



OECD REVIEW OF INNOVATION POLICY: AUSTRIA 2018

ASSESSMENT AND RECOMMENDATIONS

Gernot Hutschenreiter
Head, Country Innovation Policy Reviews,
OECD Directorate for Science, Technology and Innovation

Europagespräche 2018
Vienna, 14 December 2018



OECD Review Team Austria

OECD Secretariat:

Gernot Hutschenreiter, Alistair Nolan, Johannes Weber

Consultants to the OECD:

Julia Melkers	Associate Professor, School of Public Policy, Georgia Institute of Technology, United States
Stephen Roper	Director, Enterprise Research Centre, Warwick Business School, United Kingdom
Espen Solberg	Head of Research, NIFU, Norway



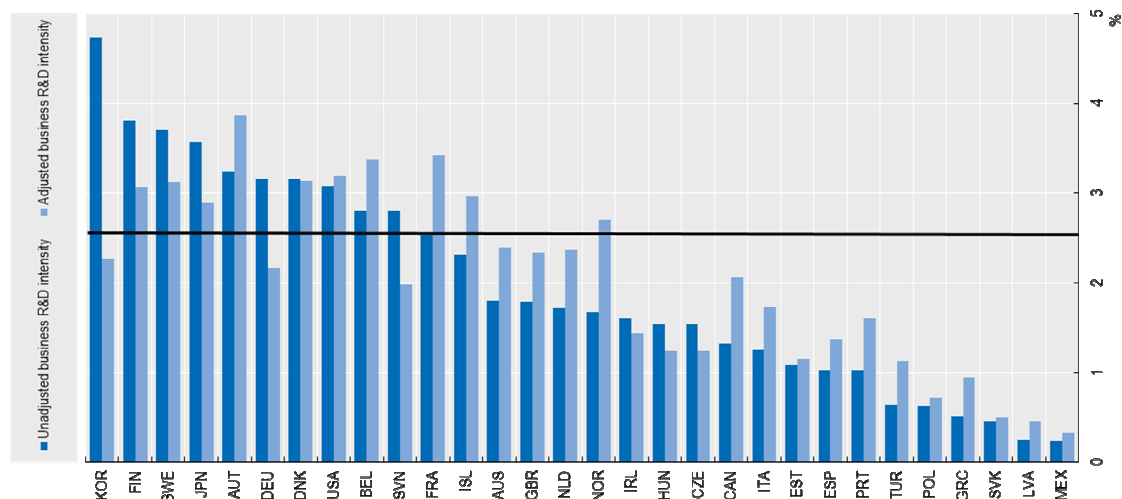
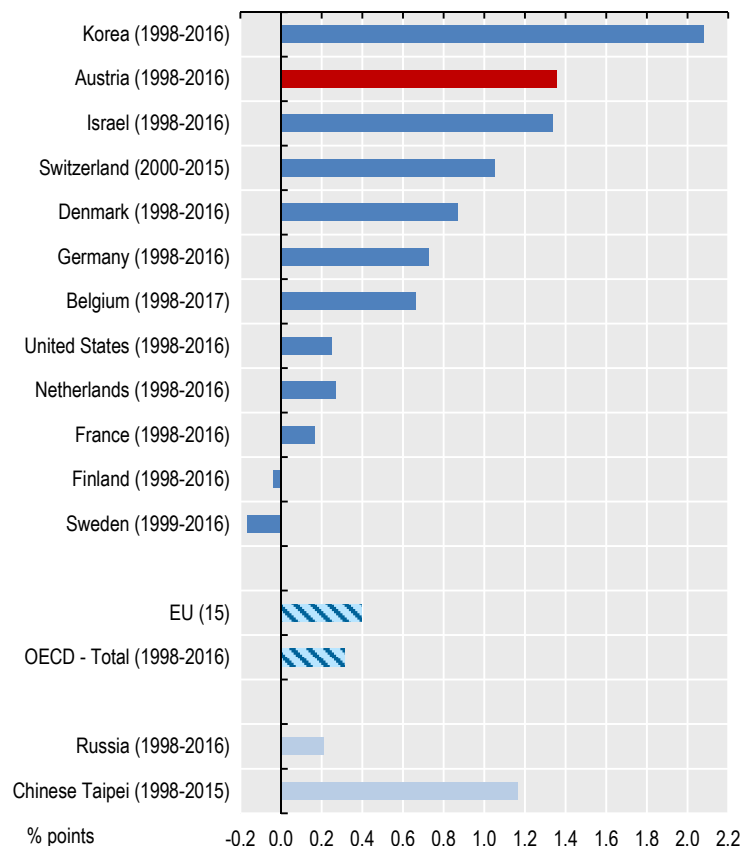
Recent OECD Innovation Policy Reviews in advanced European countries





