

**EARTO Annual
Conference
2023 will start at
09.00!**



eurac
research

**“The role of RTOs in
rolling out the EU
innovation agenda”**

**29 March 2023
08.30 – 14.00**

Bozen / Bolzano



OpenAir - No password needed

#EARTOAC2023

EARTO Annual Conference 2023



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“The role of RTOs in rolling out the EU innovation agenda”

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“The role of RTOs in rolling out the EU innovation agenda”



Introduction

Antti Vasara

President, EARTO



EARTO Motto: **Impact Delivered!**

EARTO Vision: **Technology for a Better World**



3 New Members since last Annual Conference:



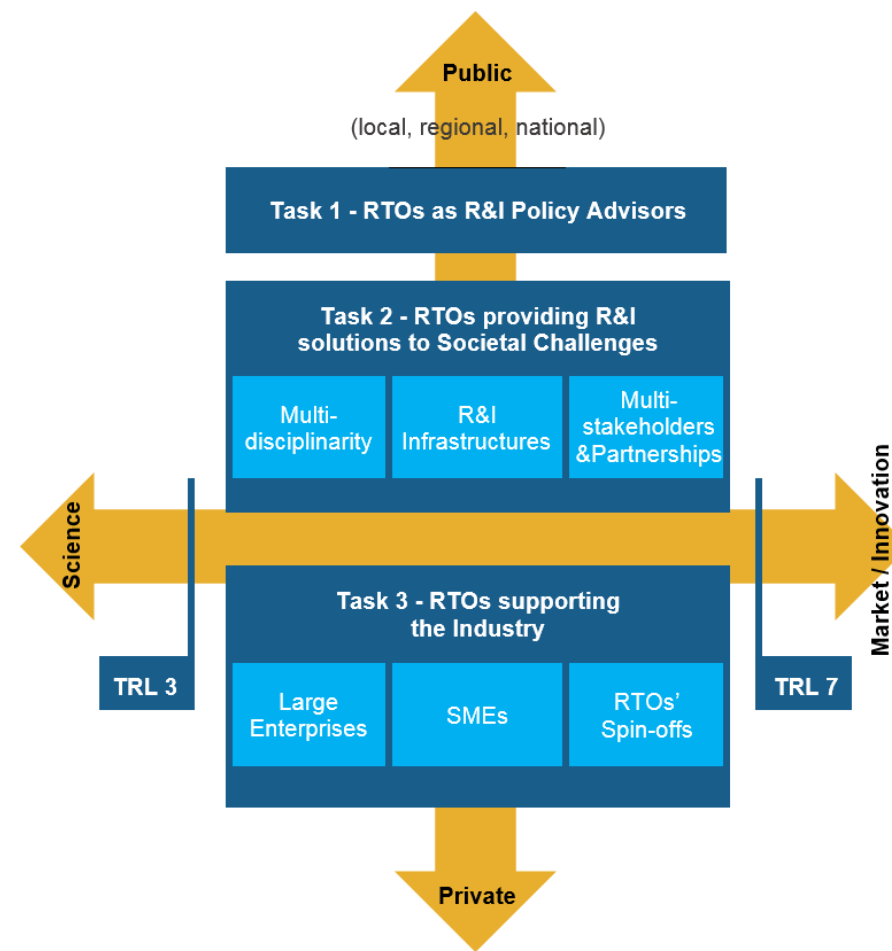
MORE (PT)



ITENE (ES)



ELDORADO (BR)



EARTO Highlights



7 Working Groups:

- 4 Policy WGs
- 3 Technology WGs: Launch EASTRO + New WG on Critical Raw Materials



Network covering now **31 countries**, including **7 International Members**
96% of Members actively involved in our WGs & Task Forces



26 new publications since 2022, partnering with other key RD&I Stakeholders on specific issues



1/4 of Horizon Europe funded projects including EARTO Members, representing 51% Horizon Europe total funding



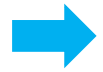
New European Commission initiatives in 2023

1. Net-Zero Industry Act : Identify goals for net-zero industrial capacity and provide a regulatory framework suited for its quick deployment.

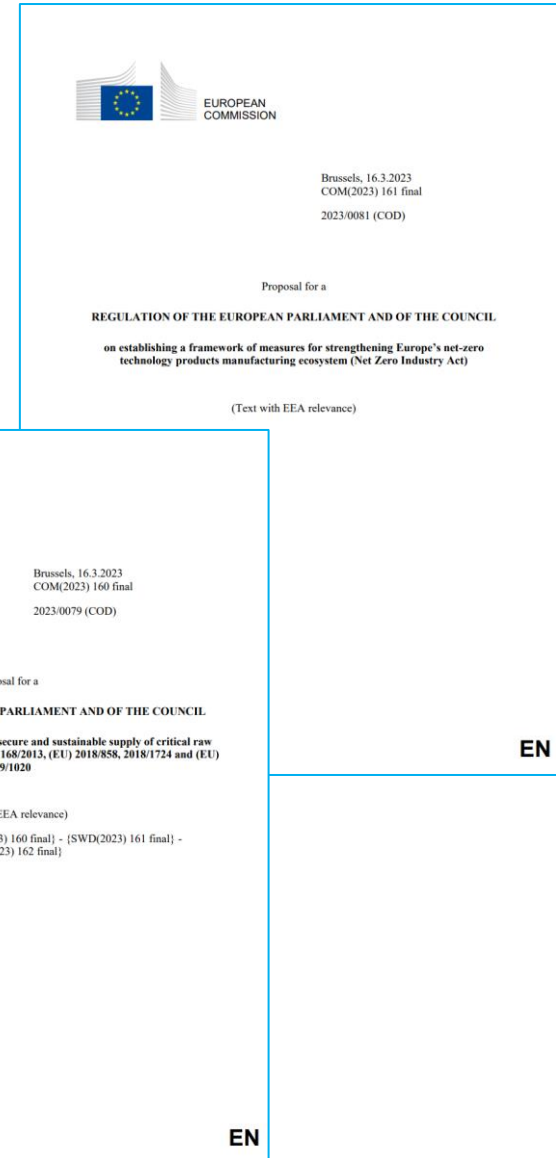


EARTO Reaction Paper published on 10 February 2023 exposing the lack RD&I component, crucial for the success of the Net-Zero Industry targets

2. Critical Raw Materials Act: Ensure sufficient access to critical materials, like rare earths, that are vital for manufacturing key technologies



Creation of a new EARTO WG on Critical Raw Materials: launched yesterday



The European Green Deal Industrial Plan



EARTO Reaction to the EC Proposal for a Green Deal Industrial Plan for the Net-Zero Age

10 February 2023

EARTO welcomes the [EC proposal for a Green Deal Industrial Plan for the Net-Zero Age](#). The ability for the EU to develop an industrial base on the technologies that will be needed for the climate and energy transition is at stake. RTOs are at the heart of the creation and scale up of green technologies for industry. As such, EARTO members are ready to contribute to defining an ambitious Green Deal Industrial Plan. This paper brings forward EARTO recommendations to this effect.

Green Deal Industrial Plan's Pillars

EARTO very much [welcomed the ambitions of the European Green Deal back in 2020](#) and encourages the EC to develop clear links between the development of EU green tech capabilities and skills offered by actors such as Research & Technology Organisations (RTOs) to its EU industrial ambitions for the green tech deployment and manufacturing. The development of green tech manufacturing will go hand in hand with the scaling up of such technologies.

European RTOs have developed and matured state of the art technologies for deployment in all clean tech sectors and are preparing the next generations of technologies already: both through continuous improvement of performance for existing technologies and through developing breakthrough technologies. The transfer of these technologies from non-profit research laboratories to industrial deployment remains a specific challenge in Europe. Europe cannot afford anymore to waste opportunities. The Green Deal Industrial Plan is an opportunity to reconcile and better integrate EU RD&I, Energy and Climate, and Industrial policies all together.

Today, the EC proposes 4 pillars to this new plan: simplified regulatory environment, faster funding, skills and open trade. **However, the RD&I and linked technologies' development/maturation/scaling up are not obviously considered in the plan. In this context, the EC proposal misses to create a Research, Development and Innovation Pillar that should aim at linking the EU industrial strategy towards green tech industries and RD&I public & private investments (going via IPCEIs as well as already running EU RD&I programmes).**

The issue at stake is of course about investments and financing. But even most importantly it should be about the choice of the best technological options to be picked for EU industrial value chains for the coming 10 to 20 years based on long term partnerships between industry and their technology providers. In this context, the EU leadership in R&D for low carbon technologies is an asset for Europe's green deal industrial ambition (i.e. See the [recent EPO study](#) showing that the EU is the world leader in hydrogen patents). Accordingly, **EARTO recommends to build a Research, Development and Innovation Pillar supporting the industrial objectives as successfully done in the EU Chips Act for the microelectronics sector.** Such a RD&I pillar should then encompass the various existing EU instruments having RD&I components linked to green tech industries such as Horizon Europe, Digital Europe with links to the Innovation Fund, EIF activities supporting deep-tech ventures fund, etc.

For each clean tech industrial sector, such a RD&I pillar could focus on:

- In the short term: Supporting the uptake by industry of EU technologies ready for deployment by associating RTOs to the respective industrial alliances and their governance, so that RTOs can present to industry stakeholders the solutions they provide,
- In the medium to long term: Organising, within the industrial alliances or EU technology platforms, the mapping of existing technology infrastructures in RTO that can help develop and test new industrial innovation in collaboration with industry, and identify the gaps that would require coordinated investments so that the EU can maintain its technology edge

EARTO - European Association of Research and Technology Organisations AISBL
Rue Joseph II 36-38, 1000 Brussels | +32-2 502 86 98 | eartho@eartho.eu | www.eartho.eu | BE0465567732 - RPM Brussels

1

EARTO Reaction to the EC Proposal for a Green Deal Industrial Plan for the Net-Zero Age

EARTO called for the implementation of a RD&I Pillar aiming to:

- Support the uptake by industry of EU technologies ready for development through RTOs involvement
- Organise the mapping of existing technology infrastructures in RTOs that can help develop and test new industrial innovation in collaboration with industry, and identify the gaps that would require coordinated investments (e.g EC pilot on aviation).

EARTO proposed concrete measures in 5 main areas :

1. Simplified Regulatory Environment
2. Speeding Up Access to Finance
3. Enhancing Skills
4. Trade Openness and Technology Sovereignty
5. New Critical Raw Materials Act



Roland Psenner

President, Eurac Research



Ulrich Stofner

**Director, Department Europe, Innovation,
Research and Communication of the Autonomous
Province of Bozen/Bolzano, and Director,
NOI Technology Park**



Prof. Alessandro Aresu

**Head of the Technical Secretary of the
Ministry for University and Research**

(Online)



Pauline Rouch

**Head of Cabinet of Mariya Gabriel, EU
Commissioner for Innovation, Research, Culture,
Education and Youth**

(Video Message)



Stefano Corvaglia

**Intellectual Property Manager and Head of
Research and Development of the Aerostructures
Division,
Leonardo s.p.a.**



EARTO Annual Conference 2023

10.00 – 10.30



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**Enjoy your coffee break!
We will be back soon**



OpenAir - No password needed

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Part 1 – Keynotes



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How can RTOs support Europe to face the energy crisis in the short term and ensure competitiveness in the transition for the long term?

Moderated by Marco Alvisi, CEO, CETMA

#EARTOAC2023

RTOs' impact & sustainability

Elena Schaeidt
Director Corporate Development,
Tecnalia



The background of the slide features a green, textured background. In the center, a hand is drawn in white lines, holding a globe. Surrounding the globe are various white line-art icons: a bicycle, a flower, a wind turbine, a lightbulb, a car, a heart, a leaf, and the words 'eco' and 'BIO'.

tecnal:a

MEMBER OF BASQUE RESEARCH
& TECHNOLOGY ALLIANCE

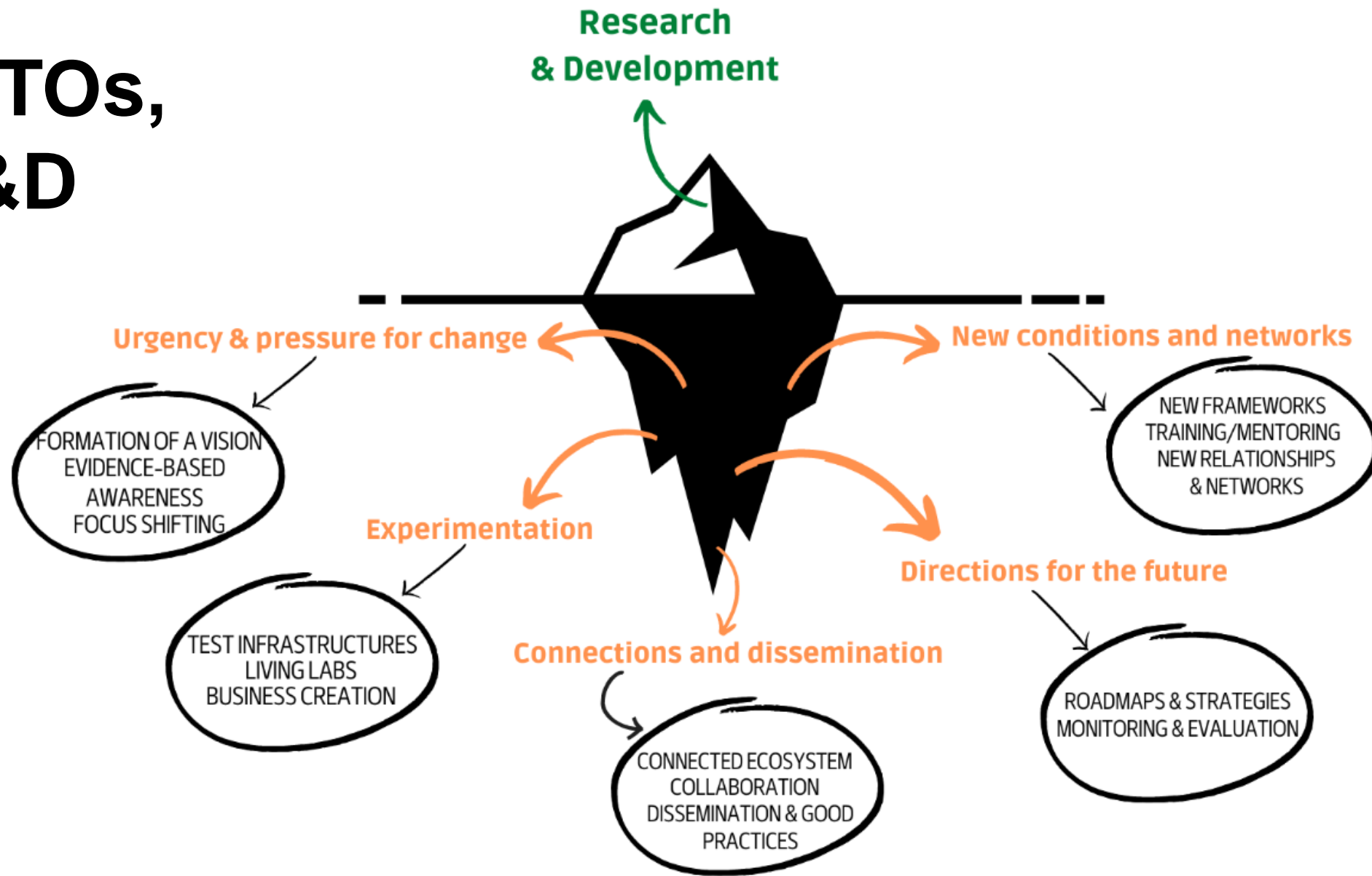
RTOs' impact & sustainability: beyond R&D

Elena Schaeidt, Corporate Development Director at TECNALIA

EARTO Annual Conference - 29 March 2023



Roles of RTOs, beyond R&D



Societal impact assessment of TECNALIA: contributions to transformations beyond R&D

The objective is to obtain a further in-depth qualitative assessment of our societal impact, and more specifically of our contributions to societal transformations beyond its R&D activities in the Basque Country, that are needed to reach the SDGs by 2030.



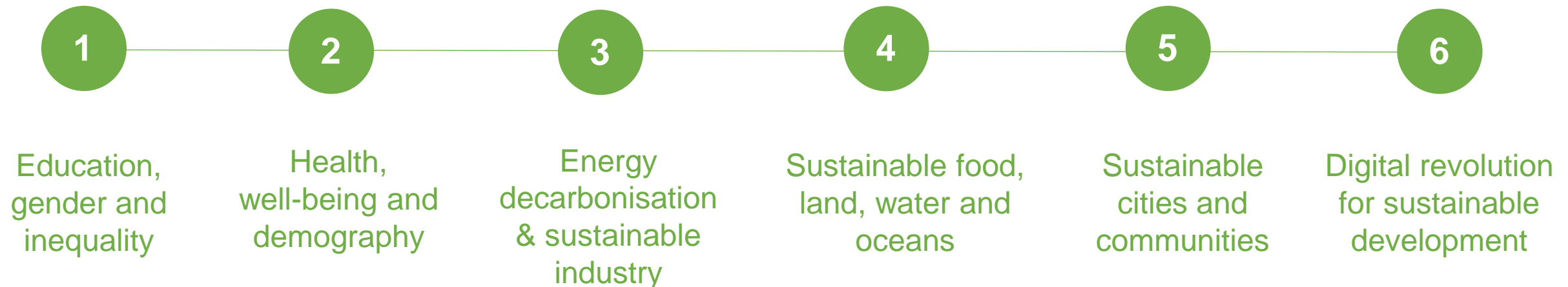


SUSTAINABLE DEVELOPMENT GOALS

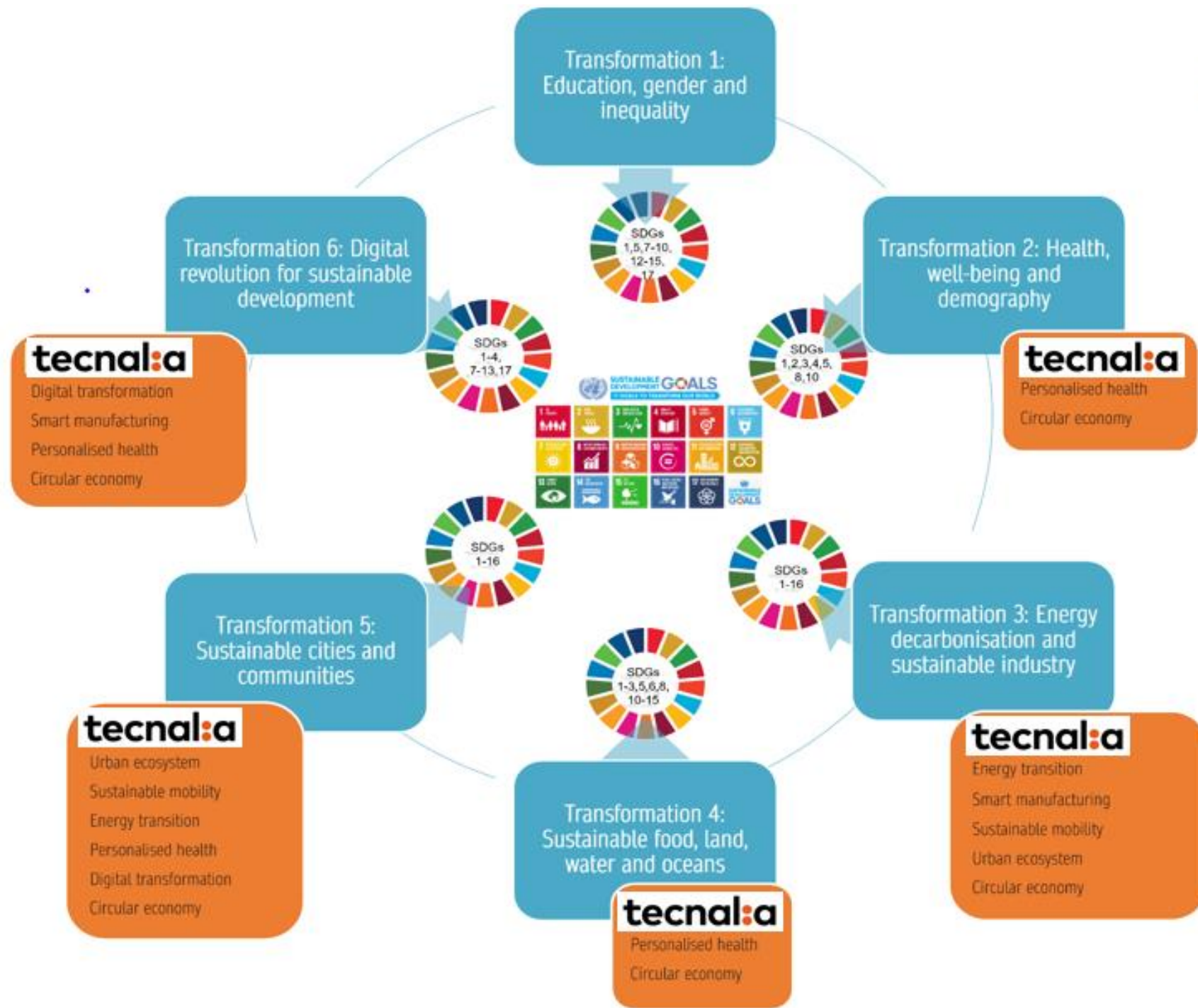


Six Transformations

To define the action domains of societal importance for the future, we use as a **framework the Six Transformations to achieve the Sustainable Development Goals (SDGs).**



Mapping TECNALIA contributions



Selection of 6 key intervention domains

Energy efficiency and Zero-carbon electricity generation

Healthy behaviours and societal determinants of health, well-being and quality of life

Urban adaptation and resilience

Sustainable mobility and transport networks

Mobilising digital technologies to achieve all SDGs

X-Curve of transition

The transition steering can be shaped in 5 steps



Increase urgency & preassure for change.



