DLCL Key Technologies: March 2015
Next Steps

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LSDMA

Subprojects

- ***Light Optical Nanoscopy*** (Heidelberg, Mannheim, Mainz)
- ***High Throughput Microscopy***:
  - Selective Plane Illumination Microscope (Karlsruhe)
  - Gen Scans (Dresden: TU + MPI CBG)
- ***ANKA Tomography***

  ANKA: Ultra Fast Tomography
- ***Dariah & eCodicology***

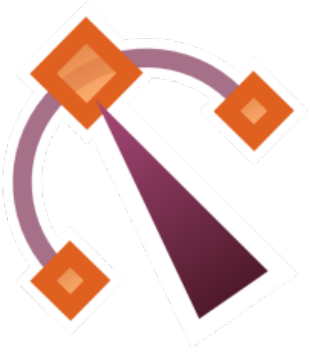
  Arts & Humanities, ESFRI DARIAH EU + BMBF DARIAH DE
- ***Metadata Management for Applied Sciences***

Light Optical Nanoscopy

Metadata

→ Defining and Implementing a content metadata model

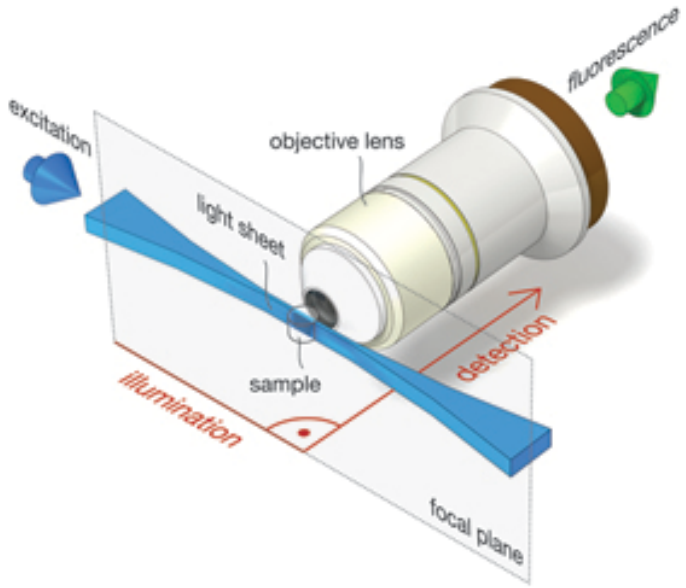
→ Migrating existing algorithms



→ Integrating scientific workflows

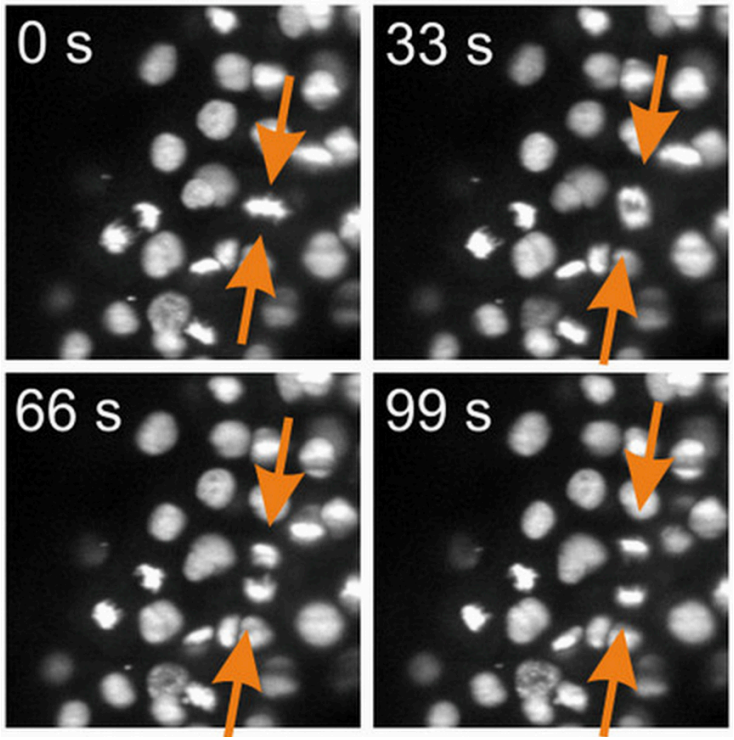
High Throughput Microscopy

- Planing to use microscopy metadata for management
- Evaluation of integrating microscopy use case with new metadata project MASi



