

Admin 2.0 – Answers to Science 2.0?





ADMIN 2.0 – Answers to SCIENCE 2.0?

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Concept of SCIENCE 2.0

In the US, Science 2.0 is based on information sharing and new technologies with emphasis on Open Access, Open Data and Citizens Science.

In Europe - SCIENCE 2.0 = OPEN SCIENCE comprises Open Access, Open Data, Citizens Science, Big Data, Research Infrastructure, research output, and the mobility of researchers.

-> a paradigm shift in research.

How will this development change the role of research administration?

Admin 2.0

“Research globally has reached a level of size and complexity, calling for a paradigm shift referred to as Science 2.0 and Open Science. This development points out the need for a paradigm shift in the underlying support functions as well, enabling this transformation in science to happen in an effective, sustainable, reliable, and professional manner. European Research can only reach its full potential through professional research administration: We call this Admin 2.0. “

(Andersen J, Schenk E.A.M, Werenskiold A.K)

Trends in research

Funding complexity

- ★ From national to international funding
- ★ From small individual funds to large corporates
- ★ Competitive funding
- ★ Research for research's sake to research for society
- ★ Research Output: Open data and Big data

Science 2.0

Global recruitment and competition

- ★ New players in the academic field
- ★ Mobility of researchers
- ★ Ranking and benchmarking

Control to Service

- ★ The researcher in focus, not the admin system
- ★ Targeted support and information
- ★ Direct communication
- ★ Proactive approach

Organisation

- ★ Critical mass in support functions
- ★ Policy: Role and power management level
- ★ Legalisation and rules: institutional commitment
- ★ Restructuring – “Synergy & Critical Mass”

