Bridging the Gap: A Collaborative Finnish Approach to Integrated Electronic Resource Management (ERM) in Koha

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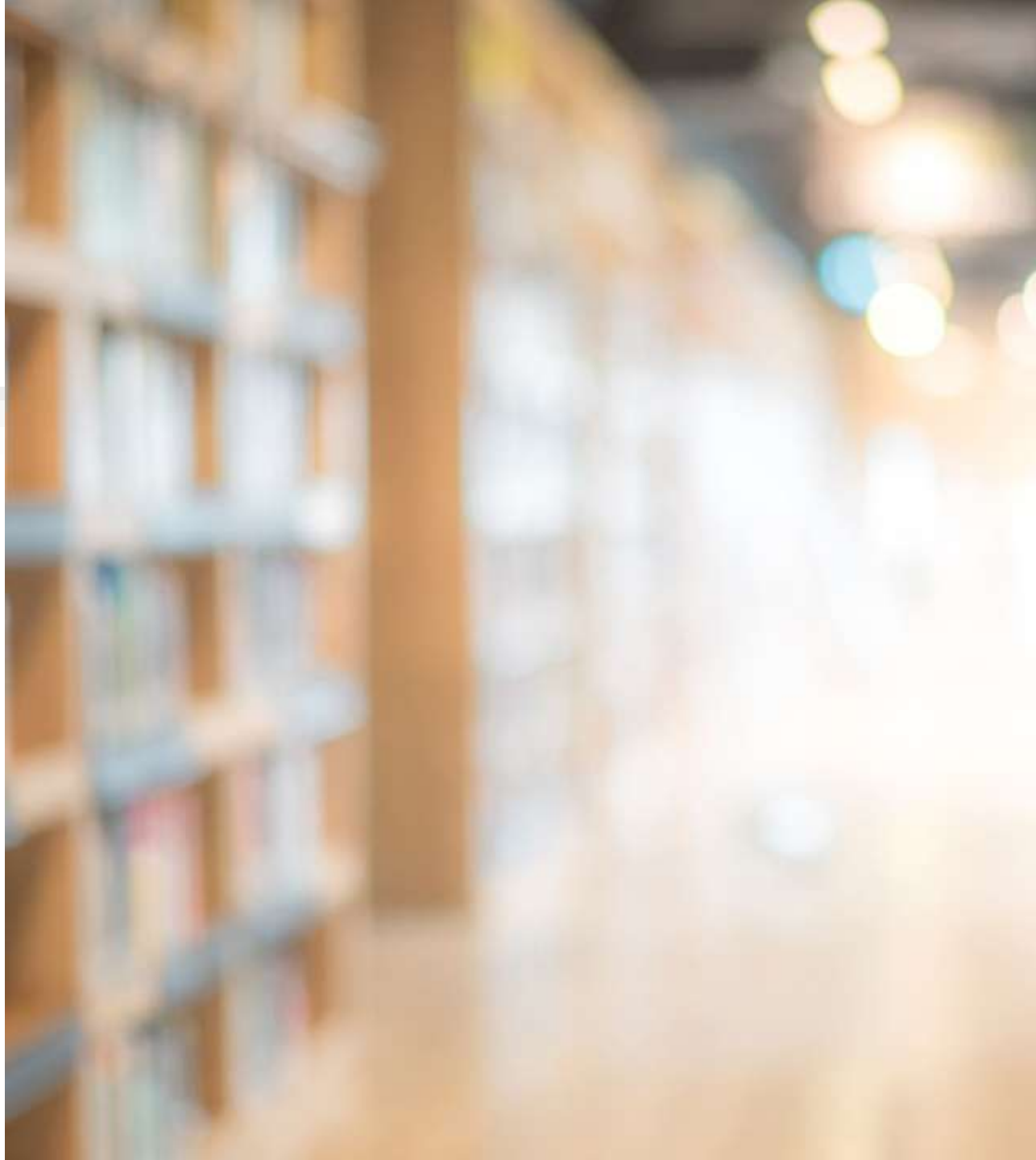
This presentation

