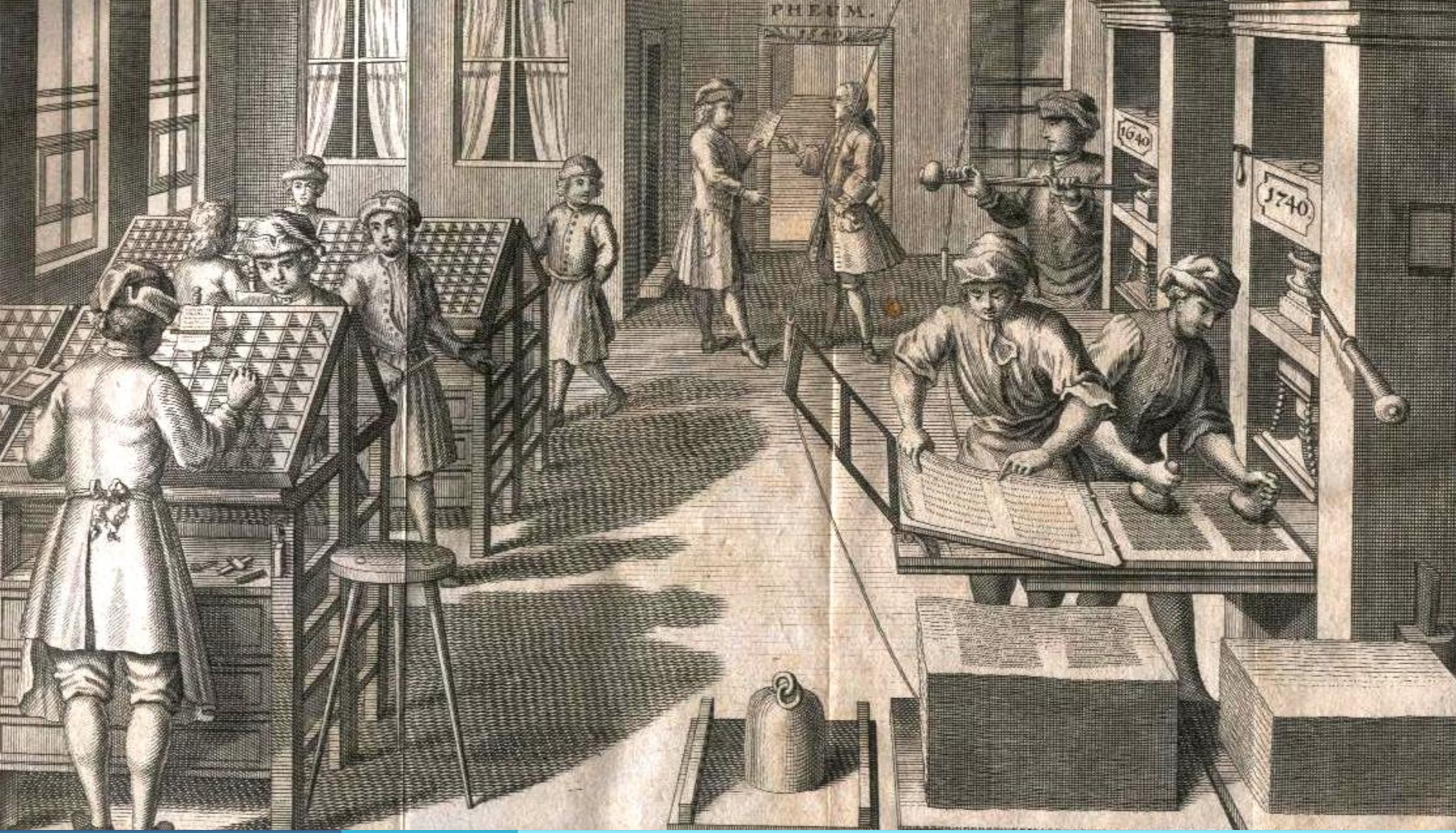
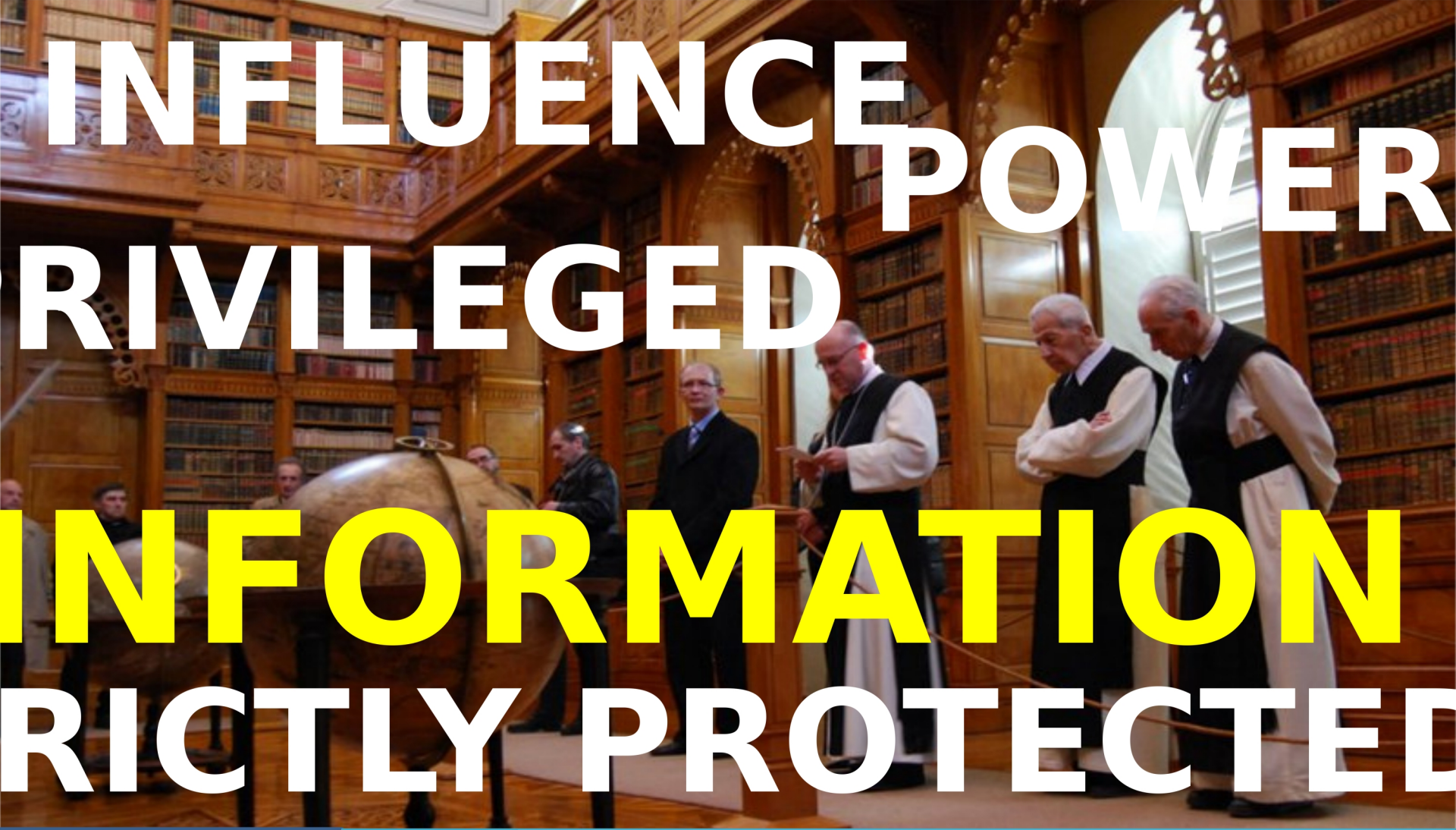
FROM THE PAST TO ETERNITY
Long Term Preservation In a Distributed Environment

