

# Empowering Research Careers through Competences: A New ERA with ResearchComp

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ERA, Spreading Excellence and Research
Careers







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Commission invests €1.25 billion in researchers and invites them to 'Choose Europe for Science'





### Number of researchers, 2012 and 2022 (thousand full-time equivalents) 500 1000 1500 2000 EU (3)(9) Euro area (3)(9) Germany (1) France (1) Spain (1) Italy (1) Poland (1) China (except Hong Kong) (2) United States (3)(4)(9) Japan (7)(8)(10) South Korea (10) Netherlands (1)(6) Sweden (3) Belgium (1) Austria (3)(9) Portugal (1) Greece (1) Czechia (1) Hungary Denmark (1)(10) Finland (8) Ireland (9) Romania (1)(6) Slovakia Bulgaria (1) Slovenia (1) Lithuania Croatia Estonia (1) Latvia (1) Luxembourg (1)(6) Cyprus (1) Malta Switzerland (10) Norway (1) Iceland (6)(\*) Türkiye (2)(10) Serbia (2) Montenearo (4)(11) Bosnia and Herzegovina (10) North Macedonia (4) **2012 2022** eurostat O

# More researchers than we might think!

# 2 million researchers

670.000 doctoral candidates

57% business sector

32% academic sector

10% government sector

# 45% increase since 2012

**62%** in China **26%** in US

# 1% total EU labour force

Ranging between 0.4% and 2% in MS



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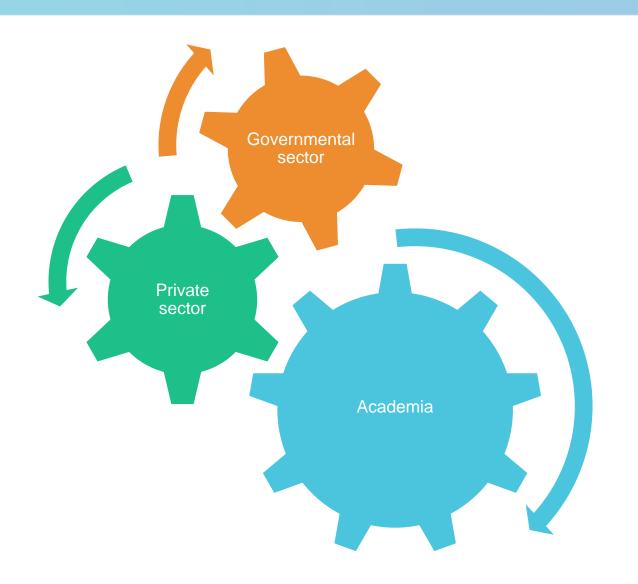
# ...who face several challenges

- Precarious conditions based on project-based temporal contracts.
- **Skills** too often focused on careers within academia and not easily transferable to other sectors.
- Unawareness about transversal skills and trainings needed to fill the gap.
- Inability to seize opportunities in the broader labour market, and to create their own business.
- Poor match with highly specific skills requested by the labour market.





# A continuous flow of talents





# 25 years of European Research Area



A single, borderless market for research, innovation and technology across the EU... ...where
countries come
together and improve
their research policies
and systems...

...and where there is free movement of researchers, knowledge and innovation.



# Finalisation of ERA Policy Agenda 2022-24

# Deepening an internal market for knowledge

- 1. Open sharing of knowledge, incl. EOSC
- 2. Data legislation fit for research
- 3. Reform of research assessment
- 4. Strengthen research careers
- 5. Gender equality and inclusiveness
- Protect academic freedom
- 7. Better Knowledge Valorisation
- 8. Research infrastructures
- Global Approach

### Research and innovation excellence

- 15. Regional and national R&I ecosystems
- 16. EU-wide access to excellence
- 17. Strategic capacity of public RPOs



### **Green and digital transition**

- 10. R&I Missions and Partnerships for ERA
- 11. Green energy transformation
- 12. Transition of industrial ecosystems
- 13. Empower higher education institutions
- 14. Bring science closer to society

### **Investments and reforms**

- 18. Coordination national support for ERA, merged with other actions
- 19. ERA monitoring mechanism
- 20. Prioritisation and coordination of R&I investments and reforms



# **ERA Policy Agenda 2025-27: Commission proposal**

### **ERA structural policies**

'long-term ERA policies, which are not confined to individual policy agendas but still have a three-year workplan'

# **ERA** actions

'which are new and to be completed within the three-year policy agenda'

- 1. Enabling open science
- 2. Research infrastructures
- 3. Inclusive and intersectional gender equality
- 4. Making research careers more attractive and sustainable
- 5. Research assessment
- 6. Upscaling knowledge valorisation capacities
- 7. Global Approach to R&I
- 8. SET Plan as a key component of ERA
- 9. Improving the articulation between R&I and higher education within ERA, unleashing the full potential of European R&I ecosystems
- 10. Enhancing trust in science through citizen participation, engagement and science communication
- 11. Improve EU access to excellence