1. The Finnish open consortium for Koha academic and special libraries
2. Modular library system solution
3. Modular electronic resources management vision
4. Usage statistics toolkit
5. Next steps



Finnish academic and special Koha libraries

- **An open consortium of academic libraries and special libraries**
  - 4 universities
  - 9 universities of applied sciences
  - 3 special libraries, more special libraries coming
  - totally 15 installations, some installations serve several organizations, e.g. 3AMK Libraries and Tritonia
  - The National Library of Finland, service provider and Koha user
  - First Koha implementations in 2018

- Koha is also widely used in Finnish public libraries
- Intense cooperation with Koha-Suomi Oy (Koha Finland), a **municipally owned non-profit company**

A modular library system solution

- The open consortium is based on a **strategic decision of a modular solution** using different systems, rather than one giant system that handles ”everything”.
- **Cooperation and collaboration –** developing services together in the community
- **Open source –** ideology, transparency, agility, customisation
- The National Library of Finland and CSC – IT Center for Science Ltd play crucial roles in coordinating, developing and maintaining the library system services.
- Koha was implemented in our libraries in 2018–2019. Since then **the role of e-resources has grown substantially** in many of the libraries in the open consortium.

The modular library system solution of the Finnish academic and special Koha libraries

ILS
Koha

End-user interface / Discovery
Finna (VuFind)

