Background Paper

WWTF Review Panel

January 2008

Wiener Wissenschafts-, Forschungs- und Technologiefonds

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Introduction

This background paper serves as an information base for the external Review Panel to evaluate WWTF in January 2008. It has been prepared by the WWTF office based on different documents and sources. Our aim is to give the Panel a digestible and readable overview on why – and based on which strategy – WWTF has been installed, what its mission, goals, instruments and procedures look like and what our record has been so far.

Being a young and small funding organisation this Review is the first external evaluation of WWTF as an institution. We see this background paper as part of a common learning process (though with different roles of the participants), and we want to procure an extra bit of evidence for this upcoming evaluation exercise. We aim to be as clear and as explicit as possible and try not to mix evidence and our own view.

The review exercise has first been subject to discussion in fall 2006 in the Board of Directors, the fund's decision making body. This board commissioned the evaluation not only for the purpose of seeing what has been achieved, but also to learn for the future. Tasks and scope are laid down in the Terms of Reference (see Appendix XIII). The 2004 WWTF evaluation concept did already foresee also evaluation steps beyond the project and programme level.

Apart from this background paper a number of selected documents should provide useful information, the most important parts of a number of it having been translated into English for the purpose of the Review Panel. These documents include core statements from our statutes ("Fondssatzung"), our 2002 strategy paper, the WWTF funding guidelines ("Förderrichtlinien"), the evaluation concept, selected background papers for different funding calls and others.

A note on WWTF funded outputs: As the first bunch of funded projects has just ended, an overview of outputs is just being collected as part of the Review exercise. Outputs like publication, patents, career steps will be presented in a distinct document in the meeting.

Members

- Wilhelm Krull, Chairman, Secretary General of Volkswagen Foundation
- Angelika Amon, Professor of Biology, Massachusetts Institute of Technology (MIT)
- Fritz Bach, Director of the Immunobiology Research Center, Professor of Surgery, Harvard Medical School
- Jakob Edler, Professor for Innovation Policy and Strategy, Policy Research in Engineering, Science and Technology (PREST), Manchester Business School
- Ole Fejerskov, Head, Institute of Anatomy, University of Aarhus
- Dorothy Guy-Ohlson, Director of Quality & Quantum International Research Evaluation, Stockholm, Sweden and scientific adviser to Interface Europe, Brussels.

1. WWTF in Brief – Eleven Questions and Answers

Q 1: What does 'WWTF' mean?

'WWTF' is the acronym for Vienna Science and Technology Fund, "Wiener Wissenschafts-, Forschungs- und Technologiefonds".

Q 2: What is the mission of WWTF?

WWTF shall improve the existing competence of (scientific) research in Vienna. WWTF shall contribute to critical masses of excellent research in selected fields *and* help to bridge excellence and relevance.

Michael Häupl, president of WWTF: "As a metropolis and as a European region, Vienna must invest in key areas of future development. Only if we manage to expand our strengths and to position ourselves as a centre of knowledge against the background of increasingly mobile and interlinked markets, will we be in a position to further increase our economic potential and our quality of life."

Q 3: What is the legal framework for WWTF?

WWTF is a private non profit fund. According to the Vienna Act governing Foundations and Funds WWTF belongs to itself. In contrary to a *foundation* most of WWTF's financial resources do not come from the returns of its own capital, but from a constant inflow of – private – money (see Q. 4). There are some special legal regulations for such funds in Austria, but the framework is very similar to typical not-for-profit companies or foundations here and elsewhere.

Q 4: Where does the money come from?

WWTF was founded in 2001 by two individuals and a banking foundation ("Private Foundation to Manage Equity Interests", "Stiftung zur Verwaltung von Anteilsrechten"). This foundation, the former governance body ("AVZ") of the Vienna Savings Bank, dedicates two thirds of its annual profits after taxes to WWTF.

Note that both the Foundation and WWTF enjoy tax advantages for being not-for-profit and this tax regime somehow limits the freedom of WWTF to spend its money: For example we would have tax problems if we funded commercial industrial R&D.

Note also: In the statutes of 2001 (revised 2002) WWTF has the right also to fund firms and development / application-oriented projects.

Q 5: What is the governance structure of WWTF?

There are two boards plus WWTF office: The *Board of Directors* consists of six people, including the two persons who founded WWTF, two representatives of the foundation and two from the academic side. Note: The two persons who founded WWTF are politicians, one being the Governor of Vienna, Michael Häupl, one the then-Vice Governor, Bernhard Görg. To uphold the character of a private institution they acted in their role of WWTF founders as private individuals not as representatives of the City of Vienna. The Board of Directors takes all the final decisions, on budgets, major administrative issues, new Calls and priority fields and also the formal decisions on which projects to be funded. (see Table 4: WWTF Board of Directors p.15)

The *Advisory Board* consists of 25 people. About two thirds are Viennese academics, most of them nominated by the six local scientific universities. The other members come from the regional parliament, the social partners and from City Hall administration. The main tasks of this board are to give advice to the Board of Directors in strategic and funding matters. Members of the Advisory Board also form the link between the fund and the international Jury / Review system. Note: In the 2001 statutes there was no set of regulations regarding reviewing and international quality control. (see Table 5: WWTF Advisory Board p.15)

The task of WWTF office is to keep things going, to prepare and propose funding activities, to administer all procedures and to be the interface to customers, i.e. the Vienna scientific community.

Q 6: How much money do you spend per year?

Our organisation disposes of an annual budget of approximately 7 – 9 million Euro. Administrative costs sum up to about 7 %. We started funding in 2003; since then more than 36 Million € have been allocated to projects and science chairs. From 2001 on the foundation has given a total sum of about 52 Million € to WWTF.

Q 7: Who is applicable for funding?

Potential main applicants are universities, not-for-profit research institutions and individual researchers. Business enterprises can be part of a consortium, but as contributors and not as recipients of WWTF funding money. Researchers and research institutions from outside Vienna can theoretically come forward as main applicant, but they need to have a very good reason why they want money from a fund whose task is to strengthen Vienna as a research location. In practice non-Viennese, also foreign research institutions and scientists are frequently partners in Viennese-led consortia and often also get WWTF funding money.

When WWTF is granting Science Chairs, we have a certain preference for Vienna universities (over Viennese non university research institutes) as applicants; if a full professorship is connected with the call, only Viennese universities can apply. Individuals cannot apply for a Science Chair but have to be proposed by the institution that selected them in the course of the proposal process.

All contractual partners of WWTF are institutions, even if successful applicants have been individuals. Note: There has been a long history in Austria to accept individuals as contract partners; for the Austrian Science Fund this was a rule without exception – and a vote of no confidence to universities as contract partners – over decades!

Q 8: What are the main instruments WWTF uses to fund science and research in Vienna?

WWTF applies two different funding instruments (research projects and endowed Science Chairs / Group leaders) within defined thematic programmes. With the instrument of Science Chairs WWTF offers up to 1.5 Million € for a maximum of five years to bring a very good group leader from abroad to Vienna. Projects are in the range of 200.000 to 1 Million € (though no formal upper limit exists); they run for two to four years. Note that in our funding guidelines we have the theoretical possibility to come forward also with special small grants for some kinds of research related activities but this instrument has only be used in two cases in 2003.

The following three thematic programmes are currently running: 'Life Sciences', 'Mathematics and ...', 'Science for Creative Industries'. Competitive calls are issued within the programmes, both for Science Chairs and for projects. There may be a specific focus of a call; examples are "Five Senses" within 'Science for Creative Industries' or a special emphasis to fund High Potentials in 'Mathematics and ...'. Science Chair calls are always focused because this instrument serves to strengthen certain subfields, to build interdisciplinary bridges or to close specific gaps in Vienna.

Q 9: How does WWTF choose thematic programmes?

Part of WWTF's work is analysis. We try to know where Vienna stands in the different fields and disciplines. Our priority setting comes partly from a "strengthening strengths" strategy, partly from the fact that we are small and have to concentrate resources. Beginning from the 2002 Strategy Paper (see Appendix VII) we regularly come forward with analyses, comparisons and background papers, partly home-made, partly commissioned to experts, partly in cooperation with other Viennese agencies and authorities, partly in the frame of two EU FP 6 regional benchmarking projects.

There are two sources for potential new programmes: (i) Ideas and requests from our Boards and (ii) evidence, interviews and screening of existing studies. In both cases the same procedure applies: Before a new thematic programme or a focussed call starts we always try to find out if there is a need and if enough competitive research groups exist in Vienna in the envisaged fields. Likewise we take a look at existing regional, national and European funding programmes to see whether there are signs for quality but also if other funding bodies already pour sufficient money into a certain field. Finally we try to get an idea if funding a certain scientific field also has potential medium term impacts on society and local industry (sometimes a tough job!).

We get a lot of help from our Advisory Board, we interview up to thirty people per case, use all the available data and finally come forward with an explicit analytical study plus a background

paper for the decision making process in our Boards. Note that the analysis of several ideas in the last years has also led to decisions not to go into certain fields.

Q 10: How does WWTF select its projects and endowed chairs/group leaders?

The two main motivations for the big 2002 strategy paper and the strict 2002 Funding Guidelines have been the following: First we wanted to be as explicit as possible and to close all potential side doors; the second was that in the 2001 statutes no provision was made for quality control beyond the local boards.

The latter brought WWTF to formulate a strict "international peers only" policy. Over the first two calls this international peer review (current average four peers per proposal) was complemented also by exclusively international juries. From 2003 on a typical call starts with the selection of such an international expert jury, in some cases the names of potential members come from international organisations, journal editor boards etc. The next step is that this jury says which proposals are eligible to peer review and who potential peers can be. WWTF office administratively supports these procedures. After the written reviews are in, the jury meets for two days in Vienna and gives an expert recommendation to both Boards.

Note that in all the WWTF calls the Boards have followed all jury recommendations.

Q 11: How does WWTF organize the monitoring of its projects and endowed chairs/group leaders?

Twice a year project leaders send in a short report, mainly with financial data. This is coupled with the payment of the funding instalments. Apart from this we organise workshops for cross-learning, for better handling intellectual property rights and similar events. All projects are subject to a site visit by WWTF office once in their lifetime. The first two Science Chairs have been evaluated by Review Panel member Jakob Edler on organisational and structural issues.

2. An Inter(nal)view: Some remarks on the hidden and even not so hidden agenda of WWTF

Klaus[1]: Michael, envisage the following situation: You are in your bed, and fast asleep: Suddenly somebody is getting you up in a pretty rude way, asking the following question: "What do you want to change with WWTF?" What is your answer?

Michael: Huh! What time is it? … (long pause) … WWTF shall help to make Vienna a real good location for scientific research. Vienna is on the way but not there already. Our contribution is to invest into very good groups and important fields … and to provide some incentives to accelerate structural change within these research institutions.

Klaus: OK, "scientific research". In all WWTF documents, the "quest for excellence" in Viennese science is a guiding principle. Why? In other words, there are lots of brave missions for funding bodies like ours – 'encouraging SMEs to do more R&D', 'public understanding of science', 'spin off funding', things like that. Why excellent science?

Michael: There are two answers to this. First, in 2002 we looked at the research and at the funding scene and saw that considerable and focussed funding for excellent research was (and is) the thing that was needed most. We have an incredible number of programmes heading at industrial research and the science – industry interface in Austria. Second, within this general quest for internationally competitive scientific research we also ask for relevance of the funded projects. This can be societal as well as commercial; and it can take a longer time to evolve. There is a third and formal reason caused by our statutes: we are a philanthropic fund with tax privileges and we could be in danger to lose these privileges when doing things with a direct commercial element.

Klaus: I have problems with the term "excellence", when I see the German excellence initiative for science discussed in breakfast TV. Why can't we replace it with, e.g., 'quality'?

Michael: No problem with me, as long as it is top quality in a worldwide context. We ask our reviewers if they would rank our proposals into the top 15% in their own country. This is the benchmark. Note also the different sizes and meanings of "excellence" discussions. We are happy when our project results make it into the Vienna breakfast TV network.

[1] Klaus Zinoecker is programme manager at WWTF since 2005. Michael Stampfer is the managing director of WWTF since 2002.

Klaus: Let's go back to your answer before. On the one hand, we want to fund excellent scientific research, on the other hand, we want to fund projects, that have a medium term commercial or social benefit. What do you think: Is this a 'mission impossible' or are there enough "Tom Cruises" at the Viennese research institutions?

Michael: We should always remember that the briefings in "Mission Impossible" destroy themselves within 30 seconds. Regarding our original task: This is the mission we have to follow in the framework of our statutes and rules. In our calls we ask for top quality first, and relevance is the second question. WWTF is aware of long time spans and imponderabilities on the way of scientific results towards markets. What we do is granting only proposals with a perspective for mid term relevance beyond "more research is needed" and we accompany projects and institutions with instruments like IPR workshops.

Klaus: Via its thematic programmes, WWTF funds special (thematic) research fields: Life Sciences, applied Mathematics, (Science for) Creative Industries: Are there no good scientists outside these areas in Vienna?

Of course there are! The question here is: "What can you do with max. 10 Million € per year?" We have to concentrate, we do it carefully along a number of criteria and we strongly take into account the official Viennese innovation strategy.

Klaus: The average project at WWTF is € 600.000 for three years. Compared to other Austrian funding instruments, that is a considerable amount. What was the reason for pushing our applicants in a 'bigger' and 'long-ranging' direction? And is it big and long ranging enough?

This is because we think that size matters. Take for example the humanities and social sciences that were for decades happy with cosy small grants in Austria, because they did not get anything else. This was an attitude, and it changed with European programmes and funds like ours. The "long ranging" issue preoccupies me rather when we speak of funding persons (like Science Chairs) and not with projects.