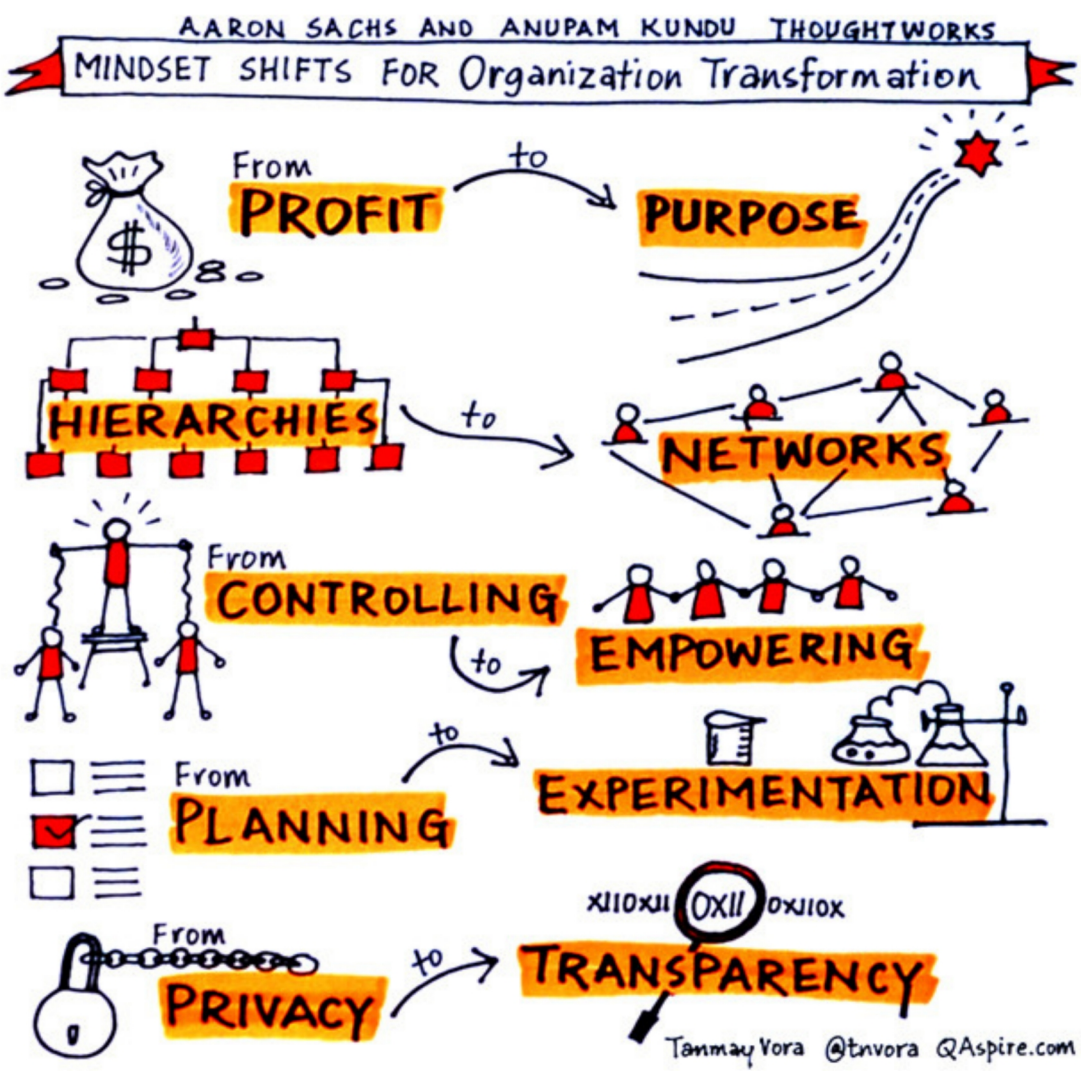
The Approach of the Hungarian Comprehensive Library Platform