Mobilising resources for experimentation



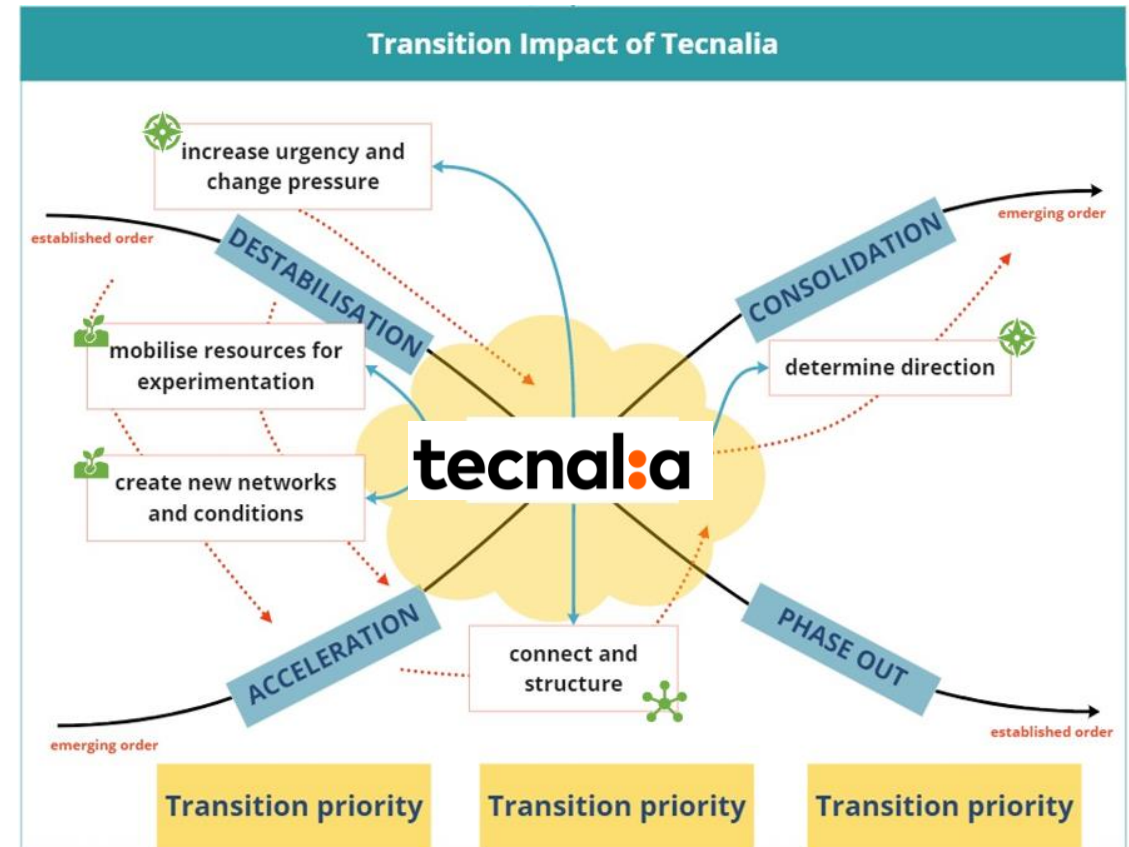
Development of new conditions & networks



Connecting & structuring

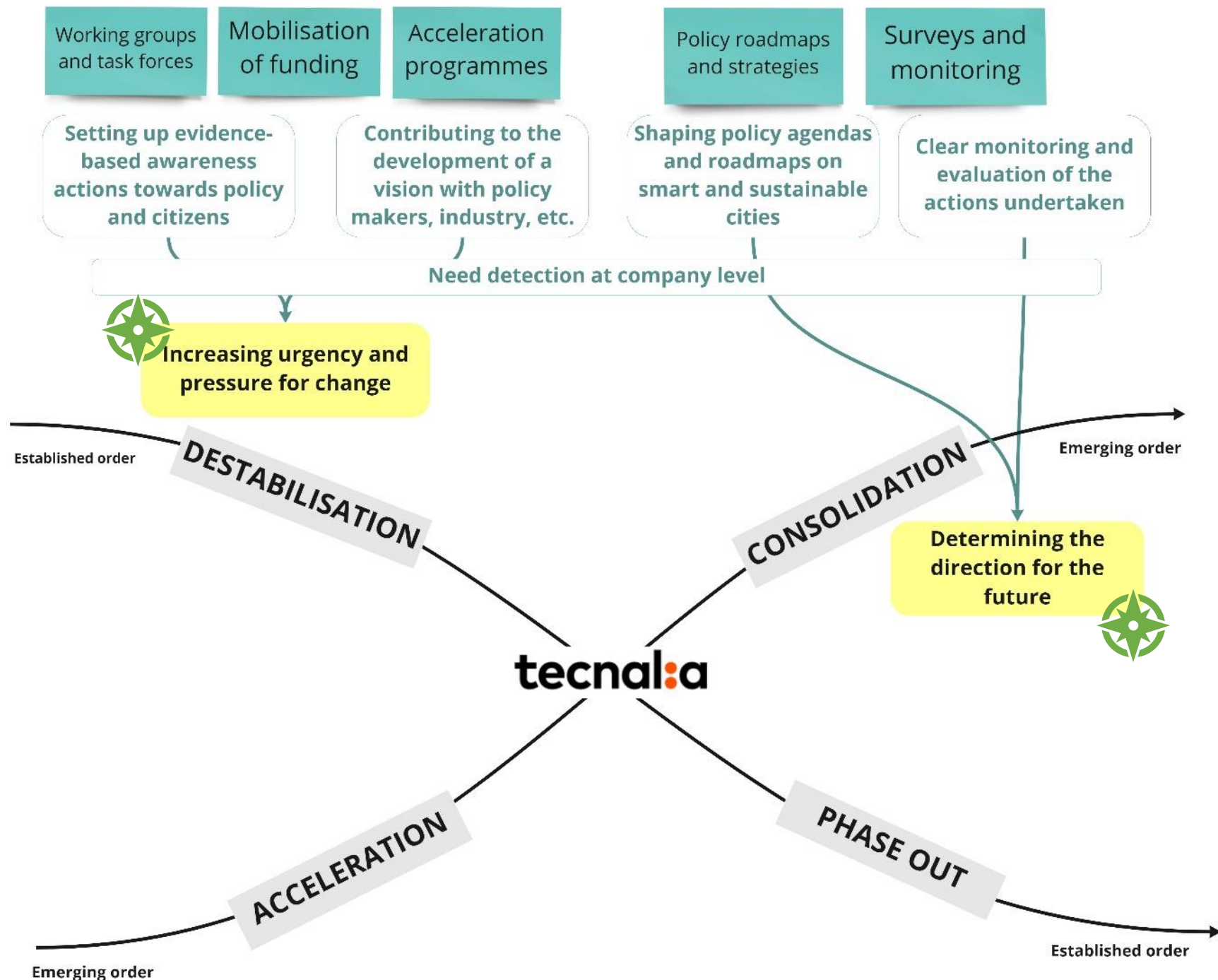


Determining the direction of the future



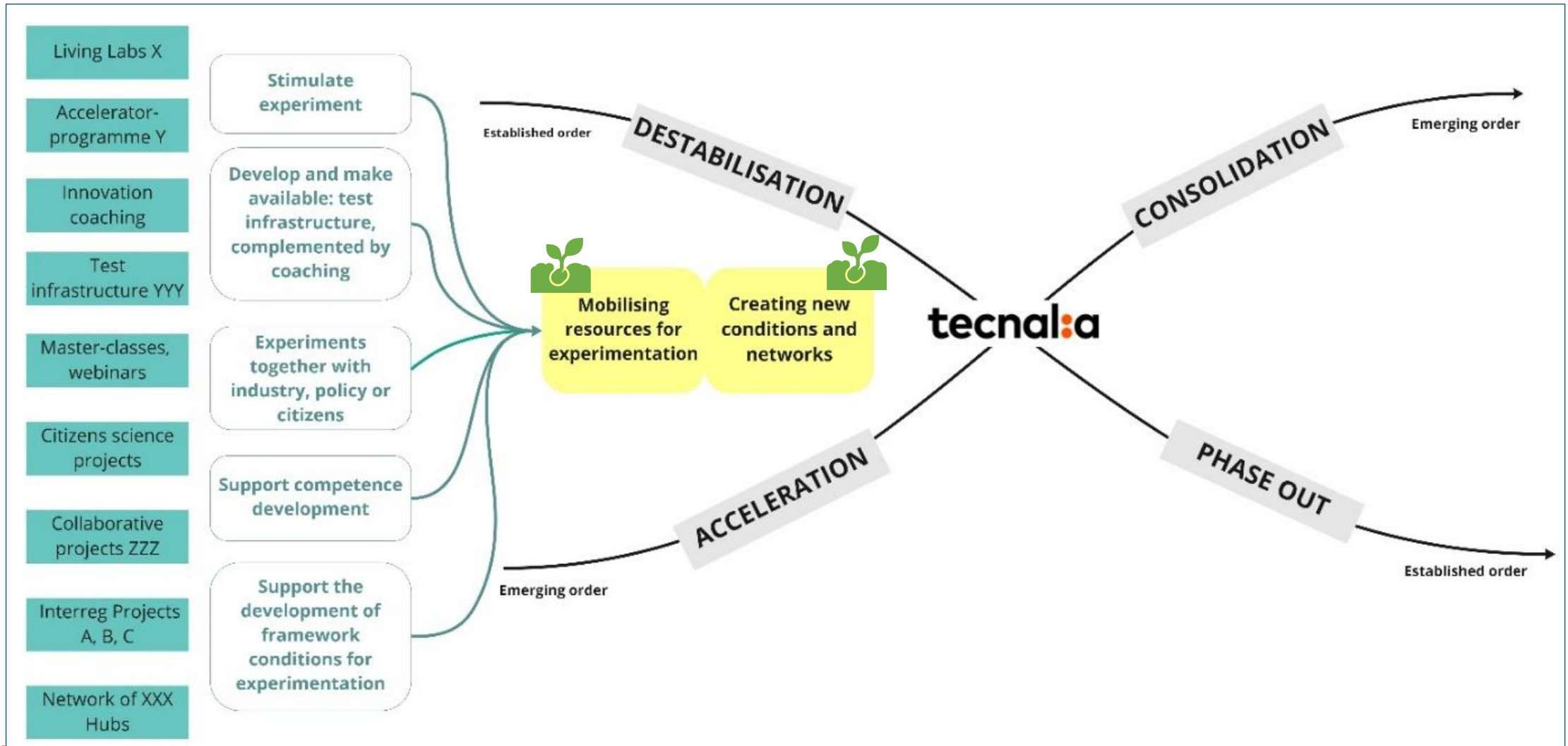


FUTURE ORIENTED ROLES



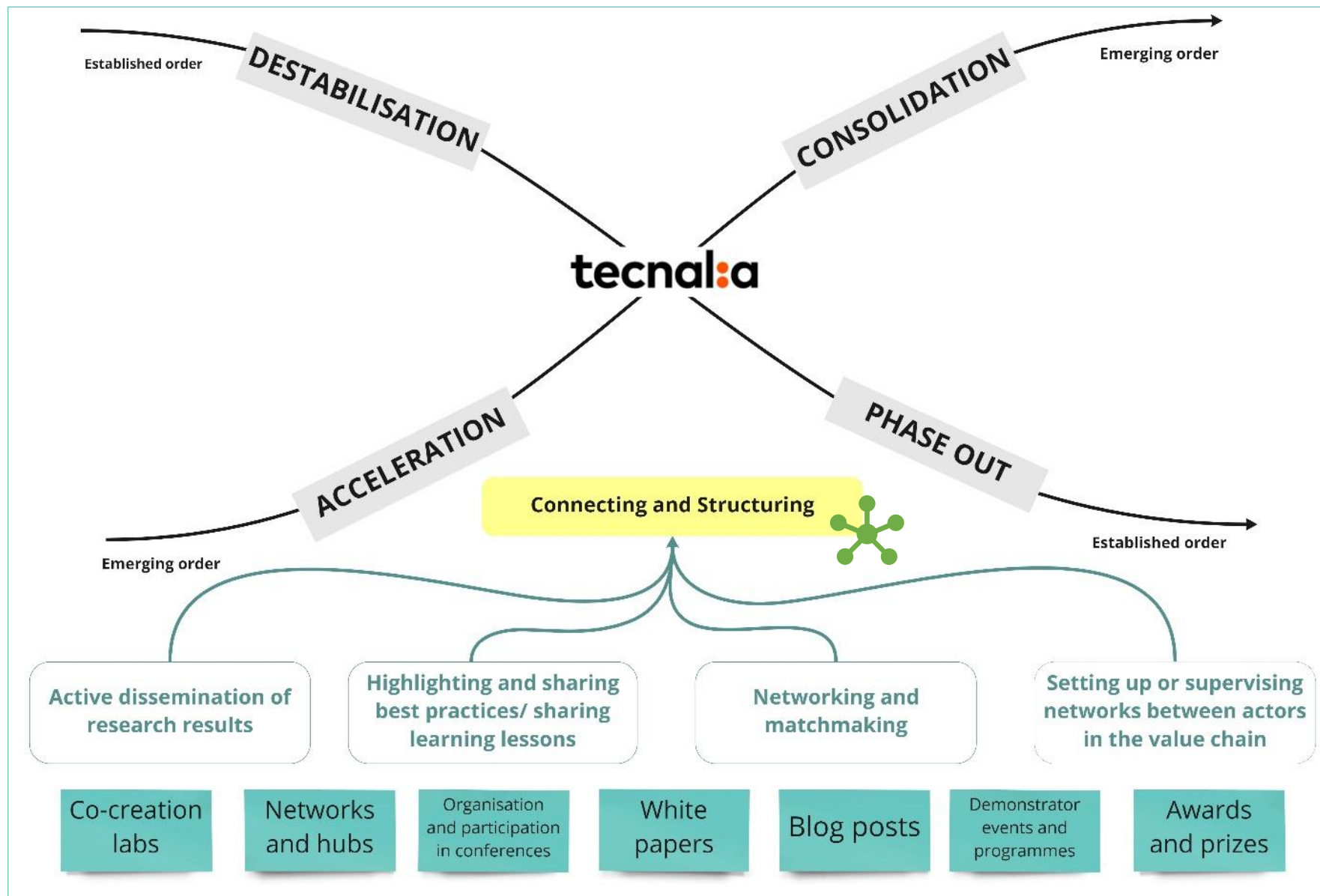


ROLES TO STIMULATE THE SHIFT FROM THE ESTABLISHED TO THE EMERGING ORDER





ROLE TO ACCELERATE THE SHIFT TOWARDS A MORE SUSTAINABLE ORDER



TECNALIA CONTRIBUTION TO ENERGY EFFICIENCY & ZERO CARBON ELECTRICITY GENERATION



Increasing pressure Determining the direction for the future

- Contributing to the **formation of a vision** on energy transition;
- Helping **mobilise funding** - from both public and private partners - to realise the transition to energy efficiency and zero-carbon electricity generation;
- Helping **shape** the thematic (policy and industrial) **agenda** on energy transition;
- Working to **shift attention** to the relevance of the energy transition and to specific markets.

TECNALIA's **scientific excellence** in its research domains gives it the necessary 'authority' to take on these transition roles in the Basque Country and internationally.



Mobilizing resources for experimentation Developing new conditions and network

TECNALIA's activities that are directed towards the **broad business community**.

Examples:

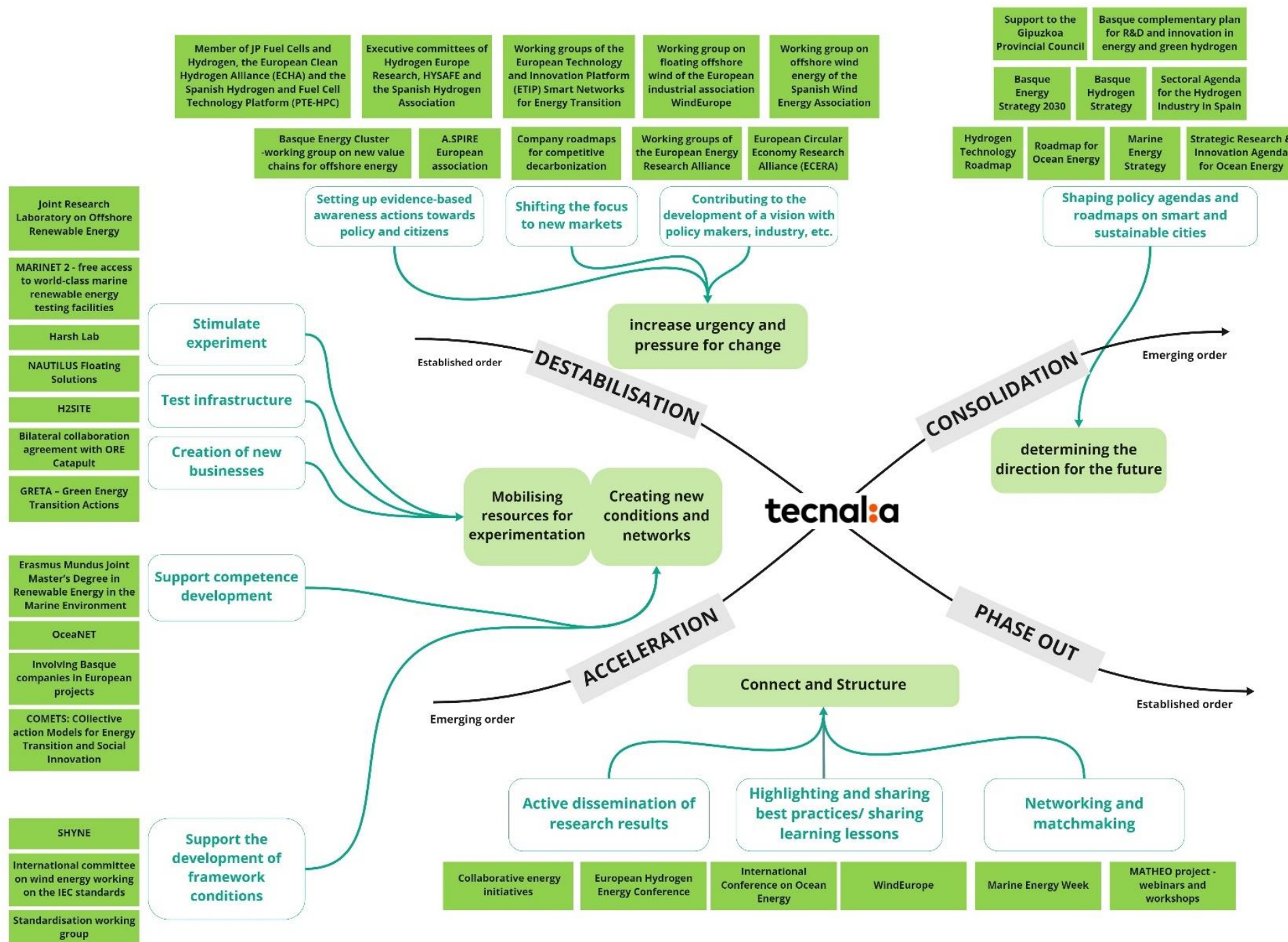
- Stimulating **experiments and framework conditions** for experimentation and supporting the **development of new innovative businesses**;
- Supporting **competence building** in relation to the energy transition;
- Supporting the **development of new standards and networks**.



Facilitating connections and stimulating a structuring effect

Highlighting the possible impact and inspiring examples of innovators, setting up or supervising networks between actors in the value chain, sharing learning lessons from innovators, etc.

- **connecting actors** in the value chain;
- sharing **best practices** and **disseminating** research results.



H2 SITE

Membrane reactors for H2 generation

Deep-tech start-up company resulting from a partnership between
TECNALIA, ENGIE Group and the Eindhoven University of Technology

H2SITE efficiently produces onsite and renewable H2 for small
and medium companies

We focus on industry and mobility, using our membrane
reactors able to work with different feedstocks such as
ammonia, methanol, gas mixtures...

Technological Excellence

Smart Capital

Entrepreneurial Team

Venture Building

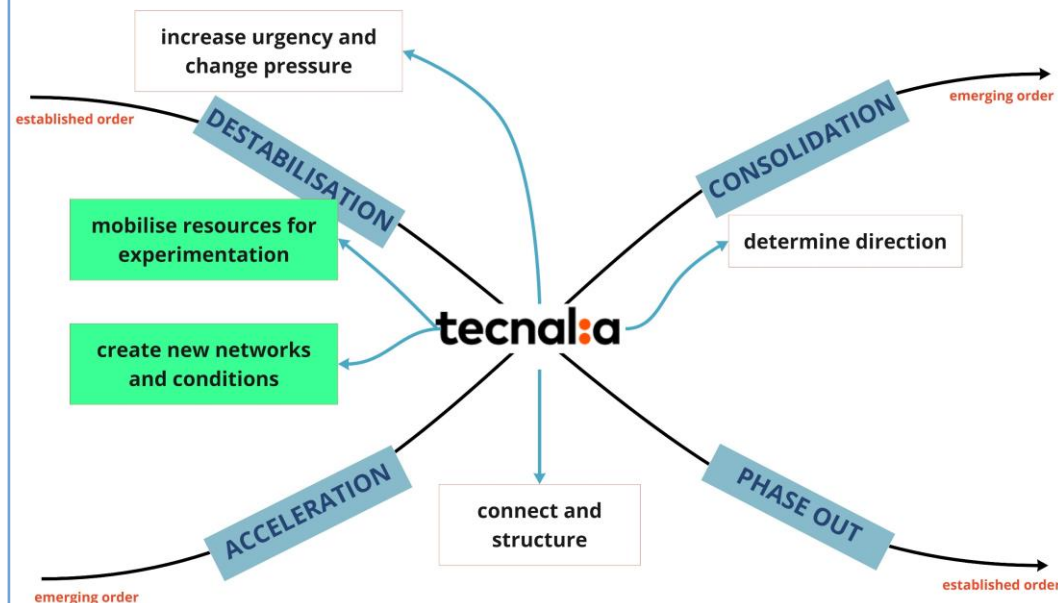
Impact

H2 SITE

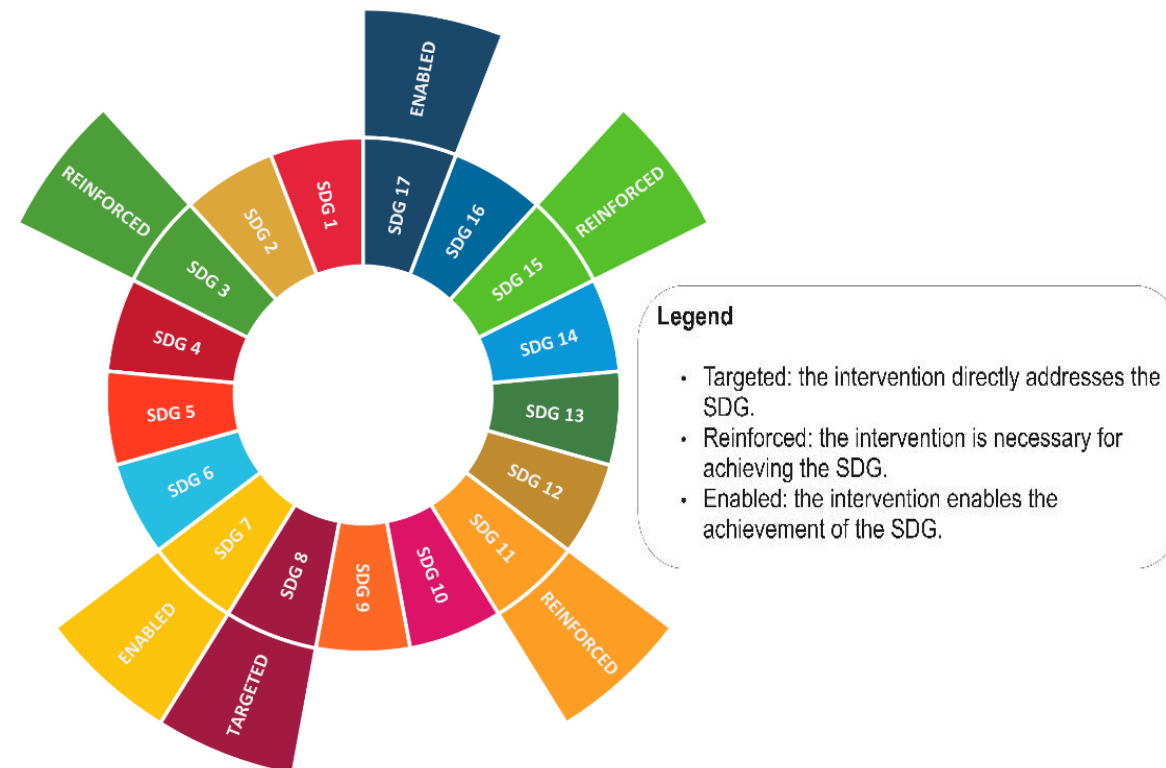
Membrane reactors for H2 generation

Deep-tech start-up company resulting from a partnership between TECNALIA, ENGIE Group and the Eindhoven University of Technology

