

# A Manifesto for Early Career Researchers

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UNIVERSITIES 14 JUN 2022 | 🔒

## Manifesto seeks to support young researchers in Europe **nature**

By Rachel Magee

## Manifesto to save 'lost generation' of researchers

14 Jun 2022 | News

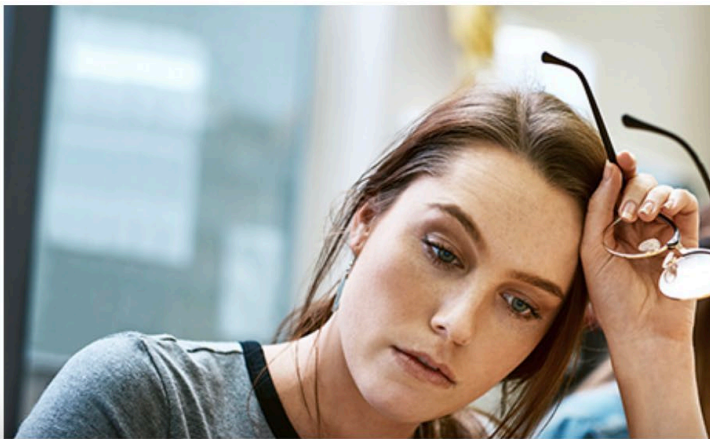
-wide call

[nature](#) > [career news](#) > article

CAREER NEWS | 18 October 2022 | Correction [21 October 2022](#)

## A road map aims to improve the lives of junior scientists in Europe

University associations, legislators, students and other stakeholders release a declaration on ways to recruit and retain early-career researchers in academia.



and press

...the story  
of Rosalind  
Franklin  
(1921-1958)  
and her  
contribution  
to the  
discovery of  
DNA...

...But also a  
tribute to  
everyone  
who works  
in science  
without  
receiving  
their due  
laurels!

[...] a kind of collective action ...

