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LIBER Forum for Digital Cultural Heritage Workshop 2017 LIBER Conference in Patras Wednesday 5 July 2017

Paolo Budroni, University of Vienna

Workshop: Management of Born Digital Materials at Research Libraries

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Management of born digital materials at research libraries /1

Research libraries have become industry leaders in the development of digital infrastructures on a national scale. Time and again they have demonstrated their unique ability to respond to creative challenges across a broad range of digital projects and services, leading in both strategy and implementation. By developing visionary digital ecosystems, emphasizing sustainable outcomes, and leveraging their expertise with complex knowledge infrastructures and large-scale project management, research libraries will continue to play a central role in the emergence of national digital research capacity.

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Management of born digital materials at research libraries /2

This LIBER workshop will introduce participants to the fundamentals of managing digital assets, with particular emphasis on research data objects. It will provide a short introduction to the complex “world of data” that is produced routinely at their research institutions. The workshop will also provide insight into the core components of research data and digital objects.

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Management of born digital materials at research libraries /3

Program objectives include:

1. Ensuring better handling of born-digital assets
2. Raising awareness around the key dimensions of effective management of digital assets
3. Improving digital workflows and services

The workshop methodology will be interactive, with a supplementary focus on real-world use cases.

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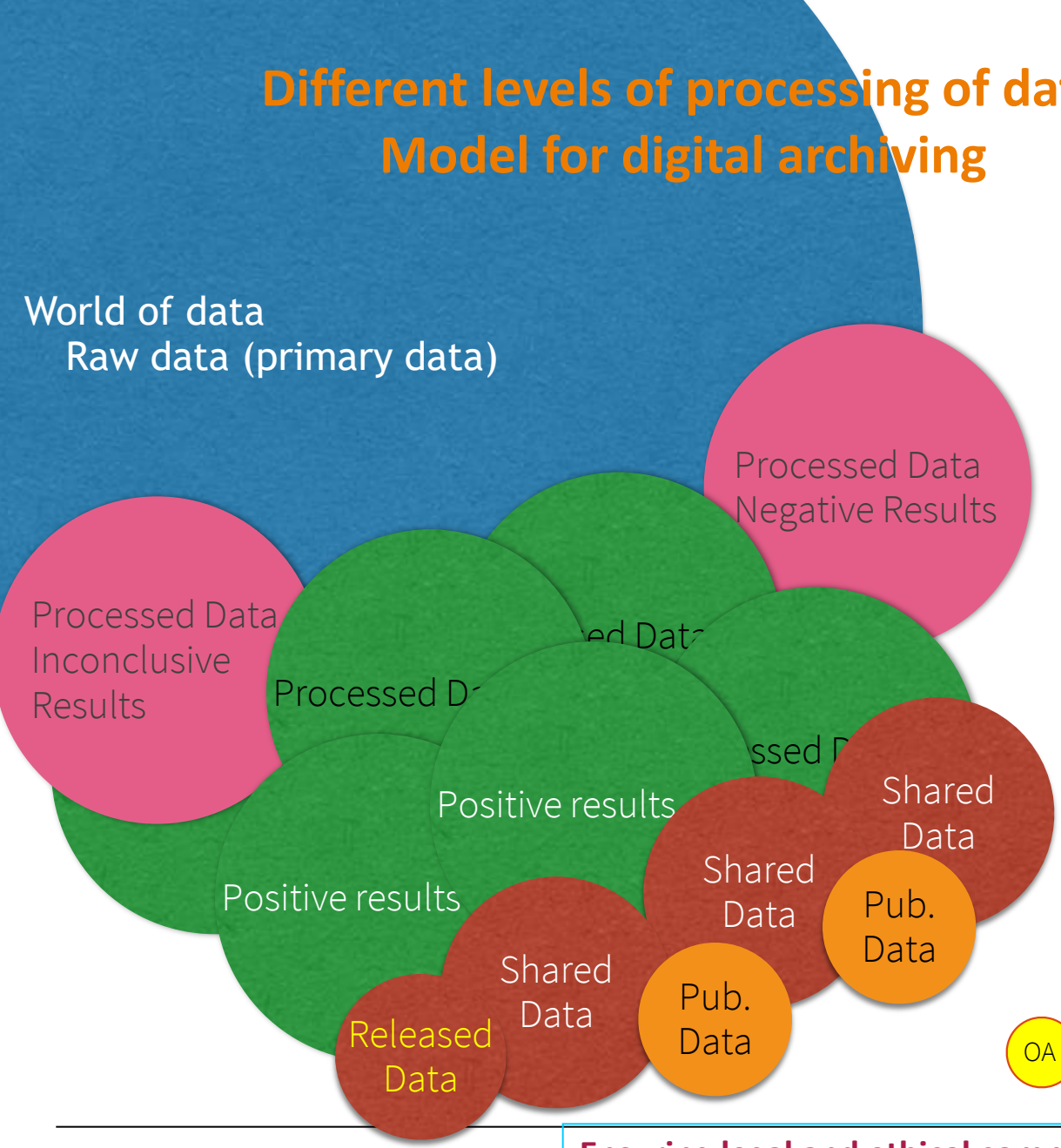
The materials of this workshop were produced in a joint cooperation between

- Library and Archive Services of the University of Vienna (Paolo Budroni)
- Computer Centre of the University of Vienna (Raman Ganguly).