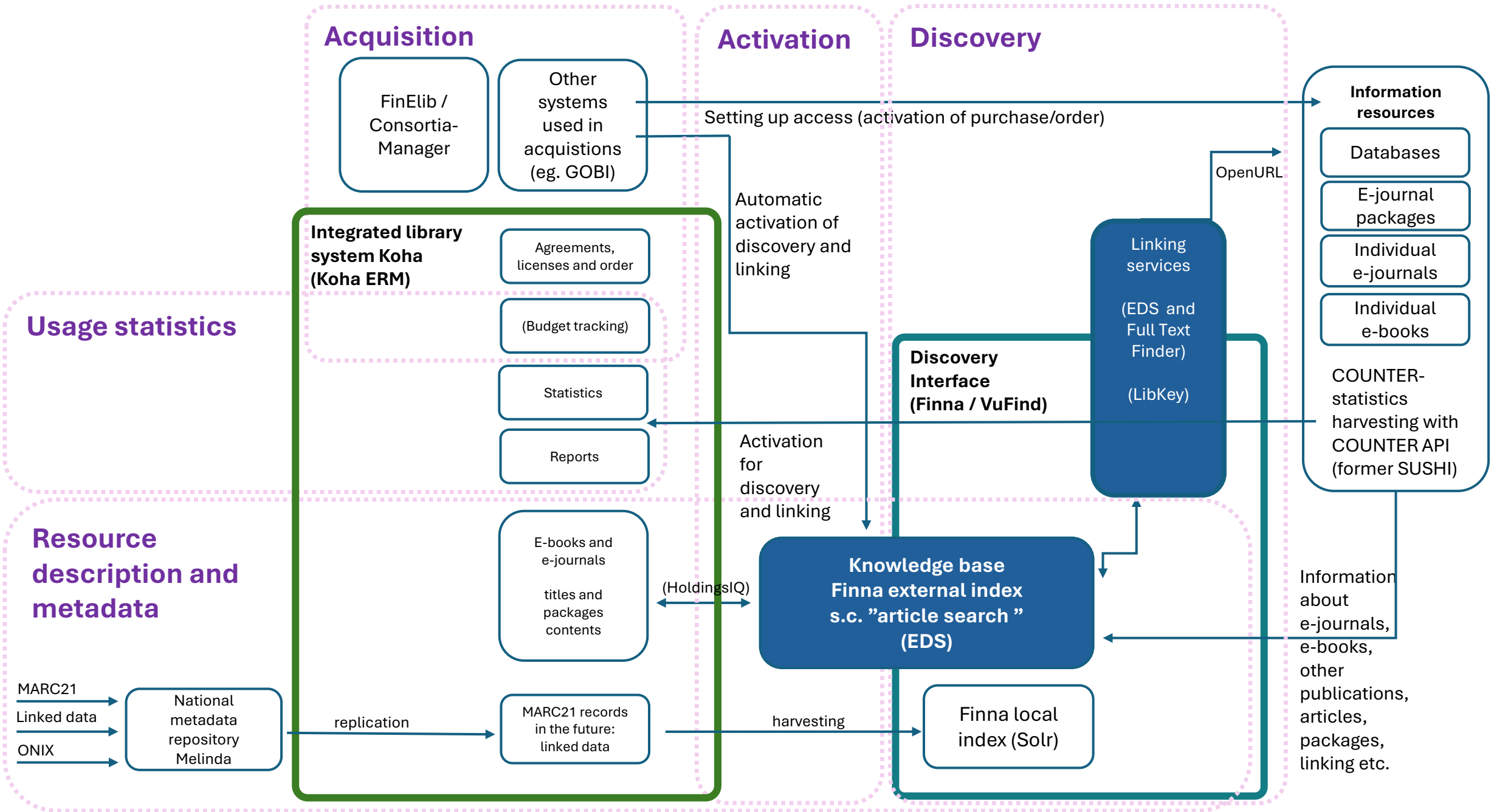
Knowledge base
Link management

SFX/CDI
EBSCO Discovery Services

National metadata repository
Melinda

Additional services through APIs

Eg. COUNTER statistics, mobile apps...


ERMS – electronic resource management systems
end-user interfaces
Acquisition
Activation
Discovery
FinElib / Consortia-Manager
Other systems used in acquistions (eg. GOBI)
Setting up access (activation of purchase/order)
Information resources
Databases
E-journal packages
Individual e-journals
Individual e-books
Automatic activation of discovery and linking
OpenURL
Integrated library system Koha (Koha ERM)
Agreements, licenses and order
(Budget tracking)
Statistics
Reports
Usage statistics
Linking services
(EDS and Full Text Finder)
(LibKey)
Discovery Interface (Finna / VuFind)
COUNTER-statistics harvesting with COUNTER API (former SUSHI)
Activation for discovery and linking
Resource description and metadata
E-books and e-journals
titles and packages contents
(HoldingsIQ)
Knowledge base
Finna external index
s.c. ”article search ”
(EDS)
Information about e-journals, e-books, other publications, articles, packages, linking etc.
MARC21
Linked data
ONIX
National metadata repository Melinda
replication
MARC21 records in the future: linked data
harvesting
Finna local index (Solr)

Vision

Simple ordering

Quick activation

Easy statistics

Excellent end-user experience

Efficient search and discovery for students, researchers and staff

Vision: Seamless activation process

Platforms for acquisition of e-books

Quicker and easier activation of e-resources for linking and discovery

- Integrated part of the acquisition process
- Increasing service reliability and process efficiency

