POLICY BRIEF

ON THE
AUSTRIAN INNOVATION UNION STATUS REPORT 2014

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EXEUCIVE SUMMARY

Context

In its competition with other continents and regions, the only way for Europe and its Member States to maintain the status and standards of living of its population is to succeed as a site of innovation. The Flagship Initiative “Innovation Union” is a concerted and holistic action checklist to achieve the “Europe 2020” targets with regard to innovation. The Austrian Government set Austria the target to catch up with the “Innovation Leaders” in Europe. The measures taken to reach the Austrian research, technology and innovation (RTI) objective have to be matched with the action checklist of the “Innovation Union” as well as the “Innovation Union Scoreboard” as a reference framework.

Status Quo (as of 30th October 2014)

In Austria, some commitments of the “Innovation Union” were pursued consistently and successfully. However, some issues remain to be tackled.

Both current reports, the “Innovation Union Scoreboard 2014” (IUS14) and the “Innovation Union Progress Report 2014” (IUPR14), assess Austria as having a good overall-performance. However, Austria’s rank has not changed fundamentally over the last few years.

If Austria wants to close the gap on the “Innovation Leaders”, Austria has to step up its efforts in terms of

- public investments in research, development and innovation,
- measures that make private capital/venture capital available in Austria,
- structural and financial support of the Austrian small and medium-sized enterprises (SMEs) in research, development and sales.

To a large degree, these three levers apply to the “Innovation Union Commitments”:

- Research infrastructure
- Simplifying access to research and innovation (R&I) programmes
- Stronger involvement of SMEs in R&I programmes
- Making venture capital / private equity available for Austrian enterprises
- Support of research, development and innovation through State Aid
- National procurement budgets for innovation
- Usage of structural funds for research and innovation

Recommendations

In order to make the Flagship Initiative “Innovation Union” work in Austria and to enable reporting, monitoring and steering, it has to become a formal item on the agenda. Therefore, the initial key measures should be:

- specification of the Flagship Initiative “Innovation Union” as a cross-departmental agenda,
- official nomination of persons taking lead responsibility,
- establishment of a coordination office.
**ASSESSMENT ACCORDING TO THE**

**“INNOVATION UNION SCOREBOARD 2014“ & “INNOVATION UNION PROGRESS REPORT 2014“**

**Preface:**
The Austrian efforts in developing research and innovation have to be compared internationally. There are two tools on a European level measuring these efforts against the background of the “Innovation Union”: the “Innovation Union Scoreboard” and the “Innovation Union Progress Report”.
The “Innovation Union Communication” already includes a qualitative self-assessment. However, Austria utilises neither the self-assessment nor the option of “peer-reviews” provided by the European Commission.
The IUS14 and IUPR14 do not measure the progress made on each single commitment but refer to quantitative scales that allow objective before-and-after comparisons as well as a comparison of countries.
The status report “Austrian Research and Technology Report 2013” discusses the Scoreboard’s indicators and the validity of the outcomes in detail. The current status report “Austrian Research and Technology Report 2014” furthermore elaborates Austria’s position in terms of some other rankings. Clearly, there are some weaknesses of the “Innovation Union Scoreboard” (e.g. availability of data) as well as disadvantages for Austria with regard to some indicators (e.g. a high share of tourism in Austria). However, as long as there are no other rankings, reports or better scales at hand, these are the only standards that quantify the rank and progress of innovation-related targets. Nevertheless, the Scoreboard as well as the Progress Report provides compelling evidence within a multiannual reference period.

In short, both current reports assess Austria as having a good overall-performance. According to IUS14, Austria is ranked 14th and above EU-average. It claims rank 6 in the group comprising the 10 “Innovation Followers”. Austria’s rank has not changed fundamentally over the last few years.

In contrast to some other published statements, we consider a discussion about the descent or ascent of one rank within the group of “Innovation Followers” as irrelevant.
The key question is: What has to be done or what has to be improved in order for Austria to climb up the ladder in the group of “Innovation Leaders”? Austria should be benchmarked against the group of “Innovation Leaders”, not the “Innovation Followers”.

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4 ibid., p.24ff
6 ibid., p.28ff
7 IUS14, p.11-27, p.62 and IUPR14, p.21ff
8 IUS14, p.11
The chart below illustrates the IUS14 measurement categories.