Paolo Budroni and Raman Ganguly have collaborated in the field of research data management for many years. This partnership is committed to solving problems surrounding the succesful management of research data and born digital materials.

Some of these slides were also presented by Raman Ganguly at the TNC17, in May 2017 in Linz.

Different levels of processing of data
Model for digital archiving



→ Strata of research data

→ Restricted Data

→ Open data

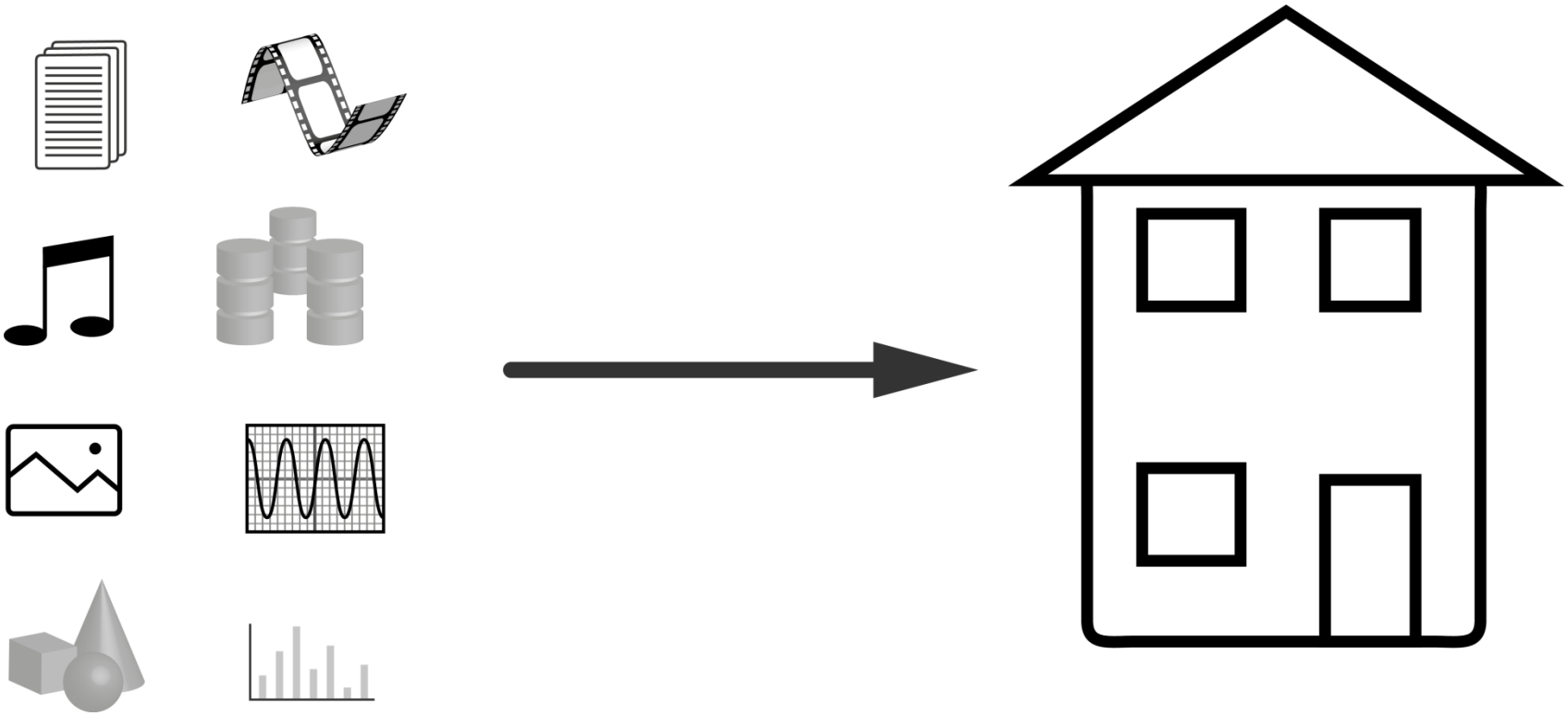
→ Published data

→ Open access published data

Ensuring legal and ethical compliance is key issue in this context

Paolo Budroni, LIBER Workshop, July 2017 Workshop: Management of Born Digital Materials at Research Libraries – paolo.budroni@univie.ac.at

What is a repository?