An outstanding increase in R&D intensity

Change in R&D intensity, 1998 to 2016

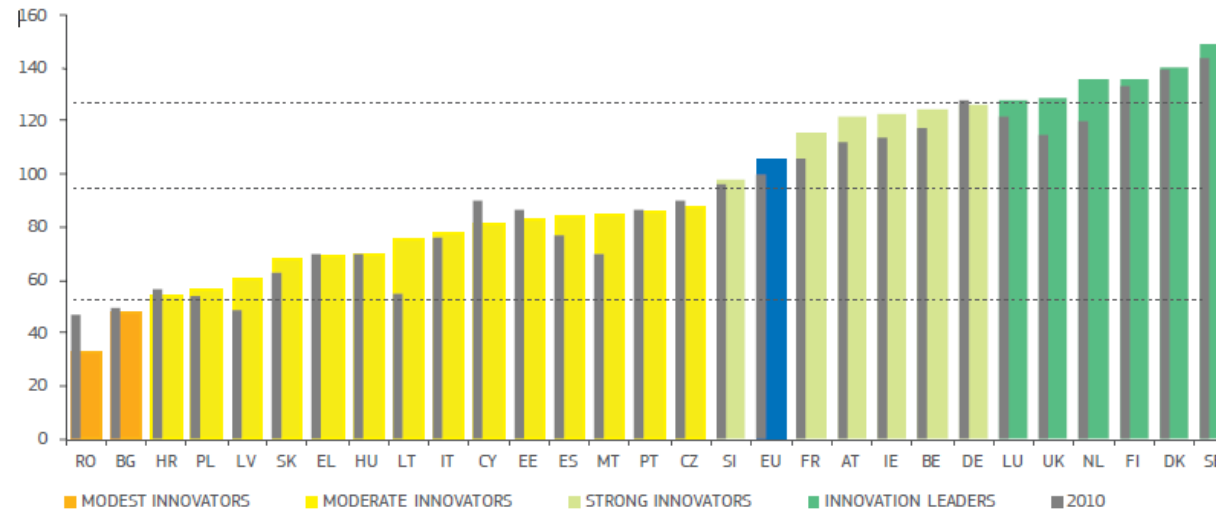


- Austria has one of the highest R&D intensities in the world. In 2016, 3.09% of GDP (2018 3.19%) was spent on R&D, only exceeded by Sweden in the EU28. Expansion driven by BERD and public funding.
- Austria has the highest business R&D intensity adjusted for industry structure in the OECD.

Sources: OECD Main Science and Technology Indicators (MSTI), <http://www.oecd.org/sti/msti.htm>.



... but the distance to innovations leaders persists



Source: European Innovation Scoreboard 2018.

- Despite high investment, Austria continues to lag behind innovation leaders in a range of indicators reflecting STI output or outcomes (including indicators on digitalisation and Industry 4.0).
- Austria has been successful in upgrading but less so in developing new growth industries.
- Weaknesses in start-up and firm growth dynamics, slow post-crisis productivity growth.



A re-orientation of innovation strategy – from input to impact

To become an innovation leader Austria will need to:

- Increase the efficiency of investment in R&D and better transform high levels of R&D investment into productivity growth, high-impact innovations and global market access.
- Better steer the entire innovation system towards excellence.
- Ensure a sufficient supply of human resources for innovation in a context of disruptive technological change and evolving skills demand.



Main policy challenges

- Building an internationally excellent research system.
- Building a world-class human resource base.
- Increasing the contribution of science to innovation.
- Adapting the STI policy mix and governance to future needs and transitions.
- Broadening and upgrading the industrial R&D base and accelerate Industry 4.0 uptake.



