

# THE 2<sup>ND</sup> RTO INNOVATION SUMMIT

## Industrial technologies for the future

### Summary Report

Key takeaways from The 2<sup>nd</sup> RTO Innovation Summit on 18 - 19 November 2020

**The 2nd RTO Innovation Summit – industrial technologies for the future** – centred on three themes: **The European Green Deal, A Europe Fit for the Digital Age** and **Industrial Competitiveness**. Across all sessions, one central idea was particularly present: **collaboration & cooperation**.

The Summit demonstrated that innovation lies at the heart of industrial competitiveness, and pan-European cooperation is mandatory to facilitate and accelerate the innovation process. In fact, we need collaboration and cooperation today more than ever because it is increasingly difficult to capture the innovation potential from individual players. It is also crucial that European R&I policy be connected to industrial policy, and strong investments in Pillar 2 of Horizon Europe be made to foster public-private collaboration and spur investments.

The Summit showcased how Europe's future depends on its ability to offer sustainable solutions, maintain a strong industrial base and develop innovations that allow it to be an independent and competitive leader. As the missing link between enterprise and research, RTOs connect the dots for efficient, real-world applications. Discover the main takeaways from each Summit session below, and view the livestream recordings [here](#) to (re-)experience them in full!

#### The European Green Deal

Within the European Green Deal theme, several key subjects were addressed, bringing out the role of RTOs in addressing Europe's climate goals as follows.

To begin with, the objectives of the European Green Deal are not optional. This is reinforced by the fact that right now it is unique in European history that, despite the major disruption of policy agendas

due to the COVID-19 pandemic, the Green Deal ambitions are still top priority on the European agenda. Furthermore, the mission-oriented policy under Horizon Europe plays an important role in the European Commission's Green Deal plans. RTOs are creating green impact by being the link between governments, industries and scientific research in Europe, and Pillar 2 of Horizon Europe is a crucial instrument, which would deserve more funding to support this.

In line with Frans Timmermans statement that clean hydrogen is one of the top priorities in our energy transition, **low-carbon hydrogen** is going to play a significant role in reaching carbon neutrality by enabling sectors that are difficult to electrify (industry, heavy mobility) to decarbonize, as well as bringing some flexibility to power systems. In order to be a success, hydrogen deployment has to be well-structured. As an intrinsically more expensive energy vector than fossil fuels, the improvement of its competitiveness will be a key factor conditioning its future. RTOs are central in helping to improve hydrogen's competitiveness, as well as in advising public authorities about the potential and limitations of this energy vector. Further, the European Union should act as a team and consider competition on a global scale (with Asia and North America) rather than between Member States, if it wants to avoid missing this new market.

Additionally, European RTOs play a fundamental role in translating scientific discoveries into new business opportunities that will help the transition towards a sustainable future. In order for Europe's businesses to accelerate the transition into a **circular economy**, common strategies, policies, regulations and support are needed for fair competition with conventional materials and products that are not biobased. As Friedrich Breidenbach, CEO and co-founder of Zeroplast, stated: *"We (the biobased industry) need more support to become attractive and to approach big companies in order to get into the market"*.

Also exceedingly important is **smart mobility**, and the EU will present its new and ambitious strategy for smart and sustainable mobility soon. The Commission must facilitate research, but researchers and industry must develop the ideas and should drive the sustainable mobility strategy. Smart cities and regions, not just improved vehicles, are critical to the mobility of the future, and RTOs are pioneers in this. While innovative mobility case studies from land and sea are already making progress, more research is still needed to ensure sustainable and smart mobility solutions.

## A Europe Fit for the Digital Age

In this period of crisis brought on by the COVID-19 pandemic, industry and RTOs need to work together in ways that go far beyond their usual collaborations in order to further strengthen Europe and increase its global competitiveness. This is especially true for areas such as cybersecurity, artificial intelligence (AI) and the digital transformation of European industry, which were addressed in the Summit's second theme, A Europe Fit for the Digital Age.

In the Digital Age, the functioning of our economy and our whole society is becoming strongly dependent on **cybersecurity**. There is no single measure that would guarantee cybersecurity. Instead, we need a comprehensive approach covering a wide range of technologies, standards and regulations, in addition to strengthening cyber threat awareness and capacity building. European-wide cooperation is essential, and RTOs bring together the relevant actors from science and industry with public stakeholders and target end users (particularly citizens and SMEs). As Jean-François Junger (European Commission) said: *"A strong network for cybersecurity is necessary to develop the technology. We need to make sure that people are aware of its security."*

In addition, it is clear that **Artificial Intelligence (AI)** provides expansive opportunities across many sectors and applications. Importantly, Europe can lead the way in ensuring AI's major role in creating green solutions for industry and society. Lucilla Sioli (European Commission) pointed out that *"AI needs to become greener and more energy efficient. It must be adapted to a better environment. In certain areas of AI, the EU is already stronger than China and the US."* Investments in skills, research, sustainable innovation and infrastructure (e.g. European data ecosystem) are key to bringing AI technology a major step forward and securing Europe's sovereignty. To be effective, however, efforts will have to be spent on communicating about the ethical implications and trustworthiness in this technology.