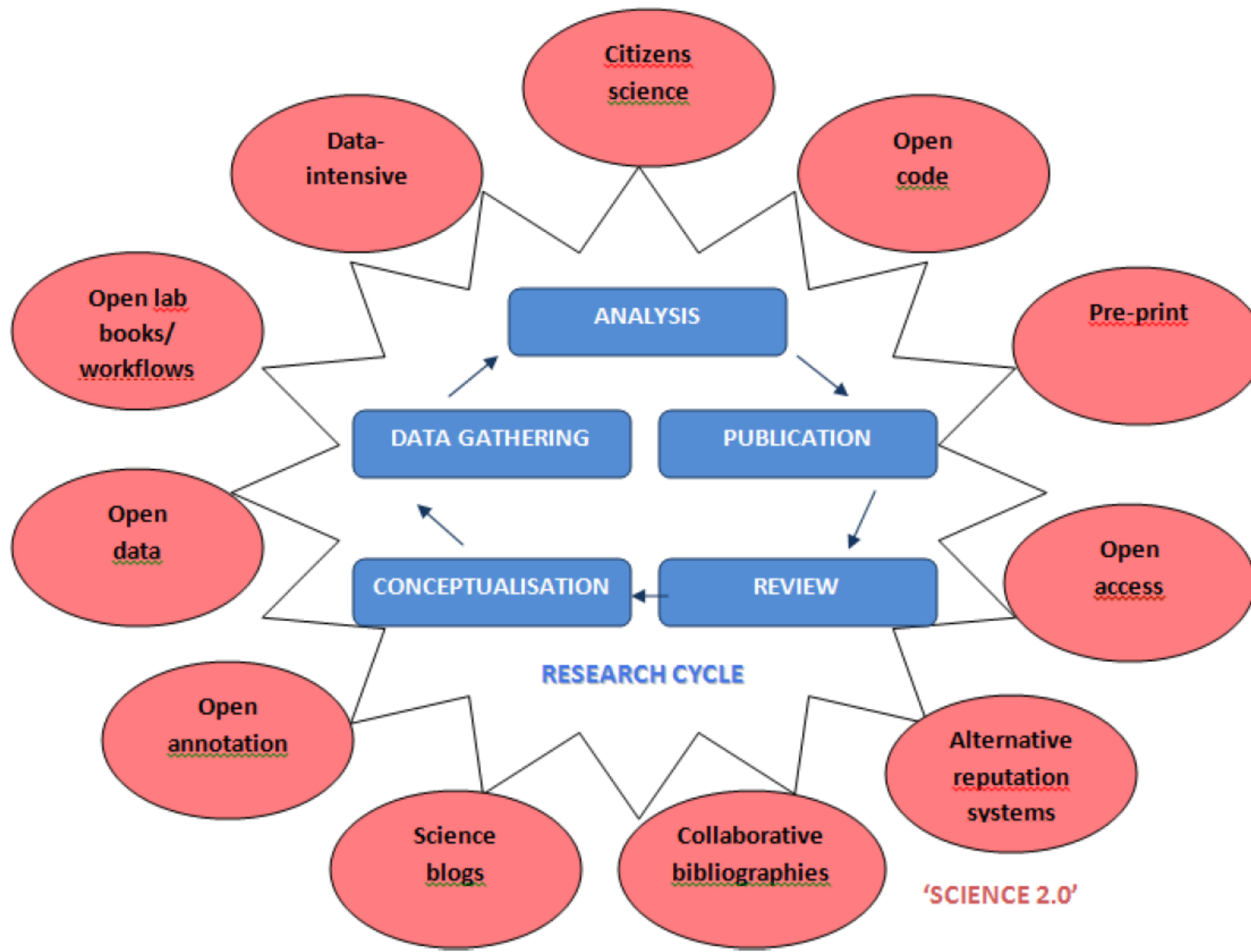
OPEN SCIENCE, SCIENCE 2.0

“Science 2.0 – Science in transition” in Europe is a process started 2014 on the basis of the theory that science is changing not only because of the sharing and interaction possibilities of the internet, but also because of the growth in scientific output, mobility of researchers, globalisation and big data

- > Public consultation
- > Stakeholder views (LERU, EUA ao)
- > Science 2.0 renamed to Open Science?