Miklós Lendvay


PHERM.
1640
1740


INFLUENCE
POWER
RIVILEGED
INFORMATION
RICTLY PROTECTED

Revolution of ACCESS SHARE


AARON SACHS AND ANUPAM KUNDU THOUGHTWORKS
MINDSET SHIFTS FOR Organization Transformation
From
PROFIT
to
PURPOSE
HIERARCHIES
to
NETWORKS
From
CONTROLLING
to
EMPOWERING
From
PLANNING
to
EXPERIMENTATION
From
PRIVACY
to
TRANSPARENCY
Tanmay Vora @tnvora QAspire.com

STM Tech Trends: Outlook 2020

THE TECHNOLOGY FLOODGATES ARE OPEN

STM
The global voice of scholarly publishing

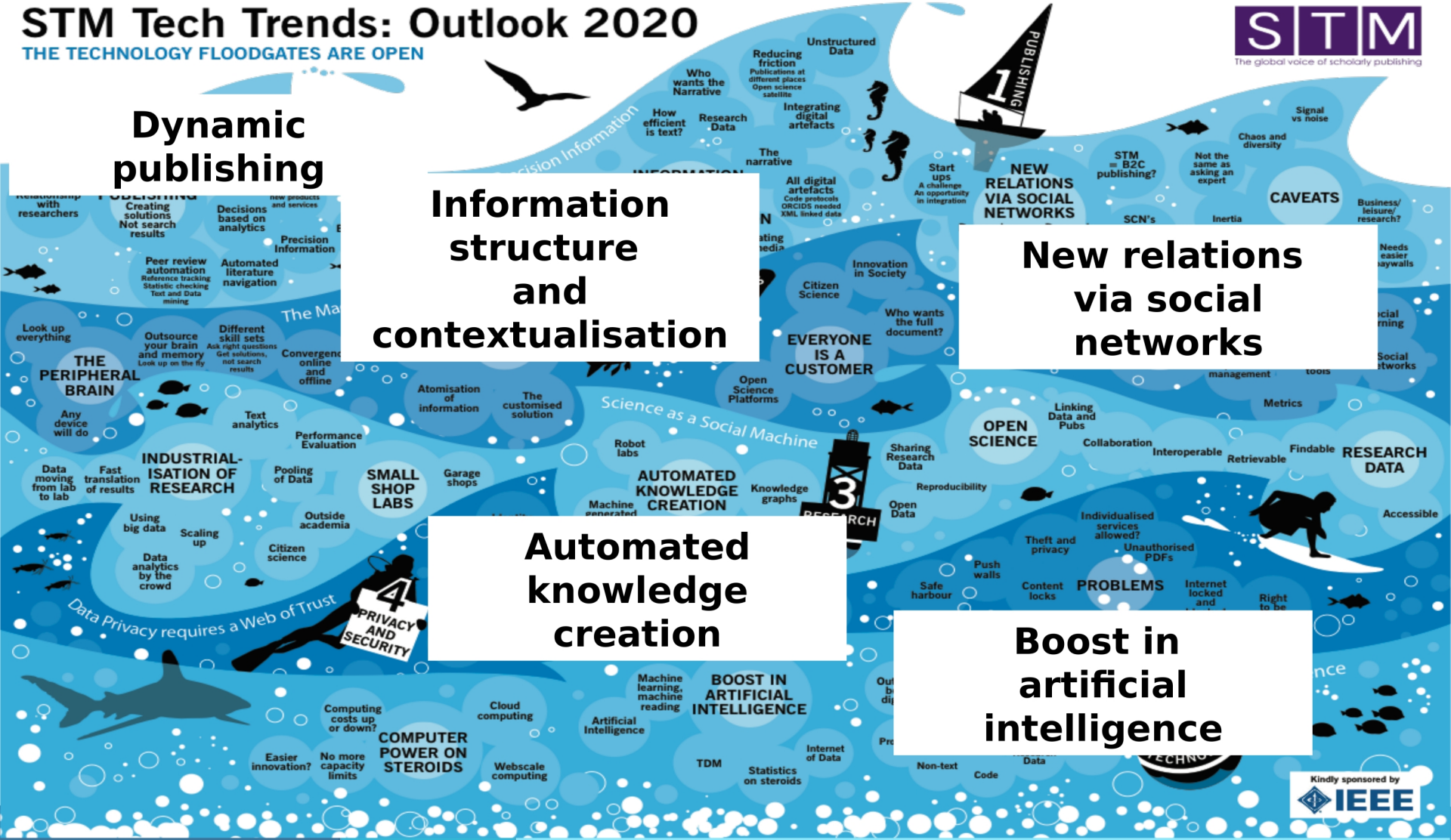
Dynamic publishing

Information structure and contextualisation