Furthermore, for a successful **digital transformation**, businesses need to take a holistic approach, combining market, technology and skills transformations simultaneously. RTOs support European businesses (including SMEs) by acting as digital transformation facilitators because they specifically concentrate on applied research driven by industrial needs and have access to extensive networks and greater resources than most individual companies. Making the digital transformation work in the European industry and ensuring its competitiveness also requires strong investments from the EU in technological innovation and large-scale adoption.

### Industrial Competitiveness

Bringing together the twin goals of the European Green Deal and A Europe Fit for Digital Age, the Summit's third theme focused on overall **European Industrial Competitiveness**. In this context, the sessions zeroed in on the health sector, quantum technologies and sustainable manufacturing.

The COVID-19 pandemic has demonstrated the potential of innovation - developing a vaccine in less than a year is a testimony to that. We have a unique opportunity to leverage technology and innovation to build resilient health systems and boost our competitiveness. Europe already has many assets in terms of developing our **health sector** with new technology and data. High-quality research, heterogeneous data and reliable institutions are our competitive advantages. It is critical though, to install European-level initiatives that enable better data sharing and interoperating regulation. However, for these initiatives to facilitate innovation, people need to trust them. Europe has an advantage here because it already has the traditions and ethical and legal frameworks in place to build data sharing trust.

Consistent with the ideas set out in the RTOs' White Paper prepared for the Summit, Europe has come a long way from when the Quantum Manifesto was signed in 2016, but it still needs to accelerate to keep its leading position in the global **quantum revolution** and achieve technological sovereignty. Europe's quantum science is the best in the world, but now it needs to invest in translating this into a competitive European quantum technology-based industry. Thomas Skordas (European Commission) made that point saying *"we need to convince our industry to invest more in Cybersecurity"*. Public-private collaboration will be a crucial factor in realising this. Angelika Niebler (Member of the European Parliament) said warningly *"Cybersecurity is on track in Europe, however, we need to make sure that we are not only a playground"*.

Lastly, **sustainable manufacturing** – defined as managing production-related operations in an environmentally and socially responsible manner – is a must for the future of the planet, its inhabitants and businesses. Much research is still needed, but we have technologies today that can significantly help and are not yet sufficiently deployed throughout industry. Cooperation and Technology Infrastructures (also called DIH, Innovation Testbeds, and others) are a very useful tool to help enterprises adapt technology to their products, services and processes. Yet many SMEs do not know of existing Technology Infrastructures, though hundreds are distributed throughout Europe, and

are challenged by operation costs. This is where RTOs come in as very useful connections to all these networks that can also reduce operational burdens.

The **Roundtable on Carbon-neutral European Industry** united the Commission, Industry and RTOs, and made apparent that all interventions during the summit conveyed the evidence that the countdown towards reaching climate neutrality had already started including heavy industry commitment.

- The transition to climate neutrality is about a profound systemic transformation of the society as a whole. It calls for a holistic, cross-sectoral and interdisciplinary approach, cutting across the traditional/existing silos (political, regulatory, organisational, sectoral, technological, market, etc.).
- The urgency of the Clean Energy Transition requires cutting down cycle times. Creating a global convergence of (push & pull) conditions creating market predictability and confidence across all stakeholders groups is a necessary condition to accelerate the large-scale adoption of new technologies/paradigms (Wind and Solar cycle times to market maturity are usually referred to as circa 25 years).
- Building sustainable leadership is both a sprint and a long distance run. It requires an adequate balance between short term/close-to-market innovation, and lower TRL research necessary to feed the longer-term innovation funnel for next generations' technologies and services.
- With reference to the more "industry-driven" European Alliances, an opportunity exists for RTOs to consider higher levels of collaboration on strategic technologies, for instance under the form of virtual European Centres of Excellence (CoE). Such CoE should also implement an innovative co-creation environment with industry fostering quicker and more efficient conversion of intellectual capital into market competitive products and services (also highlighted by the Lamy Report).

As mentioned at this roundtable, we are keen to consider any further opportunity to "co-create" an even better European innovation eco-system, and we will be most happy to consider any suggestion or comment you may have. We stand fully committed to support EU achieving climate neutrality by 2050.

During the **Roundtable on the European Defence Fund (EDF)**, the main topic of conversation was how the EDF can deliver on its promise to enhance cross-border collaboration and opening up European defence R&D to non-traditional actors. Two other challenges for the programme were discussed as well: 1) how to ensure cross-fertilization between civil, space and defence programmes and that we fully grab the opportunities offered by hybrid use for both application domains, and 2) how we can ensure that research actions are effectively related to development actions.

On behalf of the 10 host RTO partners, thank you for engaging with The 2<sup>nd</sup> RTO Innovation Summit!