

Science and Technology in Austria: Small Country, Great Expectations

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Overview

- ▶ Short presentation of WWTF
- ▶ Key Facts about the Austrian RTD Innovation System
- ▶ European Dimension: ERA, Framework Programmes etc.
- ▶ Examples for “systemic” programmes in Austria
- ▶ Examples for policy and programme evaluations



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1. WWTF: Presenting my own institution



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Vienna Science and Technology Fund (WWTF)

- ▶ Regional actor: strengthen scientific research in Vienna
- ▶ Formally private – non profit, financed by a banking foundation: About 7 Million € funding per year
- ▶ Strong links with regional policy making
- ▶ **Mission: Funding of excellent research(ers) in Vienna**
- ▶ Thematic focus: Biotech, Mathematics, “Science for creative industries ”
- ▶ Instruments: Calls for larger projects, Vienna Science Chairs to attract researchers from abroad
- ▶ International reviews and evaluations



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2. Austria: Our RTDI policy



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Key Facts about Austria

- ▶ Situated in the centre of Europe, 8 Million inhabitants
- ▶ Nine provinces, capital Vienna (1.6 Million inhabitants)
- ▶ Neutral state (in cold war west of iron curtain)
- ▶ 1945 on → economic success story, one of the richest European countries
- ▶ 1989 on → strong links to Central European countries, FDI
- ▶ 1995 on → Member of the European Union
- ▶ Probably best known for Music, Arts and the Alps



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Key Facts about Austrian RTD policy. Comparison to U.S.-System ... if possible

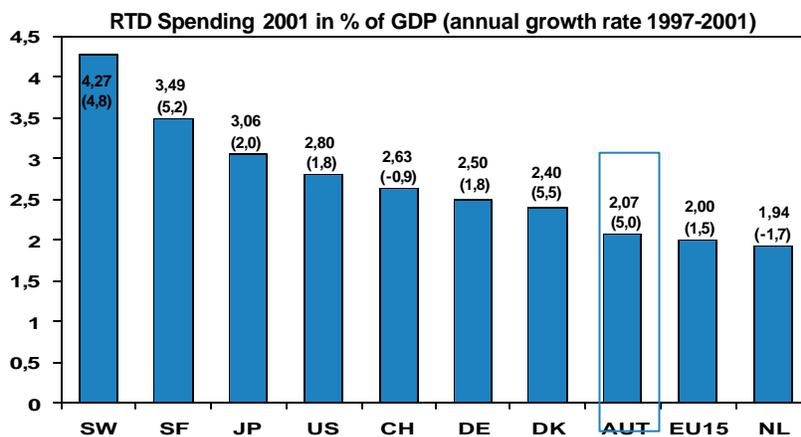
“Quite continental ” ... apart from being a small country

- ▶ Strong University sector: all public, all in same quality league, financed mostly via GUF, good output (← some go to USA)
- ▶ Rather small research groups, rather broad thematic portfolio
- ▶ No large industrial players, no basic research performed by industry, incremental strategies
- ▶ No big government laboratories (← !)
- ▶ Role of the state:
 - ▶ Funding streams either block grants or programmes / projects
 - ▶ Some long term strategic research programmes
 - ▶ No research-intensive public procurement (← !)



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Growing RTD Ratio (2004: 2.27 %)



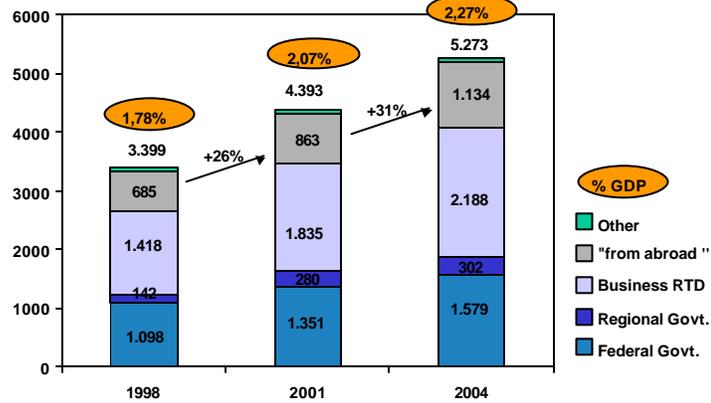
Quelle: EU Science, Technology and Innovationen Key Figures 2003-2004; Statistik Austria; WWTF-Analyse



