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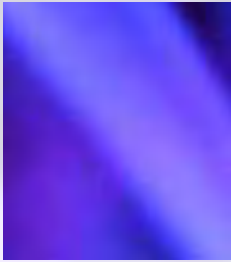
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foreword



In the recent past, but especially since the mid 1990ies, there has been a massive increase in awareness among Austrian policymakers and also among the broader public of the importance of research, technology and innovation. This Government is fully aware that the basic research carried out at scientific institutes, the innovations produced at companies (especially in the collaborative sector where science and industry work jointly on solutions) form the basis of our international competitiveness. It has therefore made the promotion of research and development a key priority.

It is essential that we persist with this prioritisation in the next few years and do so on the basis of the Strategy for Excellence that was adopted in 2007. This includes elements which are already being implemented such as the "Initiative for Excellence in Science" and the competence centres programme COMET as well as new, quality-oriented elements for system optimisation. Science, research and technology require a frame-

work that can react flexibly to changed demands. This is being made possible at several levels. System evaluation reviews the objectives of existing funding instruments, while the research dialogue generates new ideas and the Lisbon process creates a common framework for the long-term development process in all member states of the European Union. If those in positions of political responsibility are to focus on the big picture and launch joint endeavours, they must have permanent access to advisory services. It is only by regularly reflecting upon our own activities in discussion with experts that improvements can be achieved. The Austrian Council for Research and Technology Development makes important contributions, especially with regard to the development of a long-term overall strategy for the Austrian innovation system. We wish the Austrian Council for Research and Technology Development much success in this important advisory role and we, for our part, will continue to make an active contribution to the discussion. ■

Wilhelm Molterer
Vice Chancellor
and Minister
of Finance

Johannes Hahn
Minister
of Science
and Research

Martin Bartenstein
Minister
of Economic Affairs
and Labour

Werner Faymann
Minister
of Transport, Innovation
and Technology

Christa Kranzl
Secretary of State
at the Ministry for Transport,
Innovation and Technology

In recent years the Austrian research landscape has been characterised by great dynamism, the successes of which are self-evident. Since 2000, the research quota – i.e. research expenditure as a percentage of gross domestic product – has risen from 1.91 percent to an estimated 2.63 percent in 2008. As a result, an impressive EUR 7.5 billion will be made available for research and development in 2008. Thanks to these efforts, Austria has made considerable progress in transforming itself from a pure user of technology to a knowledge-based, technology-intensive economy.

At the same time, however, this development cannot be taken for granted and great efforts will be required in future if it is to be successfully continued. In this respect 2007 was a rather difficult year. The changed political circumstances, for example, led to budget delays and thus to uncertainties. At the same time, the impression was sometimes given that while all players were basically moving in the right direction, they were doing so “with the handbrake on.” In this regard, 2008 will have to be better: It is essential that we keep to the course and set a brisker pace again.

2007: The Year of Excellence

A significant milestone in 2007 was reached with the presentation of the Austrian Council's Strategy for Excellence just before the Technology Forum

in Alpbach. It saw the Austrian Council bring about an interim conclusion to one of the key strategic areas of action that had been defined in its Strategy 2010 paper. The objective of the Strategy for Excellence is both to raise the overall quality of research in Austria and to make world-class, cutting-edge research possible in Austria on a larger scale than in the past. This does not, of course, mean that the process has been completed. The Austrian Council will continue to keep abreast of activities in this area and put forward proposals for new initiatives in cooperation with all stakeholders in the innovation system.

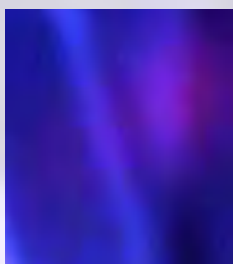
The Necessary Basis for Continued Success: Human Resources

Science, research and development require adequate financial resources, long-term planning certainty and optimal structures. Above all, however, they need individuals who are curious, who want to identify and solve problems, who are not deterred by obstacles and who possess the education and training that are necessary to advance science and research. Human resources will therefore constitute an important area of the Austrian Council's work in 2008. Finally, we would like to thank all those who supported our work last year. We trust that you will find this report both informative and thought-provoking and invite you to continue with us on the road to success. ■



Photo (from left to right):

Hans Schönegger
Knut Consemüller
Albert Hochleitner
Gabriele Zuna-Kratky
Reinhard Petschacher
Jürgen Stockmar
Dervilla Donnelly
Günther Bonn



“To be among the best in Europe” – that is the vision for Austria held by the Austrian Council for Research and Technology Development.

The Austrian Council is the main strategic advisory body for research, technology and innovation policy (RTI) and as such sees its task as being to provide systematic, independent and sound advice with the aim of making a significant contribution to the creation and implementation of a forward-looking RTI policy.

As it seeks to fulfil its legal mandate, the Austrian Council is guided by a number of fundamental values and visions:

■ **RTI and Society:** At the start of the 21st century we are living in a knowledge-based society in which constructive curiosity and productive creativity bring progress and increase wealth. Innovation is a driving factor behind economic prosperity and provides a solid basis for society's further social and cultural development. Given the inadequate public awareness of this fact, a variety of relevant measures should be implemented to remedy the situation.

■ **Prosperity through Social Consensus:** Successful research policy must enjoy broad public acceptance. The Austrian Council therefore seeks to achieve social consensus and has committed itself to the goal of sustainable development. Decisive success, however, can only be achieved by making R&D issues a subject of public discussion.

■ **Focus of RTI:** The Austrian Council takes account of the different demands of basic research, and applied research and development. World-class bottom-up research must be supported, but at the same time we see a need to strengthen applied research with a view to its medium-term commercial implementation. One core aspect of the new technology policy is the intensification of cooperation between industrial and university or non-university research in joint projects.

■ **Committed to Output:** We will only achieve the Government target by dramatically increasing the percentage of R&D funding provided by industry (the aim is to double the amount). To this end, suitable funding instruments must be implemented on the basis of coordinated strategies agreed by science and industry.

■ **Excellence as the Goal:** The Austrian Council aims to achieve a world class standard in RTD projects as the prerequisite for strengthening international competitiveness. Just as the market evaluates the results of industrial RTD, we too demand specific evaluation criteria and the regular evaluation of the various forms of research and teaching. A state-of-the-art research and technology policy must define key areas, reinforce existing strengths and encourage the development and expansion of expertise and knowledge at centres of excellence.

■ **Integrated Approach:** We are committed to a systematic approach, across both disciplines and institutions. Incentive systems must be used to create the prerequisites for self-renewing structures.

■ **International Integration:** The Austrian Council regards research and development as an optimal instrument for increasing internationalisation and encouraging participation in international activities. Austria must enrich international programmes and play an active role in their development.

■ **Focus on People:** We regard human capital as the most important prerequisite for the competitiveness of Austrian science and industry on the basis of freedom of research and teaching. The availability of a skilled and motivated workforce is of central importance. For this it is necessary to create and promote a greater public appreciation of the importance of science, research and technology. The new media should also be used to encourage innovative methods of knowledge transfer. Furthermore, Strategy 2010, the vision and activities of which encompass the Austrian innovation system in its entirety, remains an important basis for the Austrian Council's work. The further development of the strategic elements for a medium and long-term perspective for the Austrian innovation system on the basis of this document will constitute a major aspect of the Austrian Council's work in 2008. ■

The Austrian Council for Research and Technology Development, abbreviated to the Austrian Council, was established on 1 August 2000 by an amendment to the *Research and Technology Funding Act (FTFG) 1982 passed on 11 July 2000*. On 1 September 2004 the Austrian Council became an entity under public law on the basis of the Research Funding Structural Reform Act adopted on 14 July 2004. The Austrian Council's terms of reference are also defined in the FTFG and can be subdivided into seven areas:

1. To advise the Federal Government, and if requested, individual Government ministers or provincial governments on all matters pertaining to research, technology and innovation.
2. To draw up proposals for a long-term Austrian strategy for research and technology development and to monitor its gradual implementation.
3. To draw up proposals regarding the definition of key areas for national research and technology programmes and for funding policy for all research, innovation and technology-oriented institutions with federal participation.
4. To make recommendations as to how Austria's position can be strengthened in international research and technology collaboration.
5. The independent submission of proposals for national research and technology programmes taking into account collaborative international research and technology programmes involving all research, innovation and technology-oriented institutions in which the Federal Government participates.
6. To draw up proposals to improve cooperation between science and industry, in particular by bringing together university research and applied research, and technology development at the level of individual enterprises.
7. To develop proposals as to how all research, innovation and technology-oriented institutions in which the Federal Government is involved can be monitored in accordance with international standards.

Furthermore, the National Audit Office report published in December 2007 made a number of important suggestions which in future will be incorporated into the Austrian Council's work:

■ In the view of the National Audit Office, prior to the provision of further financial resources, the Austrian Council should examine whether the human and material resources necessary for such a rapid expansion of Austrian research are even available. The Austrian Council concurs with the National Audit Office that human and material resources are central to the development of research in Austria. In its first term of office, however, the Austrian Council focused mainly on the development of the public and political commitment to investments in science and research. In its second term, the Austrian Council is now defining new priorities, in particular, the question of high-calibre human resources.

■ The National Audit Office also recommended that the Austrian Council make proposals to the Federal Government as to how to counteract the stagnation of foreign-funded research. Since 2002 the proportion of privately-funded research has been in decline, a trend largely due to the stagnation of foreign-funded R&D in this period. If the goal of spending 3 percent of GDP on research and development by 2010 were to be retained, the public sector would have to do more to compensate for this and as a result would depart from the goal of research which receives two thirds of its funding from the private sector.

The Austrian Council immediately acted upon this National Audit Office recommendation to counteract the stagnation of foreign-funded research.

■ The National Audit Office believes that a goal-oriented use of public research funding is only possible if there is an overall strategy and the financial resources of the entire Austrian research system are included. The National Audit Office therefore proposed creating the conditions that would provide the Austrian Council with access to all the information regarding the use of public funds that are necessary for it to carry out its work. In this connection, the Austrian Council informed the National Audit Office that it had repeatedly pointed out that key area recommendations could only be based on an overview of all funding sources; singular approaches would lead to inefficient duplication. The Austrian Council will therefore use the National Audit Office recommendation for new initiatives on this matter. >





■ In the opinion of the National Audit Office, collaboration between the Federal Government and the provinces would help counter duplication. R&D policy and R&D funding should be coordinated by the Federal Government and the provincial governments, and especially by agreements in accordance with Article 15a of the Federal Constitution.

The National Audit Office recommended that the Council identify areas where there is duplication in the funding landscape and in research funding and, where necessary, urge structural reform at the federal and provincial levels.

The Austrian Council concurred with the National Audit Office and reported that in December 2006 it had recommended the establishment of a new platform for the provinces. The results of its discussion could be incorporated as a basis for the recommendation of structural adjustments.

■ The National Audit Office recommended that the Austrian Council use its own expertise to immediately define an ICT strategy.

In this connection, the Austrian Council informed the National Audit Office that it had since followed this recommendation with a strategic relaunch intended to result in a specific ICT research strategy.

■ The National Audit Office suggested to the Austrian Council that it recommend only the programmatic emphases necessary for the development of R&D, as well as that it leave the detailed development of the programmes to the relevant ministries. In addition, the National Audit Office proposed to the Austrian Council and the federal ministries concerned that the Council commission independent programme evaluations for the individual research sectors.

The Austrian Council agreed to these suggestions regarding independent programme evaluations and pointed out that this required a statutory mandate. Since the BMVIT, BMWA and BMWF did not wish to support this recommendation by the National Audit Office, the latter again pointed to the Austrian Council's advisory role and stressed, that for reasons of transparency, the evaluations commissioned by the Austrian Council should be conducted supplementally to the impact analyses and for the purposes of monitoring.

■ The National Audit Office recommended to the Austrian Council that it should without delay increase its recommendations as to how Austria's competitive position could be enhanced within the Seventh EU Framework Programme for Research, Technological Development and Demonstration. In respect of this, the Austrian Council informed the National Audit Office that it was already liaising with partner organisations in the European Research Area and planned to use analyses of the instruments of this research area to develop concrete proposals for Austria.

■ The National Audit Office recommended to the Austrian Council that it generate proposals for research, innovation and technology-oriented institutions in which the Federal Government would be involved.

■ The National Audit Office recommended an immediate improvement of the Austrian Council's monitoring system that would make it possible to identify the macroeconomic effects (for example, economic growth, generation of employment or rate of issue of patents) generated by the public funding of R&D. The monitoring system ought to make clear programme-level statements about the development and progress of the programmes.

The Austrian Council informed the National Audit Office that it would act upon these recommendations. It had already put forward numerous proposals within the framework of recommendations, but according to its own interpretation of its duties, the Austrian Council should not and could not itself develop a comprehensive system.

■ Finally, the National Audit Office pointed out that the emerging thematic areas and strengths on the one hand and the quota agreed by the federal ministries on the other generated a matrix within which there is little leeway for structuring research programmes. As the Austrian Council has also frequently stated vis-à-vis the Ministry for Finance, the ministerial quotas removed its scope for recommending the best programmes.

In its statement to the National Audit Office, the Austrian Council confirmed the restriction of its scope for action and pointed out that the allocation formula had been negotiated between the staff of the federal ministries involved. ■

In addition to the many measures to promote research and development in Austria, long-term strategies are needed if we are not to lose sight of the big picture. In 2007 the Austrian Council focused intensively on the topic of “excellence” and invited discussion on its approaches.





