

The funding of Research & Technology Organisations (RTOs): new challenges and opportunities for supporting socio-economic recovery, resilience and transition

Project draft Terms of Reference

Enter any logistical information related to the meeting e.g. meeting date, time and location.

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1. This document sets out the terms of reference of the Joint OECD-EARTO project "The funding of Research & Technology Organisations (RTOs): new challenges and opportunities for supporting socio-economic recovery, resilience and transition", undertaken by OECD and supported technically and financially by EARTO.

Background

RTOs – key actors in national STI systems but still a statistical and substantive “blind spot”

2. The role of RTOs in delivering knowledge and innovation that contribute to both strengthening competitiveness and solving mounting societal challenges is widely acknowledged (EARTO, 2020). However, there is little insights on how these organisations function in practice, what is their funding and delivery model, their role(s) and position in national and international science, technology and innovation (STI) systems and, especially, how these have evolved in line with changes in the funding and governance landscape in recent years.

3. This lack of knowledge on RTOs is largely due to their diversity in terms of legal status, internal governance structure and modes of funding (OECD, 2011). RTOs’ hybrid nature compounds this diversity: most of them serve different missions for various public and private beneficiaries and partners, financed through multiple funding streams. Consequently, RTOs are difficult to handle as one consistent category in statistics and analytical work.

Changing organisations in a changing strategic and financial contexts

4. RTOs have continuously evolved to adapt and contribute to changes in the funding and strategic landscapes in which they operate.

- Strategic landscape: mounting societal challenges and the necessary transition towards more sustainable socio-economic systems have triggered a shift towards more ‘directional’ and proactive STI policy. This trend is reflected for instance in the experimentation of mission-oriented innovation policies in an increasing number of countries and at EU level over the last 5 years (OECD, 2021). As evidenced by previous studies, high-level policy orientations have a strong influence on the activities of RTOs (OECD, 2011; Intarakumnerd and Goto, 2018).
- Funding landscape: this shift towards more directional policies, as well as other trends such as the increasing accountability pressure and the emergence of new types of funders, led to changes in the number and types of funding instruments and policies (and various conditions attached to these). This requires from RTOs, especially those who do not benefit from significant institutional funding, complex and ‘acrobatic’ financial engineering to be able to “*keep the plates spinning*”.¹

Opportunities and challenges for RTOs

5. Taken together these trends generate both opportunities and challenges for RTOs. The increase in directional STI policies possibly entitles RTOs with an even more important role in national STI systems, which will allow them to deliver more results and be more impactful. RTOs are already active players in various types of mission-oriented policies, taking advantage notably of their ability to act as ‘systemic intermediaries’ (Weber, 2020). However, it embeds RTOs in more demanding programmes and schemes,

¹ This image is taken from Koeir, van der Meulen *et al.* (2016). They have surveyed the effect of the multiplication of funding sources and various demands addressed to universities, which end up like jugglers switching from one pole to the other in order to spin as many plates as possible at the same time.

which all have their operational mechanisms (conditions, criteria, reporting principles, KPIs, time horizon, etc.). This might, for instance, jeopardise RTOs' autonomy, their ability to explore new solutions, and develop and maintain long term and transversal physical and knowledge infrastructures. Furthermore, RTOs themselves have changed in the 1990s and 2000s under various internal and external pressures, to become in many countries 'jacks of all trades' (Polt, 2020). These changes have created specific challenges and opportunities for their participation in focused, ambitious and long-term initiatives that aim to support the transition towards more sustainable socio-economic system. This could prove all the more challenging in increasingly fragmented funding landscapes.

Study objectives

6. This project aims to inform EARTO and its members on the opportunities and challenges that past and future changes in their strategic and funding context present with regards to their ability to contribute to the sustainable transition and to the post Covid-19 recovery and resilience of socio-economic systems.

