Upper Austria will be presented in chapter 3.4.

Regional level

As pointed out above, the current innovation and research policy is based on a strategy laid down in the programme “Innovative Upper Austria 2010plus” which runs from 2010 to 2013. The financial volume of the programme arises out of the share of Upper Austria as well as the funds from “third parties”. The overall budget for the whole period 2010-2013 amounts to €450m, whereupon the government of Upper Austria contributes €150m; the additional €300m come from project partners and third parties (private companies co-financing as a rule). The strategic guidelines on which the programme has been developed are the following:

- Strengthen the strengths and undertake new ventures: the existing strengths of the economic and technology location have to expanded and new opportunities have to be employed;
- Leverage effects and sustainable value added: focus on measures and projects which result in a high and sustainable value added for the Upper Austrian economy;
- Think globally, act on the basis of local interests: the main focus is on measures which support companies in transferring ideas and research results into market success;
- Benchmarking and assessing the objectives: the objectives set have to be reviewed regularly.

The point of departure of the strategic programme is based on the fact that Upper Austria’s competitiveness is primarily linked to a strong export performance of industrial and technological goods. The basis for this success is very much in line with the strong technology and innovation orientation of the Upper Austrian companies. Against this background the programme comprises 14 strategies and 37 measures. The following list the different strategies as well as the most important measures. The specification of the innovation support measures follows in chapter 3.4.

- Strategy F1: Definition of research priorities and identification of new fields: Focus on Mechatronics, Process automation, ICTs, Life Sciences, New materials, Logistics, Energy efficiency, Renewable energies;
- Strategy F2: Intensify the science-business interaction (companies, universities, non-university research centres): Expand the public universities and research institutes, increase the number of graduates in engineering and natural science;
- Strategy F3: Intelligent project- and structural support: increase the participation in national programmes (FFG);
- Strategy F4: Research networks and technology transfer;
- Strategy B1: Support the interest among young people for technologies: e.g. “Power Girls”, identification and support of talents;
• Strategy B2: Identify highly qualified persons ("star scientists"): increase internationalisation of education and research, education highways, science centre;

• Strategy B3: Organise a more demand oriented vocational training: social competence;

• Strategy N1: Further development of cluster- and network initiatives: e.g. direct funding of innovative co-operation projects within the frame of the Upper Austrian cluster- and network initiatives;

• Strategy W1: Economy-, technology- and regional support: further development of CATT Innovation Management GmbH, Coordination of RTDI strategies and measures, creative industries and knowledge-intensive services;

• Strategy W2: Industrial location, infrastructure, energy;

• Strategy W3: Impulse centres: upgrading of the Upper Austrian Impulse Centres, accelerate medium-tech-innovations, development of the software park Hagenberg, further development of the tech2b high-tech incubators;

• Strategy W4: Location marketing;

• Strategy E1: Political participation in EU expert panels in the field of RTDI; and

• Strategy E2: Take chances on the EU level: international benchmarking, focus on “future regions” in the Eastern European member states.

The following table gives an overview of the regional innovation policy mix (see also chapter 3.4. for a detailed description of the innovation policy portfolio).
Table 3-1 Overview of the regional innovation policy mix

<table>
<thead>
<tr>
<th>Governance &amp; horizontal research and innovation policies*</th>
<th>Research and Technologies</th>
<th>Human Resources**</th>
<th>Creation and growth of innovative enterprises</th>
<th>Markets and innovation culture</th>
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<tbody>
<tr>
<td>Easy2innovate – Upper Austrian Small project support</td>
<td>2.2.2. Knowledge Transfer</td>
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<td></td>
<td>2.2.3. R&amp;D cooperation</td>
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<td></td>
<td>2.3.1. Direct support of</td>
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<td></td>
<td>business R&amp;D</td>
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<td></td>
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<tr>
<td>Regional Innovation Prize (Landespreis für Innovation)</td>
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<td></td>
<td>4.1.1 Support to sectoral innovation in manufacturing</td>
<td></td>
</tr>
<tr>
<td>Energy Technology Programme Upper Austria (ETP)</td>
<td>2.3.1. Direct support of</td>
<td></td>
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<tr>
<td></td>
<td>business R&amp;D</td>
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<tr>
<td>Energy Contracting Programme Upper Austria (ECP)</td>
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<td></td>
<td>4.1.1 Support to sectoral innovation in manufacturing</td>
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<tr>
<td>Export- and Internationalisation Offensive in Eco-Energy and Eco-Technology</td>
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<tr>
<td>Co-operation in Networks (RNK)</td>
<td>2.2.2. Knowledge Transfer</td>
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<td></td>
<td>2.2.3. R&amp;D cooperation</td>
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<tr>
<td>Clusterland Upper Austria GmbH</td>
<td>2.2.1. TT Support</td>
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<td></td>
<td>Infrastructure</td>
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<tr>
<td></td>
<td>2.2.2. Knowledge Transfer</td>
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<tr>
<td></td>
<td>2.2.3. R&amp;D cooperation</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Innovative Co-operations in the context of the Cluster initiative</td>
<td>2.2.2. Knowledge Transfer</td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>2.2.3. R&amp;D cooperation</td>
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<td></td>
<td></td>
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<tr>
<td>Assistant for Innovation</td>
<td></td>
<td>3.3.2. Recruitment of skilled personnel in enterprises</td>
<td>4.2.1. Support to innovation management and advisory services</td>
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</tbody>
</table>

* addressed implicitly through regular high-level co-ordination and ministerial missions;  
** additionally addressed through regional higher education policy.

Source: RIM database.

The following table shows the budget for the main support measures and institutional funding. The most important funding mechanism in terms of the volume of the budget is institutional funding of the universities and universities of applied science with €22.3m in 2008. However, as the universities in Austria are primarily funded by the federal government, the largest share of the budget is directed towards the universities of applied science. Another important title is the project-based funding schemes for which the Upper Austrian government spent €7.8m in 2008. Under these activities, the „classical“ innovation-support measures are grouped: loans, grants, and subsidies. Finally, the co-financing of the support measures from the federal government (e.g. CIR-CE, COMET) is quite significant (4.9 Mio. EUR) as well as the support to technological infrastructure and –networks like impulse centres, technology centres, competence centres for which €3.8m are spent. A quite significant budget is also provided for the cluster-specific co-operation projects (€1.7m).
Table 3-2 Existing regional innovation support measures

<table>
<thead>
<tr>
<th>Title</th>
<th>Budget 2008</th>
<th>Budget 2009</th>
<th>Budget 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clusterland GmbH Management Organisation</td>
<td>1.461.500, -</td>
<td>1.457.900, -</td>
<td></td>
</tr>
<tr>
<td>Cluster co-operation projects</td>
<td>2.909.437, -</td>
<td>1.718.932, -</td>
<td></td>
</tr>
<tr>
<td>Food cluster (investments)</td>
<td>116.627, -</td>
<td>125.288, -</td>
<td></td>
</tr>
<tr>
<td>Upper Austrian Research GmbH</td>
<td>131.560, -</td>
<td>447.587, -</td>
<td></td>
</tr>
<tr>
<td>CATT Innovation Management GmbH (ongoing expenditure)</td>
<td>1.375.134, -</td>
<td>1.437.807, -</td>
<td></td>
</tr>
<tr>
<td>Technology- and Marketing Agency (TMG)</td>
<td>4.094.559, -</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Co-Financing of federal programmes (e.g. CIR-CE, COMET)</td>
<td>6.243.407, -</td>
<td>4.981.162, -</td>
<td></td>
</tr>
<tr>
<td>Technology centres, technology parks, competence centres (investments and on-going expenditure)</td>
<td>660.870, - (inv.) 2.521.725, - (on-going exp.)</td>
<td>1.190.859, - (inv.) 2.727.650, - (on-going exp.)</td>
<td>5.462.000, - (inv.) 3.564.000, - (on-going exp.)</td>
</tr>
<tr>
<td>Research institutes (investments and on-going expenditure)</td>
<td>1.097.716, -</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic funding of universities and universities of applied science</td>
<td>22.321.697, -</td>
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<td></td>
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<tr>
<td>Project based funding of innovation and R&amp;D, thereof:</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>• Soft loans</td>
<td>7.895.961, -</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• On-going expenditure to firms</td>
<td>2.778.174, -</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Grants (subsidy of interest)</td>
<td>2.581.802, -</td>
<td></td>
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<td></td>
<td>990.331, -</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Government of Upper Austria.
3.2 Appraisal of regional innovation policies