→ **Towards high throughput production analysis pipeline**
→ **Facilitate central data management at MPI-CBG**

Single Plane Illumination Microscope



Novel microscope to observe zebra fish embryos in vivo:

- Very high 3D resolution (~20µm)
- Short data acquisition time (20-30 seconds for full 3D stack)

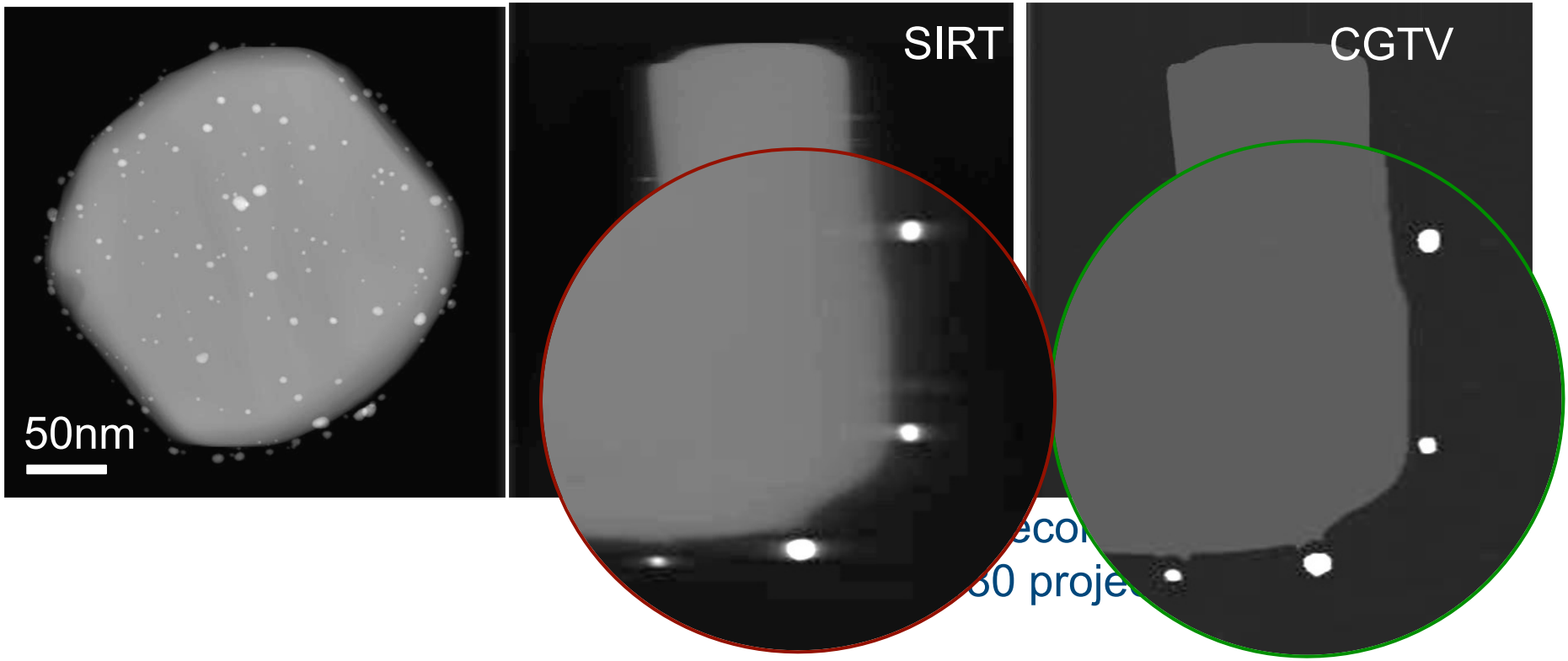
Migration of raw data and analyzis data in KIT Data Manager including

