# Enabling Open Science

## Towards the European Open Science Cloud: What are the needs for successful networks?

***About good governance, policies, news skills, new roles***

**Paolo Budroni –** New roles in Open Science and Data Stewardship
Ca‘ Foscari - Venice, November 2016

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1. About Open Science
2. The European Open Science Cloud
3. Towards Open Science - What is really needed ?
4. Factors for the success of networks
5. Conclusions

# About Open Science

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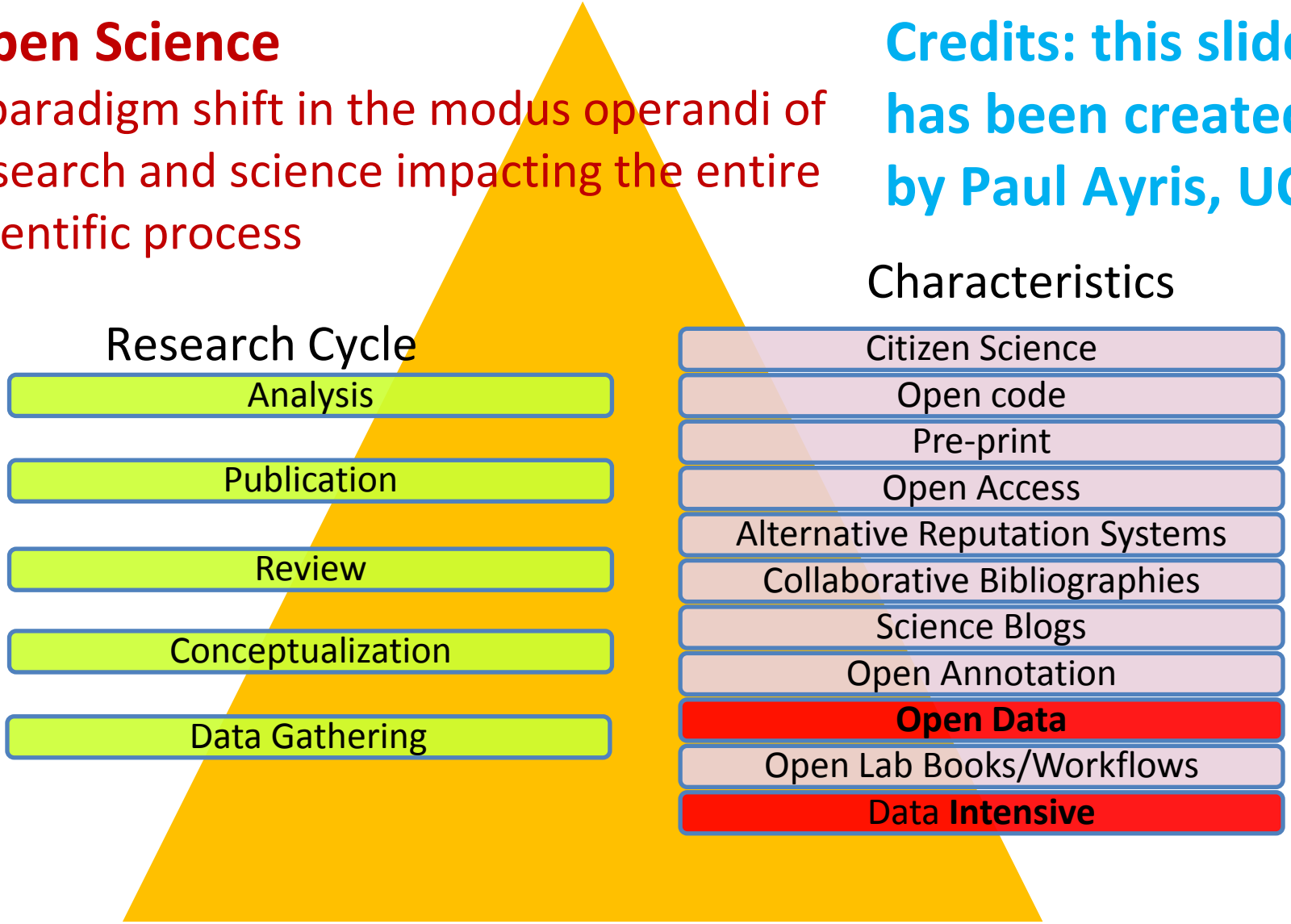
Open Science is the movement to make scientific research, data and dissemination accessible at all levels of an enquiring society