3 types of main indicators are divided into 8 innovation dimensions:

- ENABLER
  - Human resources
  - Open, excellent research systems
  - Finance & support
- FIRM ACTIVITIES
  - Firm investments
  - Linkages & entrepreneurship
  - Intellectual assets
- OUTPUT
  - Innovators
  - Economic effects

The 8 innovation dimensions are sub-divided into 25 indicators:

Chart: Innovation Union Scoreboard 2014
(Note: The actual commitments of the “Innovation Union” do not fully correspond to the measurement criteria outlined in the IUS14.)
With reference to the above-mentioned key question - and having identified the need for action to catch up with the group of “Innovation Leaders” - the “Innovation Followers” and the “Innovation Leaders” should be compared first. They differ most in terms of the dimensions and indicators marked green in the chart above.

Hence, “Leaders” are superior to “Followers“ with regard to:

- **ENABLER**
  - Human resources
  - Open, excellent research systems
  - Finance & support

- **FIRM ACTIVITIES**
  - Firm investments
  - Linkages & entrepreneurship
  - Intellectual assets

- **OUTPUT**
  - Innovators
  - Economic effects

Therefore, all efforts should focus on those commitments of the “Innovation Union” which address the dimensions and indicators highlighted above.

However, the above result is contradictory to the individual evaluation of Austria because:

- With regard to “intellectual assets” (see: FIRM ACTIVITIES > Intellectual assets) Austria is ranked 2nd behind Denmark.\(^9\)
- Austria is ranked high for example in terms of “PCT patent applications” (see: FIRM ACTIVITIES > Intellectual assets) – i.e. above the EU-average at rank 6.\(^10\)
- Austria’s high rank is a result of exceptional patent activities within just two of the 16 sectors: “construction and construction technologies” and “transport systems”.\(^10\)
- Austria is placed above the EU-average in the “automobile”, “environment” and “materials” sectors. However, these three values are considerably lower than the first two. With regard to all other eleven sectors, Austria is below the EU-average.\(^11\)
- The imbalance of patent application activities is intensified by a poor interest in license and patent revenues from abroad (see: OUTPUT > Economic effects): rank 15 in the EU and only a third of the EU-average.\(^12\)

As mentioned above and in order to identify Austria’s backlog demand, Austria has to be benchmarked against the “Innovation Leaders” and not against the group of “Innovation Followers”:

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\(^{9}\) IUS14, p.12  
\(^{10}\) IUS14, p.16.f  
\(^{11}\) IUPR14, p.29  
\(^{12}\) IUPR14, p.24  
\(^{13}\) IUPR14, p.29
According to this comparison, the most significant differences between Austria and the “Innovation Leaders” are:

- **ENABLER**
  - Human resources
  - Open, excellent research systems
  - Finance & support

- **FIRM ACTIVITIES**
  - Firm investments
  - Linkages & entrepreneurship
  - Intellectual assets

- **OUTPUT**
  - Innovators
  - Economic effects
By benchmarking Austria against the “Innovation Leaders”, a different conclusion has to be drawn because the weaknesses refer to\textsuperscript{14}:

- **Enabler / Finance & support:**
  - R\&D expenditures in the government sector (GOVERD) and the higher education sector (HERD).
  - Venture capital investment defined as private equity being raised for investment in companies. Venture capital includes early stage (seed + start-up), expansion and replacement capital (management buy-outs, management buy-ins as well as venture purchase of quoted shares are excluded).

- **Output / Innovators:**
  - SMEs who introduced a new product or a new process to one of their markets.
  - SMEs who introduced a new marketing innovation or organisational innovation to one of their markets.
  - Employment in fast-growing enterprises in innovative sectors.

- **Output / Economic effects:**
  - Employed persons in knowledge-intensive activities in business industries. With reference to the EU Labour Force Survey Data, knowledge-intensive activities are defined as all NACE Rev.2 industries at 2-digit level where at least 33% of those employed have a higher education degree (ISCED5 or ISCED6).
  - Contribution of medium and high-tech product exports to the trade balance.
  - Knowledge-intensive service exports as \% of total services exports.
  - Sales of new or significantly improved products, either new to the firm or new to the market, for all enterprises in \% of turnover.
  - License and patent revenues from abroad as \% of GDP.