Policy challenge: Building an internationally excellent research system

Priority actions:

- Roll out and monitor the new system of university funding and the new performance agreements in terms of their impact on stimulating outstanding research.
 - Strengthen the incentives as needed, e.g. by introducing output indicators for research
- Implement an initiative for research excellence, strengthening the competitive component of basic research funding by increasing the budget of FWF, both for FWF's traditional activities and for innovations in its portfolio.
- Monitor the adoption of the new tenure track model across the entire university system.



Policy challenge: Build a world class human resource base

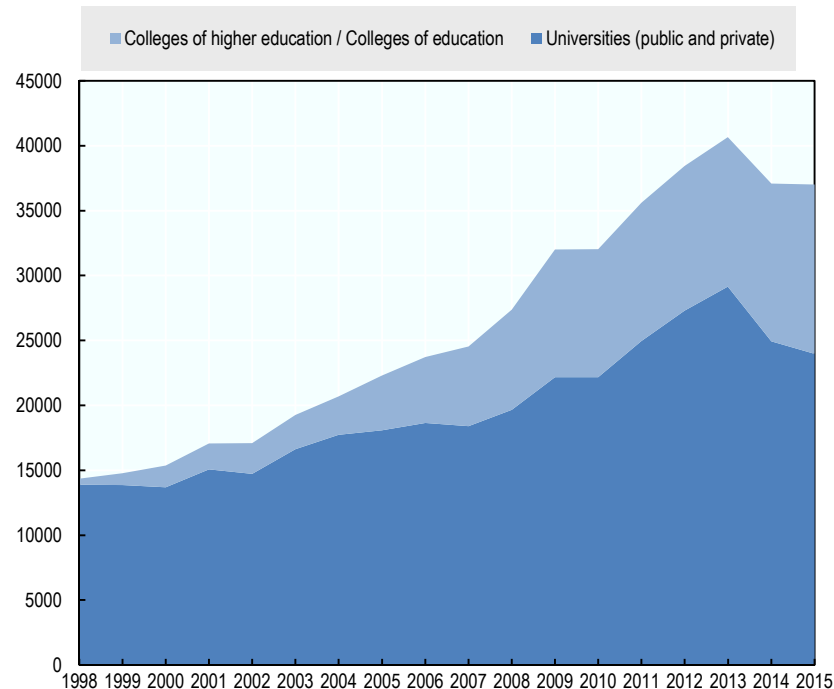
Priority actions:

- Continue tackling barriers to the advancement of female researchers.
- Increase flexibility and modularity in tertiary and vocational education and training, among other things by continuing and accelerating the expansion of the Universities of Applied Sciences sector and strengthen their co-operation with the universities.
- Expand doctoral schools with structured PhD training (applying strict quality criteria) and improve funding for PhDs.