The overall appraisal of the Upper Austrian regional innovation policies is somewhat limited by the fact that – as in the case of many Austrian support measures on the regional level – no specific evaluation of relevant measures has been carried out. Reliable information on actual effects of the regional innovation measures is therefore not available. Thus, an assessment or appraisal of the Upper Austrian innovation policies can only be accomplished on the basis of qualitative evidence – provided by the regional experts interviewed - and additional information illustrated in selected documents (e.g. Location and Technology Report for Upper Austria 2008, “Regio13” – Operational Programme ERDF for Upper Austria).

Since 1998, the Upper Austrian innovation policy as well as its location and technology policy has clearly contributed to the successful techno-economic development of the region. The Upper Austrian companies are characterised by strengths in terms of innovation activities and flexibility. The strategic programmes “Upper Austria 2000+” and “Innovative Upper Austria 2010” and the appropriate measures have particularly contributed to this performance within the context of the establishment of technology- and branch-networks and a future-oriented location development. The foundation and subsequent development of intermediary organisations are key features of the systematic shaping of the regional innovation system. Thus, a combination of network- and technological infrastructure measures, establishing and development of an institutional set-up (“capacity building”), regionally adapted innovation support measures in the form of concrete programmes and initiatives, and a systematic and participative strategy process are the main success factors of the regional innovation policy.

The current strategic programme is not only limited to the funding of research and new technologies, rather than on the support of broad-based innovations on the firm and corporate level, regarding public procurement, transport, marketing and distribution, financing, sustainability and environmental protection, in the fields of education and qualification, location and business development and public administration. Thus, “innovation” is understood as an important pre-condition for competitive strengths, employment, social security, welfare and quality of life and displays a main significance of the Upper Austrian location- and technology policy. With this broad understanding of innovation, the Upper Austrian policy is clearly addressing the main challenges that lay ahead. The concrete measures to be implemented are modern and based on long-lasting experience regarding their design, their constant adaptation to changing framework conditions and their efficiency. The most recent approaches focus on the targeted development of locations in Upper Austria, the upgrading of venture capital (to support highly innovative, risky ventures), the support of start-up companies and development of young technology-oriented firms and the further simplification of administrative decisions.
3.3 Good practice case

Upper Austrian Cluster policy: Clusterland GmbH and cluster co-operation projects

Just as many regions and countries in the EU, Upper Austria also initiated a network-and cluster-oriented policy in order to strengthen the regional potentials. The main focus of the Upper Austrian cluster policy is the activation of innovation and market potential of synergies based on cooperation between companies and regarding science-business interaction. Upper Austrian SMEs are a particular objective of cluster policy, as these companies are often small and therefore are confronted with the typical disadvantages in terms of critical mass, R&D and innovation activities, recruiting of qualified employees, etc. As a result, the exploitation of industry specific knowledge about markets and technologies appears to be particularly crucial for SMEs. Through the support and funding of co-operation activities in concrete projects, cluster and network policy pursues the aim to strengthen the “network-capability” of companies in order to share risks within the innovation process, reduce the disadvantages resulting in smallness, and increase their competitiveness.

Since 1998, the Upper Austrian government and the regional business sector gradually developed clusters in important economic branches: automotive, plastics, eco-energy, furniture & timber construction, food, health technology, mechatronics and environmental technology. In addition, inter-branch networks have been set up in the fields of human resources, design & media, logistics and energy efficiency. All clusters and networks, which were directed by Upper Austria’s location and innovation agency (TMG) till the end of 2005, are now part of the Clusterland Oberösterreich GmbH (see above). Since January 2006, Clusterland Oberösterreich GmbH is operationally active. Legitimate owners are TMG with 61%, Upper Austrian Chamber of Commerce, and the Federation of Austrian Industry with each 19.5%. The services provided by Clusterland Oberösterreich GmbH – the cluster management organisation – go from information and communication measures (e.g. newsletters, websites, company directories, business news), qualification, knowledge transfer and – management, to initiating and supporting cooperation projects, cluster marketing and PR-activities and supporting companies within their internationalisation strategies.

Table 3-3 Clusters managed by Clusterland GmbH

<table>
<thead>
<tr>
<th>Clusterland Upper Austria</th>
<th>Partner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive</td>
<td>Vehicle manufacturers and automotive sub-suppliers, as well as the relevant machine and plant constructors and service companies.</td>
</tr>
<tr>
<td>Plastics</td>
<td>Manufacturers and processors of plastics, machinery, moulds and tools, as well as service suppliers.</td>
</tr>
<tr>
<td>Furniture &amp; Timber Constructon</td>
<td>Manufacturers of furniture and wood constructions, as well as their sub-suppliers and companies offering special services.</td>
</tr>
<tr>
<td>Health Technology</td>
<td>Companies in the medical and rehabilitation technology sector.</td>
</tr>
<tr>
<td>Mechatronics</td>
<td>Companies in the mechanical engineering and plant building sector, equipment and apparatus construction, special technology suppliers and services companies.</td>
</tr>
<tr>
<td>Environmental Technology</td>
<td>Technology suppliers, know-how providers and technology users in the areas of water, waste, soil, air and noise.</td>
</tr>
</tbody>
</table>


Source: www.clusterland.at.
Table 3-4 Clusters managed by different organisations

<table>
<thead>
<tr>
<th>Clusterland Upper Austria</th>
<th>Partner</th>
<th>Start</th>
<th>Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eco-Energy</td>
<td>Companies in the renewable energy sector.</td>
<td>March 2000</td>
<td>OÖe Energiesparverband</td>
</tr>
<tr>
<td>Food</td>
<td>Food production companies, their direct and indirect suppliers, R&amp;D and educational bodies.</td>
<td>September 2000</td>
<td>Upper Austrian Chamber of Commerce</td>
</tr>
</tbody>
</table>

Source: www.clusterland.at.

As of 31 December 2010, 1,760 companies have decided to becoming partner in an Upper Austrian cluster or network. Without the inter-branch networks, the partner companies employ 259,000 persons in total; the largest cluster in terms of employees is the automotive cluster with nearly 85,000 employees, whereas the largest cluster in terms of the number of partners is the plastics cluster with 436 members. Regarding the network events of the clusters, 1,411 events with over 54,000 visitors have been organised since the beginning of the cluster policy in Upper Austria. On average, there are 1 to 4 specialised events per month and cluster where participants have the chance to build new contacts and transfer knowledge. These events include regular specialised events, workshops, study trips and company tours, as well as cooperation with education and research facilities (see www.clusterland.at).

Hence, the further development of the clusters and networks in Upper Austria is among the strategic priorities laid down in the current strategic programme. The specific measures to be implemented include the coupling of the clusters with knowledge-intensive services and the integration with clusters and networks in other Austrian regions and the European level. Furthermore, the upgrading of the cluster-initiatives on the basis of training and qualification activities for the different cluster branches will be a priority.