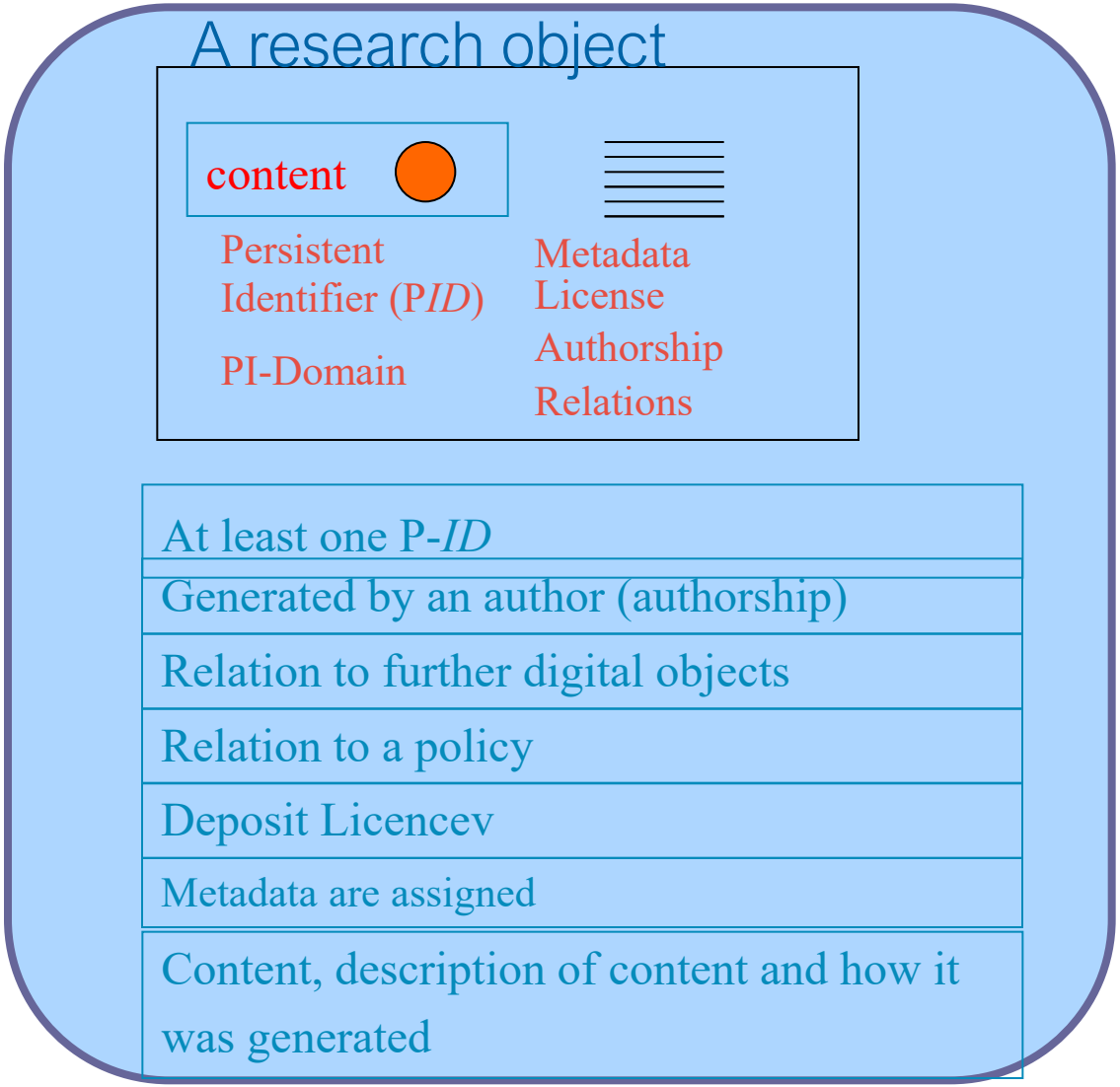
Graphic: Raman Ganguly, University of Vienna

Focus on the research object object

It is necessary to define the “Research Object”, in order to express the difference between it and e.g. structured data, digital resources or documents. A digital object is given if at the moment of its “birth” (see life cycle of an object) it has at least these “minimum” properties: at least 1 Permanent ID, it is generated by an author, it presents relations to one or further digital objects, there is a relation to a policy, it has a deposit licence, metadata are assigned.

A nice to have: information about the generation of the object

Properties of a Research Object (minimum)