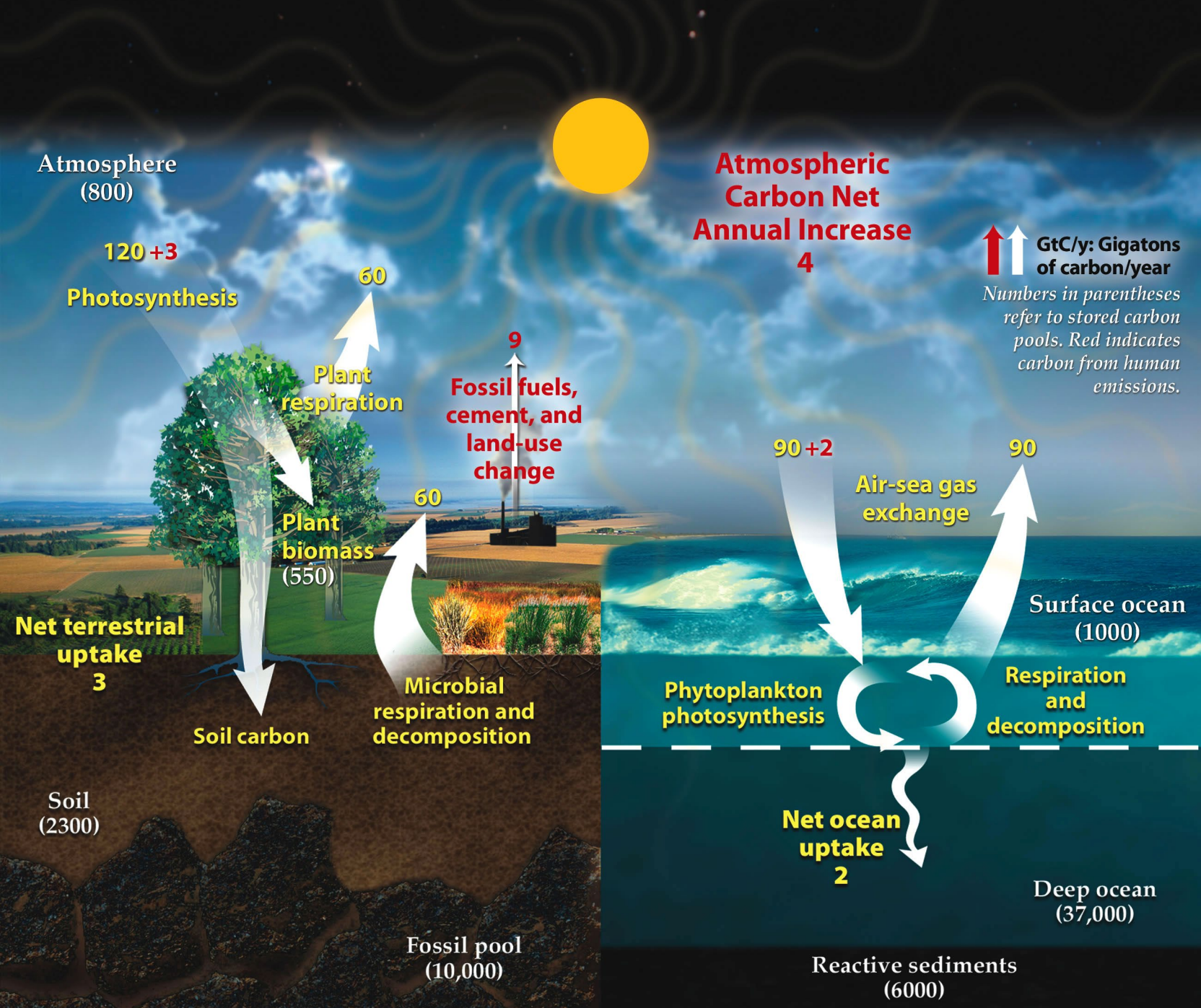


Governing **doctoral training** and *research careers* ,  
**By** addressing persistent and *emerging challenges*  
affecting **young researchers and future generations**

*Towards a new dialogue for the coming years...*

5 September - 21 November 2015 | NOEL COWARD THEATRE





## How James Webb is able to see back in time



Source: Nasa





# HUMAN DEVELOPMENT REPORT 2023/2024



Transformation in the poly-crisis age

...a **human-centred green transition based on enhanced skills**, and global cooperation in establishing open but fair trade for the **green transition**, will **crucially depend on the way horizontal coherence is achieved through R&I policy**, both at European and national/regional level.

ed:

s;

"High Level Group on Human Resources for Science and Technology in Europe, 2003-2004", was set up by Commissioner **Philippe Busquin** as part of the European Commission's broad strategy to address the Lisbon and Barcelona goals:

- **Jose Mariano Gago, LIP/IST**; Former Science Minister in Portugal (Chair), PT;
- **John Ziman**, emeritus professor of physics of the University of Bristol, UK;
- **Paul Caro**, former Director of Research at the CNRS, FR;
- **Constantinos Constantinou**, University of Cyprus, CY;
- **Graham Davies**, University of Birmingham, UK;
- **Ilka Parchmann**, Leibniz-Institute for Science Education in Kiel, Germany;
- **Miia Rannikmäe**, Centre for Science Education in the University of Tartu, Estonia,
- **Svein Sjøberg**, Oslo University; Fin.



Report by the High Level Group  
on Increasing Human Resources for  
Science and Technology in Europe  
2004

...to increase the share of European GDP invested in research from 1.9% to 3%, Europe needs a further 700,000 researchers or 1.2 million research-related personnel by 2010.

The changing nature of the "high-tech" industries means that governments must step in to play a more active role in ensuring and promoting better resources and skills development.

**The public sector is under-funded and universities, in particular, should be preparing their science graduates for a more diverse range of careers.**

But it is not just a question of under-funding: **universities must provide a wide range of skills required by a large diversity of science careers** instead of focussing on preparations for academic careers only.

**Europe needs to promote scientific careers better: ...calls for a *new partnership between universities and industry* to promote careers and a better mutual understanding.**

available at [www.sciencedirect.com](http://www.sciencedirect.com)

ScienceDirect

[www.elsevier.com/locate/molonc](http://www.elsevier.com/locate/molonc)

## Shaping science policy in Europe

Following **Ben Feringa**, ERC Scientific Council Member and Nobel Prize winner in Chemistry (**EIC Impact Report, 2022**):

“the collaboration between the ERC and the EIC are a beautiful demonstration of the strong complementarity between basic science and science applied to innovative solutions. It is crucial for Europe to maintain and further develop an excellent basis in science and knowledge to make our future possible. Our young people today dream of a society respectful of the environment, with clean energy and a sustainable planet for future generations. And our industry wants new opportunities for growth and energy security. This should be our aim. And to make these dreams come true, **we need excellent science, because that means excellent innovation**. We need the ERC and we need the EIC and they need to work together with a common aim.”

It is our belief that describing and analyzing the process leading to the creation of the ERC and SPH (2002–2014) should be widely shared with the research community in general, as this may contribute to the understanding of the evolving relations between scientists and science-policy making.

- A long policy and advocacy process, **with scientific activism**, starting in the ***Lisbon strategy (2000)***, followed by a meeting at the ***Royal Academy of Sweden (2001)***, giving rise to the ***European Life Sciences Forum, ELSF***, and in 2004, to the ***“Initiative for Science in Europe”***.