Klaus: There are no scientific officers working at WWTF. In my point of view, this is more a chance than a problem. Anyway, a wise man once said: "Only Scientists can make good science policy". How do you overcome this tension?

I like our approach, too … but to be honest an organisation with six, seven employees and different priority areas does not have too many choices. Furthermore we do not make science policy, but I have also never understood why some academics want to be totally exclusive in their own circle when it comes to research funding.

Klaus: OK, I put you on the wrong direction. Who is the advisor, when you are designing new initiatives and programmes?

WWTF has a very active and strong Advisory Board with a number of Viennese top scientists working intensely for the fund. Moreover numerous experts help as interview partners, in focus groups or writing studies for us. The lack of scientific officers was one of several reasons why we strongly rely on international expert juries.

Klaus: During the last "Mathematics and…" call, I had to send more then 1.400 emails to get about 130 reviews. Couldn't we find a more relaxing way to do our review process, e.g. offering financial compensation or asking the advisory board to do the work for us?

It is important to note that 1.400 mails was the overall communication workload and that – thanks to the help of juries – our "success rate" to find reviewers is above 50%. Regarding relaxation: The review process is our core business process. There should be no local or Austrian participation in it, we need average four reviews per proposal and we need independent experts to interpret the reviews. Internationality and high quality processes should be recognized as trademarks for WWTF work.

Klaus: WWTF is rather tiny, compared to other funding bodies. E.g., we spent about 1/15 of the budget of the Austrian Science Fund. What do you think: are we overambitious?

Yes and I like that.

Klaus: Can a fund like ours have any impact on science, and, beyond, on economy and society (great big words,…)? Would Vienna be different without WWTF? I know, that is a question others should answer, but give at least some hints how to measure such a difference.

Indeed this is one main question for evaluations. I am optimistic that over the years considerable scientific results, some structural changes and a quite a few commercial success stories / societal impacts will be there due to WWTF funding. The challenge will be to keep that in memory, to trace it back in a few years (there are always different success factors and different proud fathers and mothers and grandparents) in a real impact evaluation. What we need is a rare thing: it is patience.

3. Vienna – Main Indicators

Vienna is the capital of Austria and according to its statutes both a city and one of nine federal provinces (*Bundesländer*) of Austria. It has about 1.6 million inhabitants (which is about one fifth of the Austrian population) and covers 414 km^2 (which is 0.5 % of the Austrian area). Vienna's economic performance is considered overall satisfactory as GDP per head is clearly above national and European average.

As regards research and innovation Vienna is clearly the hot spot of Austria, both for the university and the company sector. More than 40 % of R&D employees and expenditures for R&D in Austria are allocated to Vienna. The strength of Vienna is based on a mix of university based and non-university based basic research which is complemented by applied research.

Table 1: R&D Key figures for Vienna, 2004

	Vienna	Share in Austria
R&D units (companies and universities)	1,007	29 %
R&D employees (FTE)	17,383	40 %
R&D expenditures	2,184 Mio. €	42 %
thereof business sector	1,257 Mio. €	35 %
thereof public sector (higher education + state sector)	909 Mio. €	54 %
thereof private-non profit sector	18 Mio. €	83 %

Source: Statistics Austria, 2007

The most important funding source for R&D in Vienna is the federal government (including budget of national research funds FWF and FFG[2]), which is also due to the fact that nine universities (which are basically funded by the federal government) are located in Vienna. Further, national enterprises and funding sources from abroad are very important for R&D in Vienna.

[2] Austrian Science Fund FWF (basic research), Austrian Business Promotion Agency FFG (applied research)

Table 2: R&D quota and funding shares of R&D expenditures, 2004

Funding source	Vienna	Austria
R&D quota (as a % of GDP)	3.13 %	2.24 %
National enterprises	32.6 %	47.2 %
Abroad (including international organisations, without EU)	25.3 %	17.7 %
State	36.1 %	29.0 %
Federal provinces and local authorities	3.1 %	4.1 %
Private-non profit sector (including WWTF)	0.8 %	0.5 %
EU	2.0 %	1.7 %

Source: Statistics Austria, 2007

As regards research output in terms of publications Vienna ranks 20th among the top European regions: 1.16 % of all EU 25 publications are assigned to Vienna.

Table 3: : Publications as a share of EU25 publications

Rank	Region	Biology	Medicine	Applied biology	Chemistry	Physics	Geosciences	Engineering	Maths	all
1	London (UK)	4.97	6.41	1.49	1.61	1.87	2.11	2.71	1.95	3.93
2	Paris intramuros (FR)	3.17	3.07	1.35	1.60	2.14	2.50	1.38	3.87	2.50
7	Munich (DE)	1.82	1.81	1.40	1.36	2.20	2.36	1.60	0.95	1.77
9	Rome (IT)	1.72	1.78	0.95	1.05	2.13	1.91	1.61	1.84	1.65
11	Berlin (DE)	1.63	1.71	1.13	1.59	2.41	0.90	1.21	1.40	1.61
14	Grande couronne parisienne (FR)	1.27	0.32	1.21	1.65	3.56	1.56	1.80	3.17	1.40
15	Helsinki (FI)	1.47	1.34	2.10	1.10	1.08	1.57	1.45	0.82	1.35
16	Stockholm (SE)	1.70	1.53	0.65	1.13	0.95	1.12	0.99	0.58	1.27
20	**Wien (AT)**	**1.06**	**1.53**	**1.10**	**0.82**	**0.99**	**0.86**	**1.01**	**1.17**	**1.16**
22	Amsterdam (NL)	1.27	1.65	0.68	0.53	0.77	1.15	0.87	0.90	1.14
25	Petite couronne parisienne (FR)	0.87	1.56	0.30	0.76	0.64	1.01	1.09	0.93	1.06
	Sum top 25 European regions	**43.70**	**43.10**	**33.60**	**33.10**	**40.20**	**40.40**	**36.10**	**37.80**	**39.90**

Source: Observatoire des Sciences et des Techniques, (OST), Paris, 2006

Sample: 260 European regions (mainly at NUTS2 level)

4. WWTF: Mission and Vision, Legal Framework, Funding Source

The mission of WWTF is to contribute in making Vienna a better research location and to foster both excellent and relevant research. The vision is that in fifteen, twenty years from now, Vienna is playing in the European top league of cities / regions regarding scientific outputs and impacts, attractiveness for talent and economic rewards. WWTF as a small actor can only play a certain role in this process; and there are numerous other actors and sources active in this field. However the challenge for the fund is a long term exercise.

Note that there is a mix of factors in this respect: A proud tradition of scientific excellence long ago, real difficult times from the 1920ies to the 1970ies and a slow but steady catching up process of Austrian research over the post war period, leading to a situation today with rising investments and into research. The universities have just begun to (fundamentally) change. Critical masses and a quest for excellence are on the rise. What happens here is important for Austria in general: Vienna stands for about 40% of Austria's scientific research base. A little more information is given in Appendix VII.

For the mission and goals of WWTF see also the attached Funding Guidelines, Appendix VI.

WWTF was founded in 2001 by two individuals and a banking foundation ("Private Foundation to Manage Equity Interests", "Stiftung zur Verwaltung von Anteilsrechten"). This foundation, the former governance body ("AVZ") of the Vienna Savings Bank, dedicates two thirds of its annual profits after taxes to WWTF. Note that both the Foundation and WWTF enjoy tax advantages for being not-for-profit and this tax regime somehow limits the freedom of WWTF to spend its money: For example we would have tax problems if we funded commercial industrial R&D. Note also: In the original statutes of 2001 WWTF has the right also to fund firms and development / application-oriented projects.

WWTF is a private non profit fund. According to the Vienna Act governing Foundations and Funds WWTF belongs to itself. In contrary to a *foundation* most of WWTF's financial resources do not come from the returns of its own capital, but from a constant inflow of – private – money. There are some special legal regulations for such funds in Austria, but the framework is very similar to typical not-for-profit companies or foundations.

5. Governance: WWTF Boards, and the Office

There are two boards plus WWTF office: The ***Board of Directors*** (see Table 4) consists of six people, including the two persons who founded WWTF, two representatives of the foundation and two from the academic side. Note: The two persons who founded WWTF are politicians, one being the Governor of Vienna, Michael Häupl, one the then-Vice Governor, Bernhard Görg. To uphold the character of a private institution they acted in their role of WWTF founders as private individuals not as representatives of the City of Vienna. The Board of Directors take all the final decisions, on budgets, major administrative issues, new Calls and priority fields and also the formal decisions on which projects to be funded.

Table 4: WWTF Board of Directors

- Michael Häupl, *Governor and Mayor of Vienna, President of WWTF*
- Bernhard Görg, *former Vice Mayor of Vienna, Vice President of WWTF*
- Gerhard Mayr, *Executive Vice President Eli Lilly & Co., retired*
- Gerhard Scharitzer, Chairman *foundation "Privatstiftung zur Verwaltung von Anteilsrechten" – „Private Foundation to Manage Equity Interests"*
- Peter Schuster, *President of the Austrian Academy of Science*
- Georg Winckler, *President of Vienna University*

The ***Advisory Board*** consists of 25 people (see Table 5). About two thirds are Viennese academics, most of them nominated by the six scientific universities. The other members come from the regional parliament, the social partners and from City Hall administration. The main tasks of this board are to give advice to the board of directors in strategic and funding matters. Members of the Advisory Board also form the link between the fund and the international Jury / Review system.

Table 5: WWTF Advisory Board

Chairman:

- Thomas Oliva, Managing Director of the Viennese branch of the Federation of Austrian Industry

Other members of the board (in alphabetic order):

- Christoph Badelt, President *Vienna University of Economics and Business Administration*
- Hermann Buerstmayr, *Professor for Biotechnology, University of Natural Resources and Applied Life Sciences* Vienna
- Hubert Christian Ehalt, *Head of the division for science funding, City of Vienna*
- Johanna Ettl, *Vice Director of the Vienna Chamber of Labour*
- Wolf-Dietrich Freiherr von Fircks, *President of the University of Veterinary Medicine Vienna*
- Martin Graf, Member of the Austrian National Assembly, *Austrian Freedom Party*

- Hans Robert Hansen, *Head of the Institute for Management Information Systems, Vienna University of Economics and Business*, nominated by *„Private Foundation to Manage Equity Interests"*
- Markus Hengstschlaeger, *Medical University of Vienna*
- Andreas Hoeferl, *Assembly of the Province of Vienna/ Social Democratic Party of Austria*
- Georg Jodl, *Professor, Head of Institute for Interdisciplinary Building Process Management, Vienna University of Technology*
- Josef Kramhoeller, Head of Department for financial matters, *City of Vienna*
- Gottfried Magerl, *Professor, Head of Institute for Theory of electrical engineering, Vienna University of Technology*
- Eberhard Nachbagauer, foundation *"Privatstiftung zur Verwaltung von Anteilsrechten" – „Private Foundation to Manage Equity Interests"*
- Helmut Naumann, *Head of Department for Economic Policy, Vienna Chamber of Commerce*
- Franz Roemer, Professor of classical philology, *Dean of the Faculty of Humanities and Social Sciences, University of Vienna*
- Arnold Schmidt, *Chairman of the Supervisory Board of the Austrian Science Fund (FWF) and Professor emeritus for Physics at the Vienna University of Technology/*
- Renée Schroeder, *Head of the Department of Biochemistry, Max F. Perutz Laboratories, University of Vienna*
- Karl Sigmund, P*rofessor for mathematics at the University of Vienna/ former Vice-President of the Austrian Science Fund (FWF)*
- Claudia Smolik, *member of the Assembly of the Province of Vienna/Austrian Green Party*
- Barbara Sporn, Vice-Rector Research, International Affairs and External Relations, *Vienna University of Economics and Business Administration*
- Roman Stiftner, *member of the Assembly of the Province of Vienna / Austrian People's Party*
- Peter Swetly, Vice-Rector Research, *University of Veterinary Medicine Vienna*
- Gerlind Weber, *Head of Institute of Spatial Planning and Rural Development at the University of Natural Resources and Applied Life Sciences Vienna*
- N.N., *Medical* University of Vienna

The task of ***WWTF office*** is to keep things going, to prepare and propose funding activities, to administer all procedures and to be the interface to customers, i.e. the Vienna scientific community.

Table 6: WWTF Office

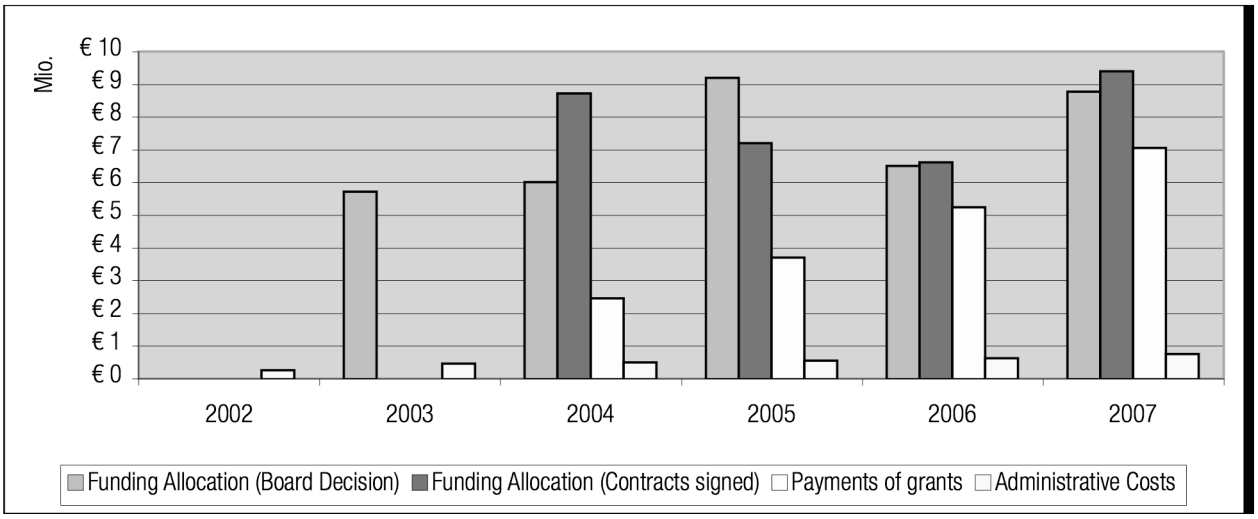
Michael Stampfer	Managing Director
Klaus Zinöcker	Programme Manager
Michaela Glanz	Programme Manager
Daniela Frischer	Programme Manager
Marita Benkwitz	Controller, Programme Manager
Silvia Benes	Back Office

WWTF office is supported by a small number of students and free-lancers.