One of the main success factors of the Upper Austrian cluster initiative – besides the strategic and financial commitment of the government and the foundation of a professional organisation for the implementation – is certainly the establishment of a special fund for R&D co-operation projects among the partners organised in the different clusters. The budget for these kinds of activities amounts to €1.7m in 2009. Consequently, the strategic programme „Innovative Upper Austria 2010 plus“ lists „direct grants for innovative co-operation projects within the cluster-initiative“ as one of the key measure to be performed within the cluster- and network strategy.
3.4 Portfolio of innovation support measures

As already pointed out in chapter 3.1, the federal level plays a quite important role in funding innovation activities in Austrian regions. The Austrian Research Promotion Agency – Forschungsförderungsgesellschaft FFG – is the main authority on the federal level being responsible for the design and implementation of innovation support measures in Austria. From all programmes on the federal level focussing on research, technology and innovation (see table 3-5), the Upper Austrian share in 2008 amounted to 22.5% or €94.9m. The most important programmes are the so-called 'base programmes' and 'structural programmes' amounting to €39.2-38.7m. The aim of the base programmes is to support research in the business sector in order to initiate concrete research projects and further develop the technological base of companies. Funding instruments are comprised of grants, soft loans and guarantees. In 2008, the €39.2m coming from the federal level mobilised a total public support of €80.85m, which includes additional funds originating from the Upper Austrian government itself. The number of supported companies amounted to 175 with 220 projects. The structural programmes support linkages among companies, universities, research- and transfer institutes. The concrete programmes are not limited to specific R&D topics, but nevertheless are related to international and national technological trends. The structural programmes are divided into three main fields: Competence and Excellence, Cooperation and Innovation and Human Resources and Gender. Within the context of the structural programmes, the major federal programmes are grouped: CIR-CE, COIN (Cooperation & Innovation), COMET (the newly launched programme for competence centres for excellent technologies), EraSME, FEMtech, etc. In 2008 the most important programme for Upper Austria – in terms of funds stemming from the federal level – was CIR-CE with a share of 44.7% in Austria. The share of COIN and COMET amounted to 23.8% and 27.8%. In terms of the number of projects Upper Austria was particularly successful regarding COMET (64% on all projects in Austria) and CIR-CE (with 50%). The main aim of the thematic programmes is to define and support national priorities in future technologies which are expected to play a significant role for the technological development of the business sector. The largest share of the Upper Austrian participation in the thematic programmes was in the programme lines “Energy of the Future” (€4.4m federal funds, 15% share of all Austrian funds in thematic programmes) and FIT-IT (€2.7m, 12.8%).

Table 3-5 Overview of the Upper Austrian participation in Federal Programmes (FFG) in 2008

<table>
<thead>
<tr>
<th>FFG-Programmes</th>
<th>Public support in EUR Mio. in 2008</th>
<th>Share of Upper Austria on Austria total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Austria</td>
<td>Upper Austria</td>
</tr>
<tr>
<td>Base programmes</td>
<td>159.4</td>
<td>39.2</td>
</tr>
<tr>
<td>Structural programmes</td>
<td>144.1</td>
<td>38.7</td>
</tr>
<tr>
<td>Thematic programmes</td>
<td>109.3</td>
<td>17.0</td>
</tr>
<tr>
<td>Agency for aerospace</td>
<td>7.1</td>
<td>0.0</td>
</tr>
<tr>
<td>European and int.</td>
<td>1.2</td>
<td>0.01</td>
</tr>
<tr>
<td>programmes</td>
<td>Total</td>
<td>421.1</td>
</tr>
</tbody>
</table>

Source: TNG, Government of Upper Austria (based on FFG).
As described in chapter 3.1 the Austrian regions spend quite a considerable budget on co-financing federal programmes. In this regard, Upper Austria is no exception: In 2008 €6.2m were spent on the co-financing of federal programmes like COMET, COIN and CIR-CE. Thus, compared to €13.3m spent on project-based funding of R&D and innovation projects, co-operation projects within the cluster initiatives and on-going expenditures for technology parks, technology centres and competence centres (see table 3.2), federal funding amounts to nearly 50% of all public R&D and innovation related expenditures spent in Upper Austria. However, the most recent indicative figures for Upper Austria show that the share of federal funds decreased from €6.2m in 2008 to €4.9m in 2009.

With a view on the regional portfolio of innovation support measures, a quite broad set of funding schemes have been implemented over the last decade. As a rule, soft loans, grants and the financing of on-going investments of firms in the course of RTDI-projects are characteristic elements of the different programmes. The different schemes cover the whole range from applied-oriented single firm R&D and innovation activities, to R&D co-operation projects (network and cluster support), technology-specific support (Eco-Energy, Energy technologies) and the funding of assistants for innovation.

The measure “Assistants for Innovation” was implemented in 2008 and pursues the objective to support the recruitment of skilled personnel in enterprises and to innovation management and advisory services. Particularly SMEs are provided by grants to hire qualified personnel from the higher education sector for tasks of project administration and innovation management. The measure covers personnel cost in the form of a grant (50% in the first year, 25% in the second year), the costs for external coaches (up to 13 days) and additional specialist training.

In addition to the cluster related R&D co-operation support, the measure “Co-operation in Networks” also focuses on R&D co-operation and knowledge transfer by providing grants. The measure has been implemented since 2010 and involves activities in the fields of design and media, human resources, logistics and environmental technology. The projects can either be directly technology-oriented or focus on organisational change and qualification. Projects are supported with grants up to 50% of eligible cost or up to €37.000 per project partner.

The measure “easy2innovate – Upper Austrian Small Project Support” is aimed at promoting innovation in regional small and medium-sized enterprises. The directive allows the regional government to support personnel costs, costs for the acquisition of technologies and intellectual property rights, costs for external contract research and costs for material. Project support is provided in the form of a grant up to 50% of eligible project cost. The project volume has to be between €20.000 and €60.000.
As pointed out above, the Upper Austrian government strongly supports energy-technologies and eco-innovations. The measure “ECP – Energy Contracting Programme Upper Austria” started in 2009. The current running time is until 2013. The focus is on the support of sectoral innovation in the manufacturing sector. It supports contracting projects aimed at energy-saving contracting models or energy-saving equipment. The proposed projects must be focused on either the renovation of facilities with the aim to render them more energy-efficient or an application of new technologies spreading the use of renewable sources of energy. Support is provided in the form of grants up to 20% of the project volume which as to exceed €50.000 but may not exceed €500.000. The “Energy Technology Programme (ETP) Upper Austria” started in 2007 and runs until 2013. It supports research and development projects in the field of energy. Local firms are eligible for funding as well as universities, research institutions or other organisations. Support is provided in the form of grants for personnel costs, material costs and costs for consultancy. In detail, basic research can be supported up to 100%, applied research up to 50% and experimental development up to 25%. However, support intensity can be increased for different reasons, e.g. by 10% for SMEs or by 25% for cross-national science-industry co-operations. Eco-Energy and Eco-Technology is finally supported within the programme “Export and Internationalisation Offensive in the Fields of Eco-Energy and Eco-Technology” initiated in 2009. The programme supports enterprises and individuals that are partners of the Upper Austrian eco-energy cluster or the Upper Austrian network for environmental technologies and energy efficiency. Support is provided in the form of grants for patent applications and certifications, the adaption of products, specific market research and visits to specific events on the relevant new markets, training of employees with regard to the new markets, visits to trade fairs, consultancy and marketing. Projects are supported with up to 40% and a maximum of 50.000 EUR per project and eligible firm.

3.5 Towards smart specialisation policies

Given the different policy strategies as well as the innovation policy portfolio implemented during the last 15 years, the Upper Austrian state government carries out a policy that can be described as smart specialisation strategy.