Transition impact of TECNALIA in 'H2SITE'

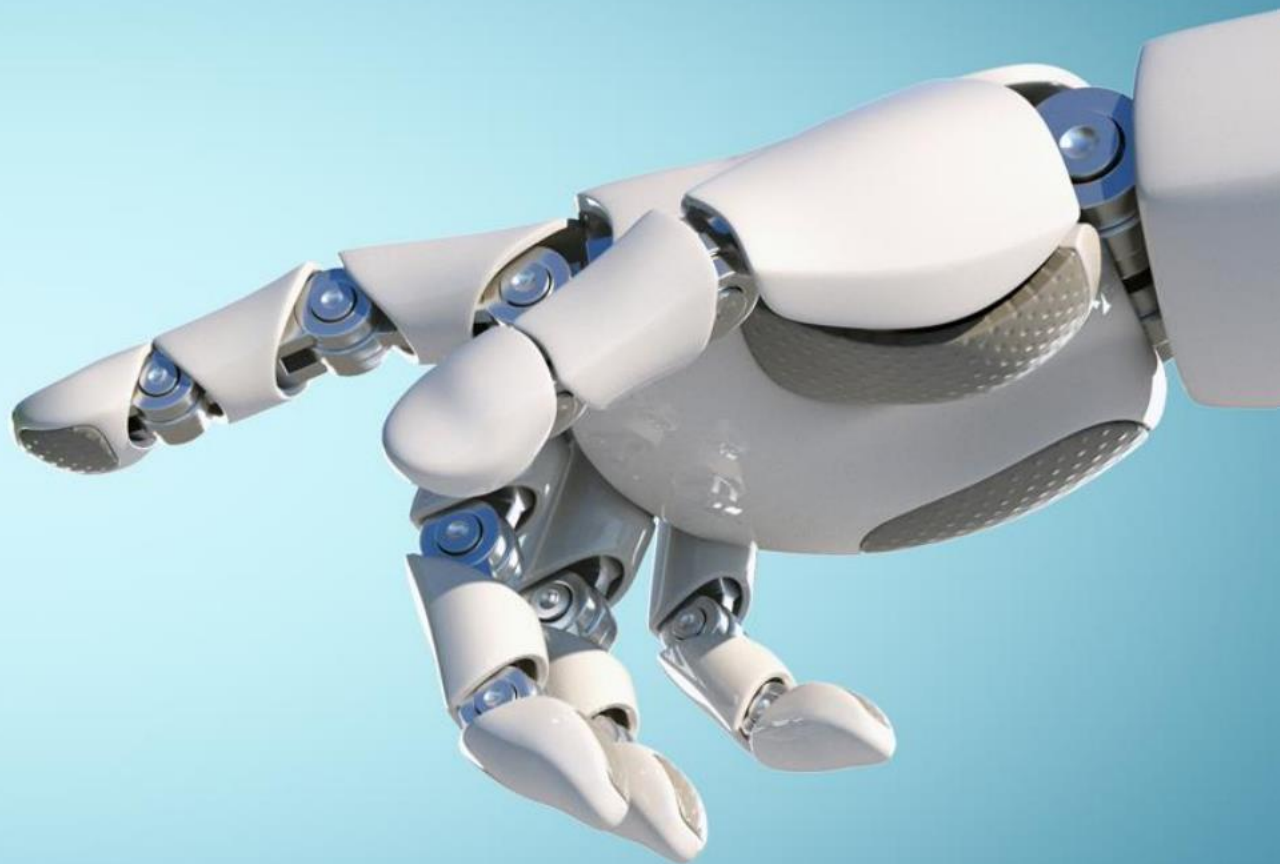


Link between H2SITE and SDGs



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Thank you

elena.schaeidt@tecnalia.com

The role of RTOs in regional innovation ecosystems for transformation towards sustainable economies

**Roland Psenner
President,
Eurac Research**



The role of RTOs in regional innovation ecosystems for transformation towards truly sustainable economies

EARTO Annual
Conference 2023

The role of RTOs in rolling out
the EU innovation agenda

28-29 March 2023
Bozen/Bolzano, Italy

Roland Psenner

29.03.2023

Lawmakers offer contrasting views on how to compete with China in science

In twin congressional hearings, Democrats argue for more investment, whereas Republicans favour sanctions on U.S. adversary

Science Advances, 2 Mar 2023

By [Jeffrey Mervis](#)

<https://www.science.org/content/article/lawmakers-offer-contrasting-views-how-compete-china-science>

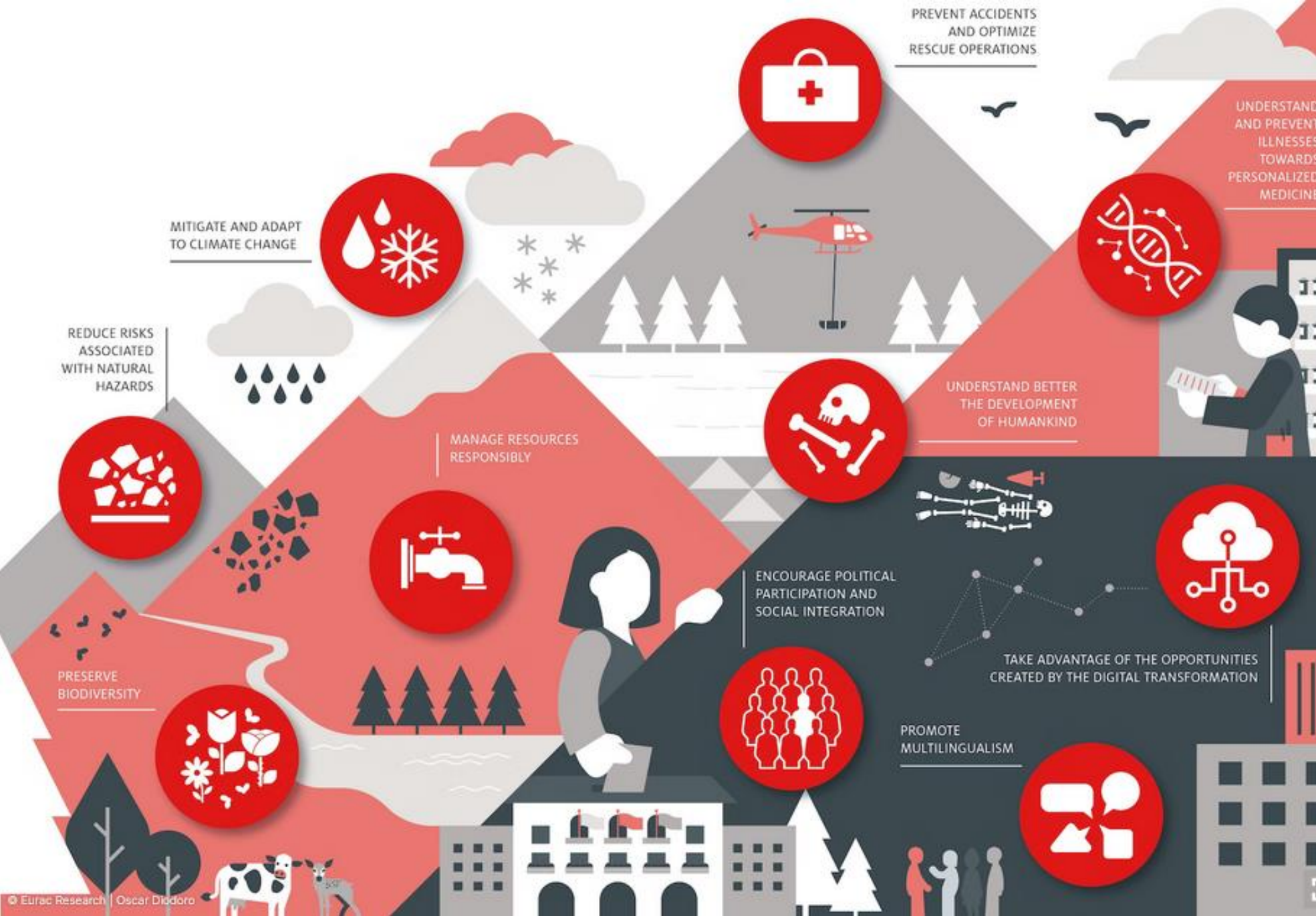


U.S. legislators from both parties sharply criticized the policies of Chinese President Xi Jinping during hearings this week. GRAEME SLOAN/SIPA VIA AP IMAGES

*“China is going to continue to innovate,” Kimberly Budil, director of Lawrence Livermore National Laboratory, said. “And we can’t stop them. **But we can run faster, and be smarter, in making discoveries that could lead to new industries.**”*

The New European Innovation Agenda will:

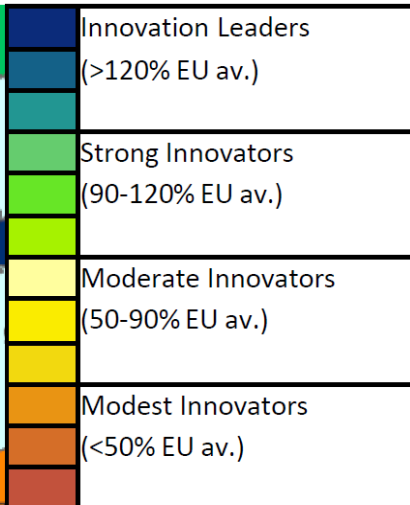
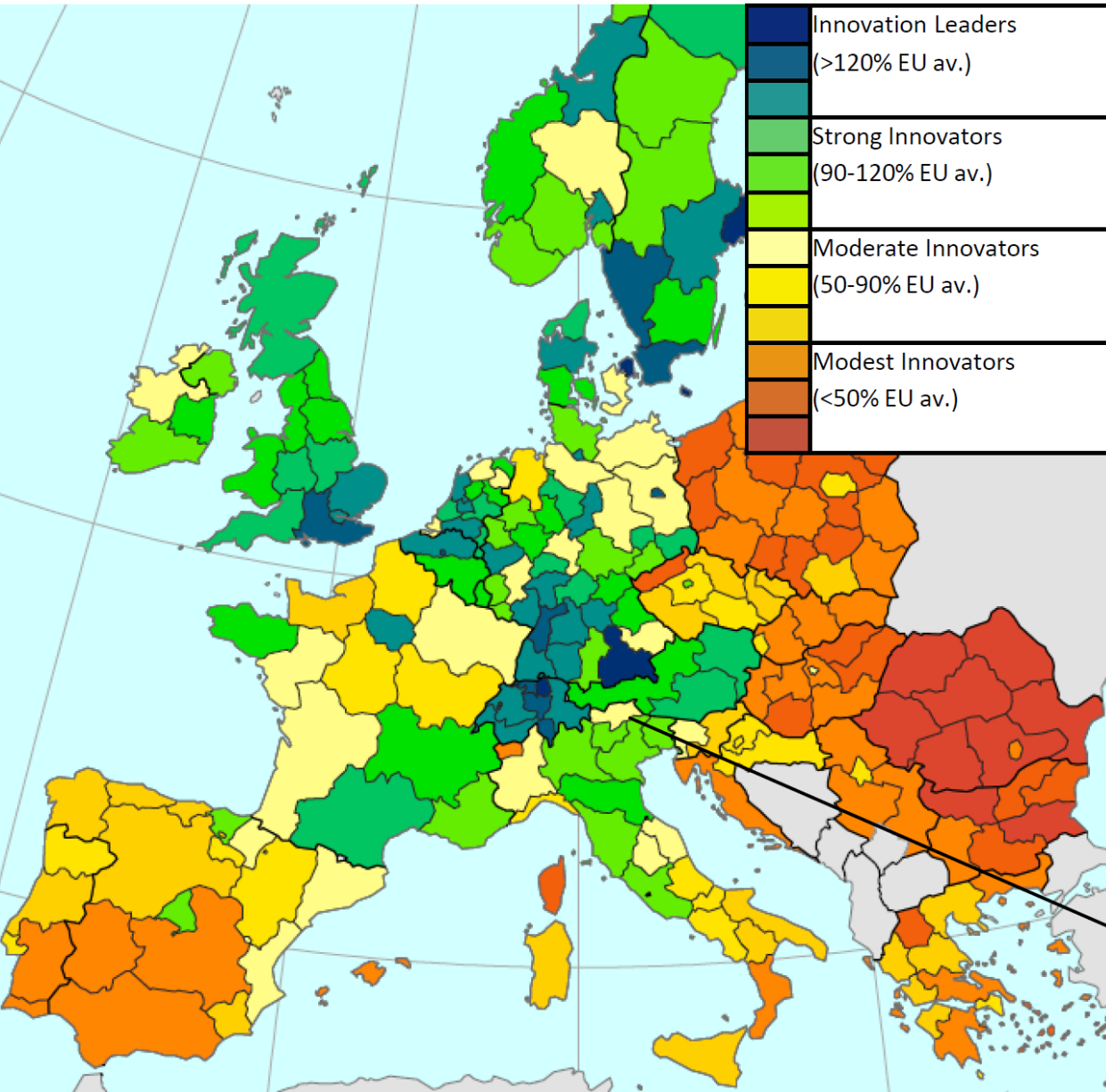
- improve access to finance for European start-ups and scale-ups, for example, by mobilising untapped sources of private capital and simplifying listing rules
- improve the conditions to allow innovators to experiment with new ideas through **regulatory sandboxes**
- help create “**regional innovation valleys**” that will strengthen and better connect innovation players through Europe, including in regions lagging behind
- **attract and retain talent** in Europe, for example by training 1 million deep tech talents, increasing support for women innovators and innovating with start-up employees’ stock options
- improve the policy framework through clearer terminology, indicators and data sets, as well as **policy support to Member States**



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11 Institutes,
6 Centres,
600 people,
90 ongoing
EU projects,
70 PhDs

Regional Innovation Index RII



Rank [241]	NUTS2	Region	RII 2021
1	SE11	Stockholm	154,5
2	FI1B	Helsinki-Uusimaa	151,7
3	DE21	Oberbayern	151,1
4	DK01	Hovedstaden	149,0
5	CH04	Zürich	146,4
6	DE12	Karlsruhe	144,0
7	DE3	Berlin	143,8
8	CH07	Ticino	142,7
9	SE22	Sydsverige	141,8
10	CH03	Nordwests	138,1
...
63	AT3	Westöster	115,1
...
85	ITH2	Provincia A	107,1
...
120	DE4	Brandenburg	95,9
121	ITH1	Provincia Autonoma Bolzano/Bozen South Tyrol	94,8
122	NL34	Zeeland	94,7



South Tyrol: moderate or late innovator?

1974: Laimburg Agricultural Research Centre

1992: **Eurac Research**

1997: **Free University of Bolzano/Bozen**

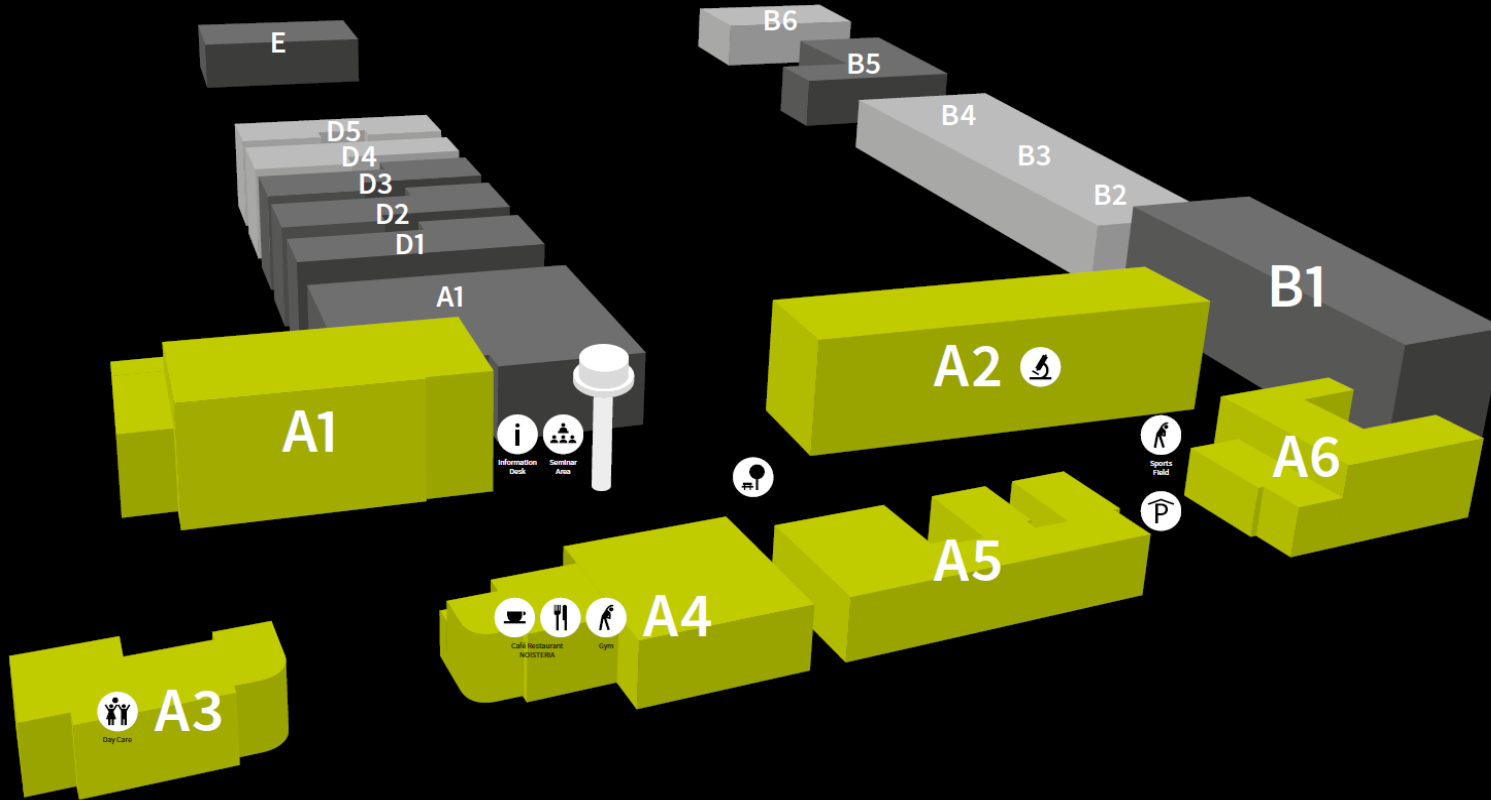
2017: NOI Techpark

NOI Techpark

South Tyrol's innovation district.

A stimulating surrounding for companies, institutions and the university to collaborate on research and development projects.

- 4 Research Institutions
- 70 Companies
- 30 Start-ups
- 41 Labs
- 1100 People
- Open Data Hub
- Start-up Incubator
- ...



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Versuchszentrum
Centro di Sperimentazione
Research Centre
LAIMBURG
NATURE & SCIENCE: HAND IN HAND

Fraunhofer
ITALIA

KlimaHaus
CasaClima®

Meistertkurse und -prüfungen
Corsi e esami per maestri professionali
AUTONOME PROVINZ BOZEN SÜDTIROL
PROVINCIA AUTONOMA DI BOLZANO ALTO ADIGE
PROVINȚA AUTONOMĂ DE BULZAN SÜDTIROL

lvhapa
Wirtschaftswissenschaften und Dienstleistungen
Cooperation Partner

RIS3 Strategy of South Tyrol: Focus on 4 Fields

- The “**Digital**” technology field comprises the **Internet of Things (IoT)**, **Open Data Hub** and **Artificial Intelligence (AI)** as its supporting pillars.
- In “**Food and Health**”, the driving themes are **raw materials** and **by-products**, optimal **processing** and **fermentation**, and “**Omics and Precision Health**”.
- The specialisation areas in the “**Automotive/Automation**” field are **Automotive** and **Mobility**, **Manufacturing** and **Agri-Automation**.
- In the technology field “**Green**”, NOI Techpark will concentrate primarily on **energy systems**, **sustainable buildings** and **urban districts**, as well as **water technologies**.