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Growing inflow of foreign industrial money (i.e. Austrian affiliates of MNEs)

RTD spending in Mio. € 1998, 2001 und 2004 according to sources



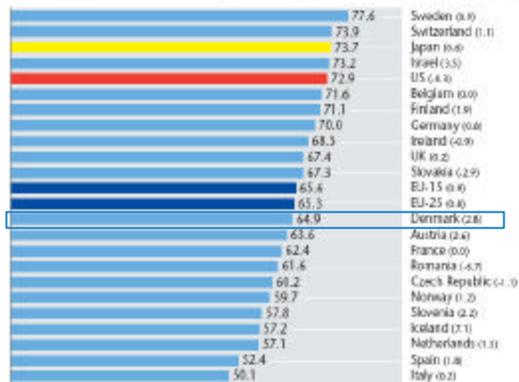
Source: Statistics Austria; WWTF Analysis



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Business RTD spending still below EU average

Figure 1-2a Business Expenditure on R&D (BERD) as % of GERD, 2001 (!); in brackets: average annual growth rates, 1997-2001 (!)

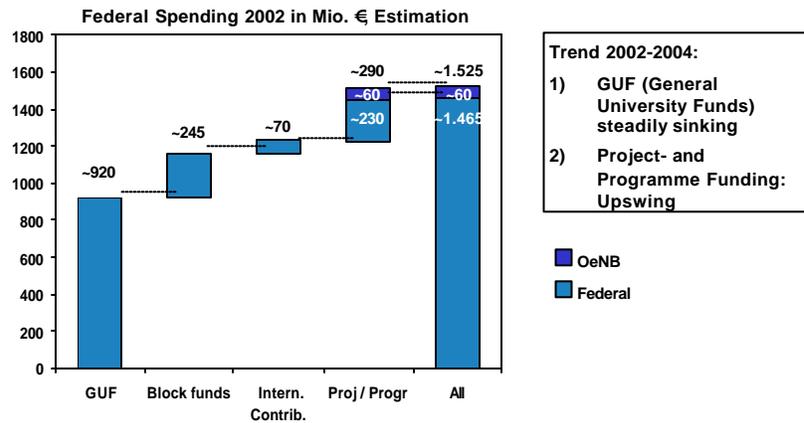


Sources: EU Science, Technology and Innovation Key Figures 2003-2004; Statistics Austria



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Federal RTD Budgets: GUF still dominating



Quelle: Austrian RTD report 2003; Statistics Austria; WWTF Analysis



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Actors in the Austrian Innovation System

- ▶ Three responsible ministries
- ▶ One strong RTDI advisory council
- ▶ One NSF equivalent research council for all basic research
- ▶ Two large RTDI funding agencies
- ▶ Regional agencies: Clusters, building on regional strengths

- ▶ Few large RTDI-intensive enterprises (foreign ownership)
- ▶ High rate of innovative SME's
- ▶ Large university sector
- ▶ Growing number of hybrid research centres



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3. European Union: Our federal level?

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European Dimension

- ▶ European RTDI policy of growing importance
- ▶ 1 + 25 policies → Towards a common European Research Area (ERA, 2000 ff.)
 - ▶ E.g. ERA-NET
 - ▶ E.g. planned European Research Council (European NSF)
- ▶ Main instrument: Framework Programmes to support cross-border research projects
 - ▶ FP 6: 17 billion € for four years, large consortia
 - ▶ FP 7: Discussion to double budgets
 - ▶ Impact studies: Is it network building and / or developing breakthrough technologies ?