New relations via social networks

Automated knowledge creation

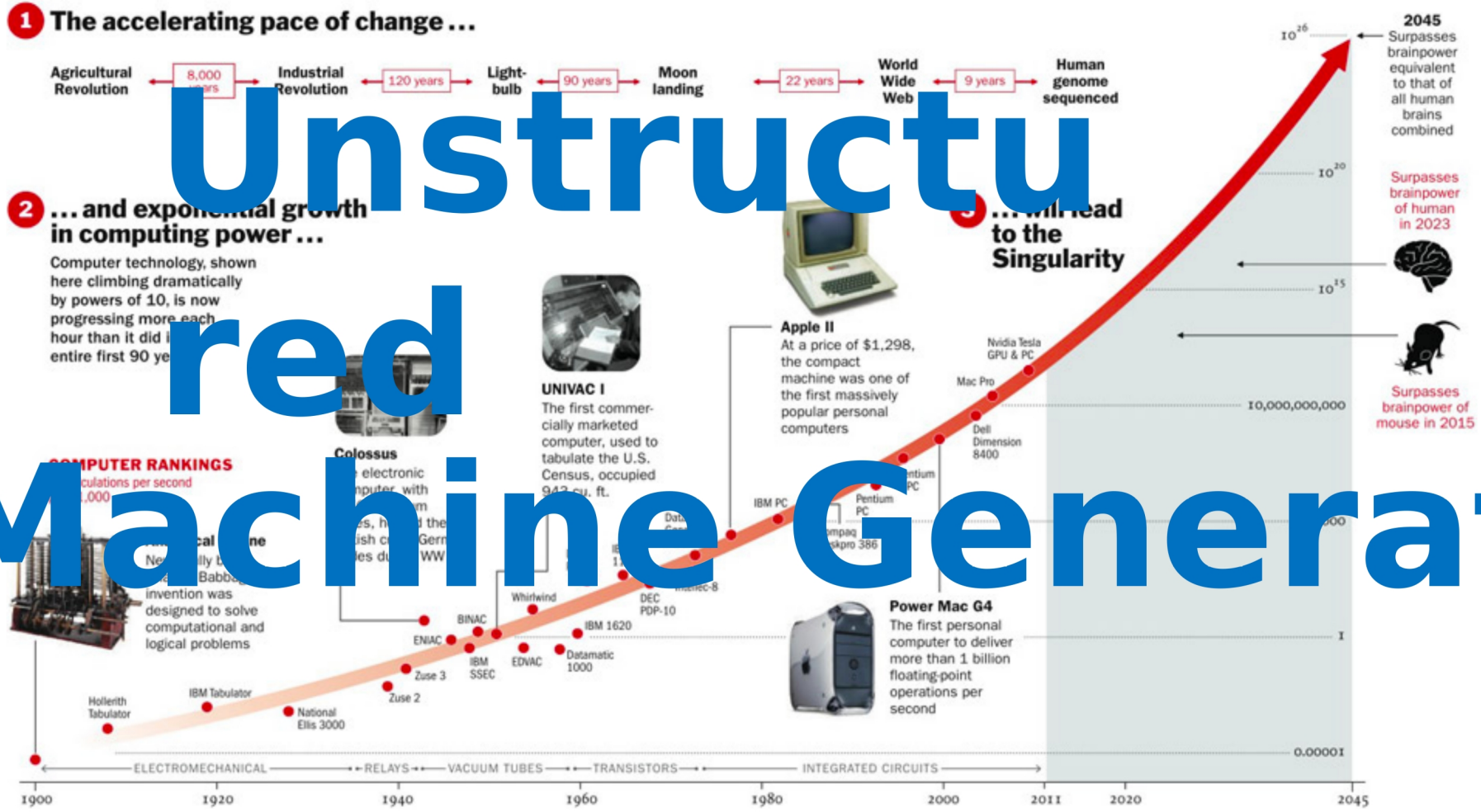
Boost in artificial intelligence



COMMERCE CLOUD
CPQ CLOUD
RightNow
ERP CLOUD
RESPONSYS
TWILIO
ADOBE ESIGN
MS CONTACTS
ARIBA
ELOQUA
MESSAGING
SALES CLOUD
MySQL
DB2
FTP
SAP R/3
SOAP
CONCUR
ORACLE UTILITIES
REST
FIELD SERVICE
NETSUITE
NetSuite
SALESFORCE.COM
MS MAIL
SURVEYMONKEY
JMS
JDE
DocuSign
TWITTER
SUCCESSFACTORS
EVENTBRITE
EVERNOTE
FACEBOOK
EBS
MS SQL SERVER
AQ
SERVICENOW
MS CALENDAR
MAILCHIMP
LINKEDIN
GOOGLE CALENDAR
GMAIL
SIEBEL
ORACLE DB
TRELLO

