The European Alliance for Research Career Development in Context

International Workshop

DEVELOPING RESEARCH CAREERS IN AND BEYOND EUROPE

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Horizon 2020 – Excellent Science, Industrial Leadership and Societal Challenges

- H2020 - key tool to implement the Innovation Union Flagship Initiative
- EU needs at least one million new research jobs (outside academia) to reach the R&D target of 3% of GDP. *(Innovation Union)*
- The number of researchers required is significantly higher, as many researchers will retire over the next decade. *(Innovation Union)*
- By the end of 2011, Member States should have strategies in place to train enough researchers to meet their national R&D targets and to promote attractive employment conditions in public research institutions. *(Innovation Union Commitment #1)*

- 90% of research funding in Europe is not directly from the EU

Global trends – EUA view*

- CODOC report compared three world regions with developing, emerging and developed countries (East Asia, Latin America and Southern Africa) with Europe.

- Three major convergences can be identified:
  - Producing doctorate holders who can contribute to economic growth and social development.
  - Training doctorate holders for higher education **and** an increasingly knowledge-dependent private sector.
  - An emphasis on collaboration

** CODOC – Cooperation on Doctoral Education between Africa, Asia, Latin America and Europe; EUA 2012 - http://www.eua.be/codoc.aspx*

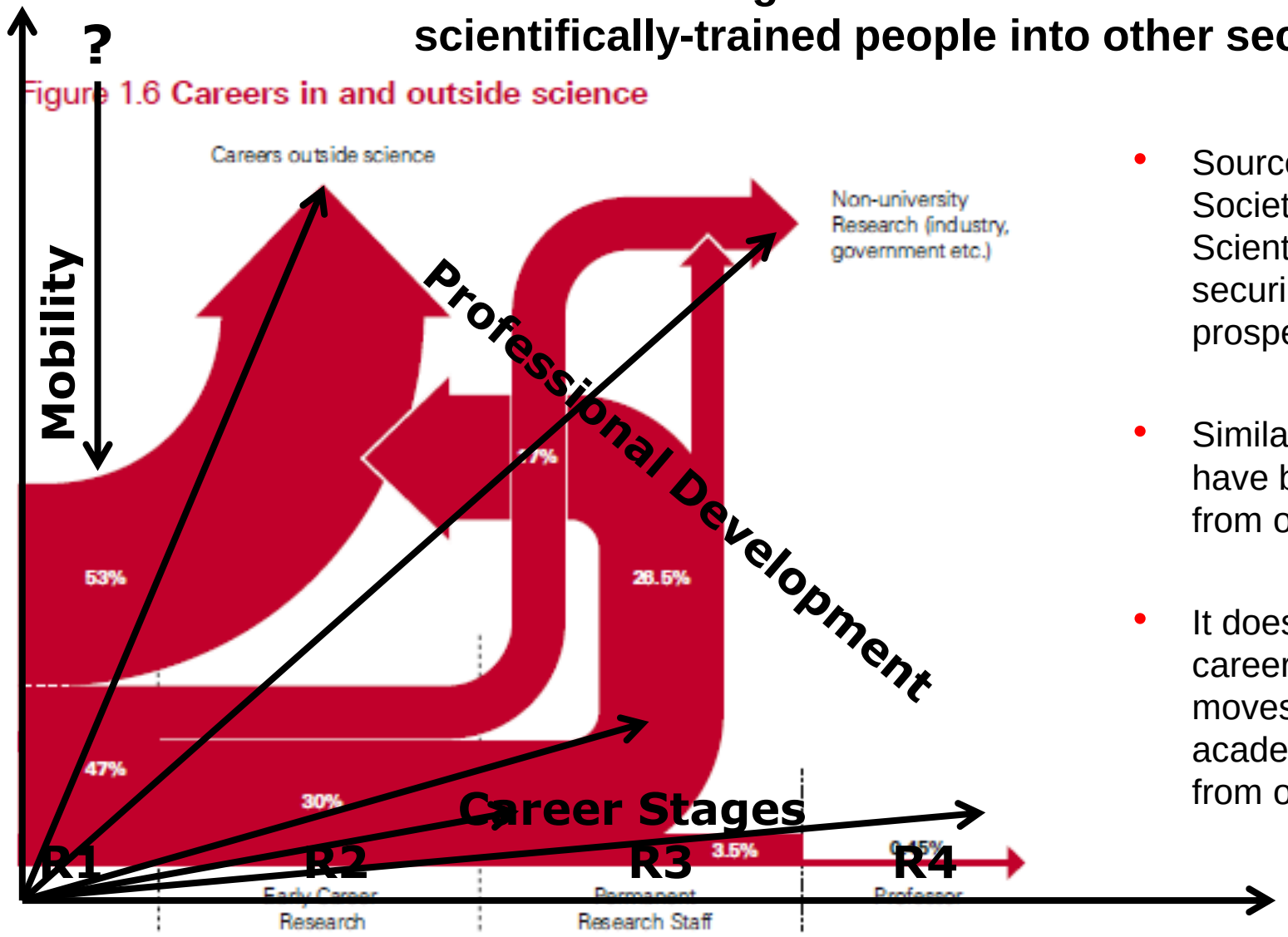
Understanding Researchers: Anticipation of an academic career!

