

# Learning **o**bject **r**epositories for novel, efficient knowledge creation and sharing

Presented by:

Arnt Richard Rørvik – Norwegian university of science and  
technology (NTNU)

Gry Ane Vikanes Lavik – University of Bergen (UiB)

Also starring:

Trude Eikebrokk - Oslo Metropolitan University (OsloMet)

Per Atle Eliassen – Norwegian university of science and  
technology (NTNU)

Jan Erik Garshol – The Norwegian Directorate for ICT and Joint  
Services in Higher Education and Research (Unit)



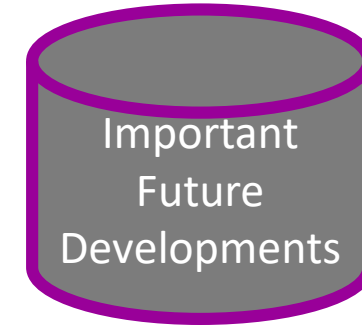
**D**igital  
**L**earning  
**R**esource

# About the presentation:

To make it easier:

- **Portals/host application systems**
  - learning management systems
  - other web portals/host systems

=> called **LMS** throughout presentation
- **Dark purple** = select proposed future developments

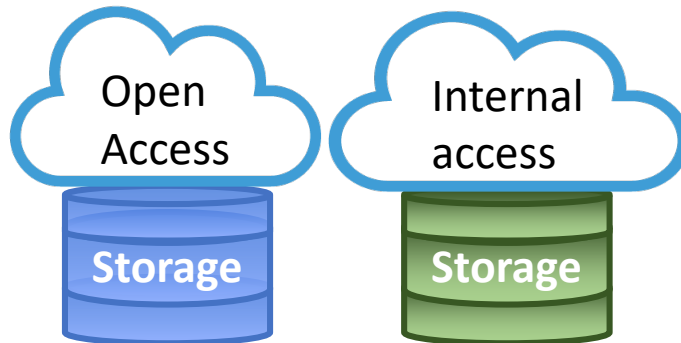


# What is a learning object repository, LOR?

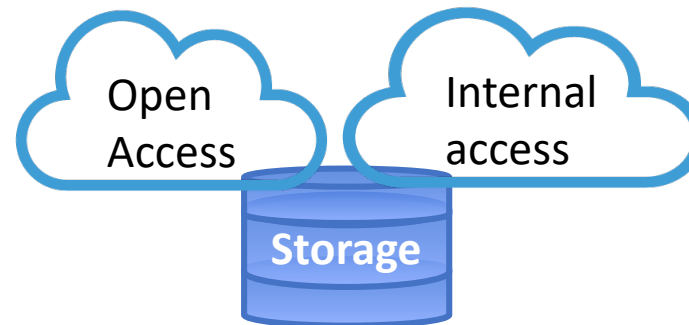
## Common characteristics:

- [Networked collection](#) of digital learning resources
- Sharing, with descriptions ([metadata](#))

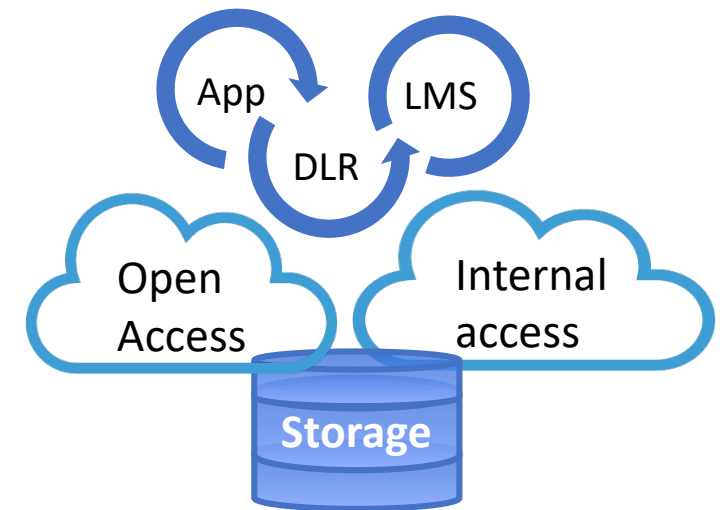
First generation:



Second generation:



Third generation:



# DLR overview (1:4)

- **Learning resources**

- **Static** (aka “old school”):

