EARTO Recommendations:
Making the New ERA for R&I a Reality

27 April 2021

Europe entered the new decade with high ambitions: recovering from the crisis is not enough, Europe needs to do so by boosting its sustainable competitiveness while achieving the twin transition to a green and digital industry and society. Building Europe's resilience and technology sovereignty in strategic areas will be key to meet the needs of EU citizens, while ensuring Europe's forefront position in the global innovation race. Research and Innovation will be a game-changer to achieve such ambitions, and deepening the European Research and Innovation Area will be paramount.

Today, a new set of EU Programmes are being launched (Horizon Europe, Digital Europe, Defence Fund, Space Programme, Structural Funds, etc.) and national Recovery & Resilience Facility (RRF) plans are being finalised. **There is now a critical momentum for the EC together with Member States to put the New ERA for R&I (EC Communication and linked Council Conclusions) into concrete actions. These new ERA actions should aim to build upon and orchestrate the different initiatives existing at European, national and regional levels, using a strategic directionality approach targeting the green and digital transition and avoiding duplication of efforts. The new ERA for R&I should embrace the whole RD&I spectrum in a balanced way, from basic research to innovation deployment. All RD&I Stakeholders should be fully involved in this process including Research and Technology Organisations (RTOs) with their industrial partners which play a key role in the European Partnerships and Industrial Innovation Ecosystems.**

EARTO members are ready to contribute to defining an ambitious and concrete action plan for the new ERA for R&I. Accordingly, this paper brings forward EARTO's key Recommendations for the design of the ERA Pact for R&I and linked Council Conclusions (see also EARTO Recommendations for EU RD&I policy Post-2020).

EARTO Calls on the EC and Member States to:

1. Set-up a concrete roadmap to achieve the 3% EU GDP R&D investment target with a clear impact-driven approach [ERA Actions 1 & 2].

This can be achieved by:

a. **Committing to the 1.25% EU GDP R&D public investment target to be achieved by Member States by 2030**, and establishing a concrete roadmap to deliver on this new target: this would give the right signal to society, and boost the much-needed private RD&I investments in Europe,

b. **Fostering the development of policy support tools to maximise the socio-economic impact of RD&I investments at all levels**, **aiming for instance at leveraging RTOs' capabilities**, with their impact-driven mission and service models, to strengthen Europe's innovation capacity - this could be fostered by the development of evidenced-based policy-making tools and reports on the role of RTOs in European Innovation Ecosystems and their impact,

c. **Strengthening cross-border cross-sectorial collaborative RD&I as well as knowledge and technology co-creation** as the solutions to jointly face societal and industrial challenges delivering on the UN Sustainable and Development Goals (SDGs), for instance by ring-fencing the budget for Horizon Europe Pillar II for the whole duration of the MFF.

2. Recognise that Technology Infrastructures[1] are a backbone of the ERA and define concrete actions for an ambitious European Strategy on Technology Infrastructures (TIs), for instance via dedicated EC Communication and Council Conclusions [ERA Action 10].

This can be achieved by (also see EARTO paper on TIs):

a. **Co-designing the new European Strategy for Technology Infrastructures jointly with relevant stakeholders** including TIs' providers (RTOs and Technical Universities who manage and host those TIs) and users, adopting a common EU definition of Technology Infrastructures[2],

[1] Technology Infrastructures - demonstrators, testbeds, piloting facilities, living labs - are key to boost technology co-creation, scale-up and diffusion across Europe.
[2] see EARTO Definition of Technology Infrastructures

and fostering a strategic foresight dialogue at EU level between the EC, Member States and technology infrastructures' users and providers,

b. **Identifying the needs for TIs in strategic areas at EU level in the ERA Common Industrial Technology Roadmaps**: taking stock of the TIs that already exist and which are essential for the development and deployment of specific technologies, as well as identifying the possible gaps for TIs in strategic European Industrial Innovation Ecosystems,

c. **Securing long-term investments for the creation, upgrade and long-term economic sustainability of TIs in the strategic sectors where they are needed**, by (1) fostering investments in TIs in EU[3], national and regional programmes (incl. RRF plans and Cohesion funds), (2) enabling directionality with an efficient combination of public funds at all levels, (3) developing new sustainable public-private financing models to leverage private investments, and (4) ensuring that the funding rules of RD&I Programmes cover the real operational costs for the use of TIs[4],

d. **Supporting pan-European access to TIs by companies of all sizes by boosting their use in EU projects** including via fostering the use of dedicated schemes and coordination actions (e.g. I4MS calls in H2020), and by supporting the creation of EU thematic networks of technology infrastructures which could first be tested via an ERA pilot on a specific topic [ERA Action 6].

3. Co-create Common Industrial Technology Roadmaps with key stakeholders like RTOs, building upon existing knowledge[5], and deploy them at EU, national and regional levels [ERA Action 5].

This can be achieved by:

a. **Creating concrete links between the new ERA Common Industrial Technology Roadmaps and the revised EU Industrial Strategy**, as they will for instance complement and feed into Industrial Innovation Ecosystems, Industrial Alliances, Important Projects of Common European Interest (IPCEIs), etc. [ERA Action 6],

b. **Strengthening the inclusion of deliberate steps for cross-fertilisation of EU RD&I results within those roadmaps with a trans-disciplinary approach**, enhancing the uptake of key enabling technologies and taking fuller advantage of their potential to benefit a wide number of companies, sectors and regions,

c. **Making full use of RTOs' foresight capabilities and their strong multidisciplinary knowledge of research & technology on one side and market needs and uptake on the other**, thanks to their nodal role within European Industrial Innovation Ecosystems and their unique position to create bridges between disciplines and sectors,

d. **Deploying the roadmaps and efficiently making use of them to feed into the development of EU and national R&I programming and reforms[6]** [ERA Action 5], and using these roadmaps to strengthen cross-EU collaboration, as well as to address the need for strategic RD&I investments with concrete targets in widening countries, thereby contributing to lower the innovation divide and speed-up technology uptake across Europe [ERA Action 2].