Use of automatic activation in discovery interface and linking whenever possible

Rich metadata needed to improve end-user search experience

- Author, title and publication year are insufficient
- Key words, abstracts

Integration of knowledge base to Koha ERM

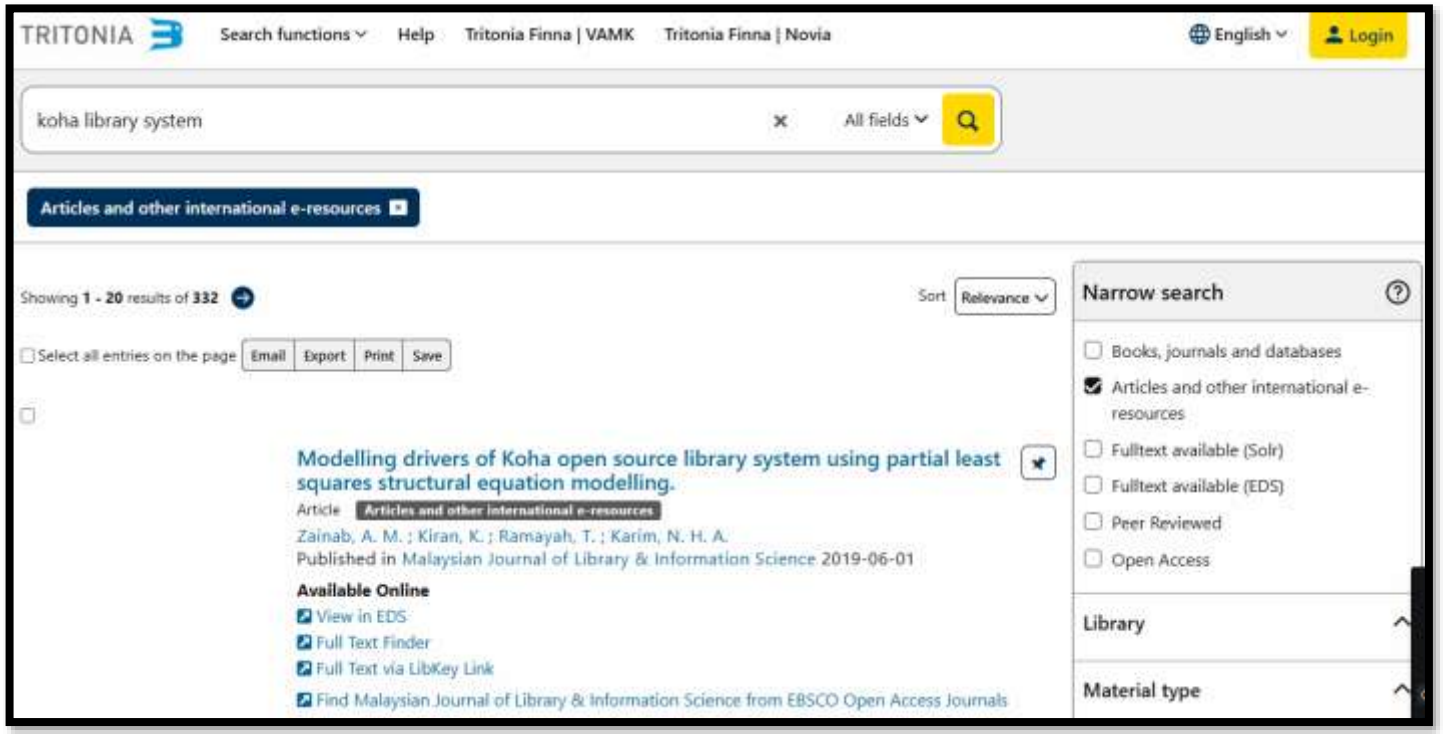
- Possibility to activate e-resources in Koha ERM using EBSCO HoldingsIQ API

Discovery interface

- Finna will continue to be the discovery interface
- all library resources with one search

- tested improved integration of EBSCO Discovery Services (EDS) in Finna

- development needs identified (minor), eg.
  - journal search by title
  - integrating EBSCO FTF linking