7. The key question that structures the whole study is therefore the following:

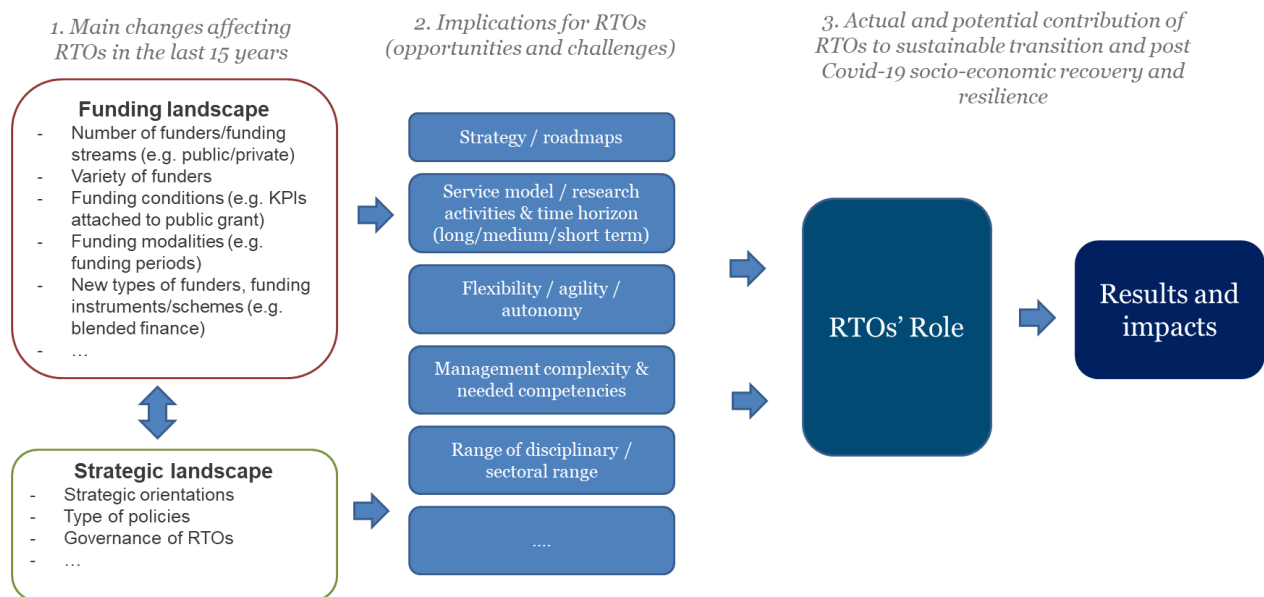
How have the changes of RTOs' funding and delivery model in the last 10-15 years impacted on their ability to contribute to the transition toward more sustainable socio-economic systems and post-covid-19 recovery and resilience?

8. The study is both backward and forward-looking. In this respect, it analyses:

- how past changes in the funding and strategic landscape have impacted on RTOs, notably following the 2008 economic crisis;
- how do RTOs envisage current and future trends, including the Covid-19 crisis, with regards to strategy and funding, and get organised to adapt and seize related opportunities.

9. Schematically, the study is three-pronged (Figure 1). A first step consists in gathering information from RTOs themselves on the changes of their immediate strategic policy and funding environment. A second logical step is the analysis of the implications of these changes on RTOs, with regards to some key parameters such as their overall strategies, the needed skills, their business and service model (structure of activities, inc. industry services, public service missions and other activities), their strategic horizon (more or less long term). A third and final step seeks to draw conclusions of these evolutions on the role that RTOs do play and could play in supporting the sustainable transition and post-covid-19 recovery and resilience of socio-economic systems.

Figure 1. Schematic overview of the study's logical steps



10. This study's main expected outcome is to provide RTOs with insights on the opportunities and challenges that past and future changes in their strategic and funding context present with regards to their ability to contribute to the sustainable transition and to the recovery of socio-economic systems. Although it does not aim to deliver recommendations, its results will feed into the reflection regarding the adequacy of current and future RTOs' funding and delivery models to best contribute to the transition toward more sustainable and resilient socio-economic systems.

