Open Science and Research Initiative

Infrastructures and networking for Open Science
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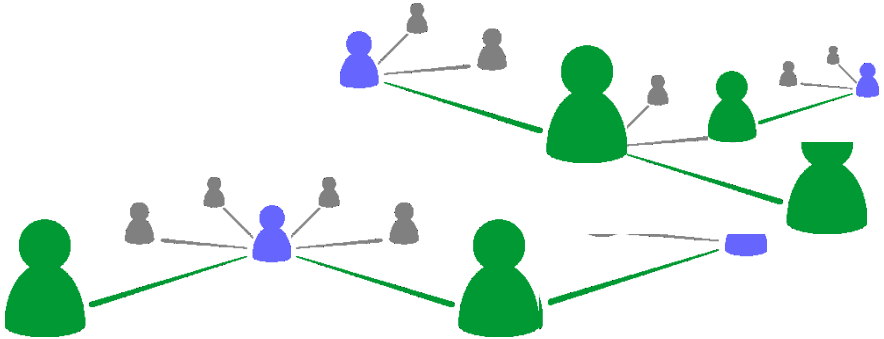
Ministry of Education and Culture
Ministère de l'Éducation et de la Culture

Vision 2017: Open research leads to surprising discoveries and creative insights



- ✓ Knowing how to harness the opportunities
- ✓ Good basic structures and services

- ➢ Openness and repeatability of science and research
- ➢ New opportunities for all stakeholders

Modern Academic Workflows

	Discovery	Analysis	Writing	Publication	Outreach	Assessment
Traditional	Web of Science	SPSS	Word, EndNote 7	nature	ResearcherID	Journal Citation Reports
Modern	Google Scholar	R	RefWorks	arXiv.org, PLOS One	Institutional Repository	eigenFACTOR.org, PLOS Article-Level Metrics
Innovative	Mendeley	Zooniverse	Authorea	figshare, PeerJ	ResearchGate, ORCID	Peerage of Science, Altmetric
Experimental	sparrho, d	OpenSci, IPlx, Nb	Overleaf, Docear	Winnower		PubPeer
Google	Google Scholar, Google books	Google Drive	Google Drive	?	Google Scholar	Google Scholar, Google Metrics
NPG/Macmillan		labguru	Overleaf	figshare, nature	Nature Blogs	nature INDEX BETA, Altmetric