Firstly, with the cluster and networking policy the regional government set a focus on key fields of specialisation for which a regional potential was already present. Thus, since 1998 the development of economic and technological strengths through the interlinking of companies and R&D institutions in clusters, competence centres and networks is an important pillar of the regional innovation policy portfolio. “Strategic anchoring” policies which aim at the development of regional connections are carried out in eight cluster-initiatives: automotive, plastics, furniture & timber construction, food, eco-energy, health technologies, mechatronics and environmental technologies. Furthermore, four inter-branch thematic networks in the fields of human resources, logistics, design & media and energy-efficiency are supported. Complementary policy measures to the shaping of optimal cluster framework conditions in the narrow sense (i.e. networking and cluster promotion activities, consultancy, qualification) are measures related to R&D co-operation and technology transfer. Within this context, the cluster-oriented fund for innovative co-operating projects is clearly part of the smart specialisation strategy.

Secondly, policies focusing on knowledge-splilovers from one local firm to another (“regional branching mechanisms”) are particularly relevant regarding the measure “Co-operation in Networks” rather than in the course of entrepreneurship support (Upper Austria implements no specific policy to support start-ups) or regarding labour mobility (the measure “Innovation assistant” with the aim to support the recruitment of qualified personnel can be mentioned here). The importance of the network focus of public intervention is underlined by the fact, that the regional innovation network, comprising of all relevant (public) institutions is displayed as a technology- and research oriented infrastructure, which is managed by a public authority (TMG).
Thirdly, the support of links between local and global relations is a main field of intervention, both within the frame of the cluster policy as well as in the context of a specific measure focusing on sectoral innovations in the manufacturing sector (“Export- and Internationalisation Offensive in Eco-Energy and Eco-Technology”). Thus, the global-local paradox underlining the need to think globally and acting locally is a concern, which is taken seriously by the Upper Austrian government.

Regarding “key enabling technologies” recently identified by the European Commission, Upper Austria identified research fields in life sciences and new materials. Micro- and nanoelectronics, nanotechnologies and photonics are not mentioned in the Upper Austrian strategy, which indicates that the existing specialisation pattern is not completely in line with the report of the high-level group on key enabling technologies (presented to the Commission on 28 June 2011).

3.6 Possible future orientations and opportunities

Upper Austria can certainly be categorised into the group of the leading manufacturing and exporting regions in Austria and Europe as a whole. However, as nearly three quarters of the regional total exports rest upon five major sectors (automotive, machine building, metal production and processing, office machinery and chemicals), a certain challenge regarding the structural composition of the business sector exists. Within this context, the below average significance of the knowledge-intensive service sector indicates that the service-led structural change leaves room for a further improvement which should be supported by innovation policy. Regarding the technological capability, Upper Austria performs quite well, given the fact that the manufacturing sector shows a strong, but not dominant high-technology orientation. Though the region shows an above average high-tech employment (compared to Austria), the core of the regional manufacturing sector is based on medium- to low technologies. Nevertheless, the business sector as a whole appears to be highly innovative.

The Upper Austrian economic and innovation system can thus be characterised as an example of a region with a strong manufacturing sector and a solid technological basis. The regional case teaches us certain lessons that may be valid for similar regions modernising their economy on the basis of mature industries.

Firstly, the regional example shows that a region with an industrial core can be highly innovative, internationally competitive and attractive to foreign investors and qualified employees even though the technological paths are dominated by medium- to high technologies. The regional institutional framework conditions are obviously crucial with a view to a sustainable regional development.

Secondly, research and innovation policy in Upper Austria is focusing not only on medium-tech-innovations but also on high technologies. The identification and definition of new research topics – taking into consideration national and international technological trends – is among the different strategies put forward in the current strategic programme. Energy efficiency, energy management and renewable energies are among the technological fields Upper Austria is focusing on.

Finally, the Upper Austrian case underlines the importance of a strong “intermediary system” (i.e. with strong and autonomous authorities as well as the technological infrastructure) which is responsible for the design and delivery of various RTDI measures and a public research infrastructure that serves as a seedbed for technological development and the recruitment of qualified employees. Furthermore, the regional innovation policy portfolio stands not in isolation, rather than serves as a platform for programmes and initiatives on the federal and EU level.
Appendix A Bibliography

ERAWATCH Network: ERAWATCH Country Report 2010: Austria; prepared by: Centre for Social Innovation, Klaus Schuch


Appendix B Stakeholders consulted

1. Mag. Gerlinde Pöchhacker-Tröscher, CEO of Pöchhacker Innovation Consulting GmbH, Linz, Austria (date of interview 08 December 2011),
2. Dipl.-Ing Christof Schremmer, Senoir Researcher, Austrian Institute for Regional Studies and Spatial Planning, Vienna, Austria, (date of interview 03 January 2012),
3. Dr. Werner Schiffner, Directorate for Regional Planning, economic and rural development, Department for Economic Affairs (date of interview 16 January 2012).
Appendix C RIM Repository information
Regional Profile

Introduction

Upper Austria is one of Austria's nine states or Bundesländer. It is located in the north of the country. Its capital is Linz. Upper Austria has borders with Germany and the Czech Republic, as well as the other Austrian states of Lower Austria, Styria, and Salzburg. With an area of 11,980km² and 1.3m inhabitants, it is the fourth largest Austrian state by area and the third largest by population.

Repository

Support measures

- Assistant for Innovation
- ECP - Energy Contracting Programme Upper Austria
- Energy Technology Programme (ETP) Upper Austria
- Co-operation in Networks (RNK)
- easy2innovate - Upper Austrian Small Project Support
- Export and Internationalisation Offensive in the Fields of Eco-Energy and Eco-Technology
- Innovative Co-operations in the Context of the Upper Austrian Cluster Initiatives

Policy documents

- Upper Austria Benchmarking Report
- ERDF Operational Programme under the Competitiveness and Employment Objective 2007-13, 'Upper Austria'
- Upper Austria 2010 Strategic Programme

Organisations

- Office of the Upper Austrian Land Government, Directorate for Regional Planning, Economic and Rural Development, Department of Economic Affairs
- Clusterland Upper Austria
- TMG - OÖ. Technologie- und Marketinggesellschaft m.b.H.

Economy

In 2008, regional GDP was €44.75b, accounting for about 16.5% of Austrian GDP. The regional GDP per capita reached €31,800, amounting to 97.5% of the Austrian and 127.4% of the EU27 average. The regional labour force amounted to 0.721 million, 17.3% of the national total. Most employees work in services (61.6%), while 30.6% work in industry and only 7.7% in the agricultural sector. These figures are largely in line with the national average (6.6%/23.7%/69.8%). In 2009, unemployment in Upper Austria (4.0%) was low by Austrian (4.8%, 2009) and certainly by European (7.0%, 2008) standards. Moreover, there is a clear trend that the unemployment rate has developed better than the national average.

The Upper Austrian industrial structure is characterised by the presence of many major industrial sectors, concentrated around the cities of Linz, Steyr, and Wels, an above-average export orientation and research intensity, as well as a highly qualified labour force. Likewise, it is characterised by a number of large firms and a large number of small and medium-sized enterprises, most of them active in technological niches. About 1,000 foreign firms are located in Upper Austria.

The most important regional industries are: the automotive sector, mechanical engineering, metal processing and manufacturing, chemicals, plastics, paper, wood, and automation. Important regional employers in the automotive sector include the Miba-Group, Banner Batteries, FACC, BMW Motor Production, Austria Metall AG, Voestalpine, BRP Rotax, Plasser und Theurer, and Engel Austria. 40.7% of Austrian automotive output is produced in the region.

Upper Austria is also the most export-oriented region in Austria, accounting for 27.4% of national exports alone. About 40% of exports from Upper Austria consist in goods from the automotive and the mechanical engineering sector, a further 30% are contributed by metal production and processing, office machinery and chemicals. The export quota in the automotive sector was 87% in 2007, closely followed by 74% in office machinery as well as mechanical engineering. Many other sectors display export quotas above 60% which is high, even by Austrian standards.