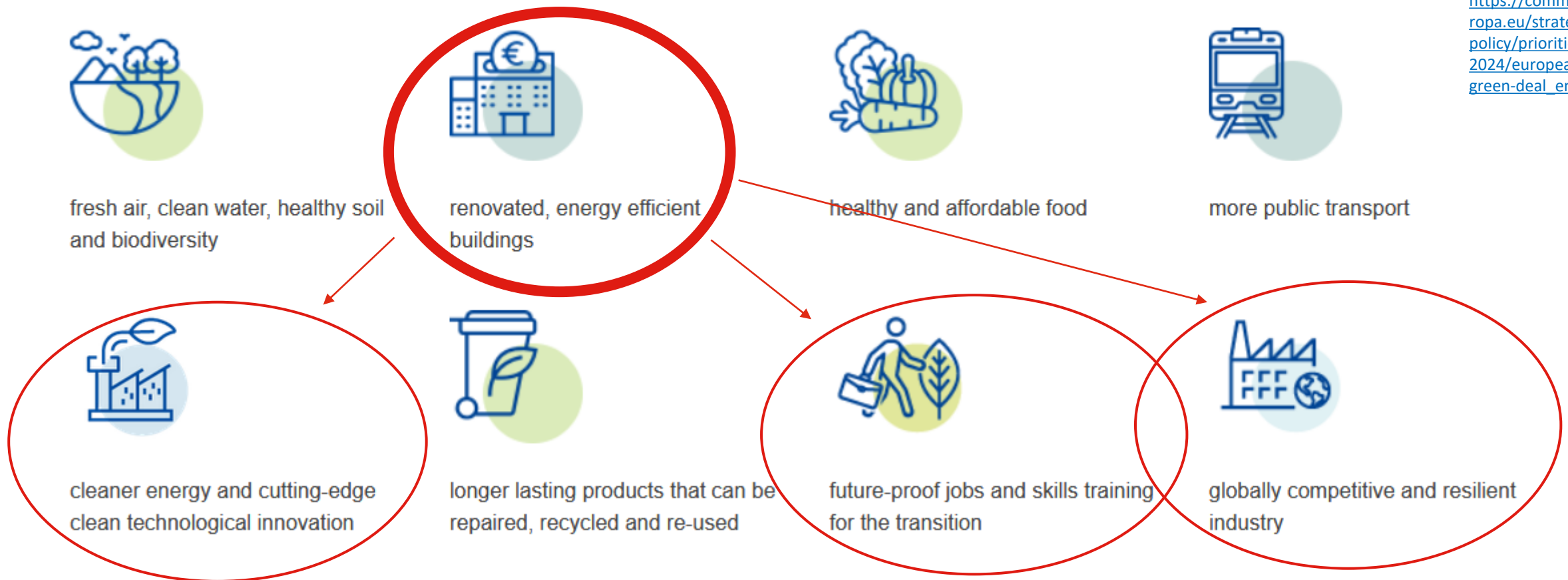
European Green Deal

The first climate-neutral continent by 2050

At least 55% less
net greenhouse gas emissions by 2030, compared to 1990 levels

3 billion
additional trees to be planted in the EU by 2030

https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en



Energy Savings in Buildings – an Untapped Potential?

Buildings account for 40% of Europe's energy consumption and are responsible for more than 33% of the bloc's CO₂ emissions. Inaction in the building sector in recent years has already cost the EU **four years** of potential progress towards the climate neutrality goal.

https://www.bpie.eu/wp-content/uploads/2022/06/BPIE_EU-Buildings-Climate-Tracker_Final.pdf

Two-thirds of the buildings in the EU have poor energy performance. Under current policies, less than 1% of buildings are renovated each year, while data suggests the number of Europeans unable to provide enough heat in their homes has risen from 36 to 50 million since 2020.

<https://www.euractiv.com/section/energy-environment/opinion/insulating-the-economy-why-the-eu-must-aim-high-on-its-buildings-directive/>

Buildings can be constructed on zero-emission construction sites, creating positive energy buildings. However, the standing time is the longest phase to address, as **80% of existing buildings will still be there in the year 2050.**

https://www.airclim.org/sites/default/files/acidnews_pdf/an123.pdf

Eurac Research Institute of Renewable Energy

Research Groups

- Energy efficient buildings
- Energy retrofit of historic buildings
- Overall energy system modelling and e-mobility
- Photovoltaic energy systems
- Sustainable heating and cooling systems
- Urban and regional energy systems

Three Examples where the Institute is Lead Partner:

Two ongoing (*REWARDHeat*, *INFINITE*) and a finished one (*SINFONIA*)



The overall objective of *REWARDHeat* is to demonstrate a new generation of low-temperature district heating and cooling networks that will be able to recover renewable and waste heat, available at low temperature.



All-in-one
industrialised
envelope
technologies will
allow to increase
the **energy**
performance
and **lifespan** of a
building, while
cutting time and
costs of the
retrofitting
process.



Industrialised durable building envelope retrofitting by all-in-one interconnected technology solutions



ABOUT INFINITE

Meet the future of building renovation. All-in-one industrialised envelope technologies will allow to increase the energy performance and lifespan of a building, while cutting time and costs of the retrofitting process. INFINITE relies on the “Renovation4.0” approach, which combines digitalisation and industrialisation to offer high-quality, tailor-made, sustainable solutions designed to last.

INFINITE will unleash the market potential of prefabrication in the construction sector and will pave the way for the decarbonisation of the European building stock.

With 80% of European citizens living in urban areas, cities have a crucial role to play in the transition towards a low-carbon economy



| Low Carbon Cities for Better Living



[Private Area ▶](#)



[Project](#)



[Pilot Cities](#)



[Replication Cities](#)



[Smart City News](#)



[Tools & Results](#)



[Resources](#)



[Contacts](#)



The SINFONIA project is a five-year initiative to deploy large-scale, integrated and scalable energy solutions in mid-sized European cities

At the heart of the initiative is a unique cooperation between the cities of **Bolzano** (Italy) and **Innsbruck** (Austria), working hand in hand to achieve **40 to 50% primary energy savings** and increase the **share of renewables by 20%** in two pioneer districts ... through an integrated set of measures combining the **retrofitting of >100,000m² of living surface**, optimisation of the **electricity grid**, and solutions for **district heating & cooling**.







Only in Bolzano/Bozen **12 buildings** and **235 apartments** were reshaped, thereby saving **80% of energy** with **60%** of energy coming from **renewable sources** ... and providing **100% higher comfort** to the residents.

Facts Check: Did it Work at the Regional Level?

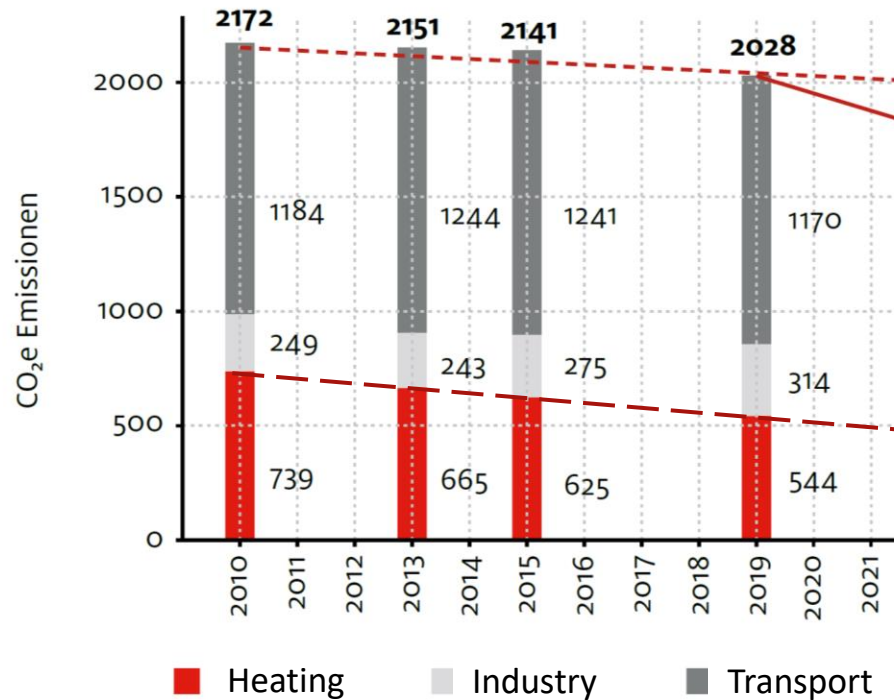


Fig. 1. Trend of CO₂e emissions (kt/year) from fossil fuels in South Tyrol 2010-2019, with a perspective for 2030 and climate neutrality.

Conclusions

While national activities, fraught by outdated legal regulations and political disputes, often go in the wrong direction, international agreements – despite sometimes painful compromises – are of greater consequence and foresight:

- UN Sustainable Development Goals
- Paris Climate Agreement
- Kunming-Montreal Global Biodiversity Framework
- New York High Seas Treaty

In contrast to nation states, **cities** (Paris, Barcelona, Vienna ...), **regions** and **municipalities** take a different approach that is more down-to-earth and in line with international agreements.

Thanks for your attention

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Proposal for a
DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
on the energy performance of buildings (recast)
(Text with EEA relevance)

Article 1

Subject matter

1. This Directive promotes the **improvement of the energy performance of buildings** and the reduction of greenhouse gas emissions from buildings within the Union, with a **view to achieving a zero-emission building stock by 2050**, taking into account **the** outdoor climatic **conditions**, **the** local conditions, **the requirements for indoor environmental quality and the contribution of the building stock to demand-side flexibility for the purpose of improving energy system efficiency and cost-effectiveness.**

https://www.europarl.europa.eu/meetdocs/2014_2019/plmrep/COMMITTEES/ITRE/DV/2023/02-09/09_CA-EPBD_EN.pdf

Facing the energy crisis: the role of technology infrastructures

**François Jacq
CEO, CEA**





Facing the energy crisis : The role of technology infrastructures

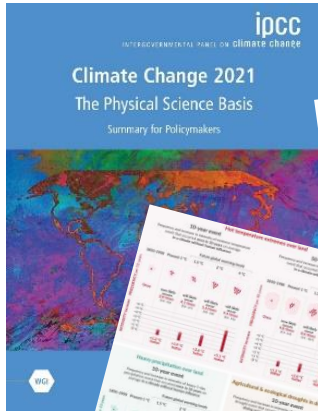
François JACQ

EARTO Annual Conference, Bolzano, 29 March 2023



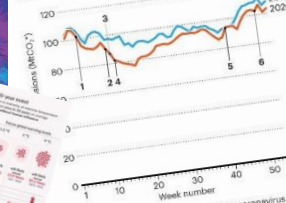
Energy background in 2020-2021

Some highlights



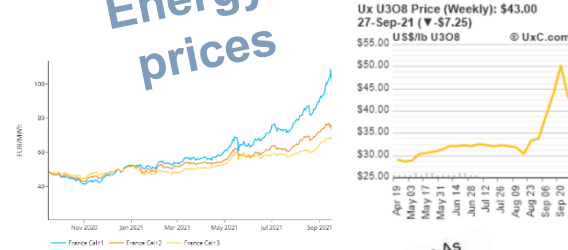
Climate Change

EMISSIONS BOUNCE BACK
After a sharp drop early in the pandemic, global CO₂ emissions rose as worldwide economic activity recovered in 2020. This trend continued even though some countries put fresh restrictions in place as coronavirus infections soared.



1. China imposes lockdown on Wuhan, where coronavirus was first detected.
 2. Slammed by COVID, Italy issues a national lockdown.
 3. California becomes first US state to impose a lockdown.
 4. India begins its first nationwide lockdown.
 5. As Europe surpasses 100,000 new daily infections, countries announce new wave of restrictions.
 6. California imposes a 3-week lockdown after registering its highest daily total of new infections.
- *Megatonnes carbon dioxide

Energy prices



Protests Break Out in Europe As Electricity Prices Soar



European Regulation

Taxonomy

Renewable Energy (RED II)

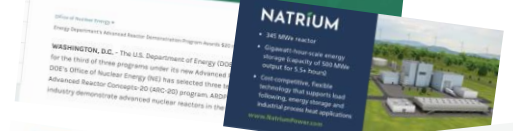
Fit for 55

Carbon Border Adjustment Mechanism

Alternative fuels

New Nuclear

Energy Department's Advanced Reactor Demonstration Program Awards \$20 million for Advanced Reactor Concepts



Resources & critical minerals

Figure 4: Electricity generation by technology in the Green Scenario, 2050

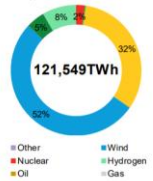


Figure 5: Electricity generation by technology in the Gray Scenario, 2050

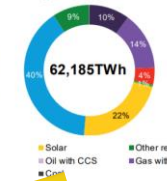
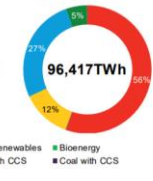


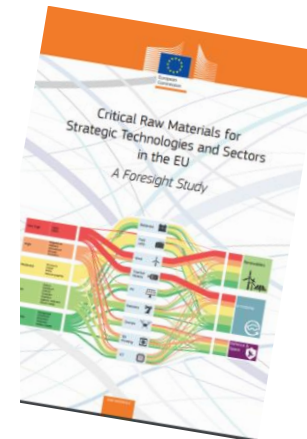
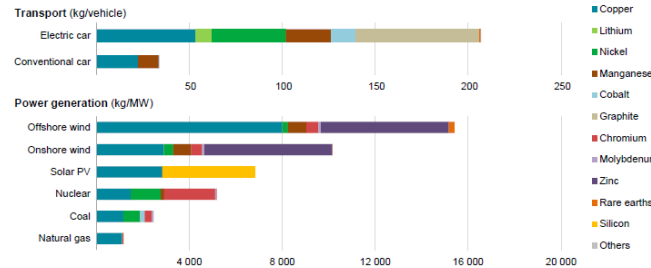
Figure 6: Electricity generation by technology in the Red Scenario, 2050



Source: BloombergNEF Note: includes both power for end-use economy and manufacturing.

Source: BloombergNEF Note: includes both power for end-use economy and manufacturing.

Minerals used in selected clean energy technologies



Stellantis accélère à son tour dans la voiture électrique

Le groupe né de la fusion de PSA et Fiat Chrysler a annoncé jeudi 30 milliards d'investissement dans l'électrique entre 2021 et 2025. Il a révisé ses prévisions, confirmant avoir conclu un accord avec l'Etat pour une pénalisation.

Voiture électrique: l'acte II de Renault et Stellantis

Les deux groupes automobiles vont présenter successivement en juin le plan stratégique ambitieux en matière d'électromobilité au sommet de la marche sociale et du changement climatique. Les enjeux déterminent leur avenir pour les dix prochaines années.



Electric vehicle

Lessons from 2022 energy crisis

- Tackling the climate crisis : Net-zero economy by 2050
 - Already a major challenge
- +++ 2022 Energy crisis
 - Acceleration is needed (reduction of fossil fuels)
 - No simple solution for decarbonisation: explore and support any possibilities
 - Keeping in mind that we should not create new dependencies



Global race for Clean Tech industry



US Inflation Reduction Act

“The Inflation Reduction Act of 2022 will make a historic down payment on deficit reduction to fight inflation, invest in domestic energy production and manufacturing, and reduce carbon emissions by roughly 40 percent by 2030.”

Investments for Energy Security and Climate Change	\$369 Bn
- Including DOE scientific research	\$2 Bn
- New DOE Office of Clean Energy Demonstrations program (Support projects to reduce GHG emissions at industrial facilities, including carbon capture and clean hydrogen).	\$6 Bn
+ \$250 Billions in DOE loans for energy infrastructure projects	\$250 Bn



Net-Zero Industry Act

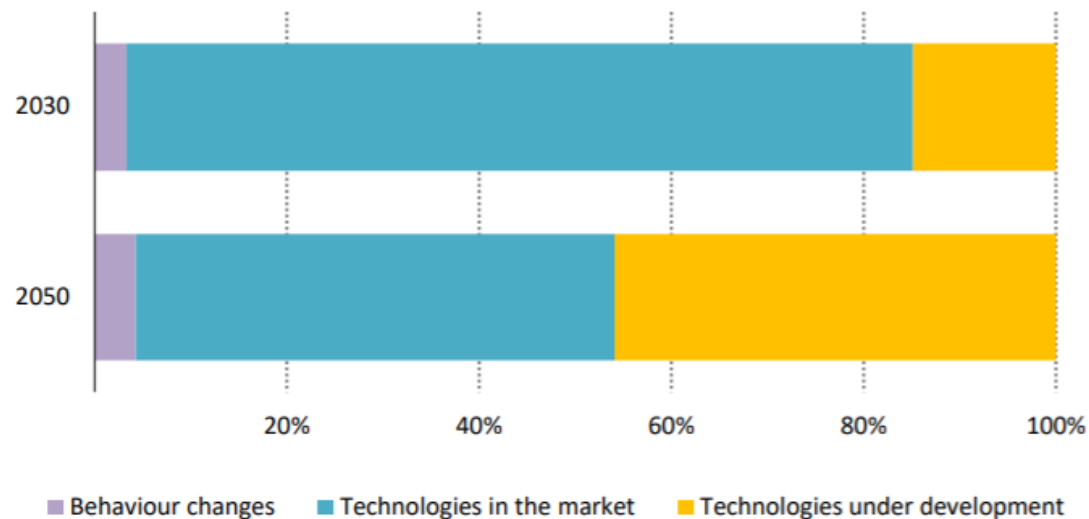
“Making the EU the home of clean technologies manufacturing and green jobs”

- EU manufacturing capacity should reach 40% of annual deployments needs in some key transition technologies by 2030,
- better conditions to set up net-zero projects in Europe,
- attract investments,
- BUDGET ?
- R&D ?

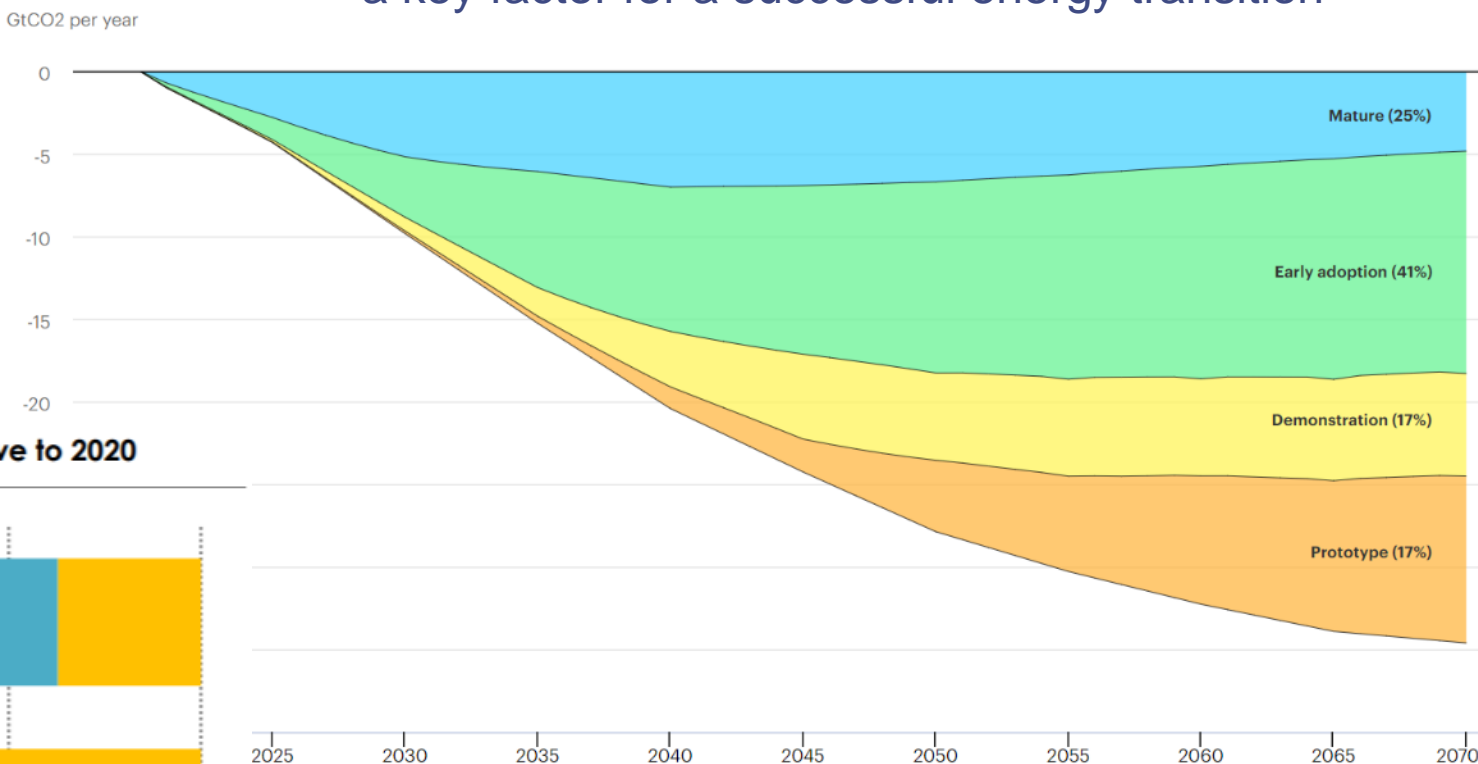
How to accelerate?

Only 25% of the technologies needed to reduce CO₂ emission have already reached industrial maturity level

Annual CO₂ emissions savings in the net zero pathway, relative to 2020



Innovation :
a key factor for a successful energy transition



Source : IEA

A strong effort is needed on R&D, technology development and innovation

Source : rapport AIE (Agence Internationale de l'Énergie), 2021,
« NET ZERO BY 2050 A ROADMAP FOR THE GLOBAL ENERGY SECTOR »

Technology Infrastructures and RTOs

*RTOs = ideal instrument for
policy decision makers*

01

PROPOSE INTEGRATED SOLUTIONS

Taking into account Society demand / industrial needs /
technology solutions

02

MAKE THE BRIDGE BETWEEN RESEARCH AND INDUSTRY

Deeptech innovation
Heavily experimental resources

03

BUILD AND GROW INNOVATION ECOSYSTEMS

04

ACCELERATE AND DE-RISK TECHNOLOGY DEVELOPMENT

=> RTOs + Technology Infrastructures = set of services to innovators
(qualified staff, open environment for collaboration, IP management models...)