finna

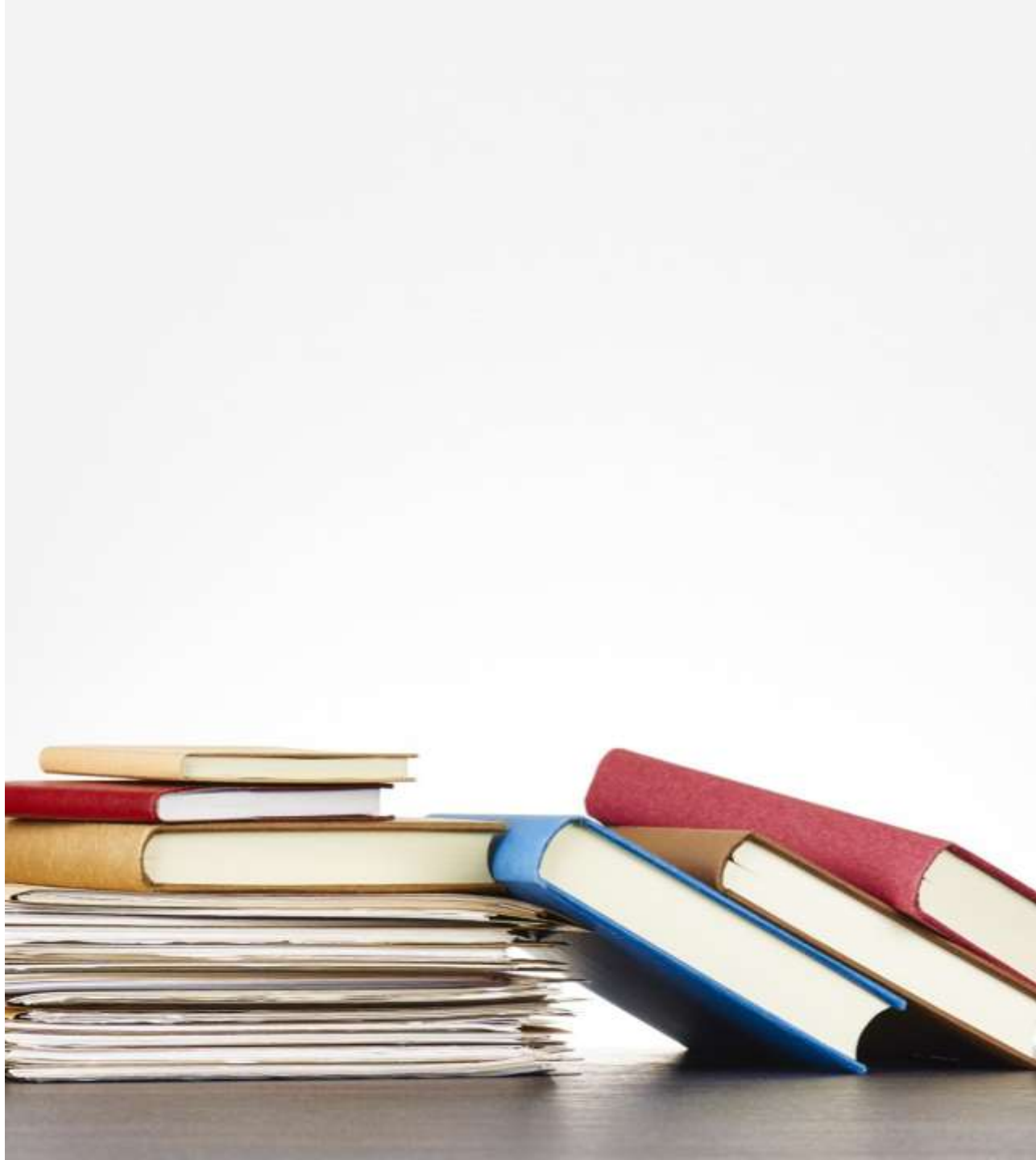
Powered by vufind®
Search. Discover. Share.

Why do we need usage statistics?

- Support evidence-based acquisitions
- Understand how licensed resources are used
- Compare usage across platforms and providers
- Identify heavily used and underused resources
- Produce shared statistics across libraries
- Strengthen negotiations and collection development

Questions from the acquisitions team: e-journals

- **E-journal usage**
- How much is a particular e-journal used?
- Which e-journals are used most on a specific platform?
- How much platform usage concerns paid content?
- How much concerns Open Access content?
- Are users accessing recent or older journal volumes?



Questions from the acquisitions team: e-books

- How much is a particular licensed e-book used?
- Which licensed e-books are used most on a specific platform?
- How much use concerns licensed e-books?
- How much use concerns Open Access books?
- Which platforms and titles deserve further attention?

Understanding COUNTER 5.1 and COUNTER API

What are they?