- >75% of PhDs want to work in academia after graduating *(EURODOC Survey 2011)*
- *"Most European researchers are trained in universities, and most fundamental research is undertaken in them."* *(LERU – Harvesting Talent 2010)*
- *"Researchers frequently assume that an ultimate destination other than that of a permanent university post represents failure."* (LERU – Harvesting Talent 2010)
- *"No sweet outcome for PhD worker bees – ESOF conference hears that many students are 'mis-sold' an academic career"* *(Times Higher Education 2012)*

Employability outside HE

- 45% of PhDs want to work in non-academic research and 22% in a private non-research job after graduating *(EURODOC Survey 2011)*
- "An estimated 50% of current doctorate holders are employed outside academia - research and non-research positions." *(EUA DOC-CAREERS 2009)*
- "Collaborative doctoral programmes … are seen as an excellent way to improve candidates' ability to relate abstract thinking to practical applications." *(EUA DOC-CAREERS 2009)*
- Employers appreciate the scientific/technical knowledge of PhDs including: formal approach to evidence-based arguments, analytical skills, ability to integrate knowledge from different sources and their ability to work at the frontiers of knowledge. *(EUA DOC-CAREERS 2009)*

Transition points in typical academic scientific careers following a PhD and the outflow of scientifically-trained people into other sectors.

