



Open Access to Research Infrastructure

Principals and Policy Development

Welcome and background to the initiative



- RCC: Introduction to the planned ‘Network of Open Research Infrastructures’
- Sinisa Marcic
- Expert on Human Capital Development
- ***Regional Cooperation Council***

Overview of the sessions



Day 1

- Introduction to the action (RCC)
- Introduction to Open Access to RIs
- Understanding Research Infrastructures and access
- Introduction to the Model OA Policy template
- Local Initiatives
- Planning for Day 2

Day 2

- Creating an Open Access policy
 - Definitions
 - Users
 - Access
 - Contractual and IP aspect
 - Costing and pricing
- RCC/ Experts: Next steps (Technical Assistance)

Use of Zoom



- Webinar vs. Meeting
- Muting
- Questions
- Breakout rooms

- Please be patient!

- Questions



DAY 1: INTRODUCTION TO OPEN ACCESS RESEARCH INFRASTRUCTURES



Dr Lisa Cowey MBA

SESSION 1: FAQs



Q1: 'WHAT IS 'RESEARCH INFRASTRUCTURE?'

Simple definitions



- **Facilities** that provide resources and services for research communities to conduct research and foster innovation.
- Can be used beyond research e.g. for education or public services.
- May be ‘single-sited’, ‘distributed’, or ‘virtual’.
- Include:
 - major scientific equipment or sets of instruments
 - collections, archives or scientific data
 - computing systems and communication networks
 - any other research and innovation infrastructure of a ‘unique’ nature which is **open** to external users

Q2: WHAT IS 'OPEN ACCESS'?

'Open Access' Simple definitions



- Opening access to individuals/ organisations beyond those who own the infrastructure:
 - other researchers from the same university
 - Researchers from other universities
 - Enterprises
 - [Civil society]

Don't confuse



OA to RIs



OA to Publications



**Q3: CAN YOU GIVE US
SOME EXAMPLES?**

Extreme Light Infrastructure: ELI



- **the world's first international laser research infrastructure**, pursuing unique science and research applications for international users.
- implemented as a **distributed research infrastructure** based initially on 3 specialised and complementary facilities located in the Czech Republic, Hungary and Romania.
- **first ESFRI project to be fully implemented in the newer EU Member States.**
- **pioneering a novel funding model** combining the use of EU structural funds (ERDF) for the implementation, and member contributions to a yet to be established European Research Infrastructure Consortium **ERIC** for the operation.

Examples of Research Infrastructure projects

ESS: European Spallation Source



- ESS: The world's next-generation neutron science facility
- Under construction on the outskirts of Lund (Sweden).
- The facility's unique capabilities will both greatly exceed and complement those of today's leading neutron sources, enabling new opportunities for researchers across the spectrum of scientific discovery, including materials and life sciences, energy, environmental technology, cultural heritage and fundamental physics.



<https://europeanspallationsource.se/>



ELIXIR: Distributed infrastructure for Life science information

ELIXIR intergovernmental organisation that brings together life science resources from across Europe.

- databases,
 - software tools,
 - training materials,
 - cloud storage and
 - supercomputers.
- **Goal: to coordinate these resources so that they form a single infrastructure.**
 - makes it easier for scientists to find and share data, exchange expertise, and agree on best practices. Ultimately, it will help them gain new insights into how living organisms work.
 - Example: TESS is online training portal that gathers life science training materials and training courses from across Europe, and allows you to search it in one website.
 - This makes it easier for scientists to find the training they need, and gives the training courses wider publicity.
 - ELIXIR includes 22 members and one Observer, bringing together over 220 research organisations. It was founded in December 2013 and began implementing its first scientific programme in 2014.
 - It is currently implementing its second five-year [scientific programme](#).

Examples of Research Infrastructure projects



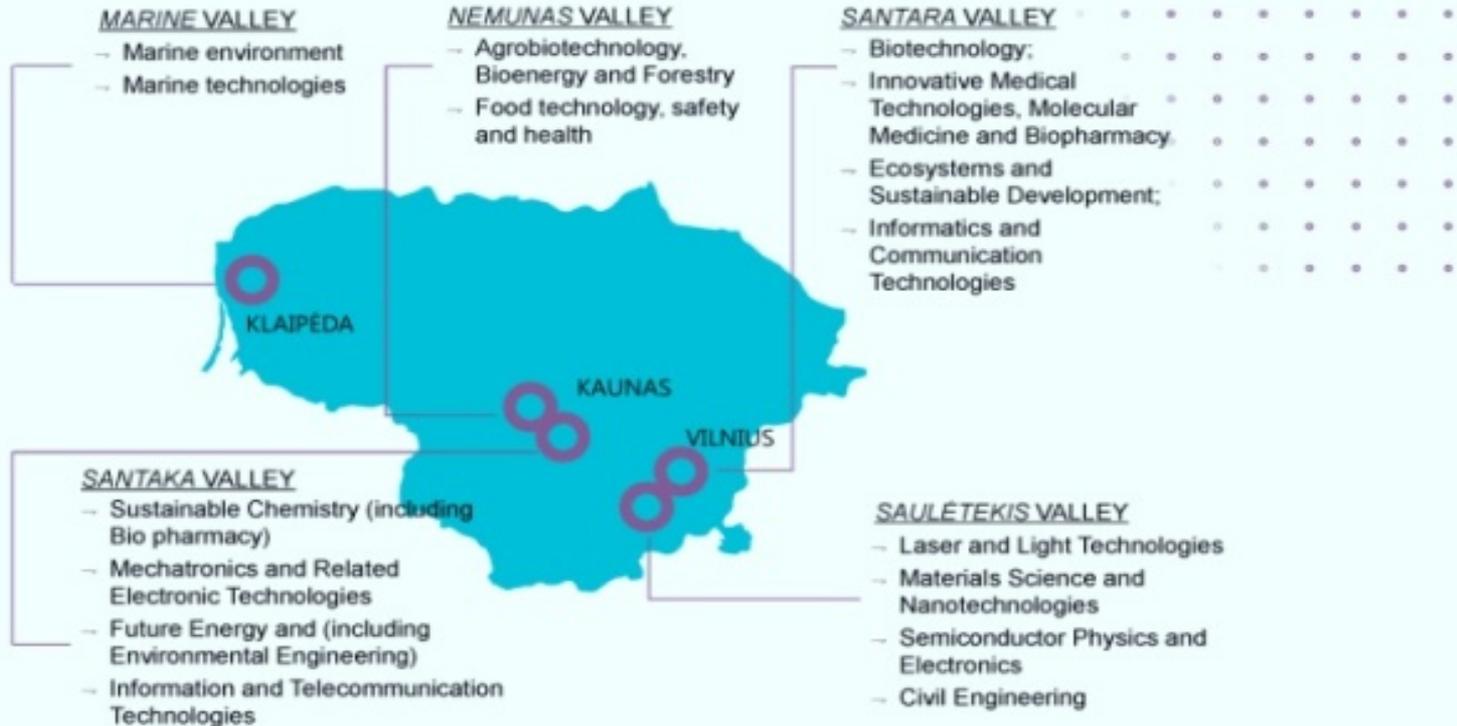
- SHARE: Survey of Health, Ageing and Retirement in Europe
- a multidisciplinary and cross-national panel database of micro data on health, socio-economic status and social and family networks of about 140,000 individuals aged 50 or older (around 380,000 interviews).
- Covers 27 European countries and Israel.