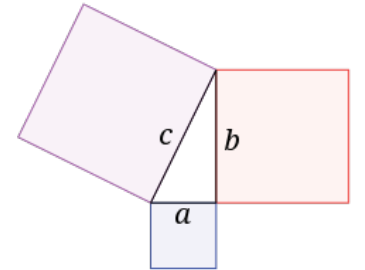
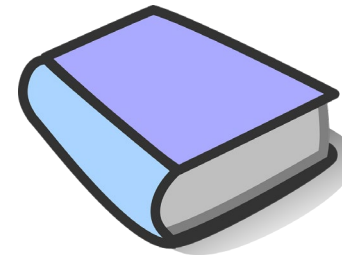
- Complex
    - Simple
    - Atoms

- **Dynamic** (active): Interactive resources

- Simulators (JavaScript), **adaptive learning**, comms tools, Applications (TS, virtual etc.)

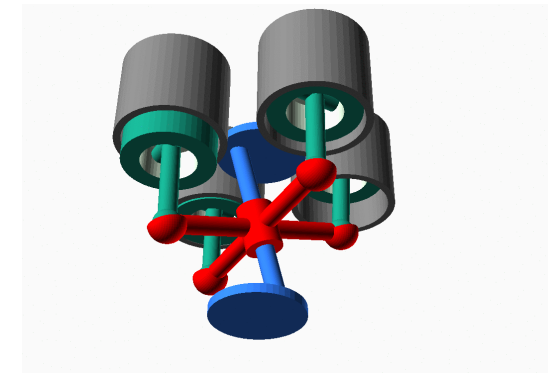
- **Internal / external publishing**

- **External** publication (Open Access)
  - **Internal** use, group sharing



[Dette bildet](#) av Ukjent forfatter er lisensiert under [CC BY-NC](#)

[Dette bildet](#) av Ukjent forfatter er lisensiert under [CC BY-SA](#)



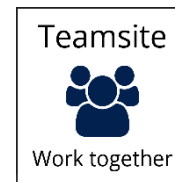
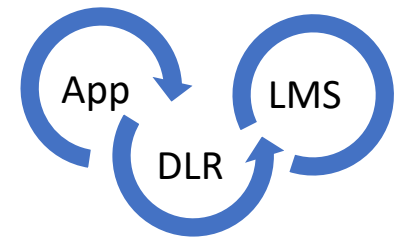
[Dette bildet](#) av Ukjent forfatter er lisensiert under [CC BY-SA](#)



