

Beamline Data Management at ANKA

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Motivation

Create a data management infrastructure at the synchrotron ANKA to enable transparency by:

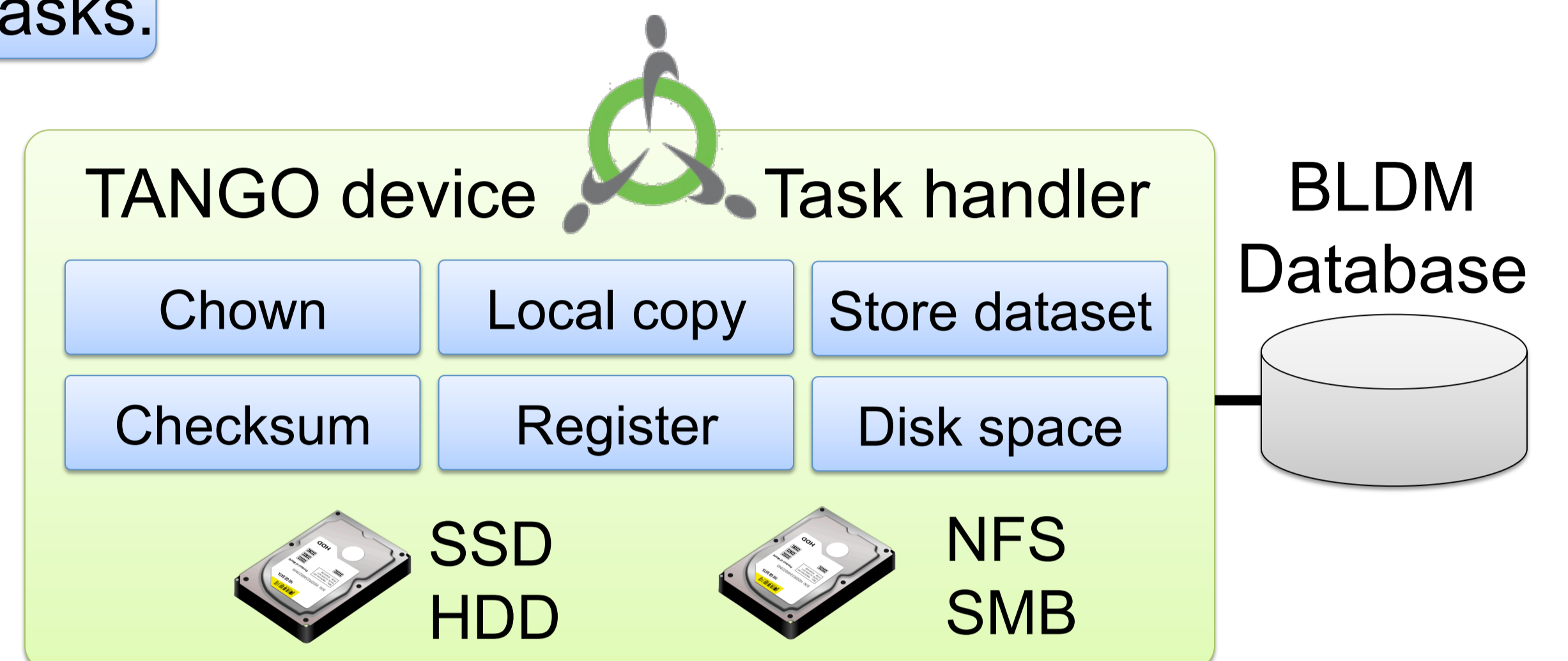
- Data management
- Automated analysis
- Data sharing
- Downloading
- Policy enforcing
- Retrieving
- Publishing
- Preserving
- Curating
- Monitoring