Q4: SO IS ALL RI LARGE?



A: NO! LITHUANIAN 'VALLEYS'

Integrated Science, Study and Business Valleys



- www.e-sciencegateway.lt

Focus on —
the Future



Regional Cooperation Council



Co-funded by the European Union

KU LT: ANALYSIS OF SEDIMENT PARTICLE SIZE



R&D Services



ANALYSIS OF SEDIMENT PARTICLE SIZE

Klaipėdos universitetas

ORDER

DESCRIPTION DETAILS

Analysis of sediment particles (size, shape) in dry and wet samples, fractionation of the samples.

CONTACTS

First name: VIKTORIJA
Last name: VAITKEVIČIENĖ
Email: viktorija.vaitkeviciene@apc.ku.lt
First name: Zita Rasuolė
Last name: Gasiūnaitė
Email: zita@corp.ku.lt

PAYMENT METHODS

Pay for the services using bank transfer, bank card or cash.

SECURITY POLICY

Your private information is not transferred to third parties and is used to fulfill your order.

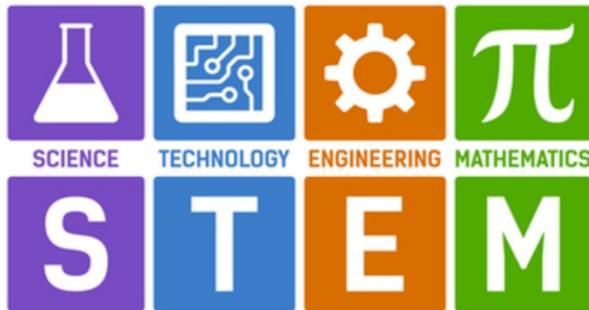
Q5: IS RI JUST FOR THE TECHNICAL SCIENCES (STEM)?



A: NO!

STEM

AHSS



Digital Research Infrastructure for the Arts and Humanities (DARIAH)



Members and Partners

- DARIAH is a pan-European infrastructure for arts and humanities scholars working with computational methods.
- It supports digital research as well as the teaching of digital research methods.
- <https://www.dariah.eu/>



WB6: Social Sciences



ADAS - Albanian Data Archive for Social Science

- Part of CESSDA ERIC

Future Kosovo Social Sciences Data Centre (KSSDC)

- CESSDA ERIC



If you have joined us today and you are from either of these two groups then please do make contact via the questions box or my email because we should very much like to hear from you in Session 3.

(WHAT ARE ESFRI AND ERIC?)



- Mission: to support a coherent and strategy-led approach to policy-making on **research infrastructures** in Europe, and to facilitate multilateral initiatives leading to the better use and development of research infrastructures, at EU and international level

- <https://www.esfri.eu/>



ESFRI

- Plays a key role in policy-making on Research Infrastructures in Europe.
- Composed of national delegates nominated by research ministers of EU countries and countries associated with Horizon 2020.
- **ESFRI's mandate**
- establish a European roadmap for RIs for the next 10-20 years, stimulate the implementation of these facilities, and update the roadmap as needed
- support a coherent and strategy-led approach to policy making on Research Infrastructures in Europe
- facilitate multilateral initiatives leading to a better use and development of Research Infrastructures, with the ESFRI acting as an incubator for new initiatives
- https://ec.europa.eu/info/research-and-innovation/strategy/european-research-infrastructures/esfri_en



- The European Research Infrastructure Consortium (ERIC)
- A specific legal form that facilitates the establishment and operation of RIs with European interest.
- The ERIC allows the establishment and operation of new or existing Research Infrastructures on a non-economic basis
- https://ec.europa.eu/info/research-and-innovation/strategy/european-research-infrastructures/eric_en

(AND CERIC?)



- Central European Research Infrastructure Consortium (CERIC)

- <https://www.ceric-eric.eu/>





(AND CELAC....)

(CELAC: COMMUNITY OF
LATIN AMERICAN AND CARIBBEAN STATES)

[WHAT ABOUT OPENAIRE?]