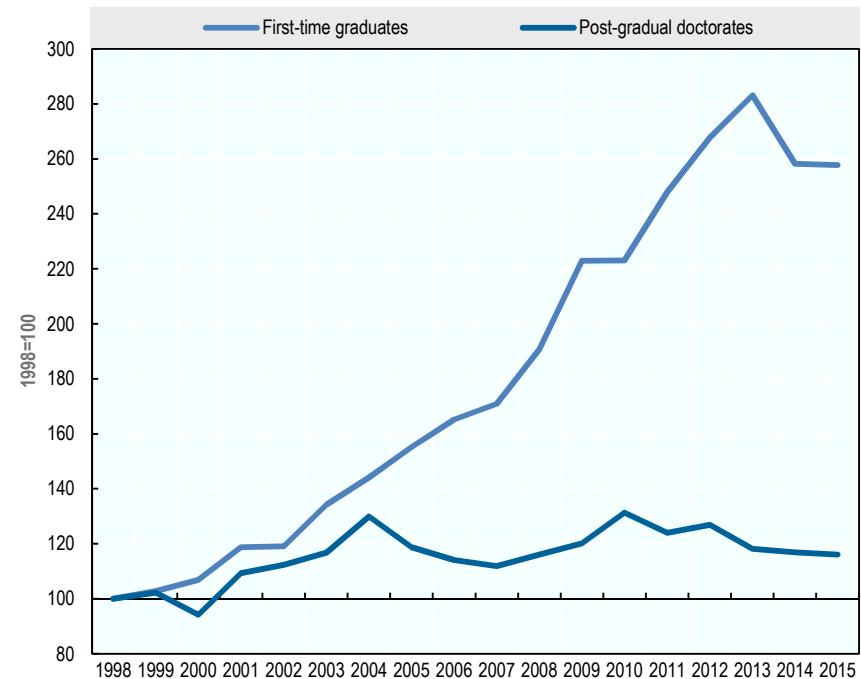


Expansion of first-time graduates, stagnation in doctorates

First-time graduates in Austria
(1998-2015)



First-time graduates and post-graduate doctorals in Austria
(1998-2015)



Source: Statistik Austria (2016).



Policy challenge: Increasing the contribution of science to innovation

Priority actions:

- Reinforce linkages between industry and science that put a stronger focus on globally leading and radical innovation in strategic fields. Ensure high ambition in transfer-oriented institutions.
- Strengthen Austria's capabilities to use issues-driven collaborative programmes to support research and innovation for new markets, tackling societal challenges (e.g. aging population, low-carbon growth and security), missions and transitions (e.g. digitalisation). This requires combinations of basic and applied research.
- Further capitalise on the existing network of RTOs by raising their capacity for outstanding research through profiling, and improved performance measurement, with a view to move towards a more strategic and performance-based governance and funding.



Policy challenge: Adapt the policy mix and STI policy governance

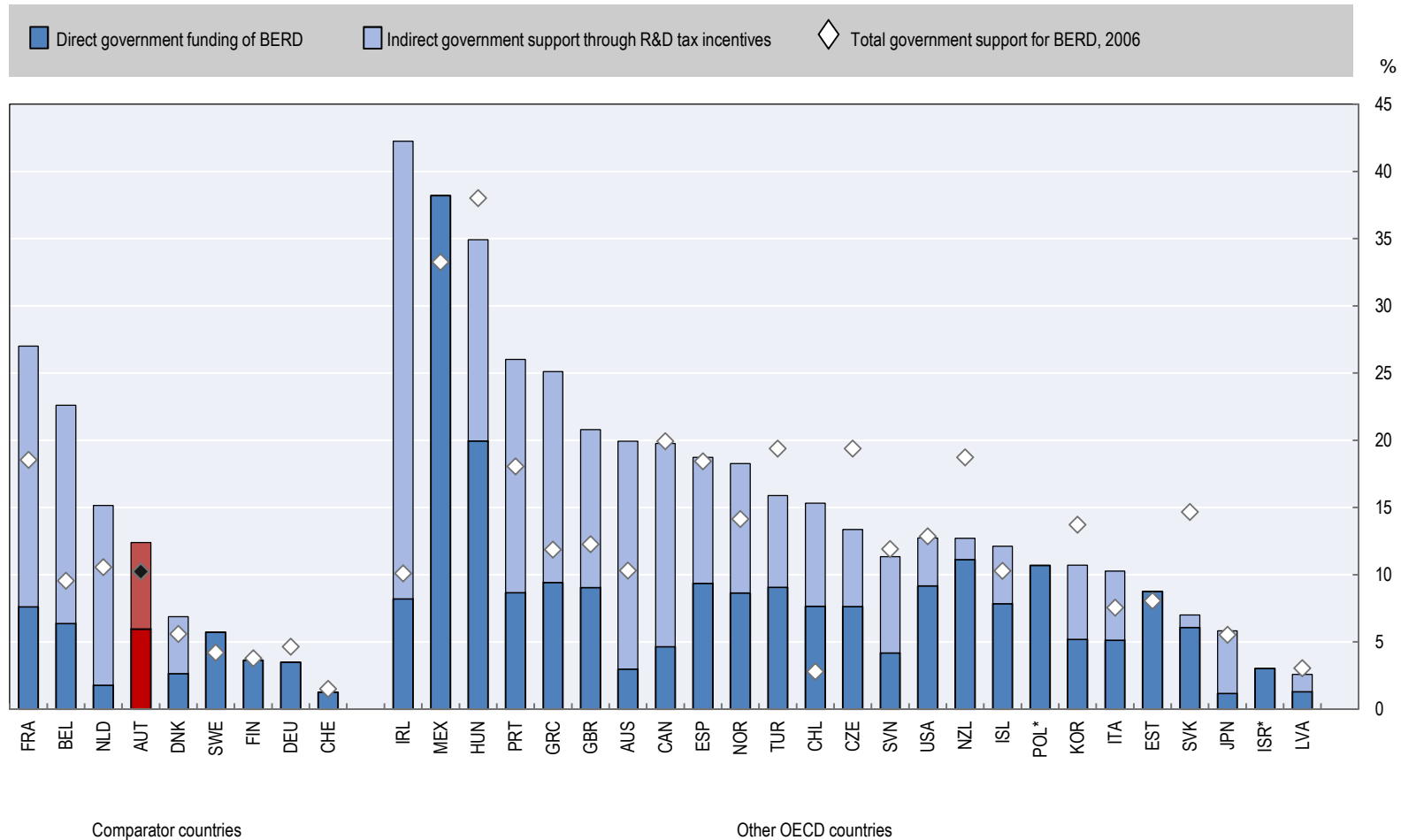
Priority actions: Adapt the overall policy mix