In the service sector, tourism plays an important role for some sub-regions, but business services have recently been on the rise.
Research, Development & Innovation

The RTDI sector in Upper Austria is mostly public. The share of business expenditure on R&D amounts to 90.1% compared to 70.6% on the national average. Nonetheless, the overall expenditure on R&D per GDP (2.27%) remains below the national average (2.47%). However, the region's overall expenditure on R&D contributes 15.2% (€1,05b) to the Austrian total, in line with the region's 16.5% GDP share. In terms of business sector R&D (19.4% of national total, €484.6m), the region ranks even higher. In 2008, with a total number of 542, the region had the highest number of R&D-performing firms in Austria. Similarly, the number of EPO patent applications per 1,000 inhabitants (0.19) exceeds the Austrian average (0.15) and makes up 21.9% of the national total, 1.3 times its share in GDP. In 2006 the Austrian federal government spent only 3.6% of its total expenditures for R&D in Upper Austria (€85.3m). However, the region spent a large amount of regional level allocations with 9.5% of the federal total (€20.9m). Moreover, 15.1% of all Austrian R&D personnel are employed in the region (8,021 full-time employees, FTE), 87.8% thereof in the business sector (7,046 FTE, 19.0% national total). In 2008, human resources in science and technology amounted to 269,000 (HRST), i.e. 16.1% of national total and 10% (HRSTC) of the economically active population.

In the state of Upper Austria, there are four universities (e.g. Salzburg and Linz), four universities of applied sciences and ten other public research institutes. Additionally, there are four technology parks, eight competence centres, 17 Impulse Centres, and seven CDG laboratories. According to Eurostat, there were 21,272 students in Upper Austria in 2006. Nonetheless, the local higher education system with its 860 FTE R&D personnel has to be considered weak compared to other Austrian regions like Vienna (7,203) or Styria (2,673). Likewise, the non-university public research system (e.g. 107 R&D personnel FTE) is weaker than in Vienna (1,620) or Styria (290).

Nonetheless, the local industry is systematically involved in joint research programmes with partners from public research, and many SMEs are regularly and actively involved in such projects by the Technologie Marketing Gesellschaft (TMG), Upper Austria's economic development agency.

Governance

Upper Austria is a federal state of the Republic of Austria. Each Austrian state has an elected legislature, a state government, and a governor. Despite this constitutional set-up, Austrian states are both formally and practically less independent than e.g. German federal states.

Final responsibility for innovation policy in Upper Austria is borne by the regional government’s office with its directorates for “education and society” as well as “regional planning, the economy and rural development”.

There are, however, a number of additional players who are relevant for both design and implementation of innovation-related policies.

The Council of Research and Technology in Upper Austria, constituted by 29 high-level members from the fields of academia and industry advises the government with a long-term strategic perspective.

The Technologie- und Marketinggesellschaft m.b.H. (TMG), in contrast, designs Upper Austria’s location and innovation policy with a mid-term perspective and serves as a central contact point to companies considering locating business operations in Upper Austria. It was formed in 1998 as a result of the “Upper Austria 2000+ Strategic Programme” and its mandate was renewed by the strategic programme “Innovative Upper Austria 2010”.

Another important player is the Clusterland Oberösterreich GmbH. Since 1998, clusters were gradually developed in Upper Austria. Clusters and networks were initially directed by TMG. In 2006, the administration of the cluster support programme was contracted out to the Clusterland Oberösterreich GmbH jointly owned by TMG (61%), the Upper Austrian Chamber of Commerce, and the Federation of Austrian Industry.

Finally, the CATT Innovation Management GmbH supports and accompanies local companies and institutions in matters relating to national and international innovation management with a focus on research, mobility and innovation funding, technology transfer and intellectual property rights. It promotes innovative, technology-intensive collaborations between universities and business. It aims to provide a single point of access to expertise in academic research throughout Upper Austria.

Policy

In 1998, the state of Upper Austria devised a mid-term strategy to build up regional research activities in the public as well as in the private sector. The “Strategic Programme Upper Austria 2000+” was developed, based on regional funding and federal sources, as well as on EU structural funds. Its programme of action includes:

- the launch of eleven cluster initiatives, which ultimately ended in the foundation of the ‘Clusterland’ agency in 2005;
- the establishment and maintenance of a network of around 20 technology and innovation centres (incubators);
- the establishment of competence centres, co-funded by industrial partners, national funding, and state-funding (K-plus and K-ind/net); and
- the establishment of Upper Austrian Research, a public research organisation owned and supervised by the TMG.

In the meantime, Upper Austria has become internationally renowned for its cluster policy, featuring clusters in automotive, plastics, eco-energy, furniture & timber construction, food, health technology, mechatronics and environmental technology. In addition, inter-branch networks have been set up in the fields of human resources, design
and media, logistics and energy efficiency. Under the auspices of Clusterland Oberösterreich GmbH, many of these clusters have developed dynamically during the past 5 to 10 years.

In 2005, it was succeeded by a follow-up programme entitled 'Innovative Upper Austria 2010' that foresees a total investment of €600m, thereof €300m in the period from 2005 to 2020. The programme was developed in close co-ordination with the Council for Research and Technology for Upper Austria.

Specific support will be given to R&D and science-industry co-operations in the technological fields of mechatronics, ICT, life sciences, innovative materials and logistics. Existing clusters should be further stabilised and step-wise internationalised and infrastructure development should be further supported, including the operations of the CATT, an innovation management and service company for issues of technology and mobility support. Moreover, new impetus shall be put into human resource development as well as training and vocational education. To that aim, 18 strategies and 43 measures have been developed by 250 experts in their respective fields.

Support measure

**Support Measure**

**Title of measure**

Assistant for Innovation

**Full title**

InnovationsassistentInnen und -beraterInnen für KMU

**Duration**

From: 2008
To: 2013

**Policy objectives**

- 3.3.2. Recruitment of skilled personnel in enterprises
- 4.2.1. Support to innovation management and advisory services

**Presentation of the measure**

The objective of the measure is to increase the innovativeness and competitiveness of small and medium-sized enterprises (SMEs) in the region by providing them with grants to hire highly qualified personnel from the higher education sector for tasks of project administration and innovation management. Beyond the immediate job opportunities generated by it the programme aims to mitigate the risk connected to research and development by providing small firms with professional management skills that they would not normally have access to.

Information on the measure is provided on a specific website (www.innovationsassistent.at).

In their application, the participating firms define a central innovation oriented project for a period of two years. If the application is granted the firm chooses a graduate (innovation assistant) from either a technical or a management science or economics related subject to act as project manager. The recipient firm will in turn assign an external coach to this graduate to instruct him with regard to project or firm specific information. Additionally, the innovation assistant will be provided with a specialist training.

The support measure covers part of the innovation assistants personnel cost in the form of a grant (50% in the first year, 25% in the second year), the cost for external coaches (up to 13 days) and the additional specialist training.

**Budget, source and type of funding**

Form of funding provided

- Grants

**Policy learning**

**Extent to which the measure can be considered as a success and worthy of policy learning**

There has been a positive response by beneficiaries to the measure (e.g. over-subscribed in terms of requested versus available budget) but it is too early to judge results or impact

**Evidence of outcomes based on evaluation and other evidence**
While the measure has been beneficial for many firms (the dedicated website lists nearly 30 'success stories') it is difficult to judge how many additional R&D projects could be prompted by it. As in the case of many Austrian support measures on the regional level, there has been no specific evaluation of this particular measure. Comprehensive information on its actual effects is therefore not available. Consequently, it is not possible to give an other than anecdotal assessment (cf. 'success stories') of the outcomes.