<http://scienceintransition.eu/>





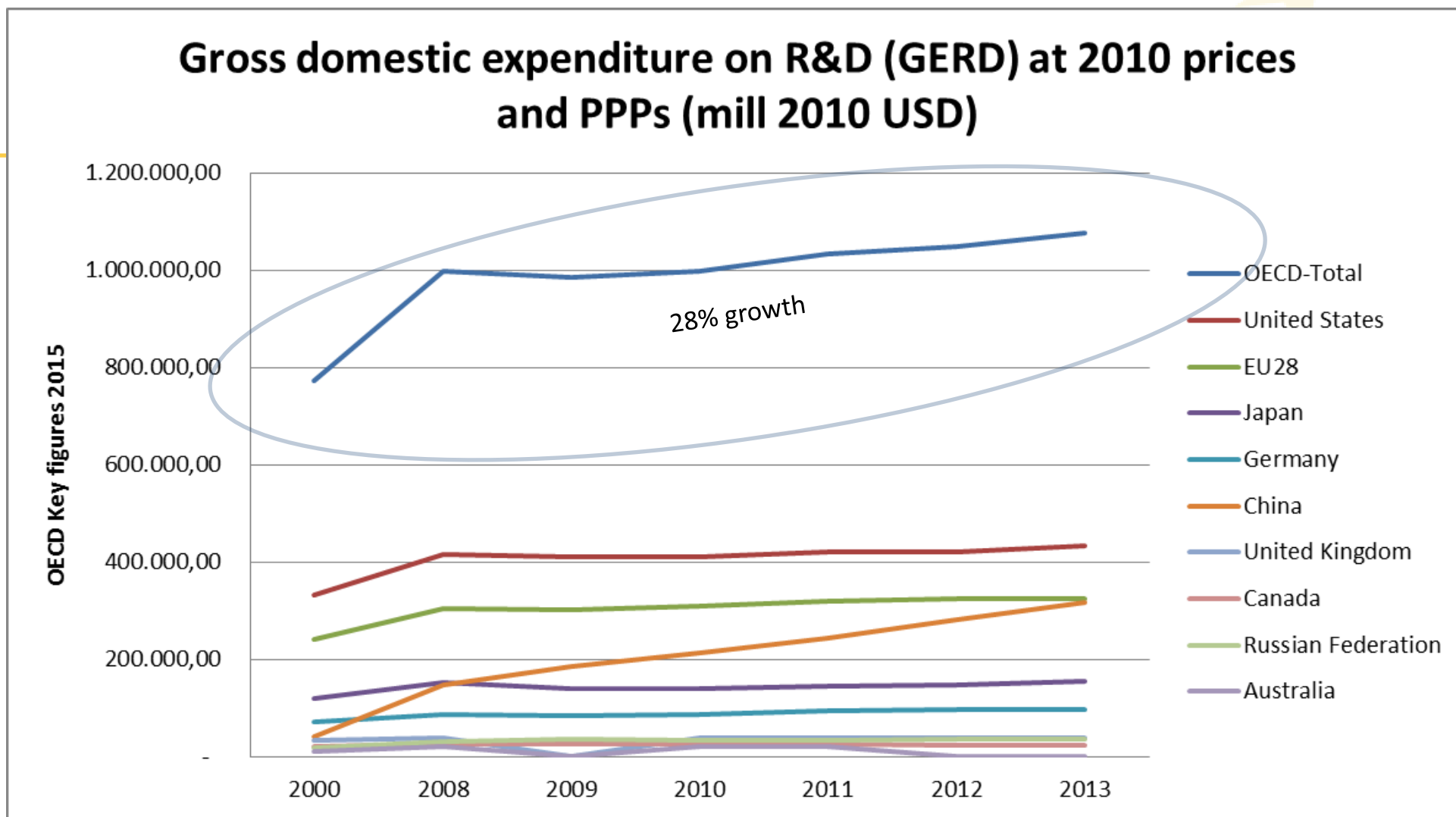
Drivers of Open Science

“Main drivers of ‘Science 2.0’ may include:

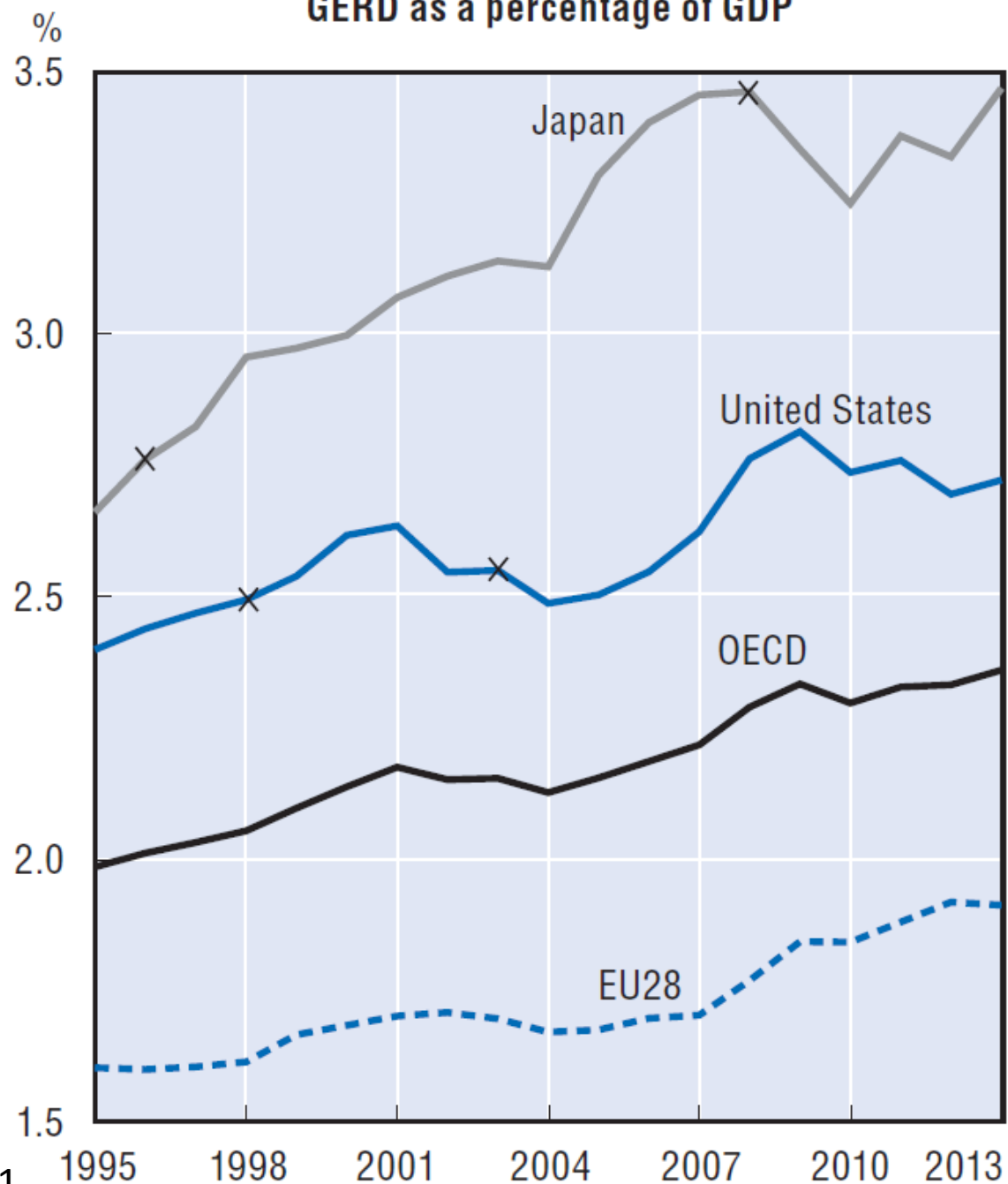
- The tremendous increase in the number of researchers
- The new emerging scientific powerhouses (e.g. Asia)
- The availability of (low-cost) digital technology