- **COUNTER 5.1:** The latest global standard (effective 2025) that defines the exact rules for measuring electronic resource usage consistently across all publishers.
- **COUNTER API:** The modern automation protocol—**formerly known as SUSHI**—used by library systems to harvest these usage reports automatically.

How do they work together?

- **Data vs. Delivery:** COUNTER 5.1 dictates *what* the data looks like and how it is formatted, while COUNTER API handles *how* that data is securely transferred.
- **The Workflow:** Publishers format usage data into JSON according to **COUNTER 5.1** → Libraries fetch it via **COUNTER API**.

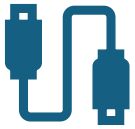
Koha as a ~~SUSHI~~ COUNTER harvester

- Works but with issues.
  - Challenges in scheduling harvesting.
  - Difficulties with error handling.
  - Questions regarding analysis.

Solution: A practical Python toolkit around Koha

Automated SUSHI harvesting

Resilient handling of harvesting failures



Safe access to Koha reports (Koha-Suomi ReportServices plugin)

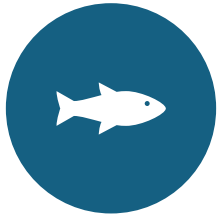
Template-driven imports into PostgreSQL

Reusable tools for monitoring and analytics

Using the Koha REST API

OAUTH AUTHENTICATION

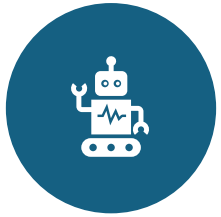
PROVIDER DISCOVERY



SUSHI HARVESTING THROUGH KOHA ERM

ASYNCHRONOUS KOHA JOBS

JOB STATUS AND RESULT INSPECTION



COMMAND-LINE AUTOMATION

Failure handling is a central feature

Harvesting can fail in many different ways
Authentication and connectivity errors
HTTP errors and timeouts
Rate limiting: 1020
Queued jobs: 1011
Unsupported COUNTER releases (?)
Provider-specific SUSHI errors
Finished jobs containing error messages
Partial failures across report types

Recovery, retries, and operational visibility

Retry	Retry selected failures
Recheck	Recheck queued jobs
Back off	Back off after rate limiting
Fall back	Fall back to sequential report-type execution
Retry	Retry only failed report types
Track	Track success and failure history
Identify	Identify stale providers and release backlogs

Retrieving Koha Reports safely

- Koha SQL Reports + Koha-Suomi ReportServices plugin (https://github.com/KohaSuomi/koha-plugin-report-services)
  - ReportServices exposes report results through an API
  - Adds granularity to the report permissions (“this user can access only these reports”)
  - Suitable also for parameterized reports

Template-driven storage in PostgreSQL

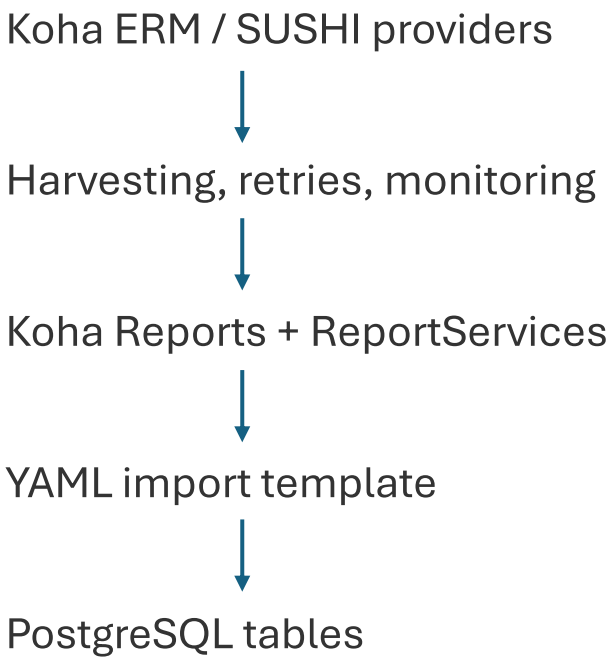
Separate database for statistics

- Protect Koha performance
  - Monthly data snapshots
- Keep the Koha database lean
  - Old harvests can be removed
- Fast analytics & reporting
- Visualization workflows
  - Metabase
  - MS Power BI
- Long-term historical data