Some examples

EURAC Research TerraXcube

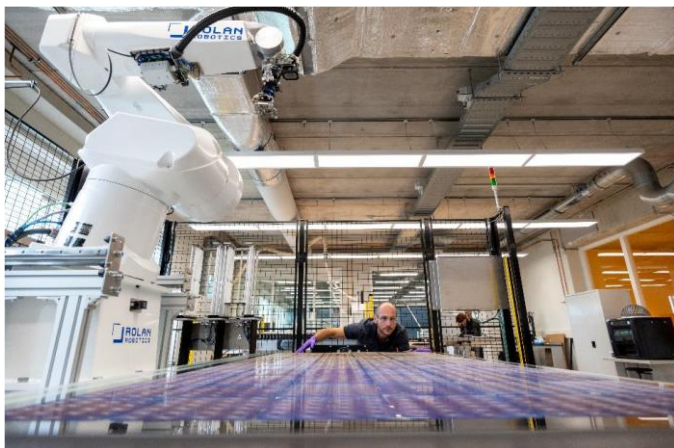
Extreme climate
simulation centre
Bolzano



VTT Bioruukki Pilot Centre

For bio and circular
economy processes

Espoo



TNO Solar Lab

Custom and high-
efficiency-tandem
photovoltaic

Petten



CEA Platform for hydrogen production and storage

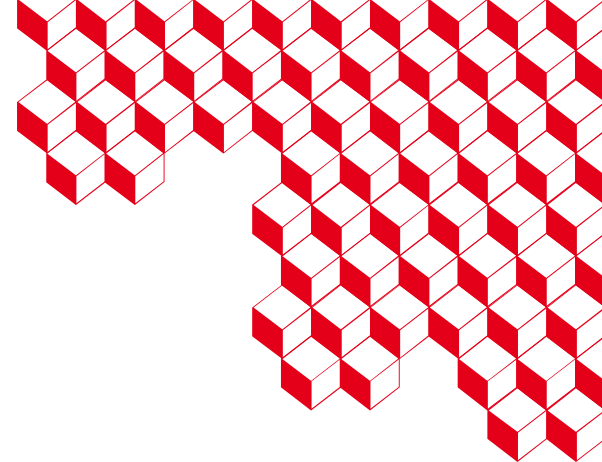
Grenoble

Next steps





Merci



Strengthening RTOs & industry collaboration: the latest in tech transfer

Erik Drop
Director Knowledge Strategy
Department, TNO



Latest insights in Tech Transfer

Strengthening role RTO's in renewal EU economic structure

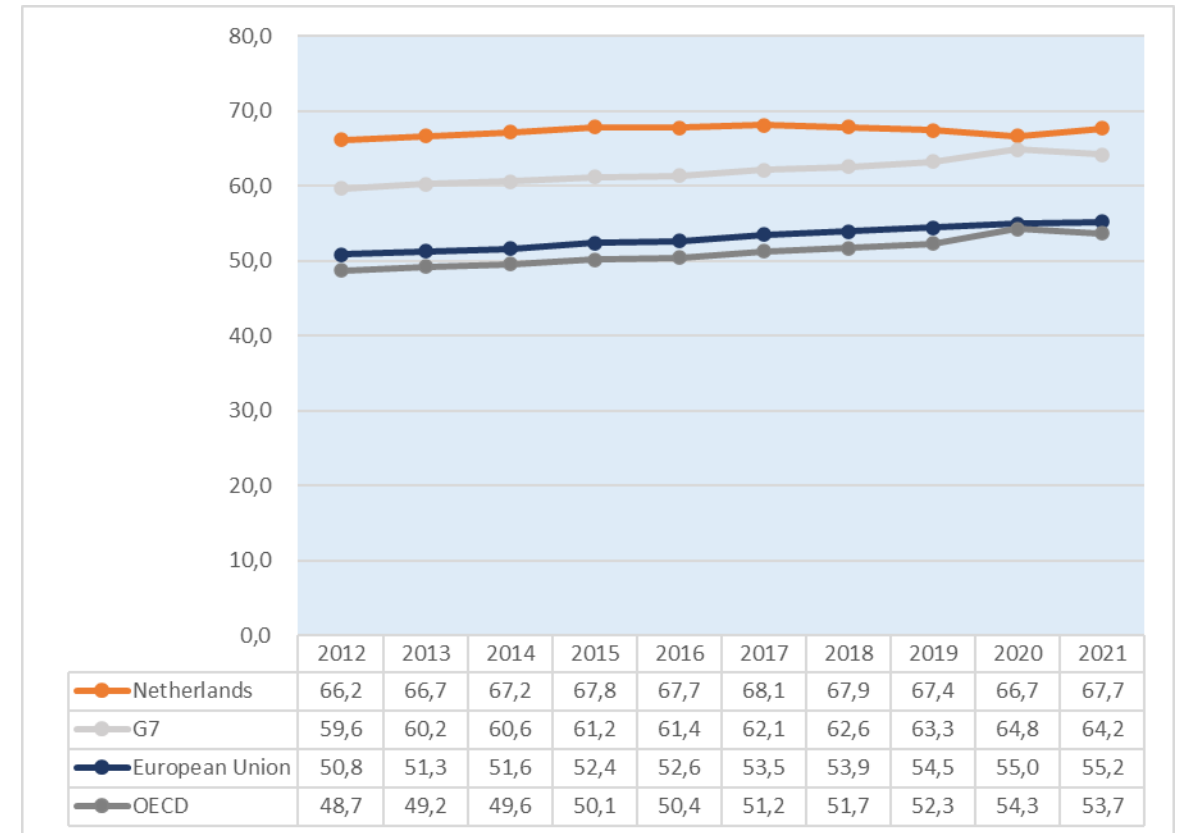
Erik Drop TNO



Economic growth: theoretical concepts

LABOUR PRODUCTIVITY IMPORTANT FOR COMPETITIVENESS

- › Labour productivity = GDP / labour:
- › value that is added with production machines and knowledge in production processes and / or products/services with 'labor'
- › Interpretation: competitiveness of a country
 - *how efficiently the economy uses labour;*
 - *quality in an economy of the production process and the products and services created by it.*



Labour productivity
[GDP per hour worked, US\$, constant prices, 2015 PPPs] - Source: [OECD \(20/09/2022\)](https://www.oecd.org/20/09/2022/).

Economic growth: theoretical concepts

HIGHER LABOUR PRODUCTIVITY ONLY BY INNOVATION

› $\Delta \text{GDP} = f(\Delta \text{labour}, \Delta \text{labour productivity})$:

1. Δlabour : not an option for NL;

2. $\Delta \text{labour productivity}$:

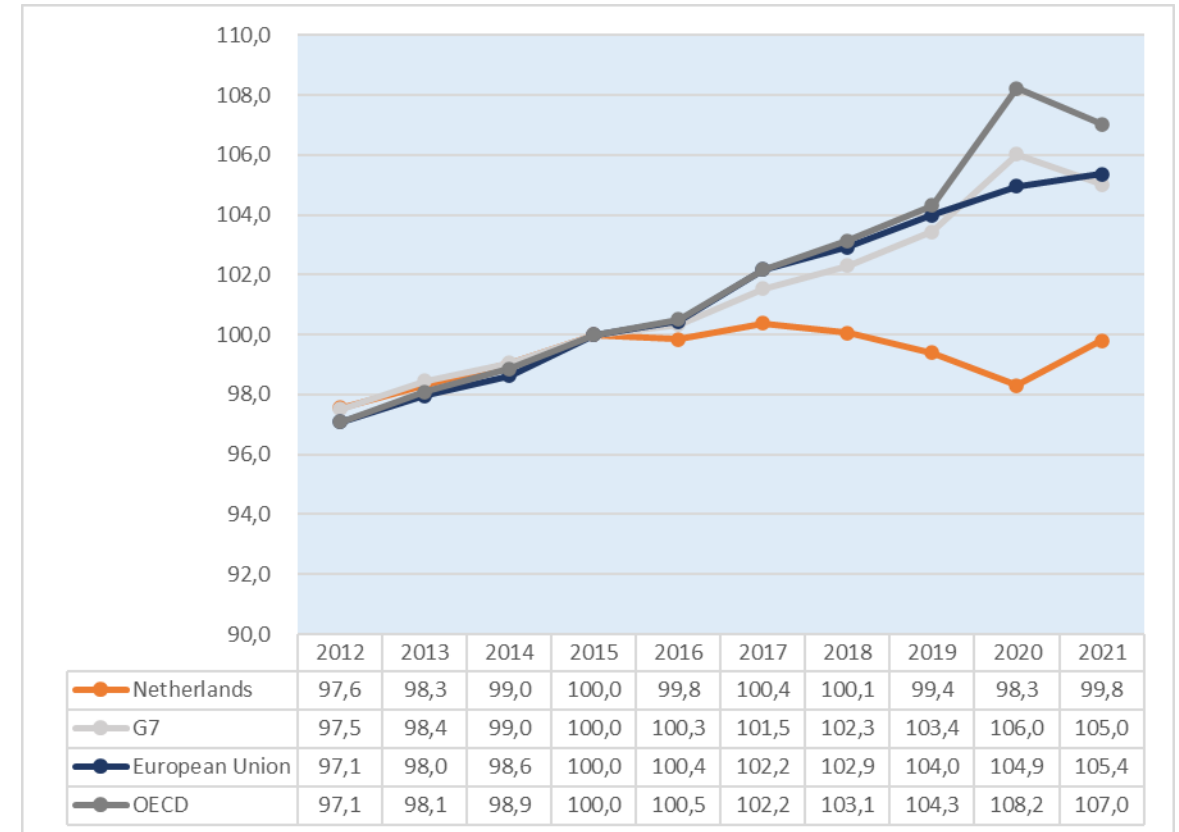
capital deepening \uparrow : not an option for NL;

intangible capital goods \uparrow : **innovation driven growth**.

Type of investments	
Capital goods	9 cent
Education / schooling	1 euro en 30 cent
Private R&D	2 euro en 60 cent
Public R&D	4 euro en 20 cent

Effects of an additional investment of 1 euro on added value (GDP)

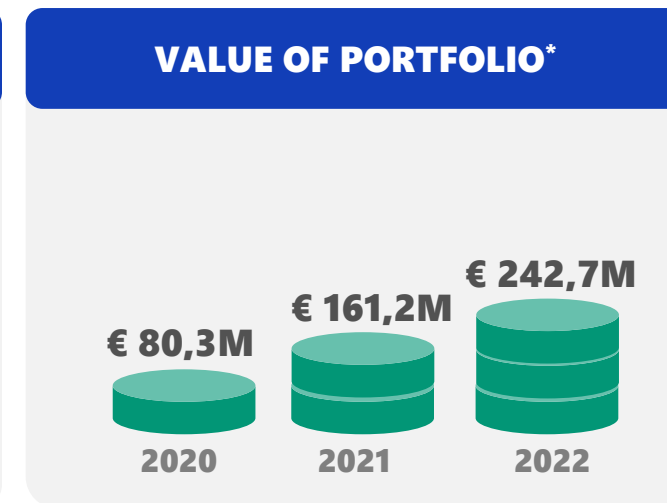
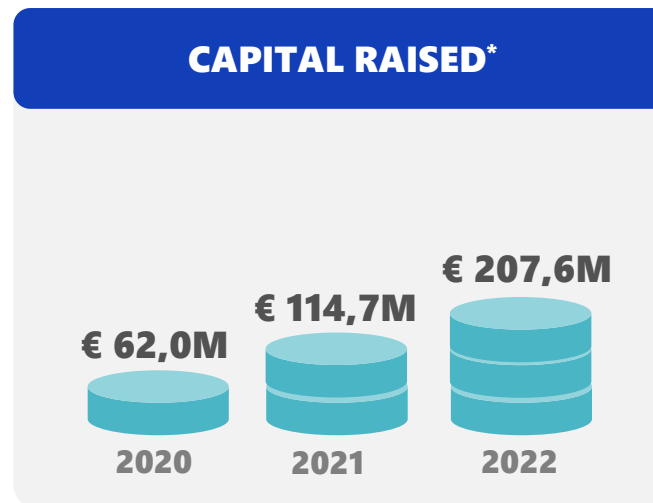
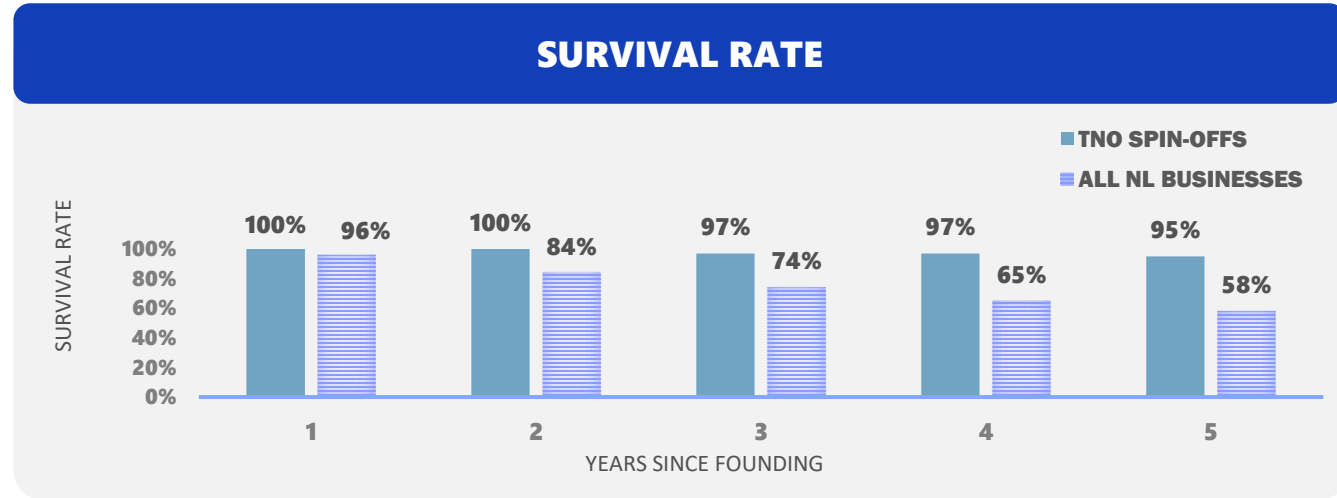
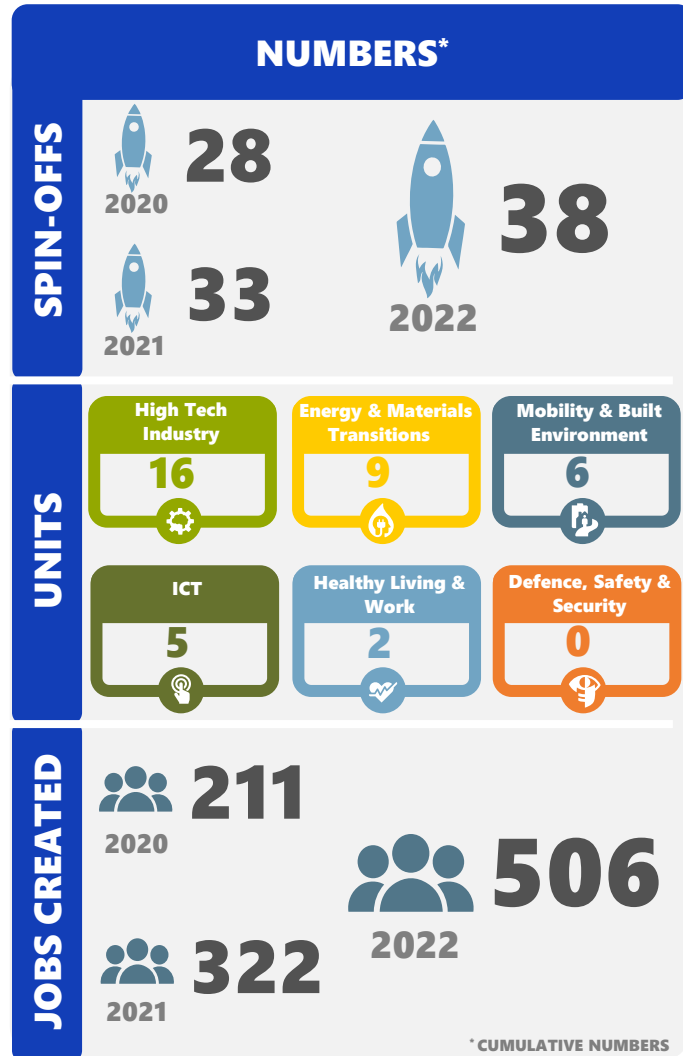
Source: [\(Erken, et al. 2019\)](#)



Raise of Private Expenditure on R&D necessary BY CREATING NEW ACTORS AND ECONOMIC STRUCTURE

- › [Top 5 global R&D performers](#) ((2020): global expenditure [MEUR]): 1. Alphabet (22470,1), 2. HUAWEI (17460,1), 3. Microsoft (16882,1), 4. Samsung (15281,6), 5. Apple (15281,6).
- › [Top 5 R&D performers NL](#) ((2020): expenditure NL [MEUR] / global expenditure global [MEUR], ranking global): 1, ASML (1540 / 2201, 76), 2: Philips (778 / 1915, 94), 3: Janssen (499 / 8438, -), 4: KPN (302 / 302, 744), 5: DSM (217 / 438, 333). **Total: 27% of BERD in NL.**
- › In comparison: 95% of all companies that do R&D can be classified as SMEs; but this group accounts for only 33% BERD.
- › Underrepresentation of activity in the Dutch economy in R&D intensive sectors 'Pharma', 'Automotive' and 'ICT/Software' – this limits size and growth BERD.
- › Top performers in NL spend 10% - 25% of their turnover on R&D - much more than their international peers. Further growth expenses: organic growth or acquisitions - no further incentives.
- › **A further increase in BERD must come from renewal of the economic structure of NL: new players or new sectors (or support transformation of existing actors).**

Successful TNO Tech Transfer program



Spin-off funnel based on financing stage



Spin-off LeydenJar

- LeydenJar developed a pure silicon anode with 70% higher energy density than traditional anodes. Using LeydenJar anodes, technology companies can benefit from Li-ion batteries that are extremely powerful, small and fast charging.

2016



FOUNDED

>70



EMPLOYEES

>60M



EXT. FINANCE



LeydenJar
ENERGISING TECHNOLOGIES

Spin-off Cellcius

- The heat battery technology from Cellcius makes it possible to heat houses, neighbourhoods and offices without the need for a gas connection. This is possible by storing residual heat and using it to heat air and tap water in houses.

2020



FOUNDED

12



EMPLOYEES

>1.6M

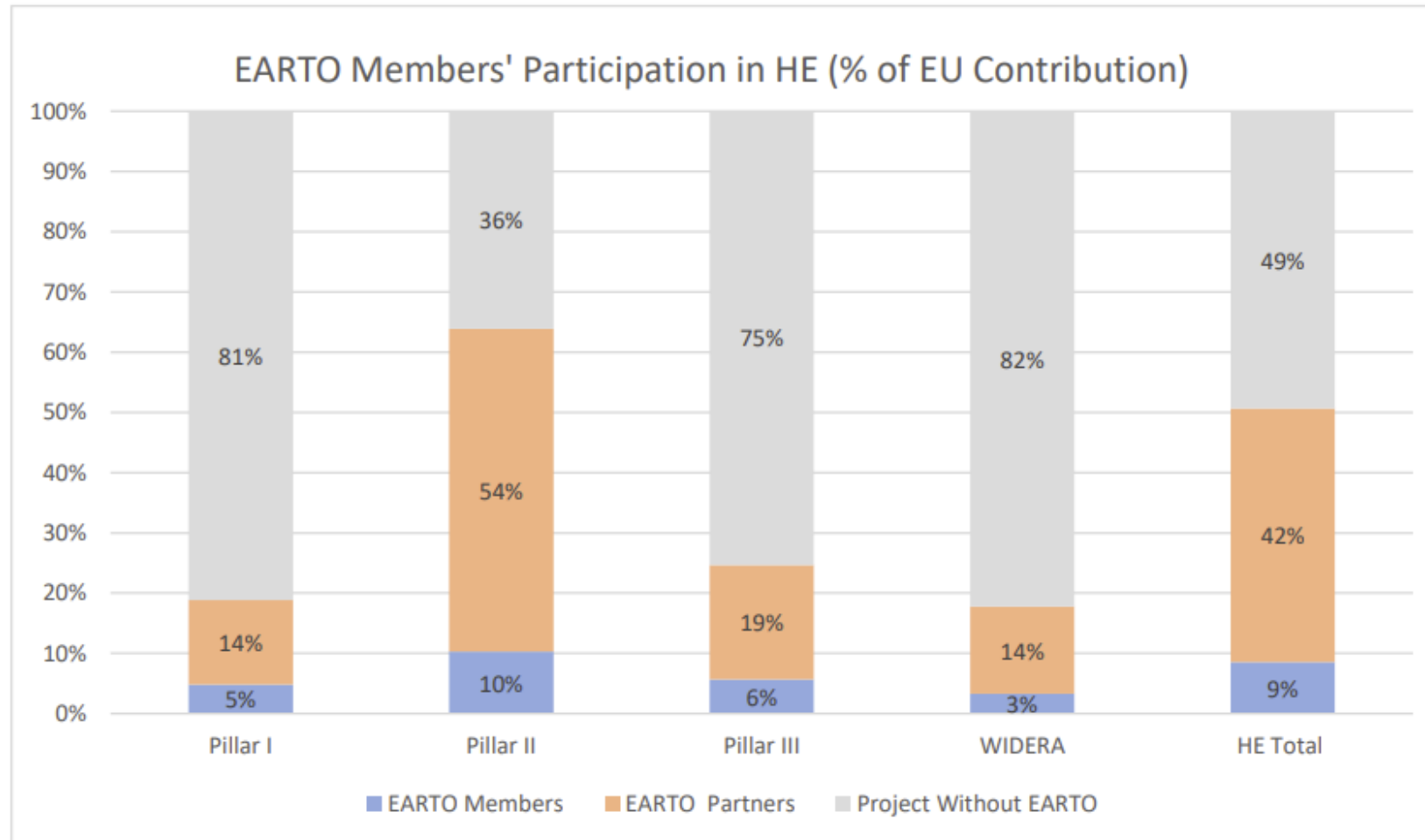


EXT. FINANCE



[cellcius]

Back to Europe: Missing the full RTO potential in pillar 3



“The EIC Pathfinder and Transition programs was a much-awaited instrument for RTOs, especially as an instrument to create or develop deeptech start-ups. Its implementation is however disappointing, leading to low participation of RTOs and their spin-offs.”