Kurt Gartlehner
Member of Parliament (SPÖ)
and a member of the
Parliamentary Committee for
Research, Innovation and
Technology and of the
Science Committee

“We Need Beacons for Students and Companies”

The Austrian Council has also focused on promoting excellence in the Austrian funding landscape and in August 2007 presented its strategy for excellence containing key measures to support outstanding achievement. The strategy essentially received a positive response from the innovation spokespersons of all parliamentary parties, but in certain areas they called for additions or for a broader view of excellence.

How important is excellence in the research sector for Austria as a centre of innovation?

Michaela Shurny (The Greens): For me, excellence means making it possible for students, researchers and institutions etc. to bring out the very best in themselves. This definition of excellence does not focus on competition, but on creating an open debate in which everyone can participate. In fact, I reject any interpretation that defines excellence as the creation and perpetuation of elites. Many of Austria's current problems are the result of closed social circles. In my opinion, promoting excellence must therefore aim to break through these closed circles!

Martin Graf (FPÖ): Excellence is the definition of particularly high quality or outstanding achievement. However, an emphasis on excellence certainly does not mean that we can afford to forget the importance of having a broad basis, as that is a prerequisite for the development of world class research.

Excellence can only develop in a performance-oriented environment. However, only promoting the top end will lead us down a blind alley. It is impossible to foresee today what will bear fruit tomorrow. In a broad research landscape, excellence can therefore take on the function of a beacon for the Austrian innovation hub.

Karin Haki (ÖVP): Without cutting-edge research there can be no high-tech industry! And without cutting-edge research it will be hard to generate economic growth. Developing frontier research

and increasing the level of excellence are key issues in today's research and technology policy debate, nationally, within Europe and also internationally.

Kurt Gartlehner (SPÖ): A strategy for promoting excellence in research is a prerequisite for the future creation of high-quality jobs through innovation which will in turn increase economic growth and competitiveness. However, such a strategy for excellence cannot be an end in itself, but must instead be part of a broader strategy for innovation involving all the key players. Excellence should not be promoted at the expense of quality on a broad level in innovation – the innovation strategy that is being developed will therefore integrate both pillars, excellence at the top and at the broad level.

Veit Schalle (BZÖ): For me, excellence means not ending funding schemes, initiatives and programmes, but expanding them wisely. This supports the shift to a knowledge-based society and economy, and improves Austria's competitiveness.

What additional value for Austria does a strategy for excellence produce?

Schalle: An Austrian strategy for excellence must have a “beacon effect”, i.e. during the course of its implementation, other research institutes should choose to base themselves in Austria and international researchers should be attracted. It is therefore also necessary to make an excellence strategy for Austria a priority within the framework of the planned European cutting-edge research institutes in order to promote the creation of a network of the best researchers.

Which conditions facilitate excellence best?

Graf: I will start with what I believe hinders excellence. The principle of research-led teaching is under threat in Central Europe, as is the hard-

won principle of free access to a university education. I do not believe that excellence, elites and science can flourish in the long term in an environment of restrictions and spin-offs. As excellence does not develop in a test tube, it needs an environment that has room for mediocrity just as much as it needs cultural terms of reference.

Gartlehner: On the one hand, there has to be a supply of well-educated active researchers, and on the other, a sufficient number of young people who are ready and able to let themselves be trained through research work. There is a market for all categories of researcher – be it senior scientists, post-docs or PhD students – and it is growing all the time. There is an international competition to attract the best.

Hakl: In terms of general conditions, the things that come to my mind are tax incentives, a high standard of research, sufficient human resources in the key technologies and immigration rules that cater to the needs of science. These are fundamental requirements. The BMWA took an important step on 1 January 2008 when it opened up the labour market for researchers (and their family members) not only at research institutes, but also at companies.

Sburny: Parameters are needed that allow the pursuit of two main goals: First, human creativity and curiosity must be stimulated and encouraged. For this purpose, we must push ahead with reforms in education. Unfortunately, this policy area is currently characterised by both a lack of vision and by blockades. Both prevent a clear view of the situation and make intelligent initiatives impossible. A second aim is to create conditions which make it possible for people to take risks and fulfil their creative potential. Too much first-class work is being abandoned in the early stages out of fear of the social stigma associated with potential failure. Society has to change the way it thinks. Risk contains within itself the potential for success, and even failure holds out the chance of finding a new and better approach.

Which elements encourage the development of excellence in the national innovation system?

Schalle: In addition to direct research funding, additional tax incentives (indirect research funding) must be created. The rigid Austrian tax system must be changed so that we can attract more private investment in research – on the one hand, by creating tax exemptions for revenues from foundations which are used for research purposes, and on the other, by making donations for research facilities tax deductible.

Hakl: It is immensely important to strengthen basic research: Each year, funding should be increased by roughly ten percent in order to strengthen excellent research in Austria. By 2020 we should be spending one percent of GDP on basic research. Moreover, in the area of business-oriented research funding, those funding instruments should be strengthened which stimulate private sector spending on research.

In addition to improving the interfaces between the universities and business, I also believe it is essential to develop the potential of excellent human resources in and for Austria. Well-trained and motivated researchers provide the basis for outstanding research. In this connection, the advancement of young scientists and women are central tasks in R&D. Since autumn 2007 the Austrian Science Fund (FWF) has funded training centres for highly qualified young scientists in the form of its “Doktoratskollegs-Plus” programme. Finally, I would like to mention the universities and their profile development. These institutions must have clearly recognisable profiles and strengths if they are to hold their own in the competition to attract the best students.

Graf: As I said earlier, excellent, elite research will only be generated where there is a broad basis and a clearly recognisable top end. The chosen approach of forcing “scientific research” through real estate projects is the wrong one. We have 21 universities and a sufficient number of research institutions which produce a great deal of excellent work. It is imperative that we strengthen existing >



Karin Hakl
Member of Parliament (ÖVP) and Member of the Parliamentary Committee for Research, Innovation and Technology and of the Science Committee



Michaela Sburny
Member of Parliament
(The Greens) and Chair
of the Parliamentary
Committee for Research,
Innovation and Technology

strengths. Moreover, in a show of national strength, the legislature must push ahead with developing the profiles of the individual institutions – above all, the universities – and eliminate duplication in increasingly international competition. Careful use must be made of the available resources.

Sburny: Our research activities need to be more broad-ranging. This is the only way we will achieve a greater concentration of top level research in Austria. This understanding of excellence requires funding on the basis of the comprehensive inclusion of all policy areas. Excellence that is understood as a “beacon” should create selective incentives, but should not become the basis of research policy.

Gartlehner: Training through research, and research which has no direct economic use must be largely financed by the state. Tax incentives are one of the strongest motivating factors for private-sector investors to support research that is not expected to produce any immediate return. The development of research teams requires basic financing. Above and beyond this, research funding should be awarded in a competitive process.

How can framework conditions in Austria be structured so that they promote excellent researchers and research teams, support the creation of excellence in competitive processes in the long term and are open for new players entering the field?

Gartlehner: The necessary framework conditions for the implementation of a strategy for excellence comprise measures in the area of human resources (such as the BMVIT programme “Forschung macht Schule”), improved working conditions and career opportunities, and the development of new instruments in the area of financing – with a focus on risk financing – in the corporate sector. By taking measures in these three areas, Austria is also responding to international criticism: Although the OECD country report 2007 was basically very positive about

Austria, it did recommend that Austria take measures to improve qualifications, paying particular attention to the natural sciences and technical disciplines. The OECD also criticised that Austria had one of the lowest levels of risk capital measured in terms of gross domestic product within the OECD.

Schalle: There is still a shortage of researchers in Austria – especially in the natural sciences and technical disciplines, and here especially of female researchers. We must therefore endeavour to generate an interest among young people for research, to persuade women to embark on scientific careers and to make optimal use of their potential.

How can the recommendations from the Austrian Council's Strategy for Excellence be implemented effectively and sustainably?

Graf: The Austrian Council's recommendation to use performance agreements as a steering instrument is promising. In order to stem the increasing bureaucratisation of research administration, only a small number of key figures should be decisive. I also share the Austrian Council's assessment that greater emphasis will have to be given to the idea of competition between universities in order to produce world-class research. I can support the Austrian Council's recommendation to fund a university infrastructure programme again. However, consideration must also be given to profile development.

Hakl: In the area of industrially-oriented research, the continuation of the competence centres programme COMET is crucially important. The high quality of the submissions was apparent even during the first round of calls in 2007, as a result of which funding was increased to allow an additional three K1-Centres. In addition to this, other research programmes such as the Christian Doppler Laboratories with basic research related topics or the Laura Bassi Centres of Excellence for the advancement of women with a focus on excellence are in progress or preparation.

Which elements from the Strategy of Excellence have the highest priority?

Sburny: The Austrian Council presented an array of measures in its Strategy for Excellence which only make sense in combination with a thorough structural reform of the research and education sectors. In my opinion, the development of human resources, with a particular focus on the participation of female researchers in the innovation system, and improved funding for the university sector are of central importance.

Is there a need for additional instruments to foster excellence, such as the introduction of the excellence bonus recommended in the Strategy for Excellence?

Graf: The Austrian Council recommends making provision for this excellence bonus called "Excellence on Top End" (EXOTE). The bonus should be paid out to a maximum of five outstanding research teams in the form of an additional fixed sum of between 500,000 and one million euros. In principle, I view such extra measures positively. However, it must be additional funding. The recommendation made by the Austrian Council to improve the effectiveness of funding in the collaborative sector by bundling programmes to encourage cooperation is also the correct approach.

Hakl: In my opinion, the measures that have already been agreed should be implemented before the programmes are developed further. The package of measures to promote excellence is nicely wrapped up and now has to be implemented. It should then be followed by additional, pin-pointed measures. The results of the present system therefore have to be evaluated in terms of their output and not just according to the amount of money that has been invested. This evaluation is already underway.

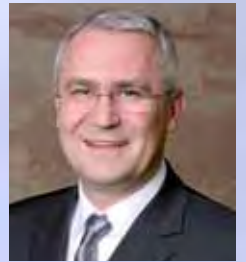
Sburny: In the next few years there have to be far-reaching changes in how university research is funded. It is good, for example, that the Science Fund will be allowed to pay for overhead costs.

However, to promote excellence, a system reform is needed which sets in well before the university level. Measures must be taken at nursery school to arouse children's curiosity about things that are new. Students should not lose the pleasure they find in experimenting on their way to university; instead taking risks to create something new has to be given a more positive connotation!

Gartlehner: Establishing clusters of excellence in accordance with the plans of the Austrian Science Fund would accelerate the process of defining key areas initiated by the specialist research areas. With a life of twelve years, these clusters would serve as research institutes with an expiry date. It would be a good idea to set up two or three such clusters in the next few years; the financial volume would probably run to between three and ten million euros.

Which incentives could encourage research institutes to make excellence their own objective, to incorporate it in their strategies and to promote it?

Hakl: Quality must pay off! The incentive structures must be geared toward this goal and constantly reviewed to see whether they are fit for purpose. The current evaluation of the funding system in the area of excellence programmes is in progress, and will provide a basis for further specific improvements. In my opinion, additional incentives and procedures involving less red tape are needed for small and medium-sized enterprises. ■



Martin Graf
Member of Parliament (FPÖ), Chairman of the Parliamentary Science Committee and a member of the Parliamentary Committee for Research, Innovation and Technology



Veit Schalle
Member of Parliament (BZÖ) and a member of the Parliamentary Committee for Research, Innovation and Technology



The Strategy for Excellence: The Way to the Top

In its Strategy 2010 published in 2005 the Austrian Council for Research and Technology Development for the first time explicitly called for the formulation of a strategy to promote excellence at all levels and in all performance sectors. The objective of the Strategy for Excellence is both to raise the overall quality of research in Austria and to make world-class, cutting-edge research possible in Austria on a larger scale than in the past, with the aim of making Austria a more attractive centre of research and technology and increasing its international competitiveness. The Austrian Council provided crucial impetus with this recommendation, calling upon other research and innovation players to formulate elements of an excellence strategy for their own areas of responsibility. The following larger elements have been developed since the recommendation was made in the Strategy 2010.

■ The competence centres programme COMET, which promotes long-term collaborative research partnerships between science and industry, has been set up. The programme was developed jointly by the Ministry for Transport, Innovation and Technology (BMVIT), the Ministry for Economic Affairs and Labour (BMWA) and the Austrian Research Promotion Agency (FFG) with the support of the Austrian Council and was explicitly formulated as an element of an excellence strategy.

■ The “Initiative for Excellence in Science” was developed by the Austrian Science Fund under the auspices of the Ministry for Science and Research (BMWF). The proposal it contains for a cluster of excellence targeting basic research in Austria was presented by the FWF explicitly in response to the recommendation made by the Austrian Council in Strategy 2010. Thanks to the Austrian Council’s Strategy for Excellence, the debate regarding budgeting for the cluster of excellence has gained new momentum: The first call will take place in 2008. According to the FWF, the programme represents the Fund’s contribution to the implementation of the Austrian Council’s Strategy for Excellence.

■ The establishment of the Institute of Science

and Technology – Austria (I.S.T. Austria), an institute dedicated to state-of-the-art research and graduate training was approved by Parliament in 2006. Implementation is currently underway, the first members of staff have been recruited to prepare for operations and the search for scientific staff and the president is proceeding at full speed.