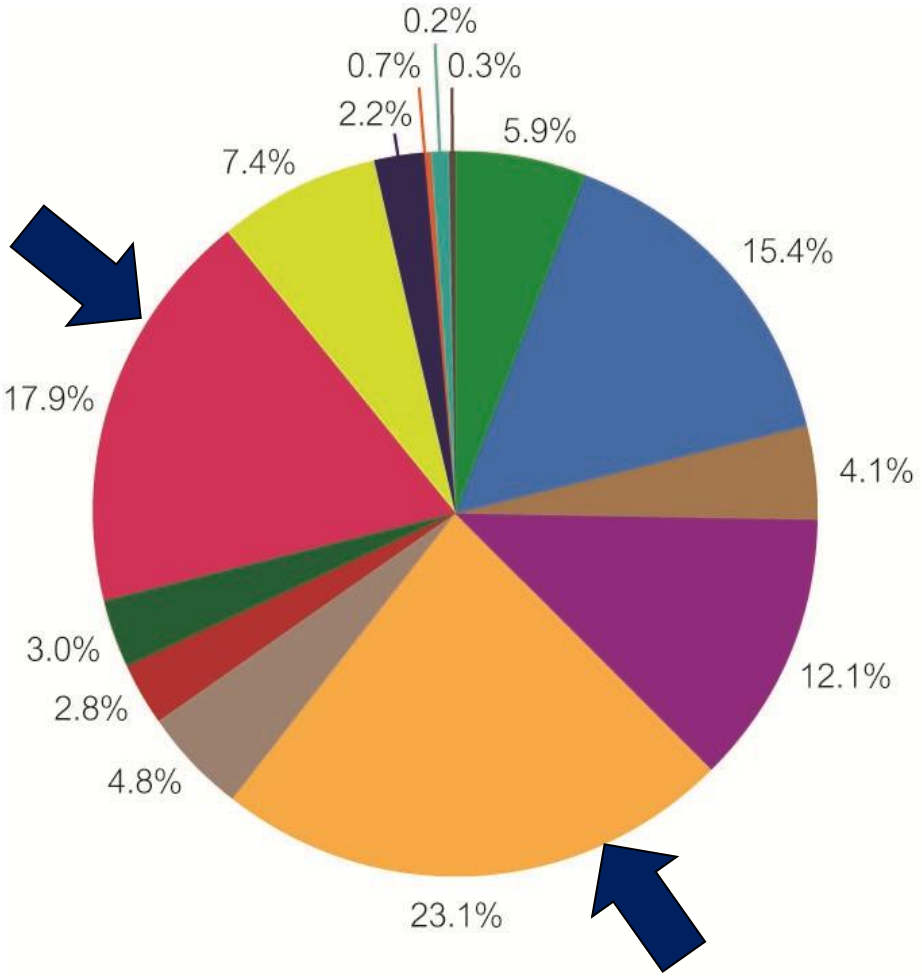


- Source: The Royal Society – The Scientific Century: securing our future prosperity (2010)
- Similar diagrams have been presented from other Countries.
- It does not show career breaks or moves back into academic science from other sectors.

Trajectories - Career tracking and Policy needs

- Justify **public investment** in doctoral training including:
  - effect of changes in policy
  - adaptation of funding instruments
- Ensure the **supply** of highly-skilled people for academy, industry, business, Government and 3rd sector
- Describe the contribution **(impact)** of doctorates in the economy
  - economic, social and cultural impact
  - relative contribution of UK, other EU and non-EU doctorates
- Demonstrate **attractiveness** of a research career
- Provide **career information** for prospective/current doctorates
- Ensure that **skills** training supports the careers of researchers
- Provide **database** for future policy/academic study

What do researchers do? - occupations all disciplines



- Commercial, industrial and public sector managers
- Scientific research, analysis & development professionals
- Engineering professionals
- Health professionals and associate professionals
- Education and teaching professionals
- Business and financial professionals and associate professionals
- Information technology professionals
- Marketing, sales, media and advertising professionals
- Researchers (university or unspecified)
- Other professionals, associate professional and technical occupations
- Numerical clerks and cashiers, clerical, retail and bar staff
- Armed forces and public protection services occupations
- Other occupations
- Unknown occupations

41%

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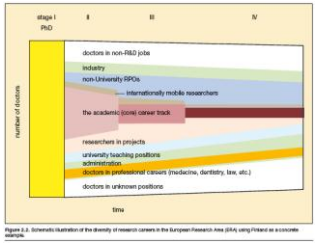
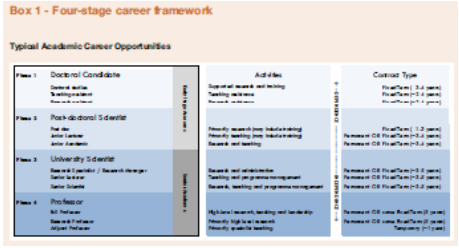
Trajectories – Career Stages/Frameworks

- Taxonomy of careers (ESF)



- Harvesting Talent (LERU)



- European Framework for Research Careers (ERA-SGHRM)

R1 First Stage Researcher

up to the point of PhD

R2 Recognised Researcher

PhD holders or equivalent who are not yet fully independent

R3 Established Researcher

researchers who have developed a level of independence.

R4 Leading Researcher

researchers leading their research area or field

- Where next – practical uses?

The European Framework for Research Careers (EFRC)

Four broad profiles for researchers, independent of any particular sector, with the following working titles:

- ***R1 First Stage Researcher***
  - *up to the point of PhD*
- ***R2 Recognised Researcher***
  - *PhD holders or equivalent who are not yet fully independent*
- ***R3 Established Researcher***
  - *researchers who have developed a level of independence.*
- ***R4 Leading Researcher***
  - *researchers leading their research area or field*

A framework for: Jobs, competencies and skills, training, funding instruments, presenting workforce statistics and data

Trajectories - Towards a European Professional Development Framework for Researchers

ESF MO-Forum - Definition of transferable skills and recommendations on skills (2009)

EC (DG Research) WG report on Skills – Professional Development of Researchers – Provisions for the Future. (2012)