The growing and increasingly pressing demand for solutions to Grand Challenges

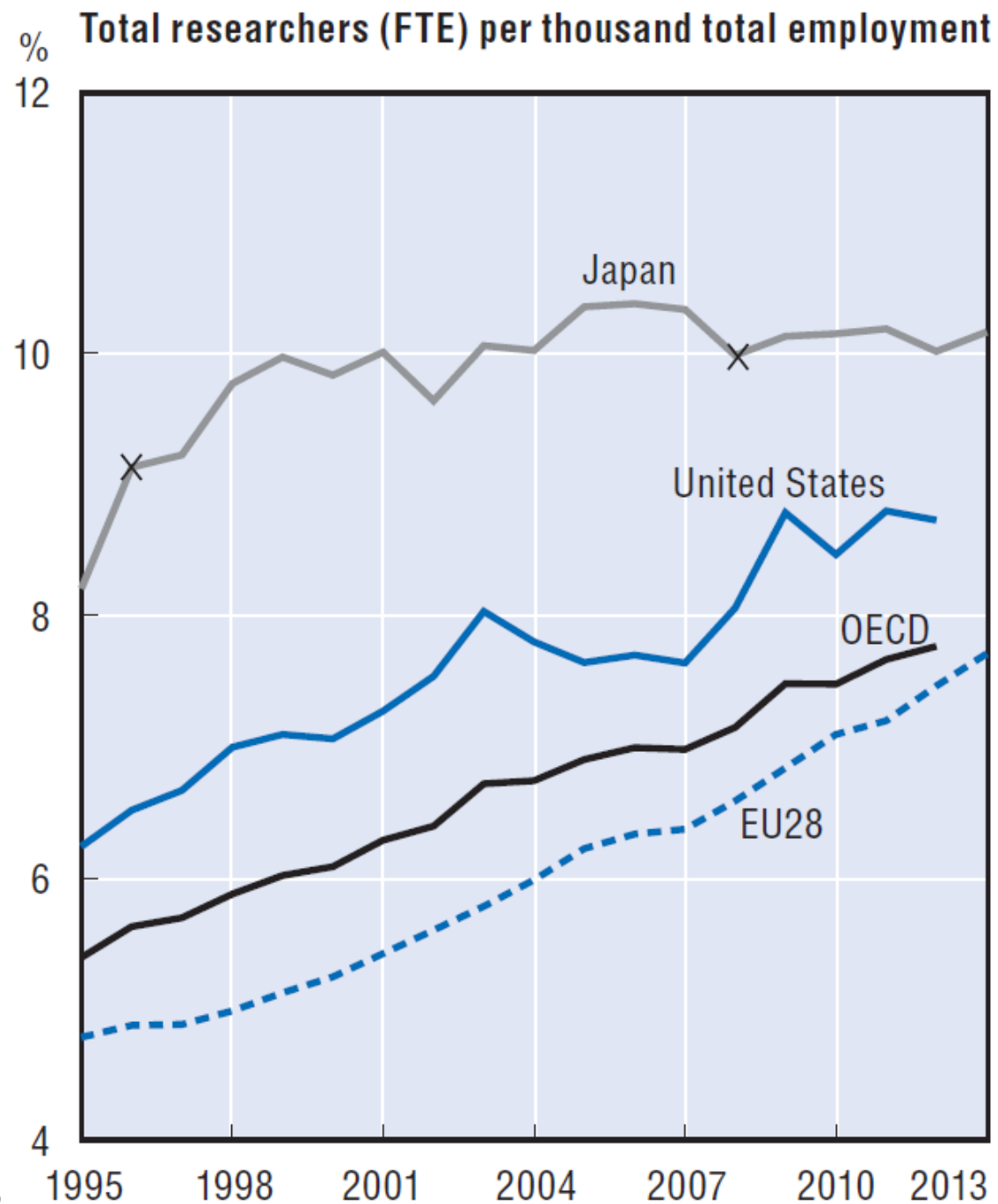
- ‘Digital natives’ becoming part of the researcher population.
- The growing scrutiny with regard to research integrity and to the accountability of science and research within societies”