Right from the beginning WWTF Board of Directors has noted that an effective administration of WWTF total endowment is necessary. Administrative costs per annum amount to about 7% of grants awarded (over a number of years). WWTF office holds this relation, also with the help of some extra income due to programme management for the City of Vienna or giving advice / writing studies for third parties. Note that for a small organisation like WWTF the overhead issue is a constant struggle due to the lack of economies of scale (fixed costs, marketing, public relations etc.) Grants awarded may fluctuate from year to year and as many calls end with funding decisions at the end of the year, contracts often are concluded in the following year. (see Figure 1).

Figure 1: WWTF Budget

Note that only WWTF funding is included here and in the next figures; from 2006 on also public funds were available for some special programmes (see chapter 15).



6. Funding History

WWTF receives its funds from the foundation "Privatstiftung zur Verwaltung von Anteilsrechten". According to its statutes the foundation is to allocate two thirds of its annual surplus after taxes to WWTF. This arrangement is the result of a kind of privatisation process. The City of Vienna had a strong stance in the Vienna Savings Bank, then Bank Austria. When it was merged into an international banking conglomerate, the foundation was set up to hold equity, including Unicredit shares.

In 2001 / 2002, before WWTF started its operative work, it received the first payments from the foundation. Since then, once a year in October an endowment is being made. In 2003 WWTF received a repayment of capitals yield tax. The development of WWTF's endowment is shown in Table 7:

Table 7: Budgets of WWTF

Year	Endowment
subscribed capital	2,471,603
2001/2002	11,495,590
2003	6,023,500
	refunded tax 3,831,863
2004	6,093,200
2005	6,272,200
2006	7,576,180
2007	8,476,786
total	**52,230,922**

According to these endowments WWTF can allocate about 7 to 10 Million € per year. The fund has actually about 25 Million € own assets, most of it in bonds. Part of it serves for future calls and as a reserve in case of lower inflows. Part of this sum is money already allocated but not yet transferred to recipients, as WWTF funding comes in regular instalments. Note that all such obligations are backed by earmarked WWTF assets. Together with investment bank specialists WWTF office is responsible for financial planning.

As described in chapter 7 WWTF grants funding within different thematic programmes mainly by two funding instruments: calls for research projects and calls for endowed science chairs. Table 8 shows a chronology of all WWTF funding so far, and Table 9 classifies the funding in instruments and programmes.

Table 8: Chronology of Funding

Year	Area of Funding	Funding Instrument	Grants awarded
2003	Life Sciences	Project Call	5,670,000
2003/2004	Science for Creative Industries	Project Call	3,000,000
2004	Bioinformatics (Life Sciences)	Science Chair Call	3,000,000
2004/2005	Mathematics *and*…	Project Call	4,190,000
2005	Life Science	Project Call	5,000,000
2006	Science for Creative Industries	Project Call	3,397,600
2006	Mathematics *and*…	Science Chair Call	2,998,600
2007	Mathematics *and*…	Project Call	4,472,900
2007	Life Sciences	Project Call	4,303,800
Total			**36,032,900**

Note that for the Life Sciences Call 2007, 6 Million € were originally reserved but only 4,3 Million € were allocated by the expert jury. Note also that e.g. in the Life Sciences Call 2003 5 Million € originally were reserved but 5,67 Million € allocated by the expert jury.

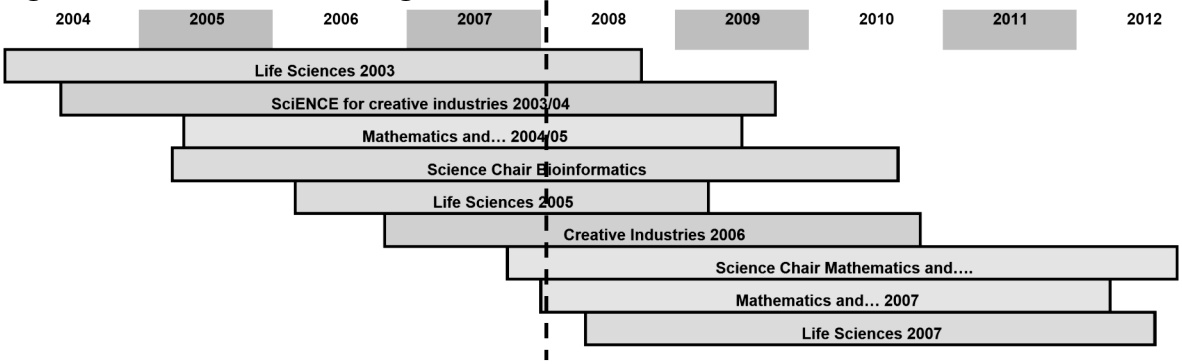
Table 9: Classification of funding decisions (by instrument and programme)

	Total Funding (2002-2007)	No of projects (2002-2007)	Intended Funding (2007-2008)
Projects			
Life Sciences	15 Mio	24	
Science for Creative Industries	6.4 Mio	19	
Mathematics *and*…	8.7 Mio	19	
Science Chairs			
Bioinformatics (Life Sciences)	3 Mio	2	
Mathematics *and*…	3 Mio	2	
Life Sciences			3 Mio (for 2 science chairs)
Science for Creative Industries			3 Mio (for 2 science chairs)
Total Funding			
2003-2007		36 Mio	

Time Scale for WWTF-Funding

This timescale includes the whole duration of all projects within a specific call, from the start of the first project to the termination of the last one. It also includes prolongations and breaks for some projects. (Notably within those calls, which are about to expire soon.)

Figure 2: Time Scale for Funding



A detailed overview on all WWTF-funded projects and science chairs can be found in Appendix I.

Success Rates

Funding is competitive at WWTF; Success Rates range from 8,7% (Life Sciences 07) to 26,8% (Mathematics and… 07). The number of proposals submitted range from 34 (Creative Industries 06) to 77 (Life Sciences 07). So, with an overall of 349 applications in five years, the overall success rate is 17,8% (in terms of numbers of proposals) and 15,6% (in terms of money), respectively.

The following table lists all WWTF Calls and the submitted proposals. Please note that the figures for the Science Chair Calls only have a very limited explanatory power, as the number of potential applicants, namely universities and research institutions, is small due to the different setup of the application process (see chapter 7, page 23). Note that in the first Science Chairs Call, WWTF intended to fund only one position, but jury and Boards were convinced of both proposals, so funding available was doubled.

Table 10: Success Rates for Project and Science Chair Calls

	total proposals	funded proposals	funding quota	funding applied for	funding granted	funding quota
Project Calls						
Life Sciences 2003	59	10	16,95%	39.630.095	5.670.000,00	14,31%
SciENCE for creative industries 2003/04	50	10	20,00%	20.893.452	3.000.000	14,36%
Mathematics and… 2004/05	45	9	20,00%	21.830.000	4.190.000	19,19%
Life Sciences 2005	47	8	17,02%	29.111.932	5.000.000	17,18%
SciENCE for creative industries 2006	34	9	26,47%	14.991.100	3.397.600	22,66%
Mathematics and… 2007	37	10	27,03%	16.700.000	4.472.900	26,78%
Life Sciences 2007	77	6	7,79%	49.229.200	4.303.800	8,74%
TOTAL	349	62	17,77%	192.385.778	30.034.300	15,61%
Science Chair Calls						
Science Chair Bioinformatics 2004	2	2	100,00%	3.000.000	3.000.000	100,00%
Science Chair Mathematics and… 2006	4	2	50,00%	5.998.600	2.998.600	49,99%
TOTAL	6	4	66,67%	8.998.600	5.998.600	66,66%

Table 11: Science Chairs

Already established Science Chairs

Science Chair for Bioinformatics				
BI01	David Kreil		**1,500,000**	http://www.biotec.boku.ac.at/bimems.html?&L=1#c14702
BI02	Arndt v. Haeseler		**1,500,000**	http://www.cibiv.at/~haeseler/

Science Chair for Mathematics and…				
MA 0602	Damir Filipovic	Finance	**1,500,000**	*http://www.mathematik.uni-muenchen.de/personen/filipovic.php*
MA 0603	Joachim Hermisson	Mathematics and Life Sciences	**1,498,600**	*http://www.biologie.uni-muenchen.de/ou/theopopgen/joachim.htm*

Science Chairs Pending (Funding decision in 12/2008)

Science Chair for Science for Creative Industries (Cognitive Sciences)				
#	***t.b.a.***		***1,500,000***	
#	***t.b.a.***		***1,500,000***	/
Science Chair for Life Sciences				
#	***t.b.a.***		***1,500,000***	
#	***t.b.a.***		***1,500,000***	

7. Funding Instruments, Thematic Programs

Thematic Programmes

WWTF employs its funding instruments within the framework of defined programmes; these programmes can either be thematic (e.g. "life sciences") or problem-based. Once a programme has been defined and confirmed by WWTF's boards, it runs for a several years and serves as an umbrella for a number of calls. Temporary calls for proposals invite scientists and research institutions from Vienna to submit applications. Companies are not addressed by WWTF.

The general approach of WWTF for establishing a new programme follows the tripartite approach of *identification of topics – validation (according to criteria listed below) – decision making*. In general, the WWTF Advisory Board and the Board of Directors first propose interesting and promising fields within the Viennese research landscape. In most cases this step is linked to external studies or interviews with experts active in the respective field of research. In a second step the WWTF office evaluates the proposed topic on the basis of the criteria listed below. This step involves extensive analysis via conducting interviews, reviewing of existing literature and collecting information on the topic's anchorage within the Austrian research, funding and enterprise landscape in order to create a sound basis for the decision of the WWTF Board of Directors on whether or not to set up a new programme.

WWTF's criteria for new funding programmes to be analysed within the validation phase:

- Complementing or duplicating of existing funding programmes
- Ability to support or to thwart respective policies by the Vienna city government
- Sufficiently high number of potential applicants to allow for competition
- Existence of excellent fundamental research in Vienna
- Aiming at establishing a critical mass
- Set of relevance criteria: Potentials for contributing to a stronger integration of Viennese research institutions; Possibilities for medium or long-term potential benefits; Presence of innovative enterprises that might profit from research in the respective field

Note that currently WWTF is about to prepare a fourth priority area, a programme to strengthen top class ICT / computer sciences research.

Funding Instruments

WWTF mainly uses the following two funding instruments within the framework of defined programmes: major scientific projects with medium-term prospective benefits ("projects"), and Vienna Science Chairs. WWTF "projects" focus on further strengthening Vienna-based researchers as well as on building bridges to potential applications. Within the framework of calls for "Vienna Science Chairs" universities are invited to convince promising or already renowned researchers from abroad to establish new research groups in Vienna. As mentioned above both instruments are applied within clearly defined programmes.

The selection for funding in both cases involves a top-class international jury of 8-13 international experts (a list of all jury members since 2003 can be found in the appendix) as well as international peers that provide the jury with written reviews. Jury members are in general suggested by renowned international scientific institutions. The experts serving on WWTF juries are chosen according to the thematic know-how requirements of every single call. Jury members are responsible for identifying additional international peers for the review process and for coming forward with a funding recommendation for WWTF Board of Directors that takes the formal funding decision accordingly.

1) *Major projects with prospective benefits ("projects")*

This instrument allows groups of excellent researchers already established in Vienna to further develop and expand their work in a research project lasting from two to four years. In general, funding covers personnel costs for several researchers as well as networking and management costs and costs for consumables for the whole duration of the project. The minimum project volume is 200,000 €. Physical investments are only funded to a very limited extent by WWTF.

The main criteria for funding of "major projects with prospective benefits" are:

- Scientific excellence of the applicants: track record of principal investigator and partners; quality of project management, cooperation and networks
- Quality and innovativeness of the planned research (work packages): referring to the projects compliance with international quality standards as well as with WWTF requirements regarding content and criteria.
- "Prospective benefits": potential medium-term or long-term economic and social benefits of the suggested research project.

2) Vienna Science Chairs:

This instrument aims at recruiting outstanding younger or already established researchers from abroad (i.e. who have worked abroad for at least five years) to Vienna in order to further strengthen fields of research that are already well developed, but on the other hand, might also address existing gaps and bottlenecks. This funding instrument offers promising researchers the opportunity to establish a working group in Vienna and to closely interact with the existing research landscape. Science Chairs are expected to carry out top-class research and thereby to contribute to the international visibility of the research location Vienna.

The Science Chair position, a small working group (post-docs and PhDs), current costs and some initial investments can be funded with significant amounts of money for four to five years (1.5 Million € / Science Chair). Eligible for funding are Universities and research institutions based in Vienna (as a single institution or as a network of institutions) that team up with the potential candidate. The Vienna Science Chairs funding instrument needs to be regarded as a combination of institution-related and individual-related approach of research funding obliging institutions to make substantial own contributions in cash and in kind.