- Metadata extraction
- workflow for analyzis

→ **Trigger data workflow with the KIT-DM**

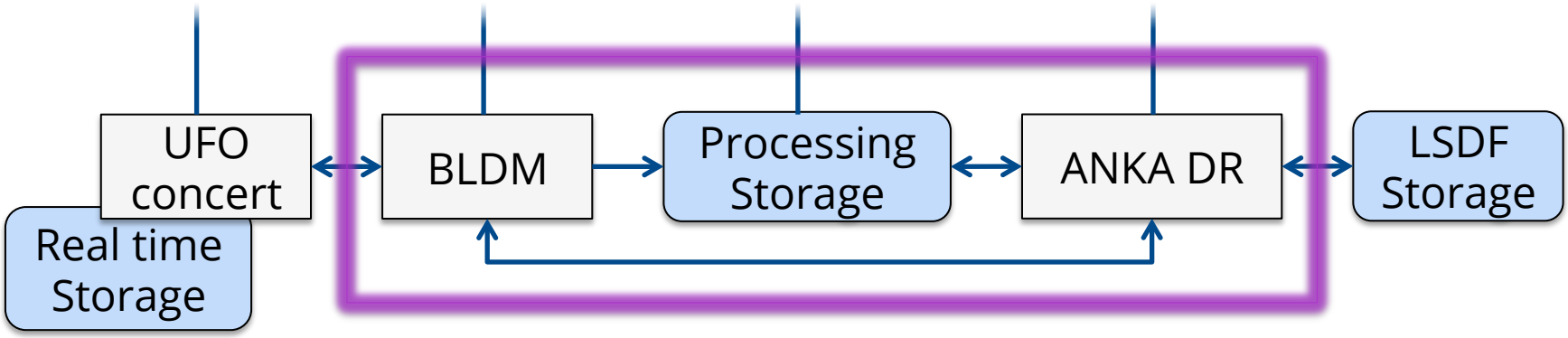
Sparse-View Tomographic Reconstruction

New application: electron tomography of nanostructured materials



→ **The developed sparse-view reconstruction strategy (L-curve based CGTV) can be used for all tomographic applications.**

Beamline Data Management



- Connection of the software components
- Evaluation of the throughput

→ **In production data workflow for tomography data**

DARIAH & eCodicology

DARIAH-DE

DBpedia Spotlight

Software **W**orkflow for the **A**utomatic **T**agging of Medieval Manuscripts **I**mages (SWATI)

- Multidimensional data visualization of extracted layout features
- Validation of automatic annotations

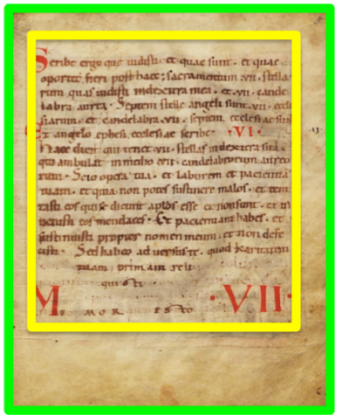
→ **Revelation of hidden relationships in large datasets of medieval manuscripts**

LSDMA

DARIAH Annotation Cluster

- Investigation of Annotator.js
- Close collaboration with e.g. SemToNotes for image annotation

→ **Light-weight and flexible annotation possibilities for all scientific disciplines**



Metadata Management for Applied Sciences

Archive of medieval glass paintings

- Akademie der Wissenschaften
- 3’000 data sets and metadata

Metadata organization

- Sharing metadata (OAI PMH)
- Automatic metadata extraction
- Automatic exchange with other art historical repositories (archives)

Source: http://www.corpusvitrearum.de/

Madonna on the crescent of the moon, Märkisches Museum in Berlin

Conclusion

IPE, SCC, IPS, ANKA, APH, ITG, IAI, INT, KNMF, IVD