Although Austria has been attested that it “has expanded its research and innovation system over the last decade with investments in R\&I growing more quickly than the EU average”\textsuperscript{15}, the countries of its peer group have also developed. This fact together with the unfortunate selection and definition of some output-indicators\textsuperscript{16} is the reason for Austria’s stagnation in international rankings.

Annotations with regard to the dimension “ENABLER > Finance & Support”:

With regard to “R\&D expenditures in the government sector (GOVERD) and the higher education sector (HERD)”, the IUS14 indicates an increase of 2.5\% (above EU-average)\textsuperscript{17}. However, this is apparently not enough in order for Austria to be able to catch up to the group of “Innovation Leaders” - or even to reach the Europe 2020 target of 3.76 “R\&D intensity”.

\textsuperscript{14}IUS14, p.88ff, Annex C
\textsuperscript{15}IUPR14, p.21
\textsuperscript{16}see p.4
\textsuperscript{17}IUS14, p.62
This weakness goes hand in hand with a weakness in “private equity / venture capital”. According to the IUPR14 “… in recent years progress in private spending has decelerated.” The following three aspects exemplify the shortage of capital and thus a reduced output of Austria as a location for R&D:

- the already very low level of venture capital continues to decline (currently rank 17 of the 21 Member States that have been considered),
- a decrease in investments of firms from abroad in local R&D as well as
- a decrease of firm investments in public expenditures in R&D.

Annotations with regard to the dimensions “OUTPUT > Innovators” and “OUTPUT > Economic effects”:

These two weaknesses point to the specific Austrian industrial landscape that is characterised by an emphasis on SMEs. At the same time, Austria’s innovation capacity depends on niche players who have to retain their ongoing innovativeness in order to survive in international markets. Furthermore, there are limited numbers of established knowledge-intensive sectors that could generate innovation.

Indeed, Austria’s SMEs are ranked slightly above the EU-average concerning innovation performance. However, this growth rate has declined.

The number of employees in knowledge-intensive sectors as well as the shares of “medium-tech” and “high-tech” exports are consistent with EU averages, yet the growth rates of both (employees in knowledge-intensive sectors as well as “medium-tech” and “high-tech” exports) are too low.

As long as Austria wants to catch up to the “Innovation Leaders”, the business environment has to be improved and incentives have to be provided to stimulate the untapped potential of SMEs.

The following three levers will give Austria the boost it needs to join the group of “Innovation Leaders”:

1. Public investments in research, development and innovation
2. Measures to make private capital/venture capital available in Austria
3. Structural and financial support of the Austrian SMEs in research, development and sales

To a large degree, these three levers apply to the “Innovation Union Commitments”

5: Research infrastructure
6: Simplifying access to R&I programmes
7: Stronger involvement of SMEs in R&I programmes
10-12: Making venture capital / private equity available for Austrian enterprises
13: Support of research, development and innovation through State aid
17: National procurement budgets for innovation
24+25: Usage of structural funds for research and innovation

Note: Besides the fact that some of these commitments address the Commission, measures are also needed on the part of the Member States to be effective.
RECOMMENDATIONS

1.) Specification of the Flagship Initiative „Innovation Union“ as a cross-departmental agenda
2.) Official nomination of persons taking lead responsibility
3.) Installation of an (interim) internal IT platform for the purpose of information exchange
4.) Establishment of a coordination office, mandated to
   a. keep the persons with lead responsibility updated
   b. record and monitor all the agendas that apply to Innovation Union Commitments
   c. ensure coordination and support
   d. release the annual “Austrian Innovation Union Status Report”
   e. organise and conduct “Peer Reviews” (with “Innovation Leaders”)
   f. record and pass on best practice examples of other Member States to colleagues with lead responsibility
   g. monitor issues and measures which may affect IU Commitments but are conducted separately (e.g. Enquête “Social Innovation” or working group “IP-Strategy”)
5.) Cross-departmental identification of risks and weaknesses according to the “Innovation Union Scoreboard” and the “Innovation Union Progress Report”
6.) Taking into account the outcome of 5.) above, a cross-departmental agreement on priorities including an action plan, based on the governmental RTI strategy to become an “Innovation Leader”
7.) Introduction and coordination of ad hoc measures, such as:
   a. Identification of public projects which could be realised in an innovative manner in the fields of social affairs, environment and public services
   b. Development and roll-out of a consulting model to increase the success rate of applications for grants
   c. Ongoing national and international interconnection and development of private equity / venture capital resources

//Roman Strauss