# Open Science

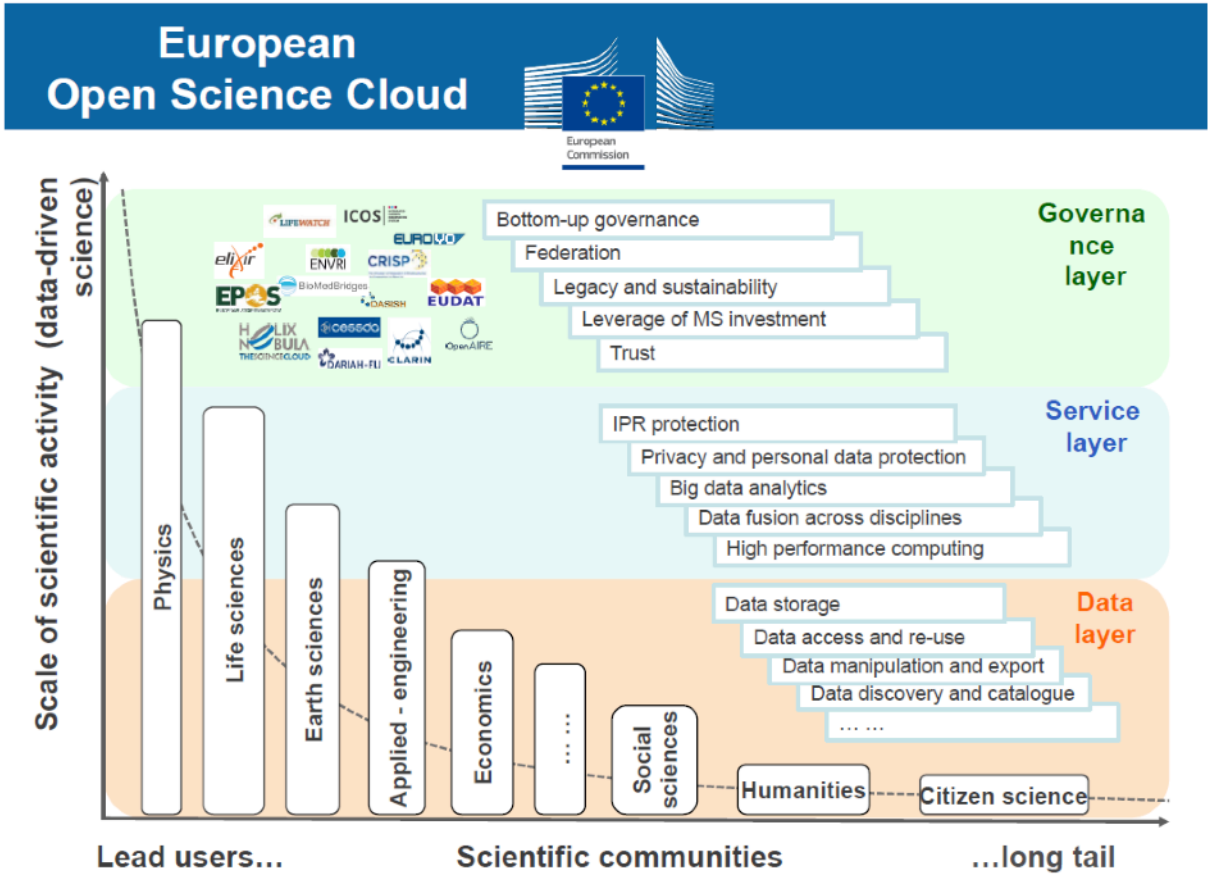
a paradigm shift in the modus operandi of research and science impacting the entire scientific process

Credits: this slide has been created by Paul Ayris, UCL



# The European Open Science Cloud

# European Open Science Cloud




Aus: Presentation "Open Science policy: Results of the consultation on 'Science 2.0: Science in transition' and possible follow up" by J.C. Burgelman, June 3 2015 at e-IRG workshop

# Realising the Open Science Cloud

On 11. October 2016, the Commission High Level Expert Group on the EOSC (HLEG-EOSC) published its first report, entitled „Realising the Open Science Cloud.“ The report calls upon the 500,000 members of the European research community to implement policies, construct effective governance models, identify e-Infrastructure commons, build up digital eco-systems, commit to data stewardship, train data experts and to define rules of engagement.

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# European Open Science Cloud

- Build on existing infrastructure and expertise
- Devise Rules of Engagement
- EU contribution to FAIR data and Open Science
- Build links to regional Cloud(s) in Latin America & Caribbean
- Develop expertise
  - Half a million ‘core data scientists’ in Europe
  - 5% of total research spend should be on data stewardship


Available here

# EOSC - Key elements

- Lightest possible, internationally effective governance
- Guidance only where guidance is due: *greatest possible autonomy within scientific work clusters*
- Rules of engagement for service provision: *introduce a governance for rules of engagement , projects and related teams*
- Federate the gems and amplify good practice
- Build on existing capacity and expertise where possible: *workshops, implementation of continuing-education seminars*
- Optimize the e-Infrastructures communities: *constant feedback, competent servicing*

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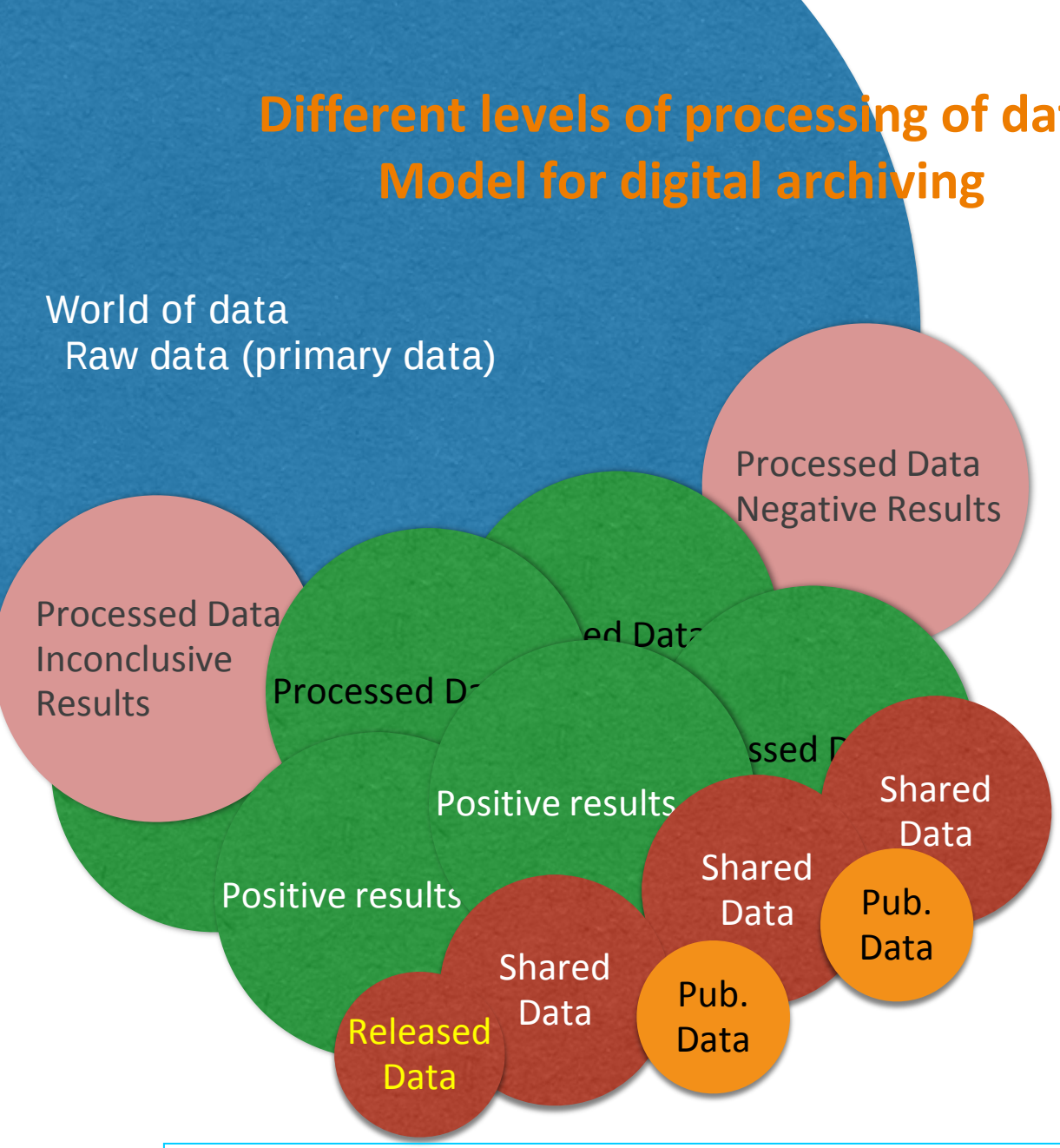
# Different levels of processing of data
# Model for digital archiving