- ERC was **created in 2007 to fund “curiosity-based research”** on the basis of the project’s scientific quality.
- Today ERC grants are divided into **“Starting”** (2-7 years after PhD), **“Consolidator”** (7-12 years after PhD) and **“Advanced”** (10 years of experience requested) grants. These are **up to 5-year grants** covering all research domains and can cover salaries.
- The number of applications varies from year to year (around 1000 each year).

- Over **6700 research projects** were funded between 2014 and 2021, worth €13.3 billion.





## Number of responses by type of actions

TOTAL SAMPLE

MSCA Innovative Training Network (ITN)

MSCA Individual Fellowships (IF)

MSCA Research and Innovation Staff Exchanges (RISE)

*Doctoral researchers*

*Experienced researchers (postdocs and above)*

*Non-research staff*

MSCA COFUND

*COFUND-DP (Doctoral researchers)*

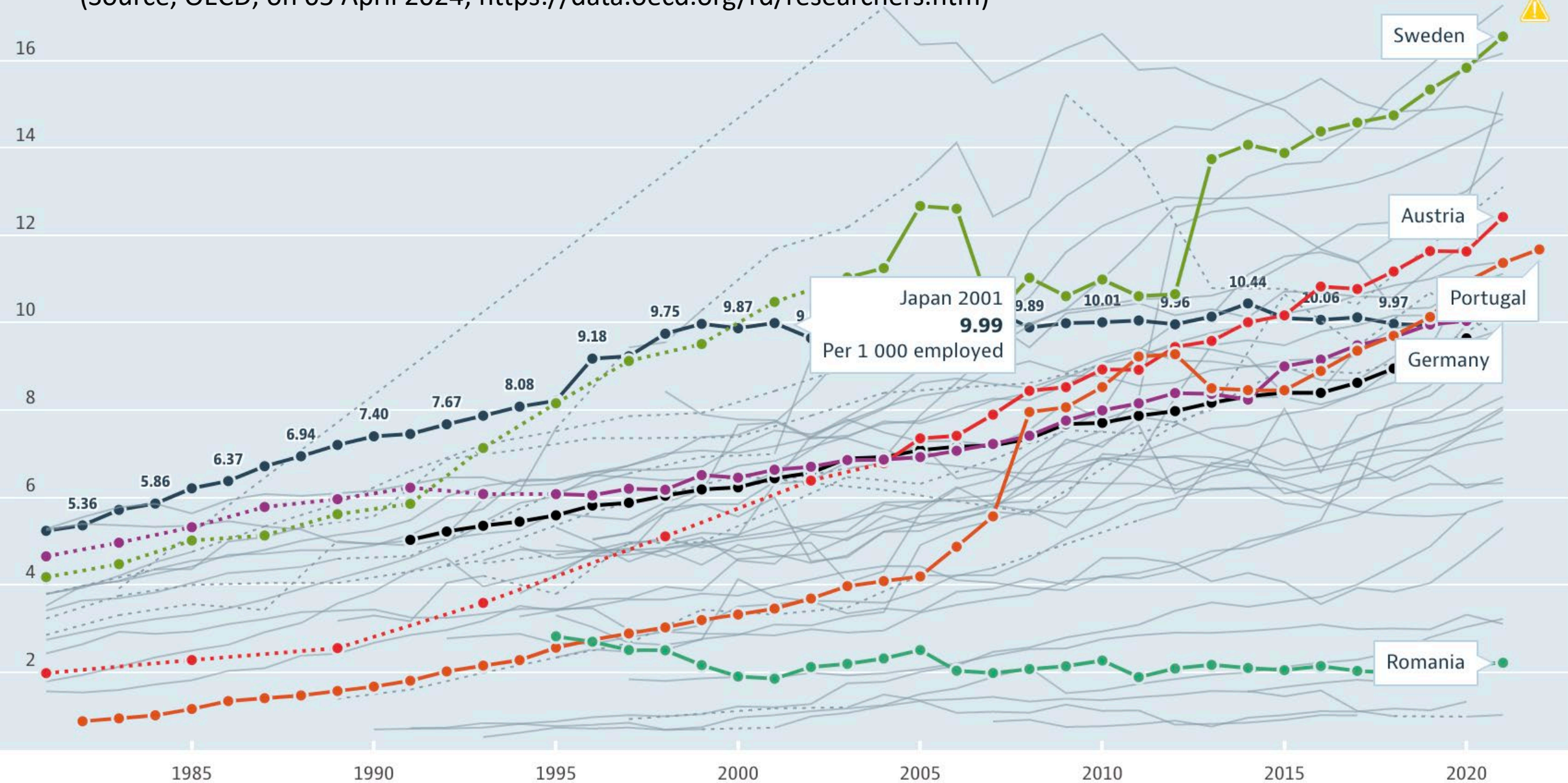
*COFUND-FP (Experienced researchers)*

While the programme has been **very successful in fostering mobility** and collaboration with non-academic sectors, **gaps remain in specific actions**, fields of research and/or sectors to be addressed under Horizon Europe to further strengthen the MSCA intersectoral reach.