Do's and Don'ts

The detailed presentation of the measure on a dedicated website can be considered an example of good practice. Beyond that, the limited availability of information described above does not enable the correspondent to give substantiated specific recommendations regarding do's and don'ts.

In general, the innovation assistant has proven to be a suitable directive which by now belongs to the standard measures under the European Social Fund (ESF) framework. One must not expect, however, that it will yield great results when considered in isolation.

This measure is recommended as an example of regional good practice to policy-makers from other regions:

Yes

Organisation(s) responsible

- Office of the Upper Austrian Land Government, Directorate for Regional Planning, Economic and Rural Development, Department of Economic Affairs

Support measure

- ÖSTERREICH
- WESTÖSTERREICH
- Region Oberösterreich
- NUTS Code AT31

Support Measure

Title of measure
ECP - Energy Contracting Programme Upper Austria

Full title
ECP - Energie Contracting Programm Oberösterreich

Duration
From: 2009
To: 2013

Policy objectives
- 4.1.1. Support to sectoral innovation in manufacturing

Presentation of the measure

The Energy Contracting Programme Upper Austria supports contractees with whom a contractor has signed an agreement. It supports contracting projects aimed at energy-saving contracting models or energy-saving equipment.

The programme supports projects aimed at contracting in the field of energy-saving and of energy-generation facilities. The proposed project must be focused on either the renovation of facilities with the aim to render them more energy-efficient or an application of new technologies spreading the use of renewable sources of energy.

Support is provided in the form of grants up to 20% of project volume which has to exceed €50,000 but may not exceed €500,000. Contracts may not run longer than ten years.

In case a proposal is accepted, support is provided to the contractee who must submit the application for funding to the Upper Austrian Energy Saving Association which then forwards it to the responsible department in the state government. Applications are selected based on qualified expert opinion.
Keywords
- Eco-innovation

Budget, source and type of funding
Form of funding provided
- Grants

Policy learning

Extent to which the measure can be considered as a success and worthy of policy learning

There has been a positive response by beneficiaries to the measure (e.g. over-subscribed in terms of requested versus available budget) but it is too early to judge results or impact.

Evidence of outcomes based on evaluation and other evidence

As in the case of many Austrian support measures on the regional level, there has been no specific evaluation of this particular measure. Reliable information on its actual effects is therefore not available. Additionally, there is very little information available on the effects of similar measures in other regional contexts. Hence, it is not possible to give a substantiated assessment of the outcomes of this programme.

Do's and Don'ts

Based on the limited availability of information described above no well-founded recommendations regarding do's and don'ts can be given.

This measure is recommended as an example of regional good practice to policy-makers from other regions:

Yes

Organisation(s) responsible
- Office of the Upper Austrian Land Government, Directorate for Regional Planning, Economic and Rural Development, Department of Economic Affairs

Support measure

- ÖSTERREICH
- WESTÖSTERREICH
- Region Oberösterreich
- NUTS Code AT31

Support Measure

Title of measure
Energy Technology Programme (ETP) Upper Austria

Full title
Energietechnologieprogramm (ETP)

Duration
From: 2007
To: 2013

Policy objectives
- 4.1.1. Support to sectoral innovation in manufacturing

Presentation of the measure
The Energy Technology Programme (ETP) supports research and development (R&D) projects in the field of energy. Local firms are eligible for funding, as well as universities, research institutions or other organisations.

For a proposal to be accepted, projects must have a high technology intensity and be of visible benefit to the region of Upper Austria. Support through the Energy Technology Programme (ETP) is provided in the form of grants for personnel costs, material costs as well as costs for consultancy.

Moreover, the ETP supports projects in accordance with the energy policy objectives set by the state government. Those targets, first specified in 1994, were fixed as "ENERGY 21" in the year 2000: an increase of energy efficiency by 10% of the total use of energy by 2010; a decrease of the use of energy for heating and hot water by another 20%; a 10% increase of the specific energy efficiency by 2010; the establishment of 30 new firms in the field of renewable technologies and energy efficiency by 2010, and increase of related employment by 1,500; and the launch of an annual average of 15 R&D projects in the field of energy.

Recently, the energy strategy of the Upper Austrian state government has been described and specified in a detailed document "Energie-Zukunft 2030" (Energy Future 2030). Basic research can be supported up to 100%, applied research up to 50% and experimental development up to 25%. Support intensity can be increased for different reasons, e.g. by 10% for SMEs or by 25% for cross-national science-industry co-operations. In the individual case, the intensity of support will be determined based on the degree of novelty, the risk involved, the technological achievement expected and the economic capacities of the applicant. Applications have to be submitted to the Upper Austrian Energy Saving Association and are selected based on qualified expert opinion.

Keywords
- Eco-innovation

Budget, source and type of funding
Form of funding provided
- Grants

Policy learning

Extent to which the measure can be considered as a success and worthy of policy learning

There has been a positive response by beneficiaries to the measure (e.g. over-subscribed in terms of requested versus available budget) but it is too early to judge results or impact

Evidence of outcomes based on evaluation and other evidence

As in the case of many Austrian support measures on the regional level, there has been no specific evaluation of this particular measure. Reliable information on its actual effects is therefore not available. Additionally, little information is available on the effects of similar measures in other regional contexts. Hence, it is not possible to give a well-founded assessment of the measure's outcomes.

Do's and Don'ts

Based on the limited availability of information described above no substantiated recommendations regarding do's and don'ts can be given.

This measure is recommended as an example of regional good practice to policy-makers from other regions:

Yes

Organisation(s) responsible
- Office of the Upper Austrian Land Government, Directorate for Regional Planning, Economic and Rural Development, Department of Economic Affairs

Support measure
- ÖSTERREICH
- WESTÖSTERREICH
- Region Oberösterreich
- NUTS Code AT31
Support Measure

Title of measure
Co-operation in Networks (RNK)

Full title
Richtlinien für Netzwerk-Kooperationen (RNK)

Duration
From: 2010
To: 2013

Policy objectives
• 2.2.3. R&D cooperation
• 2.2.2. Knowledge Transfer

Presentation of the measure

The programme supports innovative co-operation projects in the context of the Upper Austrian network initiatives to strengthen the innovative capacities of Upper Austrian small and medium-sized enterprises (SMEs). Eligible projects may involve activities in the fields of design and media, human resources, logistics and environmental technology. They can either be directly technology-oriented or focus on organisational change and qualification.

Beneficiaries have to be part of an existing Upper Austrian network initiative. The co-operation project has to involve a minimum of three partners, thereof at least two SMEs. Projects have to run at least six months up to a maximum of two years.

Projects are supported with grants up to 50% of eligible cost or up to €37,000 per project partner. Support is intended to cover expenditure on external services and consulting as well as personnel cost, under certain restrictions.

Applications for funding have to be submitted to the network initiative directly which then forwards it to the responsible department in the Upper Austrian State Government, together with a recommendation to either dismiss or accept it.

Keywords
• Innovation networks
• Small and medium-sized enterprises

Budget, source and type of funding
Form of funding provided
• Grants

Policy learning

Extent to which the measure can be considered as a success and worthy of policy learning

There has been a positive response by beneficiaries to the measure (e.g. over-subscribed in terms of requested versus available budget) but it is too early to judge results or impact.

Evidence of outcomes based on evaluation and other evidence

As in the case of many Austrian support measures on the regional level, there has been no specific evaluation of this particular measure. Reliable information on its actual effects is therefore not available. Additionally, little information is available on the effects of similar measures in other regional contexts. Consequently, it is not possible to give a well-founded assessment of the outcomes.

Do's and Don'ts

Based on the limited availability of information described above no substantiated recommendations regarding do's and don'ts can be given.