Excellence at the Top and Quality on a Broad Level

The Austrian Council welcomes these initiatives, as it regards the Strategy for Excellence as an ongoing process to which all those involved should make a long-term commitment. The three elements referred to are mainly directed toward the goal of achieving “excellence at the top” and have been supplemented by additional elements, the majority of which target the goal of “quality on a broad level.” These were largely generated on the basis of the results of the open space conference organised by the Austrian Council (see below for details) and supplemented by three studies commissioned by the Council to define excellence in the three performance sectors. As all three studies concluded that there is no uniform definition of excellence, the Austrian Council decided for the sake of consistency to define the concept as particularly high quality or outstanding performance. Notwithstanding this conceptual classification, any dismantling of obstacles in the innovation system which results in a verifiable improvement in quality also falls within this definition of excellence.

Open Space Conference – The open space conference took place in May 2006 at Techgate Vienna and was attended by approximately 100 participants ranging from leading researchers from science, industry and collaborative research institutions to representatives of government ministries, funding agencies, the Federation of Austrian Industry, the Chamber of Commerce and the Science Council etc.

During the conference a host of topics were discussed which had been introduced by the participants and which essentially covered the

breadth of “excellence”. In addition to organising the conference, the Austrian Council was also charged with the task of filtering out from the discussions key input for the development of the Strategy for Excellence.

International Context – An analysis of global trends, international benchmarks and national developments is indispensable when formulating strategic guidelines. In recent years, scholarly and public debates on the subject of excellence have gained increasing international importance. With the introduction of the Networks of Excellence in the Sixth EU Framework Programme for Research, excellence even became a key concept in European science and research policy. Consequently the international context is highly relevant for the development of a national strategy for excellence. The Austrian Council has therefore analysed comparable structures in the USA, Asia and Europe with a view to borrowing ideas for the Austrian innovation system. Germany, the USA and Singapore were described in detail as examples, creating a global context for the Strategy for Excellence.

The three examples show that there are very different ways of facilitating world-class research in national innovation systems. It becomes clear that there is no ideal way to achieve this goal. In this respect, a strategy for excellence tailored to the Austrian innovation system must be specifically adapted to the current status of development and the needs of the domestic scientific community.

Elements of the Strategy for Excellence

In order to coordinate the content of the Strategy elements, several discussions were held with experts and key players in the Austrian research and innovation system. Following a detailed examination of all the available results, the Austrian Council analysed the existing contributions in their entirety and, after incorporating additional elements and proposals of its own, defined the cornerstones of a strategy for excellence to be implemented with the cooperation of the institutions concerned. In addition to the three recommendations concerning COMET, I.S.T. Austria

and the “Initiative for Excellence in Science”, the Strategy for Excellence includes the following eight elements, which in turn include a total of 21 recommendations:

1. Excellence on Top End (EXOTE)

■ *Create an excellence bonus*

2. The University Sector

■ *Measuring excellence: Expand quality assurance and quality control*

■ *Use performance agreements as a steering instrument*

■ *Improve research infrastructure*

3. Corporate Sector

■ *Establish a focus on excellence in RTI funding*

■ *Expand the headquarters strategy*

■ *Promote a willingness to take risks*

4. Collaborative Sector

■ *Introduce target and performance agreements*

■ *Bundle programmes to promote cooperation*

5. Create framework conditions for quality assurance and excellence in research promotion

■ *Reduce obstacles to the development of excellence*

■ *Reorganise the structure of programme evaluation*

6. Human Resources

■ *Develop more attractive career models for researchers*

■ *Improve conditions for foreign researchers*

■ *Optimise financial support (grants)*

■ *Promote international mobility*

■ *Increase inter-sectoral mobility*

7. Inter- and Trans-Disciplinary Research

■ *Develop measures to anchor inter- and trans-disciplinary research in bottom-up funding and in institutional practice*

8. Gender and Excellence

■ *Establish gender mainstreaming as a fundamental principle in all programmes and measures*

Outlook – The Strategy for Excellence does not mark the end of the road to achieving more excellence in the Austrian innovation system. On the contrary, the development of strategies, objectives and implementation steps should be understood as a varied and continuously evolving canon. As part of this process, the Austrian Coun- >



outlook



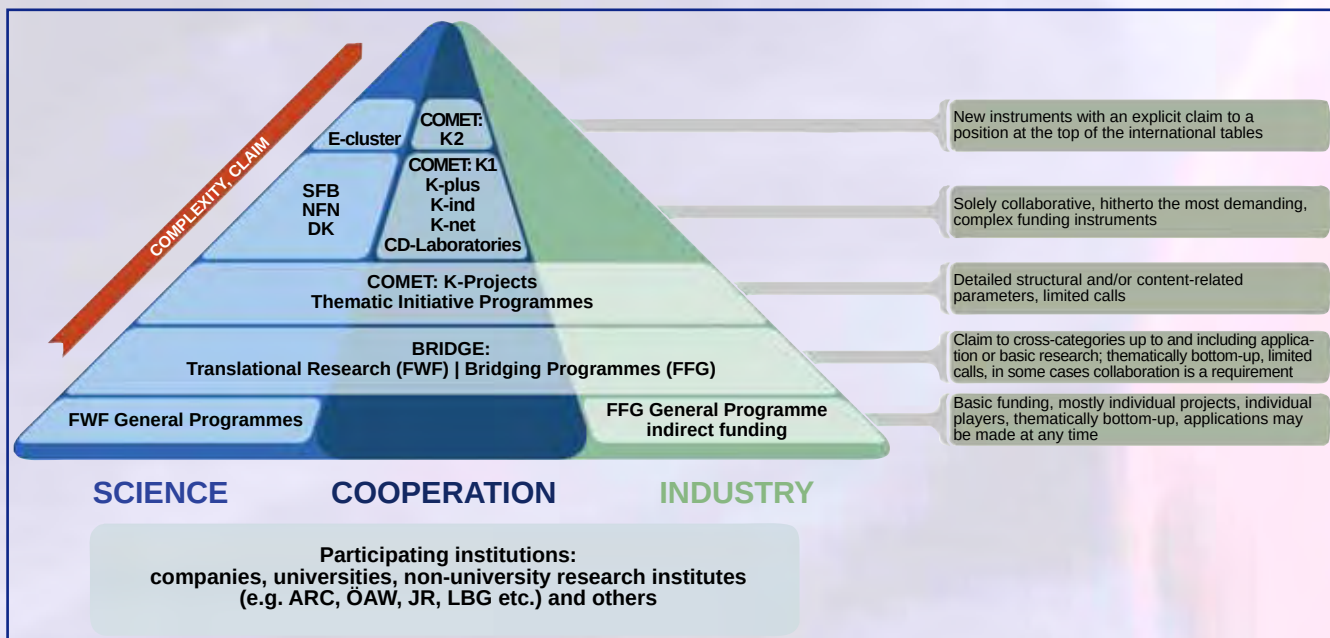
cil will continue to keep abreast of activities and put forward proposals for new initiatives in cooperation with all stakeholders in the innovation system.

Individual elements of the Strategy for Excellence have already been dealt with in detail at the topical sessions of the open space conference or in the studies commissioned by the Austrian Council, and so do not therefore require further revision. Others, however, need to be hammered out in more specific terms. The Austrian Council has therefore, inter alia, established a working group to develop an excellence bonus to provide additional funding for excellence at the top end. The excellence bonus with the working title "Excellence on Top End" (EXOTE) should give well-known leading researchers and/or research

teams from all performance sectors greater freedom for their research work. Furthermore, the award of a bonus for excellence should also cast the spotlight on outstanding researchers and/or research teams and ensure that excellence is made visible. The key points for a bonus for excellence were drawn up by the working group. The task now is to organise the funding and draw up a programme document.

By presenting the Strategy for Excellence at the start of the Technology Forum in Alpbach in August 2007 the Austrian Council has secured a place for excellence on the research policy agenda. As the publication of the Strategy document was positively received, it can be assumed that the recommendations will be adopted and implemented by those responsible. ■

The figure shows federal RTD funding for all performance sectors in relation to the demands and to excellence





Successful innovation policy achieves a balance between expanding existing strengths and changing existing structures. As the advisory body to the Austrian Government the Austrian Council has a duty to implement measures in both directions in order to safeguard and increase Austria's competitiveness. Its recommendations are therefore based on international benchmarks, taking into account specific Austrian needs.



Recommendations 2007

The Austrian Council for Research and Technology Development is the strategic advisory body to the Austrian Government on all issues of research, technology and innovation policy (RTI). It draws up recommendations for the medium and long-term strategic orientation of Austrian RTI policy. In 2007 the Austrian Council made the following statements and recommendations:

- Statement regarding the Government Programme (31 January 2007)
- Statement concerning the continuation of the awareness-raising campaign “innovatives-oesterreich.at” (19 March 2007)

Statement regarding the Government Programme – 31 January 2007

The Austrian Council welcomes the high priority given to research, innovation, technology and science in the Government Programme for the XXIII legislative period.

The Austrian Council regards the measures pertaining to research, innovation and technology announced in the Government Programme as an important contribution to the further development of Austria as a centre of business and science, and wishes to underscore the following objectives and measures by making the following statement:

- The need for multi-year planning and long-term financing certainty
- Ten percent annual increase in federal expenditure on R&D
- Topping up of the technology billion by 2010, with an additional EUR 345 million to be made available in 2007 (Basis 2006: 295 + 50). These funds must be used solely for R&D relevant measures and form the basis for achieving the Government's target of raising R&D spending to three percent of GDP.
- The establishment of the energy fund with an emphasis on R&D. The strategies drawn up within the framework of FORNE such as Energy 2050, and instruments must feature prominently.
- Adherence to the goal of a three percent R&D quota by 2010 with the aim of triggering as much

■ Recommendation regarding the financing of indirect research costs (overhead costs) (10 April 2007)

■ Recommendation regarding the energy research programme (18 April 2007)

■ Recommendation regarding the future of the Research Studios Austria (14 May 2007)

■ Recommendation regarding the Laura Bassi Centres of Expertise (7 December 2007)

■ Statement regarding the restructured RSA (7 December 2007)

private investment in research as possible in order to establish a long-term funding ratio of one third public sector, two thirds private sector.

These goals are important signals and an invitation from the public sector to businesses to be equally consistent in pursuing the goal of a three percent R&D quota. The structural reform called for in the Government Programme is a prerequisite for the qualitative and quantitative progress of the Austrian innovation system and of R&D activities. Improving the efficiency and increasing the effectiveness with which funds are used for R&D is an element of this process.

The Consequence from the Austrian Council's

Point of View – The purpose of the action funding is to achieve the three percent research quota in 2010. The proportion of action funds as a percentage of total federal expenditure for R&D varies from year to year. Against this background, the Austrian Council considers it impossible to hold to the previous fixed quotas allocated to the ministries. The Austrian Council will base its recommendations on the total budget for R&D.

Summary – The Austrian Council supports the strong commitment of Austrian policymakers to R&D and points out that only the consistent implementation of the planned measures and targeted use of the necessary funds will contribute

to furthering the development of an efficient Austrian innovation system. Effective cooperation between all levels of RTD policy and the funding system is regarded as particularly important by the Austrian Council.

The Austrian Council is pleased to accept the assignment formulated in the Government Programme to continue to advise the Government during this legislative period and to support its efforts to position Austria as an international leader in the field of research and technology development in order to help safeguard Austria's status as an industrial location and knowledge hub.

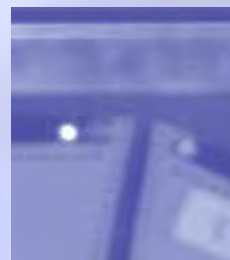
Recommendation “Innovatives Österreich” 2007 to 2010 – 19 March 2007

The initiative “innovatives-oesterreich.at” was launched in 2001 on the basis of an Austrian Council recommendation to the Government to raise awareness of the importance of research, development and innovation. Due to its success the programme was continued in 2004-2006 in a second campaign which focused more strongly on actively involving the target groups. The stated aim is to present research and technology in a

more accessible form and thus increase public acceptance and awareness of the benefits produced by science and research.

“innovatives-oesterreich.at” addresses the public at large, but at the same time aims to raise the quality of the public relations work carried out by research and development institutions. In order to provide the Austrian scientific community with a uniform brand presence “innovatives-oesterreich” functions as a platform, dialogue programme, campaign, brand and website. Joint inter-ministerial measures and activities organised by individual ministries were carried out as part of the initiative and placed under the umbrella of the campaign. A central event was the first Long Night of Research in Vienna, Linz and Innsbruck which attracted some 50,000 visitors.

The initiative was sponsored by the Ministry for Education, Science and Culture (BMBWK), – since January 2007 the Ministry for Science and Research (BMWF), the Ministry for Transport, Innovation and Technology (BMVIT), the Ministry for Economic Affairs and Labour (BMWA) and the Austrian Council for Research and Technology Development. >



recommendations

In its Strategy 2010 (on page 33) the Austrian Council called for the initiative “innovatives-oesterreich.at” to be continued beyond the current second campaign until 2010. This demand is also supported by the positive results of the parallel evaluation.

The Austrian Council recommends the continuation of the programme until 2010. Two percent of the special ministry funds amounting to EUR 275 million per year (the equivalent of roughly EUR 5.5 million) should therefore be ring-fenced for awareness measures in the period 2007 to 2010. Half this sum should be used for measures implemented by the individual ministries, the other half for joint, inter-ministerial activities.

All awareness measures – be they ministerial or inter-ministerial activities – are organised under the umbrella brand “innovatives-oesterreich.at”, i.e. the brand line and corporate identity of the umbrella campaign will remain in use.