The MSCA have a **strong impact on the career trajectories of fellows afterwards and their employability**. Under Horizon Europe, the **programme continues to promote sustainable and intersectoral research careers**, by providing them with necessary skills and experience, as well as adequate career guidance.

# Number of Researchers (FTE)/Thousands active inhabitants in EU member States, 1980-2020

(Source, OECD; on 05 April 2024; <https://data.oecd.org/rd/researchers.htm>)

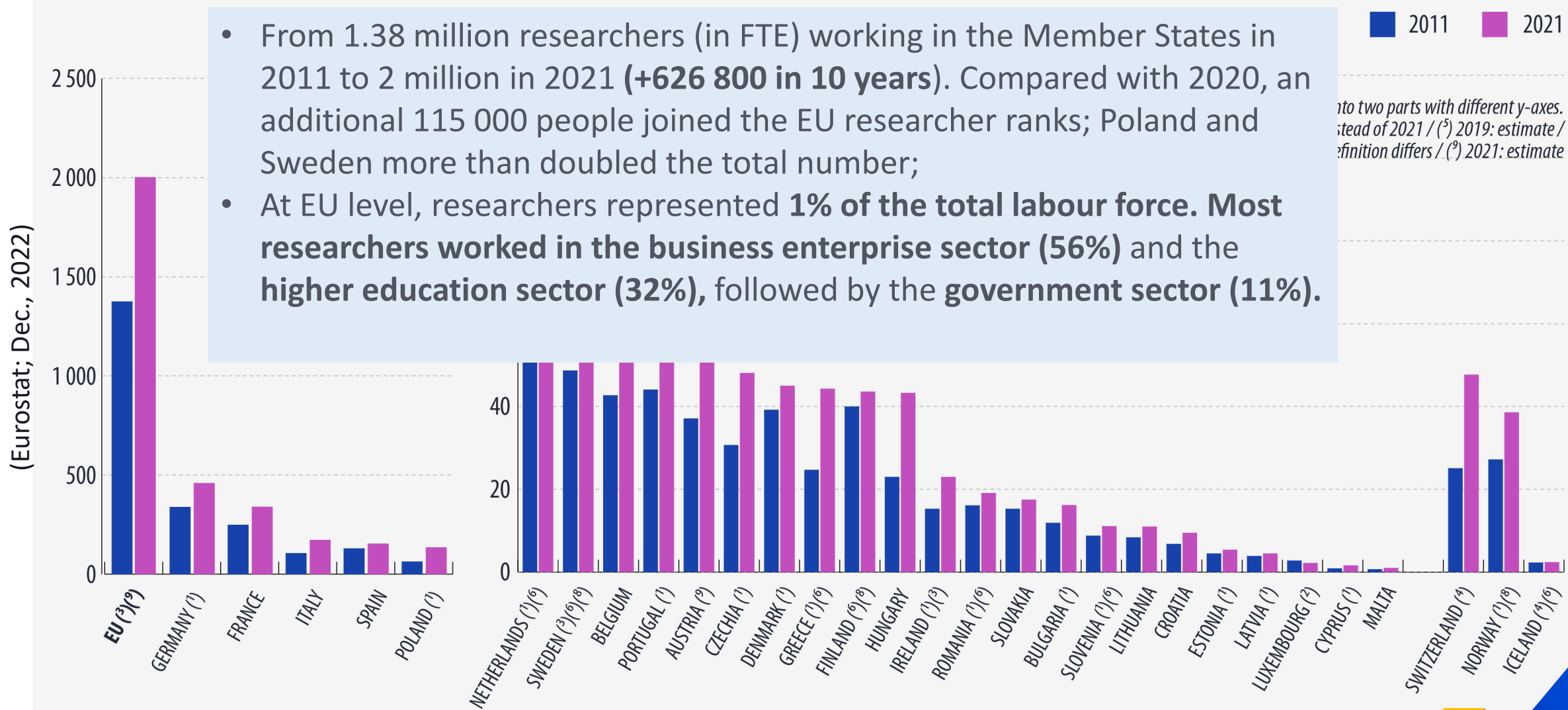




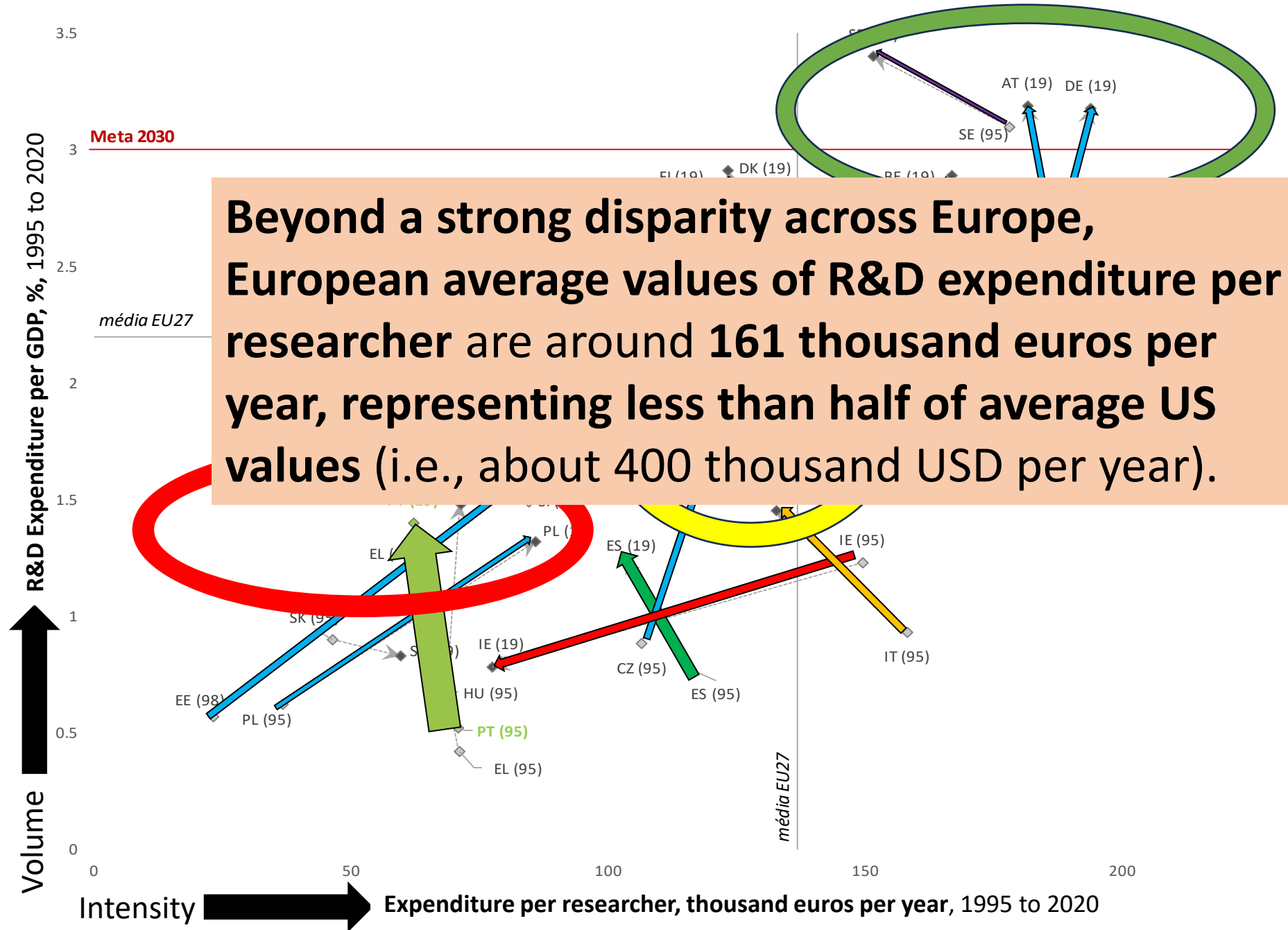
# EU reached 2 million researchers in 2021

## Number of researchers, 2011 and 2021

(thousand full-time equivalents)



# Volume of funding versus the intensity of funding per researcher in EU: 1995-2019





A few clarifying remarks.....

## The volume of funding results from a complex political, financial, economic and social context...

1. It has been **driven mostly by financial schemes** and **obstacles imposed** by national treasuries (OECD, 2016);
2. but it is ultimately driven by the **political will** and the **industry capacity** to invest in R&D, **together with the public commitment to invest** on R&D and in the advanced training of people...