→ Strata of research data

→ Restricted Data

→ Open data

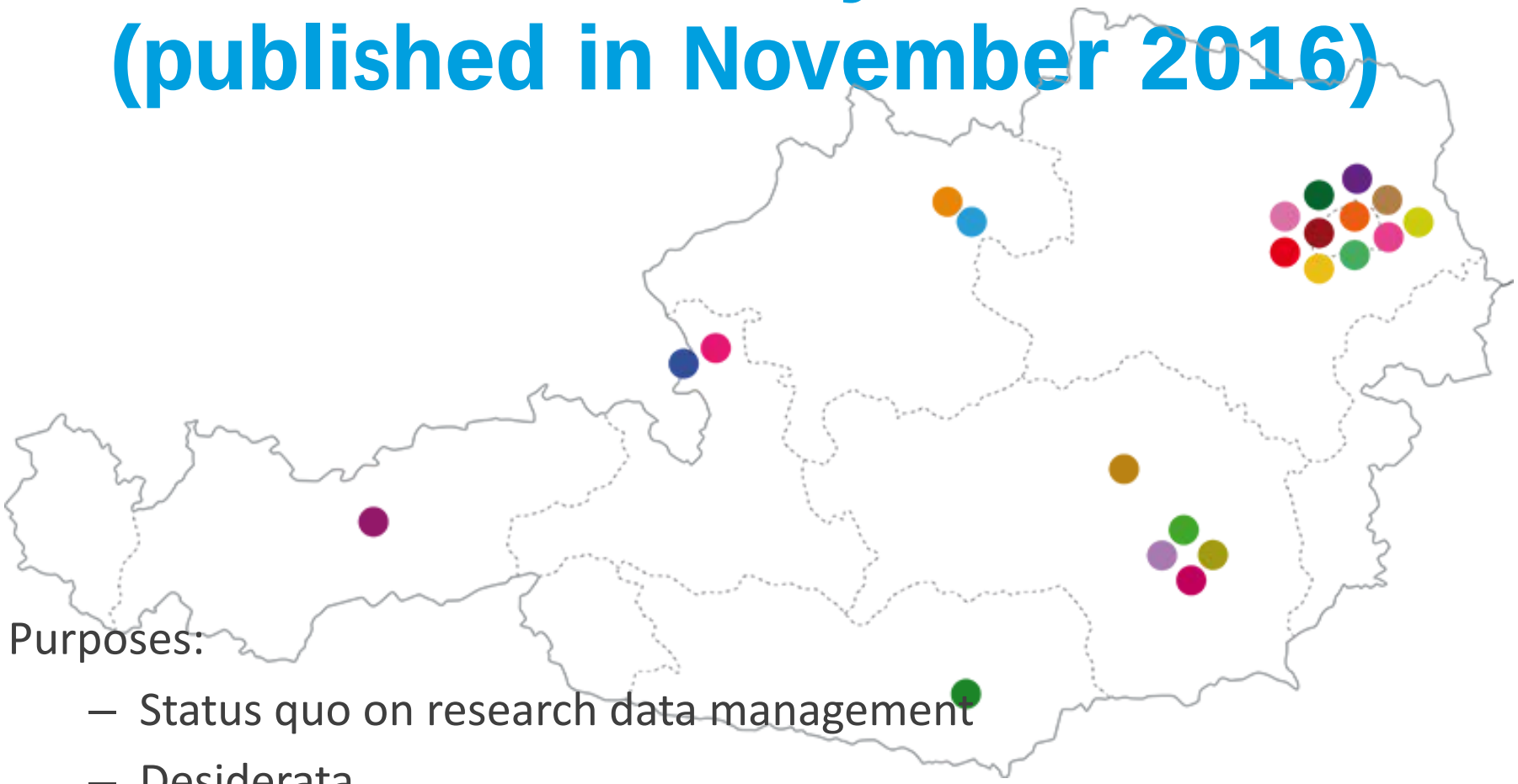
→ Published data

→ Open access published data

**Ensuring legal and ethical compliance is key issue in this context**

# Towards Open Science: What is really needed ?

# Austrian National Research Data Survey (published in November 2016)



Purposes:

- Status quo on research data management
- Desiderata
- Enabling open science
- Raise awareness