In the next campaign, the successful Long Night of Research should be established as a regular annual event in spring. The money for this will come from the contingency fund for the research

action programme, with a volume of roughly one million euro (net) to be scheduled for each event. A reserve amounting to five percent of the estimated total costs for “innovatives-oesterreich.at”, including the Long Night of Research, is also to be created from the contingency fund for any costs that might arise for programme management and implementation.

Concept and Guidelines – In terms of organisational implementation, the Austrian Council recommends the following as part of a comprehensive governance structure:

- the appointment of a steering committee as the strategic management and controlling body comprising representatives of the sponsoring organisations, i.e. the BMWA, BMWF, BMVIT and the Austrian Council for Research and Technology Development, under the lead management of the Austrian Council.

- The introduction of an umbrella management system as a central hub for the coordination of media and communication work and monitoring of programme activities, and also as a point of contact for project sponsors and agencies.



■ A simplification of programme implementation by entrusting the FFG with responsibility for awarding the contracts for the Long Night of Research and inviting tenders for the umbrella management and for financial controlling and monitoring.

The main task of the umbrella management is to carry out quality assurance in accordance with the overriding focus of “innovatives-oesterreich.at”, while the FFG as the monitoring and controlling body is responsible for ensuring the quality of implementation and administration. In 2008 tenders for the Long Night of Research should be invited and contracts awarded separately from the rest of the campaign in order to ensure that it takes place as scheduled in May 2008. The subsequent challenge will be to integrate the Long Night of Research into the overall initiative and to implement it accordingly through the umbrella management. To this end, the tenders for the Long Night of Research should initially be invited separately from the campaign for a one year period with an option for annual events up to 2010. The requirements of the steering committee form the basis for the specifications to be drawn up by the FFG which will serve as the central element of the tender for the Long Night of Research and which, in a suitably modified form, will serve as the basis for the work of the umbrella management.

Recommendation regarding the financing of indirect research costs (overhead costs) as a contribution to structural change and the definition of key areas at Austria's universities and non-university research institutes – 10 April 2007

In its policy document Strategy 2010 the Austrian Council for Research and Technology Development made a recommendation to ensure the financing of indirect costs (overhead costs) for research. The Federal Government has included this recommendation in the Government Programme for the 23rd legislative period. Based on this the Austrian Council considers it necessary to start financing indirect research costs as a contribution to structural change and the definition of key areas at Austria's universities and non-university research institutes. The aim is to cover 15 to 25 percent of direct research costs for the years 2008 and 2009. When providing financing, great care must be taken that it does not lead to a shift in funding between basic research and applied research.

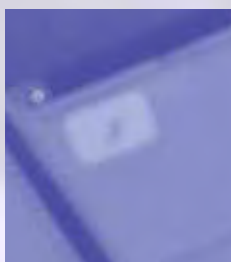
At the same time, the Austrian Council for Research and Technology Development recommends that as of 2010 the funding of indirect research costs should be coordinated with the performance agreements which are to be renegotiated with the research bodies. The responsible ministries are urgently requested to carry out demand assessments and make appropriate budgetary provisions in preparation for the legislative period starting in 2010.

Background and Current Situation – In the past, research institutes in Austria which obtain external funding for research projects, have, in certain areas, only received funding for a specific project, but not for the necessary infrastructure. Consequently the funding obtained in competitive procedures for such projects plays only a subordinate role in bringing about structural change and a definition of priorities at research institutes in Austria.

The financing of overhead costs will turn external funding raised in competitive procedures into an important element of performance-based funding for universities and research institutes. By financing indirect costs, research funding can be made more competitive in comparison with other “externally funded projects”, which in some cases make considerable contributions to overhead costs at the research institutes. Within the European Union there is a trend toward the full-cost funding of research, although flat rates ranging from seven to 60 percent are still customary. Starting in 2007, Germany will fund 20 percent of overhead costs for special research areas, research centres and graduate colleges and as of 2008 will extend this to cover other new DFG-assisted research projects. In 2010 responsibility for funding will be transferred away from Federal Government to the states.

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Recommendation regarding a long-term perspective for the energy research programme – 18 April 2007

The Austrian Council stresses the importance of investments in energy research for Austria's economic development. Innovations are the only way to secure energy supplies that do not depend on imports and to increase Austria's technological lead in future. In particular, the social and ecological relevance and responsibility of energy research should be underlined. The Austrian Council is therefore committed to funding high-risk research projects and technologies that will only be marketable in the longer term.

The Austrian Council thus welcomes the energy research programme that has been jointly presented by the Ministry for Transport, Innovation and Technology (BMVIT) and the Ministry for Economic Affairs and Labour (BMWA). It also recommends that the funding agency entrusted with the programme's implementation (FFG) commence work as quickly as possible.

The Austrian Council regards the energy research programme as a first important step within the framework of the current strategy process ENERGIE 2050 (e2050) and advocates the pursuit of measures which will take it to a more advanced level such as basic research, human capacity, international cooperation and infrastructure measures.

In principle, the necessary funds for the energy research programme should be provided from the Climate and Energy Fund. To enable the programme to start without delay, the Austrian Council recommends providing initial funding amounting to EUR 20 million from the contingency fund for 2007. It also advocates an additional endowment for 2007 from the Climate and Energy Fund.

In this connection, the Austrian Council believes the Climate and Energy Fund should focus on R&D and that it should be quickly endowed with new, additional funding.

To ensure the successful implementation of the energy research programme the Austrian Council

believes that a continuous process of coordination between the ministries is necessary. The programme structure and specific responsibilities must be clearly outlined and communicated accordingly.

The Austrian Council welcomes the underlying concept of the programme as a learning and dynamic programme and believes that it would be expedient for the Council to be involved in the review process. At the same time, the tasks and objectives of the FORNE Initiative¹ should be taken into account.

Recommendation regarding the future of the Research Studios Austria – 14 May 2007

Since 2002 the Ministry for Economic Affairs and Labour (BMWA) has funded the pilot project Research Studios Austria (RSA) for applied research in the field of information and communications technologies (ICT). Small, flexible research units (studios) were set up for selected thematic areas. Working closely with university institutes they pick up knowledge generated in academic research and then develop it further until it can be brought to market. In the emerging thematic area of ICT these small-scale research units collaborate closely in an Austria-wide network and in addition to applied research (scientifically induced due to the close links with university institutes) also carry out research projects in cooperation with companies (market and application-oriented).

The evaluation of the RSA carried out by the Rheinisch-Westfälische Institut für Wirtschaftsforschung (RWI Essen) on behalf of the BMWA in May 2006 provides an overview of the Studios' activities. The Research Studios Austria are a subject of fierce debate in the Austrian scientific community, especially the question if and to what extent the RSA creates benefits for the system.

Restructuring – The Austrian Council recommends a restructuring of the Research Studios Austria, which goes beyond spinning off control-

¹ FORNE = Forschung für Nachhaltige Entwicklung (Research for Sustainable Development)

recommendations

ling duties. The RSA should be designed as an independent programme under the RTD guidelines. The RSA division in the Austrian Research Centers (ARC) should be closed. The name Research Studios Austria should be retained as the basis for the programme, with the FFG carrying out development and implementation in operational terms under the overall responsibility of the BMWA. The twofold aim is to achieve competition between the studio applications, which will be managed by the FFG in the form of invitations to submit bids, and to ensure the transparent application of the regulations governing state aid required by the research framework of the EU, in particular for market-oriented activities. This includes, inter alia, laying down clear, transparent and objectives rules for the establishment, continuation and closure of the individual studios (indicators) as well as periodically assessing studios which have been approved with a view to their continuation.

This programme should be developed on the basis of the criteria for programmatic activities demanded by the Austrian Council before September

2007 and subjected to an ex ante evaluation. The programme will be finalised on the basis of the results of this evaluation and submitted to the Austrian Council for recommendation.

Timeframe – The FFG should draw up the programme documents and performance catalogues for an RSA programme 2008-2010 by the end of September 2007 so that an ex ante evaluation can be carried out before the end of 2007. The questions for the evaluation will be drawn up jointly by the BMWA, the FFG and the Austrian Council under the lead management of the BMWA. Based on the results of this evaluation the responsible ministry should complete the formal processes by the middle of December and submit the final programme concept to the Austrian Council for a recommendation. Following an invitation to submit proposals from February to the end of March, the restructuring can be implemented from April 2008 onward. Until the new programme is actually implemented, interim financing should be provided for the existing studios which should roughly correspond >



Students of the Vienna University of Economics and Business Administration at the offices of the Austrian Council



to the amounts made available in 2006. Only existing commitments, i.e. current studios and contracts which have already been concluded for EU projects should be funded; new studios and EU projects which are on the waiting list should only be realised once the final programme concept has been submitted to and approved by the Austrian Council. If the programme does not receive a recommendation from the Austrian Council, it should be phased out in 2008.

Laura Bassi Centres of Expertise – 7 December 2007

As women are seriously underrepresented in the field of research and the natural sciences, particular emphasis was given to the issue of women in research and technology as early as 2002 (see Recommendation of 14/15 February 2002). In both its Strategy 2010 and its Strategy for Excellence, the Austrian Council has underlined the importance of offering women better career opportunities and eliminating structural barriers which prevent them from carrying out excellent research.

The concept upon which the Laura Bassi Centres of Expertise programme is based directly tackles the structural problems that have been identified as putting women at a disadvantage. It breaks new ground in terms of selection procedures and as well as evaluating the scientific quality of the research work also assesses the quality of the research management in relation to the arrangements for cooperation with the company partner(s) and with regard to human resources. In doing so, the programme not only makes promising female research and management work visible to industry. Its experimental nature also makes it possible to use the results for other programmes.

The Austrian Council therefore emphatically welcomes the pilot programme Laura Bassi Centres of Expertise that will be run by the Ministry for Economic Affairs and Labour and the Austrian Research Promotion Agency (FFG). It recommends the implementation of the programme once the duration and the corporate structure of the Laura Bassi Centres of Expertise have been established.

New Research Studios Austria Statement Concerning the Draft of the New Programme Document –

7 December 2007

In recent weeks, the BMWA and the Structural Programmes division of the FFG have drawn up a draft programme for the restructuring of the Research Studios Austria in accordance with the Austrian Council recommendation dated 14 May 2007. This paper has now been submitted to the Austrian Council. The following demands made by the Austrian Council have been met: In particular, measures have been taken to ensure transparent competition in application procedures and to ensure that the RTD guidelines and the EU framework for state aid are observed.

The programme will be managed by the Structural Programmes division of the FFG. It is open with regard to fields and topics and all university and non-university scientific institutions are eligible to participate. The Austrian Council welcomes the restructuring of the Research Studios Austria in line with its recommendation, but calls for the implementation of those points which have still not been fulfilled:

- Ex-ante evaluation by an independent and suitably qualified institution which is not subject to directives from the responsible ministry
- Inclusion of the Austrian Council's expertise in the development of the terms of reference for the programme evaluation
- Retention of the thematic focus on the emerging thematic area information and communications technologies
- Measures to ensure that the contract for the coordination function is awarded to one or more external institutions following a competitive tender procedure. ■

creating knowledge

The Austrian Council's work is based on the principle of facilitating innovation and talking about it. In 2007 intensive work continued in the strategic fields.





The members of the Platform RTI Austria at its first meeting on 20/21 June 2007 in Linz

Update: What has been accomplished

The Platform RTI Austria: Cooperation between Federal Government and the Provinces

At the end of 2006 – as the result of a series of working groups initiated by the Austrian Council – a concept was presented for a more professional form of cooperation between the Federal Government and the provinces in the area of RTD. The Platform RTI Austria is designed as a meeting of permanent representatives of the provinces and the funding agencies (AWS, FFG, FWF). They gather twice a year (with no right to send a substitute) to discuss important issues relating to the content and structure of research, technology and innovation policy. In accordance with a rotation principle, each province must host the platform once before it moves to Vienna for the next meeting.

Organised by the Austrian Council and supported by external moderators, the first meeting was held in Linz on 20 and 21 June 2007 at the invitation of the Technology und Marketinggesellschaft (TMG). The response on the part of the participants was positive and could be seen as a strong indicator of the sustained high level of commitment for future meetings. It was therefore hardly surprising that the second platform event in 2007, held on 19 and 20 November in Innsbruck at the invitation of the Tiroler Zukunftsstiftung, the business location development agency of the Province of Tyrol, was also a big success.

Platform discussions in 2007 focused mainly on human resources, benchmarks and indicators for comparisons between the provinces, upon clusters and on raising public awareness of research and technology.



The first meeting in 2008 will take place on 8 and 9 May in Salzburg, the second in November will be held in Bregenz. Discussion in Salzburg will focus on the humanities, social and cultural sciences and the ICT research strategy.

Energy Research: An Emerging Thematic Area for Austria

At a meeting held on 18 April 2007 the Austrian Council issued a recommendation for the energy research programme that had been jointly submitted by the ministries for infrastructure and economic affairs.

In making this recommendation, the Austrian Council emphasised the importance of investments in energy research for Austria's economic development and committed itself to encouraging high-risk research projects and technologies which will only be marketable in the longer term. The Austrian Council regards the energy research programme as a first important step in the current strategy process Energy 2050 and advocates the pursuit of further measures in the areas of basic research, human capital, international cooperation and infrastructure.

The Austrian Council basically believes that funds for the programme should be made available from the Climate and Energy Fund (KLI.EN). However, to enable the programme to start without delay, it was recommended that funding from the contingency fund be used. However, even after the establishment of KLI.EN there are still difficulties with the coordination procedures recommended by the Austrian Council and these need to be rectified as quickly as possible in order to guarantee the smooth implementation of the energy research programme.