Beamline Data Management

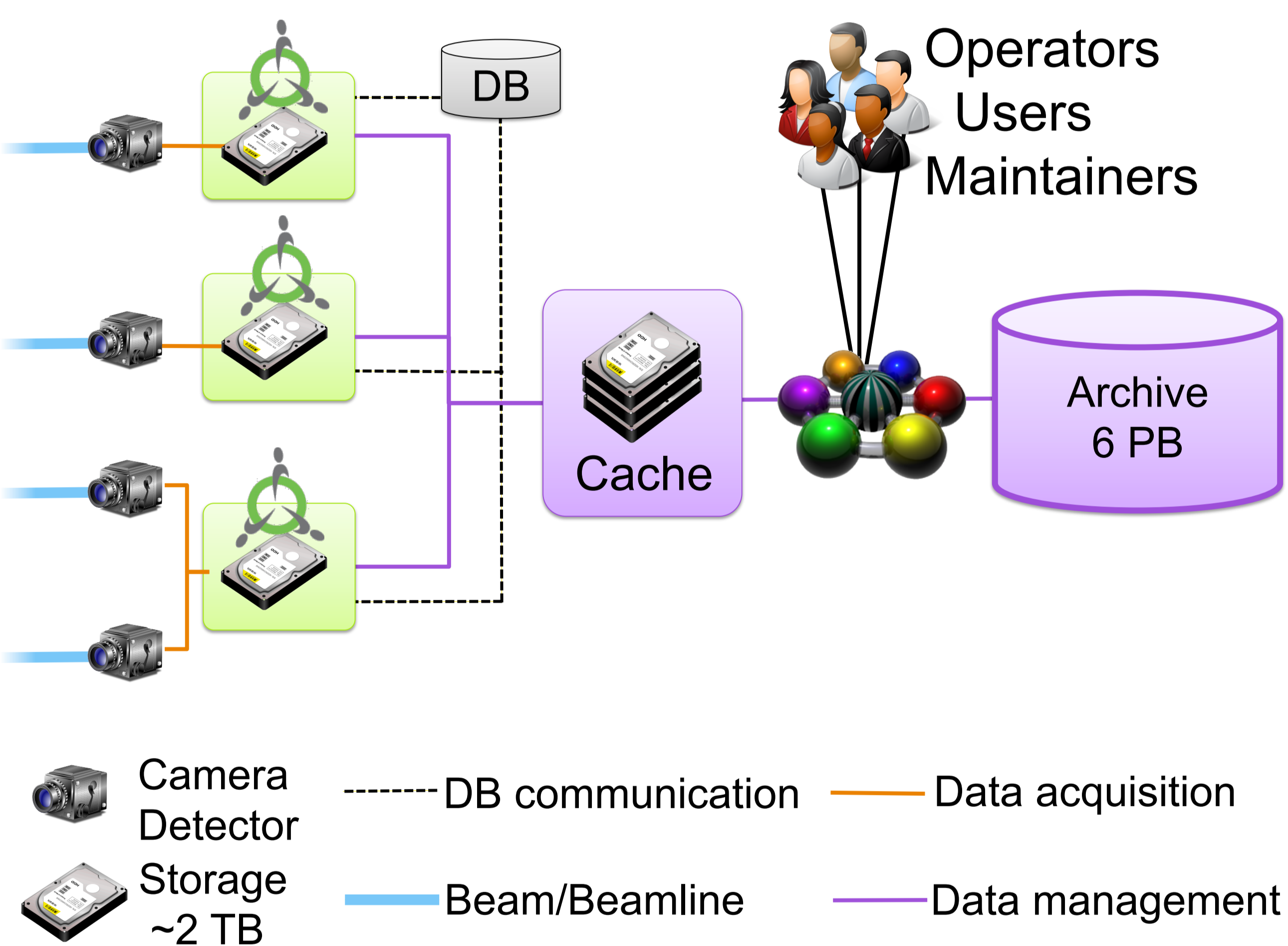
Provide data movement, meta data aggregation and ingest functionality within the ANKA synchrotron for seamless integration into the control system.

The TANGO device is a layer on top of a shared library, which contains the **functionality** encapsulated in **tasks**.