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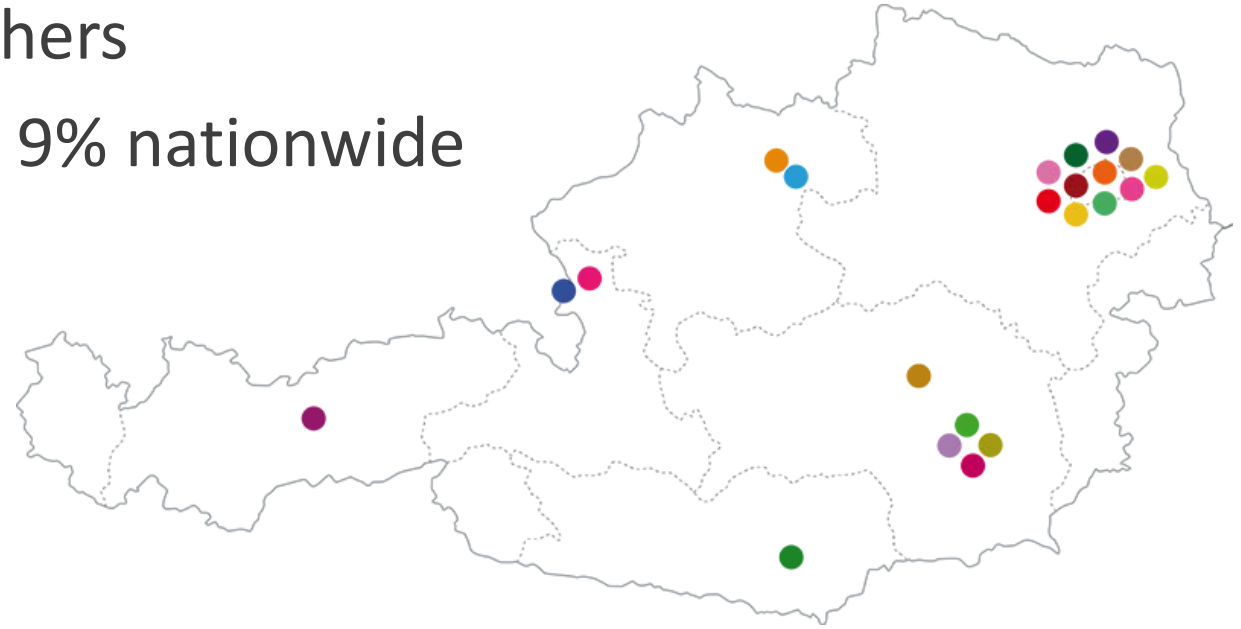
# Target and response

- Researches of all 21 public universities and three extra-university research institutions in Austria
- From post doc level upwards
- According to knowledge management report: 36.000 researchers
- Response rate: 9% nationwide



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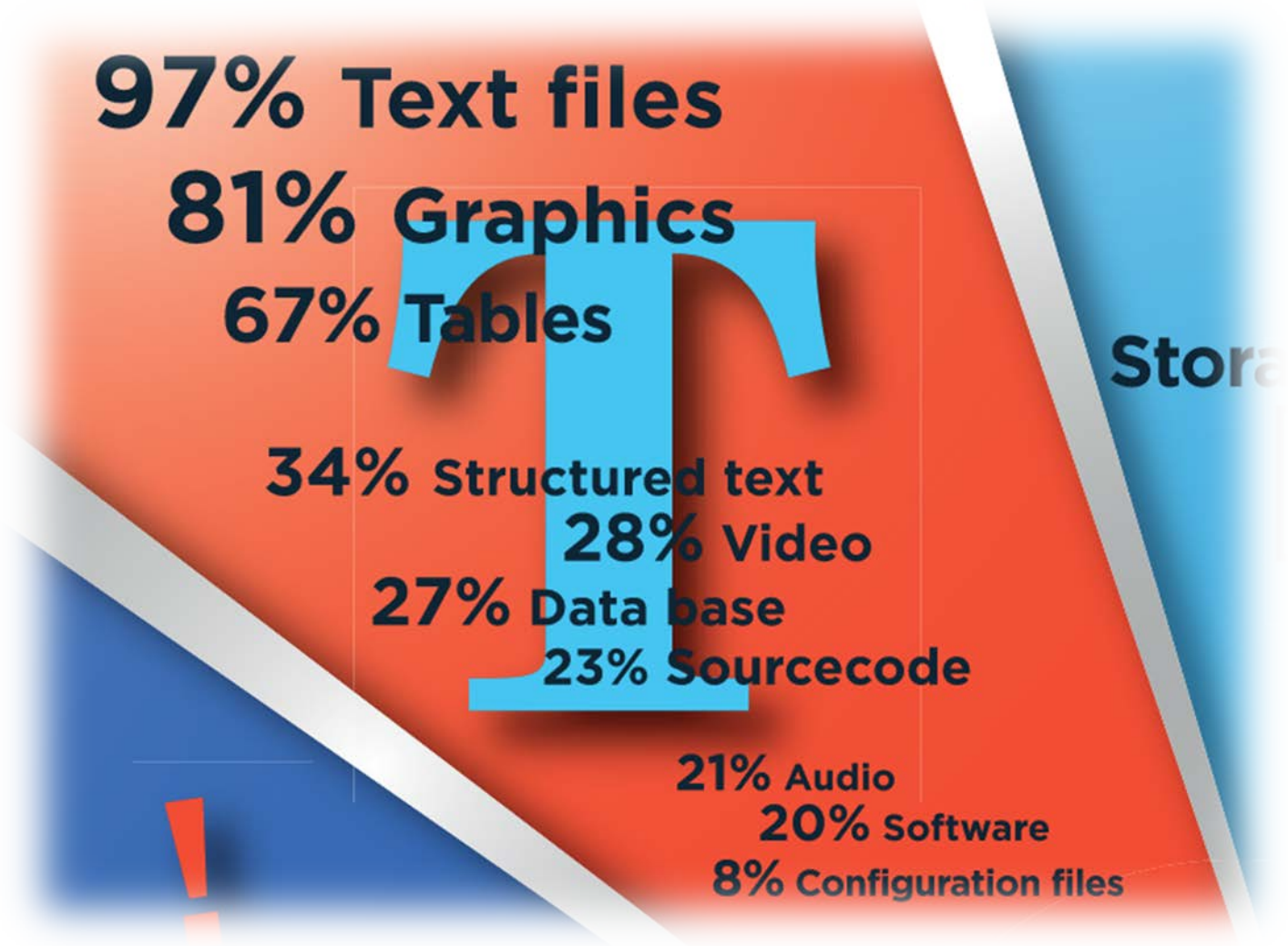
# Austrian National Survey, November 2015