- ‘Open Access Infrastructure for Research in Europe’
- **Note the word ‘FOR’**
- Mission: to gather the metadata of **research output** (publications and associated research) funded by the EC.
- <https://www.openaire.eu/>



**Q6: WHY ARE WE DOING
THIS?
(WHAT ARE THE BENEFITS?)**

Rational for and Benefits of Open Access



Retrospective perspective

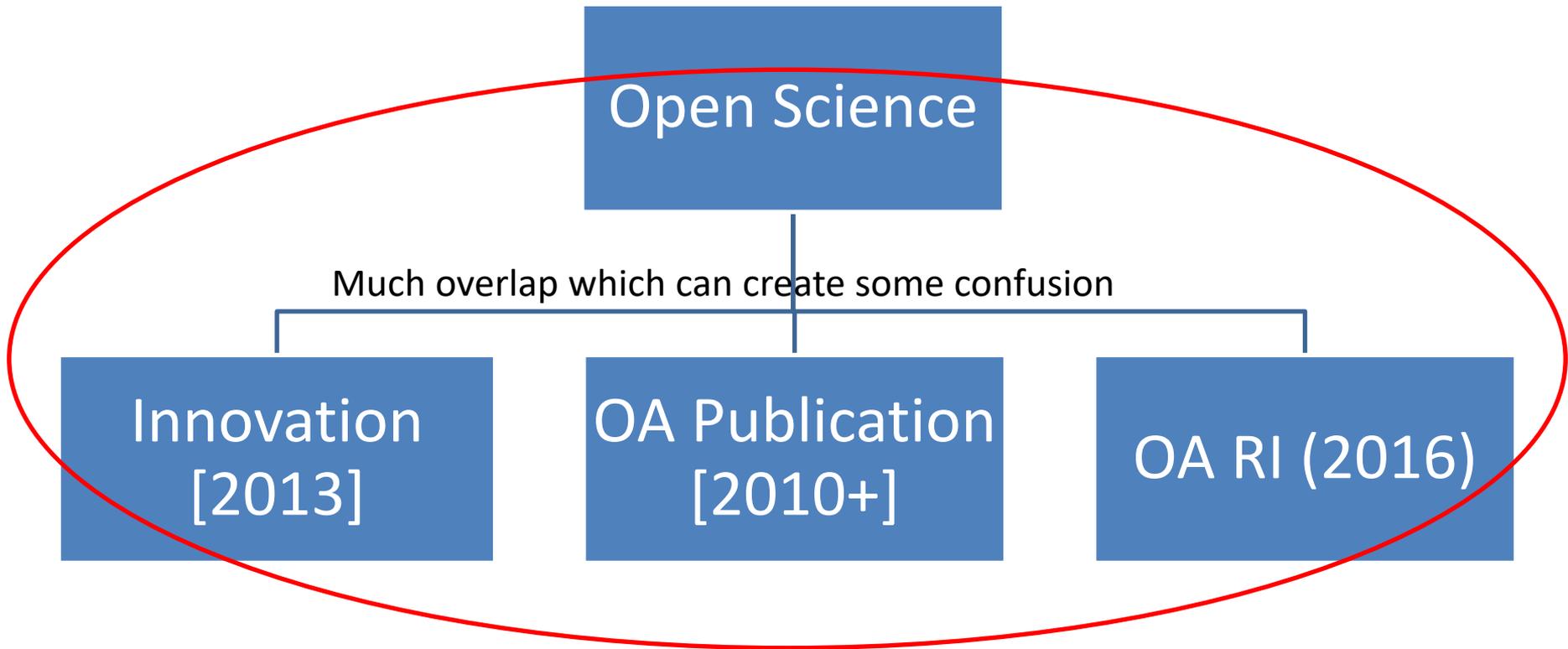
- We have already invested in to equipment (Ministries and Governments)
- We do not wish to invest more.
- We want users to share it.

Future strategic perspective

- Competitiveness and innovation (Economic development)
- Open Science
- Grand Societal Challenges/ Mission Led Science
- Research mobility (brain circulation)
- RoI (National Government)
- Diversified funding streams (PROs)

Q7: WHO STARTED IT? (WHERE DOES IT COME FROM?)

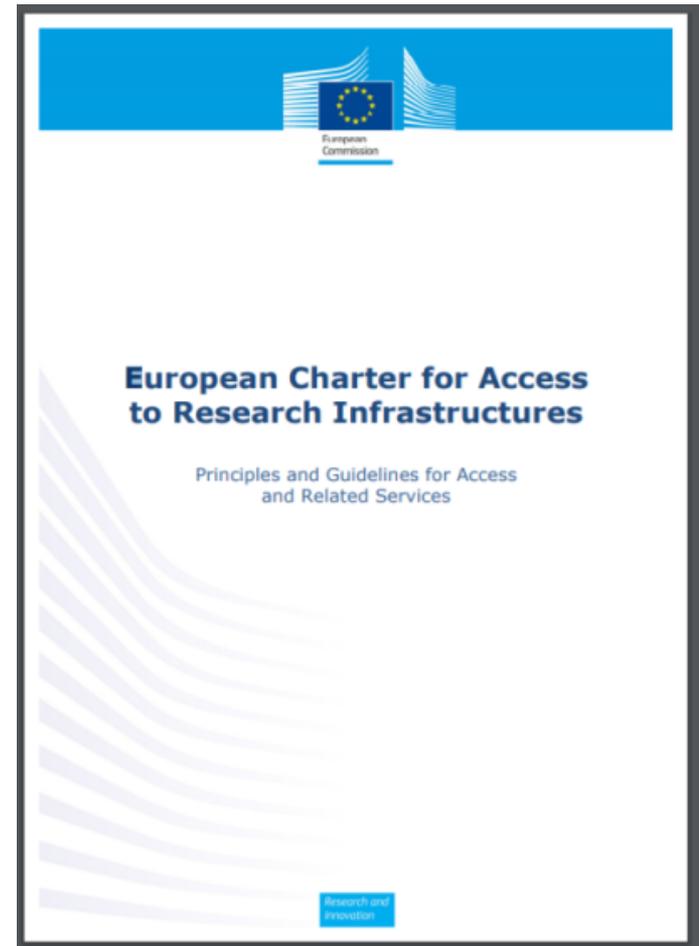
Op Access to RIs: Part of the EU 'Open' Policy



EU Policy codification: EU Charter (2016)



- EU Charter (2016)
- Defines RIs according to type.