One of the main challenges of this funding instrument is connected to the fact that the universities have to select candidates according to WWTF requirements and have to apply for funding together with their candidates. A proposal for a Science Chair position consists of information on the suggested candidate and her/his research, a declaration of his/her commitment to come to Vienna in case of funding, a plan regarding how to integrate the candidate into the existing research network in Vienna and how to deal with the field of research and the suggested researcher after the WWTF funding period, finally commitment of meaningful own cash and in kind contributions. Science Chairs at the moment basically means group leader positions and not necessarily regular professorships (WWTF guidelines permit both options). It is therefore within the responsibility of the universities to decide on this issue and also to come forward with a long-term strategy that convinces the candidate to move to Vienna.

The main selection criteria for Vienna Science Chairs are as follows:

- Scientific excellence of the candidate and her / his research activities
- Strategy for embedding of the new team into the existing research environment
- Commitment of the candidate and the applying institution including long-term planning

The instrument "Vienna Science Chairs" has **recently been assessed** by Prof. Jakob Edler from Manchester Business School, who is member of the Review Panel. His encouraging assessment identified certain key aspects for success that should even be emphasized and strengthened in the future (e.g. how to foster the forming of joint visions of universities and candidates regarding scientific goals, regarding the research to be carried out).[3] For a summary see Appendix XII.

[3] Edler, Jakob: Assessment des Instruments der Stiftungsprofessuren des Wiener Wissenschafts-, Forschungs- und Technologiefonds am Beispiel der Bioinformatik, August 2007

Figure 3: WWTF funding, funding instruments

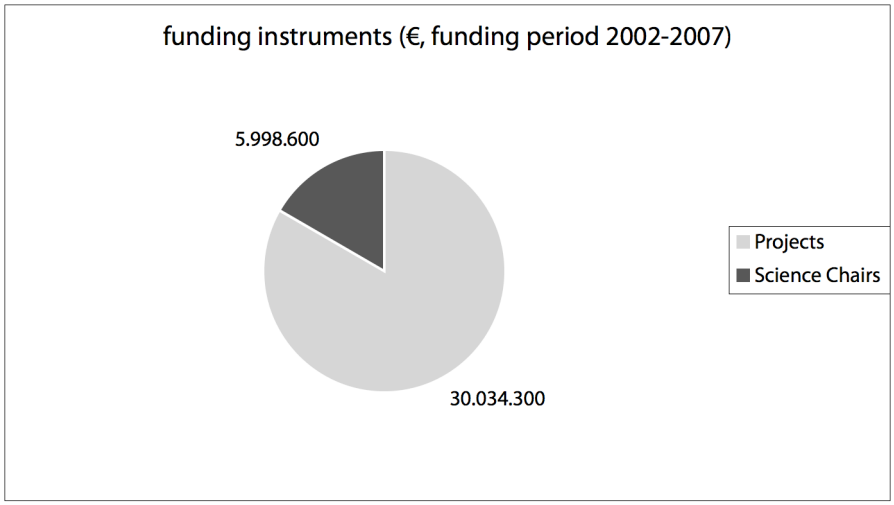
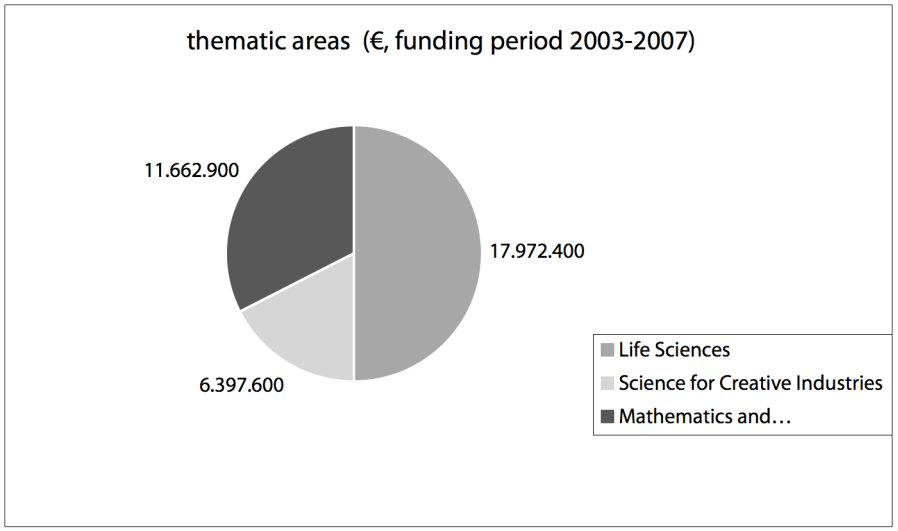


Figure 4: WWTF funding in thematic Areas



8. Life Sciences

According to the Board of Directors decision in September 2002 to exclusively employ WWTF's funding instruments within clearly defined thematic programmes, WWTF office together with external consultants initiated a defined approach in order to detect potential thematic focus areas; we have described above the main criteria for detecting priority areas.

Life Sciences is one of the main strengths in Vienna; an inventory led to a vibrant field where additionality could be gained by the instruments employed by WWTF: Larger projects, bridging initiatives and bringing persons to Vienna in fields where gaps could not be closed by the institutions. One major gap turned out to be the interface biology/medicine – quantitative approaches. Hence a number of funded projects and five WWTF Science Chairs (two bioinformatics, one mathematics and biology, the two open "2008" positions for quantitative life sciences) are in this field. Note also that a considerable number of the granted "Mathematics and …" projects link mathematical modelling with the Life Sciences.

In 2003 WWTF started its first project call within the thematic programme "Life Sciences" focusing on molecular mechanisms and methods. Within this call WWTF wanted to address researchers within Viennese universities or non-university research institutions. Interdisciplinary as well as cooperative approaches have been strongly encouraged (but were not regarded as "musts"). A second call with the same thematic focus was launched in 2005. Within these two calls eighteen projects with a total volume of 10.7 Million € have been funded.

In order to strengthen Vienna's bioinformatics competencies WWTF funded two group leader positions in 2004 with a total amount of 3 Million € within the framework of its "Life Sciences" programme.

In 2006 WWTF office took up the recommendation expressed by its advisory board to evaluate the possibility of a potentially new focus within the Life Sciences programme on "clinical research". After a number of interviews with experts familiar with this field WWTF decided to initiate an expression of interest process on "innovative clinical research". On the basis of this exercise a more focused framing of the call was undertaken with the help of international experts, leading to the 2007 call "linking research and patients' needs". In the framework of this call hypothesis driven projects strengthening links between outstanding lab and clinical/ disease related research six projects with a total volume of 4.3 Mio. € have been funded.

Currently WWTF's 5th call within its "Life Sciences" focus area is open: WWTF wants to fund two group leader positions for quantitative methods in the life sciences with in total 3 Million €. The funding decision will be taken end of 2008. Life Sciences are seen as a long term field of funding for WWTF.

Table 12: WWTF Funding in the Life Sciences

WWTF-Funding in the Life Sciences	
Number of project calls	3
Number of funded projects	24
Total Project Funding (endowed)	14.973.800 €
Average funding per project	623.908 €
Number of Science Chair Calls	1
Number of Science Chairs	2
Total Funding for Science Chairs	3.000.000 €
Female project leaders	21%
TOTAL WWTF FUNDING IN THIS AREA (allocated)	**17.972.400 €**
Next upcoming activities in this area	• *Science Chair Call 2008* ○ *3 Mio €*

9. Mathematics and …

In 2003 and 2004, WWTF Boards and the office discussed intensely the possibility to introduce a new thematic programme in the field of mathematics, modelling and simulation. The idea was that mathematics and mathematic tools can positively influence other fields of sciences. Several considerations made this idea attractive: First, Vienna has a certain tradition as a city of Mathematics. Although this tradition could not be fully maintained, there are also today numerous excellent groups in Vienna. Recently, a study[4] by the Austrian Science Fund FWF showed that Austrian mathematicians could almost catch up with those from Israel or Switzerland (citations per inhabitants). Finally, with this programme, WWTF could gain a certain momentum: the topic seems to have international visibility; WWTF could contribute to a better interdisciplinary research climate in Vienna in the light of mathematics "conquering" numerous fields; finally, WWTF had a pioneering role.

As a next step, the office organized a series of focus groups and interviews to base these considerations on evidence. This was complemented by analyzing bibliometric data, participation in the EU FPs and an in depth analysis of the participation and success rate of Viennese mathematicians at the Austrian Science Fund FWF. Based on this information, the Board of Directors decided to launch the thematic programme "Mathematics and…" in 2004.

With this programme, WWTF wishes to encourage projects in the field of mathematics, that are bridging to applications in and with other disciplines and have a mid-term potential benefit or commercialisation perspective (e.g. utilization of an innovative mathematical method in modelling and simulation). The projects should be developed by interdisciplinary teams (a "mathematics" applicant will need a partner from another discipline or vice versa) and be designed to (further) develop innovative mathematical methods. In summary, projects are intended to achieve two equally important goals: i) to enhance Vienna's international visibility as a city of mathematics and ii) to use to the full the implementation potential of mathematical modelling and simulation.

The first call, which was decided in 2005, was a success given the feedback of the international jury and of the Viennese research community. So the board of directors decided to follow up this call for projects with a science chair initiative. From the beginning it was clear that for this call, there is a need to find a thematic focus: the "and…" should be defined. For that purpose, the office analyzed on the one hand the applications of the year 2004/2005, but also the evaluation of all

[4] FWF, 2007: Der Wettbewerb der Nationen – oder wie weit die österreichische Forschung von der Weltspitze entfernt ist. http://www.fwf.ac.at/de/downloads/pdf/der_wettbewerb_der_nationen.pdf

faculties of Mathematics at the Austrian universities[5]. This was followed again by interviews with national and international experts and two focus groups with young mathematicians. With the fields of "Mathematics *and* Economics/Business" as well as "Mathematics *and* Biosciences" two fields were defined which represented a clear strength of the previous project call and which were repeatedly defined as challenges for the future, considering in all these analytic steps.

The year after, WWTF launched its second project call in this thematic field. This call seized a suggestion of the mathematics evaluation, namely to "do something for younger researchers in the field, who suffer from rather desperate working conditions in Austria". This suggestion was strongly supported by both WWTF boards. Interviews about 15 young(er) mathematicians helped to design this initiative properly. Half of the funding money was earmarked for "High Potentials" as project managers. Within the proposed project they shall have the chance to do research autonomously and independently within a larger project, that also provides funding for further research experience abroad. In the end, 8 of 10 projects were assigned to "High Potentials".

WWTF intends to continue funding in this priority area, but due to the size of the field in Vienna no call is scheduled for 2008.

Table 13: WWTF Funding in applied Mathematics

WWTF-Funding in applied Mathematics	
Number of project calls	2
Number of funded projects	19
Total Project Funding (endowed)	8.662.900 €
Average funding per project	455.942
Number of Science Chair Calls	1
Number of Science Chairs	2
Total Funding for Science Chairs	3.000.000 €
Female project leaders	16%
TOTAL WWTF FUNDING IN THIS AREA (allocated)	**11.662.900 €**
Next upcoming activities in this area	• *N.a.*

[5] Karl-Heinz Hoffmann (Forschungszentrum Caesar Bonn), Jean-Pierre Bourguignon (l'Institut des Hautes Ètudes Scientifiques, Bures-sur-Yvette): Evaluation von Forschung und Lehrprogrammen an den Fachbereichen für Mathematik der österreichischen Universitäten. http://www.fteval.at/home/files/evstudien/mathematikevaluierung.pdf . For a detailed discussion of the evaluation findings, see Zinöcker 2006, Die österreichische Mathematik – Evaluation Zusammenfassung und Kommentar, http://www.fteval.at/files/newsletter/newsletter_25.pdf

10. Science for Creative Industries

In the past decades the creative industries as a heterogeneous field of the economy, producing goods and services with artistic and creative content for the masses has increasingly become a focus of cultural and economic policy. Similar to technical innovations creative output (in the form of information goods and services) is becoming a decisive location factor of the highly developed knowledge society. Thus, in the early 2000nds the creative industries of Vienna have been recognised as a major economic factor for the city by Vienna politics. Funding initiatives for Viennese enterprises were started and an own funding institution was set up: www.departure.at.

Assuming that the value added chain in this field might also start with some basic research WWTF asked the Vienna scientific community for its expressions of interest in 2003. The return brought some really interesting project ideas so that WWTF started the first call "Science for creative industries" in the same year. WWTF did not define the thematic range of this call as it wished to address all areas of research with potential for strengthening Vienna as a location for Creative Industries. Submissions were expected from fields such as intelligent cultural heritage, music, cognitive research/artificial intelligence, future interfaces and visualisation, architecture/design, cultural economics and urban studies, as well as reflective projects in the areas of social sciences and cultural studies. The call tried to stimulate new forms of cooperation, to work within new contexts beyond traditional lines of research. A major requirement for funding was that the project should show prospects of benefit and exploitation: this could be a copyright or patent with potential for creating value added, or some kind of social benefit for the City of Vienna. At the end 10 projects with a total amount of 3 Million € have been funded.

For a second call for project proposals WWTF wanted to put a special focus on it. With the help of expert studies and board discussions "Five senses" was chosen as the topic for the call in 2006. In doing so "Five Senses" was understood in a broader sense: it could encompass scientific work regarding one or more senses and generally, it was open to researchers from all disciplines. Again, multidisciplinary approaches and potential benefits were mandatory to get funding. However, a central question in the review process addressed the link to the creative industries. The call also wanted to especially encourage women and younger scientists. Finally, 9 projects received funding of nearly 3,4 Million € in total.