# DLR overview (2:4)

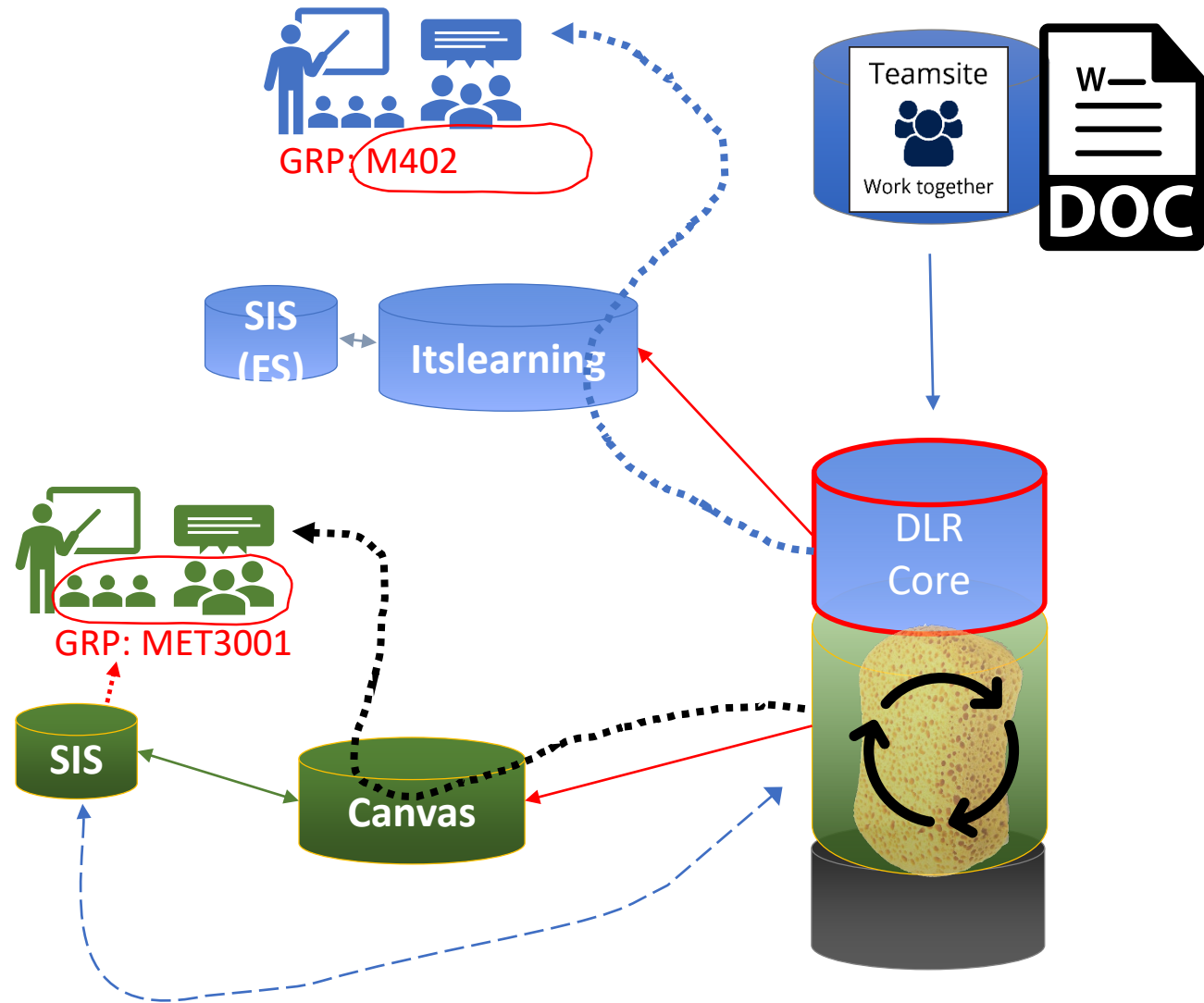
- **User Inspiring**

- **Simplifies** production and use of learning resources
- **Cross-application** “integrate and use whatever you’ve got of productivity tools”
- **Intuitive workflow**
- **Blends into** (“melts with”) LMS “look-and-feel”
- **Multi-LMS support**



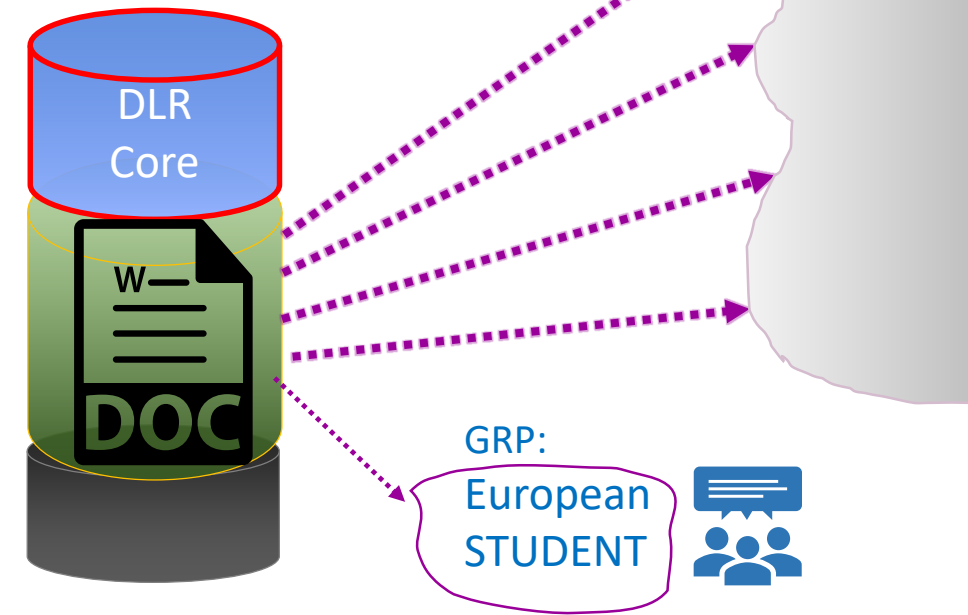
# DLR –workflow example

- TeamSite + DLR – make resource
- Right-click publish to DLR, w/description
- Share with own students, governed by the SIS groups
- Polish resources
- Share with other DLR institutions, open access



# DLR –future workflow example

- Grant European partner access
- Push to select OERs etc.