EC Key Objectives of OA to RIs



- Reduce fragmentation of the research and innovation ecosystem
- Avoid duplication of effort
- Better coordinate the development and use of Research Infrastructures
- Establish strategies for new pan-European, well-established intergovernmental or national Research Infrastructures
- Join forces internationally to construct and run large, complex or expensive infrastructures, respond to global challenges and/or foster combining skills, data and efforts of the world's best scientists
- Foster the innovation potential of Research Infrastructures by making industry more aware of opportunities offered to improve their products and by the co-development of **advanced technologies** e.g. [ATTRACT](#)
- **Use Research Infrastructures for science diplomacy - using science collaboration to address common problems and build partnerships internationally e.g. [SESAME](#) in Jordan and [EU-CELAC](#) in Latin America**

ATTRACT



- ‘A pioneering initiative bringing together Europe’s fundamental research and industrial communities to lead the next generation of detection and imaging technologies’.
- The aim is to create an entirely new, European model of Open Innovation that can become an engine for jobs and prosperity for all
- Delivered through a [consortium of big research organisations](#) – that build and operate telescopes, particle accelerators and other capital-intensive scientific instruments, large companies, experienced venture capitalists, and individual investors .
- Funded by the European Union’s Horizon 2020 programme.

- <https://attract-eu.com/>





SESAME

SESAM and CELAC



SESAME (Jordan)

- SESAME (Synchrotron-light for Experimental Science and Applications in the Middle East) is a “third-generation” [synchrotron light source](#) that was officially opened in Allan (Jordan) on 16 May 2017. It is the Middle East's first major international research centre.
- It is a cooperative venture by scientists and governments of the region set up on the model of [CERN](#) (European Organization for Nuclear Research) although it has very different scientific aims. It was developed under the auspices of [UNESCO](#) (United Nations Educational, Scientific and Cultural Organization) following the formal approval given for this by the Organization's Executive Board (164th session, May 2002).
- <https://sesame.org.jo/>

EU-CELAC (Latin America)

CELAC Community of Latin American and Caribbean States

Since the EU-CELAC Summit in 2015, efforts have been stepped up to develop an **EU-CELAC Common Research Area**, focusing on three strategic pillars: mobility of researchers, access to research infrastructures and jointly addressing common global challenges.



EOSC: European Open Science Cloud



EUROPEAN OPEN
SCIENCE CLOUD



Architecture

Architecture of the federated infrastructures as the solution to the current fragmentation in research data infrastructures which are insufficiently interoperable.

Data

FAIR data management and tools. A common data language to ensure data stewardship across borders/disciplines based on FAIR principles.

Services

Available services from a user perspective. A rich environment offering a wide range of services covering the needs of the users.

Access & Interface

Mechanisms/interfaces for accessing EOSC. A simple way to deal with open data obligations, or to access research data across different disciplines.

Rules

Rules of participation for different EOSC actors. An opportunity to comply with existing legal and technical frameworks and increase legal certainty & trust.

Governance

Governance of the EOSC, aiming at ensuring EU leadership in data-driven science but requiring new governance frameworks.

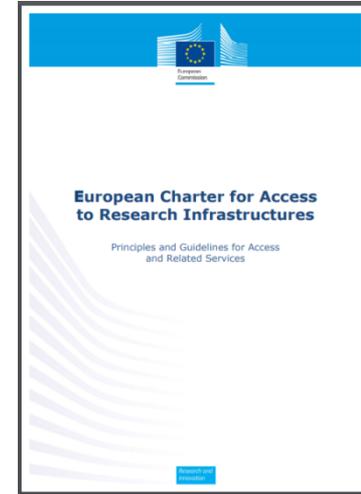


Q8: HOW IS THIS DONE IN PRACTICE?

Good Practice Frameworks



- EU Charter (2016)
- LERU Four Golden Principles for Enhancing the Quality, Access and Impact of Research Infrastructures
- <https://www.leru.org/files/Four-Golden-Principles-Full-paper.pdf>
- National frameworks (Northern Ireland)
- <http://hea.ie/assets/uploads/2017/09/National-Principles-For-Access-To-Research-Infrastructure.pdf>
- National Regulation Lithuania
- <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.375571/asr>.
- Kaunas University of Technology Regulation
- https://apcis.ktu.edu/help/operating_rules.pdf.
- Vilnius University of Technology regulation
- https://www.vu.lt/site_files/MID/APC/VU_open_access_ENG.pdf
- Poland: **Terms And Conditions Of Use Of The Research Infrastructure Of The National Synchrotron Radiation Centre Solaris**
- <https://synchrotron.uj.edu.pl/documents/1457771/138966987/terms-and-conditions.pdf/9abd9044-042c-47b5-a87f-8fcaa42b0a12>



LE
RU

National Approaches and examples



Finland

- Open access constitutes one of the key elements for the selection of proposals.
- Service availability to users should be guaranteed.

Sweden

- Research infrastructures must be used by multiple research groups or users at several higher education institutions (thus implicitly encouraging the institutions to open up their facilities).

Peer Countries

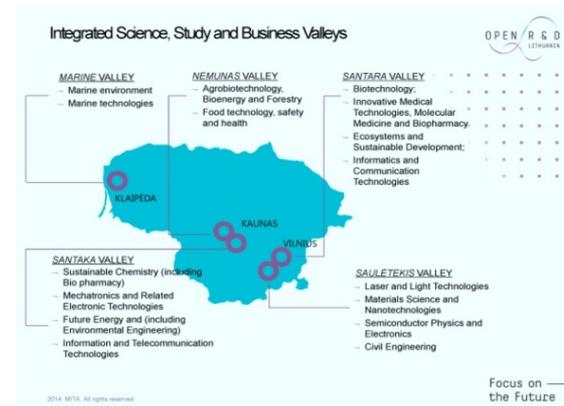


Poland

- Use of infrastructure funded through ERDF
- Main issues:
- Restricting on use of faculties purchased for 'education'
- State Aid Rules

Lithuania

- National Regulation
- Institutional regulations
- 'Valleys'



European Union

European Regional
Development Fund



Regional Cooperation Council



Peer Countries: Czech Technical University in Prague (CTU)



Czech Technical University in Prague
Search ...
CZ EN


Training Reactor
VR-1

About Us
Research
Activities
Contact

- Education
- Training
- Research
- Cooperation
- Visit
- Open Access

Open Access

1. Definition and Scope of Open Access

Training reactor VR-1, which is operated by Czech Technical University in Prague is a large infrastructure for research, development and innovation in the sense of Czech law 130/2002 Coll. In the frame of targeted support by the Ministry of Education, Youth and Sports of the Czech Republic, the CTU in Prague offers open access to VR-1 training reactor for the purposes of research, development and innovation.