Numerous expert interviews and analyses in 2007 pointed out that cognitive sciences in Vienna are a fast developing field which could and should be strengthened by additional new expertise from abroad. Therefore WWTF has chosen cognitive sciences as a new focus within this thematic programme and currently, there is a call for two Science Chairs open. 3 Million € funding money is available.

Table 14: WWTF Funding in Science for Creative Industries

WWTF-Funding in Science for Creative Industries	
Number of project calls	2
Number of funded projects	19
Total Project Funding (endowed)	6.397.600 €
Average funding per project	336.716 €
Number of Science Chair Calls	0
Number of Science Chairs	0
Total Funding for Science Chairs	0
Female project leaders	32%
TOTAL WWTF FUNDING IN THIS AREA (allocated)	**6.397.600 €**
Next upcoming activities in this area	• *Science Chair Call 2008* o *3 Mio €*

11. WWTF's Clients: Research Institutions in Vienna

According to WWTF's funding guidelines Viennese scientific institutions as well as individual scientists (if they have an affiliating scientific institution) are invited to apply for grants. Scientific institutions include universities and non-university research institutions. Companies can be project partners under the leadership of a scientific lead contractor. Generally they can not get any WWTF funding but act as a co-financing partner for the project. Funding of research institutions located outside Vienna, both nationally or internationally, is possible up to 20% of the project funding volume, if well argued, this threshold can even be surpassed.

Thus WWTF's potential clients are nine public universities (six scientific and three universities of the Arts) and a huge number of non-university research institutions. The latter include larger public research institutions like Austrian Research Centres, Ludwig Boltzmann Society or the Austrian Academy of Sciences (with several institutes and research units), several so-called competence centres/networks in public-private partnership as well as a considerable number of smaller non-university research institutions and non-profit associations focusing on research. To give some concrete figures: In 2004 the total number of Viennese research units except business R&D units was 624 (the number of research groups being much larger), more than 70% of them belong to the higher education sector. According to disciplinary fields the Social Sciences and Humanities account for 45 % of all non-business research units in Vienna.

Of course and due to the thematic priorities of WWTF not all research institutions located in Vienna are addressed in the same way by our calls. In the field of **Life Sciences** the picture is dominated by the universities with the Medical University of Vienna clearly ahead. The development of the Campus Vienna Biocenter, where several departments of the University of Vienna, the Medical University of Vienna (both as "MFPL")[6] and the Academy of Sciences as well as privately financed research units are located, has been of crucial importance for strengthening research in the Life Sciences in Vienna. The WWTF funding programme **Mathematics and…** mainly addresses the University of Vienna, the Technical University of Vienna and the Vienna University of Economics and Business Administration, but also several institutes of the Academy of Sciences and competence centres. The situation is a bit different as regards **Science for Creative Industries**, where besides the universities and the competence centres a number of smaller non-university research institutions and non-profit associations submit proposals for funding.

Please note: There is neither an open nor a hidden agenda as regards the distribution of WWTF funding equally to the universities and other research institutions. The only premise is, that there is a sufficient number of potential applicants responding to a certain call in order to guarantee competition for funding.

[6] The Max F. Perutz Laboratories (MFPL) are a joint venture between the two universities in the form of an own company. Therefore it can be counted as an own entity or as 60% University of Vienna and 40% Vienna Medical University. Note also that the very positive set-up of MFPL was eased a lot by WWTF Bioinformatics funding in 2004

Table 15: Top 10 Institutions receiving WWTF funding (breakdown on partner level)

University of Vienna (incl. MFPL part)	€ 9.180.570
Medical University of Vienna (incl. MFPL part)	€ 6.887.915
University of Natural Resources and Applied Life Sciences, Vienna	€ 3.692.000
Vienna University of Technology	€ 2.074.655
Vienna University of Economics and Business Administration	€ 2.026.004
Wolfgang Pauli Institute	€ 1.487.200
partners abroad	€ 1.241.693
Institute of Molecular Biotechnology (Austrian Academy of Sciences)	€ 991.600
(ftw.) Telecommunications Research Center Vienna	€ 986.442
Ludwig Boltzmann Society	€ 806.420

A detailed chart with all institutions can be found in the Appendix II

Table 16: Project Managers: Age and Gender

	# of project managers	% of total
male	45	78,95%
female	12	21,05%
total	*57*	100,00%
	Average age of PM when receiving the grant	
Ø m (rounded)	41	
Ø w (rounded)	39	
Ø total (rounded)	40	
Median age (total)	40	

In the calculation of the gender ratio and gender-age ratio, only those PMs were counted, whose age was also known. Therefore 7 PMs are excluded. Science Chairs are included.

Four Project Managers have more than one WWTF project and are therefore counted twice in the age and gender statistic. This is necessary since they were on average 2,5 years older when receiving the second grant.

12. Administration of calls and selection procedure

What happens after the Board of Directors has made a decision to launch a new call? The following list gives an overview which administrative steps are set to get things going:

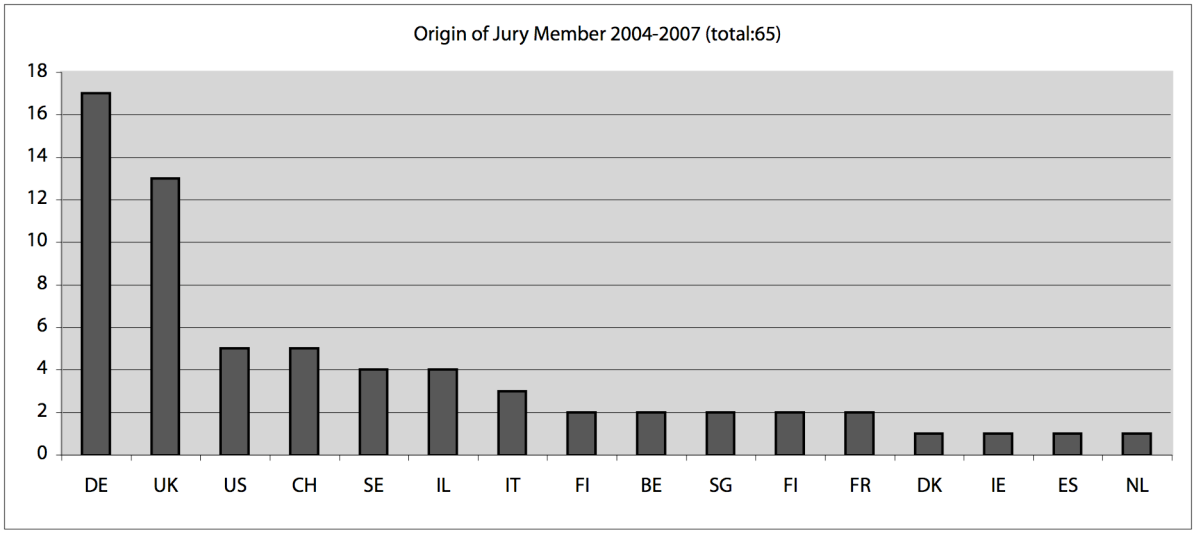
- As a first step, the Advisory Board appoints some of its members to form a working group. This group (i) helps to identify possible jury members and (ii) follows all administrative steps set by the office. Two members of this working group also act as non-voting jury members later on and, together with the office, report to the Boards.
- Simultaneously, WWTF office prepares all necessary forms and guidelines. We try to keep things simple and short; an application has about 20 pages of science plus CVs and appendices. Examples for these forms and guidelines can be found in appendix VIII / IX.
- "Marketing": We intend to inform all Viennese scientists that might be interested in the call about the possibility to submit a project at WWTF. We inform scientists we know directly, closely work with the research service departments at all Viennese universities and the major research institutions, make "road shows" at universities, post bills at institutes, offer a 'WWTF newsletter' and cooperate with an Austrian newspaper.
- As a rule, project calls are open for a three months time span. Calls for Science Chairs are open for 10 to 12 months. During these time span, scientists have the possibility to contact the office for all administrative issues concerning their application they have to get along with. Moreover WWTF office offers a "jour fixe" per week, when applicants can pop up at our office without advance notice.
- Jury: There are two ways to identify jury members. First, members of the Advisory board suggest scientists. Second, WWTF asks international organisations and research institutions to name potential jury members. It is the responsibility of the Advisory Board's working group to guarantee a reasonable mix of qualifications in the jury. WWTF office contacts, according to the directives of the working group, potential jury members and invites them to participate. Clearly, the position of the jury's chairman is crucial. We try to fix the composition of the jury as soon as possible.
- After the call is closed, WWTF office makes an eligibility check of all applications. Rejections for formal reasons are rare (1-3 per call).
- As a next step, the chairman of the jury, 1-2 additional members of the jury and the Advisory board's working group meets for a preparatory workshop in Vienna. At that point, the different applications are assigned to two (voting) jury members. They will be responsible for the application during the whole process. During this meeting, also all further steps in the jury process are discussed.
- If the jury members in charge feel that a proposal clearly does not meet international scientific standards, it should not be sent out to external peer review and put on a 'C-List'. In case none of all the other jury members with voting right disagrees (via e-mail), the proposal will not be considered any further and respective applicants will be informed.

- The recommendations of the Jury are based on the competences of their members and on written reviews by additional peers. The Jury members play an active role in finding peers: So Jury members are asked by WWTF to identify peers and to persuade them to provide a written review, i.e. to make a first contact (this increases the acceptance rate significantly). WWTF's goal is to get four reviews per proposal.
- The review process lasts about three months. At the end of this process, the jury meets in Vienna to discuss the proposals and to decide on funding recommendations. WWTF office provides the jury members with bullet point summaries of all reviews and is in charge of the minutes of the meeting.
- The jury recommendations have to be formally adopted by both WWTF boards. This takes about two weeks. Note that in all the WWTF calls the Boards have followed all jury recommendations.
- Finally the applicants will be informed on the decision of the jury. All reviews are made anonymous and will be forwarded to the applicants along with the comments of the jury.

Box: And the jury members come from….

2/3 of the Jury Members come form EU member states, with a clear domination of jury members coming from Germany and the UK. Concerning the reviewers, the situation is different, with about 1/3 US-based reviewers. (E.g. half of the reviewers for the Life Science call 2005 came from the US and the UK, 2/3 from the US, UK and Germany)

Figure 5: Origin of Jury Members



13. WWTF: Monitoring and administrative procedures

WWTF transfers the funding money to the institutions of the project leaders in advance by half-year instalments. Project leaders are responsible for further transferring money to their partners. They are also required to keep a separate account for the project. The project leaders have a strong position set in the funding contract which is signed also by a representative of the funded institution.

Twice a year the project leaders will have to write a very short report on the project progress. The main task for them is to fill in a statement of account showing personnel and material costs as well as in kind contributions whereas all projects of the same call have the same deadline.

Only after controlling these reports WWTF pays the next instalment. The time span between handing in the report and payment is about two, max. three weeks. Note that all instalments are advance payments. Once during the duration of a project WWTF will make a site visit. By speaking with the project team and the coordinator we try to find out whether the written reports are in line with the reality. At the same time we take examples in auditing of accounts. That means that WWTF does not completely audit all accounts and receipts.

For better cross-learning and handling intellectual property rights we organise workshops where all project leaders and also collaborators can take part and present their projects. The feedback on these events is usually very good.

Review panel member Jakob Edler has carried out an interim evaluation on organisational and structural issues of the first two Science Chairs in Bioinformatics.

The Austrian universities have recently introduced SAP accounting in the course of the implementation of the autonomy granted by the 2002 Universities Act. Now there is a better traceability but universities are still on a long way to a state comparable to something like full cost accounting.

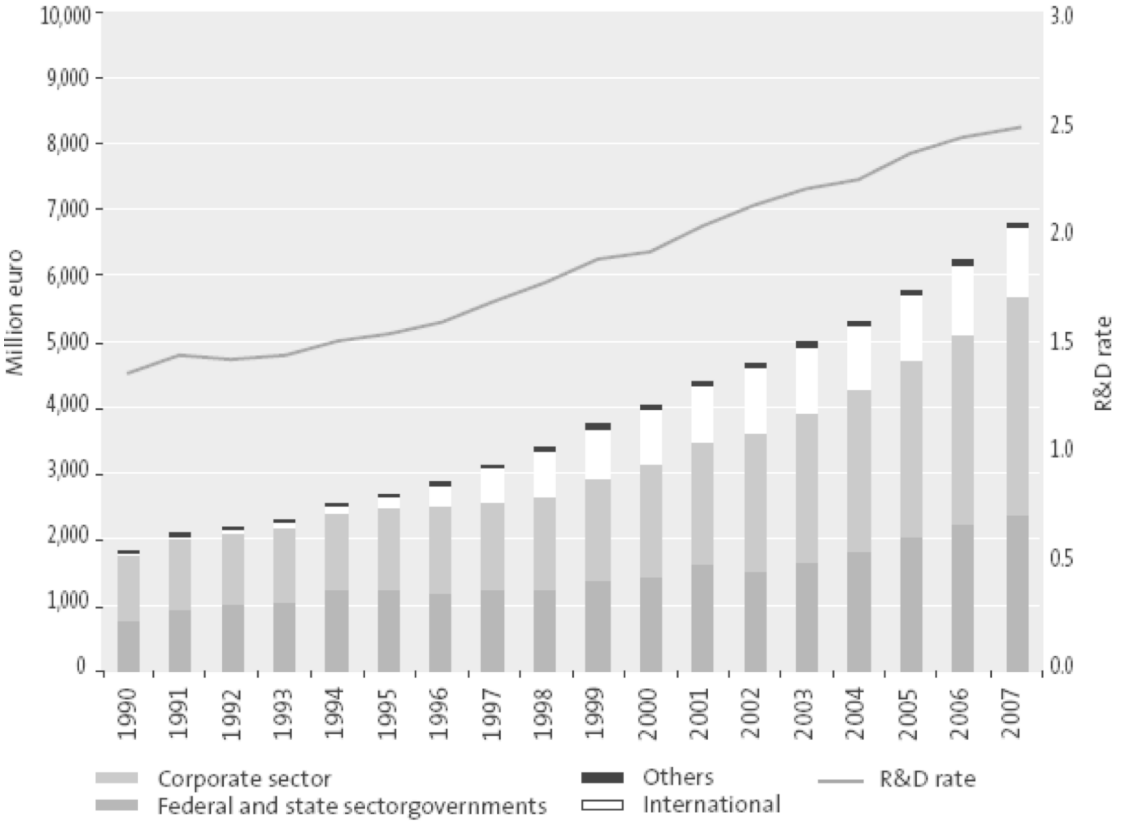
Note in this context that WWTF does not only ask for – mainly in kind – contributions, but also pays from 2003 on a flat rate of 20% overheads. While non university research institutions have eagerly welcomed this, all universities still employ different approaches to overheads; a situation which will change when the Austrian Science Fund FWF will come forward with overhead payments in 2008.