Strengthen Strengths – a Research Strategy for ICT

The Austrian Council has in the past already acknowledged the importance of and need for an Austrian strategy for research and development in the area of information and communications technologies. In the light of a demand from the National Audit Office it has now started work on developing this strategy itself.

The prime objective is to develop an inter-ministerial strategy for ICT research in accordance with Strategy 2010 that aims to consolidate national strengths and to lay the foundation for the long-term international competitiveness of Austrian science and industry. The implementation of the goals is to be achieved by measures agreed between the various ministries.

Background

The planned strategy is based on an exploratory study to survey the specific Austrian situation in the Austrian ICT sector that was carried out by eutema technology management on behalf of the BMVIT. The results were discussed at a theme meeting with the ministries concerned (Transport, Innovation and Technology – BMVIT, Economic Affairs and Labour – BMWA and Science and Research – BMWF) held in autumn 2007. During this meeting, the main points and activities of an ICT research strategy were defined and a decision taken to entrust eutema with the process guidance.

Steps toward an ICT Research Strategy

The strategy process will be launched in February 2008 and should be completed by the end of the year. The Technology Forum in Alpbach will be an important milestone as it is here that the interim results will be presented to a wider audience. Eutema will be commissioned by the Austrian Council which will play a coordinating role in the strategy process. The BMVIT will be responsible for defining the thematic focus. At the operational level, eutema will be closely supported by the Austrian Council's secretariat, especially with regard to the development and formulation of the strategy paper. The final result of the process should be a self-contained strategy document upon the basis of which the Austrian Council can make a recommendation to the Austrian Government.

Basic Research

The Austrian Council has considered the topic of basic research in detail in order to prepare the strategic guidelines for this important area of the innovation system. >





The Structure of the Humanities, Social and Cultural Sciences in Austria

The Austrian Council for Research and Technology Development has commissioned a study to compile an overview of the structure (employees, research and working conditions) of the humanities, social and cultural sciences in Austria. This review will follow up on the results of regional studies and will cover the entire country. In this way, regional results obtained earlier will be placed in a nationwide context and the high-quality allocation of resources within the Austrian humanities, social and cultural sciences will be emphasised and reinforced. In particular, the study sets out to demonstrate the links between funding policies, human resources, career opportunities and university and non-university research in order to establish a research funding structure based on international standards that will generate a corresponding research output. On the basis of this survey, the Austrian Council

will draw up a catalogue of measures with proposed recommendations for the structural framework, the funding and support agendas of the public sector and for public awareness-raising and information. Special emphasis will be given to possible means of improving conditions for research, career perspectives for men and women, opportunities for national cooperation within the humanities, social and cultural sciences as well as innovative funding models and effective public relations work for the humanities, social and cultural sciences.

Models – Scenarios – Fundamental Principles

Scenario-based calculations and models are to be used to find answers to important questions relating to Austrian research funding. An internal Austrian Council working group on “Modelling and Simulation” set up in 2006 continued its work in 2007.



The topics dealt with by the working group included questions such as: Can the target of a research quota of three percent of GDP in 2010 be achieved with the current funding structure of the Austrian innovation system? How much basic research is “needed” by an innovation system in general and by the Austrian system in particular?

Compared to other countries Austria has a very high percentage of foreign-funded research, how should this be dealt with? Is the funding and financing structure for research, technology and innovation in Austria suitable for generating stronger incentives for private-sector investment in R&D? The underlying issues are the leverage effect of direct R&D funding, the impact of basic research, the importance of indirect research funding for Austria as a location for research and industry etc.

In the course of dealing with these topics and various other discussions, the secretariat and the working group gathered data, quantitative baselines and analyses. These were also used on an ongoing basis as input for all the Austrian Council’s other activities. Data and prognoses taken from a variety of sources (Statistik Austria, WIFO, OECD, EU ...) were used to depict scenarios.

In 2007 the following modules were drawn up by the working group:

- A model was developed that shows the development of R&D funding (cash flows). The forecasts available to date provide “projections” for the respective funding sectors on the basis of the political targets. The expected or desired development of R&D spending can be projected using a variety of parameters.

- The Austrian Council’s own scenario calculation (3-% path calculation) was continuously updated and refined. As soon as they became known, current economic data, forecasts, target and specific budget figures were incorporated. In 2007 the working group dealt with the following topics:

- Basic research (summer): Theory, concepts and scenario calculations (in autumn 2007 Minister Hahn defined a target for basic research)

- Spending on tertiary education (summer; in autumn 2007 a parliamentary motion defined a spending target of 2 percent of GDP for tertiary education by 2020)

- Scenario calculations and descriptions (spring)

- R&D funding from abroad (winter)

- University funding (General University Fund, external funding etc.)

Several of the structural questions that were dealt with will feature less prominently in 2008, as they will be handled within the framework of the system evaluation that the Austrian Council brought into the discussion in spring 2007 and which was commissioned by the responsible ministries at the beginning of 2008.

Reform of the Austrian Academy of Sciences

In 2007 several important steps were taken to initiate and implement an organisational reform of the Austrian Academy of Sciences (ÖAW). On 22 June 2007 the Presiding Committee presented to the academic assembly of the Austrian Academy of Sciences a proposal for a “Reform of the Organisational Structure” which was approved by the full assembly. The Austrian Council welcomed the reform of the ÖAW, which represents an important step in the right direction, especially the principle of a clear separation of supervisory, control and operational responsibilities.

The Academy now has a Research Board to safeguard the continued development and quality of the research work carried out at the Academy. Moreover, the Academy will also appoint a Financial Board which – on behalf of the President – will examine the institution’s financial affairs with regard to their thrift, economic efficiency and fitness for purpose. The Senate of the Academy drew up a number of proposals for the Financial Board. Furthermore, a “Young Academy” will also be created in order to reduce the overall age of the academic assembly. This Young Academy will have no more than 70 members, and membership will be limited to a period of eight years. There will also be an age limit, although what this will be is still a subject of discussion. >





System Evaluation: The Research Funding System under the Microscope

In its Strategy 2010 the Austrian Council called for an inter-ministerial analysis of the entire RTI funding system. The Federal Government has also set itself the goal of optimising funding measures and committed itself to this objective in the Government Programme (page 56 f.): “The large number of individual funding programmes should be further streamlined by means of portfolio analysis, bundling and the setting of priorities. Particular weight should be given to the results of evaluations. In this connection, reference was also made to the use of

tax relief. Furthermore, strengthening the FFG’s focus on promoting more radical, higher-risk innovations was formulated as a goal.

It was in this context that the Austrian Council reiterated the urgent need for such a cross-system analysis of the funding instruments. The Ministry for Transport, Innovation and Technology (BMVIT) picked up this proposal and in Alpbach announced that it would participate in the planned initiative. A steering group and a strategic advisory board comprising representatives of the ministries concerned – BMVIT, the Ministry for Science and Research (BMWf), the Ministry for Economic Affairs and Labour



(BMWA) and the Ministry of Finance (BMF) – and the Austrian Council was established. While the advisory board safeguards the strategic focus, it is the task of the steering group to prepare and support the planned evaluation of the funding system in terms of content. A decision was made to entrust a consortium of experts with its implementation following an international invitation to tender. The BMVIT together with the BMWA will act as the lead commissioning parties. The other ministries and the Austrian Council will then be involved within the framework of the advisory board and the steering group.

The main contents of the invitation to tender, which formed the basis for the specifications published in early November 2007, were defined by the steering group. Subsequently, five high-calibre consortia submitted their offers for the contract to evaluate the research promotion and funding system within the framework of this two-stage negotiating procedure. On 6 February 2008, the contract was awarded to the best bidder – a consortium comprising the Austrian Institute of Economic Research, Austrian Institute for SME Research, and Prognos.

The primary goal of the planned evaluation is to generate a horizontal picture of RTI funding measures in Austria and their interrelation at the system level. As well as examining the portfolio of direct funding instruments, the evaluation focuses strongly on the interaction of indirect and direct research funding.

The results of the evaluation are expected to produce information about which instruments are no longer required or only in a changed form. In addition, a contribution to the strategy discussion should also be made. The evaluation should also assess whether the existing implementation structures – especially the relationship between the ministries and agencies – is still suitable for implementing an optimal mixture of instruments and whether there is appropriate political control. Ultimately, this also addresses the structures of the entire RTI policy system. The first results should be presented in Alpbach in summer 2008. The evaluation should be completed in early 2009.

Second Round for the Long Night of Research

Probably the most successful element of the second campaign of the awareness-raising initiative “innovatives-oesterreich.at” was the Long Night of Research on 1 October 2005. This assessment was confirmed by the parallel evaluation of the campaign (see page 32 for details).

The Austrian Council has therefore always had a strongly held wish not only to continue the programme as a whole, but to repeat the Long Night of Research as soon as possible. However, for a long time endeavours, founded due to a lack of funding on the part of the responsible ministries (BMVIT, BMWA and BMWF).

Finally, in October 2007, the go-ahead was given for the Austrian Research Promotion Agency (FFG) to invite tenders for the project management as a service franchise. A short time later, in December, the contract was awarded to the two agencies, GPK and Brainiacs.

November 9 was chosen as the date for the Long Night 2008. As with the first event, research institutes and companies in cities throughout Austria which are engaged in research will open their doors to the public for an afternoon until late into the night. A network of exciting projects and stations connected by a shuttle bus system aims to inspire visitors with the same enthusiasm for research as scientists, in the hope of increasing the level of acceptance enjoyed by research and technology among the public in general and young people in particular. The hope is that this will also motivate more young people to train for professions in technology and the natural sciences which suffer from a shortage of personnel. The project will be guided by a steering committee comprising representatives of the responsible ministries and the Austrian Council. ■





Basic Expertise: Reports and Studies 2007

Human Resources in Austria – A Comparative Study

Within the framework of a literature review, the Faculty of Economic Sciences at the University of Vienna is analysing the area of human resources. The purpose of the study is to obtain an overview with the aim of demonstrating the importance of highly qualified people for the Austrian knowledge-based economy. In particular, the links between education systems, immigration policy, mobility and gender research are to be explored.

The background to the study: Austria has set itself the goal of becoming one of the leading knowledge-based societies in Europe. Sectoral changes, the impacts of globalisation and the development of the Austrian economy to a knowledge-based economy require the tertiarisation of the country, i.e. a growing percentage of university graduates. In the next 18 years, employment opportunities for science graduates are expected to grow five times faster than overall employment.¹ In this context, promoting young scientists and engineers is regarded as one of the most important goals of national and international research policy. Individuals with a university education, especially in engineering or the natural sciences, not only have excellent chances of finding a job, they also earn significantly more later on. In 2005, workers in Austria with a degree from a university or Fachhochschule earned incomes that on average were 74 percent higher than those of workers holding upper secondary education diplomas or who had completed an apprenticeship training scheme.²

Nevertheless, the number of individuals who complete tertiary education is still too low to meet the demand arising from the economic and social developments. The results of the study, which will be completed in spring 2008,

will provide the basis for a human resources strategy to be drawn up during the course of 2008.

Austrian Council + FTEval: “Evaluation of Austrian Research and Technology Policies: A Summary of Austrian Evaluation Studies from 2003 to 2007”

Evaluation is today a recognised instrument for improving a national innovation system.

It supports those in positions of responsibility as they make decisions about the use of public funds for research, technology and innovation. In the last ten years a great deal of progress has been made in Austria in the area of evaluation – methodical improvements have been made, a more systematic approach has been adopted and much has been done to ensure that evaluation results are acted upon.

The Austrian Council for Research and Technology Development and the Platform Research and Technology Policy have made an important contribution to providing a better information base for research and technology policy and to transparency in the RTI sector. The book “Evaluation of Austrian Research and Technology Policies: A Summary of Austrian Evaluation Studies from 2003 to 2007” published in August 2007, provided an important synopsis for the evaluation of Austrian research and technology policy. Furthermore, most of the evaluation reports (and there are over 160) pertaining to diverse programmes and institutions can be downloaded in full from the platform’s website www.fteval.at.

This comprehensive account of all evaluations in the RTI sector that have been carried out and made available in Austria to date, represents a compilation that is unique in Europe. The strong interest in this publication – 1,500 copies have already been sent out – also manifested itself at

¹ WIFO (2006): Mittelfristige Beschäftigungsprognose für Österreich. Berufliche und sektorale Veränderungen bis 2010

² OECD (2007): Education at a Glance 2007. OECD Indicators. Upper secondary graduation rates (2005

events such as the Annual Conference of the American Evaluation Association in Baltimore in the USA.

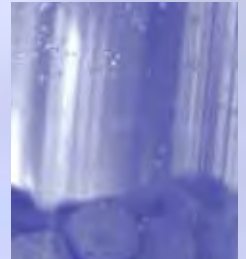
Study: Venture Capital (VC) and Private Equity (PE) for the Innovation System

The Austrian economy needs innovative businesses. International comparisons show that countries with powerful innovation systems are characterised by both technology-oriented production structures and highly-qualified workers as well as high levels of R&D spending and patent registrations. PE/VC markets must be regarded as an integral part of such powerful innovation systems.