Open access to VR-1 training reactor means "the opportunity to carry out research, development and innovation activities at the premises of VR-1 reactor utilizing the reactor, its experimental and data processing equipment, adjacent laboratories, professional and technical support for such activities from the reactor staff in the fields of safe operation of nuclear installations, theoretical and experimental reactor and neutron physics, nuclear safety, and nuclear fuel cycle."

Open access is provided to the extent of decision of Ministry of Education, Youth and Sports of Czech Republic on allocation of targeted support. The access is intended for individuals or organisations from the Czech Republic or European Union. The open access allows also carrying out students experimental works, especially, in the frame of their doctoral, master and bachelor theses as well as students research projects.

2. General Rules for Open Access Provision

4. Rights and Duties of Open-Access User

5. Validity of Conditions for Open Access

Q9: ARE WE DOING THIS IN THE WESTERN BALKANS?



Regional policy developments and initiatives

- **Policy**
 - WB6 Protocol (ongoing discussions)
- **Initiatives**
- AL: ADAS - Albanian Data Archive for Social Science
- BiH: Centre for Development Evaluation and Social Science Research (CREDI)
- Future Kosovo Social Sciences Data Centre (KSSDC)
- ME: Future Montenegrin Social Science Data Archive (MSSDA)
- SR: NanoCentre Serbia (NCS)
- South East European International Institute for Sustainable Technologies (SEEIIST)

Q10: HOW CAN WE GET INVOLVED?

Involvement



- **RCC Open Access Research Infrastructure in the Western Balkans Support Programme**
- **Network of Open Research Infrastructures in the Western Balkans**
- **Technical Assistance: July- mid September 2020**



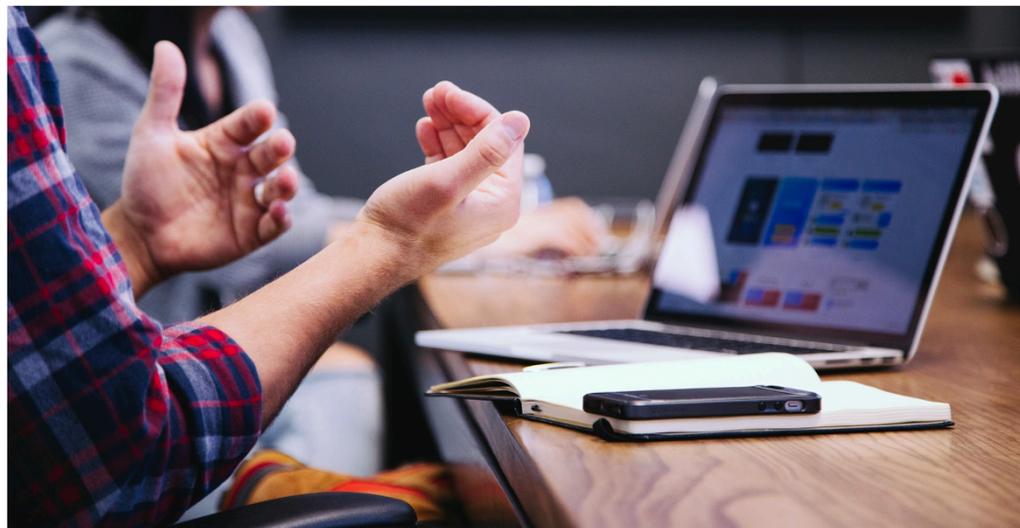
Summary



- ‘Open’ RI is a part of the wider ‘Open’ Agenda for Europe.
- Don’t confuse OA RI with OA publications.
- Open RI does not need to be pan European or even very large.
- Both old and new member states are facilitating use through policy, guidelines and regulation.
- The WB6 are now deliberately moving in this direction.



Discussion and Q&A



Dr. Jelena Angelis

SESSION 2: UNDERSTANDING RESEARCH INFRASTRUCTURES AND ACCESS



Dr. Jelena Angelis

SESSION 2: UNDERSTANDING... RESEARCH INFRASTRUCTURES



“Research Infrastructure” term in scientific and policy literature



INTERNATIONAL RESEARCH INFRASTRUCTURE LANDSCAPE 2019

A European Perspective

RISCAPE
Mapping the Research Infrastructure Landscape

Source: <https://riscape.eu/riscape-report/>



A dominant term is that the RI is meant for research or science purposes

- often including qualitative terms such as “top-level” or “cutting-edge”
- concentrated on supporting science
- rarely are other goals such as innovation (notably in Horizon 2020 definition), education, or dissemination mentioned

The term “unique” is used by some of the definitions (such as the ESFRI)

- An emphasis on RI being distinguishable from others and of a particular nature, or particularly significant

The term “access” is often used

Commonalities in various definitions



Terms such as facilities, resources or services (among others) are used

- The types of single-sited, distributed and virtual RIs are common in the definitions

Commonalities in various definitions (cont'd)

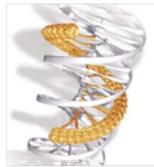
An emphasis on RI being Mentions of instrumentation, collections (physical and data) and collaborative networks are used

- Also software, communication tools and human resources as a part of RIs are also mentioned in some descriptions

Longevity is not often mentioned in the short-form definition

- But it is implicitly involved both in the ESFRI definition and in the literature use of the term