Microservices, modularity, flexibility

Growth of Data

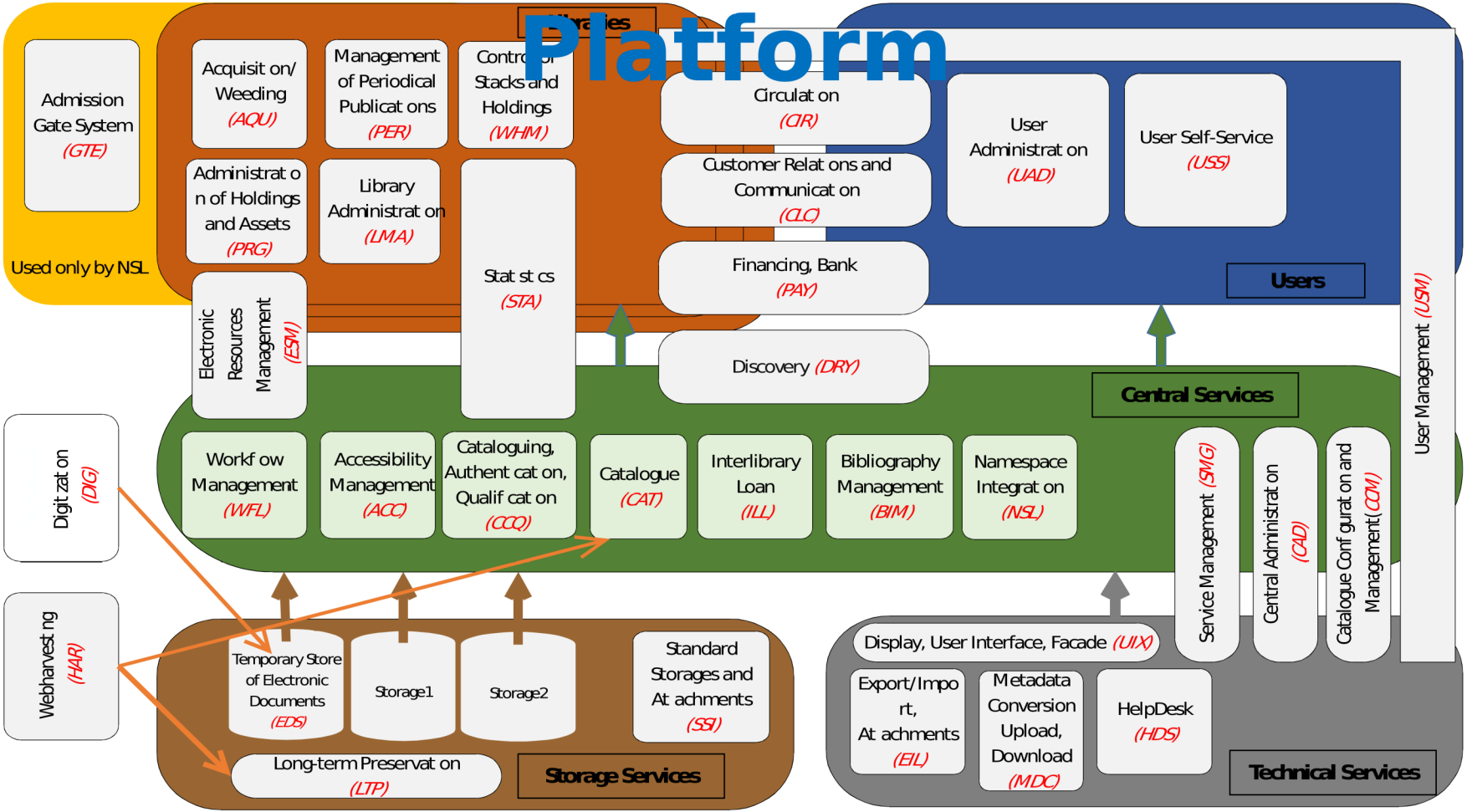


Unstructured Machine Generat

Source: TIME

Utländska dagstidningar
Berlingske tidene –
Le Monde
SE UPP!! KLÄM INGEN I GÄNGARNA!!
Utländska dagstidningar
Morgonbladet Helsingfors –
SE UPP!! KLÄM INGEN I GÄNGARNA!!

Plan of the National Library Platform



Ways Of Possible Cooperation

Shared Software / the option to move in Multitenant environment, private data per institution

Central database, Upload of data or real time data synchronisation

Interface / connectors

Institutional, local databases

Supporters outside of institutions; citizen science, authors, researchers, publishers, volunteers, crowdsourcing etc.

FOLIO™ Platform

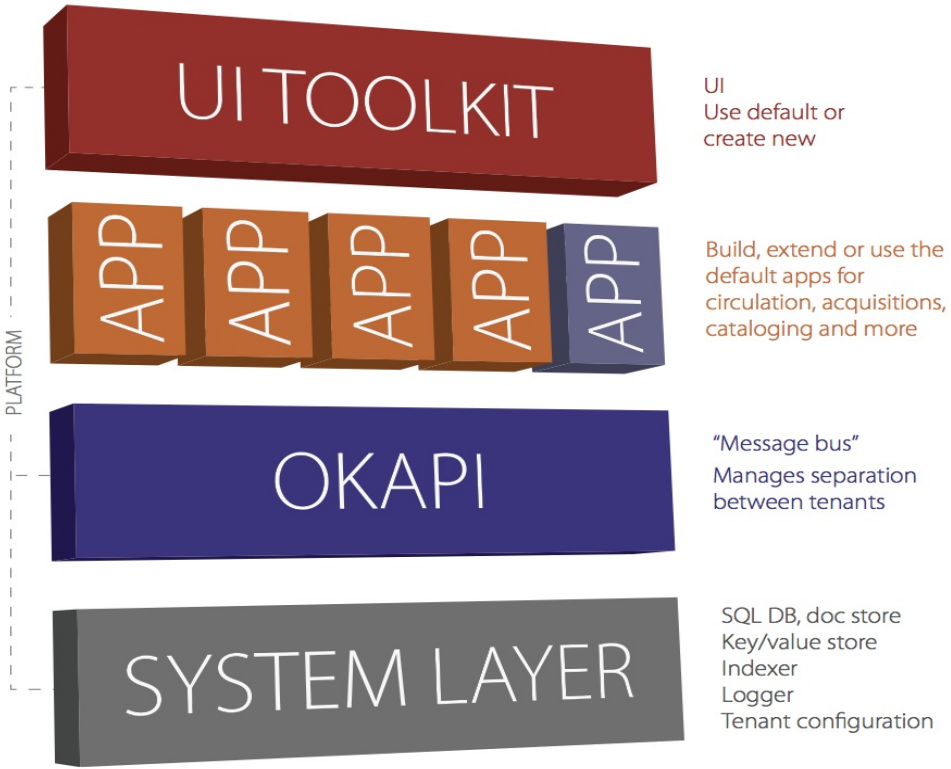
The FOLIO platform will support resource management functionality while affording libraries and developers the ability to extend the platform into new areas. The platform design is "APIs all the way down". This means that any developer can interact with any layer in the platform, and no component is too big to be replaced.