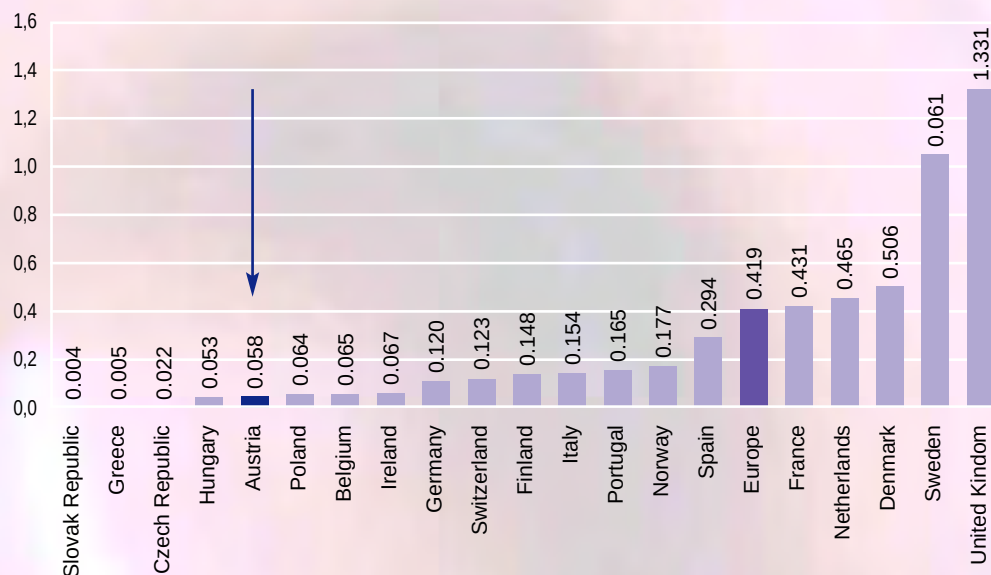
The value of PE/VC and the associated effects on sales and employment are sufficiently well known. At the same time, however, the economy as a whole suffers if promising projects either cannot be started or implemented due to a lack of financing.

This is particularly true as far as research and development-intensive companies in the early phase of their existence are concerned. Nevertheless, in an international comparison, Austria has a relatively low volume of PE/VC. Moreover, funds that are raised are mainly invested in profitable expansion or internationalisation projects and less in early and thus more risky phases.

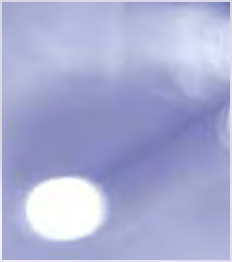
In early 2007 the Austrian Council therefore commissioned the Faculty of Economic Sciences at the University of Vienna to conduct a study which was carried out in two phases: The aim of the first phase was to prepare a synopsis of national and international studies and their results for the Austrian PE/VC market, to process information for the players in the Austrian innovation system and to place the results in a European context. This work, which was completed in July 2007, provided the basis for phase 2 (autumn 2007 – spring 2008) in which further recommendations and a specific cata- >



Private Equity Investment as % of GDP in 2005



Source: EVCA, Yearbook 2006, European Private Equity & Venture Capital Association, Zaventem, Belgium, page 65



logue of measures were drawn up jointly with the relevant stakeholders and the responsible government ministries.

The catalogue of measures aims to strengthen Austria's position in the area of PE/VC. It contains both recommendations pertaining to the structural and legal framework and to the funding and support agendas of the public purse. It also highlights parallel measures that can be taken to raise awareness.

FTEval Newsletter on "Excellence: To Pick or Foster?"

On 15 December 2006 the Austrian Council for Research and Technology Development and the Platform Research and Technology Evaluation held a day dedicated to excellence focusing on "picking excellence" (see the Austrian Council Report 2006). In 2007 a special edition of the Platform for Research and Technology Evaluation's newsletter published a detailed account of this event, supplemented by contributions from Prof. Dervilla Donnelly (Austrian Council), Marcel Herbst (4mation, CH), Thomas Pelsoci (Delta Research, USA) und Prof. Christoph Mandl (Mandl, Lüthi & Partner, AT).

Parallel Evaluation "innovatives-oesterreich.at"

In early 2007 the final results of the parallel evaluation of the dialogue programme "innovatives-oesterreich.at" were presented. With a concept focusing on target groups and dialogues, the second campaign in the Austrian awareness-raising initiative for research and technology proved to be an excellent investment, generating a higher than average impact even in an international comparison. The recipe for success: The campaign and the individual projects implemented under its umbrella are tailored to the relevant target groups, but are nevertheless recognisably part of an overall concept.

The Campaign

The subject of the evaluation carried out by the Austrian Institute for SME Research, Technopolis and TNS Infratest was the second "innovatives-oesterreich.at" campaign which finished

at the end of 2006. This communication platform was jointly sponsored by the ministries for science, transport and economic affairs and the Austrian Council with the aim of raising the status of research and technology in Austrian society. Scientists, research institutions, media and communication experts were invited to embed the image of science and research more prominently in the minds of the Austrian public with a host of individual measures and projects implemented under the umbrella of "innovatives-oesterreich.at". The campaign first and foremost addressed young people and small and medium-sized enterprises as the bearers of hope for the future and as key centres of research.

Strong Impact

As the parallel evaluation confirms, these target groups were successfully reached. At the end of the campaign, every third 14 to 25 year old and every fifth small and medium-sized enterprise was familiar with the campaign "innovatives-oesterreich.at". Almost 60 percent of the young people surveyed were of the opinion that the programme had stimulated their interest in innovation and made them curious for further information. Fifty-five percent even regarded it as an important step for the future of Austria. The level of awareness among SMEs was even higher. More than 80 percent said the campaign was an inducement to further thought and that it was also important for Austria.

Respondents also confirmed that "innovatives-oesterreich.at" had a higher than average impact in comparison with awareness campaigns abroad. Measured against the German standard that TNS uses as a benchmark, "innovatives-oesterreich.at" had a higher than average target group involvement; at the end of 2006 it was 11 percent above the average for comparable campaigns. The motivating effect of "innovatives-oesterreich.at" was also comparatively high at more than six percent above average.

Main Event Long Night of Research

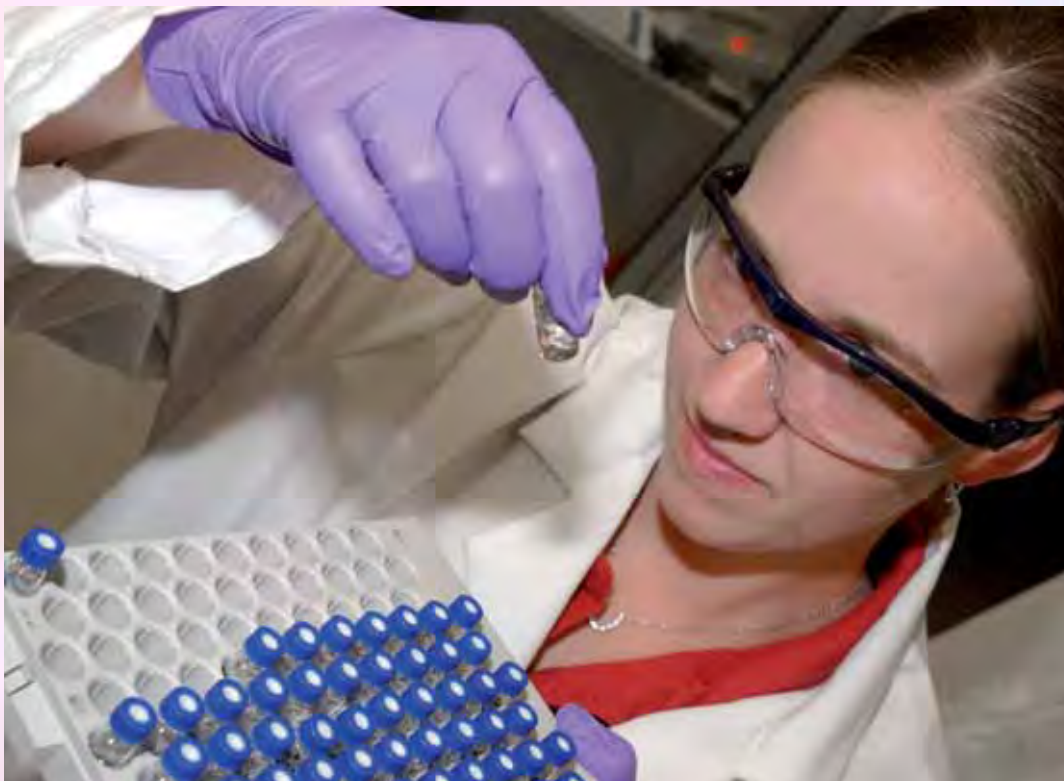
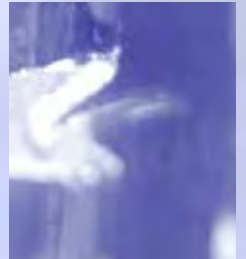
The campaign's central large-scale event, the first Long Night of Research in 2005, can rightly be considered a "flagship project" of the "inno-

vatives-oesterreich.at” campaign, not just because of its high profile, but also because the response it generated among visitors and organisers. Almost two thirds of the visitors who were interviewed said they would recommend the Long Night of Research. Fifty-five percent said they would come to another Long Night of Research. Among the participating institutions, more than half those surveyed said the Long Night of Research had met their expectations, while 56 percent said they would be willing to oversee a station again if the Long Night of Research were repeated.

Room for Improvement

Of course, there were also a number of criticisms, especially as far as the organisational structures were concerned. The authors of the study called for “more clearly defined competencies” and a “clearer separation of content-related work and management activities”. A key aspect concerned the coordination of the indi-

vidual project activities and the management of their media presence by an agency with a clearly defined remit. The main criticism was that the contracts for these services were awarded to two different agencies, which not only made it more difficult for them to carry out their work and caused friction losses, but also meant that it was unclear to the project sponsors who exactly was responsible for what. Despite these organisational deficiencies, the projects organised under the joint umbrella of “innovatives-oesterreich.at” were carried out without delay or administrative strain, resulting in a high level of overall satisfaction on the part of the project sponsors about their participation in the campaign. Interest in submitting projects for a possible third campaign is correspondingly strong. Work has already commenced on a continuation and the suggestions for improvement set out in the evaluation are being incorporated into the concept for the campaign. ■





International Events

Fact Finding Mission about the Innovation System

From 3 to 5 October 2007 a delegation from the Austrian Council secretariat visited Dublin on a fact-finding mission in order to gain a deeper knowledge of the Irish innovation system in talks with representatives of the Irish research landscape. The Austrian Council wishes to intensify the exchange of information with international partner organisations as a matter of standard practice in order to obtain insights into other innovation systems with a view to drawing conclusions for national developments.

Ireland was chosen because the Irish RTI system has developed extremely dynamically in recent years. According to the “OECD Science, Tech-

nology and Industry Outlook 2006” the Irish “national policy frameworks” have been successfully adapted to the global challenges in an exemplary manner. According to the Global Innovation Scoreboard 2006, the Irish innovation performance ranks just below that of Austria in the category of “smart followers”.

Factors for Success

In the case of Ireland, the following factors for success were identified:

1. A sustained political commitment to the importance of RTI funding
2. The existence of a binding strategy document, the “Strategy for Science, Technology and Innovation” that is accepted by all players
3. Institutionalised coordination of the players

Participants at
the international
meeting of the
national councils
in Berlin



during the implementation of the strategy, including monitoring and

4. the targeted promotion of human resources (as a critical factor for development) at all levels of the education and innovation system.

Meeting of the International Research Councils in Berlin

On 10 and 11 May 2007 the meeting of the National Councils for Science and Research Policy of the EU member states was held in Berlin. The main theme of this year's conference was universities in their function as the essential basis for a country's innovation system.

The keynote speech with the title "Universities as Drivers of Regional Innovation Systems in East Germany" on the first day was given by Prof. Reinhard Huettl from the Brandenburg University of Technology in Cottbus. Prof. Huettl is also the vice president of acatech, the German Academy of Science and Engineering. The Austrian Council for Research and Technology Development was represented by the head of the secretariat Dr. Ludovit Garzik, who addressed the issue of "Human Capital for the Innovation Society: Contributions of the Universities".

The first day came to an end with a stimulating reception in the evening that was opened by the chairman of the German Science Council, Prof. Strohschneider, and the Permanent Secretary of State at the German Federal Ministry of Education and Research, Prof. Meyer-Krahmer. The second day of the conference opened with another interesting introductory speech by Prof. Gerhard Fettweis from the chair for Mobile Communications Systems from the Dresden University of Technology titled "From Research to Innovation to Business". The remainder of the day was filled with diverse presentations by the national research councils on the role of university research for the innovative capacity of a national economy.

Given the importance of the topic it was agreed that human resources should also play an important role at the next meeting of the councils. Numerous joint areas of action still need to be identified and outlined.

Overall, however, the meeting was marked by a consensus regarding the key strategic approaches in this area: greater public awareness of research and technology, measures to make degree courses in science and engineering more attractive, especially for female students, rapid implementation of the Bologna process to standardise the tertiary education system in Europe and measures to raise the status of degree courses in the humanities, social and cultural sciences.

The Austrian Council Research Trip to the USA

From 5 to 7 November 2007 a delegation from the secretariat of the Austrian Council visited Washington D.C. in order to gain a deeper knowledge of the U.S. innovation system in talks with representatives of the US research policy and funding sector. The USA was chosen because, together with Asia, it is consistently described by the European Union as the system, against which the EU competes.

According to the OECD in 2003 the USA was the biggest global spender on research and technology development with 285 million dollars or 42 percent of the OECD total. In contrast, the EU accounted for 31 percent of total spending within the OECD and Japan for 17 percent. The IMD World Competitiveness Yearbook 2006 ranked the U.S.A. in first place for its performance in basic and applied research, followed by Hong Kong and Singapore.