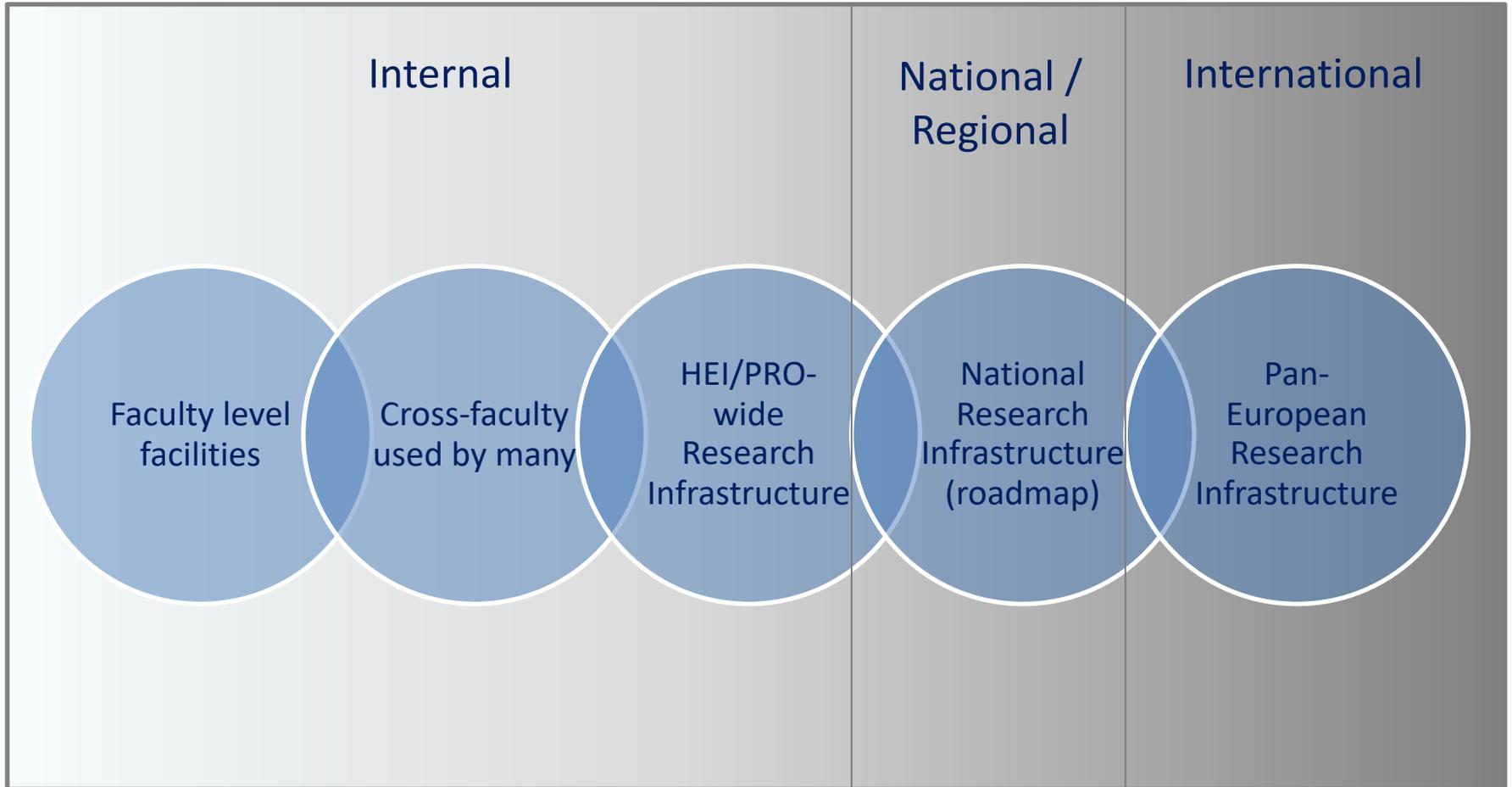
Suggestions from



The RISCAPE project suggested to define research infrastructure as a facility, organisation, or network along these criteria:

- It has science or **scientific research as the main driver** of its activities
 - This comes from the need of making it easier to find complementary facilities when focused on facilities concentrated on the same goals
- It provides research services to **users outside** of the organisation itself,
 - This is based on the European view of shared research facilities, and the RI as a service provider
- It has an **operational time horizon** longer than the typical research projects in the field in question
 - This longevity is crucial as any short-term projects or initiatives would make the collected information quickly obsolete
 - The longevity is typical for the scale of operations required for European ESFRI infrastructures, the identified potential complementarities should be more meaningful
- It **promotes excellence** and is of significance for the science field in question.

From university to the international level



Source: EFIS Centre

What is Research Infrastructure?



Facilities, resources (including human) and related services needed by the research community. These includes:

- Major equipment or group(s) of instruments used for research purposes
- Permanently attached instruments, managed by the Research Infrastructure owner/operator for the benefit of all users
- Knowledge-based resources such as collections, archives, structured information or systems related to data management, used in scientific research
- Enabling information and communication technology-based (ICT) or 'e-infrastructures' such as Grid, computing, software and communications
- Any other laboratory / equipment of a unique nature used for scientific research





European Research Infrastructures

What Research Infrastructures are, what the Commission is doing, strategy areas, funding and news.

What are Research Infrastructures?

Research Infrastructures are facilities that provide resources and services for research communities to conduct research and foster innovation.

They can be used beyond research e.g. for education or public services and they may be single-sited, distributed, or virtual.

They include

- major scientific equipment or sets of instruments
- collections, archives or scientific data
- computing systems and communication networks
- any other research and innovation infrastructure of a unique nature which is open to external users

Source: https://ec.europa.eu/info/research-and-innovation/strategy/european-research-infrastructures_en#what