- Purposes:
  - Status quo on research data management
  - Desiderata
  - Enabling open science
  - Raise awareness

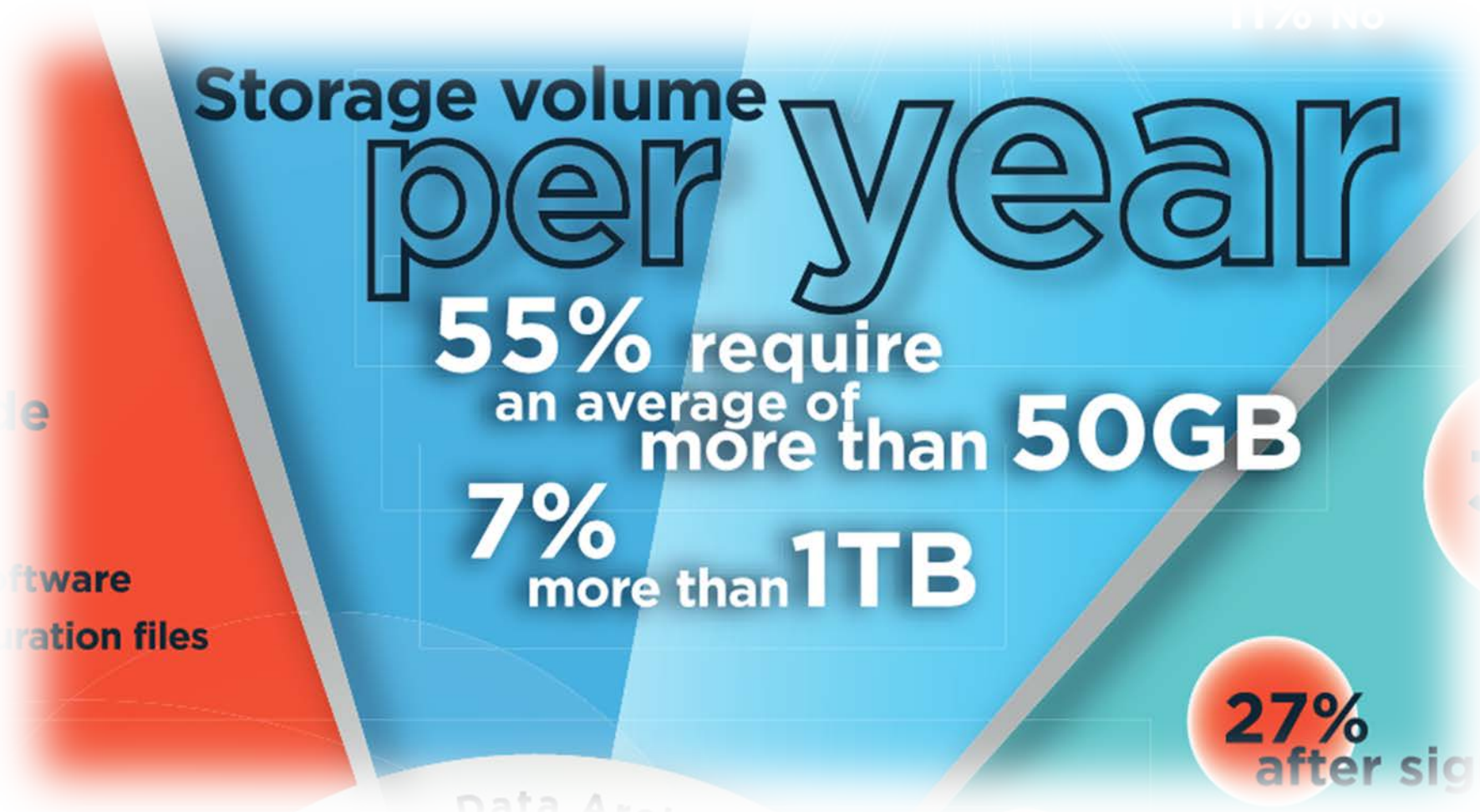
- Method:
  - Online survey (26 questions, German and English, anonymous)
  - Software *LimeSurvey*
  - Duration of survey: 19th January to end of March 2015
  - Analysis and report 4 months
  - Results published in German and English (November 2015)