One importer, multiple reports

- Each YAML template defines:
- Source report fields and aliases
- Target PostgreSQL table
- Data types
- Validation rules
- Transformation expectations

The complete toolkit workflow



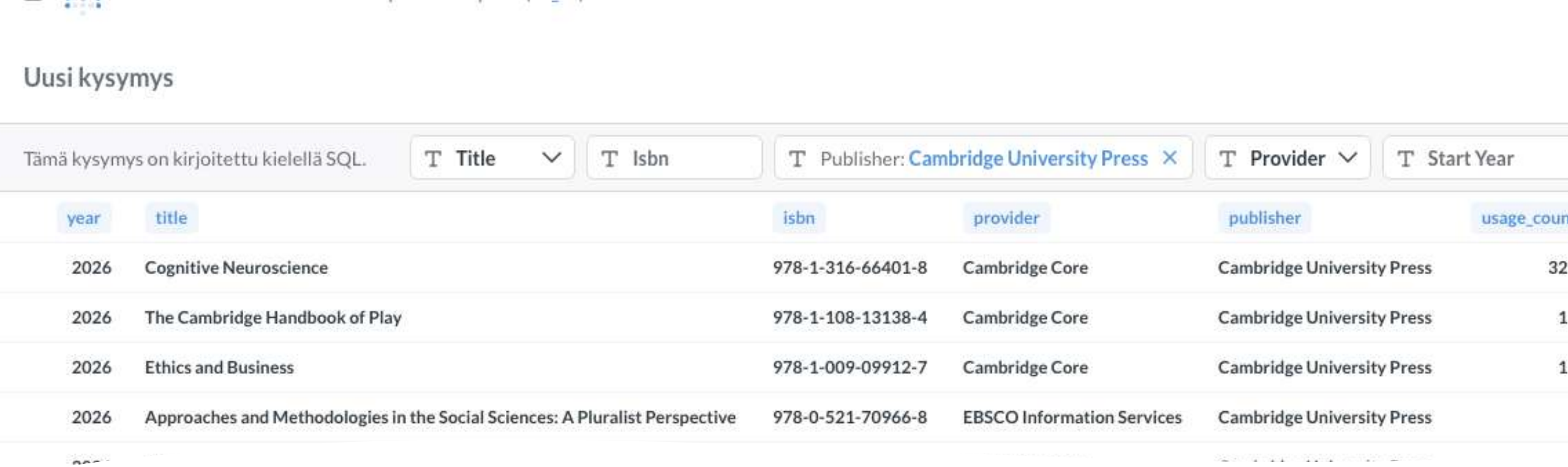
From PostgreSQL to analysis

Harvested and imported data is stored in PostgreSQL

PostgreSQL acts as a shared analytics layer

Separate data collection from visualization

Reusable datasets for dashboards and reports



Analysis with Metabase

- Direct connection to PostgreSQL
- Rapid dashboard development
- Saved questions and reusable models
- Filters for providers, publishers, periods, etc.
- Suitable for self-service analysis
- Easy to publish internally