- Steer the policy mix towards newly emerging needs, more competitive funding for excellent research and ambitious innovation.
- Shift public support to business R&D that explores new technological solutions, combines technologies in novel ways, or takes up new scientific discoveries.
 - Strive for a balanced mix of policy ranging from instruments that offer low-barrier access, especially for SMEs and young enterprises, to complex public-private partnership programmes.
 - Adapt individual instruments and the portfolio of instruments in such a way as to raise quality and impact of R&D, to take care of new need and opportunities.



Direct government funding and tax support for business R&D, 2015

As a percentage of total business R&D (%)



Source: OECD, R&D Tax Incentive Indicators, <http://oe.cd/rdtax>, July 2017.



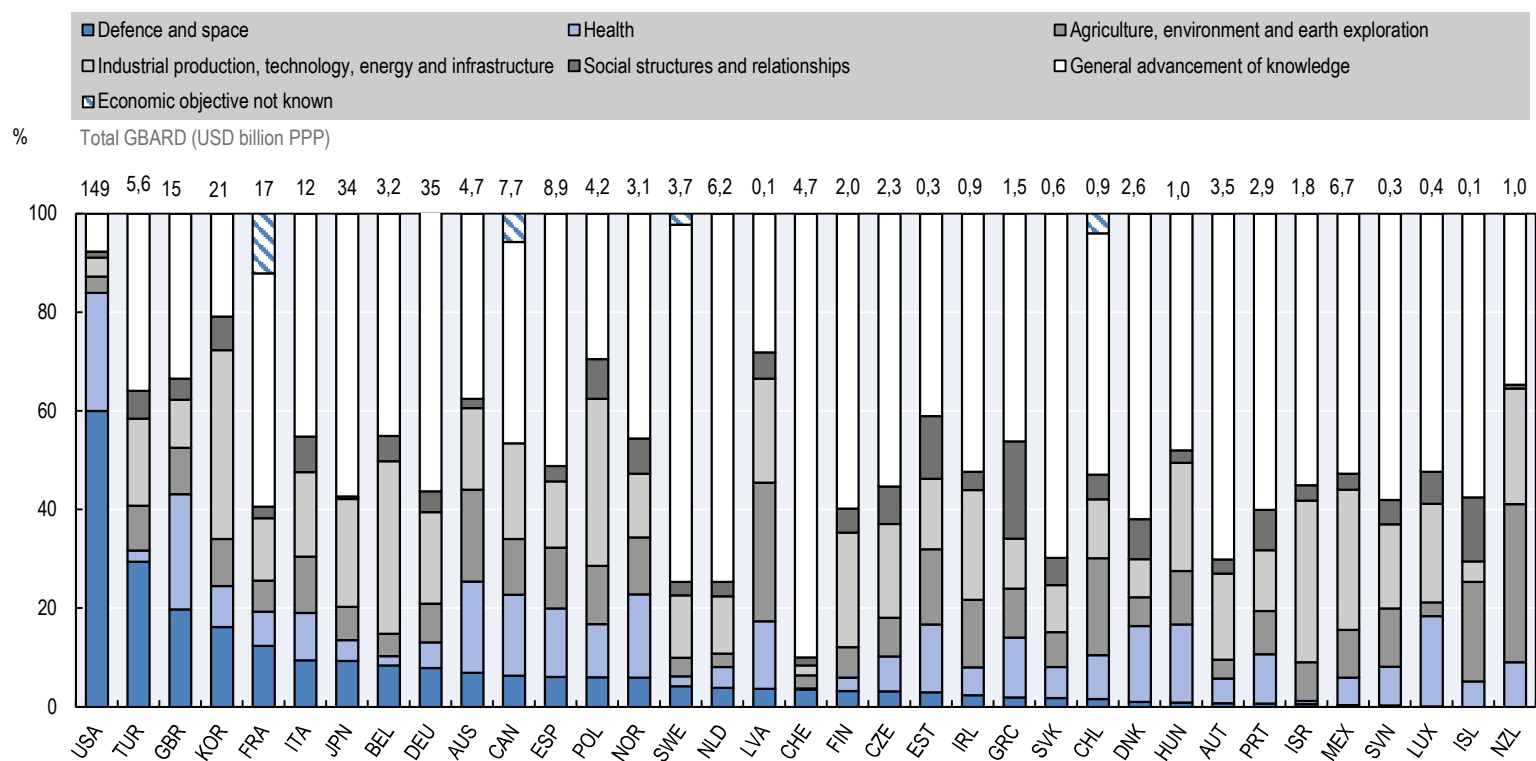
Policy challenge: Adapt the policy mix and STI policy governance