GERD as a percentage of GDP



OECD Key figures 2015



OECD Key figures 2015

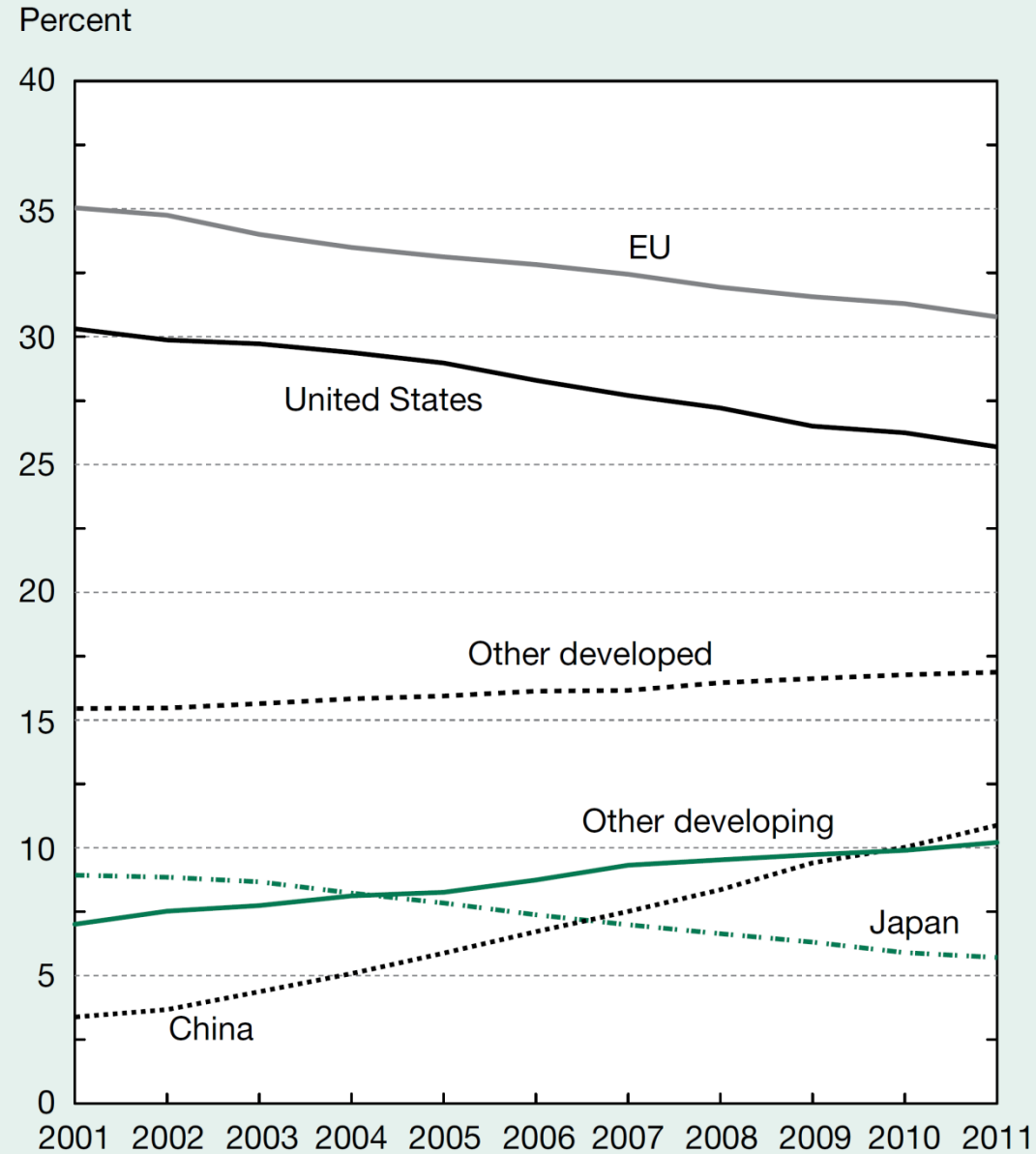
Growth in scientific output 2001-2011

S&E articles in all fields, by country/economy: 2001 and 2011

Rank	Country/economy	2001	2011	Average annual change (%)
-	World	629,386	827,705	2.8
1	United States.....	190,597	212,394	1.1
2	China	21,134	89,894	15.6
3	Japan.....	56,082	47,106	-1.7
4	Germany.....	42,678	46,259	0.8
5	United Kingdom	45,588	46,035	0.1
6	France	30,602	31,685	0.3
7	Canada.....	21,945	29,114	2.9
8	Italy	22,093	26,503	1.8
9	South Korea.....	11,008	25,593	8.8

NSF – Science and Engineering output 2014

S&E articles, by global share of selected region/ country: 2001–11



NSF – Science and Engineering output 2014

What goes wrong?

The Economist, 'How Science goes wrong' (issue of 19 October 2013): "Last year researchers at one biotech firm, Amgen, found they could reproduce just six of 53 "landmark" studies in cancer research. Earlier, a group at Bayer, a drug company, managed to repeat just a quarter of 67 similarly important papers"

"In 2010 roughly 80,000 patients took part in clinical trials based on research that was later retracted because of mistakes or improprieties".

(Science 2.0 - Science in transition)

The competition for funding, the competition for publication and the competition for recognition can create an unhealthy attitude to science

(Sir Peter Glucksmann, Research Advisor to the New Zealand government, ARMS 2015)