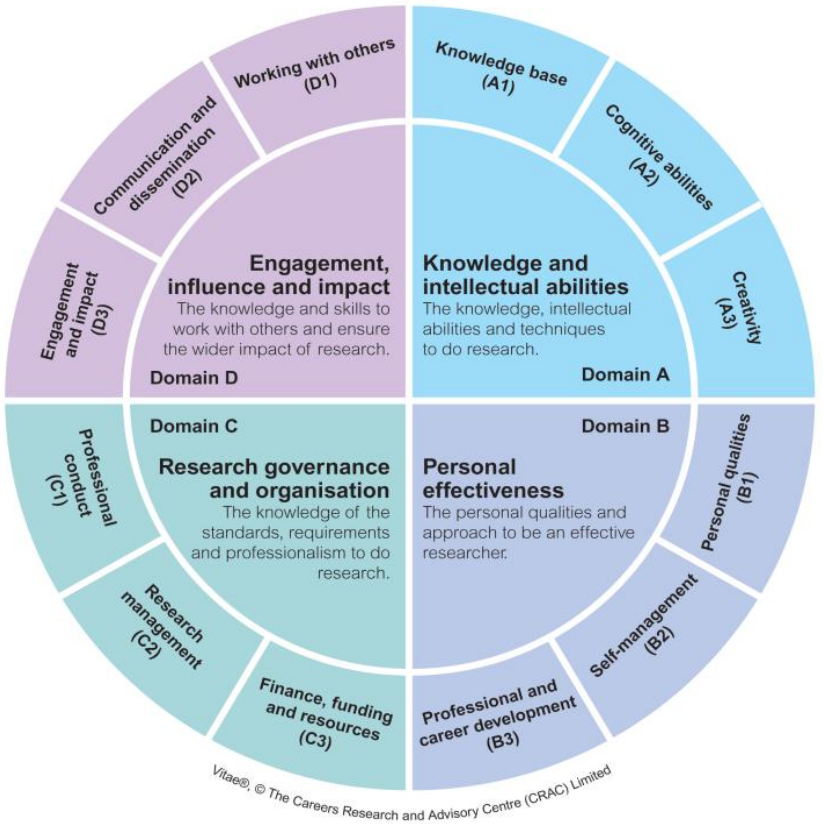
ESF Pilot study – a pan-European Researcher Development Framework for Researchers. (2012)

- Both reports refer to Vitae's Researcher Development Framework (Vitae 2012).
- Both reports recommend institutional level provision for researcher development.
- Together the reports recommend increased provision across career stages and a European Framework for Professional Development.