- 1. Equity in open science
- 2. Advancing the European science for policy ecosystem
- Al in science in the EU
- 4. Enhancing research security
- 5. Accelerating R&I investments for Europe's industrial transformation and competitive sustainability
- 6. Accelerating new approach methodologies to advance biomedical research and testing for medicinal products and medical devices
- 7. A harmonised and coordinated framework to support integrity and ethics in R&I
- 8. An new era in research management



# Making research careers more attractive and sustainable

### **Setting standards**

• Council Recommendation on a European Framework for Research Careers (incl. new European Charter for Researchers)

### **Supporting implementation**

• MLE, ResearchComp, ERA Talent Platform one-stop-shop, R&I Careers Observatory, RESAVER...

### **Promoting cultural change**

Reform of research and research assessment (COARA.eu; ERA Action 3)

### **Coordinating investments**

• Pilot in Horizon Europe 2024 supporting organisational change – possible upscaling 2026-2027

# ERA Policy Agenda 2025-27

- Guidelines and recommendations
- Communities of practice
- Investment pathways





# THE EUROPEAN **COMPETENCE FRAMEWORK FOR RESEARCHERS**

### DOING RESEARCH

- · Have disciplinary expertise
- · Perform scientific research
- Conduct interdisciplinary research
- · Write research documents
- Apply research ethics and integrity principles

### MANAGING RESEARCH TOOLS

- · Manage research data
- Promote citizen science
- Manage intellectual property rights
- · Operate open source software

### MANAGING RESEARCH



- Mobilise resources
- Manage projects
- Negotiate
- · Evaluate research
- · Promote open access publications



### MAKING AN IMPACT



- · Participate in the publication process
- · Disseminate results to the research community
- · Teach in academic or vocational
- · Communicate to the broad public
- · Increase impact of science on policy & society
- · Promote open innovation
- · Promote the transfer of

### WORKING WITH OTHERS

- · Interact professionally
- Develop networks · Work in teams
- Ensure wellbeing at work
- · Build mentor-mentee relationships
- Promote inclusion & diversity

### COGNITIVE ABILITIES

- · Abstract thinking
- · Critical thinking
- · Analytical thinking
- · Strategic thinking
- · Systemic thinking
- Problem solving
- Creativity

### SELF MANAGEMENT



- · Manage personal professional development
- · Show entrepreneurial spirit
- · Plan self-organisation
- · Cope with pressure

# ResearchComp what is it and why do we need it?



# Two steps for two interconnected activities

- Update of the European Classification of Skills, Competences and Occupations (ESCO) – January 2022
- 2. Development and launch of ResearchComp (website launched July 2023)



ESCO works as a dictionary, **describing**, **identifying and classifying** professional occupations, skills, and qualifications relevant for the EU labour market and education and training.









# ESCO and a European Competence Framework for Researchers - Methodology

A literature review of existing competence profiles and career structures for researchers

Two online surveys, one among researchers from the academic and private sector, and one among umbrella organisations

Case studies

2020 Euraxess
database on the
requested
skills/competences
by employers in
different sectors and
diverse career

stages

Analysis of the full

Interviews with stakeholders

A focus group

A multi-stakeholder validation meeting

ResearchComp



# Policy brief - Knowledge Ecosystems study



https://op.europa.eu/en/publication-detail/-/publication/8d536780-3025-11ed-975d-01aa75ed71a1/language-en/format-PDF/source-284494338



# ResearchComp: the European Competence Framework for Researchers

- 7 Competence Areas
- **38 Competences**
- All competences are equally important & interrelated
- Competences can be acquired via dedicated training, on-thejob-training, peer-to-peer learning, coaching and mentoring
- Each stakeholder can use the Framework as a starting point to address its own needs
- Researchers encouraged to develop competences in all 7 areas, but should not acquire the same or the highest level of proficiency for all competences



- Perform scientific research
- Conduct interdisciplinary research
- Write research documents
- · Apply research ethics and integrity principles

RESEARCH TOOLS

Manage research data

Promote citizen science

· Manage intellectual property rights

Operate open source software

MANAGING

### RESEARCH



Manage projects

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# **ResearchComp - Proficiency levels**

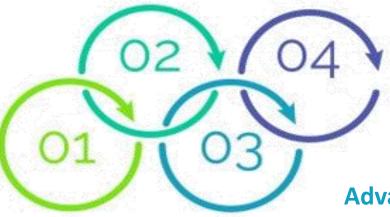
# 4 proficiency levels

### Intermediate

Building independence

### **Expert**

Driving transformation, innovation and growth



### **Foundational**

Developing expertise with guidance

### **Advanced**

Taking responsibility and guiding others



# ResearchComp – Overall structure

**7 Competence Areas** 

38 competences\* with descriptors

4 proficiency levels for each competence

**Learning outcomes** for <u>each proficiency level</u> of <u>each competence</u>

\*they will be soon 39, with the addition of a competence on Artificial Intelligence





# **Charles University, Prague (CZ)**



# For the university

- Training workshops for postdocs and PhD candidates based on ResearchComp.
- Using ResearchComp to identify common topics for mentor-mentee in Mentoring Programme for postdocs.
- Incorporating ResearchComp into the career development plan templates for postdocs.