The meetings were organised and well-prepared by the Office of Science and Technology (OST) in Washington D.C. The recently appointed science attaché Phillip Marxgut, who followed Phillip Steger in this position, and Caroline Adenberger, the deputy head of OST, gave the delegates an insight into their own work and accompanied them to all meetings.

At diverse briefings, meetings and dinners with representatives from a wide range of institutions, the Austrian delegation was able to obtain a differentiated picture of the innovation system in the USA. Topics of discussion included the structure of R&D financing in the USA, the >





change in the still substantial level of public investment in basic research and human resources, the evaluation and collection of data and monitoring. Other items on the agenda were the current strategy “Rising above the gathering storm” and the forthcoming budget allocation. Discussions here dealt, for example, with the reorientation of the National Science Foundation away from a rigid funding of disciplines toward the promotion of interdisciplinary research and the importance of venture capital for R&D funding.

The main lessons are that the system in the USA is characterised by a great deal of differentiation, the individual large funding and policy institutions (must) each develop and submit their own strategic plans, but there is no real overarching broad national strategy. Each institution is obliged to undergo a standard assessment (upon the basis of which public funding is allocated). The principle of evaluation is firmly entrenched, but there is no overarching, comprehensive monitoring. As the collection of data (about what is funded, where and how) is neither obligatory

nor standardised, it is not possible to obtain a uniform picture of the RTI landscape. Industry is calling loudly for basic research and human resources to be publicly funded: In response to various demands the government only recently gave a commitment to invest in basic research and human resources, but this has not yet been reflected in funding as the annual budget has not yet been approved. ■

Ludovit Garzik and Michaela Topolnik (1 and 4 from left) visiting Kohl Gill, Patrick Hamilton, and Graham Pugh from the U.S. Department of Energy / Office of International Science and Technology Cooperation



All knowledge-based societies are based on communication and the exchange of information. The Austrian Council therefore invites respected experts from science, research and industry to discuss a host of important issues.



events



FameLab 2007 – 21 April 2007

Awakening an interest in and enthusiasm for science and research among young people is of the utmost importance to the Austrian Council. So what could be more logical than to give young scientists an opportunity to publicly present the results of their research? This is the aim of FameLab, a talent contest for science communicators, which in 2007 was held in Austria for the first time under the patronage of the British Council with the support of the Austrian Council.

FameLab candidates have only a few minutes to present their scientific idea to a jury of experts in a form that is both exciting and original. The most successful competitor was the mineralogist Robert Krickl, who impressed the jury with his explanation of zeoliths – silicate minerals which can store up to 40 percent of their dry weight in water.

Council Meeting “Wien denkt Zukunft” – 18 April 2007

At the 44th meeting of the Austrian Council, which was held in the Town Hall of Vienna at the invitation of the Mayor Dr. Michael Häupl, the RTI strategy of the City of Vienna “Wien denkt Zukunft” was presented and discussed.

This strategy process was presented by Municipal Department 27 (EU Strategy and Economic Development), represented by the departmental head and project manager Christian Wurm. The panel leaders Edeltraud Stiftinger, Michael Stampfer, Hubert Christian Ehalt and Thomas Madreiter then briefed the meeting on the current status of their panels. The Chairman of the Austrian Council Dr. Consemüller and Council member Albert Hochleitner were proponents of the accompanying committee. The discussion on the strategy process was led by Deputy Mayor Renate Brauner, who took the opportunity to

Large photo:
FameLab 2007
finalist
Pamela Burger

Small photo:
Minister Hahn with
Robert Krickl,
the winner of
FameLab 2007



announce that the closing event and presentation of the Vienna RTI strategy would be held on 6 November 2007.

In the second part of the meeting, Prof. Renée Schroeder presented the main points of Campus Vienna Biocenter's Vision 2020. Participants in the discussion that followed included the commercial director of the Institute of Molecular Pathology (IMP), Harald Iseemann, the CFO of Intercell, Werner Lanthaler, the then head of the Gregor Mendel Institute (GMI), Prof. Dieter Schweizer, and Josef Penninger, Director of the MBA (Institute of Molecular Biotechnology). Overall, the Austrian Council received a comprehensive overview of the planned future of the most important institutions in the life sciences, a field that has been defined as a key research area by the City of Vienna.

In her closing address, Deputy Mayor Brauner assured the Austrian Council that its suggestions would be picked up. She also expressed an interest in further discussions. Finally, the members of the Austrian Council were given a tour of the Campus Vienna Biocenter, during which representatives of GMI, IMBA and the Max Perutz Laboratories introduced the institutions and guided the visitors through their respective premises.

Conference "Austria's Future in Science and Research" – 1 June 2007

At a joint event under the title "Austria's Future in Science and Research" the Austrian Council for Research and Technology Development and the Austrian Science Council (ÖWR) presented common principles for a successful future for Austrian research and science policy.

According to the two Councils, Austria possesses an efficient science and research system which has developed dynamically in recent years. The reforms in the tertiary education sector and in the area of research funding have made a considerable difference in institutional terms and resulted in greater flexibility. However, there is still potential for improvement and the limits have not yet been reached. The discussion about how this potential can be fully

leveraged should be based upon an ideal vision for the development of science and research in Austria, and not just upon what is self-evidently politically feasible – even if the conclusions ought to be based on a realistic perspective.

After the elections in October 2006, both the ÖWR and the Austrian Council published science and research policy recommendations for the forthcoming legislative period. "Principles for a Successful Future for Austrian Science and Research Policy" were drawn up on the basis of the Government Programme and the known federal budget for science and research and were presented by the two Councils at their joint conference:

1. The main goal of all endeavours: An overall concept for Austria as a university and research centre and for the innovation system.
2. To strengthen an adequately funded, differentiated science and research system that is fit for purpose (key word: sharper profile).
3. Performance-based increase in the amount of funding used by applying international standards to the General University Funds (GUF).
4. Competition and definition of key areas not only at an intra-institutional level, but also at the inter-institutional level and including all research establishments.
5. Formation of new structures geared to the actual development of science and research combined with a cultivation of key research areas and profiles as well as the enhancement of existing performance profiles and the promotion of recognisable development potential at universities.
6. Greater autonomy for research establishments accompanied by the implementation and professionalisation of management, decision-making and reporting structures.
7. New forms of promotion for young scientists and new uninterrupted career models.
8. Greater internationalisation and a coordinated initiative for excellence and quality throughout the entire science system.
9. Coordination of and critical support for the development by the two Councils.
10. Greater emphasis on the link between the education system and the science and research system.



events



Focus on Renewable Energy at the Austrian Council Meeting in Güssing – 26 June 2007

“Renewable Energies and Energy Research” formed the focus of the meeting of the Austrian Council held in Güssing on 26 June 2007 at the invitation of the governor of Burgenland, Hans Niessl. At the European Centre for Renewable Energies (EEE), Burgenland’s technology commissioner Hans Binder presented the province’s strategy for RTI: Burgenland is currently (2007–2013) in the phasing-out period of the Structural Funds support as an Objective 1 region. In the area of research, technology and innovation, the phasing-out programme is focusing on the lead technologies energy and environmental technology, opto-electronics and ICT (North Burgenland).

Renewable energy has therefore been placed at the heart of the new funding programmes, with the clear goal of making Burgenland self-sufficient in electricity by 2013 and generating

100 percent of all electricity from renewable energy sources. However, this important contribution to climate protection is also intended to attract new companies to the province with the aim of increasing value creation and generating future-oriented jobs. To this end, research activities should be taken forward and research and industry brought together in networks which should also include the Fachhochschulen.

Burgenland also possesses a very successful and internationally respected model in the form of the European Centre for Renewable Energy. Güssing already generates 99 percent of its own energy requirement and 100 percent of the electricity it needs from renewable energy sources. The two directors, Reinhard Koch and Werner Rauscher, provided an insight into the activities of the centre and the “Energy Manager Training Course and Solar Technician Schools”. Prof. Hermann Hofbauer from the Vienna University of Technology also spoke about “R&D and Innovation at the Competence Hub Güssing”.

Participants at the Austrian Council meeting in Güssing visit the biomass thermal power plant



The meeting of all members of the Austrian Council addressed the long-standing demand for system evaluation (portfolio analysis of the Austrian research funding system). The ministries were invited to share their ideas and thoughts on the matter. The minister in charge, Werner Faymann, subsequently announced the system evaluation at the Alpbach Technology Forum (together with Minister Johannes Hahn's Research Dialogue).

The event ended with a tour of the biomass thermal power plant in Güssing.

Annual Conference of the American Evaluation Association: "Evaluation 2007: Evaluation and Learning" –

7 to 11 November 2007

The annual conference of the American Evaluation Association (AEA) was held between 7 and 11 November 2007 in Baltimore. Austria was represented by the platform FTEval, of which the Austrian Council is a member. FTEval was

able to present the platform's work at an exhibition and many members of the platform also provided material which was laid out for other participants to take home with them. Four members of the platform attended the conference.

The Secretary General of the platform, Klaus Zinöcker, played an active role at the event within the framework of the working group Evaluation in RTD, and also gave a presentation in his capacity as an evaluator. The book "Evaluation in Austrian Research and Technology Policies. A Summary of Austrian Evaluation Studies from 2003 to 2007", published jointly by the platform FTEval and the Austrian Council was well received by the approximately 2,000 participants from the USA, North and South America, Europe and Asia. The RTD workshop focused on Austrian, Korean and European (European Commission) RTI evaluation. There were also interesting presentations in the workshops on the lessons learned and on theories and methods of evaluation. The workshops and



Book cover:
"Evaluation of
Austrian Research
and Technology
Policies:
A Summary of
Austrian Evaluation
Studies from 2003
to 2007"

events



discussion forums ranged from evaluation in the areas of the social services, education and healthcare to foreign and development policy.

“Future Search & Assessment Workshops – Energy and End Consumers” – 26 November 2007

At the initiative of the Austrian Council and in cooperation with the Ministries for Transport, Innovation and Technology (BMVIT) and Economic Affairs and Labour (BMWA), the Institute of Technology Assessment (ITA) of the Austrian Academy of Sciences organised a participative public conference on “Future Search and Assessment – Energy and End Consumers”.

Steadily rising levels of energy consumption mean that measures will have to be taken to safeguard a secure supply of energy in the future. There is a broad consensus that it is not enough

to develop new technologies and more efficient products or service-oriented concepts. This participative approach was the main motive for the ITA project to discuss the goals and instruments of Austrian energy research with members of the public.

In the run-up to the project and as preparation for the Future Search and Assessment Workshop in November, a two-day closed conference was held at which consumer representatives, journalists and end consumers examined the topic “The Future of Household Energy” in detail.

With a view to moving the Austrian energy system toward greater sustainability, members of the public from throughout Austria gathered for a weekend in November and drew up mini-assessments for five selected topics and areas of technology. These were designed to show which measures members of the public con-

On the platform
(from left to right):
Gerald Vones
(BMWA),
Secretary of State
Christa Kranzl
(BMVIT),
Jürgen Stockmar
(Austrian Council)



sider to be particularly suitable or important for increasing energy efficiency and creating benefits for end consumers.

The results of this workshop then flowed into the BMVIT's experts' conference "e2050 - Energy and End Consumers" held immediately afterwards on the following Monday (26 November 2007), making an important contribution to the development of a strategy for Austria's energy future. The selection of future key areas and the strategic focus of the Austrian energy research programme were also supported.

"Creative Industries": Fusion of Culture and Technology – 4 December 2007

The creative industries are a relatively young sector which is emerging as a leading driver of economic growth and employment. They are characterised by a high degree of interdisciplinarity and are closely linked to the introduction and use of new technologies.

According to the second Austrian Creative Industries Report, every tenth company (in absolute figures: 30,000 companies) belongs to the creative industries. If the creative industries are compared with other sectors of the economy it emerges that – except for the effects on employment – they are even more important than the tourist industry in terms of the number of companies, revenues, earnings and gross value added. And this, although Austria is a classic tourist destination.

However, there is a blatant disparity between the importance of the creative industries and the perception of and regard in which this branch is held by industry, policymakers and the public. In an effort to raise awareness the Austrian Council for Research and Technology Development, together with the *ARGE kreativ wirtschaft austria*, the Austrian Chamber of Commerce (WKO) and the Ministry for Economic Affairs and Labour (BMWA) organised the kick-off event "creative industries on stage". The event, which was held on 4 December, addressed multipliers, politicians and professionals from industry, R&D and the creative industries. "creative industries on stage" can be

seen as the prelude to further steps toward the formulation of a creative industries strategy.

Film as a synonym for the bold implementation of the creative industries ran like a red thread throughout the entire event, which for this reason was held at the Urania cinema. Creation and innovation were the fixed points of the day – from the creatively designed invitation to interactivity in the form of SMS voting and the innovatively styled catering.

All speakers picked up and illuminated the diverse aspects of the event motto. The conference attracted respected figures from economics, research and technology policy, including Secretary of State Christine Marek from the BMWA, Reinhold Mitterlehner, Deputy Secretary General of the Austrian Chamber of Commerce, Gertraud Leimüller, chair of the *ARGE kreativ wirtschaft austria*, and Sonja Hammerschmid, head of Technology and Innovation at AWS. The international connection was provided by Ziga Turk, Slovenian minister and Lisbon coordinator, and Seamus Cassidy representing the European Commission. Practical relevance was provided by two companies from the creative industries which were introduced by their founders, and by Stefan Leitner-Sidl, the father of the innovative office-sharing schemes for young businesses, "Schraubefabrik" and the "Hutfabrik", who presented his latest brainchild, the "Rochuspark".