Priority actions: Societal challenges

- Develop Austria's capacity to address societal challenges through long-term support for collaboration between relevant actors. These require a combination of basic and applied research.
- Provide for alignment with thematic fields addressed in Horizon Europe and use the EU's new "mission-oriented" approach to R&D funding to systematically explore complementarity between national and EU thematic priorities.



Government R&D budgets, by socio-economic objective, 2016



Source: OECD, Research and Development Statistics Database, <http://oe.cd/rds>; Eurostat, Statistics on Research and Development, July 2017.



Policy challenge: Adapt the policy mix and STI policy governance

Key priority actions: Strengthening STI governance

- Strengthen the STI governance structures beyond the current design and practices of the RTI Task Force. A new Council for Science, Research and Innovation could be designed to take on a role in co-ordination.
- Develop the governance and operational framework of major funding agencies, notably FFG and *aws*, by strengthening their operational autonomy while building strategic steering capacities in the Ministries in charge. Use such a framework to enable better management of the programme portfolios handled by the agencies

This could help to reduce

- complexity and transaction costs in the interactions between ministries and agencies;
- sub-critical programmes across funding institutions and establish broader arenas for competitive funding.



Policy challenge: Adapt the policy mix and STI policy governance

Priority actions: STI councils

- Create a **single Council for Science, Research and Innovation** as a
 - strong advisory council, or as a
 - council engaging in policy co-ordination and forward-looking decision making, which would have to be anchored at the highest political level (Federal Chancellery) and meet at least twice with Ministers chaired by the Chancellor.
- The latter option would be preferable if Austria wishes to make science, technology and innovation a pillar of long-term development policy.
 - Take due account of new developments such as an increased focus on societal challenges etc. adapting the mode of operation (making use of sub-committees, temporary working groups etc.)
 - Retain the achievements of the existing councils (in terms of expertise, gender balance, breadth, international membership and perspective, transparency).



Policy challenge: Adapt the policy mix and STI policy governance

Priority actions: Evaluation

- Initiate more regular evaluations of portfolios of public support instruments (including the Research Premium, FFG and other programmes) and their interlinkages, applying international best practices in providing data access, without compromising the confidentiality of sensitive data.
 - These evaluations could be very useful in informing future decisions on Austria's overall policy mix for STI and make individual schemes more effective.



Thank you for your attention
If you need further information, please contact

Gernot.Hutschenreiter@oecd.org

Web resources

www.oecd.org/sti/innovation/