### For students

• Connecting with other students and researchers across Europe using the same 'language'.



# Other relevant examples



Implementing ResearchComp as the **strategic framework** for their continuing professional development strategy for researchers

## Talent ecosystem's projects

Projects using ResearchComp as a basis to develop activities and resources to support early-career researchers

### **RESKILLSPAN**

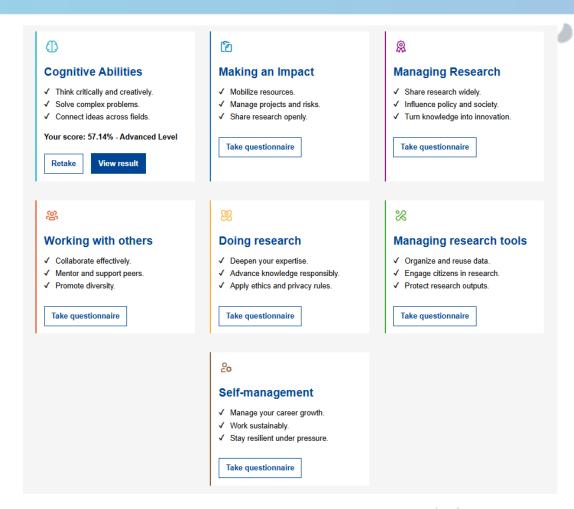
Using ResearchComp as starting point to support researchers, providing trainings and fostering intersectoral mobility





# Why a Self-Assessment Tool (SAT)?

- Provide researchers with a user-friendly tool to fully exploit ResearchComp's potential.
- Identify strenghts and gaps, or areas where trainings might be necessary.
- Provide understandable and clear results that summarise their proficiency level for some or all competences, to use as a starting point for trainings or upskilling processes.
- To widen transveral and coherent use of ResearchComp.





# The SAT in practice

- Digital SAT enabling researchers to assess their proficiency level in some or all 38 competences, coherently with the learning outcomes described in ResearchComp.
- Questionnaire with multiple-choice questions according to the 7 competence areas and the 4 proficiency levels.
- Understandable results summarising the user's proficiency level for the assessed competence area, which can be downloaded.
- Results' analysis: strenghts and gaps,
   competence breakdown and spider diagram.

Your results for the competence area

### **Cognitive Abilities**

### Results summary

Your overall score is 57.14%

Your competency level is

Advanced

### Advanced Level

You are beginning to develop cognitive abilities in research and connect research ideas, but you still mostly rely on known methods

### Your strengths

- Understanding key concepts in your field
- Basic but overarching awareness of established approaches

### To improve

- Reflect on broader implications of own research
- Practice connecting cross-disciplinary concepts

### Competence breakdown

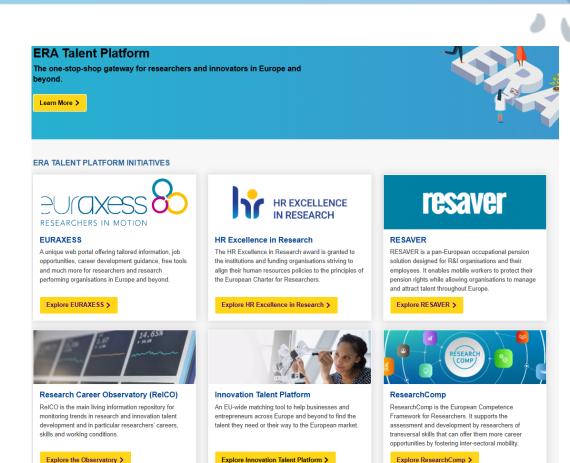






# **Promoting ResearchComp and the SAT**

- **Update of existing tools** (webpage, ERA Talent Platform, interactive pdf)
- Communication strategy targeting our current and potential users (researcher, Higher Education Institutions, etc.) on relevant channels (social media, newsletters, existing networks, events)
- Promotional video 'tutorial' on how to use the self-assessment tool
- Synergies with universities and EU-funded projects using ResearchComp







RMComp: The European Competence Framework for Research Managers

- 7 Competence Areas (Cognitive Abilities/Personal Attributes, Technical Proficiency, Research Project Oversight, Stakeholder Engagement, Line Management and Talent Development, Communication, Subject Matter Expertise/Specialised Knowledge)
- 50 Competences
- 800 learning outcomes along 4
   proficiency levels (foundational,
   intermediate, advanced, expert)
- It is not envisaged that Research Managers acquire the highest level of proficiency or have the same proficiency across all the 7 competency areas.