## The intensity of funding per researcher depends upon:

1. The **structure of salaries** in the country/region, with **wide diversity across EU**:
  - It depends on overall **salary structure at national levels**, but also on institutional capacity and autonomy to raise salaries;
2. The **career development structure and the relative dimension of “tenure track” positions**:
  - It depends, above all, on **institutional capacity and autonomy**;
  - Still, only a few university departments and scientific institutions with **“Inverted Pyramids”**
3. The technical **support structure for researchers**, in terms of **technicians and management, communication and administrative support**:
  - It depends above all on the **“social context” for support and technical careers**, as well as on institutional capacity and autonomy;
  - **Wide diversity in EU**, from “1 technician to 1 research” in a few regions/institutions, to “1 technician for 4 researchers” in Southern Europe and other EU peripheries.

*The issue:*

Europe supporting early research careers and stimulating research workplaces

**Why?...What else do we need to know?**

**How?**

**Which Careers?**

**Which Path for policy action?**

*Background.* By “career” environment we mean the way *researchers* are **recruited**, their work **assessed**, **rewarded** and eventually **disseminated**, which **employment conditions** they are offered and how they, as well as *society*, **can profit from mobility across sectors and countries.**



Freeman C., *Proposed Standard Practice for Surveys of Research and Development: The Measurement of Scientific and Technical Activities*  
Paris, OECD, 1962

Freeman C., *The Measurement of Scientific and Technical Activities*  
UNESCO, 1969

## The Frascati Manual: evolution...

1963 - **The quantum leap**

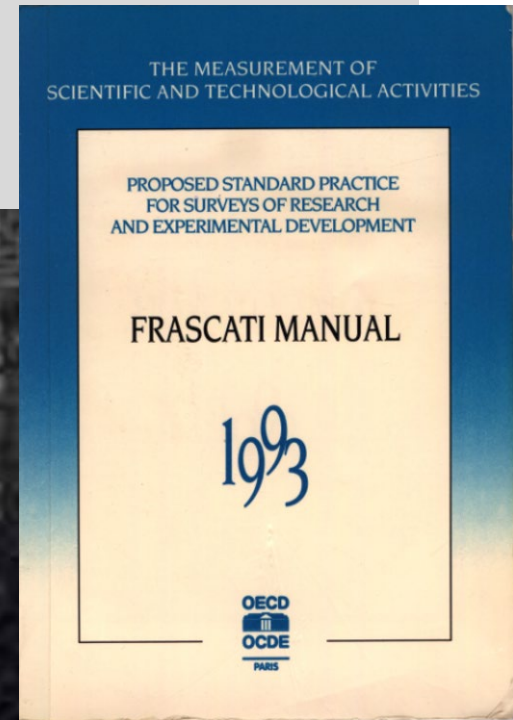
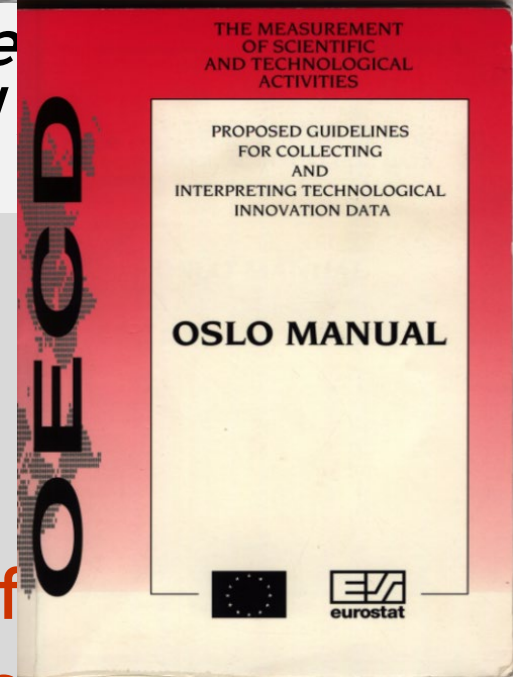
1970 - **Streamlining with international classifications (SNA, ISIC)**

1976 - **Inclusion of SSH; “objectives” classification**

1981 - **Innovation, higher education supplement**

1993 - **Inclusion of software, environment**

2001 - ***Questionnaire, services, HRST***





## Postdoctoral Funding Schemes in Europe

SURVEY REPORT



- mapping reflects a very **diversified academic landscape** and funding structure in Europe;
- As **career structures vary**, so do **time and content** of an postdoc phase and status;
- It covers about **109 funding and contractual schemes** for young doctoral researchers and postdoctoral positions;

The **volume of funding varies widely**, for 3 to 5 years:

- 30% of the schemes up to €200 thousand;
- 28% of the schemes up to €500 thousands;
- 10% of schemes above €1.000 thousands, for 5 years;

The **duration of the schemes** varies widely, but always below 5 years:

- 50% of the schemes offer 3 to 4 years;
- 30% of the schemes offer 2 years, or less;
- **Only 20% of the schemes offer 5 years or more;**
- Short term funding is prevalent in mobility schemes;

In general, it shows an **unacceptable coupling between “project funding” and “institutional employment” or “contractual schemes”**, leading to **temporary and precarity jobs** and **lack of responsibility, at individual and institutional levels.**



A long time-frame *policy* and *advocacy* process....