14. The Role of WWTF in the Viennese and the National Innovation System

I. Austrias R&D landscape and where the money comes from

Austria is spending a total of 6,833 Million € on research and development in 2007. Like in the previous years, overall R&D expenditure has grown faster than the country's GDP, namely by 8.1 % as compared to R&D expenditures in 2006. Since 2000, overall R&D expenditures have expanded by 70 %. The funding structure for 2007 is as follows: The public sector (federal, state and other public financing) invests about 2.56 Billion € in R&D, the federal government alone is spending some 2.13 Billion € (compared to 1.89 Billion € in 2006). Most of the funding is provided by the corporate sector, which invests 3.19 Billion € (or 46.7 % of total spending on R&D). The third most important sector is funding from abroad with about 1.06 Billion €, which is mostly multinational company money to their subsidiaries.

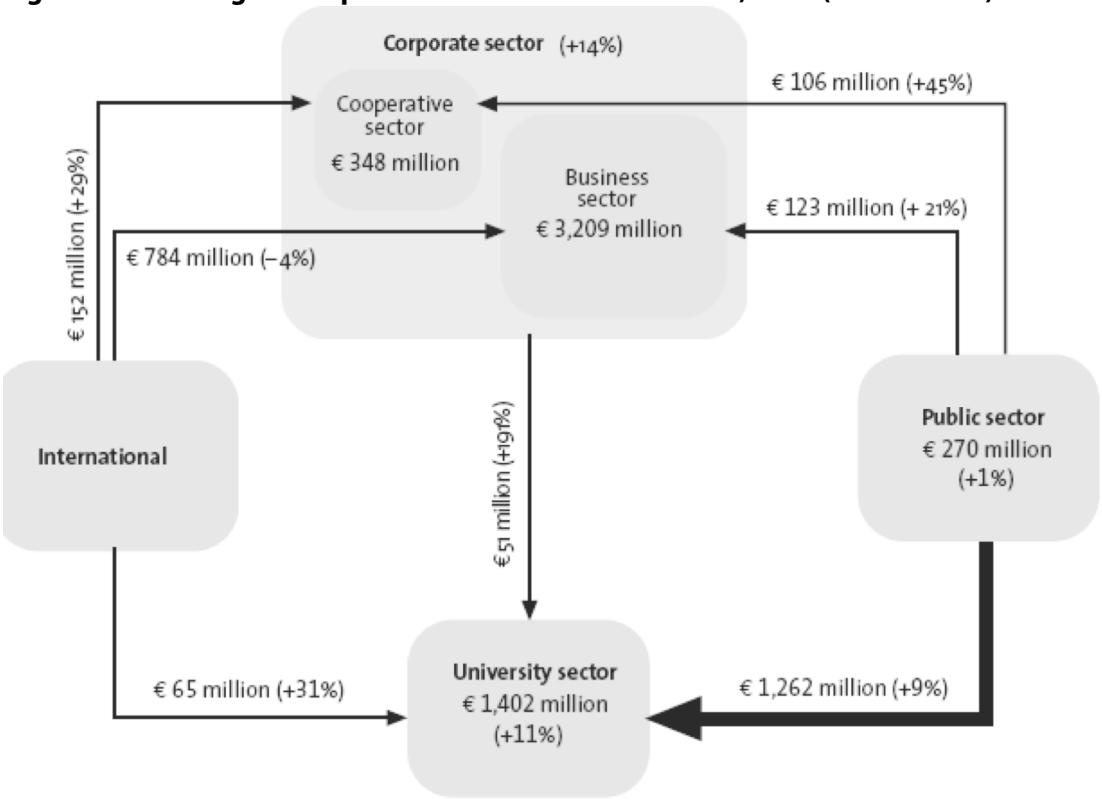
Figure 6: R&D spending in Austria according to funding sectors, 1990-2007



Source: Statistics Austria, 2007

The analysis of financing flows between the major financing and performing sectors for the year 2004 illustrates how these sectors of the Austrian innovation system interact with each other.

Figure 7: Financing and implementation of R&D in Austria, 2004 (versus 2002)



Source: Statistics Austria, 2007.

Note that most of the public funds to universities come in form of block grants, which only recently introduced a modest form of criteria- and formula-based financing. As mentioned above in chapter 13 there is also no tradition of overhead payments.

II. WWTF as a regional (Viennese) Player

In addition to the national players, R&D policy in Vienna is shaped by a number of regional actors. The main funding organisations for R&D in Vienna besides WWTF are ZIT "Center for Innovation and Technology" and "departure". Like WWTF both funding institutions have been set up quite recently. ZIT is a subsidiary of the Vienna Business Agency (WWFF), founded in 2001, and promotes research, development and innovation for industry and provides real estate according to the technology policy strategies of the City of Vienna. In 2006 the annual overall funding volume was about 16 Million €.

"departure" is a subsidiary of the Vienna Business Agency as well and started its mission in the field of creative industries in 2004. As a sister organisation of ZIT it provides competitive promotion activities in this area as well as consultancy, support and financial means for the creative professions in Vienna. The total funding volume so far amounts to 7.9 Million € totally. Further, "departure" acts as a network manager for creative industries in Vienna.

These two funding bodies thus are complementary to WWTF.

III. The Austrian Science Fund (FWF) … and WWTF

At the national level FWF is the main funding body for basic research in Austria. It is equally committed to all branches of science. In 2006 the budget granted by FWF was 136.5 Million €. Besides bottom up project funding and priority research programmes, FWF specifically supports also international mobility and career development for female scientists and announces the highest Austrian science prize, namely the Wittgenstein Prize as well as the START Prize, which is dedicated to outstanding young scientists. As a further recent activity, FWF is committed to basic research that is directed at potential applications, via the translational research program.

Why do we talk about FWF here? WWTF is sometimes referred to as the smaller Viennese brother of FWF. However, this there are important differences between the two institutions:

- WWTF funding can only be granted within thematic priorities (Life Sciences, Mathematics and…, Science for Creative Industries) while FWF's main principle is bottom up funding. WWTF is a clear niche player.
- WWTF funds few but large projects.
- All WWTF projects ought to have a social and/or economic benefit perspective.
- WWTF gets its money out of a banking foundation, while FWF is mainly endowed by Federal Ministries and the Österreichische Nationalstiftung, a public foundation.
- WWTF uses international juries only while FWF is organised like most Research Councils with a strong scientific board ("Kuratorium") for handling the decision making processes. Also the board structures are different.

As regards the allocation of funding to universities, the fact that the University of Business Administration and Economics (WU) and the University of Natural Resources and Applied Life Sciences (BOKU) are much more successful at WWTF compared to FWF attracts attention.

IV. The Scientific Impact of Nations. And where is Austria?

During the last years, several attempts were made to give evidence on the scientific impact of nations, e.g. in Robert M. May (1997): „Scientific Wealth of Nations", SCIENCE, Vol. 275, 793 ff. or David A. King (2004): „The Scientific Impact of Nations", NATURE, Vol. 430. In both studies, Austria is not at the forefront of 'scientific wealth'. More recently, the Austrian science fund published a study using bibliometric data to contribute to this discussion (FWF, 2007: Der Wettbewerb der Nationen – oder wie weit die österreichische Forschung von der Weltspitze entfernt ist[7]). The core findings[8]:

[7] http://www.fwf.ac.at/de/downloads/pdf/der_wettbewerb_der_nationen.pdf)

[8] WWTF is aware of critical comments to scientometrics and the different publication behaviour in different subfields of science.

- Top nations are, not surprisingly, the US, UK, Germany, Japan, France (measured by numbers of publications and citations. Austria is 22nd)
- There is a number of small countries with very good performance like Switzerland, Sweden and Denmark, profiting also from an uninterrupted positive development over a long time; but also countries like Israel which has only in the last decades developed an excellent research performance.
- As an overall picture, the quality of basic research in Austria seems to be 'fair': This picture does not chance, if the bibliometric data is weighed by capita or GDP. This holds also for subfields of sciences.
- Subfields of sciences: Austria seems to be best in Mathematics and Physics, worst in Social Sciences and Psychiatry & Psychology.

As regards the performance of the Austrian innovation system in a European context, Austria ranks ninth on the EU's European Innovation Scoreboard, running very close to the countries ranked immediately in front. The Austrian innovation system is characterised by a balanced profile of strength and weaknesses. However, it is partly blocked by structural deficits with regard to human resources investment (especially S&E graduates).

15. WWTF: Other Business

WWTF office has a number of reasons to engage also in a few selected related activities clustering around the main task of organising WWTF funding: (i) A number of analytical tasks helps us in better understanding the state of the Austrian and international science policy matters. (ii) The link between WWTF and the City of Vienna is strong and leads to the inclusion of WWTF staff in the pool of experts working on different levels for science and technology matters in a Viennese context. A new development is the management of research funding programmes with public money on behalf of the City of Vienna. (iii) Some of these activities allow us to cover a certain part of our own administrative overheads.

I. WWTF and the City of Vienna

WWTF is a Viennese fund and there are strong personal links to the State (= City) government. The fund actively coordinates its' priority setting with the City. On the other hand our expertise is often asked by different administrative and political levels. Examples include the rather recent initiative of the City to have publicly financed research funding programmes administrated by WWTF (see II. and III.) or the inclusion of WWTF in a multi-annual project on the properties of Vienna as a research location. Another example is the new RTDI strategy of Vienna (www.wiendenktzukunft.at), which was preceded by a large scale interactive discussion process. WWTF was responsible for one of four parallel expert panels (the one on research priorities) and strongly contributed to the overall strategy document. Many ad hoc consulting or advisory activities for the City, including the science-public interface, go alongside our work.

II. UIP – University Infrastructure Programme

This small programme started in 2006; it is funded by the City of Vienna and administered by WWTF. Vienna universities can apply for physical infrastructure; the overall funding is about 1 Million € per year – which is the equivalent of the municipial land tax paid by the universities.

III. GSK – Programme for funding Humanities and Social Sciences

Humanities and Social Sciences are quantitatively prominent in Vienna. A proud tradition shall be more actively revived and supported by quality and network-oriented grants, funded by the City of Vienna. This programme is about to start in 2008 with about 1,5 Million € annually and WWTF is foreseen as administrative agency. The main activities funded shall be projects and "incoming" fellowships, selected by an international jury on competitive basis.

IV. EURO-COOP

Since July 2005 WWTF is partner in a project which is funded as a Specific Support Action within the 6th EU Framework Programme. EURO-COOP is an acronym for 'Regional Innovation Policy Impact Assessment and Benchmarking Process: Cooperation for Sustainable Regional Innovation'. The main objective of the project has been to develop a research and innovation policy impact assessment methodology at the regional level. This methodology shall be applicable to all European regions and intends to stimulate further development in regional research and innovation policies as well as their adaptation to further needs and opportunities in the regions.

EURO-COOP focuses on the participating regions and their specific contexts for innovation. The consortium is made up of three types of partner regions: large metropolitan regions (Vienna, Paris, Berlin, Manchester, Warsaw), smaller, rural or peripheral regions (Bratislava, Lublin, West Pannon, Tartu) and cross-border regions (CENTROPE, combining West Pannon, Bratislava and Vienna).

As a result of the EURO-COOP project the so called RIPIA methodology has been developed, which mainly applies qualitative and dynamic approaches to provide the regions with a toolkit that enables regional capacity building and sustainable regional innovation.

V. INNO-DEAL

Since September 2006 WWTF is partner in a project organized as Coordination Action within the 6th EU Framework Programme. The project INNO-DEAL focuses on regional support programmes for innovative small and medium sized enterprises (SMEs), paying special attention to funding schemes for companies in start-up and spin-off phase. The project gathers 12 European regions with very different socio-economic background conditions in order to (i) create the conditions for a systematic exchange of experience and good practices on existing schemes for start-up/ spin-off support; (ii) develop a mutual learning cycle for regional programmes, based on reciprocal mentoring schemes; and (iii) structure a common ground for cooperation activities between regional programmes.

After a deeper analysis of existing programmes within participating regions we are currently working on a foresight exercise in order to identify opportunities as well as barriers that might hinder trans-regional cooperation between different regional programmes. The main goal of the project is to implement at least four pilot actions of good practice transfer to be accompanied by a commonly developed evaluation scheme. Though WWTF has no own "entrepreneurship programmes", we play an active role on behalf of the City of Vienna.

VI. Housing of Helga Nowotny

From September 2007 on WWTF serves as a home base for the Vice Chair of the European Research Council, Professor Helga Nowotny.