### COGNITIVE ABILITIES/ PERSONAL ATTRIBUTES

- Creativity
- · Critical Thinking
- Cultural Sensitivity
- · Problem solving
- Strategic Planning
- Decision Making
   Stress Management
- Prioritisation, Time Management and Multitasking
- Adaptability and Professional Flexibility
- · Conflict Management
- Reliability and Trustfulness

### LINE MANAGEMENT AND TALENT DEVELOPMENT

- People Management and Managing Team Performance
- · Team Building
- · Change Management
- · Coaching Skills
- Research Talent Indentification and Development

### RESEARCH PROJECT OVERSIGHT

- · Research Project Management
- Managing Research Project Deliverables
- Monitoring and Evaluation Frameworks and Indicators
- Establishing Research Projects Plans



### SUBJECT MATTER EXPERTISE/SPECIALISED KNOWLEDGE

- · Pre-Award
- · Post-Award
- Managing Equality, Diversity and Inclusion (Including Gender, Disability and Racism)
- Data Stewardship
- Knowledge Valorisation (Technology Transfer)
- HR for Research Employment, Training etc of research staff
- · Research Finance
- Research Infrastructure Management
- · Clinical Research Management
- · Research Ethics and Integrity
- Research, Strategy and Policy Development
- Managing the Research Grant/Support Office

### TECHNICAL PROFICIENCY

- Research Data collection and Collation
- · Data and Statistical Analysis
- · Legal Skills
- IT for Research Activities
- Artificial Intelligence

### COMMUNICATION

- Building and Maintaining Relationships with Research Funders, Partners, or other Stakeholders
- Designing and Implementing Research Communication Plans
- Media Liaison and Associated Activities
- Preparing and Writing Reports (Including Evaluation Reports and Funder Reports)
- · Social Media Engagement

### STAKEHOLDER ENGAGEMENT

- · Research Outreach
- Academic Community Relationship Collaboration
- Community Engagement with Research
- Engagement with Key Stakeholders
- Building Trust within Relevant Research and Strategic Partnerships
- Diplomacy, Negotiation, and Mediation Skills
- Handling Difficult Conversations and Partnerships
- Business and Commercial Liaison Management



# Keeping up with research careers



& more to come soon!



Mutual Learning Exercise on More Attractive and Sustainable Research Careers and Better-balanced Talent Circulation

Final report

Explore EURAXESS >

**EURAXESS** 

RESEARCHERS IN MOTION

A unique web portal offering tailored information, job opportunities, career development guidance, free tools

and much more for researchers and research performing organisations in Europe and beyond.



- Did you know about ResearchComp before today? If yes, have you used it?
- What do you think are the most important research competences in the private sector/ industry? Do you think they are valued by employers?
- How do you think HEIs, research centres, etc. could provide researchers with more transversal skills?
- Do you think the upcoming **self-assessment tool** will be useful to better understand researchers' proficiency level? Do you agree that **unawareness** of own competences is an issue within the researchers' community?
- In your opinion, what should be our next steps?



# **THANK** YOU!

### For more info:

- The new European Research Area:
   <a href="https://ec.europa.eu/info/research-and-innovation/strategy/strategy-2020-2024/our-digital-future/era\_en">https://ec.europa.eu/info/research-and-innovation/strategy/strategy-2020-2024/our-digital-future/era\_en</a>
- ERA Policy Agenda(s):

   https://ec.europa.eu/info/files/european-research-area-policy-agenda-2022-2024 en and https://european-research-area.ec.europa.eu/documents/proposal-council-recommendation-european-research-area-policy-agenda-2025-2027
- Policy brief on competences:
   <a href="https://op.europa.eu/en/publication-detail/-/publication/8d536780-3025-11ed-975d-01aa75ed71a1/language-en">https://op.europa.eu/en/publication-detail/-/publication/8d536780-3025-11ed-975d-01aa75ed71a1/language-en</a>
- ResearchComp:

   https://research-and-innovation.ec.europa.eu/jobs-research/researchcomp-european-competence-framework-researchers\_en
- Mutual Learning Exercise for more attractive and sustainable research careers: <a href="https://op.europa.eu/en/publication-detail/-/publication/612dc9f7-3528-11f0-8a44-01aa75ed71a1/language-en/publication/612dc9f7-1160-612de97-0160-612de97-0160-612de97-0160-612de

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