UI Toolkit
FOLIO comes with a default User Interface for the platform applications. At the same time, libraries or developers can take advantage of the UI toolkit to create a new UI as needed. The UI toolkit leverages the React framework, an open JavaScript library for creating user interfaces.

Language Agnostic Applications
FOLIO applications are language agnostic. In other words, apps can be written in any programming language. Apps include standard ILS modules such as circulation, cataloging, and acquisitions. Libraries and vendors can build on existing apps, or develop new apps that extend the library into areas such as campus ERP, research administration, and more.

APIs and Message Bus
OKAPI is the API gateway that manages communication and separation between apps and different tenants (installations) on the platform. While apps are language agnostic, the connecting protocol between applications is HTTP.

System Layer
The FOLIO platform features a centralized layer for data storage. The platform utilizes several data storage technologies for optimal performance and reporting. Transactional data, such as circulation transactions, may be stored in an SQL database while bibliographic data can reside in MongoDB. The system layer also facilitates indexing, supports linked data, and provides for tenant configuration.



FOLIO
The Future of Libraries is Open

WolfCon – World Of Open Libraries Conference

Agenda
https://
wolfcom2018.sched.com
Paula

Inventory of Special Collections and Archives Working Group FOLIO

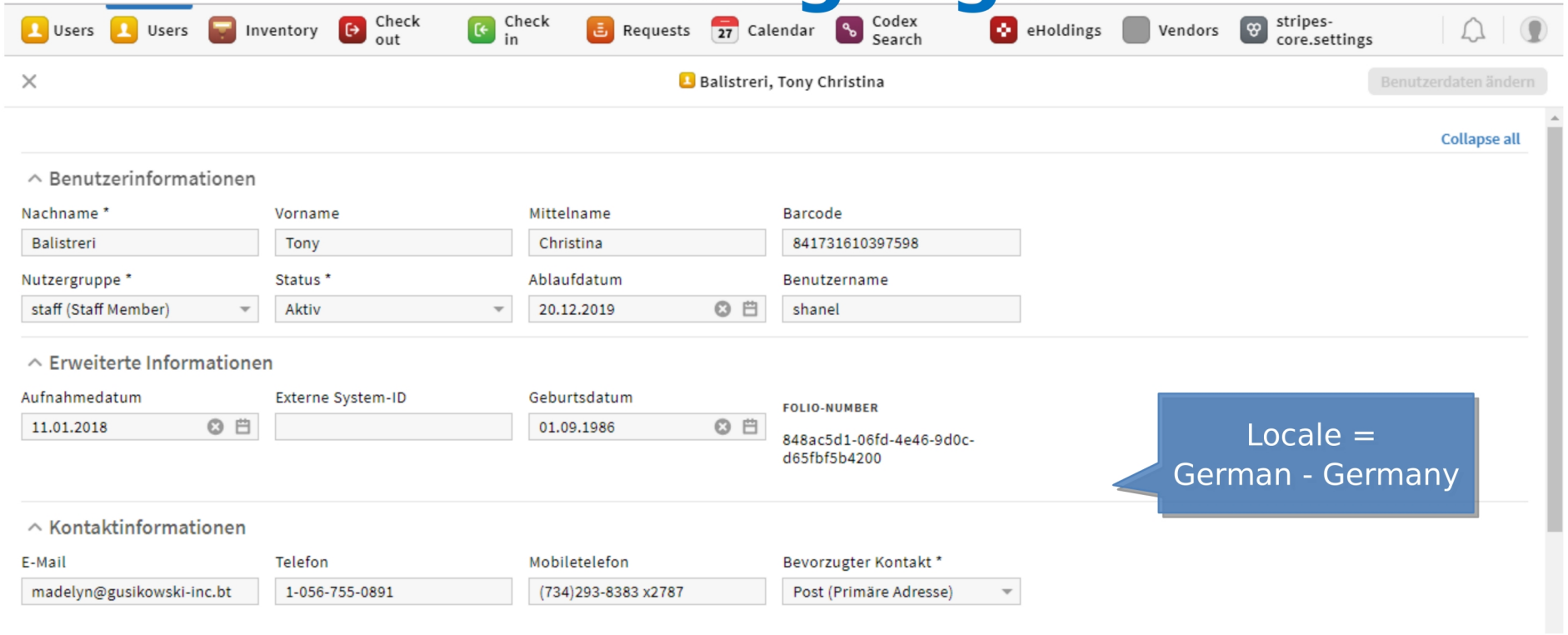
Name For more information about this spreadsheet: https://ablrwr.github.io/blog/2017/08/09/collection-management-system-collection/	Website	Loan/request Can it manage sending stuff out and getting it back?	Multilingual Can it support multiple languages?	Permissions For user permissions within the organization, or for the public.	Physical Stores physical location of assets?	Reporting Exports data/spreadsheets/charts/PDFs for your boss.	Rights Copyright stuff	Tasking Can you assign tasks? Who is working on what?	Access Does this come with a public online access portal?	Batch Edit Are there ways to change data in ways more significant than one-at-a-time?	Data Model & Metadata Schema Can it manage different and rich data models and metadata schemas?	Collection mgmt Can it perform CRUD operat [Create, Read, Update, Delet
Access to Memory (AtoM)	https://www.accesstomemory.org	No	Yes	Yes	Yes	Ehhh	Yes	No	Yes	Ehhh	Yes	Yes
ACE		No		Yes	No	Yes	No	No	No	No		
Adlib (Axiell)	http://alm.axiell.com/collections-managem	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Alfresco	https://www.parashift.com.au/alfresco-media-management/			Yes		Yes	Yes	Yes		Yes		
Archivematica	https://www.archivematica.org/en/	No	Yes	Yes	No	No	Yes	No	No	No		Yes
ArchivesSpace	http://archivesspace.org/	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes		Yes
Argus	https://lucidea.com/argus/											
ArtBase	http://www.artbase.com/	Yes				Yes			No			
Avalon	http://www.avalonmediasystem.org/								Yes	Yes		Yes
CollectiveAccess	http://www.collectiveaccess.org/	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Canto Cumulus	https://www.canto.com/en/cumulus/		Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes
Calm (Axiell)	http://alm.axiell.com/collections-managemen	t-solutions/technology/calm-archive/			Yes	Yes		No	Yes	Yes		No
Collection Space	http://www.collectionspace.org/	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
CONTENTdm	http://www.oclc.org/en/contentdm.html	No	Yes	Yes	Yes	Ehhhh	Yes	No	Yes	Ehhhh		Yes
DB/TextWorks	https://lucidea.com/quadrastar-skca/					Yes			Yes			
	https://lucidea.com/inmagic/dbtextworks/	No	Yes	Yes*	No	No		No	For a price*	Yes		Yes
Digital Commons (BePress)	https://www.bepress.com/products/digital-	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes		Yes
dLibrary online platform	http://dlibrary.org/	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DSpace	http://www.dspace.org/	No	Yes		0 Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
eHive	https://info.ehive.com/	Ehhhh	No	Yes	Yes	Yes	Yes	No	Yes	No		Yes
Eloquent Archives	https://www.eloquent-systems.com/products/archives/											
EmbARK (Gallery Systems)	https://www.gallerysystems.com/products/	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
EMu (Axiell)	http://alm.axiell.com/collections-managem	Yes	Yes	Yes	Yes	Yes	Ehhhh	Yes	Yes	Yes	Not really (Yes, if customized)	Yes
Extensis	http://www.extensis.com/											
Fedora	http://fedorarepository.org/											
Imagen	https://imagenerya.com/		Yes	Yes			Yes		Yes			
Invenio	http://inveniosoftware.org/											
Islandora	https://islandora.ca/	No	Yes	Yes	Yes	No	Yes	No	Yes	Yes		Yes
IO Integration	http://www.iointegration.com/		Yes	No		Yes	Yes	Yes		Yes		
JSTOR Forum	http://forum.jstor.org/login.html											
Knowledge	http://www.ptfs.com/knowledge	No	Yes	Yes	Yes	Yes		No	Yes	Yes		Yes
LOCKSS	https://www.lockss.org			Yes	No	No	No	No	Yes	No		
Look at me	http://www.lookatmedam.com.au/	No	Ehhhh	Yes	No	Ehhhh	Yes	Yes	Yes	Yes		Yes
Mimsy (Axiell)	http://alm.axiell.com/collections-managem	Yes		Yes	Yes	Yes	Yes	No	Yes	Yes		Yes
Mukurtu	http://mukurtu.org/	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	
MuseumPlus	http://www.zetcom.com	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
NetX	http://netx.net/	No	No	Yes					No	Yes		Yes
Nuxeo	https://www.nuxeo.com/											
Omeka	http://omeka.org/	No	No	Yes		No	Yes	Yes	Yes	No		Yes
PastPerfect	http://www.museumsoftware.com/				Yes	Yes			Yes	Yes		