# A new ecosystem of services

# Data types and formats



# Collaborative data infrastructures



# Re-design of re-use scenarios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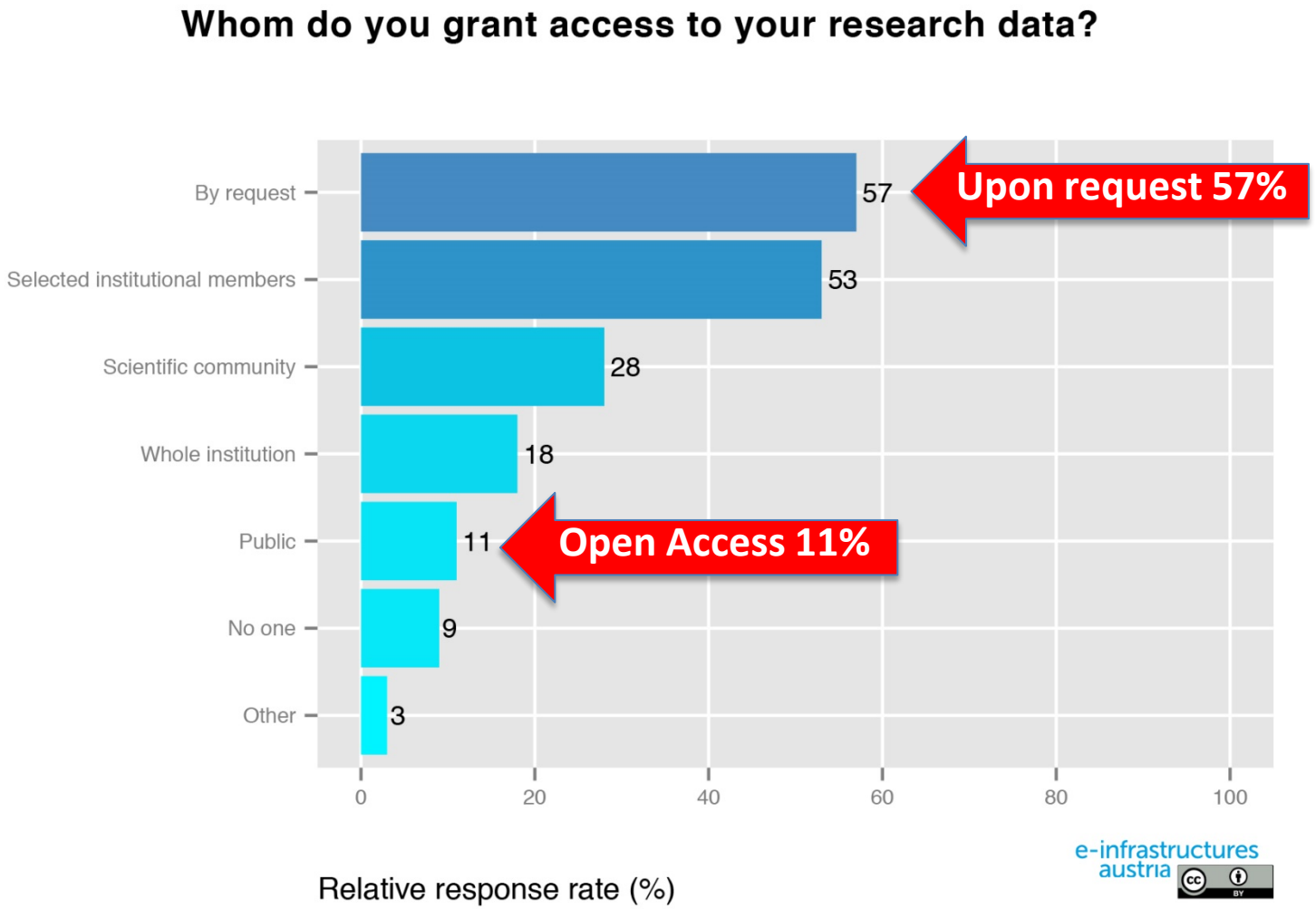
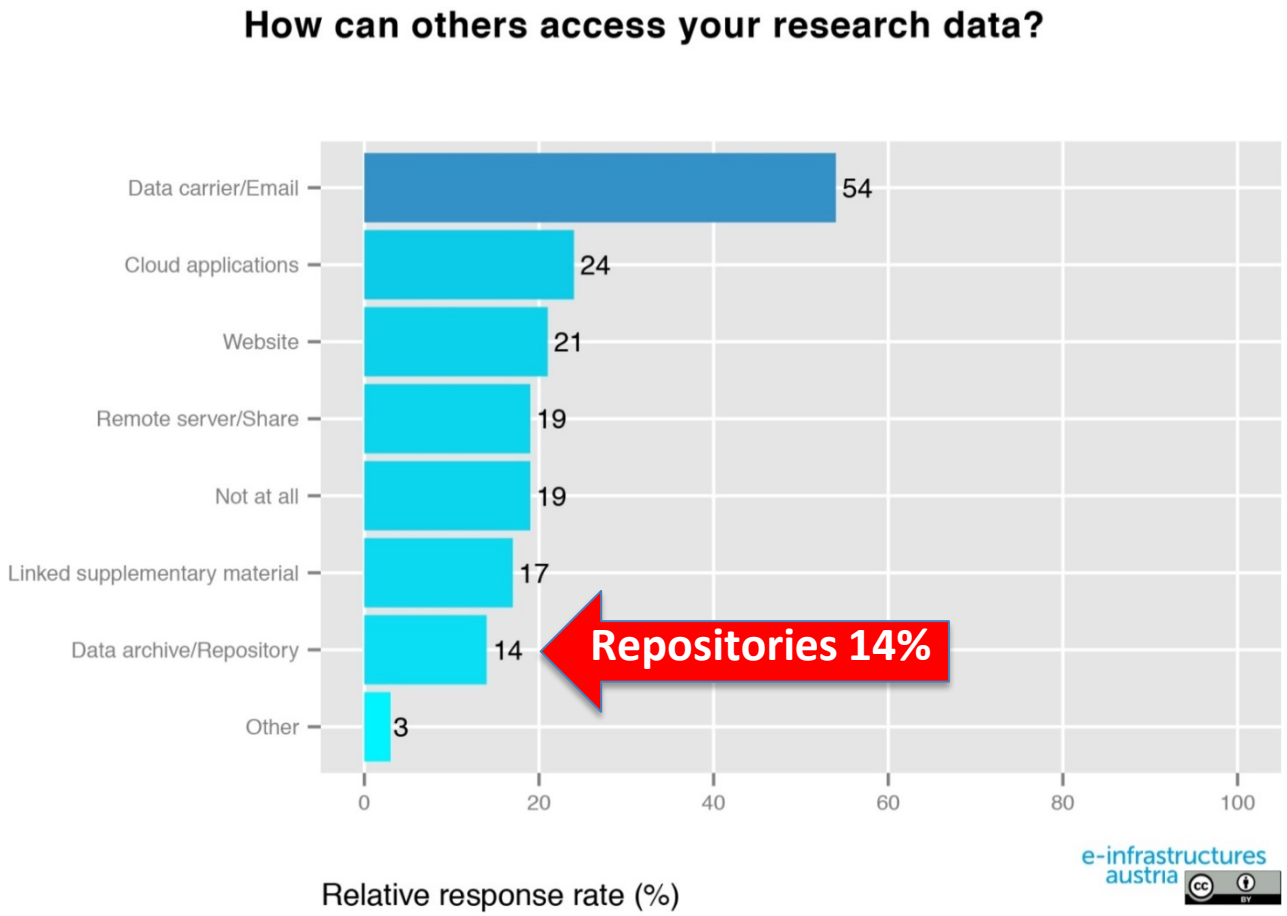
# Identification of target groups