VII. Platform Research and Technology Policy Evaluation

The mission of the Platform Research & Technology Policy Evalution (www.fteval.at) is to encourage more, better and more transparent programme and policy evaluations for an optimal strategic planning of RTD-policy in Austria and to develop a culture of evaluation together with decision-makers in the field of Austrian technology and research policy. All relevant federal ministries and agencies are members as well as research institutions and regional actors. Founded in 1996 as an informal cooperation, the Platform Research & Technology Policy Evaluation aims at presenting approaches and methods of evaluation, discussing the current evaluation practice on an international level and thus contributing to the development of a culture of evaluation in Austria. In November 2006, its members re-founded the Platform fteval as a society. International and national experts in the field of evaluation are invited to exchange ideas within the scope of our platform events and Newsletters in order to arouse growing interest among Austrian clients of evaluations and evaluators. International conferences were organized, as well as numerous seminars for policy makers. Michael Stampfer is founding member of the Platform fteval, Klaus Zinoecker manages the society. WWTF hosts the Platform fteval's office.

VIII. Studies and publications

WWTF office and staff have been involved in numerous studies and related exercises, ranging from the OECD Innovation Policy Review 2006 for Switzerland to the feasibility study for the new Austrian graduate university ISTA in 2004, the EU "3%" exercise in 2003 and others. Publications include the co-authorship of a recently published book on the history of the Austrian RTD policy and funding system, the edition of another book on the state of RTD evaluations in Austria or the forthcoming co-editorship of a special edition of Science and Public Policy.

16. Appendices

This background paper comes with several appendices, which can be found partly at the end of this document, partly as a separate zip file.

Appendix I, List of funded Projects:

This is a list of all projects funded by WWTF, starting in 2004. The List includes information on the start date of the project, the project number, the name of the project manager, the title of project, the amount of funding and finally a link to the website either of the project or of the project manager.

Appendix II and III, WWTF funded institutions

These are two graphs at the end of this document, breaking down WWTF funding to the institutional beneficiaries. We provide you with two graphs, one time including the Max F. Perutz Laboratories (MFPL), one time splitting it up to its "mother organizations", University of Vienna (60%) and the Medical University Vienna (40%).

Appendix IV, List of Jury Members

This List includes name, home institution, home country of all members of WWTF Juries.

Appendix I List of funded Projects

Start Date	*Project Number*	*Project Manager*	*Title of Project*	*Total Funding*	*Website*
2004	LS03- 123	Andrea Barta	Integrative analysis of stress response mechanisms in plants (ISRIP)	750.000	http://www.univie.ac.at/sfbrna/Barta/barta.html
2004	LS03- 133	Karl Kuchler	Host-Pathogen Interaction - "HOPI"	610.000	http://www.at.embnet.org/Project/HOPI/
2004	LS03- 139	Stefan Thurner	Transcriptional Network Driving Diabetic Microangiopathy	350.000	http://www.complex-systems.meduniwien.ac.at/genomics_diabetes.html
2004	LS03- 149	Joseph Strauss	GENOMETALIX	750.000	http://www.bioresources.at/default.asp?id=307
2004	LS03-154	Herta Steinkellner	Glycodesigns in plants	540.000	http://www.boku.ac.at/zag/steink_SSR_frames-neu.htm
2004	LS03- 157	Johannes Berger	Inflammation and X-ALD	400.000	
2004	LS03- 162	Robert Konrat	NMR Structural and Functional Genomics	520.000	http://www.univie.ac.at/sfbrna/Konrat/konrat.html
2004	LS03- 200	Johannes Stöckl	Oxidized phospholipids and dendritic cell function	750.000	http://www.meduniwien.ac.at/immunologie/content/research/stoecklmajdic/project_funding.htm
2004	LS03- 216	Holger Daims	NOBIS	460.000	http://www.microbial-ecology.net/daims.asp
2004	LS03- 231	Martin Wagner	On-line quantification of Salmonella spp. and Listeria monocytogenes	540.000	http://www.vu-wien.ac.at/milchhygiene/content/e7/e468/e590
2004	CI03-005	Andreas Resch	Science for Creative Industries in Vienna: Development, Dynamics	270.000	http://www.wu-wien.ac.at/inst/geschichte/Projekt_Homepage/frameset.html

Start Date	Project Number	Project Manager	Title of Project	Total Funding	Website
			and Potentials		
2004	CI03-006	Christina Lammer	CorpoRealities	370.000	http://www.corporealities.org/
2004	CI03-010	Gerhard Widmer	Interfaces to Music (I2M)	370.000	http://www.ofai.at/research/impml/projects/i2mproject.html
2004	CI03-011	Oliver Rathkolb	Creative Access	270.000	http://www.demokratiezentrum.org/de/startseite/projekte/abgeschlossene_projekte/creative_access.html
2004	CI03-021	Stefan Maierhofer	Creative Histories - The Josefplatz Experience	370.000	http://www.vrvis.at/research/projects/josefsplatz/
2004	CI03-029	Gernot Gruber	Online content management system for Vienna Music Institutions	270.000	http://www.iamp.info/projekte_cms.htm
2004	CI03-034	Jörg Flecker	Sustainable Work and Employment in Vienna's Science for Creative Industries	270.000	http://www.forba.at/kreativbranchen-wien/
2004	CI03-038	Silvia Miksch	Interactive Information Visualization	270.000	http://ieg.ifs.tuwien.ac.at/projects/in2vis/
2004	CI03-041	Andreas Bergbaur	Strategies and Networks of Contemporary Fashion Designers	270.000	http://www.unit-f.at/
2004	CI03-049	Nikolaus Franke	Implications of Toolkits for User Innovation and Design	270.000	http://www2.wu-wien.ac.at/entrep/index.php?module=ContentExpress&func=display&ceid=557

Start Date	*Project Number*	*Project Manager*	*Title of Project*	*Total Funding*	*Website*
2005	MA04-05	Christoph Flamm	Modeling the Dynamics of Cellular Networks using Inverse Methods	500.000	http://www.tbi.univie.ac.at/~xtof/index.html
2005	MA04-06	Georg Pflug	SIMOPT/ENERGY	320.000	http://homepage.univie.ac.at/scharif.purhassan/simopt-energy/
2005	MA04-11	Thomas Zemen	Future Mobile Communications Systems, Mathematical Modeling, Analysis, and Algorithms for Multi Antenna Systems	410.000	http://userver.ftw.at/~zemen/project.html
2005	MA04-13	Walter Schachermayer	Mathematics and Credit Risk	500.000	http://www.fam.tuwien.ac.at/index.php
2005	MA04-17	Reinhard Bürger	Mathematics and Evolution: Mathematical and Statistical Analysis of Ecological and Genetic Diversity	500.000	http://homepage.univie.ac.at/Reinhard.Buerger/Biomathematik.html
2005	MA04-29	Alfred Taudes	Mathematical Modelling for Integrated Demand and Supply Chain Management	460.000	http://www.eos.tuwien.ac.at/Oeko/Research/Projects/mmidscm.php?lang=english
2005	MA04-39	Christian Schmeiser	How do cells move? Mathematical modelling of cytoskeletal dynamics and cell migration	500.000	http://homepage.univie.ac.at/christian.schmeiser/research1.htm
2005	MA04-44	Karlheinz Gröchenig	MOHAWI	500.000	http://www.univie.ac.at/nuhag-php/mohawi/index.php
2005	MA04-45	Norbert Mauser	Ultrafast spectroscopy and time-dependent density functional theory	500.000	http://www.wpi.ac.at/People/Norbert/norbert.html
2006	LS05-03	Andrea Pichler	Crosstalk between SUMO and ubiquitin	618.400	

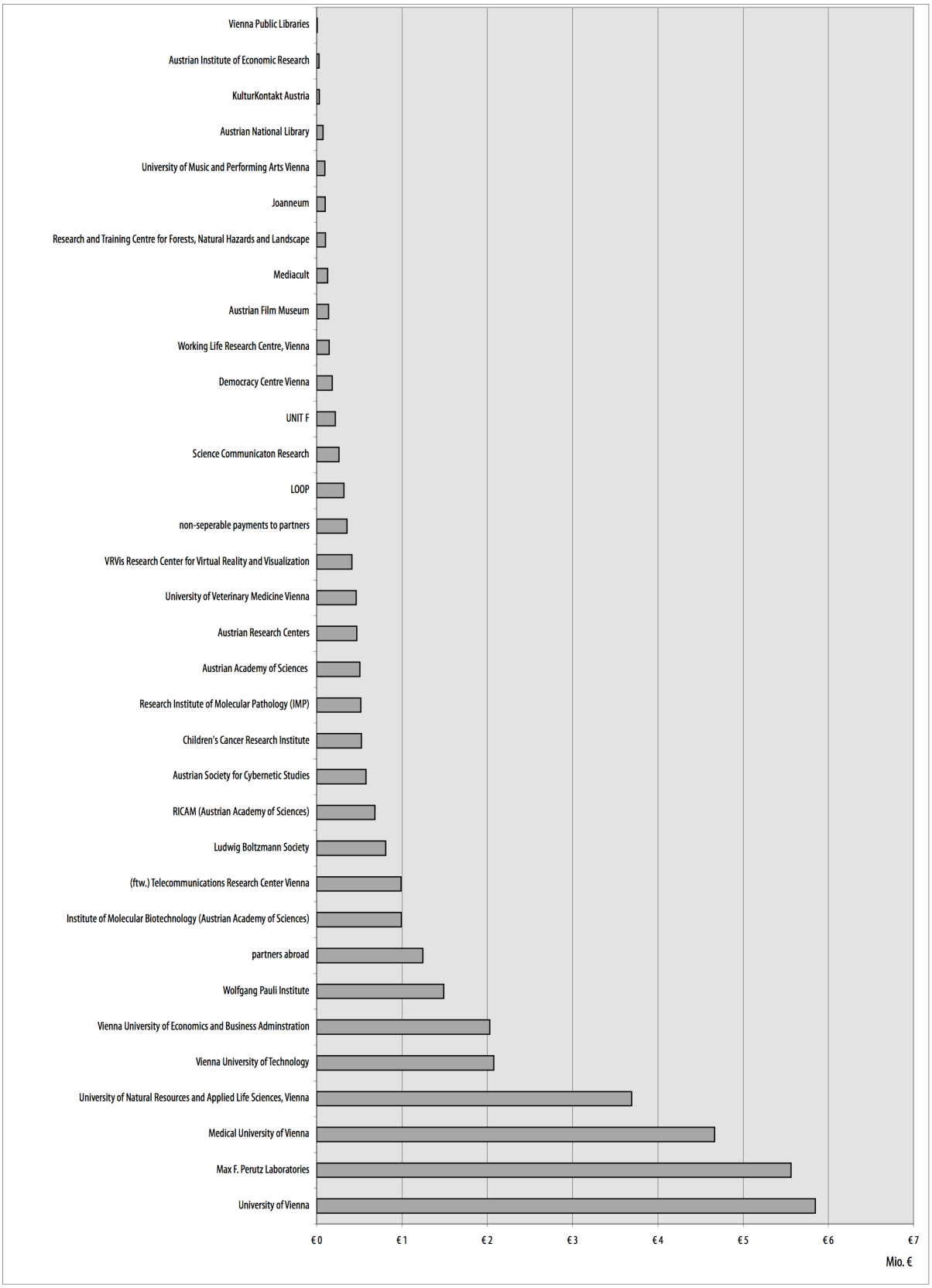
Start Date	Project Number	Project Manager	Title of Project	Total Funding	Website
2006	LS05-09	Verena Jantsch	Faithful meiotic chromosome segregation in Caenorhabditis elegans	531.300	http://www.mfpl.ac.at/index.php?cid=34
2006	LS05-18	Tim Clausen	Function of Clp-mediated proteolysis in bacterial pathogenesis	585.100	http://www.imp.ac.at/research/tim-clausen/
2006	LS05-21	Rudolf Schweyen	Mg2+ channel proteins: Structure/function analysis and potential drug targets	571.100	http://www.mfpl.ac.at/index.php?cid=82
2006	LS05-35	David P. Kreil	Molecular determinants of ageing – quantitative response of Drosophila to adult-specific RNAi.	582.400	http://www.biotec.boku.ac.at/bimems.html?&L=1#c14702
2006	LS05-36	Joseph Strauss	NITRO-GENOM: Increasing Nitrogen Efficacy in Agricultural Systems by Understanding and Manipulating the Biotic "Black-Box".	806.000	http://forschung.boku.ac.at/fis/suche.projekte_uebersicht?sprache_in=en&projekt_id_in=5888
2006	LS05-39	Joachim Seipelt	Molecular Mechanisms of Antivirals	670.100	http://www.mfpl.ac.at/index.php?cid=48
2006	LS05-40	Juergen Knoblich	Proliferation control in tumor stem cells	635.600	http://www.imba.oeaw.ac.at/knoblich/index.html
2007	CI06 002	Sibylle Moser	AESTHETIC KNOW-HOW	315.200	http://homepage.univie.ac.at/sibylle.moser/de/person2.html#fproj
2006	CI06 003	Peter Markowich	Mathematical Methods for Image Analysis and Processing in the Visual Arts	400.000	http://www.mat.univie.ac.at/institute/grants.php?language=de
2007	CI06 005	Andreas Gebesmair	Embedded Industries. Cultural entrepreneurs in different immigrant communities of Vienna.	330.200	http://www.mdw.ac.at/mediacult/en/bereiche/politik.html