Sponge by Unknown author licensed under [CC BY-SA](#)



# DLR overview (3:4)

- **Production enhancing**

- **Rewarding publication**

- Recognition –audience.
    - Big and small resources
    - DOI support
    - Statistics for rewards

Larger audience => stimulate publishing

Gives the opportunity to publish even «learning atoms» such as excellent illustrations  
Publishable unique persistent DOI link support

- **Co-authorships**

- Derivates supported

Cooperative writing, across institutions.  
-> Derivative support! («forking»)

- **Quality assurance**

- Peer reviews
    - Student reviews/recommendations
    - Other user acclaims/recommendation

Peer reviews- give three, get one?

Recognition, anyone? ☺

Illustration. in Scientist by Mercy\_bado, CC0-free for commercial use





# DLR overview (4:4)

- **Licensing and storage**

- **Licensing**

- **Self-service licence selection**
    - **Curation** including license checking

- **Storage** for descriptions (metadata) as well as data (optionally)

- Third-party storage support
    - Disturbance-free storage swaps

NTNU licensing, abbreviated:

- **All rights reserved for author**
- **For Internal NTNU use** (ntnu-internt)
- **Creative Commons:**
  - by name (CC BY 4.0)
  - by name, share alike (BY-SA 4.0)
  - by name, non-commercial, no derivatives (BY-NC-ND 4.0)
  - universal free (CC0 1.0)



# DLR, sources, consumers

(helper applications not shown)

- At the core- DLR
- UNIT services sharing functionality and data
- DLR portal
- DLR plugins - in LMSs etc.
- Study information systems, LMSs + DLR
- Multitude of sources
- Potential consumers