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## The ultimate goals:

**1. The implementation of revised assessment procedures, emphasizing the quality of research jobs in Europe, in parallel with the quality and impact of research results...**

**2. A new program at EU level to co-fund institutions towards strengthening research careers, by 2028...**

## A call for action - 2: **Five dimensions** for a potential strategy, for 2030:

1. Strengthen evidence based, by implementing a '**Research & Innovation Careers Observatory**': it requires *adequate granularity* over time and at EU, national and regional levels, to enable comparisons over time and between geographical areas;
2. **Modernise outdated legal and employment frameworks**: requires going beyond RESAVER and must consider critical aspects, among others: i) Researchers at risk; ii) Academic freedom; and iii) Research careers under collaborative arrangements.
3. Unlock stability in researcher careers through **sustainable institutional funding**: requires the Public and Private commitment for the target of **GERD= 3% GDP, 2030**;
4. **Pursue balanced funding** to achieve **balance between temporary and non-temporary** contracts and **promoting clear career paths at every institution** (as proposed in the Council Recommendation on '**European Framework for Research Careers**'), with the institutional commitment for adequate paths of: i) Recruitment; ii) Career development (3 levels: assistant/associate/full); and iii) Tenure;
5. Launch a **European Initiative to foster institutional support of (early-career) researchers** through: i) a new institutional co-funding program at EU level; ii) new assessment procedures.



# A new initiative: the “CESAER Researchers Careers Survey 2024”

**Goal:** the need to introduce in Europe, in a gradual and stepwise way, two potential major breakthroughs that require a lot of experimentation and a stepwise approach:

1. The design of future **research assessment methodologies** to consider the “**quality of research jobs**” in parallel with the **quality and impact of research results**, taking into account the efforts already ongoing in the context of [COARA](#).
2. The adjustment of current funding instruments, and **potential design of future new institutional funding instrument, to support institutions in advancing modern and stable research careers**. This includes to better balance temporary and non-temporary contracts for researchers. Emphasis will be on **young researchers and early-career researchers**.

**Calendar:** spring to summer 2024, with information from institutional level to prepare a research careers report (to be published in early 2025)

**Main novelty:** to consider an “**institutional approach**“, looking and deepening the analysis of the “quality of research jobs” in a sample group of voluntary institutions.

# How to Launch a **European Initiative to support *Research Careers?***

**Background:** the proposal from the European Commission to **amend the 2024 Horizon Europe work programme** for ‘Widening participation and strengthening the European Research Area’ to launch a **pilot action of around € 10-15 million** to ‘promote excellence in supporting research careers’

A proposal:

- 1. Experimentation, with gradual implementation,** towards: i) a new potential funding line for the **10th EU Framework Program (2028-2035)**, based on **co-funding schemes** to promote careers; and ii) experiment **new assessment methods** to consider the quality of research jobs in parallel with the quality and impact of research results...
- 2. It should complement ERC and could be implemented to expand MSCA** as an additional key instrument for reinforcing scientific leadership and excellence in Europe;
- 3. It should be oriented to fund institutions (i.e., employers), based on competitive assessment of their career tracks and pathways;**
- 4. It should provide funding with the explicit aim to ‘boost excellence in institutional support of (early-career) researchers’, based on peer review of proposals for (transformational) institutional approaches** that support and foster modern research careers.

Following Rodrik and Stancheva (2019),

“good jobs” are meant as “jobs that provide a middle-class living standard, a sufficiently high wage, good benefits, reasonable levels of personal autonomy, adequate economic security, and career ladders”.

**Industry 5.0 and  
the Future of  
Work:**  
making Europe the  
centre of gravity for  
future good-quality  
jobs

**ESIR Focus paper**

Independent  
Expert  
Report



- Industrial policy is as **old** as the state itself.
- But the debate has traditionally revolved around the question of **whether governments should engage** in industrial policy at

“climate change is the biggest threat to our ecological environment, **labour market shocks are the biggest threat to our social and political environment.**”

Following the analysis of Dan Rodrik (2022) for the US, the recent report of Renda, Balland and Bosoer (2023) outlines the importance, for Europe, of “**securing the creation of good jobs in sectors and occupations that contribute to Europe’s vision of a future resilient, sustainable and competitive economy.**”

The proliferation of initiatives such as the *Pact for Skills*, the *Alliance for Apprenticeships*, the *Deep Tech talent initiative*, the *Net Zero Academies* and many others show that EU institutions have embraced a vision of industrial policy that incorporates both the consideration of the **quality of jobs** per se, as well as a degree of directionality as to which sectors (or industrial ecosystems) should see the most significant growth of good jobs.”