4. Streamline EU, national and regional support to Industrial Innovation Ecosystems and develop the concept of ERA Hubs by creating an effective alignment between existing initiatives[7] [ERA Action 6].

This can be achieved by:

a. **Strengthening consistent mixed-funding schemes at European, national and regional levels to support the development of those hubs[8] in key Industrial Innovation Ecosystems**, and developing a scheme to efficiently and strategically connect those hubs together to support competence building as well as render them accessible to large and small industry across Europe (see EARTO paper on Innovation Hubs),

[3] for instance building upon the thinking developed for Testing and Experimental Facility calls extending their scope beyond the topic of AI, or for FET Flagships support to TIs via Framework Partnerships Agreements
[4] by enabling the allocation of direct technical costs to projects using unit costs based on the usual cost accounting practices of the beneficiary (see EARTO paper on HE Internal Invoicing Scheme)
[5] e.g. in European partnerships
[6] e.g. RD&I policy and programmes at EU, National and Regional levels, RRF Plans, EU Policy Support Facility, etc.
[7] e.g. (digital) innovation hubs, centres of excellence, clusters, KETs observatory, smart specialisation strategy platform, etc.
[8] including support for hub orchestration activities

b. **Ensuring the timely implementation of Horizon Europe Partnerships and Missions as efficient instruments for excellent collaborative RD&I in Europe**, (1) fostering the involvement of all RD&I actors including RTOs in these instruments (incl. in their governance structures) with adapted framework conditions and funding rates & rules for non-profit organisations, and (2) ensuring that these instruments cover the whole TRL scale and fund both long-term competence-building activities and short-term deployment of innovation,

c. **Supporting the creation of deep-tech start-ups by RTOs and ensuring they deliver impact in Europe**, by (1) enabling the EIC Pathfinder and Transition Instruments to provide the pre-seed funding grants needed for the technology incubation/maturation phase, and (2) fostering the use of the European Investment Facility (EIF) to increase the access to liquidity for deep-tech start-ups after the seed-funding rounds (see EARTO paper on spin-offs),

d. **Ensuring the right framework conditions to stimulate and spread knowledge and technology co-creation in Europe and prevent the creation of unwanted regulatory barriers** hampering European innovation capacity, by (1) adopting a balanced approach between Open Science and IPR policy at EU and national/regional level (see EARTO paper on Open Science & IPR), and (2) ensuring a sound implementation of EU State aid rules avoiding over-interpretations at national level (see EARTO report on State Aid)[ERA Actions 7 & 9],

e. **Setting up a strategy to develop the skills for the future involving all Innovation Ecosystem actors**, including by developing a specific support scheme for the professional training and transfer of skills from RTOs and Technical Universities to large and small industry and by targeting interdisciplinary talents for innovation and entrepreneurship [ERA Actions 8 & 11].

5. Develop and exploit effective synergies between EU, National and Regional programmes to leverage technologies and maximise the impact of RD&I investments [ERA Actions 2 & 3].

This can be achieved by:

a. **Ensuring complementarity and co-funding possibility between EU, national and regional Programmes**[9] for the development, deployment and optimal (re-)use of new technologies and innovations – by harmonising the rules and regulations of RD&I programmes at all levels, paving the way for a more efficient and effective implementation of all types of synergies (both sequential and co-funding),

b. **Designing the national RRF Plans with a strong RD&I dimension** in line with the ERA priorities, including dedicated investment for the creation and upgrade of technology infrastructures in strategic areas [ERA Action 10],

c. **Committing to dedicate 5% of national public R&D funding to joint programmes and European Partnerships** by 2030 [ERA Action 1], which would enhance the participation of less active member states in European Partnerships and the EU FPs in general and contribute to reduce the innovation divide [ERA Actions 3 & 4],

d. **Making full use of the newly proposed Cohesion Policy rules to create the 'Interregional Innovation Investments' (I3) instrument**, that provides new possibility for regions to develop joint investment projects building on their smart specialisation strategies.

EARTO remains at the disposal of the EU institutions to further discuss these recommendations and support the deepening and concrete implementation of the new ERA for R&I.

RTOs - Research and Technology Organisations: *From the lab to your everyday life. RTOs innovate to improve your health and well-being, your safety and security, your mobility and connectivity. RTOs' technologies cover all scientific fields. Their work ranges from basic research to new products and services development. RTOs are non-profit organisations with public missions to support society. To do so, they closely cooperate with industries, large and small, as well as a wide array of public actors.*

EARTO - European Association of Research and Technology Organisations: *Founded in 1999, EARTO promotes RTOs and represents their interest in Europe. EARTO network counts over 350 RTOs in more than 20 countries. EARTO members represent 150.000 highly-skilled researchers and engineers managing a wide range of technology infrastructures.*

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[9] Including EU Programmes such as Horizon Europe, the Digital Europe Programme, the Space Programme, the Defence Programme, EU4Health, the Single Market Programme, and the EU external action instruments), but also with Nationally/Regionally managed programmes including Structural Funds and national RRF plans