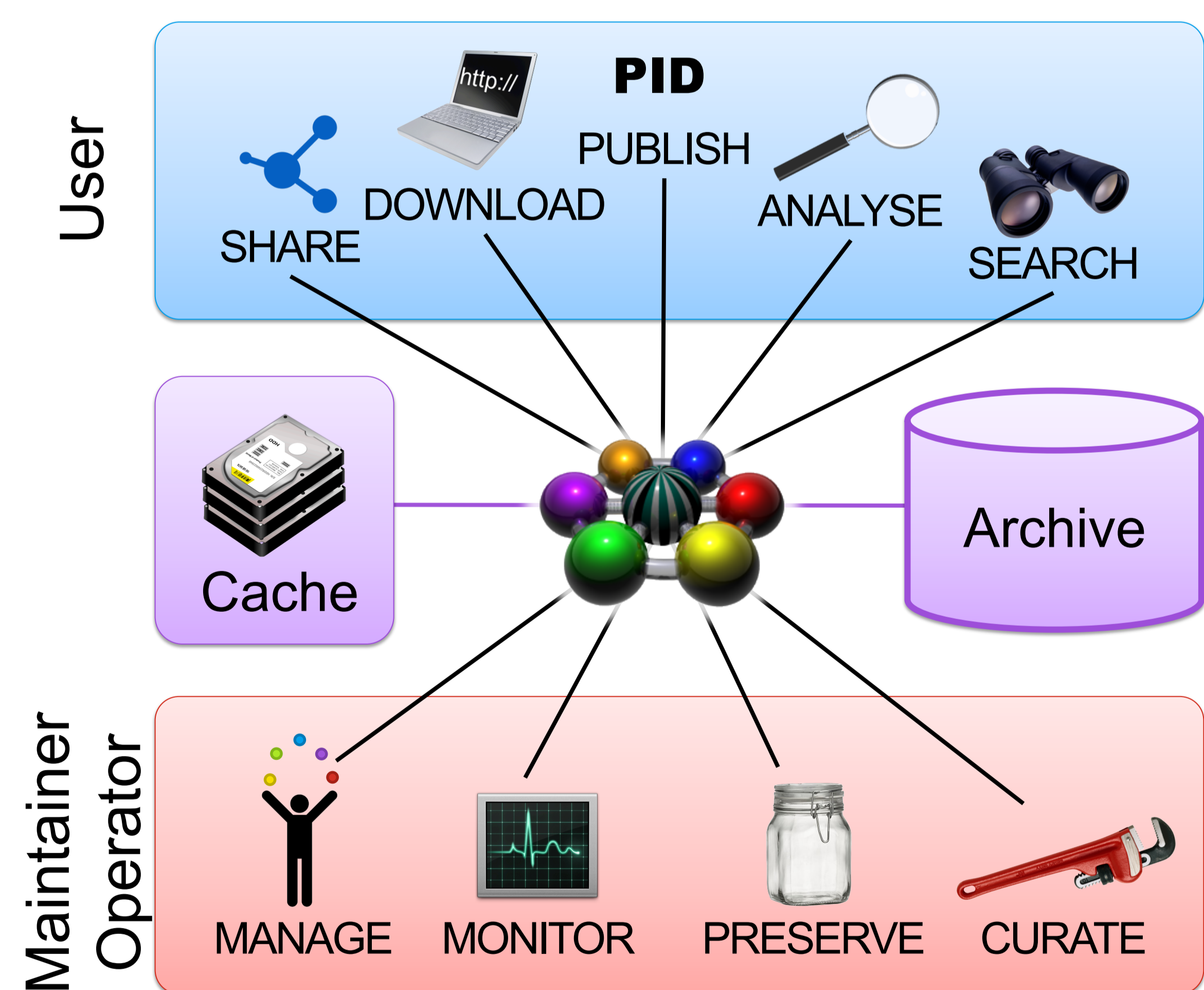
Method

Divide the data management tasks into **beamline data management** close the data source, and **data repository** functionality close to the data archive and user groups.



Data Repository

The KIT Data Manager implements data repository capabilities to enable user specific access after the ingest (registration and copy to the cache).



Example Workflow

Data movement and enrichment is handled by the beamline data management and the data repository.

- 1) Measure
- 2) Store dataset
- 3) Change owner
- 4) Change mode
- 5) Compute checksum
- 6) Aggregate meta data
- 7) Register dataset
- 8) Copy files to cache
- 9) Compute checksum
- 10) Compare checksums
- 11) Migrate files to archive
- 12) Delete beamline files
- 13) User access

Outlook