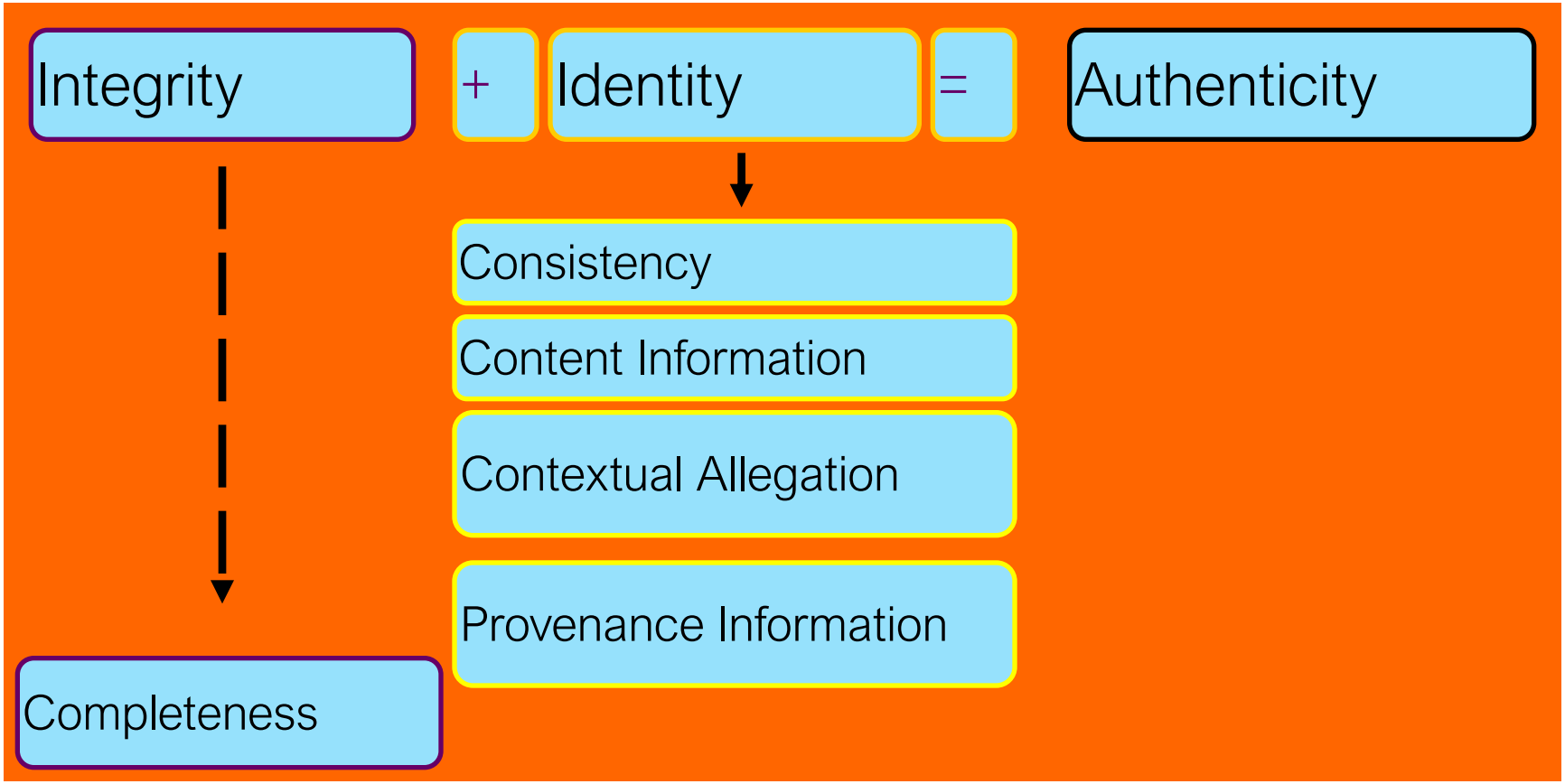
Focus on the research object

Focus of preservation

The purpose can include the determination the preservation strategy and therefore should be documented and enforced by the Data Management Plan. Concerning the Digital Object, the DMP has several goals but one of the most important is the preservation of the authenticity of the Object. The *authenticity* can be defined as a sum of preservation of the *integrity of the object* (also meaning completeness) and *preservation of the identity*. The *identity* is given by the observance of this formula: *consistency* + *content information* + *contextual information* (including information concerning provenance).

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A Digital Object
Requirements to the structure



Focus on the research object

Among several purposes of data preservation the following seems to be most crucial:

to find, identify, select and eventually obtain the data

to preserve the identity of the data

to share the acquired knowledge (e.g. through reproducibility)