Merit and reward

IPR

Quality

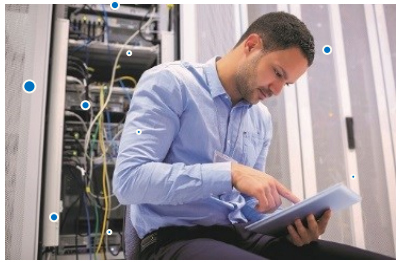
Impact

Reproducibity

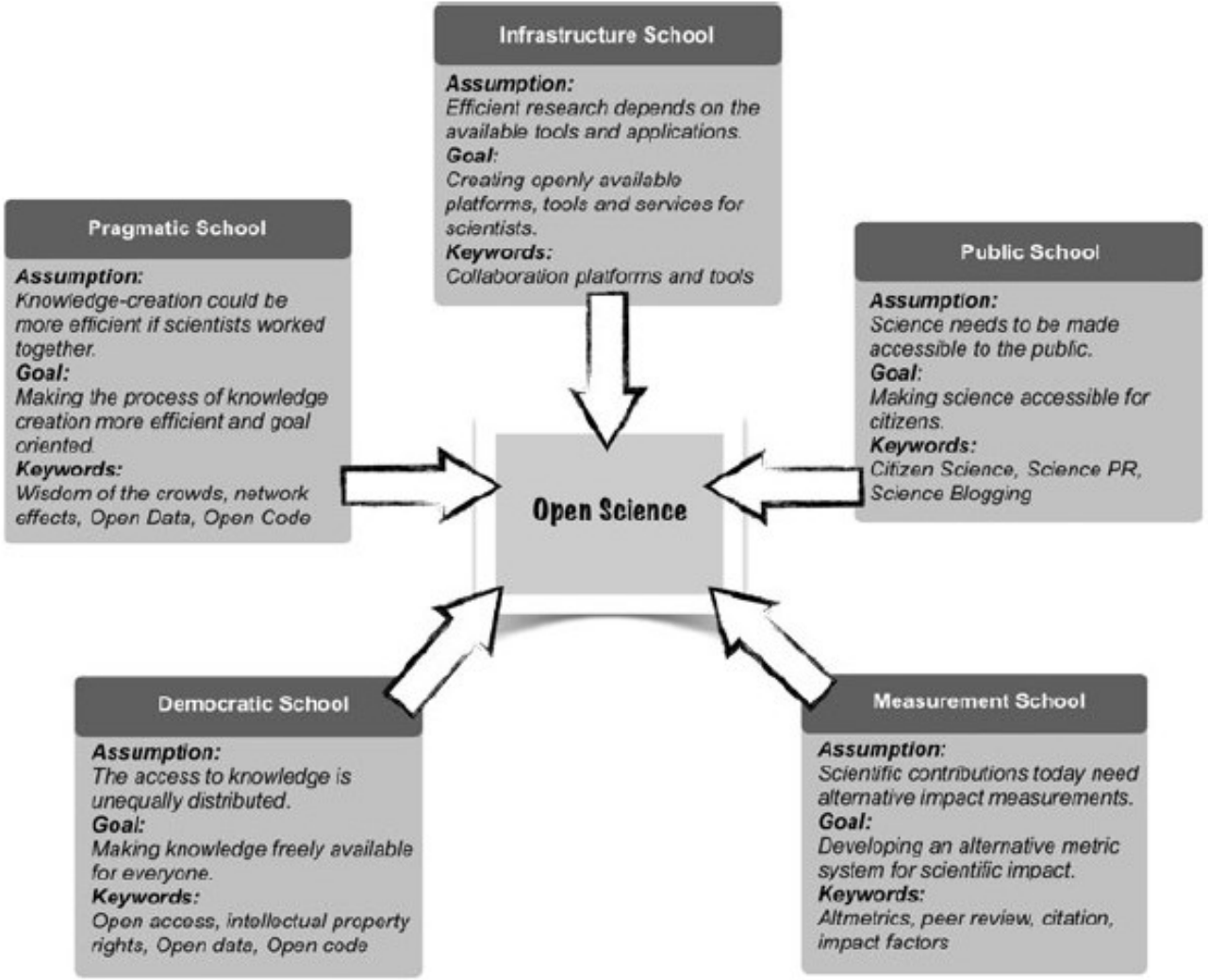
Competition

Infrastructures

Visibility



Kramer, Bianca; Bosman, Jeroen (2015): 101 Innovations in Scholarly Communication - the Changing Research Workflow. figshare. http://dx.doi.org/10.6084/m9.figshare.1286826 Retrieved 20:05, May 25, 2015 (GMT)



Benedikt Fecher & Sascha Friesike 2014
Open Science: One Term, Five Schools of Thought
doi:10.1007/978-3-319-00026-8_2

School of thought	Central assumption	Involved groups	Central Aim	Tools & Methods
Democratic	The access to knowledge is unequally distributed.	Scientists, polititians, citizens	Making knowledge freely available for everyone.	Open access, intellectual property rights, Open data, Open code
Pragmatic	Knowledge-creation could be more efficient if scientists worked together.	Scientists	Opening up the process of knowledge creation.	Wisdom of the crowds, network effects, Open Data, Open Code
Infrastructure	Efficient research depends on the available tools and applications.	Scientists & platform providers	Creating openly available platforms, tools and services for scientists.	Collaboration platforms and tools
Public	Science needs to be made accessible to the public.	Scientists & citizens	Making science accessible for citizens.	Citizen Science, Science PR, Science Blogging
Measurement	Scientific contributions today need alternative impact measurements.	Scientists & politicians	Developing an alternative metric system for scientific impact.	Altmetrics, peer review, citation, impact factors

Benedikt Fecher & Sascha Friesike 2014 Open Science: One Term, Five Schools of Thought doi:10.1007/978-3-319-00026-8_2

Architectural principles

The architecture enables open access to research results and re-use from primary sources.

The architecture considers the entire lifecycle of research and the data it generates, including its management, so that scientific and research results are permanent and reliably available.

The architecture creates services that accelerate and facilitate research efforts and strengthen research at its very core (self-correction, repeatability)

The reference architecture supports a layered, modular and cost-effective solution model that utilises existing components and can be modified to meet the needs of different scientific fields and functions.