Re-thinking research support



Change in funding of research

- Global funding of research
- Marginal funding

Mobility and internationalization of research

- Recruitment
- Facilitating
- Career development

Science for society

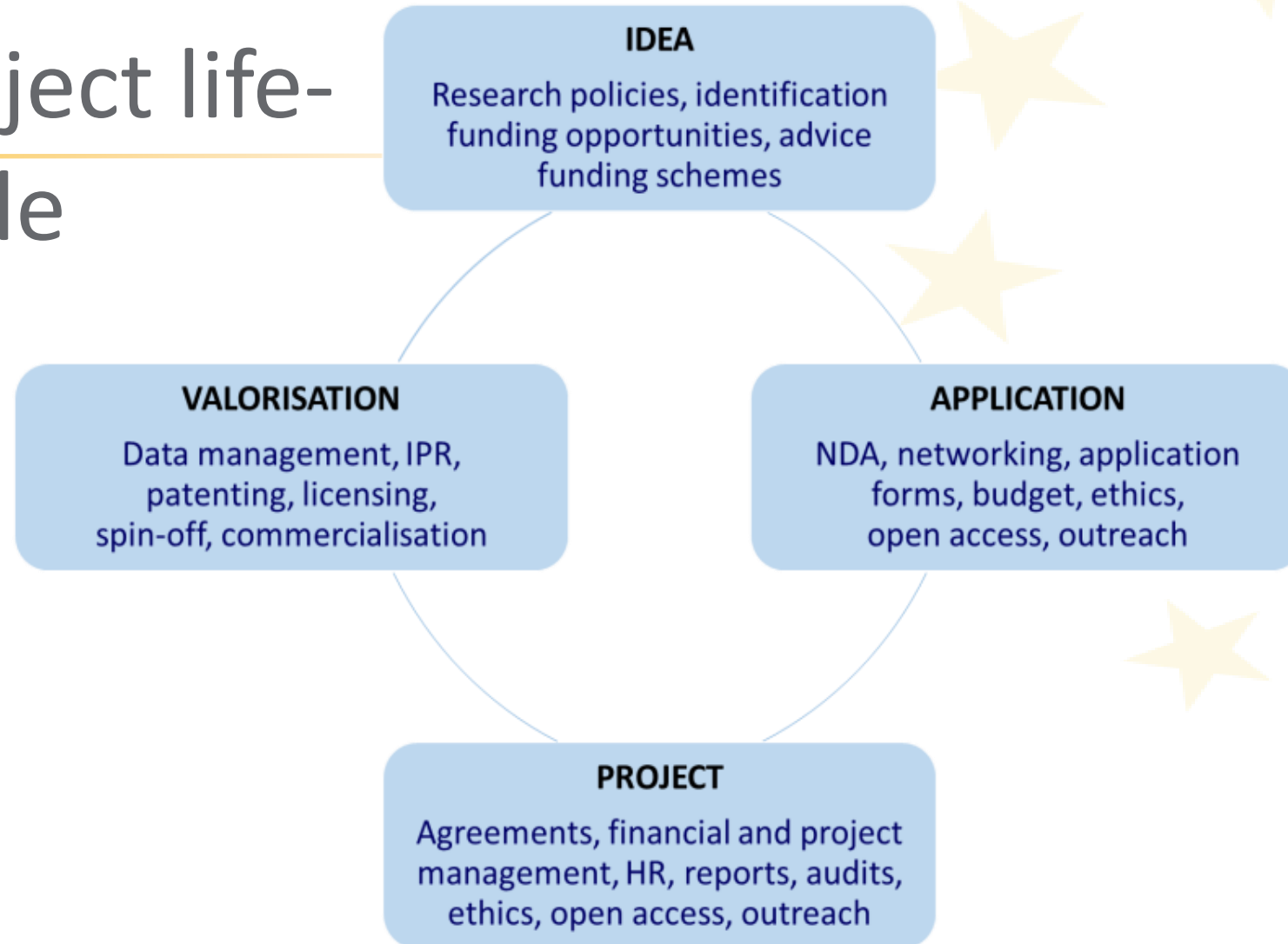
- Citizens science
- Impact

Research output

- Research data

A changing research environment

Project life-cycle



Where to go from here?

Open Science can only be successful if research support evolves in parallel.

ADMIN 2.0 is a necessity derived from several steps in the development of professional research support functions.

The core content of ADMIN 2.0 is the abilities to:

- i. maneuver and deliver high quality service in the complex and changing world of research,
- ii. handle the legal and cross-cultural constraints in a global environment, and
- iii. facilitate and interact with large international research consortia

