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Factsheet – RTOs

What are RTOs?

Research and Technology Organisations (RTOs) are mission-oriented knowledge organisations dedicated to the development and transfer of science and technology to the benefit of the economy and society. Well-known RTOs include the Fraunhofer Gesellschaft in Germany, the CEA in France, VTT in Finland, TNO in the Netherlands, and SINTEF in Norway¹.

What do they do?

RTOs build bridges between basic research and practical applications by supporting product and process innovation in all branches of industry and services. They help to develop technologies that feed directly into new goods, processes and services. They do technology and market foresight and monitor social developments so that policymakers and businesses can make better decisions about future needs and market opportunities.

RTOs do a wide range of activities, from basic and applied research to advanced engineering, design and development, measurement and tests, prototype production, studies, and industrial exploitation through licensing and the formation of spin-off companies². Putting knowledge to practical use is the common denominator.

How are they different from universities?³

RTOs and universities are increasingly strongly linked, but they have very different missions and operating modes. RTOs do more applied research than universities and exploit the resulting knowledge in industrial innovation and development projects. They have industry-relevant skills and often work in an interdisciplinary manner. They are also programme-driven, not project-oriented, which is linked to their strategic role in developing new technologies and applications and the consequent

¹ A more extensive list is available on the EARTO website: <http://www.earto.eu>

² A more exhaustive list can be found in the study *Impact of European RTOs – A study of Social and Economic Impacts of Research and Technology Organisations*, Technopolis Group, October 2010

³ Source: *Impact of European RTOs – A study of Social and Economic Impacts of Research and Technology Organisations*, Technopolis Group, October 2010

need to obtain a financial return on that investment and on their often expensive equipment.

Studies conducted at national level show that while industrial clients use both universities and RTOs, they do not contract the two types of organisations for the same purposes.

How are they funded?

RTOs win the greater part of their funds competitively. Typically, their funding is a mixture of “core” subsidy that lets them develop capabilities and industrial income which allows them to exploit these capabilities for the benefit of industry.^{4 5}

Why are RTOs important?

RTOs play a major role in the European innovation system. They work with both universities and enterprises, large and small, in order to find practical solutions to the societal “Grand Challenges”, while creating economic growth and employment through more effective exploitation of research and adaptation of technologies for specific business applications. RTOs also play a pivotal role in the European Framework Programme for Research and Technological Development, coordinating about a third of the projects in which they are involved. RTOs have a strong history of helping SMEs go beyond their capabilities, by providing technological and human resources and expertise not normally available to them.

In economic terms, the annual impact of RTOs is estimated at up to €40 billion. In social terms, RTOs are at the centre of major projects to tackle pressing societal challenges, in fields such as sustainable energy, environment and health technology. This reflects the pluri-disciplinary nature of RTOs and the range of their activities, resources and know-how.

⁴ Source : *Impact of European RTOs – A study of Social and Economic Impacts of Research and Technology Organisations*, Technopolis Group, October 2010

⁵ A good description of the funding and business model of RTO can be found in the EARTO Report “Research and Technology Organisations in the evolving European Research Area”, 2007

Snapshot of the RTOs sector

- **EARTO** represents approximately **350 RTOs** in **Europe**
- The **combined annual turnover** for European RTOs is estimated at about **€ 23 Billion** (Technopolis Group, 2010). If they were a European multinational, that would place them in the top 100 of the FT European 500.
- The **typical RTO Business Model** is a mixed one combining public core funding, public competitive funding and enterprise income in roughly equal proportions.
- The total annual **economic impact of RTOs** in Europe is estimated at up to **€40 Billion**.
- RTOs benefit more than **100,000 customers annually** – national and regional governments, SMEs and large companies
- EARTO members employ together more than **150,000 scientists, technicians and engineers**.
- RTOs are **major players** in the **European Framework Programme for Research**: RTOs accounted for 28% of FP6 participations and received 32% of FP6 funding, providing about 35% of FP6 project coordinators (Technopolis Group, 2010).