This measure is recommended as an example of regional good practice to policy-makers from other regions:
Support measure

Title of measure
easy2innovate - Upper Austrian Small Project Support

Full title
easy2innovate - OÖ. Kleinprojektförderung

Duration
From: null
To: No fixed end date

Policy objectives
- 2.2.3. R&D cooperation
- 2.2.2. Knowledge Transfer

Presentation of the measure
Upper Austrian Small Project Support is aimed at promoting innovation in regional small and medium-sized enterprises (SMEs). Only SMEs based in Upper Austria are eligible for funding.

The directive allows the regional government to support personnel costs, costs for the acquisition of technologies and intellectual property rights (IPR), costs for external contract research and costs for materials.

Regional SMEs are, however, only eligible if the project is conducted jointly with one of the following types of institutions: universities; universities of applied sciences; and non-university research institutions.

Beyond its intention to enable innovative undertakings as such, the measure thus also aims to improve the co-operation between the local science and the local business sector. Moreover, beneficiaries have to have made use of an innovation check or a TIM expert consultancy in the preceding years.

Project support is provided in the form of a grant of up to 50% of eligible project cost. Project volume has to be between €20,000 and €60,000. Proposals have to be submitted to the CATT Innovation Management GmbH and are selected by a group of qualified experts.

Keywords
- Science-industry cooperation

Budget, source and type of funding
Form of funding provided
- Grants

Extent to which the measure can be considered as a success and worthy of policy learning
There has been a positive response by beneficiaries to the measure (e.g. over-subscribed in terms of requested versus available budget) but it is too early to judge results or impact

Evidence of outcomes based on evaluation and other evidence
As in the case of many Austrian support measures on the regional level, there has been no specific evaluation of this particular measure. Reliable information on its actual effects is therefore not available. Additionally, little information is available on the effects of similar measures in other regional contexts. Hence, it is not possible to give a well founded assessment of the outcomes.

Do's and Don'ts

Based on the limited availability of information described above no substantiated recommendations regarding do's and don'ts can be given.

This measure is recommended as an example of regional good practice to policy-makers from other regions:

Yes

Organisation(s) responsible

- Office of the Upper Austrian Land Government, Directorate for Regional Planning, Economic and Rural Development, Department of Economic Affairs

Support measure

- ÖSTERREICH
- WESTÖSTERREICH
- Region Oberösterreich
- NUTS Code AT31

Support Measure

Title of measure
Export and Internationalisation Offensive in the Fields of Eco-Energy and Eco-Technology

Full title
Export- und Internationalisierungsoffensive der Ökoenergie und Umwelt-Technologien

Duration
From: 2009
To: No fixed end date

Policy objectives

- 4.1.1. Support to sectoral innovation in manufacturing

Presentation of the measure

The Export and Internationalisation Offensive in the fields of eco-energy and eco-technology supports enterprises and individuals that are partners of the Upper Austrian eco-energy cluster or the Upper Austrian networks for environmental technologies and energy efficiency. To be eligible the potential applicant has to be able to document two prior export initiatives. Moreover, the supported projects themselves have to have a strong focus on export. Support is provided in the form of grants for: patent applications and certification; the adaptation of products; specific market research and visits to specific events on the relevant new markets; training of employees with regard to the new markets; visits to trade fairs etc. on relevant new markets; consultancy; and marketing.

Projects are supported with up to 40% and a maximum of €50,000 per project and eligible firm. Projects shall not run longer than two years.

Applications have to be submitted to the Upper Austrian Energy Saving Association (which forwards them to the responsible department of the state government) and are selected based on qualified expert opinion. Before a proposal is submitted, potential applicants can ask for advice at the Upper Austrian Energy Saving Association. To develop the required export strategy, moreover, potential applicants can make use of the export consultancy services offered by the Export Centre Upper Austria.

Keywords
Eco-innovation

Budget, source and type of funding

- Grants

Policy learning

**Extent to which the measure can be considered as a success and worthy of policy learning**

There has been a positive response by beneficiaries to the measure (e.g. over-subscribed in terms of requested versus available budget) but it is too early to judge results or impact.

**Evidence of outcomes based on evaluation and other evidence**

As in the case of many Austrian support measures on the regional level, there has been no specific evaluation of this particular measure. Reliable information on its actual effects is therefore not available. Additionally, there is little information available on the effects of similar measures in other regional contexts. Consequently, it is not possible to give a substantiated assessment of the outcomes.

**Do's and Don'ts**

Based on the limited availability of information described above no well-founded recommendations regarding do's and don'ts can be given.

This measure is recommended as an example of regional good practice to policy-makers from other regions:

Yes

Organisation(s) responsible

- Office of the Upper Austrian Land Government, Directorate for Regional Planning, Economic and Rural Development, Department of Economic Affairs

**Support measure**

- ÖSTERREICH
- WESTÖSTERREICH
- Region Oberösterreich
- NUTS Code AT31

**Support Measure**

Title of measure

Innovative Co-operations in the Context of the Upper Austrian Cluster Initiatives

Full title

Innovative Kooperationen im Rahmen der Clusterinitiativen Oberösterreichs

Duration

From: 2007
To: 2010

Policy objectives

- 2.2.3. R&D cooperation
- 4.1.1. Support to sectoral innovation in manufacturing

Presentation of the measure

The programme supports firms which are involved in one of the Upper Austrian cluster initiatives. Moreover, it was set
up to support the central players of the local health sector.

Eligible projects involve the establishment or the implementation of innovative co-operations in the context of one of the Upper Austrian cluster initiatives or within the field of life sciences. Relevant projects can directly cover technology-oriented activities as well as activities aimed at organisational development and qualification.

Projects have to be innovative and involve firms (particularly small and medium-sized enterprises, SMEs) as well as research and development (R&D) institutes or educational institutions. They should aim to strengthen the innovative capacities and the international competitiveness of the recipient firms and organisations. Moreover, they have to have a beneficial effect on the regional economy.

Support for genuine projects is provided in the form of a grant for personnel costs, external consultancy, external services, the diffusion of results and a restricted set of administrative efforts. Individual projects are supported with up to 30% of eligible costs or up to €25,000 per project partner.

Projects aimed to initiate and establish co-operations in the phase before an actual innovative effort takes shape are not funded financially, but supported by the responsible cluster agency through mediation and advice.

Applications can be continuously submitted through the cluster agencies.

Keywords

- Science-industry cooperation
- Small and medium-sized enterprises

Budget, source and type of funding
Form of funding provided
- Grants

Policy learning

Extent to which the measure can be considered as a success and worthy of policy learning

There has been a positive response by beneficiaries to the measure (e.g. over-subscribed in terms of requested versus available budget) but it is too early to judge results or impact

Evidence of outcomes based on evaluation and other evidence

As in the case of many Austrian support measures on the regional level, there has been no specific evaluation of this particular measure. Reliable information on its actual effects is therefore not available. Moreover, little information is available on the effects of similar measures in other regional contexts. Consequently, it is not possible to give an well-founded assessment of this measure's outcomes.

Do's and Don'ts

Based on the limited availability of information described above no substantiated recommendations regarding do's and don'ts can be given.

This measure is recommended as an example of regional good practice to policy-makers from other regions:

Yes

Organisation(s) responsible
- Clusterland Upper Austria

Policy document

- ÖSTERREICH
- WESTÖSTERREICH
- Region Oberösterreich
- NUTS Code AT31
Policy Document

Upper Austria Benchmarking Report
Benchmarkingbericht Oberösterreich

Organisation responsible

TMG - OÖ. Technologie- und Marketinggesellschaft m.b.H.

Content

The report presents indicators for regional innovative performance as well as a comprehensive overview of Upper Austria as a business, innovation, and technological location. The performance of Upper Austria is set in a national as well as in a European perspective.