Source: FOLIO working group, Collection Management System

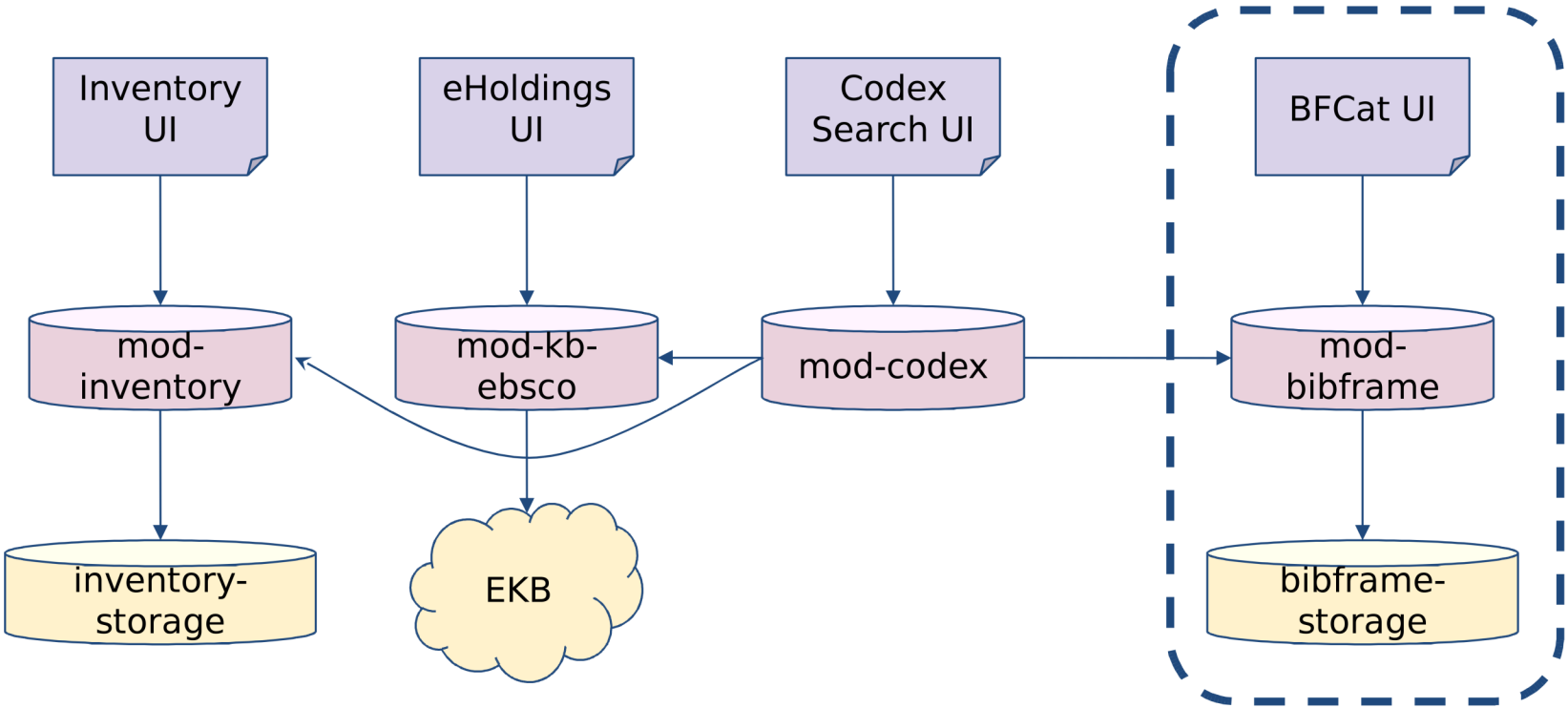
Inventory of Special Collections and Archives