to define and ensure the reuse

→ *Conditio sine qua non*: trust

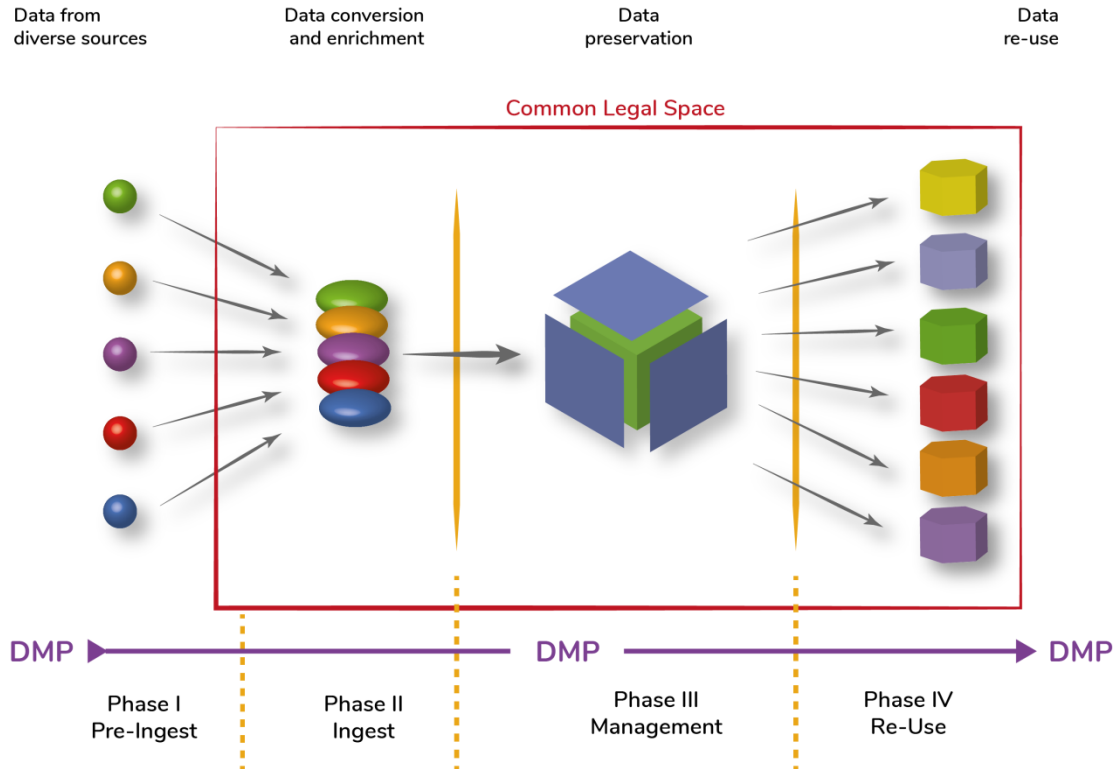
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Further steps

Further steps:

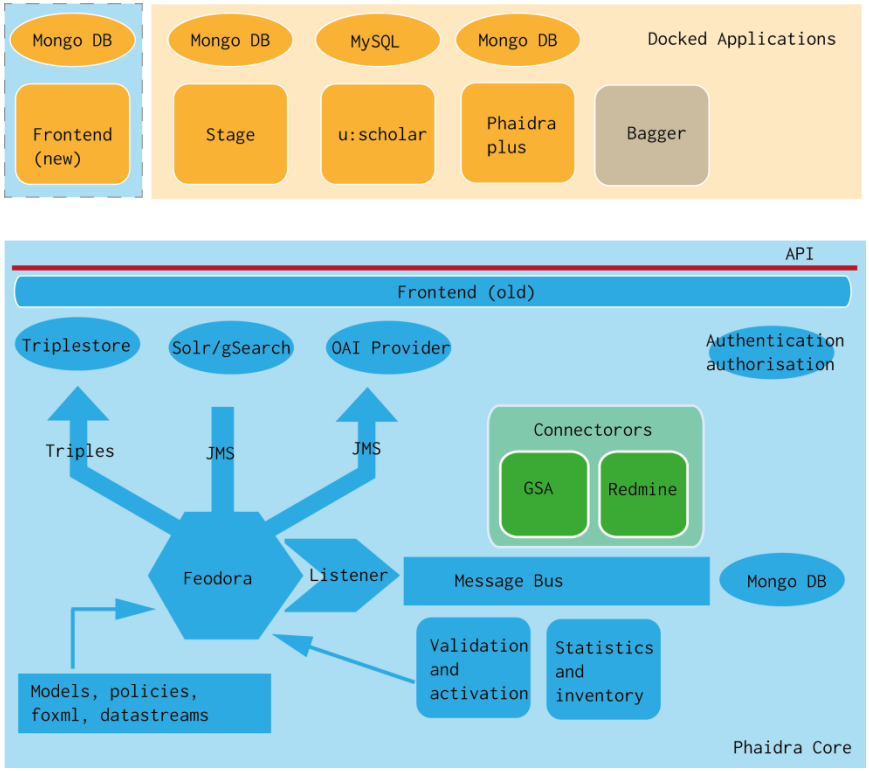
Creation of an ontology of objects => generation of a minimum amount of defined elements in order to create a „grammar“ of objects, a related „syntax“