The comprehensive assessment of Upper Austria's innovative performance relies on an indicator-based model which focuses on three main areas: Firstly, the structure of the economy (economic structure and labour market structure); secondly, the generation of innovations (research and development activities, support programmes and human resources); and thirdly, the implementation of innovations (dynamics of the economy and the R&D sector, patents and setting up firms).

Year of publication

2009

Link to website


Policy document

- OSTERREICH
- WESTÖSTERREICH
- Region Oberösterreich
- NUTS Code AT31

Policy Document

ERDF Operational Programme under the Competitiveness and Employment Objective 2007-13, 'Upper Austria'
Regionale Wettbewerbsfähigkeit Oberösterreich 2007 – 2013 "Regio 13"

Organisation responsible

Office of the Upper Austrian Land Government, Directorate for Regional Planning, Economic and Rural Development, Department of Economic Affairs

Content

The document is a regional operational programme following the general stipulations of such programmes. In line with the Austrian National Strategic Reference Framework, three priority axes are defined: First, to enhance regional competitiveness through innovation and a knowledge economy (allocation of funding: €75.8m ERDF, €75.8m public co-financing); Second, to strengthen regions and sites through mobilising endogenous potentials, competitive tourism, better environment, energy use and risk prevention (€17.7m; €17.7m); and Third, to provide technical assistance (€2.0m; €2.0m).

In detail, among others, the following measures are envisaged under priority axis P1: infrastructure for research, technology and innovation, technology centres, subsidies for applied research at non-university research institutions, subsidies for innovative investments in firms and infrastructure, support for clusters and networks, subsidies for R&D activities in firms, as well as support for start-up and provision of risk capital.

Year of publication

2009
Policy Document

Upper Austria 2010 Strategic Programme
Strategisches Programm Oberösterreich 2010 / Innovatives Oberösterreich 2010plus

Organisation responsible

TMG - OÖ. Technologie- und Marketinggesellschaft m.b.H.

Other organisation(s) involved

Office of the Upper Austrian Land Government, Directorate for Regional Planning, Economic and Rural Development, Department of Economic Affairs

Content

The Upper Austria 2010 Strategic Programme defines a number of key actions:

Firstly, the consolidation of R&D capabilities in five main regional areas of strength: mechatronics, ICT, life sciences, innovative materials and logistics. Secondly, professional qualification: young people and women shall be encouraged to undertake a technical education, further education is to be intensified, professional training to be aligned with the needs of industry and top talents are to be retained within the region. Thirdly, the region's status as Austria's leading centre of competence with regard to cluster initiatives shall be stabilised, and further developed. Fourthly, economic and technology location promotion policies are to be focused on regional attractiveness. Moreover, the CATT Innovation Management GmbH is to be expanded and broadband Internet shall be made available to all. Finally, exchange with the New Member States is to be extended and the region aims to present itself in Brussels more proactively to e.g. better exploit opportunities for funding. In 2010, it was further specified by the document "Innovative Upper Austria 2010plus".

Year of publication

2005

Link to website

Link: http://www.ooe2010.at/195_DEU_HTML.php?g_currMenuName=O%620...
Mission

The Upper Austrian State Government has not specified missions for its individual sub-departments. Its overall declared mission is to allow the local citizens to deal with their administration efficiently and effectively, based on the general conviction that good governance is an essential foundation of society and a basic right of every European citizen.

Activities

Within the Office of the Upper Austrian State Government, the Department of Economic Affairs under the Directorate for Regional Planning, Economic and Rural Development mainly deals with matters regarding economic policy and the administration of ERDF funding (ERDF managing authority).

Organisation

Clusterland Upper Austria
Clusterland Oberösterreich GmbH

Link: [www.clusterland.at/index_ENG_HTML.php](http://www.clusterland.at/index_ENG_HTML.php)

Hafenstrasse 47-51
Linz,
4020

Mission

Clusterland Upper Austria states its mission as contributing to Upper Austria's innovation policy by helping companies to sustain their innovative and competitive edge through cooperation and competence.

In the course of the last decade, Upper Austrian economic development and technology policy has increasingly been focused on supporting existing and building new clusters and networks. Within Austria but also internationally, the consistent and systematic support for clusters and networks is considered as a model of good practice. Due to its success the organisation's activities will be continued in the future in the framework of the strategic program "Innovative Upper Austria 2010plus".

Activities

Since 1998, clusters were gradually developed in important economic branches in Upper Austria with a specific focus on small and medium enterprises support: automotive, plastics, eco-energy, furniture & timber construction, food, health technology, mechatronics and environmental technology. In addition, inter-branch networks have been set-up in the fields of human resources, design & media, logistics and energy efficiency.

Until late 2005, all clusters and networks were administered and directed by Upper Austria's location and innovation agency (TMG). Nowadays they are part of the Clusterland Oberösterreich GmbH which is operational since January 2006. Legitimate owners are the TMG with 61%, the Upper Austrian Chamber of Commerce, and the Federation of Austrian Industry with 19.5 % of the share respectively.
Mission
The OÖ. Technologie- und Marketinggesellschaft m.b.H. (TMG) is Upper Austria's location and innovation agency. It is the first address to approach in Upper Austria for regarding all matters of business location and business expansion.

Activities
The OÖ. Technologie- und Marketinggesellschaft (TMG) designs Upper Austria's location promotion and innovation policy and serves companies as a central contact point (one-stop shop) for the location of business operations in Upper Austria.

From 1998-2003, the strategic framework for these activities was formed by the "Upper Austria 2000+ Strategic Programme". Currently, the guidelines laid down for the next 5-year period from 2005-2010 have been specified in the new strategic programme, "Innovative Upper Austria 2010", agreed with the Upper Austrian government.
## Appendix D Statistical data

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Oberösterreich (AT31)</th>
<th>Oberösterreich (AT31)</th>
<th>Oberösterreich (AT31)</th>
<th>EU27</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>2000 or around</strong></td>
<td><strong>Previous year</strong></td>
<td><strong>Most recent</strong></td>
<td><strong>Most recent</strong></td>
</tr>
<tr>
<td>GDP per capita (PPP)</td>
<td>23900</td>
<td>29900</td>
<td>30700</td>
<td>25100</td>
</tr>
<tr>
<td>Change in GDP per capita</td>
<td>3.15</td>
<td>4.37</td>
<td>3.85</td>
<td>3.73</td>
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<tr>
<td></td>
<td>2000-03</td>
<td>2006-07</td>
<td>2005-08</td>
<td>2005-08</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>2.725</td>
<td>2.7</td>
<td>2.825</td>
<td>6.98</td>
</tr>
<tr>
<td>Change in unemployment rate</td>
<td>-0.73</td>
<td>0.00</td>
<td>-0.13</td>
<td>-0.30</td>
</tr>
<tr>
<td>Tertiary education</td>
<td>0.16</td>
<td>0.19</td>
<td>0.19</td>
<td>0.30</td>
</tr>
<tr>
<td></td>
<td>2000</td>
<td>2009</td>
<td>2010</td>
<td>2010</td>
</tr>
<tr>
<td>Government R&amp;D expenditure</td>
<td>0.04</td>
<td>0.04</td>
<td>0.04</td>
<td>0.24</td>
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<td>Non-R&amp;D innovation exp.</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.41</td>
</tr>
<tr>
<td></td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>2006</td>
</tr>
<tr>
<td>Patents per mln population</td>
<td>184.9</td>
<td>214.1</td>
<td>239.7</td>
<td>115.1</td>
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<tr>
<td>Business R&amp;D expenditure</td>
<td>1.44</td>
<td>2.10</td>
<td>2.10</td>
<td>1.21</td>
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<tr>
<td>Higher education R&amp;D expenditure</td>
<td>0.20</td>
<td>0.19</td>
<td>0.19</td>
<td>0.44</td>
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</table>

Source: Eurostat and Community Innovation Survey.