Types of Research Infrastructure

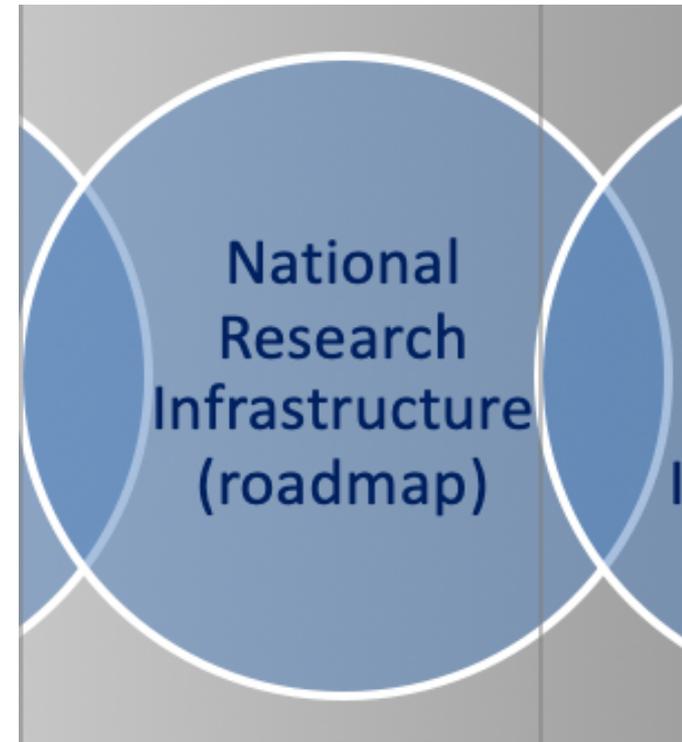


- Single sited – located in one site and operated by a single institution
- A distributed infrastructure:
 - An infrastructure with facilities located in different sites, operated by a single legal entity, or
 - An infrastructure set up as a central hub which is responsible for the coordinated operation of several closely linked distributed facilities, which might however retain their legal personality.
- A mobile facility:
 - Involves vehicles or vessels specially designed for scientific research (for example ships, aircraft, etc.).
- A virtual infrastructure (or e-infrastructure):
 - Implies that the service is provided electronically.



Six categories **based on** their **accessibility** to Swedish researchers and on how the **responsibility for** their **operation and use** is regulated:

- Infrastructures operating under international conventions
- Infrastructures operating via other international collaboration and that are openly accessible
- Infrastructures at the national level that are openly accessible to all researchers
- Networks of type-E nodes at the national level that promote open accessibility among researchers and specialisation and complementary support among the nodes
- Equipment or databases used jointly by research groups, mainly at a faculty or larger institution
- Equipment in a research group's laboratory, or databases at the research group level. Used mainly by the research group, but also partly in collaboration with other research groups





Australia



The 2011 Australian Strategic Framework identifies three categories of RI investments:

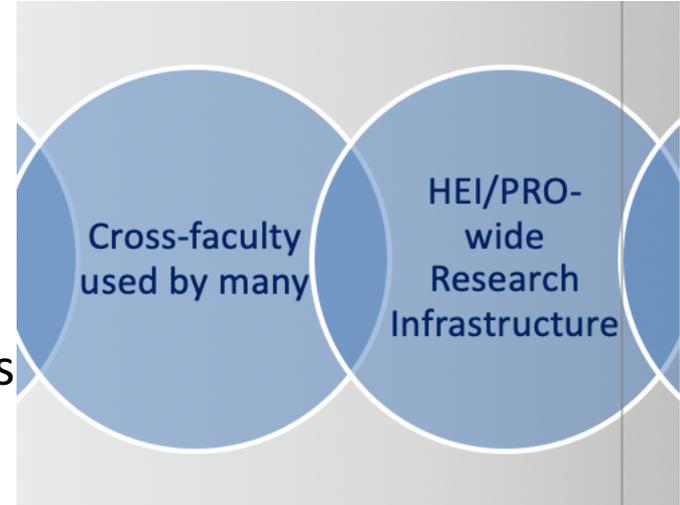
- **Local** – research infrastructure which could be expected to be owned and operated within a single institution.
- **National** – research infrastructure on a scale generally not appropriate to be owned or operated by a single institution and which often supports collaborative research and is generally regarded as part of the national research capability.
- **Landmark** – large scale facilities (which may be single-site or distributed) that serve large and diverse user communities, are generally regarded as part of the global research capability, and engage national and international collaborators in investment and access protocols.

National
Research
Infrastructure
(roadmap)



The Order No. V-852 "On Approval of Open Access Centre Management Regulations" of the Minister of Education and Science of 8 June 2010.

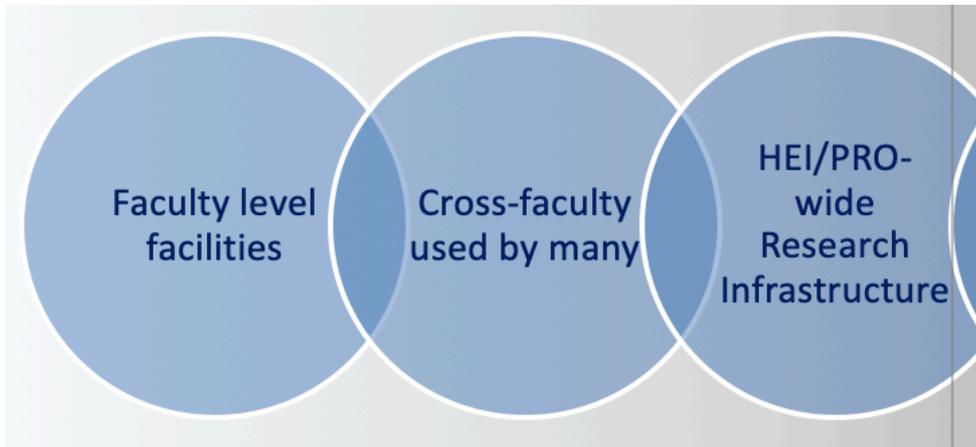
- SRED infrastructure (infrastructure of scientific research and studies) – physical objects (science institutes, laboratories, etc.), instrumental tools, totality of other material and virtual resources and related services, required for performance of modern fundamental and applied scientific research.
- KTU Open Access Centre – formation functioning on the basis of the University's SRED resources (for example, a set of equipment, laboratory, network of laboratories research centre of research and educational institution, etc.), providing services required for performance of scientific research and/or experiments.