Repository workflow model



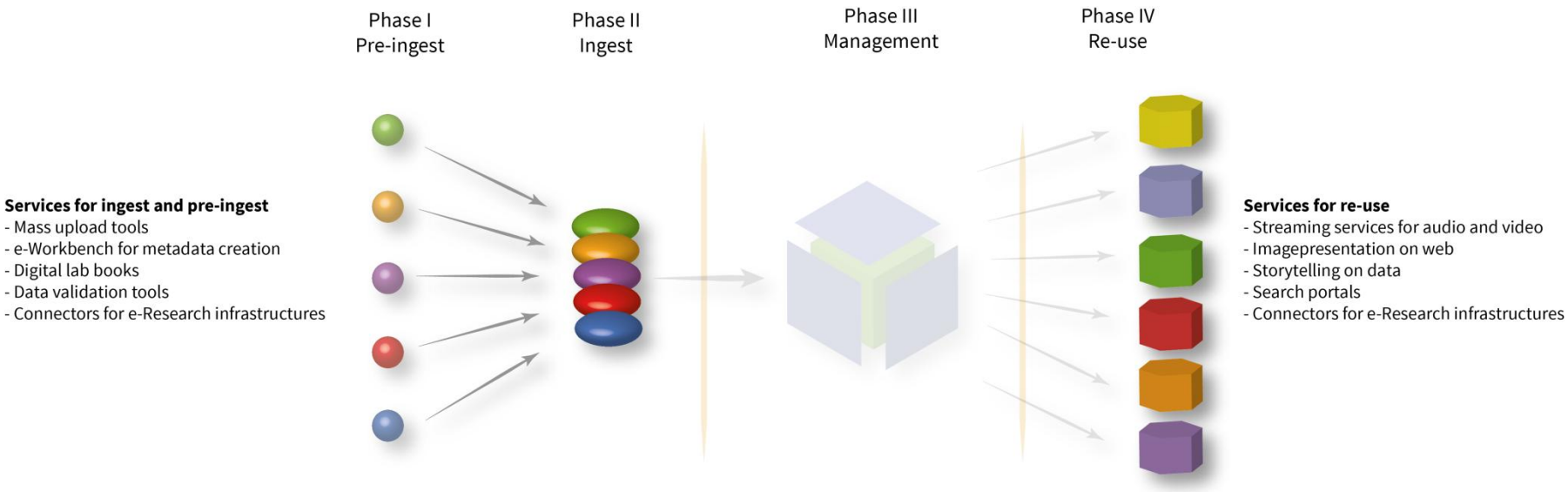
Graphic: Raman Ganguly, University of Vienna

Micro-service architecture



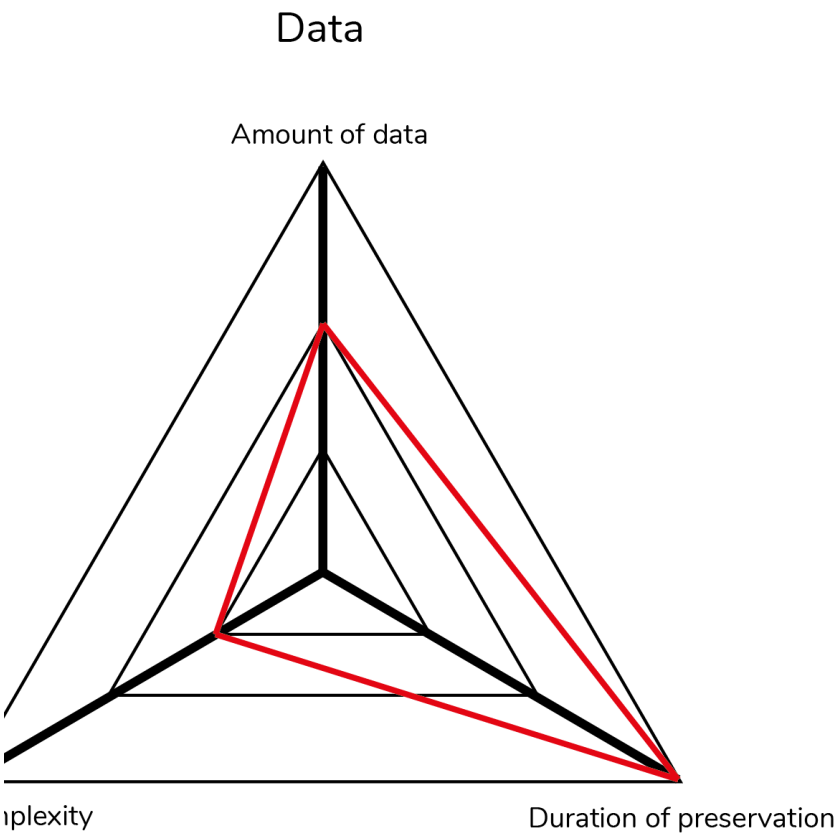
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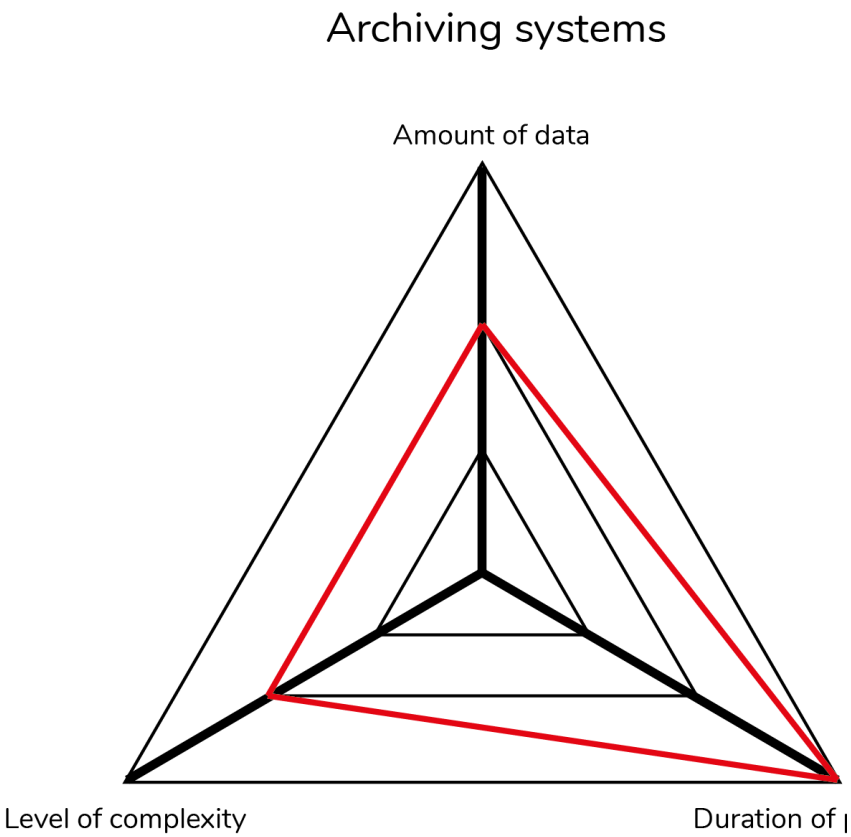
Providing services for ingest and reuse