11. The results of this study will also form inputs into the Module 3 of the OECD's cross-cutting project "Societies in times of crisis and beyond: developing responsive and resilient science and innovation systems" conducted during the biennium 2021-22 under the aegis of the Committee for Scientific and Technological Policy (CSTP). The module 3 "Improving directionality in funding and developing sustainability transitions" aims at providing operational state-of-the-art STI policy guidance to recover from/adapt to systemic shocks and accompany green, digital and inclusive transitions. The study is also relevant to the TIP Working Party's project 'Supporting co-creation for resilient, inclusive and sustainable futures'. Project update will be presented at TIP meetings at key milestones.

Scope

12. The investigations will be carried out primarily among EARTO members (European and International RTOs), regardless of their legal status (publicly or privately-owned), size, and location. This represents about 100 European organisations and 10 international organisations (outside of Europe). On an opportunistic basis, some RTOs that are not EARTO members could also be included, in particular as recipients of the survey questionnaire.

13. The period considered in the study goes as far as the last 15 years in order to include the 2008 financial and Covid-19 crises. Such a long period might however not be fully covered by the collected data since it will be difficult to reconstruct consistent series of indicators for various organisations. Hence the long-term trends will be addressed in particular during interviews, with interlocutors who were already in RTOs at the end of the 2000s.

Key issues

14. The key issues to address can be structured around the three 'steps' of the study. These questions should be considered as guidelines for the study. The ability to respond to these questions will depend on their relevance and, even more, the data and information provided by RTOs.

Main changes affecting RTOs in the last 15 years

15. The list of changes affecting RTOs is not exhaustive and should be validated and completed in the course of the study. A first step therefore consists in gathering information from RTOs themselves on the changes that have a bearing on their funding and the modes of governance associated with the different funding streams:

- How has the funding structure of RTOs evolved (e.g. in terms of fragmentation, number and variety of public/private sources, funding size and periods)?
- What have been the main impacts of the 2008 financial and what are the (actual or expected) effects of the current COVID19 crisis on the funding structure of RTOs?
- To what extent do the funding arrangements generate different demands ("strings attached") and how are these demands conveyed to RTOs (e.g. KPIs reported to governments)?
- How has the nature of these demands, requirements and other types of "strings attached" evolved in recent years?
- To what extent do RTOs participate in new types of funding schemes²? Are there any barriers preventing RTOs' access to specific (new) types of funding streams (e.g. RTO legal base, etc.)?
- How has the governance of RTOs (notably the linkages to the RTOs' 'principals') evolved in relation to their changing funding structure or other changes?
- Has there been a marked thematic shift of RTOs in response to the increasing pressure of societal challenges?
- Have the United Nations' Sustainable Development Goals (SDGs) had an impact on RTOs' funding structure and service model?
- *Forward-look*: What are the current and future trends with regards to the evolution of the strategic and funding landscapes? What is the foreseen impact of the Covid-19 crisis on RTOs' funding model in the years to come?

Implications for RTOs (opportunities and challenges)

16. The second step is the analysis of the implications of these changes on RTOs:

- How do RTOs manage a complex funding structure while still maintaining consistency in their activities?
- What are the implications in terms of needed financial engineering and management skills, organisational strategic capabilities, evolution of researchers' reward system etc.?
- What are the impacts of the inflation of demands and requirements?
- How has the flexibility/autonomy of RTOs in spending their (public) funding evolved in this context?

² For instance: challenge-based funding schemes, various types of mission-oriented policies, hybrid (competitive/non-competitive) funding instruments (such as competence centers, performance contracts, etc.), public-private partnerships and blended finance.

- How has it affected the nature and time horizon of RTOs' activities/services and their results (long/medium/short term)?
- What are the implications of RTOs' participation in new types of funding schemes in terms of business/organisational models, role and required skills?
- To what extent have RTOs been able to seize the new opportunities created by the policy shift towards sustainability and transition objectives?
- *Forward-look*: how are RTOs getting prepared for envisaged future evolutions of the strategic and funding landscapes?