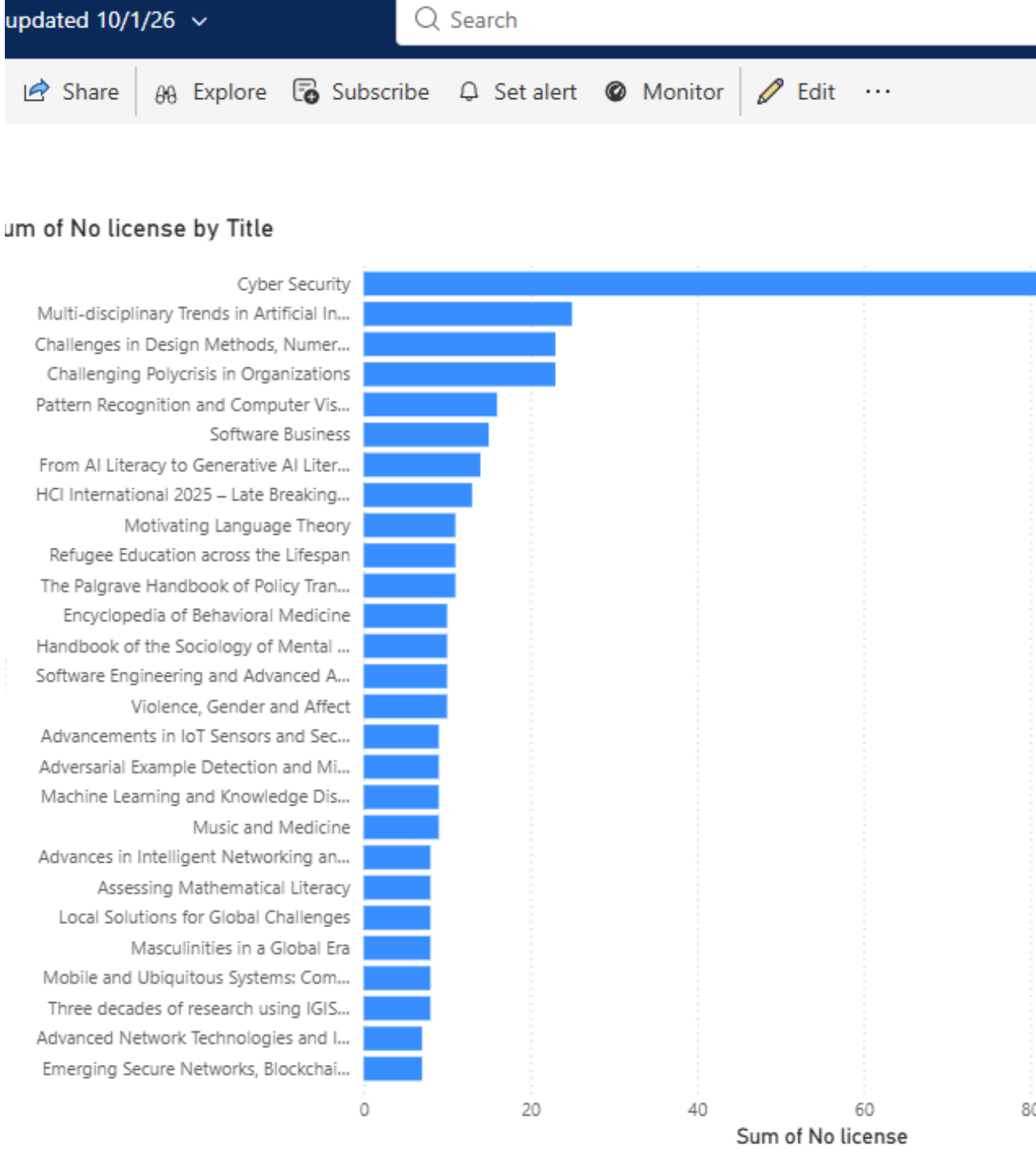
Analysis with Power BI

PostgreSQL as a data source or direct report retrievals via ReportServices plugin

Interactive reports and dashboards

Data models and calculated measures

Scheduled refresh



From harvesting to evidence-based decisions : a toolkit model

Reliable collection

Transparent failure handling

Safe access to Koha reports

Reusable PostgreSQL data

Flexible analysis in Metabase or Power BI

Next steps

Piloting continues in Jyväskylä, Tritonia and Haaga-Helia

Cooperation within the open consortium

Cooperation in the Koha community

Software development
Solving bugs in Bugzilla

Strategic decisions on different levels

Implementation plan

Thank you!

Photo by Veli-Matti Häkkinen 2026