



- \* How to share data or collaboratively edit some documents between independently operated Sync&Share systems
  - \* With reasonable access control
- \* Example: researcher from CZ wants to obtain data from his project colleague from CERN—now is possible only with workarounds, e.g. public link, creating a user account there, ...
- \* ScienceMesh enables sharing resources directly from one Sync&Share system to another
  - \* Builds an infrastructure to make its management scalable
  - \* Provides user and service discovery for end users
  - \* Designed for the real world: does not rely on a centralised AAI

- \* Federated infrastructure to enable data and application sharing across various types of Sync&Share systems (ownCloud, Nextcloud, Seafile)
- \* “Before the Mesh:” we had an API (OCM) for peer-to-peer sharing
  - \* Needs 1:1 configuration -> not scalable
  - \* Requires users to know each other’s identities -> not suitable for general public
- \* We built a federation out of independently operated Sync&Share systems

- \* Federated infrastructure: ScienceMesh metadata (incl. services), monitoring, accounting, policies&governance, ...
  - \* Sync&Share systems serve as the source of user identities
    - \* As the only common denominator
- \* Invitation workflow, user discovery
  - \* Users can invite colleagues to share resources regardless of what end system they use
  - \* Users can be invited by mail/chat/... = something the users know and use regularly
  - \* Identity resolution = similar to WAYF in standard federations
- \* Resources&services that can be shared
  - \* File and folder access
  - \* Access to applications
  - \* Data transfers

- \* Easy data sharing between users from different Sync&Share system
- \* Sharing applications, e.g. Jupyter notebooks, Office Applications, ...
- \* Collaborative tools—collaborative editing
- \* On-demand data transfers for large data sets
- \* Data Repositories with FAIR principles
- \* ScienceMesh as a lightweight identity provider for other communities (selected services), current cooperation with EGI



**Connecting** European Data

**Thank you!**  
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