Start Date	Project Number	Project Manager	Title of Project	Total Funding	Website
2007	CI06 006	Werner Purgathofer	LEOPOLD – Lively Experience of the Pastime of Leo-poldsberg from Digital Archaeological Data	475.000	http://tuwis.tuwien.ac.at/ora/tuwis/bokudok/search_project.show_project?project_id_in=5085
2007	CI06 009	Madalina Diaconu	Haptic and Olfactory Design - Resources for Vienna's Science for Creative Industries	383.000	http://www.univie.ac.at/tastduftwien/
2007	CI06 020	Michael Pucher	Viennese Sociolect and Dialect Synthesis	394.200	http://www.ftw.at/ftw/research/projects/ProjekteFolder/U5
2007	CI06 024	Andrea B. Braidt	Digital Formalism: The Vienna Vertov-Collection	400.000	https://public.univie.ac.at/index.php?id=13163
2007	CI06 025	Konrad Karner	WikiVienna - Building your own city in virtual space	400.000	http://irenderable.net/WikiVienna/about/
2007	CI06 031	Karin Harrasser	Science with all Senses – Gender and Science in the Making	300.000	http://www.science.co.at/artikel.jsp?kat=23&id=41
Projects with a start date of 2008 will not included in the statistical analysis presented by Simon Sommer					
2008	MA07-002	Alexia Fürnkranz-Prskawetz	Agglomeration processes in ageing societies	517.700	http://www.oeaw.ac.at/vid/staff/staff_alexia_fuernkranz.shtml
2008	MA07-004	Georg Tauböck	Sparse Signals and Operators: Theory, Methods, and Applications (SPORTS)	505.000	http://www.nt.tuwien.ac.at/about-us/staff/georg-tauboeck/
2008	MA07-008	Andrea Schnepf	Mathematics and Rhizotechnology. Mathematical methods for upscaling of rhizoshere control mechanisms	430.000	http://forschung.boku.ac.at/fis/xsu_person.person_gesamt?sprache_in=de&person_id_in=2325
2008	MA07-011	Robert Hammerling	Schrödinger oprators with subperiodic lattice symmetries;	375.000	http://www.mat.univie.ac.at/institute/grants.php?language=de

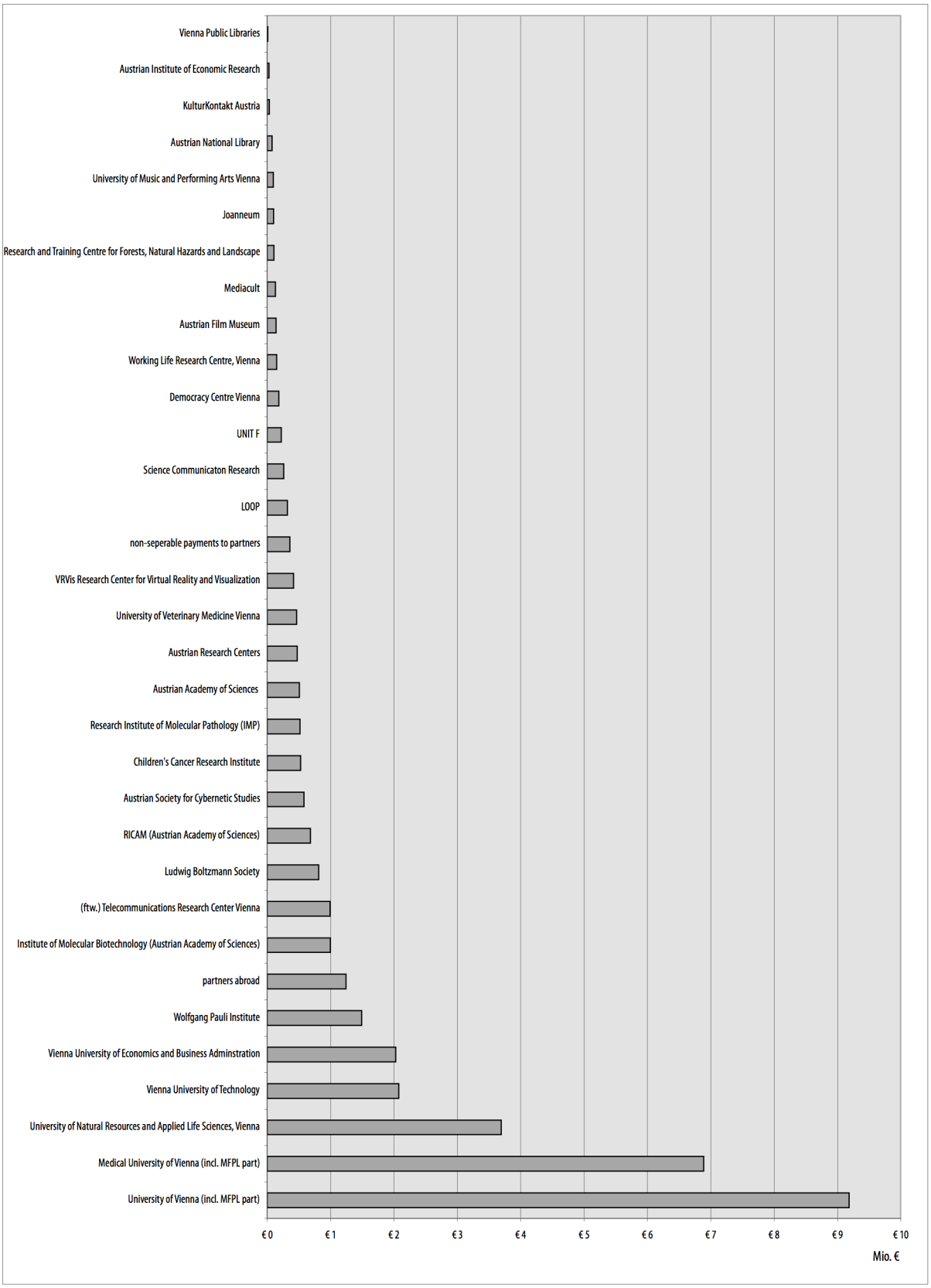
Start Date	Project Number	Project Manager	Title of Project	Total Funding	Website
			application to quantum wires and STM		
2008	MA07-012	Thomas Zemen	Cooperative Communications in Traffic Telematics	495.700	http://userver.ftw.at/~zemen/
2008	MA07-015	Claus Rüffler	Multidimensional adaptive dynamics and the evolution of phenotype determination	399.700	http://www.mat.univie.ac.at/institute/grants.php?language=de
2008	MA07-016	Agata Ciabattoni	Fuzzy Logic: From Mathematics to Medical Applications	444.000	http://www.logic.at/staff/agata/activities.html#CP
2008	MA07-025	Peter Balazs	Frame Multipliers: Theory and Applications in Acoustics	425.000	http://www.mat.univie.ac.at/institute/grants.php?language=de
2008	MA07-030	Christoph Flamm	Elucidating spatio-temporal coherence of cellular processes by data-driven inverse analysis: redox rhythmicity in yeast and diffusion controlled hormone feedback cycles	434.800	http://www.tbi.univie.ac.at/~xtof/
2008	MA07-037	Alex D. Gottlieb	Correlation in quantum systems	446.000	http://www.mat.univie.ac.at/institute/grants.php?language=de
2008	LS07-019	Sabine Zöchbauer-Müller	Mapping of CpG island methylation and its prognostic relevance in lung cancer patients	502.000	http://www.meduniwien.ac.at/innere-med-1/onkologie/onko_files/ma_kliprog_kurzvorstellung.htm#zoechbauer
2008	LS07-031	Michael Wolzt	Therapy of Ischemia-Reperfusion-Injury by Heme Oxygenase-1 Induction in Skeletal Muscle and Ischemic Kidney	791.800	http://www.meduniwien.ac.at/klpharm/
2008	LS07-037	Michael Dworzak	Flow cytometric signal typing for therapy response prediction in pediatric myeloid leukemia	654.500	http://www.ccri.at/science/index.php?gr_id=40&k_id=240&b_id=1480

Start Date	Project Number	Project Manager	Title of Project	Total Funding	Website
2008	LS07-040	Jürgen Sandkühler	A novel role for opioids - Reversal of established hyperal gesia and chronic pain by synaptic depotentiation	780.900	http://www.univie.ac.at/brainresearch/neurophysiology/index.html
2008	LS07-058	Andrew Pospisilik	From Flies to Humans - Novel Approaches for Obesity and Diabetes	799.100	http://www.imba.oeaw.ac.at/research/josef-penninger/
2008	LS07-065	Marcin F. Osuchowski	Age & gender related septic complications in traumapatients: individually tailored treatment during posttraumatic phase	775.500	http://sitemaker.umich.edu/remick.lab.members/marcin_osuchowski__d.v.m.__ph.d

Appendix II WWTF funded institutions, including MFPL (2002- 2007)



Appendix III WWTF funded institutions, excluding MFPL (2002- 2007)



Appendix IV: List of all Jury Members

SciENCE for creative industries 2003/04			
-	Haim Harari (Chair)	Weizmann Institute	IL
-	Thomas Macho	Humboldt-Universität Berlin	DE
-	Ake E. Andersson	Royal Institute of Technology	SE
-	Aleida Assmann	Universität Konstanz	DE
-	Nadja Magnenat-Thalmann	University of Geneva	CH
-	Eleanor Selfridge-Field	Stanford University	US
-	***Furthermore, this jury included 4 Austrian Specialists***		
SciENCE for creative industries 2006			
-	Dervilla Donnelly (Chair)	University College, Dublin	IE
-	Christopher Csikszentmihályi	MIT Media Lab	US
-	Hanns Hatt	Ruhr-Universität Bochum	D
-	Dorothee Kimmich	Universität Tübingen	D
-	Nadia Magnenat-Thalmann	University of Geneva	CH
-	Michael Müller	Uni Bremen	DE
-	Dame Janet Ritterman	Royal College of Music	UK
-	Sonali Shah	University of Illinois at Urbana-Champaign	US
-	Hervé This	Collège de France	FR
-	Walther Ch. Zimmerli	Volkswagen AutoUni	DE
-			

Mathematics and.. 2004/05			
-	Tomas Björk	Stockholm School of Economics	SE
_	Sebastian Lukas Bonhoeffer	Eidgenössische Technische Hochschule Zürich	CH
_	Peter Flaschel	Universität Bielefeld	DE
_	Albert B. Gilg	Siemens AG	DE
_	Martin Grötschel	Zuse Institute Berlin	DE
_	Helmut Neunzert (Chairman)	Fraunhofer ITWM; Chairman of the jury	DE
_	Hilary Ockendon	Oxford University	UK
_	Gunnar Sparr	Lund University	SE
Mathematics and… 2007			
-	Martin Phillip Bendsoe	Technical University of Denmark	DK
_	Vincenzo Capasso (Chairman)	Universita degli Studi di Milano	IT
_	Hélyette Geman	Birkbeck University of London	UK
_	Albert Gilg	Siemens AG	DE
_	David Harel	Weizmann Institute of Science	IL
_	Martine Labbé	Université libre de Bruxelles	BE
_	Maciej Lewenstein	ICFO - Institut de Ciències Fotòniques	ES
_	Risto Matti Nieminen	Helsinki University of Technology	FI
_	Norbert Schmitz	Westfälische Wilhelms-Universität	DE
-	Willi Jäger	University of Heidelberg, Applied Analysis Group	
_	Gunnar Sparr	Lund University	SE

Science Chair for Bioinformatics			
-	Alvis Brazma	EMBL Hinxton, EBI	UK
-	Antoine Daruvar	Université Victor Segalen Bordeaux 2	FR
-	Anna Tramontano	University of Rome "La Sapienza"	IT
-	Liisa Holm	Uni Helsinki	FI
-	Michal Linial	Hebrew University	IL
-	Christos Ouzounis	EMBL Hinxton, EBI	UK
-	Geoff Barton	University of Dundee	UK
Science Chairs Mathematics and….			
-	Hélyette Geman	Birbeck University of London	UK
-	Mark Davis	Imperial College London	UK
-	Jan Karel Lenstra	Centrum voor Wiskunde en Informatica (CWI)	NL
-	Bernhard Fleischmann	University of Augsburg	DE
-	Angela Stevens	Max Planck Institute for Mathematics in the Sciences	DE
-	Philip K. Maini	Centre for Mathematical Biology	UK
-	Ewan Birney	EMBL Outstation Hinxton	UK
-	Zvia Agur	Institute for Medical BioMathematics (IMBM)	IL

Life Sciences 2003			
This jury was composed of four members of the advisory board and four Austrian experts from outside Vienna			
Life Sciences 2005			
_	Matthias Mann	Max-Planck-Institut für Biochemie	DE
_	Dirk Inzé	Ghent University	BE
_	Alan Colman	ES Cell International Pte Ltd (ESI)	SG
_	Michal Linial	Hebrew University	IL
_	Adriano Aguzzi	Universität Zürich	CH
_	Uwe Hartmann	Universität des Saarlandes	DE
_	Regina A. Hodits	Atlas Venture	DE
_	Hans Wigzell	Karolinska Institute	SE
_	Fritz Bach (chairman)	Harvard Medical School	US
Life Sciences 2007			
_	Fritz Bach (chairman)	Harvard Medical School	US
_	Guido Adler	University of Ulm	DE
_	Adriano Aguzzi	Universität Zürich	CH
_	Alan Colman	Singapore Stem Cell Consortium	SG
_	Simon Day	Roche Products Limited	UK
_	Andrew J T George	Imperial College London	UK
_	Henrike Hartmann	Volkswagen Foundation	DE
_	Regina Hodits	Atlas Venture	DE
_	Cornel Fraefel	University of Zurich	CH
_	Giorgio Parmiani	San Raffaele Foundation Scientific Institute,	IT
_	Jeffrey L. Platt	Mayo Clinic, Department of Immunology	US
_	Andrew Todd-Pokropek	University College London	UK
_	Harald zur Hausen	German Cancer Research Center Heidelberg	DE

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