# Re-thinking of scientific workflows

# Coordination between various e-infrastructure components



# Enhancing sustainability

# A common e-infrastructure umbrella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# A common strategic vision

# Enabling Open Science - Challenges


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# References and downloads www.e-infrastructures.at

**Download full report:**

Zenodo:
**DOI 10.5281/zenodo.34005**

Phaidra (e-book format):
https://phaidra.univie.ac.at/detail_object/o:409473


**Download Poster:**
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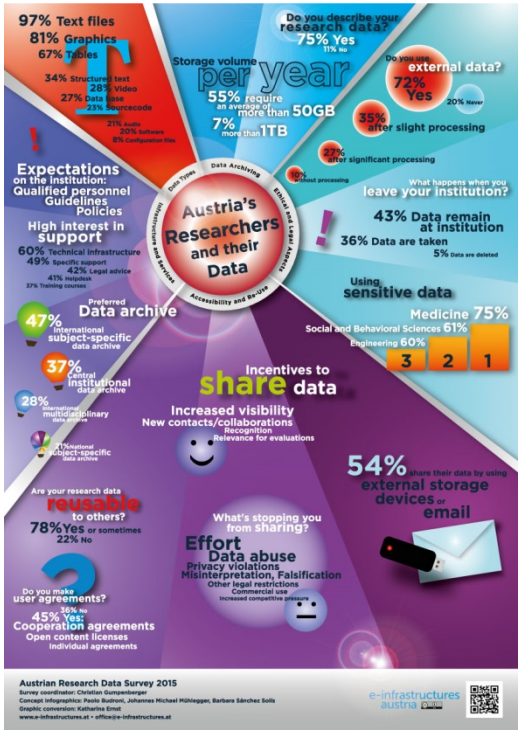


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# FINDINGS

## Results are conform with international reviews

**The findings from this survey form the basis for a consecutive**

a) **realization of RDM-policies**
b) **the identification of e-Infrastructure Commons**
c) **the optimization of e-infrastructures and services available in this field, in accordance with needs that have been expressed**
d) **the realization of trainings („essentials and data stewardship in e-infrastructures“).**

# Factors for the success of networks, using e-Infrastructures Austria as an example

# Based on the recommendations of the High Level Expert Group - EOSC

- Lightest possible, internationally effective **governance**
- **Guidance** only where guidance is due
- **Rules of engagement** for service provision
- Federate the gems and **amplify good practice**
- Build on **existing capacity** and expertise where possible
- Optimise the **e-Infrastructures communities**