Position of the Austrian Council

The Austrian Council was represented by Gabriele Zuna-Kratky, who spoke about the fusion of culture and technology as an emerging thematic area. In her presentation she emphasised the importance for growth and industry of the original creative innovation processes that are made possible by the creative industries and their role as crucial competitive factors in a knowledge-based economy.

However, the central element of her speech concerned the bridging function of the creative industries between the humanities and cultural sciences, and the technical and natural sciences on the one hand and the market on the other. >





Problems of the Creative Industries

In the eyes of the Austrian Council, the creative industries face an array of problems. These include, for example, their fragmentation, the inadequate translation of creative potential into economic activities, the (as yet) insufficient attention paid to them by policymakers and the traditional industries, as well as dispropor-

tionately low access to funding and risk capital. Courses of action include improving access to capital, in particular risk capital, tax concessions for creative work, innovative procurement activities on the part of the public sector, and appropriate training and further training measures, especially business skills to support entrepreneurial activity. ■

On the platform (from left to right): Minister Ziga Turk (Slovenia), Gabriele Zuna-Kratky (Austrian Council), Gertraud Leimüller (ARGE creative wirtschaft austria), Secretary of State Christine Marek (BMW), Reinhold Mitterlehner (Austrian Chamber of Commerce)



The Austrian Council has been entrusted with the task of defining roadmarks for Austrian RTI policy. In this regard, the Council is only obligated to pinpoint concepts which will enable Austria's innovative capability to flourish to the maximum degree possible.



Ludovit Garzik
Head of the Secretariat

Review 2007: Strategy for Excellence Finalised

The new Government that was sworn in in January 2007 significantly shaped the work of the Austrian Council. Staff at the secretariat had to get to know new people at the political level, especially in the offices of the government ministers and accommodate their interests in the Council's daily work. However, all concerned were united by their common goal to shape and further develop the Austrian innovation system. The secretariat itself also welcomed a valuable new recruit in April 2007 when Johannes Gadner, who for many years worked for the parliamentary Green Party, joined the team.

Content-related work in 2007 was initially dominated by the finalisation and publication of the Strategy for Excellence. In a discussion that had almost worked the term "excellence" to death, this paper set out a host of visionary approaches in a realistic strategic framework. The topics of system evaluation and research dialogue, which had already been discussed at meetings of the Austrian Council in spring, were picked up by policymakers in summer at the Alpbach Technology Forum and tackled with a high level of

commitment and an ambitious timeframe. The Austrian Council is closely involved in these activities and is making a constructive contribution to the success of the plans.

The Austrian Council also attached great importance to an exchange of information with political representatives. On 27 November 2007, the chairpersons of the Austrian Council presented their contributions at the Government's "Zukunftsdialog Innovation", while a first informal discussion between members of the Austrian Council and representatives of the Research and Science Committee initiated a dialogue with Parliament.

Looking back, on the structural level it is the first rounds of the RTI Platform Austria that stand out. All provincial governors were persuaded to intensify cooperation between the provinces and the Federal Government. In terms of the secretariat's work, this success opens up the possibility of checking many topics against the reality in the regions with clearly identifiable and long-term contacts in the regions. ■

Outlook 2008: Long-Term RTI Strategy

In 2008 a key milestone in the development of the Austrian innovation system will be laid with the implementation of the system evaluation. In a parallel measure, the Austrian Council, the ministries and the other stakeholders will initiate the necessary strategy process. The results of these processes will then be amalgamated with

the input from the research dialogue and the system evaluation to create a long-term Austrian RTI strategy.

The main and overarching challenge will be how many people can be drawn to research in Austria both from within the country and from abroad. ■

Secretariat:

New to the Team: Johannes Gadner

In April 2007 Johannes Gadner joined the team at the secretariat. The earlier focus of his scientific work means that he brings with him a broad general knowledge of science theory and innovation research. His extensive experience of strategic processes and their implementation in a political environment is also extremely valuable. Immediately after taking up his position, Mr. Gadner was asked to supervise the Strategy for Excellence and in 2008 will support the implementation of this strategy and the development of strategic processes with a long-term focus. ■

Public Relations Work

In the fulfilment of its legal mandate the Austrian Council uses a variety of instruments to communicate with society at large. Thus a total of ten press releases were drafted and two press conferences organised as part of the Council's public relations work. All press releases can be viewed on the Austrian Council website at www.rat-fte.at. Furthermore, there were a number of media collaborations with a variety of partners designed to reach a wider audience beyond the narrow specialist community. Members of the Austrian Council and secretariat staff also produced a host of guest articles and took part in lectures and discussions. ■



The
Secretariat Team



the austrian council



Knut Consemüller

Chairman of the Austrian Council – Knut Consemüller was born in Dortmund, Germany, and studied ferrous metallurgy and economics. In 1991 he was appointed to the management board of the Böhler-Uddeholm group with responsibility for research and development. From 1976 to 1984 he was a member of the German technology advisory board.



Günther Bonn

Deputy Chairman of the Austrian Council – Günther Bonn studied chemistry at the University of Innsbruck. Following several research fellowships in the USA, including one at Yale, he was appointed to a full professorship at the University of Linz. Since 1995 he has held the chair for Analytical Chemistry and Radiochemistry at the University of Innsbruck. Until 2003 Bonn was a member of the FWF where he worked as a department head. He is currently a member of the University Council at the Medical University of Innsbruck.



Dervilla Donnelly

Dervilla Donnelly was born in Dublin and studied chemistry at the University of Ireland. In the mid-1980s she was appointed professor of photochemistry. Donnelly was a member and vice president of the executive council of the European Science Foundation and the European Science and Technology Association (ESTA). She is also the chairperson of the Dublin Institute for Advanced Studies.



Albert Hochleitner

The former CEO of Siemens AG Austria studied physics at the Vienna University of Technology. In 1965 he joined Wiener Schwachstromwerken where he soon took over the software development department. In 1992 he was appointed to the management board of the group and became its chairman in 1994. Albert Hochleitner has served as an expert on the industry-related aspects of research and technology policy for several years now.

Constitution

The Austrian Council for Research and Technology Development became a legal entity under public law on 1 September 2004 following an amendment of the Research and Technology Funding Act. It consists of eight members with voting rights, four of whom are appointed by the Minister for Science and Research and four by the Minister for Transport, Innovation and Technology. Four members of the Government serve on the Council in an advisory capacity. The members of the Austrian Council with voting rights are appointed for a five year term of office and may be reappointed for one further period.



Reinhard Petschacher

After studying communications engineering at the Vienna University of Technology, Reinhard Petschacher worked on optical systems for Daimler-Benz in Ulm before moving to the Siemens' micro-electronic development centre in Villach in 1980. He subsequently took over the management of telecommunications components development at the plants in Villach and Munich. Reinhard Petschacher is head of development at the Automotive, Industrial and Multimarket division of Infineon Technologies AG.



Hans Schönegger

Hans Schönegger studied business administration and business education at the University of Innsbruck. In 1995 he joined the Carinthian Economic Promotion Fund (KWF) as head of the funding department, and was appointed to the management board in 1998. Hans Schönegger has been managing director of Kärntner Betriebsansiedlungs- und BeteiligungsgmbH since 1998 and since 2002 has been responsible for the Lakeside Park Project.



Jürgen Stockmar

After obtaining his degree in mechanical engineering Jürgen Stockmar (who was born in Germany) worked for Audi and then Steyr-Daimler-Puch, where he was appointed to the management board with responsibility for research and development in 1985. After serving on the management board of Audi AG, he returned to Steyr-Daimler-Puch in 1990. In 1998 he assumed responsibility for global development and technology activities at Magna. He also teaches at the Vienna University of Technology.



Gabriele Zuna-Kratky

In the late 1980s Gabriele Zuna-Kratky worked at the media department of the Ministry for Education and Art. In October 1997 she was appointed director of the Österreichischen Phonothek. On 1 January 2000 she became the first female director of a technical museum, the Technisches Museum in Vienna. She is also a member of the University Council of the Vienna University of Technology, a trustee of the Deutsches Museum Munich and of the Berlin Museum of Technology.

Advisory Members

Mag. Wilhelm Molterer,
Vice Chancellor and Minister of Finance

Werner Faymann,
Minister of Transport, Innovation and Technology

Dr. Martin Bartenstein,
Minister of Economic Affairs and Labour

Dr. Johannes Hahn,
Minister of Science and Research

Secretariat

The secretariat supports the Austrian Council both in terms of organisation and content, in particular with regard to preparing and organising the meetings of the Austrian Council and working groups, and in respect of communication both within the Council and externally. Day-to-day operations of the Austrian Council are financed by the Ministry for Transport, Innovation and Technology. The head of the secretariat and members of staff (in alphabetical order):



Ludovit Garzik, MBA

Head of the secretariat, responsible for the management and coordination of the secretariat's activities and external representation
l.garzik@rat-fte.at



Johannes Gadner

Monitoring and support for the development of strategic processes with a long-term focus (e.g. Strategy for Excellence), precompetitive and business-related research, cooperation between science and industry, research for sustainable development, energy and environmental research.
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Alexander Holik

Back office and databases
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Silvo Korez

Basic and pre-competitive research, humanities and social and cultural sciences, biotechnology, international research cooperation, human resources, institutes of higher education
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Margarete Rohrhofer

Organisation, accounting, personnel and office management
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Bettina Ruttensteiner-Poller

Public relations work, advancement of women and gender mainstreaming, back-office
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Constanze Stockhammer

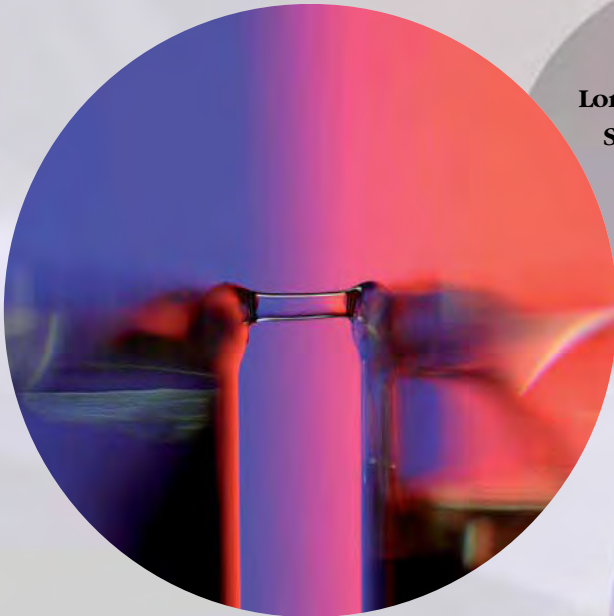
Business-oriented research, awareness raising for R&D, start-up and growth financing, SME and innovation funding, cooperation between the Federal Government and the provinces, nano-technologies, information and communication technologies, transport technologies
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Michaela Topolnik

Evaluation and new instruments of technology counselling, internationalisation and networking, especially RTI in the European Structural Funds, EU Framework Programmes for RTD, scenarios and modelling, monitoring, Austrian Academy of Sciences, indirect research funding, security research
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Fredy Jäger joined the secretariat team in April 2008.



**Long-term Innovation
Strategy**

... as a follow-up to Strategy
2010 and the Strategy for
Excellence



Evaluation

... because only a
consistent overall
picture promises
quality



**International
Events**

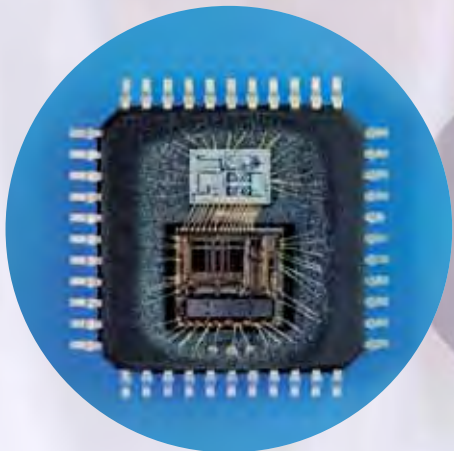
... because it's important to
look beyond our own horizon



Awareness

... because
research should be
the talk of the town

key areas for the austrian council in 2008



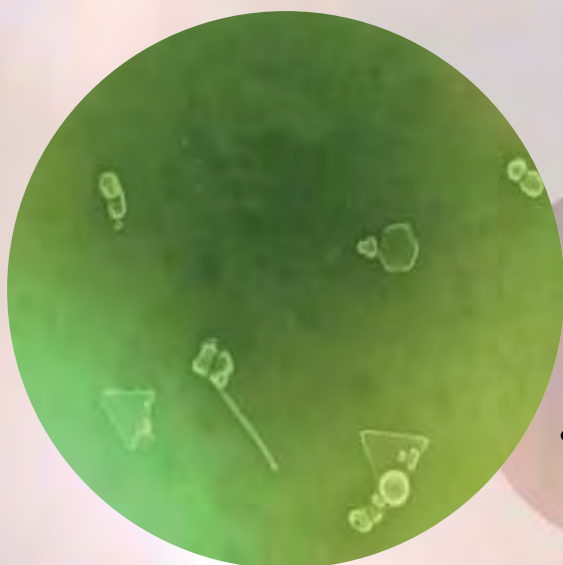
ICT

...because such a broad emerging thematic area needs a strategic framework



Human Resources

... because the men and women who carry out science and research are the most important capital in this area



Modelling

... because we need a simplified description of reality

contact



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