Research at Vienna University of Technology
Research Environment and Services
• **Agreement Service:**
  – Assistance for design of R&D agreements
  – Central checkpoint of TU Vienna for R&D agreements

• **Inventor Service:**
  – Assistance of researchers during identification of invents
  – Patent application, patent realization

• **Company Service:**
  – Initiation of research cooperations between companies and institutes
  – Events about the know-how of TU Vienna
  – Information/consultation about funding possibilities
• Information and consultation about
  – EU research programs and initiatives
  – EU research mobility
  – administrative, financial and legal support from the proposal to the project closure
• Linking and mentoring EU research projects
• Assistance and Checking of the EU research agreements
• Networking on national (Austrian) level
• Networking on European level
Project volume: € 24,149,637
EU contribution: € 18,091,706

FP 7 Projects: 50  Non FP 7 Projects: 34

Project Volume EU Research Projects (2007-2013)
TT: Agreement Service
FFG
Austrian Research Promotion Agency
FWF
Austrian Science Fund
Budget
Province:
ZIT
WWTF ...
EURM:
project service
EU contact point
CDG
Christian Doppler Research Association
others
Company
Projects
TT: Initiation Agreement Service
Results:
Project data base
Publication data base
Research evaluation
Knowledge balance
Reports
Papers
Patents ...
Data Acquisition and Research Evaluation

- Data acquisition:
  - Project data base
  - Publication data base
  - TUWIS++ (courses, personal profiles, institute profiles)

- Basis for
  - Reporting to the ministry
  - Internal Evaluation
    - Demonstration of excellence
    - Identification of structural deficiency

- Realization: input/output evaluation
  - Input: employees, budget, rooms
  - Output: Publications, conferences, dissertations, external funding, research and company cooperation
  - Faculty specified weighting of the variables and consideration of the theoretical or experimental research orientation of the institutes
Strategic Aspects
– TU Vienna is a Leading Research University
– TU Vienna is a First-Class Educational Institution
– Education at TU Vienna is Research Driven
– TU Vienna Sets Priorities (Research Topics)
– TU Vienna Forces Interdisciplinary Research Projects
– TU Vienna Provides Modern Laboratory Equipment
– TU Vienna Promotes Partnerships with Universities
– TU Vienna Promotes Partnerships with Companies
– TU Vienna Makes Research More International
– TU Vienna Creates Excellent Opportunities for Personal Development
– Flexible Framework Conditions and Services Support Research and Teaching
• Promotion of areas with high scientific and economic potential
• Facilitation of the necessary interdisciplinary networking
• Basis: existing competences
  – Qualitative: Excellence, Visibility
  – Quantitative: Research output (paper, external funding)
1. Computational Science and Engineering
2. Quantum Physics and Quantum Technologies
3. Materials and Matter
4. Information and Communication Technology
5. Energy and Environment
• Computational Science and Engineering
  – TU Vienna Center of Excellence: Computation of Materials
  – HPC-project in collaboration with University of Life Sciences and University Vienna

• Applied Atom and Quantum Physics
  – 2 FWF Special Research Programs, 1 Doctoral School DK+
  – International Max Planck Research School Advanced Photon Science
  – TU Vienna Center of Excellence „Functional Matter – from designer materials to quantum technologies“
  – TU Vienna Doctoral School: Functional Matter
• Materials and Matter
  – TU Vienna Centers of Excellence: TUMat, FunMat, CompMat
  – Master Study Materials Science
  – TU Vienna Doctoral School: Functional Matter
  – Materials Characterization Center: X-Ray Center with University Vienna, Surface Center, Center of Electron Microscopy (USTEM), Low Temperature Characterization Center

• Information and Communication Technology
  – Faculties: Informatics and Electrical Engineering and Information Technology
  – TU Vienna Center of Excellence: “Robust Embedded Systems”
  – 1 FWF Special Research Program in preparation “Robust Embedded Systems”

Priorities – Research Topics
• Energy & Environment
  • TU Vienna Center of Excellence: Center of Sustainable Technology
  • **TU Vienna Research Center** Energy & Environment: Energy active cities, sustainable and low emission mobility, sustainable energy production and distribution
  • **Transfer Center “resarchTUb” GmbH** in cooperation with City of Vienna, Center for Innovation and Technology
External Funding (€) in Research Topics
Papers in Research Topics

2007

- Computational Science &...
- Information &...
- Materials & Matter
- Quantum Physics &...
- Energy & Environment
- Other
- Strengthening of the research topics by appointment policy (data 2010-2013)
• Promotion of the research in the faculties
  – Faculty related priorities: primary research areas
  – Fixing of topics allowed for internal funding
    • Start-up funding
    • Follow-up funding
  – Emerging fields

• Promotion of interdisciplinary topic related research projects
  • Positioning of the centers of excellence
  • Support of interdisciplinary emerging fields
  • Creation of appropriate platforms for developing the priorities
✓ TU Centers of Excellence
  – Partial funding of the effort for coordination and control during formation of the centre
  – Interdisciplinary working groups
  – Draft of the research project and of the shaping
  – Preparing of proposals for financial support by “others“ (Government funds, EU, industry ...)
  – The project funding should be by the external “investors“.

✓ Innovative research projects
  – requirements:
    – innovative character,
    – scientific quality,
    – compatibility with development plans of the faculties
  – international peer-review-procedure
  – Funding of equipment and scientific staff
– Automate Systems (CEAS)
– Centre for Sustainable Technology
– TUMat: TU-Vienna Materials Center of Excellence
– CompMat: Computation of Materials
– FunMat: FUNCTIONAL MATTER – from Designer Materials to Quantum Technologies
– Disaster Prevention and Management
– TTL Technology.Tourism.Landscape
– Bionics
• Initiation of and participation on cooperation projects
  – MatSe
  – Materials Vienna
  – High Performance Computing
  – Energy
  – Biotechnology
  – Life Sciences: Med-Uni, Boku
• Participation on Austrian research calls
• Increasing the volume of research projects with high scientific and economic level
• Promotion of technology transfer
  • Transfer center researchTUb
  • TVFA – Testing House (Mechanical and Civil Engineering)
• Promotion of mobility
• Enhanced cooperation with technical universities in Europe, Russia ...
• Assistance at development/setup of foreign universities
• Participation on EU programs for research infrastructure
  – CEITEC
• Extension of participation on EU frame work programs
  (7. RP: ideas, people, capacities, collaboration)
• Continuous modernisation and replacement of the basic instruments
• Modern equipments in the topics with high competencies
  – Applied Atom and Quantum Physics: Designed Matter and Quantum Technologies (DMQT)
  – Materials and Matter: Materials Characterization Center
  – Computational Science and Engineering: HPC
Thank you for your attention