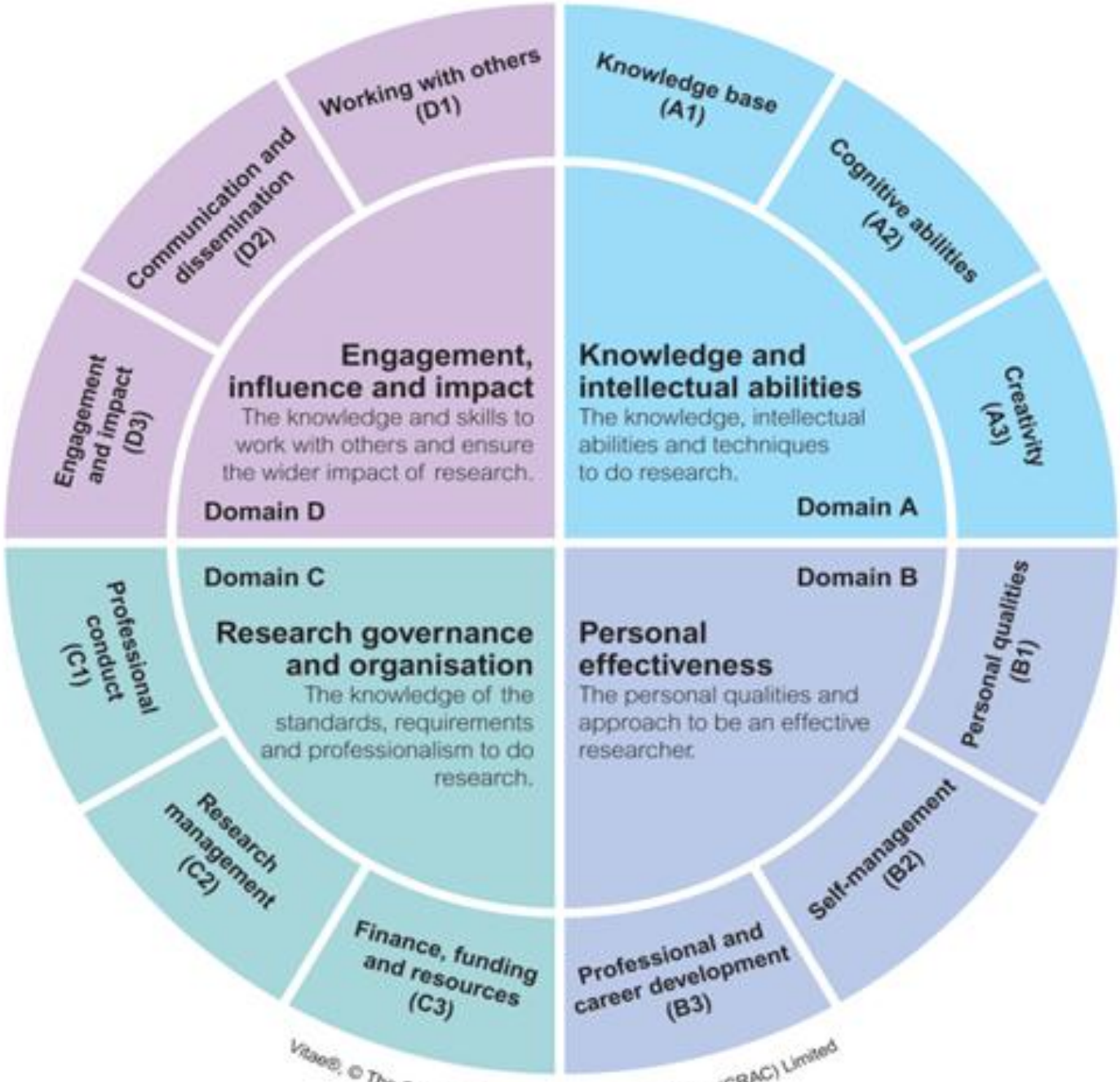
- **EC (DG Research) –** Currently planning next steps

Researcher Development Framework (RDF) - 2011

- **Major new approach** to researcher development
  - evolution of the **Joint Skills Statement** and research staff
  - describes **knowledge, behaviours and attributes** of researchers at different sta of development
  - providing a **language for communicati** researcher qualities
- **Researcher Development Statement endorsed by key stakeholders**
- RDF **website**
  - resources, FAQs
  - researcher profiles
  - JSS mapping
- **Professional development tool**
- **RDF lenses**



www.vitae.ac.uk/rdf


Working with others (D1)
Communication and dissemination (D2)
Engagement and impact (D3)
Engagement, influence and impact
The knowledge and skills to work with others and ensure the wider impact of research.
Domain D
Knowledge base (A1)
Cognitive abilities (A2)
Creativity (A3)
Knowledge and intellectual abilities
The knowledge, intellectual abilities and techniques to do research.
Domain A
Professional conduct (C1)
Research management (C2)
Finance, funding and resources (C3)
Domain C
Research governance and organisation
The knowledge of the standards, requirements and professionalism to do research.
Personal qualities (B1)
Self-management (B2)
Professional and career development (B3)
Domain B
Personal effectiveness
The personal qualities and approach to be an effective researcher.
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Trajectories - Mobility

- The concepts are understood:
  - International
  - Intersectoral
  - Interdisciplinary
  - Virtual

- Some questions:
  - How do these impact at different career stages
  - Do we really understand the impact of mobility on people and knowledge generation
  - Disciplinary differences

Routes to improving employability

- Understanding career options – e.g. What do Researchers do? (Vitae UK)
  - First and subsequent destinations by subject
  - Career profiles/stories
  - Career profiles/stories of doctoral entrepreneurs
  - Doctoral graduate destinations and impact three years plus
- Understanding the value of mobility
- Recognising and acquiring competencies and skills – a Researcher Development Framework.
- Sources of help – peers, careers advisors, Supervisors/Principal Investigators

Over to you!

Have we finished or have we only started?

- ESF MO-Forum Research Careers 2007-2010
- ESF MO-Forum EARCD 2010-2013
- Science Europe WG on Research Careers 2013 - ????

Thank you for your attention