The reference architecture creates specifications that can be used to identify unambiguous preconditions for open science and research.

Framework for Open Science and Research

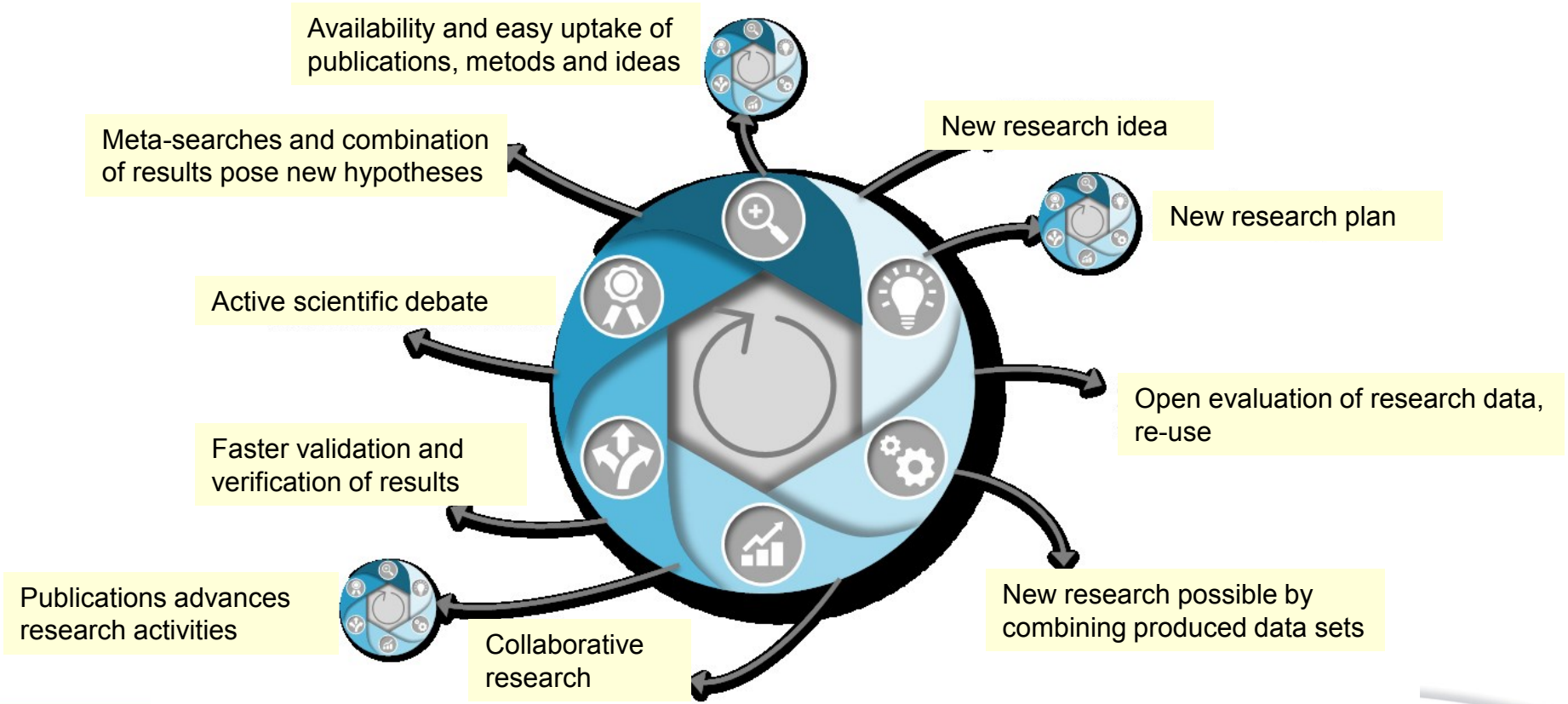
The subjects described

- Governing legislation
- Actors and stakeholders
- Architectural principles
- Information security and data protection principles
- Concepts and master data
- Services
- IT system services
- Data warehouses

Policies

- Openness is promoted at all stages of the scientific process
- Research data and outputs are openly accessible to the scientific community by default
- Research organisations' materials can be searched and utilised both centrally and decentrally

Open science and research – science accelerator



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