Source: [EARTO-Answer-to-EC-Consultations-on-Future-of-RI-FPs-Final.pdf](#);
10/02/2023

Role for RTO's in renewal of economic structure of MS

Requires actions at three levels

RTO level:

- Dedicated Tech Transfer team with specific skills at “public side” with top level commitment
- Involve majority private shareholders from the start and external CEO's (not TNO, more CTO role)

National level:

- Acknowledgement of the of role RTO's in renewal economic structure
- Access to finance: Capital but also Valorisation budget

EU level:

- Make use of full RTO potential
- Visibility for RTO Tech Transfer results and celebrate/communicate successes

Skills for Transformation - How RTOs are getting fit to shape change

Annika Gehrman
Head International HR & Labour Law,
Fraunhofer-Gesellschaft



Part 2– Keynotes



eurac
research

Latest EU Developments

Moderated by Muriel Attané,
EARTO Secretary General

#EARTOAC2023

Digital Europe

Thibaut Kleiner, Director, Policy Strategy and Outreach, DG CNECT, European Commission

(Video Message)



European Innovation Council (EIC)

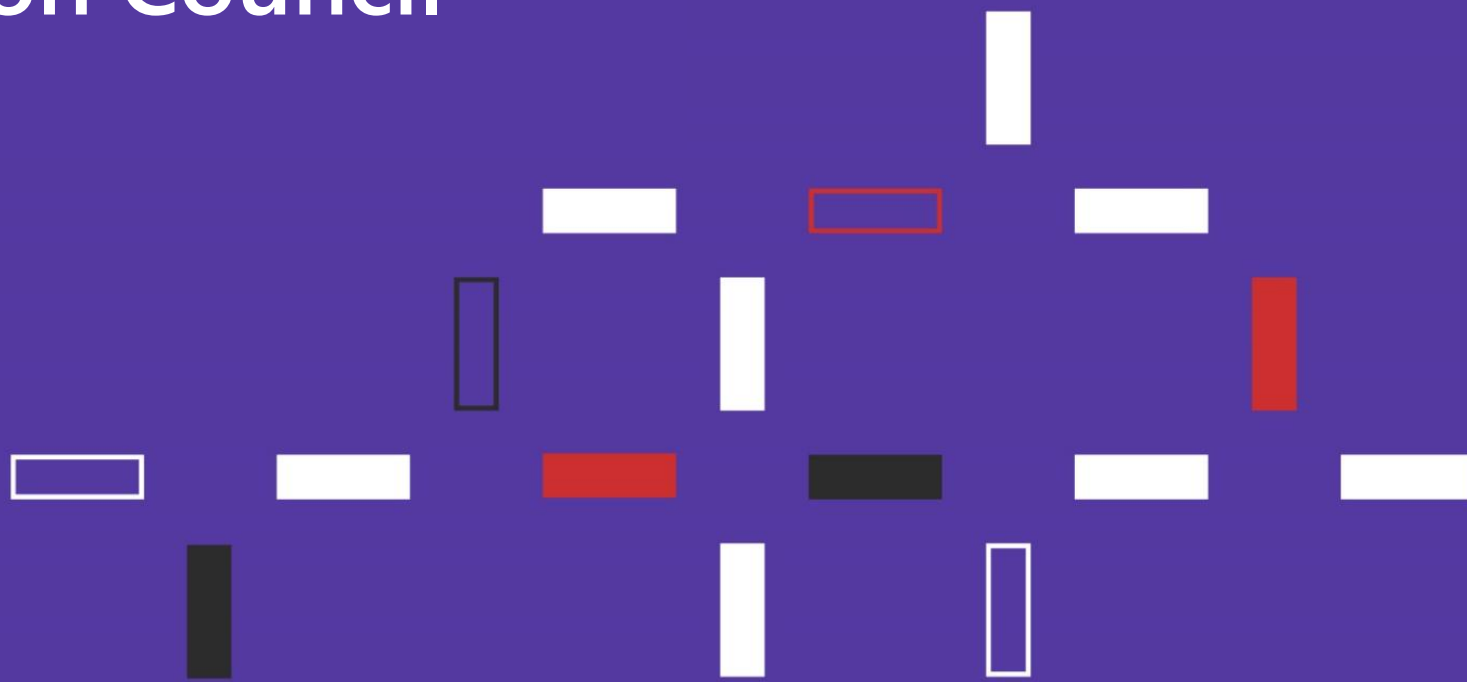
**Špela Stres, EIC Board Member & Assistant
Director, Jožef Stefan Institute**





The European Innovation Council News

Špela Stres, EIC Board member

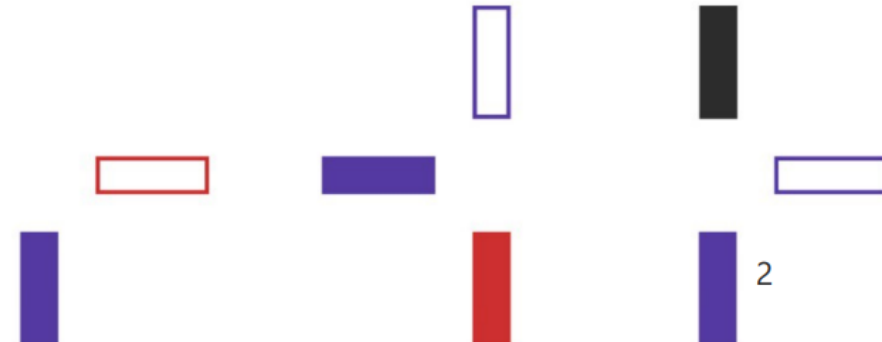


European Innovation Council (EIC) – Europe's most ambitious innovation initiative

European
Innovation
Council



- **Largest early-stage deep tech public investor in Europe** with a budget of **€10 billion**;
- Combination of grants and equity investments that can crowd in 30 to 50 billion other private investments;
- Unique in the world to combine research on emerging technologies with Accelerator for startups, SMEs and scaleups;



EIC main instruments and characteristics



Pathfinder (TRL1-4)

- **For consortia (2+ partners)**
- Early-stage research on breakthrough technologies
- **Grants up to €3/4 million**

Transition (TRL 4-6)

- **For consortia and individual SMEs/researchers (1-5 applicants)**
- Technology maturation from proof of concept to validation
- Business & market readiness
- **Grants up to €2.5 million**

Accelerator (TRL 6-9)

- **For individual SMEs**
- Development & scale up of deep-tech/disruptive innovations by startups/ SMEs
- Blended finance (**grants up to €2.5 million; equity investment up to €15 million or above**)

Backing visionary entrepreneurs

Funding and investments 2021/22

European
Innovation
Council



Implementation: EIC Pathfinder



2021

Open

2022

868 proposals submitted
60 projects selected
€174.4 mil in funding

858 proposals submitted
62 projects selected
€187 mil in funding

Challenges

403 proposals submitted
42 proposals selected
€142.4 mil in funding

Evaluations ongoing (October deadline)

~€167 mil

€316,8 mil in funding

€354,0 mil in funding

Implementation: EIC Transition



2021

EIC Transition

2022

173 proposals submitted for **Open**
57 proposals for **Challenges**
(Medtech & devices; Energy
harvesting & storage)

45 proposals selected
~ €100 million funding

300 proposals submitted for **Open**
46 proposals for **Challenges**

54 proposals selected
~ €100 million funding

Implementation: EIC Accelerator



2021

EIC Accelerator

2022

>5000 short applications (apply anytime)
Open + Challenges (green deal, strategic technologies)

~1900 full applications
(June, October cut-offs)
335 selected for **interview**

164 companies selected
€ 350 million grant funding
€ 642 million investment (EIC Fund)

~ 2500 short applications
Open + Challenges: (strategic autonomy, Fit for 55)

~3309 full applications
(March, June, October cut-offs)
538 selected for **interview**

149 companies selected
€ 330 million grant funding
€ 448 million investment (EIC Fund)

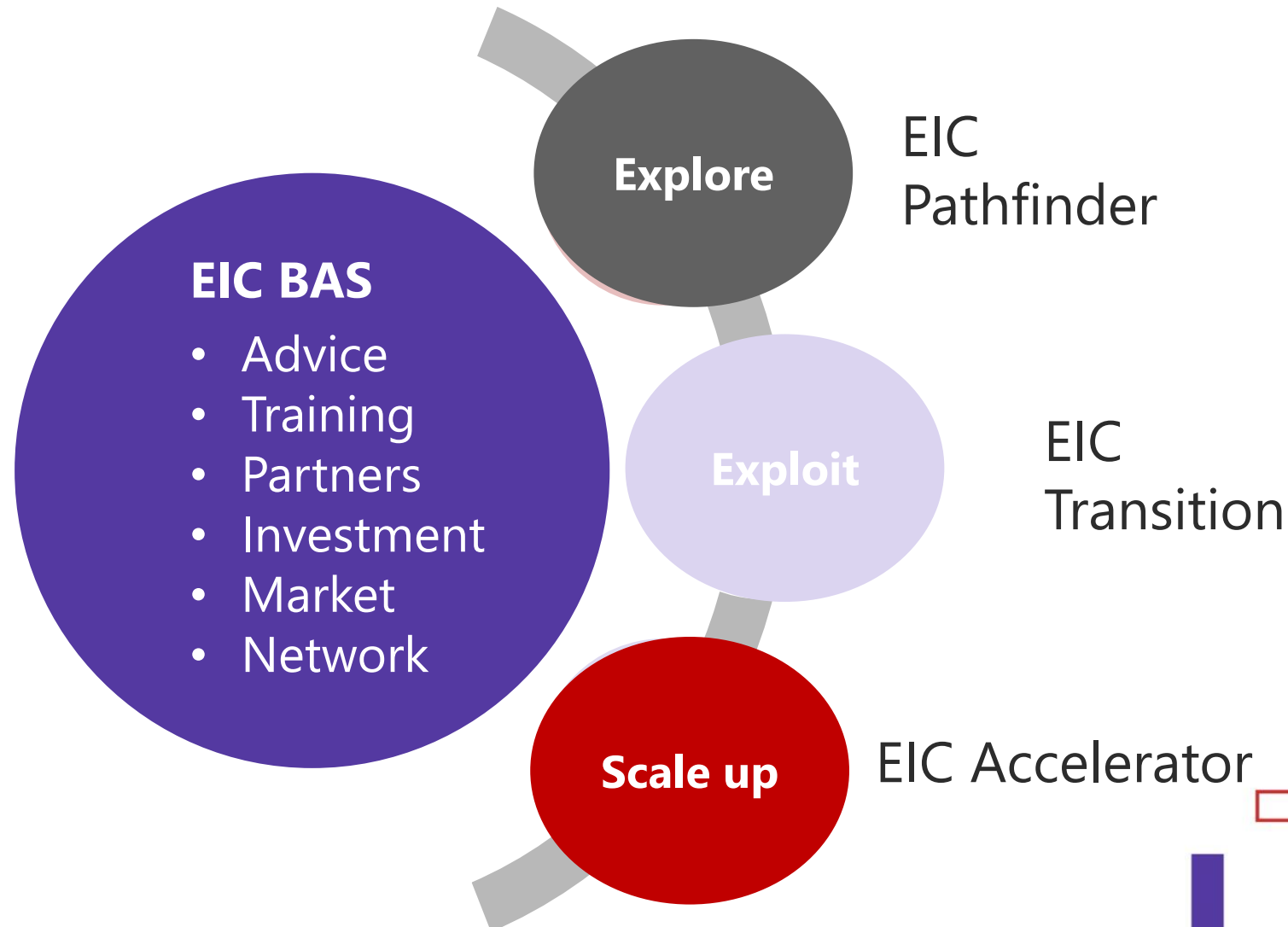
Backing visionary entrepreneurs

Not just about money –
- the system we have built so far

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Innovation
Council



The EIC Business Acceleration Services (EIC BAS)

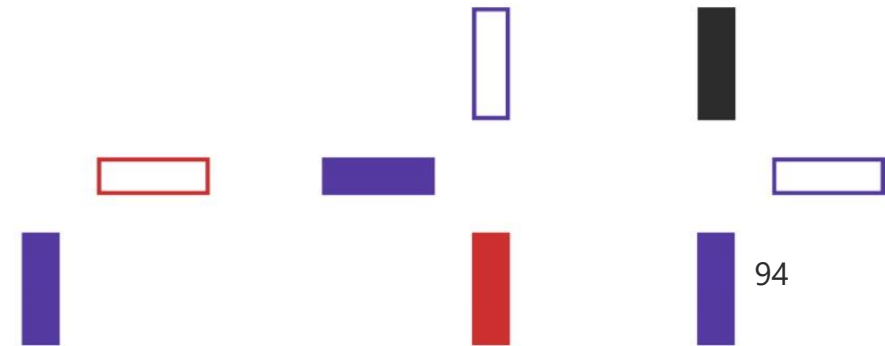


Coaching from EIC Ecosystem Partners



OPEN IN
JUNE

- EIC grantees to receive coaching from other European providers (top European incubators, accelerators, venture builders, research infrastructure, test-beds, pilot plants, regulatory advisors, etc)
- Top partners such as EIT, Collider, Angels Sante, Consilience Group so far
- Soon, a **Catalogue will help to navigate through the offer!**
- Call to become an EIC Ecosystem Partner: Last deadline in December, next DL expected in June 2023



EIC Tech to Market services

for EIC Pathfinder and EIC Transition projects

European
Innovation
Council



OPEN

- **Entrepreneurial courses for innovative researchers**
 - Innovation Discovery Training (one day)
 - Bootcamp for innovative researchers (four days)
 - Pioneer Programme for innovative researchers (four months)
- **Business Model Development and Validation through Design Thinking**
 - Business Idea Validation Bootcamp (three weeks)
 - Business Validation Programme (eight weeks)
- **EIC Venture Building programme (6 months)**

More information and application: https://eic.ec.europa.eu/eic-funding-opportunities/business-acceleration-services/tech-market-programme-t2m_en

Backing visionary entrepreneurs

New approaches in 2023

European
Innovation
Council



Highlights of Other EIC Actions 2023



A new internship scheme

COMING UP
IN Q2 2023

To allow eligible **researchers** (from Pathfinder, ERC, MSCA, RI) to carry out an innovation **internship** in a **hosting company** (EIC, EIT) for 3-6 months.

Pilot support to test EIC innovations for potential clients/ procurers

COMING UP
IN Q2 2023

Consortium to give grants to EIC beneficiaries to test innovations with public or private procurers

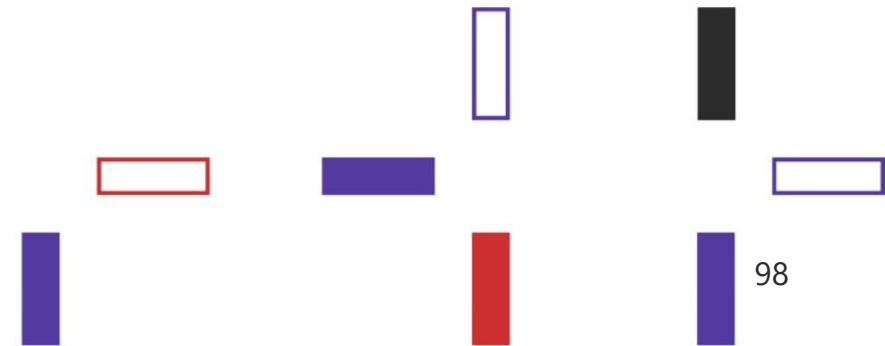
- Grants of 20-60K for EIC beneficiaries to test innovations
- In-kind commitment of procurers for access to facilities, expertise, data etc and preparation of validation report

Overview of EIC IP Provisions



- Included in the EIC Work Programme (Annex 7) and in the Model Grant Agreement.
- Aim to foster the commercialization of promising research results.
- Main elements (in addition to normal Horizon Europe rules) concern:
 - Portfolios
 - Exchange of information on preliminary findings and results
 - Priority to exploitation (e.g. patenting) over publication
 - Rights of EIC inventor

ISSUE ADDRESSED
IN 2022



Revision of the EIC IP provisions



Following discussions with TTO/academic stakeholder organisations, on 28 February the EIC Board has recommended revisions to the **EIC IP Provisions**, namely:

- Clarification of definition of 'EIC Inventor'
- Allow institutions a period to commit to supporting the exploitation of results, in exchange for 'fair and proportionate' returns
- If institution does not commit to exploitation, grant full access rights to the EIC Inventors

The Board also recommended joint work to develop guidance on 'fair and proportionate return', and on performance metrics/KPIs that encourage commercialisation.

→ ... Standard spinoff deal terms?

COMING UP
IN Q2 2023



Backing visionary entrepreneurs

How can RTOs participate

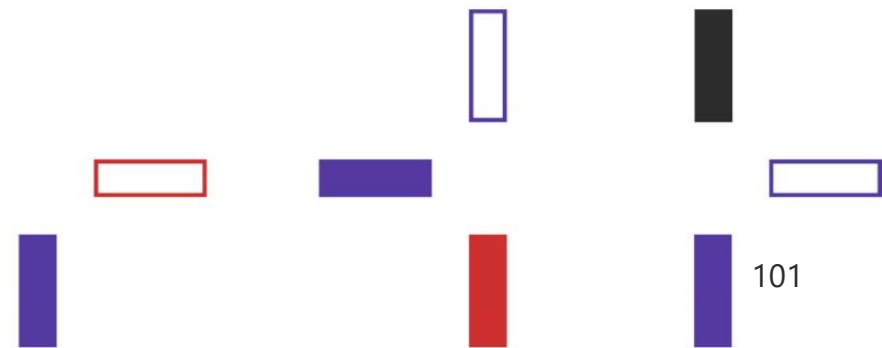
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For multi-disciplinary research teams (including individual applicants for Challenges) to undertake visionary research with the potential to lead to technology breakthroughs

- **Budget: €323 million**
- **Budget: €163 million** for 'Challenges':
 - Clean and efficient cooling
 - Construction digitalisation
 - Precision nutrition
 - Responsible electronics
 - In-space solar energy
- **Technology Readiness Levels 2-4**
- **Grants** up to €4 million for 'Challenge' proposals
- **Eligible applicants:** Consortia (min 2 entities) or single legal entities
- **Deadline for applications:** 18 October 2023.





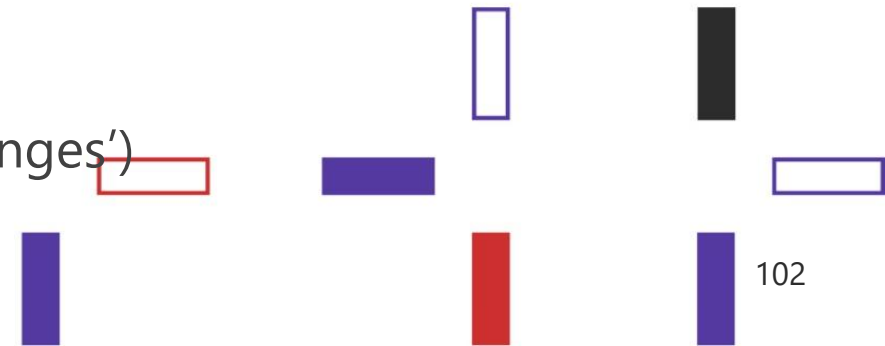
■ Budget: €128 million

- €68 million for 'Open', bottom up calls in any field of technology and application
- €60 million is earmarked for Transition 'Challenges':
 - Micro-Nano-Bio devices
 - Environmental intelligence
 - Chip-scale optical frequency combs

■ Grants up to €2.5 million (or more if justified)

■ Applications

- All year-round open application process
- 12th April and 27th September 2023 (for both 'Open' and 'Challenges')





■ Budget:

- **€612 million** for 'Open', bottom up projects in any field of technology and application
- **€523 million** is earmarked for Accelerator 'Challenges':
 - Biomarkers for cancer
 - Decontamination for pandemic management
 - Energy storage
 - New European Bauhaus
 - Quantum and Semiconductor components
 - Resilient agriculture
 - Space technologies and services

■ Grants up to €2.5 million - Equity up to €15 million (or more if justified)

■ Applications

- All year-round for short proposals. If invited to full proposal, four cut-offs: 11 Jan, 22 Mar, 7 June, 4 Oct 2023

Backing visionary entrepreneurs

EIC is about people

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The EIC Programme Managers

https://eic.ec.europa.eu/eic-communities/eic-programme-managers_en

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Carina Faber

Renewable energy conversion
and alternative resource
exploitation



Samira Nik

Quantum tech and electronics



Isabel Obieta

Responsible electronics



**Antonio Marco
Pantaleo**

Energy systems and green
technologies



Francesco Matteucci

Advanced materials for energy
and environmental
sustainability



Stella Tkatchova

Space systems and
technologies



Iordanis Arzimanoglou

Health and biotechnology



Enric Claverol-Tinturé

Medical technologies and
medical devices



Ivan Stefanic

Food chain technologies,
novel & sustainable food



Franc Mouwen

Architecture engineering
construction technologies

EARTO Member's Participation in EIC



Low participation in FET

- reason: too early stage

EIC Funding opportunities for RTOs

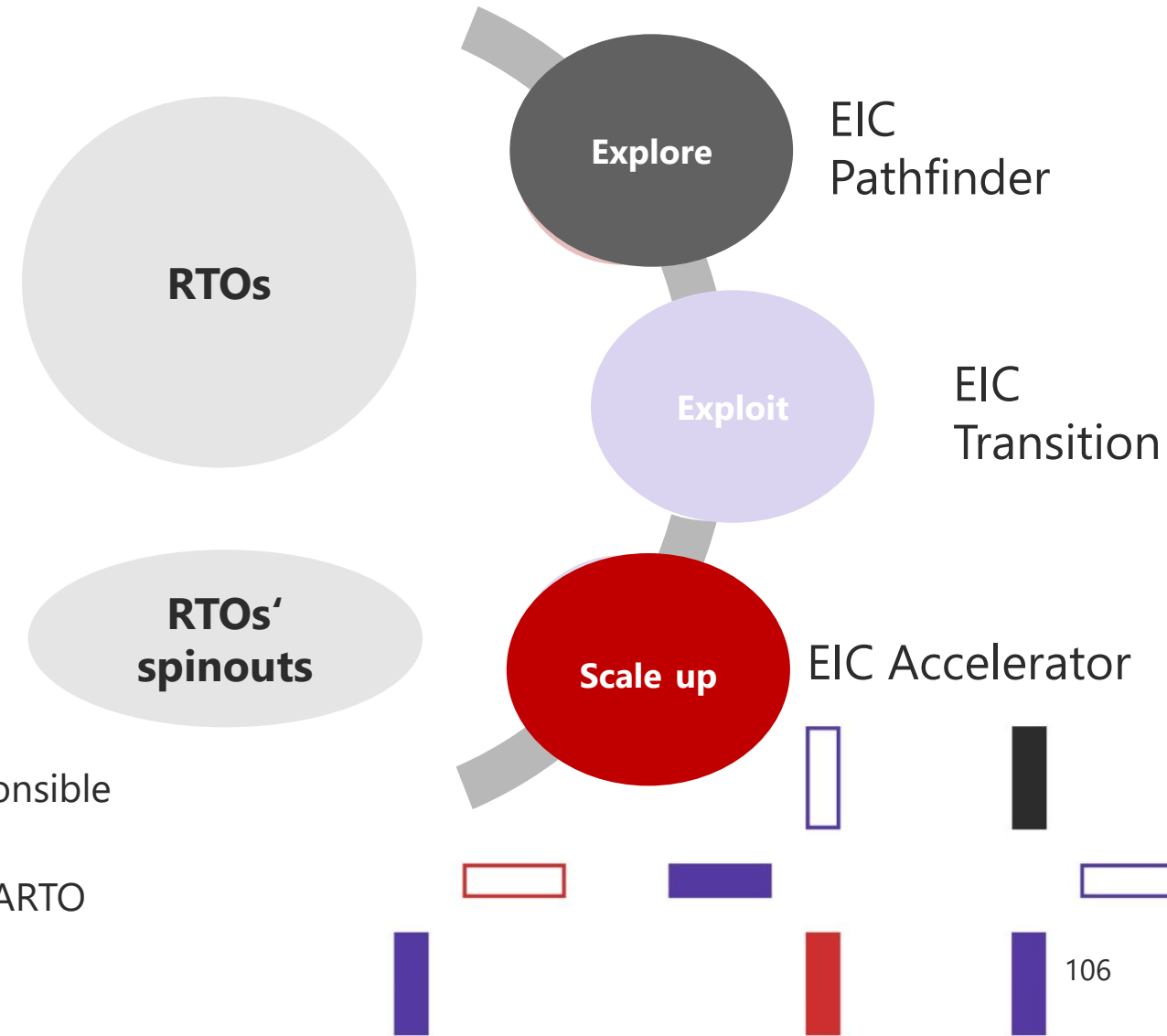
- reorientation of EIC Pathfinder and EIC Transition towards innovation
- **greater relevance for RTOs**
- EIC Accelerator
- **relevance for RTOs' spinouts**