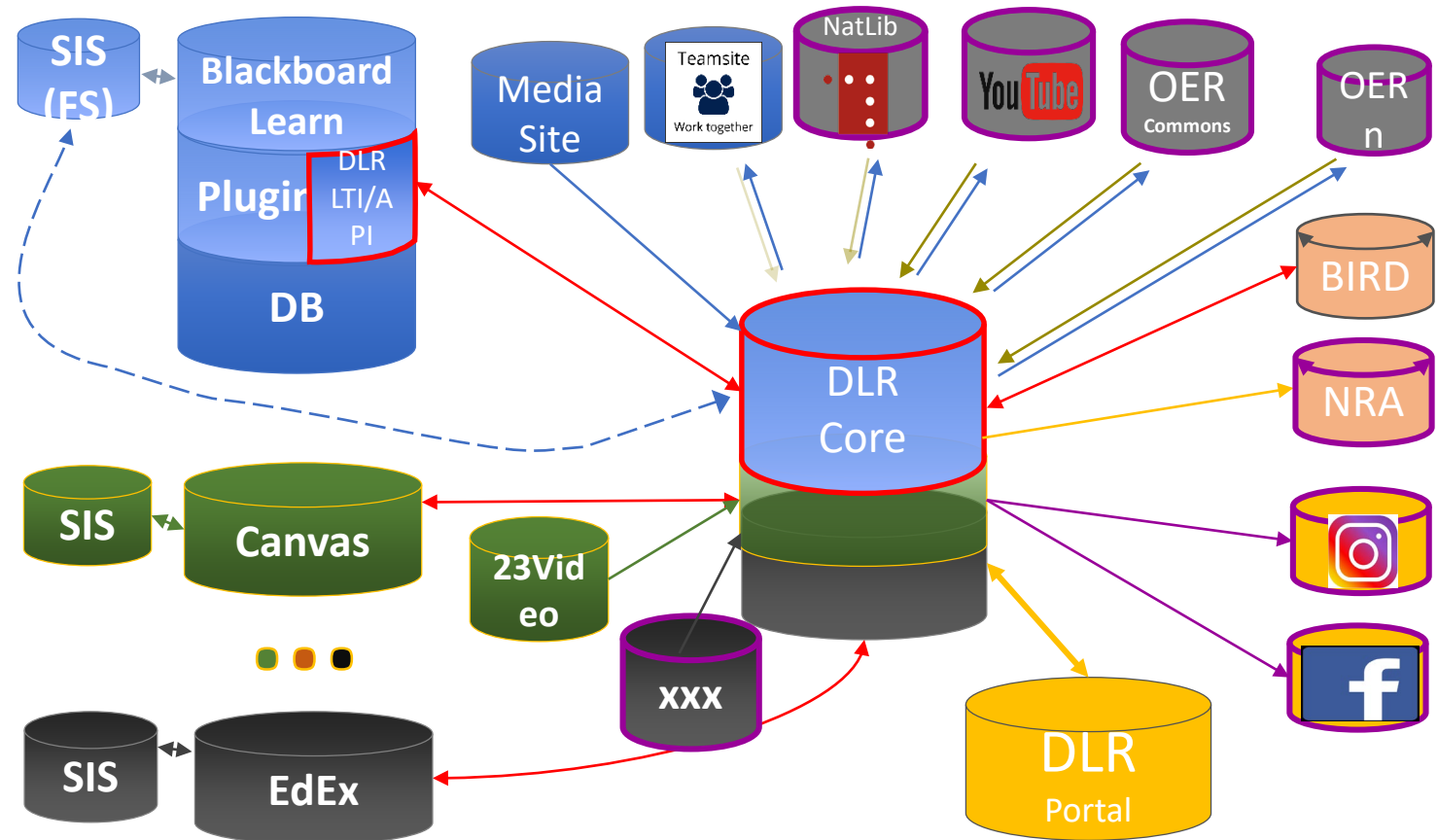


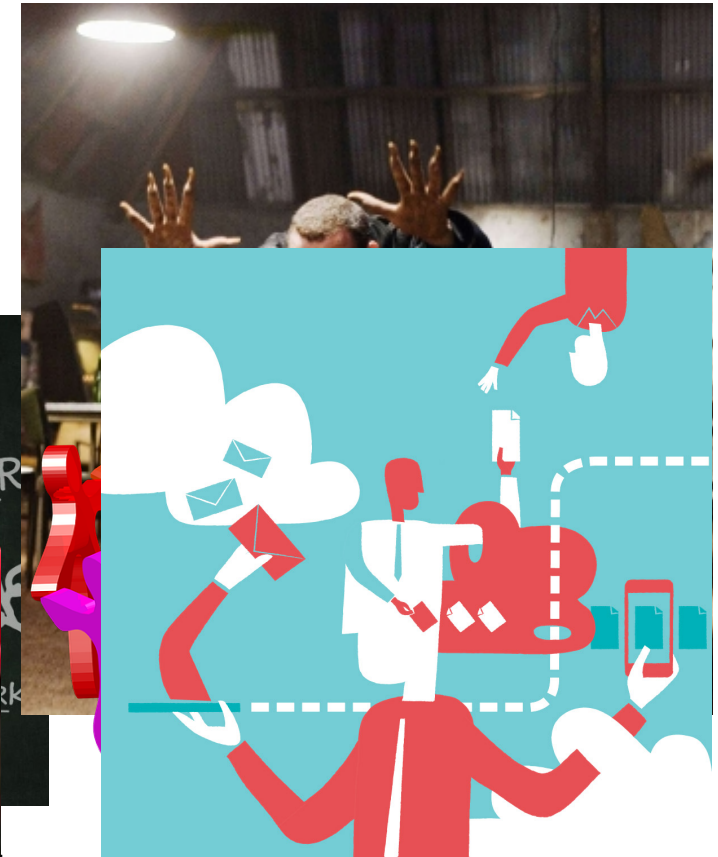
Figure 1: Present and future components of DLR as a LOR 3.0



# Prerequisites for a successful DLR deployment

Introducing DLR requires:

- Help /reward authors more/«better» learning
- Cross-departmental cooperation:
  - Research&education, like etc.
- Someone in charge
- Adapting (to) the work
- Willingness to learn
- Organized support of LORs



# Thank you!

- Feel free to contact those participating in the abstract and paper
- Please visit the LOR at NTNU blog at <https://www.ntnu.no/blogger/lor-ved-ntnu/>

## References

Exerpt, please see paper/abstract:

[https://go.view.usg.edu/shared/.../9.../learningrepository/about\\_learning\\_repository.htm](https://go.view.usg.edu/shared/.../9.../learningrepository/about_learning_repository.htm)

[http://edutechwiki.unige.ch/en/Learning object repository](http://edutechwiki.unige.ch/en/Learning_object_repository)

<https://www.ntnu.no/blogger/lor-ved-ntnu/2018/10/04/lor-3-0-paradigmaskifte-i-laerings-og-kunnskapsformidling/>

<https://www.lancaster.ac.uk/fss/organisations/netlc/past/nlc2006/abstracts/pdfs/04Margaryan.pdf>