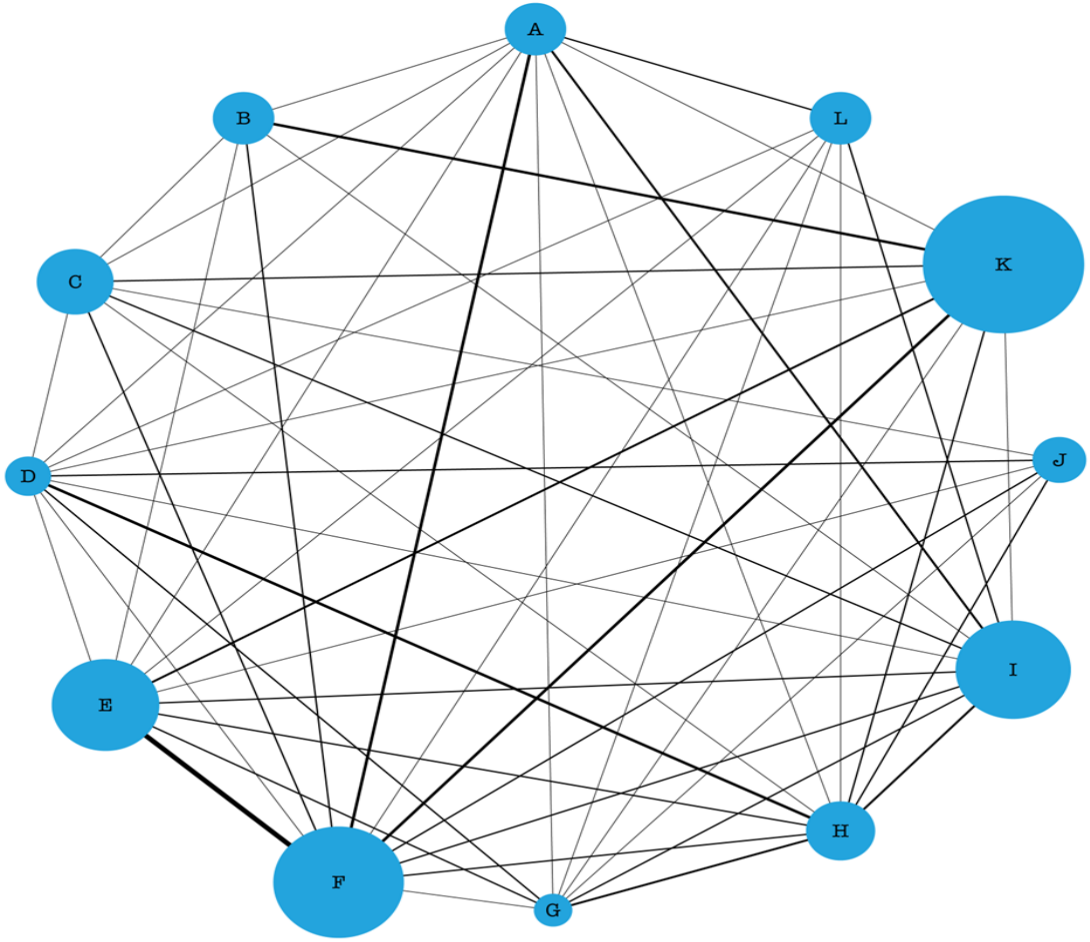
# EOSC and e-Infrastructures Austria

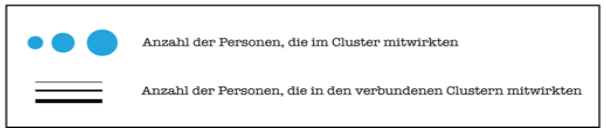
**But which are the core elements of network building? Which are the key elements of successful networks?**

An initial analysis of the project e-Infrastructures Austria can provide insights regarding these questions.

# Factors for the success of networks

# Effect and intensity of relationships in the network as depicted through the 12 work clusters




Analysis and graphic: Raman Ganguly
University of Vienna, Computer Centre

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# Which are the core elements of network building? Which are the key elements of successful networks?

**The three key deciding factors for the success of a network:**

1. A common goal
2. Disparities
3. Good Governance: good and just project management

# The three key deciding factors for the success of a network

**1. A common goal**

Everyone recognized it. It was communicated again and again, whether by way of defining the three main goals through common appearance, through the use of graphics, by way of community-building under the umbrella brand e-Infrastructures Austria, via the Wiki *with rights to use*, or through commitee-building as a result of governance (general assembly, chair, project manager, steering committee, think tank, cluster leaders, cluster members).

# The three key and deciding factors for the success of a network

**2. Disparity**

The heterogenous situation among participating institutions (size, areas of study, budget numbers, history, focus of interests, geographic distance, diverse house cultures, age differences, university and non-university institutions, libraries, research services and IT services) allowed a transparent assessment of the differences and, as stated in the laws of the communicating bodies, the constant flow of competencies and information, long enough until a comparable situation could be established within the whole body.

# The three key and deciding factors for the success of a network

**3. Good governance: good and just project management**

Good governance of a project allows the codification of rules (governance), a definition of guiding principles and the resulting codified guidelines („rituals“). An expression of those rituals could be seen in the general assembly and its procedure, the cluster meetings, the rules for use of the Wiki, the rules of engagement for partners and associated partners, the cluster members, the breakdown of competences in the clusters, etc.

# Managing common goals, disparity and complexity

→ **Governance**: effective and lightest possible, guidance only where guidance is due, with rules of engagement for service provision, built on existing capacity and expertise

→ In e-Infrastructures Austria, these requirements have been translated into three key aspects …

# The 3 aspects of good governance in e-Infrastructures Austria

1. Optimated forms of interaction between partners, based on common desires (goals), **generated** and **accepted** by all partners of e-Infrastructures Austria

2. Empowerment of committees, accepted by all partners (project management, general assembly, steering committee, synergies team, work-package cluster, think tank)

3. Consensual Agreement
   http://e-infrastructures.at/en/structure/consensual-agreement/

# Conclusions

# INVOLVED STAKEHOLDER

- **Universities**
- **Non-university research institutions**
- **Research Communities**

- **Research-funding bodies**

- **Research Support Institutions or Services**

  → Scientific Libraries, IT-Services, Research Support Services, Legal Services



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# Conclusions

- **Results conform with international reviews**
- **Identification of challenges for enabling Open Science Vision**
- **Embedding in transnational e-infrastructures initiatives**

- **Deeper involvement of stakeholder groups**

- **Reference points at local level**
- **Shared “vertical” services**
- **Horizontal services**

- Need of **know-how transfer** of e-infrastructure **essentials**
- Release of **RDM policies**

# Thank you

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LEARN – Policy Development and Alignment

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# 7 guidelines for the establishment of a network of knowledge implemented in e-Infrastructures Austria

1. **Dialogue:** Dialogue depicts the process of gaining knowledge, through which positions can be revised and active critical thinking is encouraged. It is worth noting that, in this case, oral dialogue is superior to written dialogue (Plato).
2. **Openness:** e-Infrastructures Austria believes in open workflows within the network of partners.
3. **Free access:** All partners agree to allow free access to the results of the collaborative project.
4. **Defined ownership rights:** Project partners ensure the sustainability of the results, using regulated ownership rights, both inside and outside the network and beyond the end of the project.

# 7 guidelines for the establishment of a network of knowledge implemented in e-Infrastructures Austria

**5. Clearly defined roles:** e-Infrastructures Austria demonstrates regulated relationships between all project partners through defined organisational units and workflows. Roles and responsibilities are clearly recognizable both inside and from outside the project.

**6. Structured workflows:** The workflows of the work package clusters are defined by meetings, competencies, defined voting procedures and communication.

**7. Clear structures of information:** The project partners possess a mutual, nationwide informational structure in the form of a Wiki and ticketing system.

# A short description of the work of the e-Infrastructures Austria network

In the project e-Infrastructures Austria, the participation of several management teams was desired. Based on ideas which were made known to as many stakeholders as possible, plans and findings were tested and revised in each team´s area of expertise. Ideas were measured against others, and the most useful of ideas were linked together.

The dispersal among as many stakeholders as possible allowed comparison and exchange with other projects.