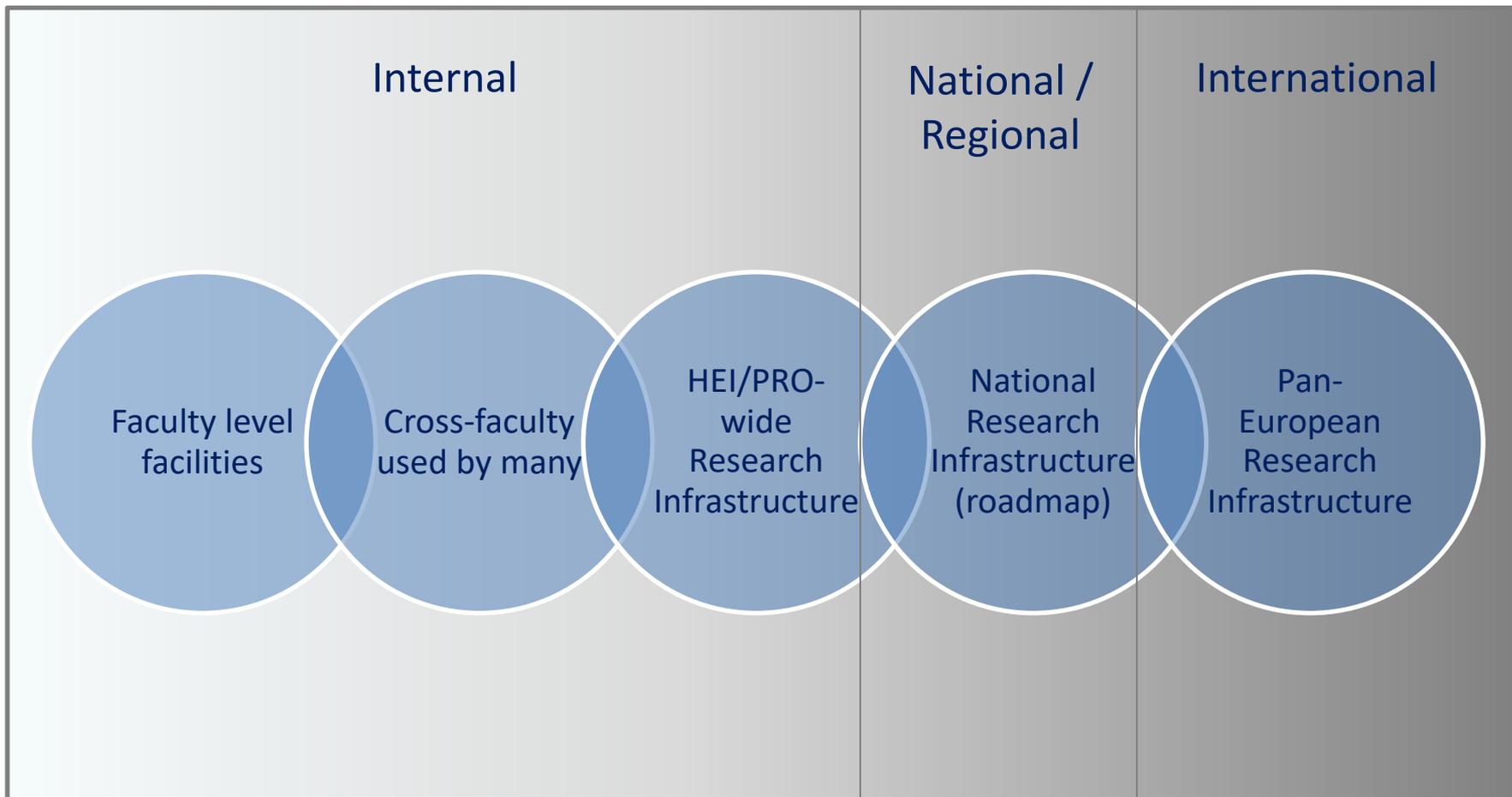


In 2015, the Senate of the Jagiellonian University adopted a resolution on the Regulations for the use of research infrastructure at the Jagiellonian University

- Research Infrastructure is ought to be understood as pieces of equipment or assemblies of pieces of equipment forming a functional whole (including research rooms and laboratories), owned by the University, which serve or can be used to conduct scientific research or development works



Keep this in mind when deciding on your Research Infrastructure



Source: EFIS Centre

Dr. Jelena Angelis

SESSION 2: UNDERSTANDING... ACCESS





Centre for Medical Research, Graz, Austria



- Centre for Medical Research (ZMF) is separate organisational unit within the Medical University Graz
- Building of c.4 000 m², equipped with technical equipment (imaging machines etc.) but also with a Clinical Investigation Centre
- ZMF's "business" is not about services, but about the quality of research
- These are the key success factors
 - Core Facilities are operated by highly qualified staff
 - ZMF staff supports external research teams in the specification of their samples and interpretation of results
 - ZMF staff is part of the research activity ranging from the specification of the research project to (joint) publication

Defining “Open Access”



- Need to be clearly defined in order to avoid any confusion
- “Open” does not mean “free”
- Definition used by ESFRI: open to all interested researchers, based on an open competition and selection of the proposals evaluated on the sole criteria of scientific excellence by international peer review.

Defining “Open Access”



Deciding about access to the RI, think about “time”:

- **Experimental time** – a period of time within which the RI can be used to carry out Research and Development
- **Technical time** – a period of time within which the RI is being technically maintained and the users cannot use the RI to carry out scientific research and development works.
- **Off time** – the period of time which the RI cannot be used. This time is reserves for maintenance and repairs.
- **Open Access time** – the period of time within which the RI is made accessible to the users either for free or a for a fee
- **Guaranteed Time** – the period of time reserved for external users who, e.g. made an in-kind financial contribution to the development of the RI



Discussion and Q&A



Dr Lisa Cowey MBA

SESSION 3: STATUS AND PLANS IN THE WB6



Overview



Local initiatives

- SEEIIST
- Institute of Physics Belgrade
- Nenad Celarevic/ AHSS/
PERFORM

- [ADAS - Albanian Data
Archive for Social Science]

Individual/ institutional interest

- A chance to contribute or
'declare intent'.

Dr Lisa Cowey MBA

SESSION 4: PLANNING AND PREPARATION FOR DAY 2



Preparation for Day 2



- Suggested advanced reading
- Format (use of **Zoom breakout rooms**)
- Semi-self-organization / allocation into small teams
- **Q&A**





Lisa Cowey

L.Cowey@t3i.co.uk

Jelena Angelis

angelis@efiscentre.eu