Actual and potential contribution of RTOs to economic recovery, resilience and transition

17. The study will analyse the results obtained through fieldwork to draw conclusions on RTOs current and future contribution to the transition towards more sustainable and resilient socio-economic systems. This could lead to collective brainstorming (for instance through workshops) around the following questions:

- Are the current and future RTOs' funding and delivery models adequate to best contribute to the transition toward more sustainable and resilient socio-economic systems?
- How can RTOs contribute to the post Covid-19 recovery and resilience of socio-economic systems?
- What types of changes of RTOs' strategic and funding contexts would enhance this contribution? What can STI policy do to make these changes happen?

Fieldwork

18. The study will make use of three main types of fieldwork tools. All the data and information collected from RTOs for this study will be used by the OECD for the sole purpose of this study, unless agreed upon by EARTO. Such data and information will be anonymised prior to publication.

Survey

19. To gather input, a survey will be sent out to all EARTO members (both European and International), and possibly to other RTOs. It will aim to systematically and consistently collect information on the evolution of the modes of funding and business/delivery/service model of RTOs over the past 10-15 years, and the implications (opportunities/constraints) of these changes. The focus of the questionnaire will be on qualitative questions.

Data collection

20. The study will seek to complement the survey with a data collection. The data to be collected will focus on a set of selected key indicators, over a 15-year time period (to the extent possible), to document the evolutions of funding and service models. This dataset could cover information on human resources, the structure, location and fields of activity of RTOs, their funding model and cost profile, their knowledge transfer performance and their EU Framework Programme track records. This data collection could be carried out via a dedicated template, or via an online survey.

21. The study will be opportunistic in making use of existing data on RTOs inputs and outputs. For instance, EARTO members will be asked in the study data collection template for their agreement to share

with the OECD all or some of the data previously collected by EARTO over the past years, as input for this study.

Interviews

22. The data collection and survey will be complemented by around 30 interviews with decision makers in targeted RTOs and funders/policy makers, to discuss more in depth the challenges and opportunities and raise forward-looking issues.

Study governance

23. OECD will lead the work. The EARTO Secretariat will be the OECD's main point of contact.

24. A Task Force (TF) composed of a selection of EARTO members' experts will be set up by EARTO to follow the progress of the study, support the creation of the fieldwork tools (data collection, survey and interviews questionnaires), discuss early results, provide suggestions for improvements and, when appropriate and feasible, respond to questions and support the study work. The Task Force will meet at key milestones. Draft documents will be sent to the task force for written feedback in advance of meetings.

Deliverables

25. The deliverable from this project is a report to be published by OECD. OECD and EARTO will jointly organise the communication around this report and its publication. A joint OECD-EARTO event may be organised for this purpose.

Indicative Timetable

26. The table 1 provides an indicative timetable.

Table 1. Study indicative timetable

1. Discussion on the project's terms of references (objectives, main questions and methodology) with EARTO WG Impact	19 January Meeting OECD - EARTO WG Impact
2. Finalisation of the project's terms of references and expression of interest from EARTO members to be in the project's Task Force	February
3. Draft survey, data collection and interview questions by OECD sent out for comments to EARTO TF	February/March
4. Pilot interviews by OECD with ~5 selected RTOs to refine and finalise the survey, data collection and interview questions	February/March
5. Discussion on the survey, data collection and interview questions with EARTO TF	March Meeting OECD - EARTO TF
6. Launch of the survey and data collection to all EARTO members	April-May
7. Presentation by OECD & discussion on the first raw results, and selection of RTOs & funders to be interviewed	June Meeting OECD - EARTO TF
8. Interviews by OECD of ~30 selected RTOs and funders	June-July-September
9. Draft report by OECD sent out for comments to EARTO TF	October
10. Discussion on the draft report with EARTO TF	October Meeting OECD- EARTO TF
11. Finalisation of the report by OECD and publication/ communication	December

References

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