Graphic: Raman Ganguly, University of Vienna

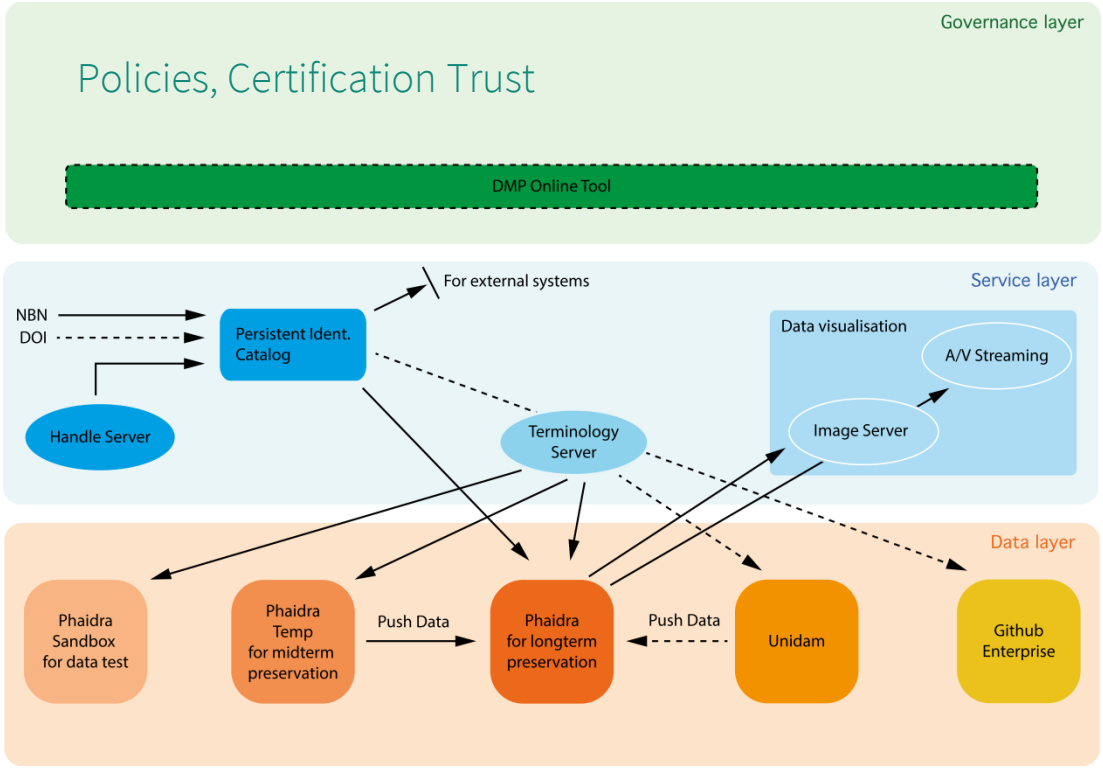
Three dimensions





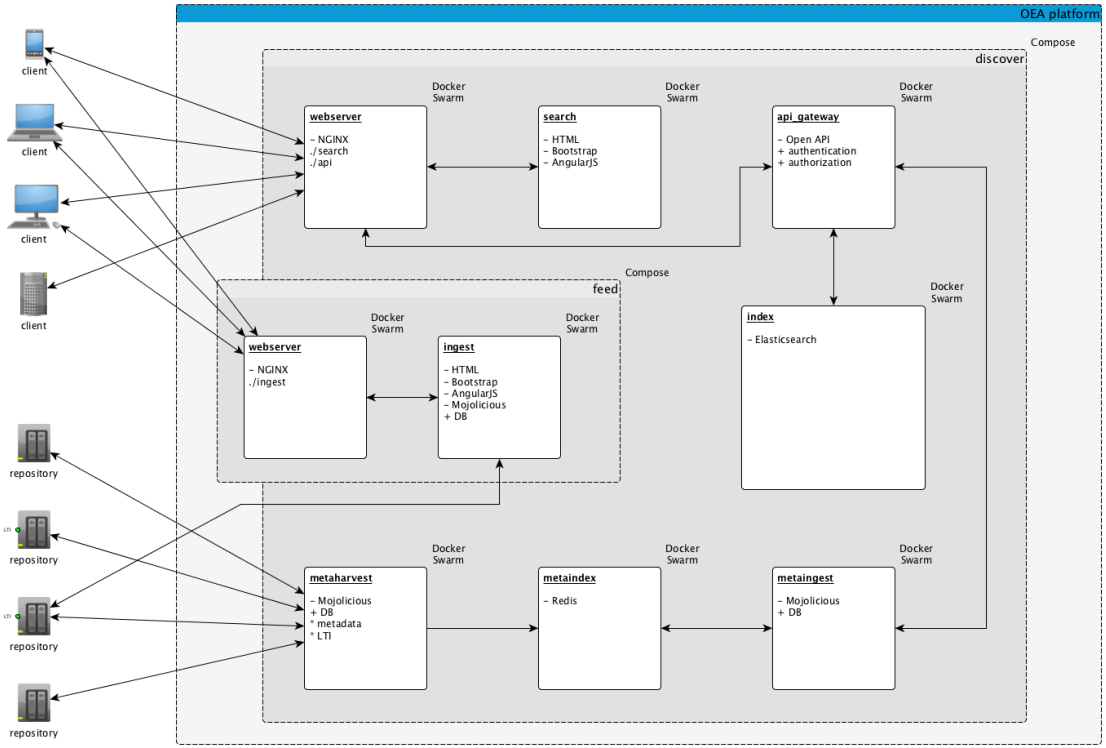
Graphic: Raman Ganguly, University of Vienna

From repository to ecosystem: The EOSC model



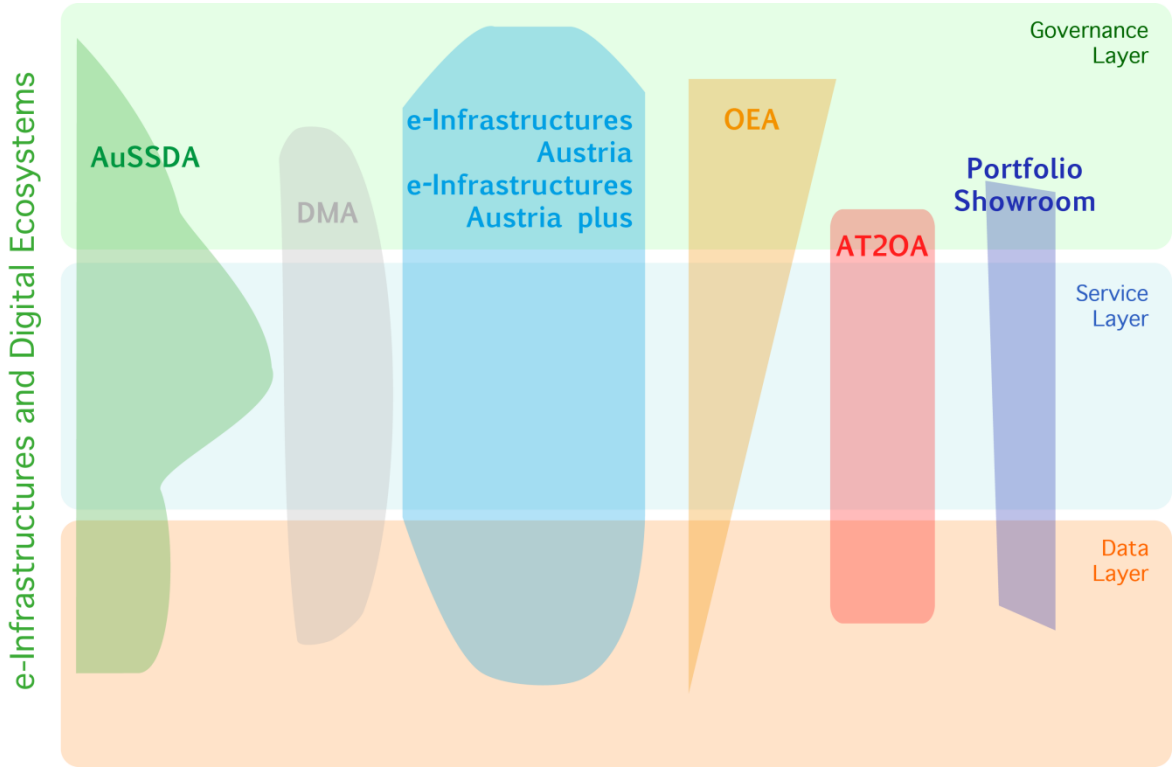
Graphic: Raman Ganguly, University of Vienna

Connected digital ecosystems



Graphic: Raman Ganguly, University of Vienna

Use-Case Austria



Graphic: Raman Ganguly and Paolo Budroni, University of Vienna

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THANKS

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Properties of a digital object