Isabel Obieta

EIC Programme Manager for Responsible Electronics

- previously Technalia (RTO and EARTO member)

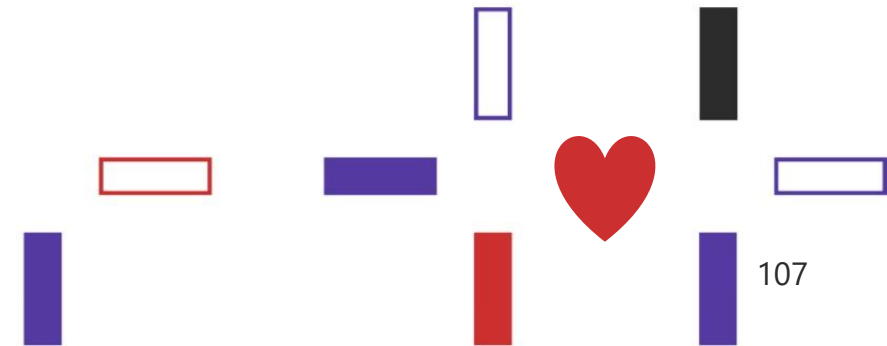


RTOs are key players in the EIC ecosystem



- **RTOs** successfully participate in EIC Pathfinder and EIC Transition projects
- RTO **spinouts** successful in EIC Transition and EIC Accelerator
- RTOs can be a future **source** of EIC **Programme Managers**
- RTOs can apply as **ecosystem partners** for EIC **BAS**
- RTOs can be recipients of EIC **Booster grants** (to be launched in 2023)
- *... and many others*

EIC the beating heart of innovation

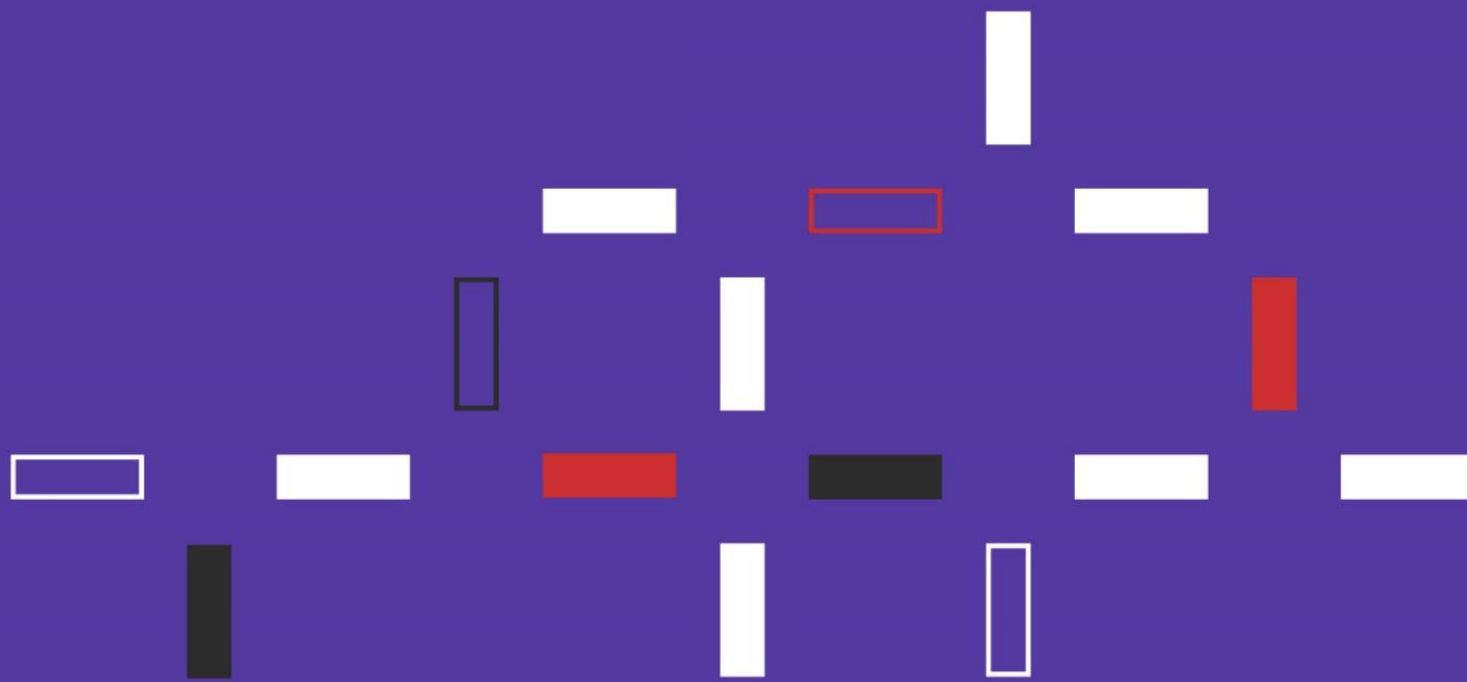




Thank you!

Spela Stres, EIC Board member

EIC the beating heart of innovation



Latest EARTO positioning on EU RD&I Framework Programmes

**Muriel Attané,
EARTO Secretary General**



EARTO Answer to EC Consultation on FPs



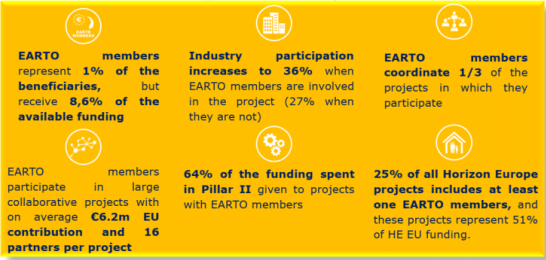
EARTO Answer to the EC Consultation on the past, present and future of the European Research & Innovation Framework Programmes 2014-2027

10 February 2023

Introduction

RTOs are very pleased with the opportunity offered by the EU Framework Programmes to contribute to the European Research Area by developing pan-European excellent and impactful collaborative applied research. In turn, EARTO Members have been very active participants in EU RD&I Framework Programmes for the last decades. In [EARTO last Horizon 2020 analysis](#) as well as in our [new analysis for Horizon Europe](#), the share of EU grants to Research & Technology Organisations (RTOs) is consequently larger than RTOs' share in the total number of FP participants. In both programmes, RTOs have a leading position and driving role in FPs' multi-disciplinary, large and complex collaborative projects. FP projects where RTOs are active have a larger participation from industry than projects without RTOs. Those trends are even more predominant in the current FP than in the last one as shown in the summary below. In Horizon Europe as in H2020, RTOs have a large share of projects for which they are coordinators.

(eCorda data November 2022)



Chapter 1 – Strategic Issues for Horizon Europe's Mid-Term review

In preparation of the mid-term review, EARTO would like to point out the following issues to be further analysed in the upcoming two years:

The need of proper analysis of the FPs evolution:

EARTO calls on the European Parliament ITRE Committee to launch with the EPSC a new study on the evolution of FPs. Indeed, the [European Parliament Research Services' in-depth analysis done in 2017](#) was of great value for planning the changes needed in the next FP. Today, there is a clear need to properly and independently analyse:

- 1) The social and economic effect of the FPs' last structure change, from input to impact (i.e. merging ex pillars 2 (Industrial competitiveness) and 3 (societal challenges) of Horizon 2020 in a single pillar with a very large scope and number of objectives, new pillars and new instruments),
- 2) The proportionality between single beneficiary instruments vs multi-beneficiaries (i.e. collaborative projects) and,
- 3) The proportionality between investment and impact coming from the instruments in the different TRL range. Such a study would also provide valuable inputs to the upcoming EC High Level Group for Horizon Europe Mid-term review/FP10 Preparation.



EARTO Members' Participation in Horizon Europe: Analysis from EC eCORDA data from November 2022

10 February 2023

This memo provides information on EARTO Members' Participation to Horizon Europe (HE) so far, with comparison to Horizon 2020 (see [EARTO H2020 analysis](#)). The data used for this analysis has been gathered from the European Commission eCORDA database from the beginning of Horizon Europe until November 2022. The EARTO Partners category gathers the other participants in the projects in which EARTO members are involved.

1. EARTO members strongly contributing to Horizon Europe		
EARTO members received 8,6% of HE EU funding While EARTO members only represent 1,1% of all HE beneficiaries Respectively 8% and 1% in H2020	Projects involving at least one EARTO member received 51% of HE EU funding Respectively 44% in H2020	25% of all HE projects includes at least one EARTO member Respectively 15% in H2020
2. EARTO members fostering industry participation in Horizon Europe projects		
The average industrial involvement in HE projects increases to 36% when EARTO members are involved in the project from 27% when they are not part of the consortium Respectively 34% and 24% in H2020		
3. EARTO members involved in large multi-stakeholders' collaborative projects		
HE projects with EARTO members receive on average €6,2m of EC funding in HE While the average EU funding per project in HE is €3m Respectively €4,8m and €1,7m in H2020	HE projects with EARTO members count 16 partners on average per project in HE While the overall average in HE is 8 partners per project Respectively 12 and 3 in H2020	
4. EARTO members taking responsibility in Horizon Europe		
Each EARTO member receive on average €604k of EU contribution per project in HE While the average EU contribution per participation is €394k Respectively €577k and €384k in H2020	EARTO members coordinate 7,7% of all HE projects Respectively 4,8% in H2020	EARTO members coordinate 1/3 of all HE projects in which they participate Same coordination rate in H2020
5. EARTO members greatly contribute to Horizon Europe Pillar II		
The Top 5 beneficiaries in terms of EU contribution are EARTO Members in the Pillar II EARTO members count 5 of the top 10 coordinators in terms of EU contribution While there are 10,815 beneficiaries in total in this pillar	54% of the projects in the Pillar II include at least one EARTO member Those projects received 64% of the EU funding available in this pillar Pillar II represents 69% of HE funds spent so far	10.3% of Pillar II funding is received by EARTO members While EARTO members represent 1% of the beneficiaries in Pillar II



EARTO Feedback on EARTO Members' Experiences with Lump-Sums Projects within Horizon Europe

10 February 2023

EARTO members are very active participants in the FPs, especially in complex and large collaborative applied RD&I projects. In turn, EARTO is a strong supporter of the European Commission's efforts towards simplification of the EU R&I Framework Programmes (FPs). However, all simplifications efforts should cover the full project life-cycle – from application to audit and benefit all – from the EU Commission to the projects and beneficiaries. In this context, EARTO members are actively participating in the current Horizon Europe lump-sums projects and report many implementation issues which need to be tackled before envisioning to further extend the use of such financial instrument.

Premature and Unsuitable for Collaborative RD&I Projects

The extension of lump-sum funding from the Horizon 2020 pilot to the Horizon Europe projects was not based on a full evaluation covering the whole life-cycle of the projects. While we understand the use of lump-sums is a simplification for the EC services, EARTO believes that the broader use of lump-sum funding is premature, especially for large collaborative applied research projects. Indeed, our members are experiencing a lack of genuine collaboration among partners in large projects working with lump-sums due to too many work packages and isolated task responsibilities aiming to minimise risks. EARTO calls for caution on widening the use of lump-sums in Horizon Europe Work programmes under the next Strategic Plan 2025-27.

More Guidance to Coordinators Needed

In the current implementation of lump-sums, EARTO welcomes the new EC approach to also finance not-finalised work packages at the end of a project. However, beneficiaries and projects' coordinators need sufficient written guidance regarding: 1) the necessary circumstances to be demonstrated so a work package would fall under this new approach and 2) how the EC will assess the percentage of fulfilment of said work package. Moreover, to ease the work of the coordinators, the EC could, under such new approach, clearly attribute the payment of a work package with the percentages to the different beneficiaries involved (i.e. not leaving it up to the consortium to distribute the funding among them). This way the coordinator would have clear specification which amount each beneficiary gets for a specific work package. This would avoid disputes among consortia members.

Higher Success Rates Needed to Align with Higher Ex-ante Costs Incurred during Proposal Making

In addition, EARTO would like to ask for a simplified proposal procedure for lump-sums to align costs versus benefits in proposal making (i.e. as higher success rates are not demonstrated for lump-sums proposals). Experiences of our members clearly show that lump-sum proposals are much more burdensome (e.g. increase length of the proposals) bringing to a higher level the ex-ante costs of proposal making for lump-sums projects.

Lump-sums Dashboard Tool for Evaluators To be Taken Down for Next Calls' Evaluation

Furthermore, the new [Lump-sum dashboard](#) developed by the EC for evaluators is completely inappropriate and should be taken down from the EC website while pending improvements. It currently instructs experts' evaluators to request specific justification regarding personnel costs in proposals in case the 80 percentile is reached or exceeded. The amounts used by the EC in this dashboard are currently checked by different stakeholders including EARTO and have been found completely inaccurate. EARTO members' feedback is clear: the average median amount is far too low (e.g. already demonstrated by German, Dutch or Belgium research performing organisations). Therefore, the EC should quickly modify its instructions to experts' evaluators and update the amounts of the dashboard to the average employers' gross personnel costs. Furthermore, the time span used is too wide as the dashboard uses costs for almost 10 years, which will be inevitably outdated as reference-value. Against the background of very high inflation, reference-values become outdated rather quickly and should therefore be adapted regularly. Finally, the dashboard data clearly need to be quality assured along a defined process in order to prevent reference data to become outdated or wrong and therefore would lead to unfair and unequal treatment of beneficiaries by evaluators.

The following table summarises the issues collected by our members involved in lump sum projects:

EARTO Inputs to Horizon Europe Strategic Plan 25-27



EARTO Inputs on RD&I for Civil Security for Society (Cluster 3)

1. Keep focusing HE Cluster 3 on RD&I for Civil Security for Society
2. Alter entry barriers to calls under Cluster 3
3. Increase citizens’ involvement in RD&I security activities
4. Expand Cluster 3 to capacity development topics
5. Better balance TRLs
6. Ensure the stability of HE Cluster 3 budget



EARTO Inputs on Healthcare Research and Innovation

1. Reintegrate Advanced Enabling Technologies for Healthcare in Horizon Europe
2. Create a Bridging instrument for Short, Fast and Innovation Kick-starting Projects with SMEs
3. Increase the impact of EIC Transition in Healthcare
4. Better integrate Healthcare challenges in Pillar 2 - Cluster 4 - Digital, Industry and Space programme
5. Improve Coordination between Horizon Europe, Digital Europe and EU4Health programmes



EARTO Members' participation in Horizon Europe

(eCorda data November 2022)



EARTO members represent **1% of the beneficiaries**, but receive **8,6% of the available funding**



Industry participation increases to 36% when EARTO members are involved in the project (27% when they are not)



EARTO members coordinate 1/3 of the projects in which they participate



EARTO members participate in large collaborative projects with on average **€6.2m EU contribution** and **16 partners per project**



64% of the funding spent in Pillar II given to projects with EARTO members



25% of all Horizon Europe projects includes at least one EARTO members, and these projects represent 51% of HE EU funding.

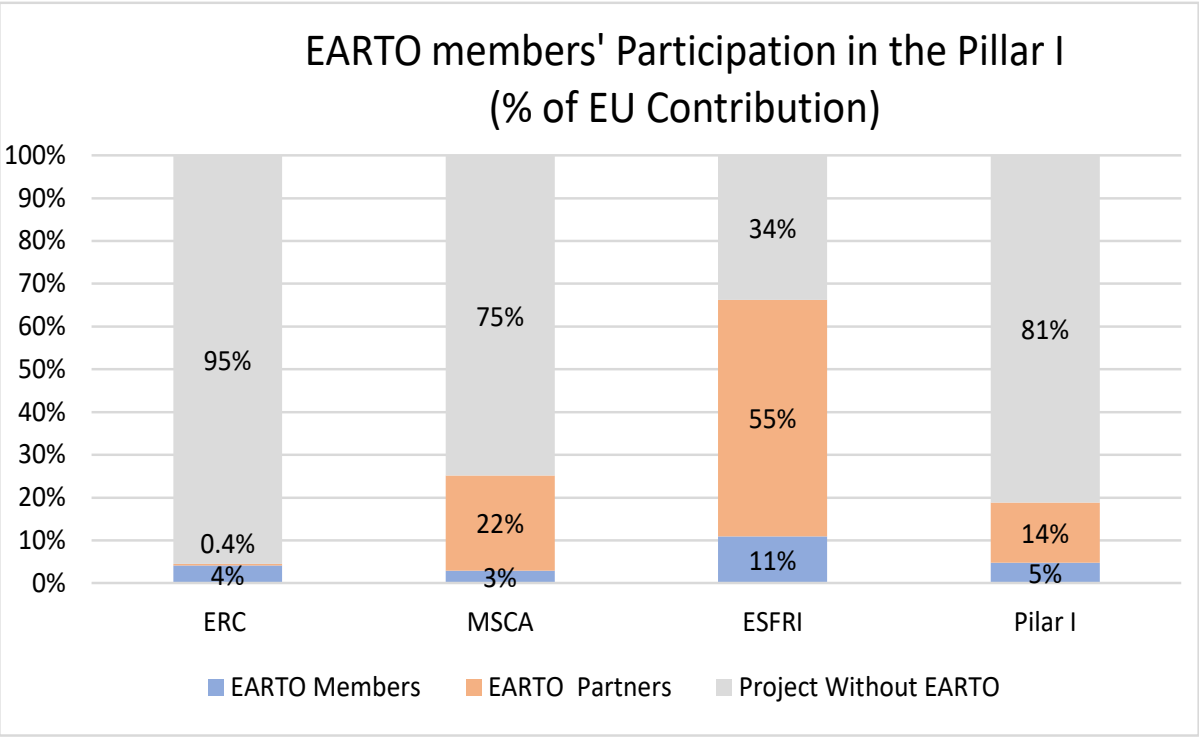
Strategic Issues for HE Mid-Term review

- **The need of proper analysis of the FPs evolution as done by the European Parliament Research Service in 2017**
- **Instability of the RD&I Budget in the Multi-Financial Framework**
 - Negotiation of the budget every year within the MFF and the Framework Programme
 - Pressure to re-allocate the FP budget to new top-down EU policies looking for budget without bringing additional funds
- **Increasing distance between the implementing Agencies & the EC policymaking's services**
- **Synergies between EU Funding Programmes having RD&I components**
 - Creation of a streamlined pathway from research to market between the various programmes & instruments
 - Synergies Mapping Tool
 - More visibility between the programmes through single database
 - Do not add layer of complexity for proposal submission and project implementation



Looking at HE Pillar I

Overview of EARTO Members' Participation in Horizon Europe Pillar I



(eCorda data November 2022)

Mobility of Researchers

Avoid that mobility instruments for researchers not effectively implemented by RD&I actors because employment regulations that hinder their participation

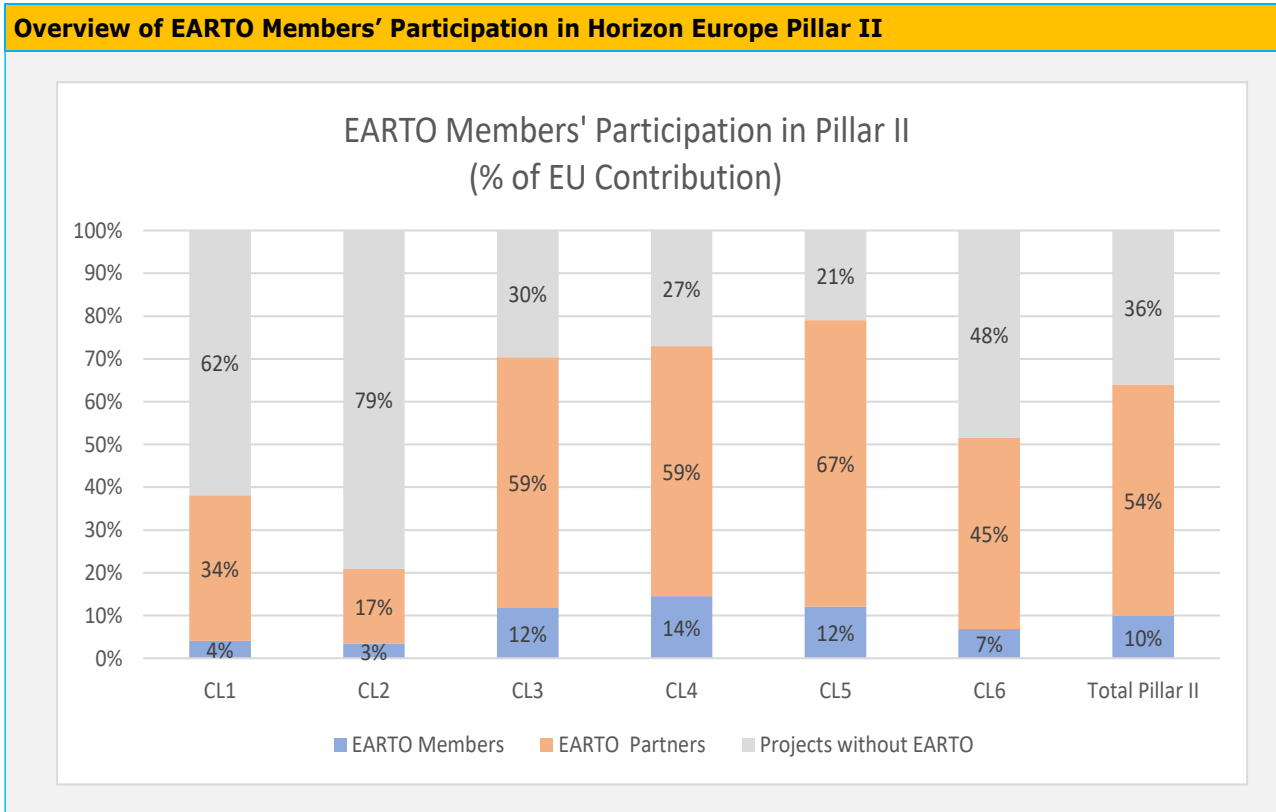
Research Infrastructures

Excess of partners, administrative burden and call for maintain the integrative activities

Looking at HE Pillar II

Pillar II Key Figures:

- The Projects in which EARTO Members are involved represent 64% of the EU Contribution to Pillar II
- EARTO Members received 83% of the EU Contribution in HE from the Pillar II