Formalisation and recognition

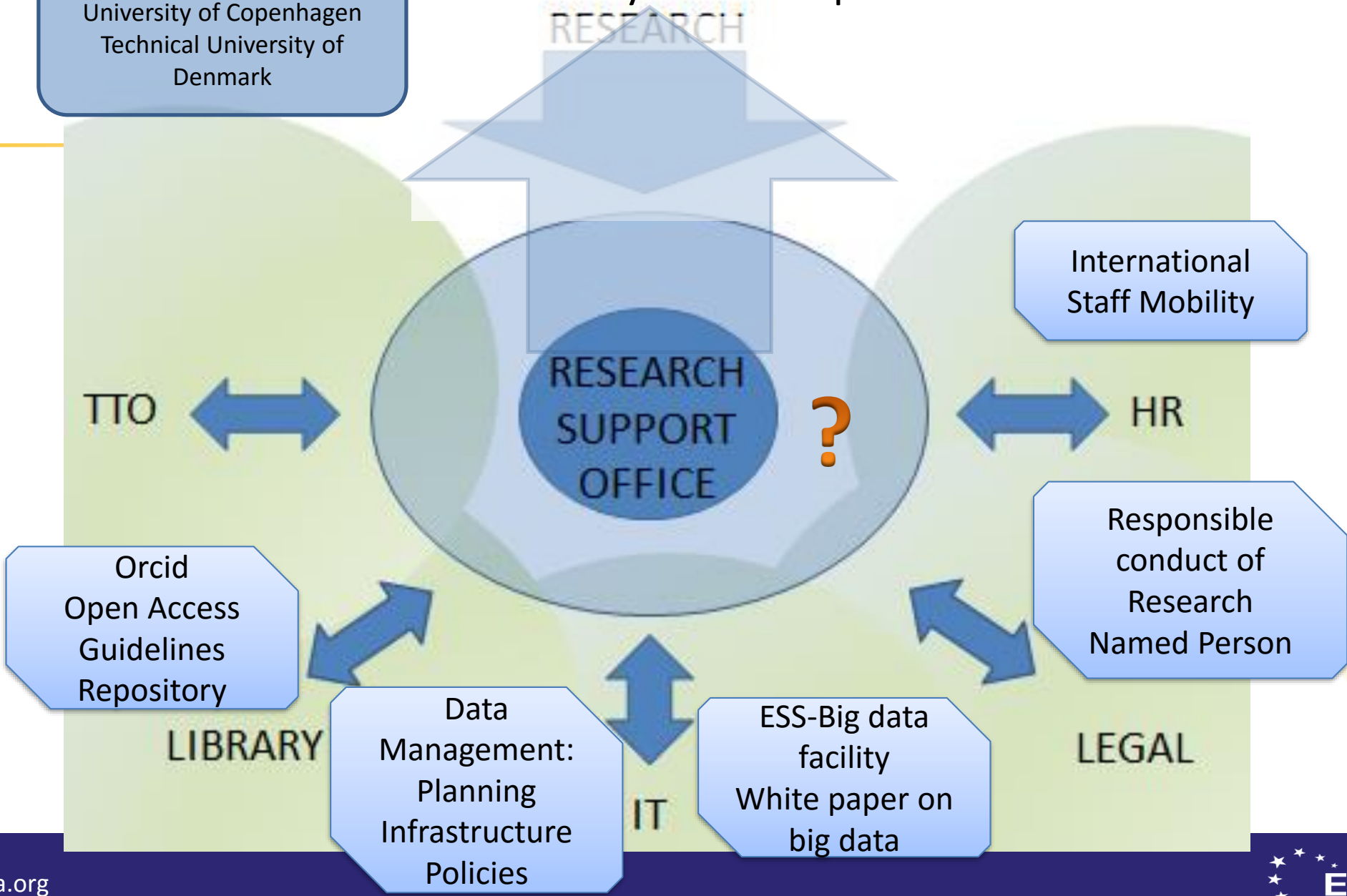
- Technical skills related to administrative, scientific, financial and legal project management and include also overall understanding of contexts to, both research policies and intrinsic issues such as methodology and ethics etc.,
- Personal competences to interact with stakeholders.

Adequate job profiles will lead to better recognition of research administrators
It is a key element of successful research

It will contribute to the career development perspectives of research administrators

Practical examples
University of Copenhagen
Technical University of
Denmark

University Leadership



Discussion forum?

- Can the development be ignored?
Are we talking about a paradigm shift, and is that important?
- To what extent are your office influenced by the mentioned changes?
- Have you or your office taken any measures to meet the new challenges?
- What do you think is the most important new role that must be taken on by the Research Office?