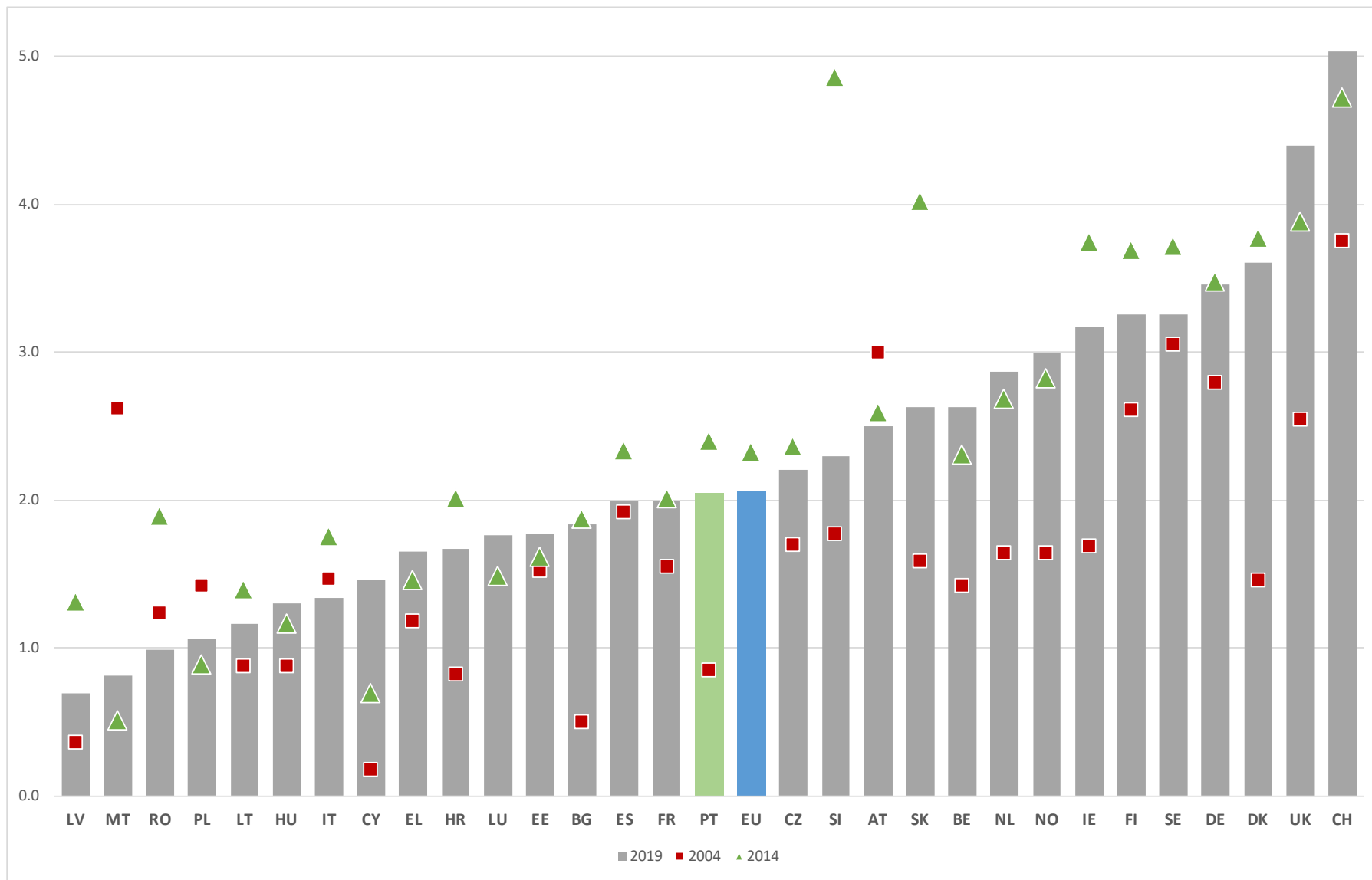


# DEBATE



# FLUX OF DOCTORATES IN EU:

## NEW DOCTORATES PER YEAR & PER 10 THOUSAND INHABITANTS



Fonte: Eurostat | Nota: valor inicial de MT diz respeito a 2005; valor inicial de FR diz respeito a 2006

# GERD/GDP: General Research Expenditure as a fraction of GDP in EU