(eCorda data November 2022)

Balance of TRLs levels to allow Proper Portfolio Management

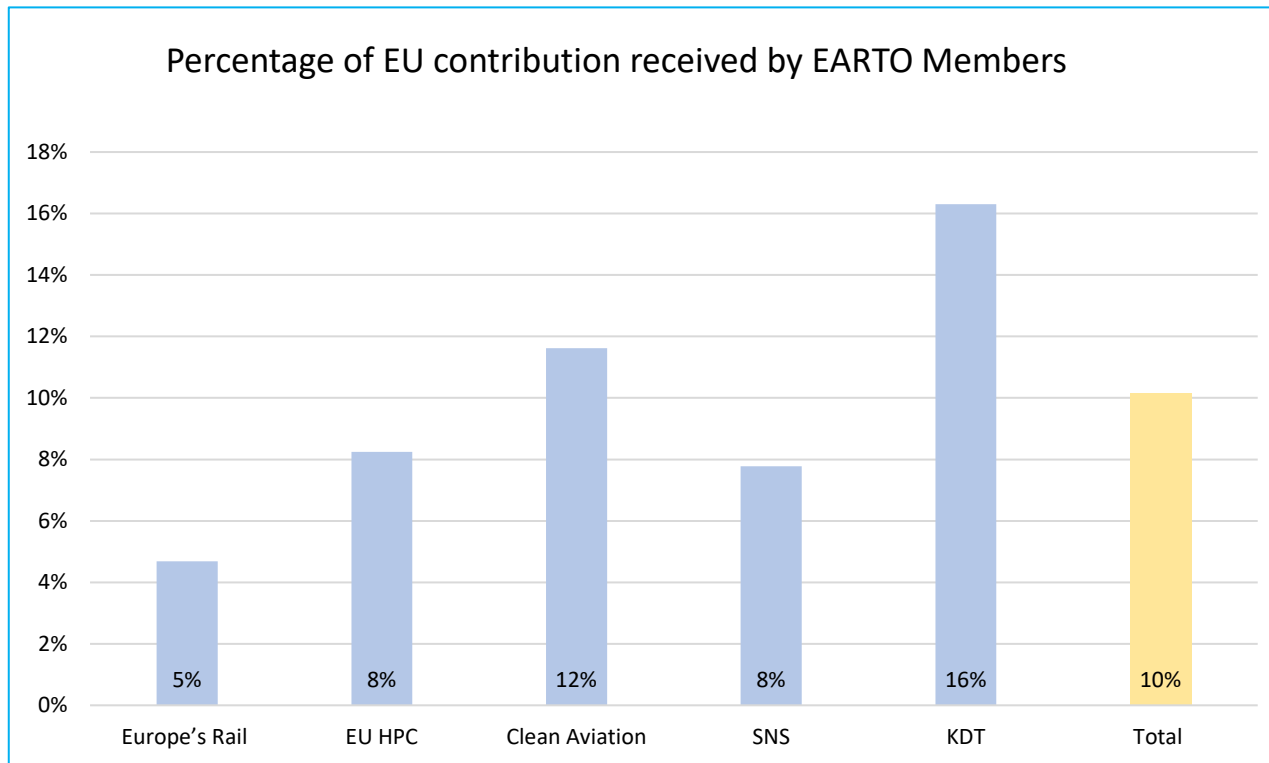
Balance between Smaller vs Large Collaborative Projects

Launching New Pilots on Technology Infrastructures

- Welcome the upcoming Advisory Group on TIs
- Waiting for the launch of new Tis pilots following the Pilot on aeronautics

In HE Pillar II – EU Partnerships

EARTO Members' Participation in Pillar II Institutionalised Partnerships (Joint Undertakings, JUs)



Key Figures:

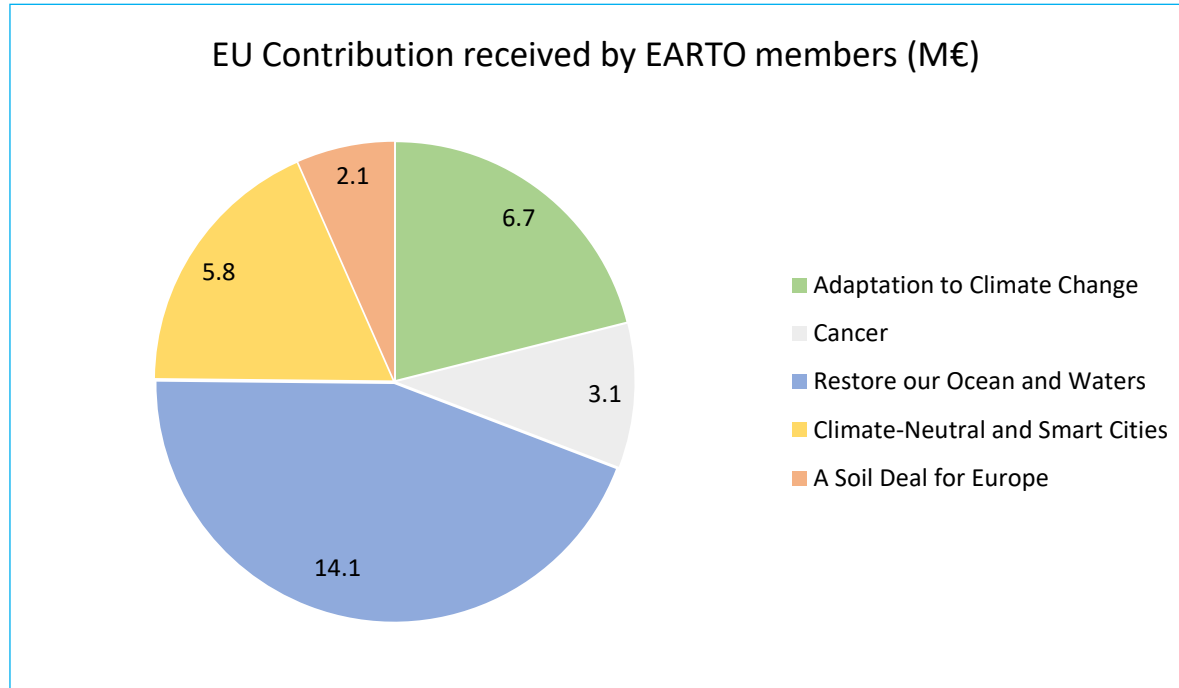
- 5 institutionalised European partnerships (JUs) in eCorda data (out of 11)
- EARTO Members represent 10 % of the Funds allocated to EU institutionalised Partnerships (€116 M out of €1.1 bn)

Evaluation of the EU Partnerships:

- In some clusters, a better balance between co-funded and co-programmed partnerships should be aimed for.
- In the partnerships that require co-funding, the known problem of the organisations in Member States that do not participate in the co-funding is still present in the current FP.
- In new SBA for JUs, every JU still has their own funding mechanisms and rules for participation.

In HE Pillar II – EU Missions

EARTO Members' Participation in Pillar II EU Missions



Key Figures:

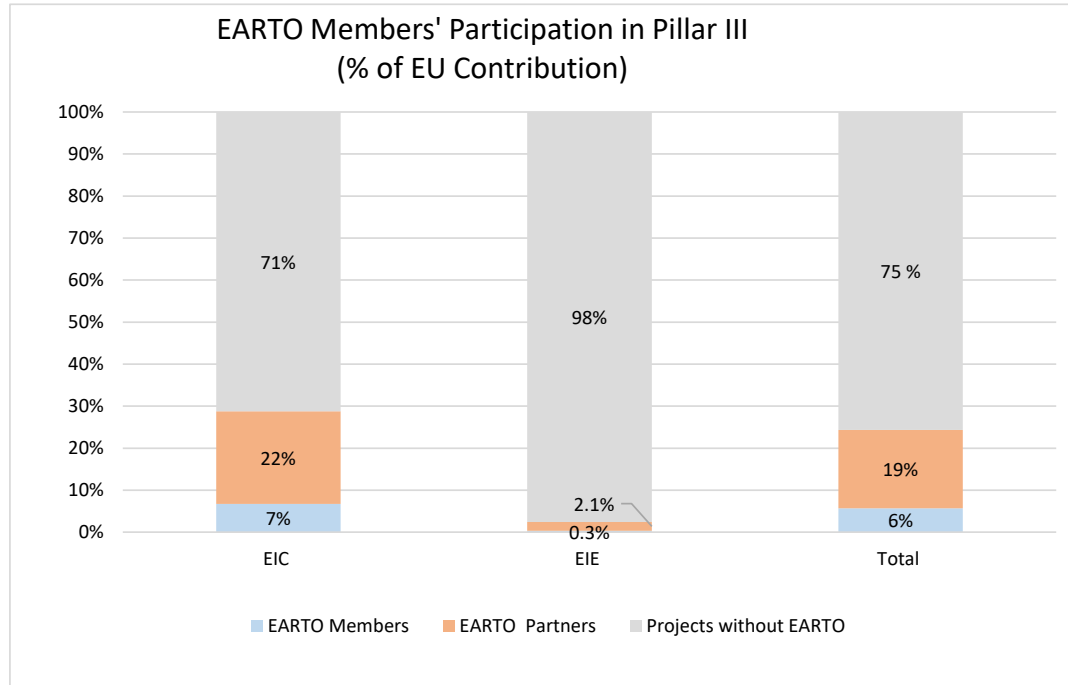
- EARTO members received 10,3% of total EU Contribution in the Pillar II but 5,9% of the total EU Contribution to EU Missions (funded under the Pillar II).

Evaluation of the EU Missions:

- Delay = unclear impact.
- First calls seem to be:
 - 1) Financing the implementation of already existing solutions by regions and cities which could very well be financed by the structural funds,
 - 2) Or looking at the coordination of efforts that could be better done by already existing instruments avoiding unnecessary duplication of instruments, such as the EU partnerships.
- Best to be forgoing the start of any new mission under the next Strategic Plan 2025-27 and taking the time to remodel the current missions' governance to clarify the expected role and impact.

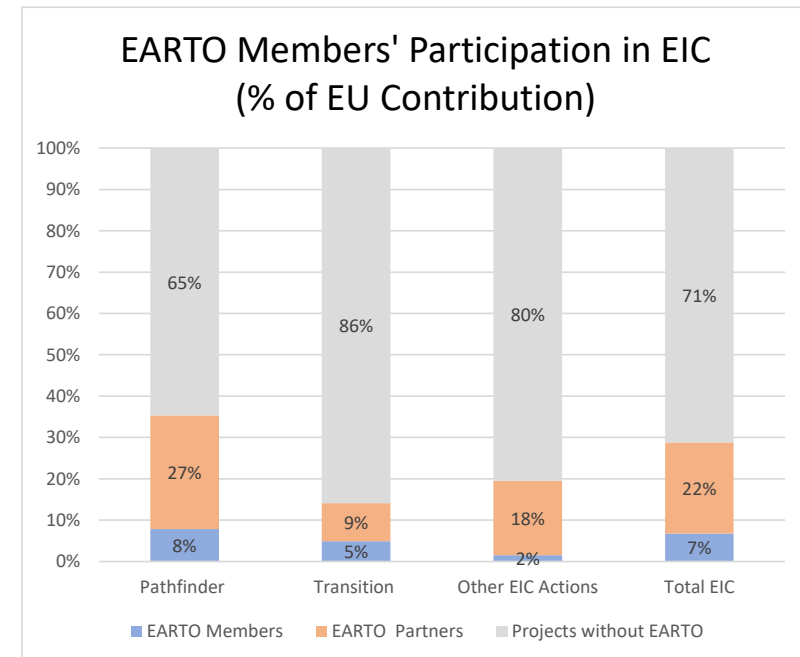
Looking at HE Pillar III

Overview of EARTO Members' Participation in Horizon Europe Pillar III



**Due to the delay occurred in EIC funding these figures do not include the accelerator*

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European Innovation Ecosystems

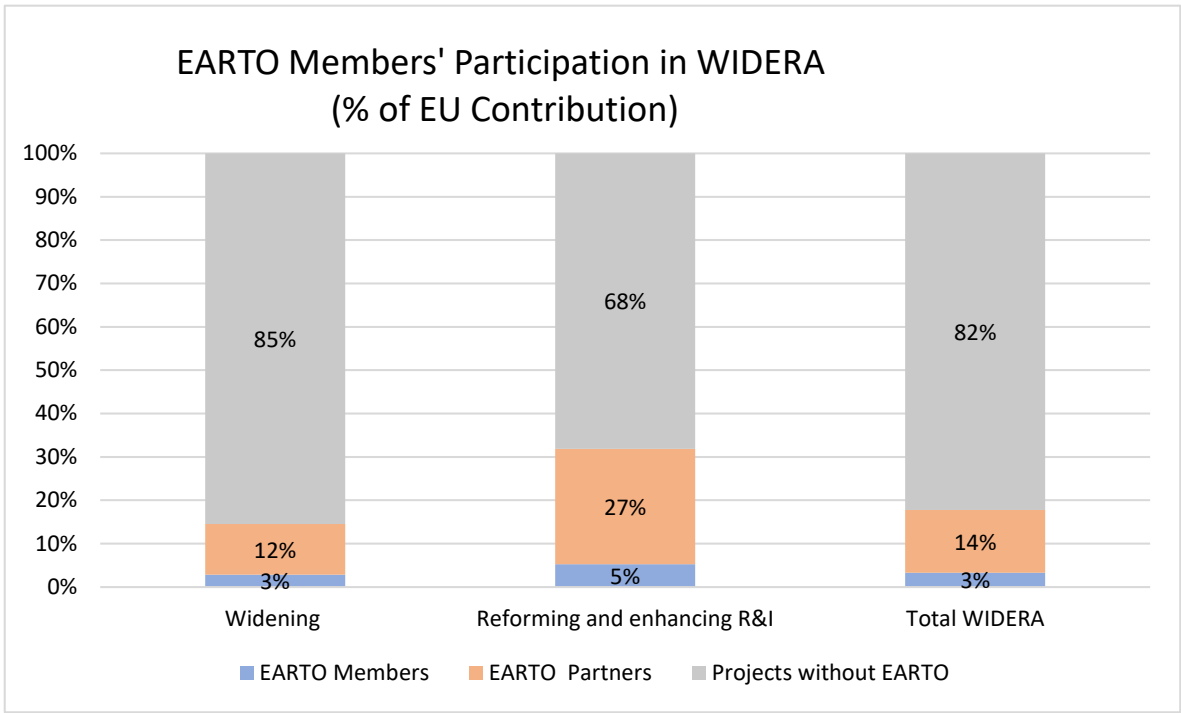
Neglect the role of research and technology infrastructures to support and orchestrate research and innovation ecosystems

European Innovation Council

1. Intellectual Property Provisions issues
2. EIC Pathfinder & Transitions difficulties: balance between "radically new technology" and "sufficient evidence" / Link to previous EU funds

Looking at HE WIDERA

Overview of EARTO Members' Participation in Horizon Europe WIDERA.



According to the Horizon Europe regulation, EARTO has members in the following Widening countries: Croatia, Cyprus, Greece, Lithuania, Poland, Portugal and Slovenia.

(eCorda data November 2022)

Evaluation of the Widening Activities

1. Further look needed at funding schemes aiming to help the capacity-building of the research institutions based in widening countries.
2. Hop On instrument needs reconsideration.

FPs' Simplification: A Non-evidence for Beneficiaries

- 1. Annotated Model Grant Agreement (AGA):** beneficiaries are signing grant and consortium agreements without an up-to-date AGA
- 2. Use of the lump-sums (LS):** Several issues regarding the implementation of LS in HE which is the subject of a Paper written by EARTO's WG Financial Experts
- 3. Increasing number of requirements for proposals** which increases the burden in project proposal preparation
- 4. Technical shortcomings of the Funding and Tenders Portal:** There have been more problems related to IT related functioning within Horizon Europe calls than in the last calls of Horizon 2020
- 5. Quality of the Evaluation:** The quality of Evaluation Summary Reports (ESRs) has been a recurrent issue over the last FPs + New blind evaluation pilot concerns
- 6. Quality of the support from Agencies:** The level of support that coordinators receive from the agencies during the post-award phase needs to be streamlined between the different Executive agencies



EARTO Feedback on Lump-Sums within Horizon Europe



EARTO Feedback on EARTO Members' Experiences with Lump-Sums Projects within Horizon Europe

10 February 2023

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EARTO - European Association of Research and Technology Organisations
Rue Joseph II 36-38, 1000 Brussels | +32-2 502 86 98 | eartho@eartho.eu | www.eartho.eu | BE0465567732 - RPM Brussels

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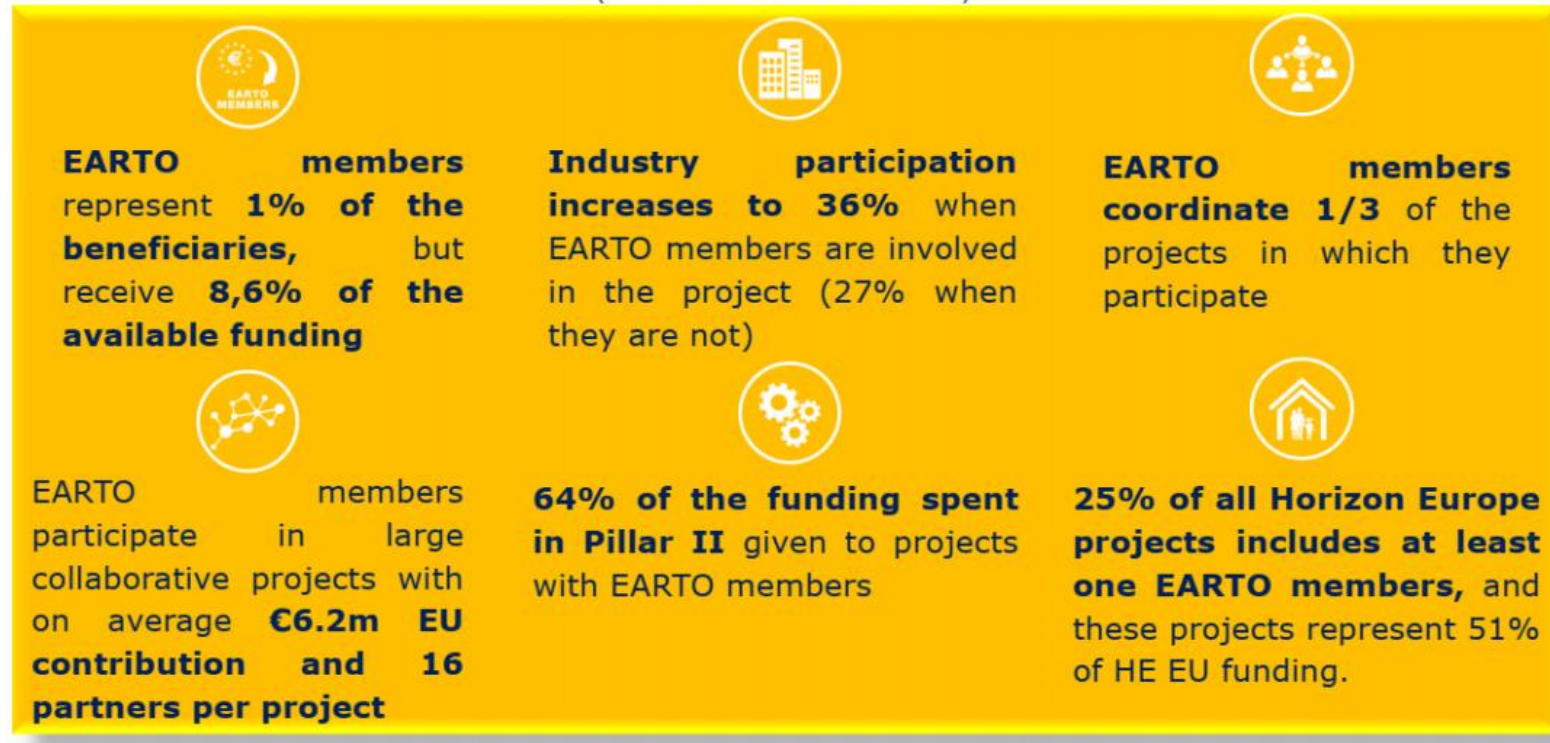
Main issues raised:

1. Premature and Unsuitable for Collaborative RD&I Projects
2. More Guidance to Coordinators Needed
3. Higher Success Rates Needed to Align with Higher Ex-ante Costs Incurred during Proposal Making
4. Lump-sums Dashboard Tool for Evaluators To be Taken Down for Next Calls' Evaluation



EARTO Members' participation in Horizon Europe

(eCorda data November 2022)



**Question for next years:
Will RTOs maintain such good results?**

FP10 Preparation

Year	2023			2024			2025	
Presidency	Sweden		Spain	Belgium		Hungary	Poland	Denmark
H2020 Ex-post Evaluation	Submission of the draft SWD on H2020 Evaluation to RSB* and opinion	EC consultation synopsis report	Evaluation SWD on H2020 ex-post evaluation	Presentation and discussion Council and EP H2020 Evaluation	E U E L E C T I O N S	Evaluation new EU Commissioner for Research		
Horizon Europe Mid-term	EC report on the approach to Missions and Partnerships		Results EC Studies on Horizon Europe mid-term	Opinion by the RSB on the draft SWD on Interim Evaluation of Horizon Europe		Publication of the SWD on Horizon Europe Interim Evaluation		
	ERAC report on mid-term			Horizon Europe Strategic Plan 2025-27				
FP10 Preparation	Call for expressions of interest for the High-Level Group (HLG) H2020 evaluation and HE mid-term evaluation for FP10 (Lamy2)			Work of the High-Level Expert Group +ERAC Draft Opinion on the next FP10			Publication of the HLG report on the future of the Framework Programme	EC Communication adoption on FPs’ future



EARTO October Events on 11 October 2023

13.30 - 16.00, Brussels

EARTO Policy Event 2023

The 10th edition of the EARTO Policy Event will take place on 11 October 2023 in Brussels. The event aims at gathering representatives from all over the world (RTOs, EU institutions, industry as well as other key R&I stakeholders).

EARTO Innovation Awards Ceremony 2023

The 15th edition of the EARTO Innovation Awards Ceremony will also be organised on 11 October 2023 in Brussels. As every year, a wide range of RTOs' work will be presented through our two categories of innovations: "Impact Delivered" and "Impact Expected".

***** SAVE THE DATE! *****

11 October 2023

13.30 – 16.00





eurac
research

**Thank you for
attending the EARTO
Annual Conference
2023 !**

Enjoy your lunch!

12.30 – 14.00

Bolzano taxi service: <https://radio-taxi.it/bolzano/>

Tel : 04.71.98.11.11



OpenAir - No password needed

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