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Interplay national – European policy delivery

- ▶ EU-Framework programmes are a role model
 - ▶ Governance and management issues
 - ▶ Priority setting in both directions
 - ▶ Constant “market ” for policy makers (Issue of effectiveness)
- ▶ Strong impact of European Research Area debate
 - ▶ Ever stronger integration? (Somehow yes)
 - ▶ Development comparable to U.S. Federal level? (No)
- ▶ Strong impact of “Barcelona-Goal ”: 3% RTD / GDP ratio by 2010
 - ▶ Official policy goal e.g. in Austria
- ▶ Who is in the driving seat? (still the Member States)

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4. Network funding, science – industry cooperation

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Examples for “systemic ” programmes in Austria

- ▶ Until 1997 few links between actors
 - ▶ Small number of consortia and structured, long-term science – industry cooperations
- ▶ Deliberate development of programmes to close the gap and to insert systems oriented RTDI policy
 - ▶ Science – industry competence centres
 - ▶ Larger project consortia
- ▶ Characteristics
 - ▶ Medium term funding, high quota for firms (strategic research)
 - ▶ Programme character on two levels, governance issues
 - ▶ Instrument for critical masses and internationalisation



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Example: K plus Competence Centres

- ▶ Goal: Link science to industry via longer term research co-operations. Strengthen important fields in Austria
- ▶ Description: Centres with own management structure, close to universities, 5 to 20 partner firms
- ▶ Size: About 50 researchers, about 4 Mio. € annual budget, 60% public funding, 40% industry
- ▶ Numbers: 18 centres running, new calls possible
- ▶ Related programmes:
 - ▶ In Austria: *Kind*, about 20 centres, more industry based
 - ▶ Abroad: NSF ERCs, Vinnova CCs (SWE), CRCs (Australia) ...
- ▶ Evaluations: Two stage ex ante, evaluation after four years, mostly extended peer review approach, moderate impact assessment



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Example: GEN-AU

- ▶ Goal: Strengthening and Networking Genome Research in Austria for improving international competitiveness
- ▶ Description: projects with several research teams (“networking”), different project types, (more or less) basic research
- ▶ Size: € 10 Mio. p.a.; overall funding volume (10 years) € 90-100 Mill.
- ▶ Numbers: 12 projects, 90 working groups
- ▶ Related programmes:
 - ▶ In Austria: Science Fund FWF (SFB)
 - ▶ Abroad: Germany; US: ATP's DNA Diagnostics Focused Program (94-'98)
- ▶ Evaluations / prospects: 2 step ex ante; annual evaluation conferences, after 2-3 years project ends (possibility to apply again)



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5. The status of evaluations in Austria



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Policy and programme evaluations

- ▶ Numbers and quality of evaluations steadily growing
- ▶ Long standing tradition on project evaluation level
- ▶ Strong record in programme evaluations
 - ▶ Thematic programmes
 - ▶ “Systemic programmes ”
- ▶ Only few serious evaluations of institutions
- ▶ First steps in portfolio and policy evaluations
- ▶ No GPRA, no PART, difficulties to insert evaluations into policy cycle
- ▶ Methodology: mostly mix qualitative and quantitative



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Austrian Platform for Research and Technology Evaluation

- The Austrian Research and Technology Policy Evaluation Platform is a loose network
- Mission: To enhance evaluation culture in Austria
- Which organizations are members of the Austrian Platform?
 - Those who are commissioning evaluations
 - Those who are evaluated
 - Those who are evaluating



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- Totally bottom up – unhappy with low status of evaluations in generally ad hoc RTD policy climate
- OECD 1997: “Struggling for a higher rank on the policy agenda”
- Slow but steady growth: 15 RTDI institutions as members, all major ministries, agencies and evaluators
- 2001: stronger organisational link
- Annual budget of 100.000 – 200.000 € (fees and contracts)
- Small secretariat
- Ongoing international networking: DeGEval, EU Networks, WREN

- Workshops and meetings coupling foreign expertise with Austrian examples: Methods and good practices
- Newsletters (24 issues)
- Austrian RTDI evaluation standards
- Training activities for RTDI programme managers
- Conference “Evaluation of Government Funded R&D Activities” with 200 experts in 2003 in Vienna
- Policy advice, Expertise for Austrian Council for Research and Technology Development
- International Networking
- **No** evaluator, **no** ToR, neutral role

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