Circulation	Fulfilment	Multilanguage	Access rights	Preservation of digital objects
Reporting	Copyright information	Task/ workflow management	Access regulation	Batch processing
Datamodell	Metadata Schema	Collection management	Digital asset management	Upload
Long Term Preservation of Digital Content	Open Source	Import / Export	API	Community support

Modules
Locale-Driven Display Language

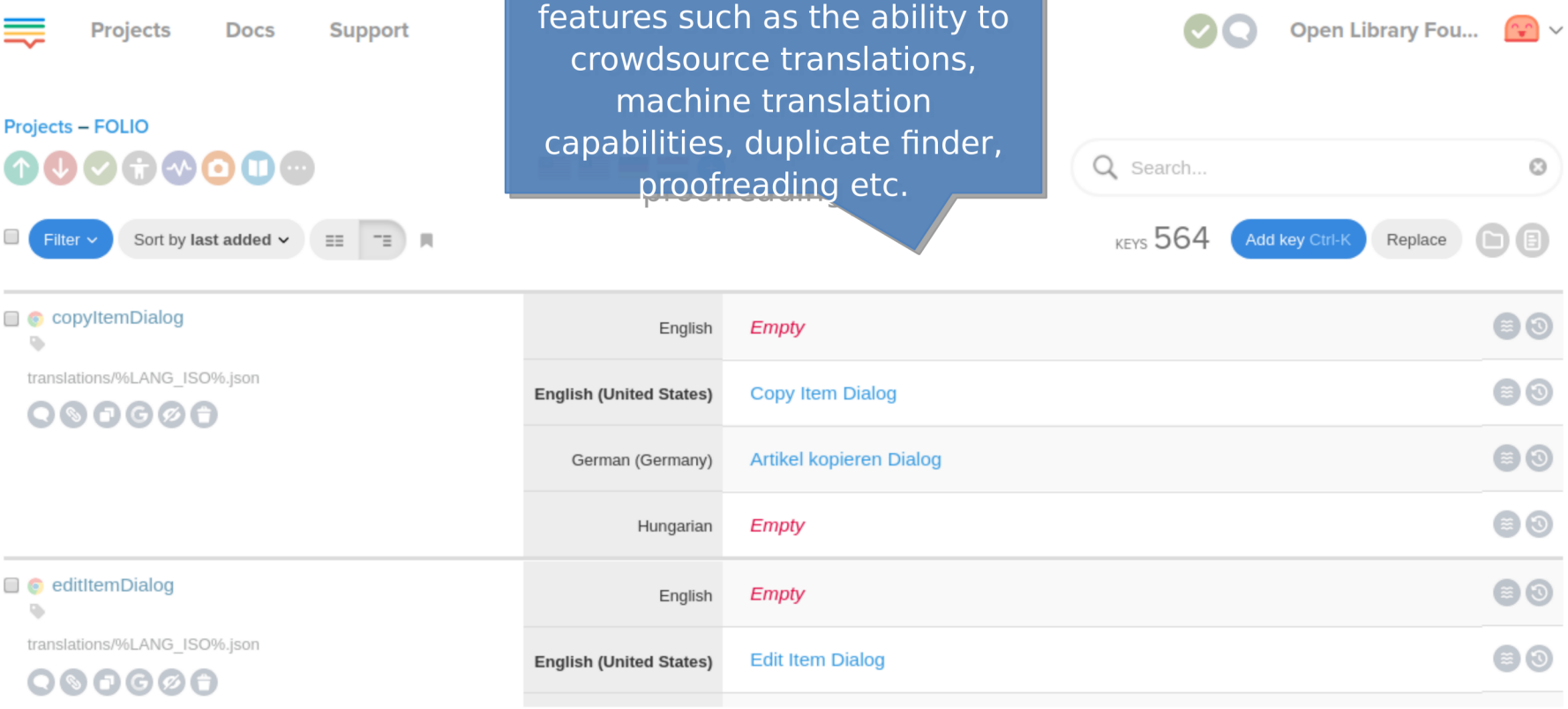


Metadata Management In FOLIO

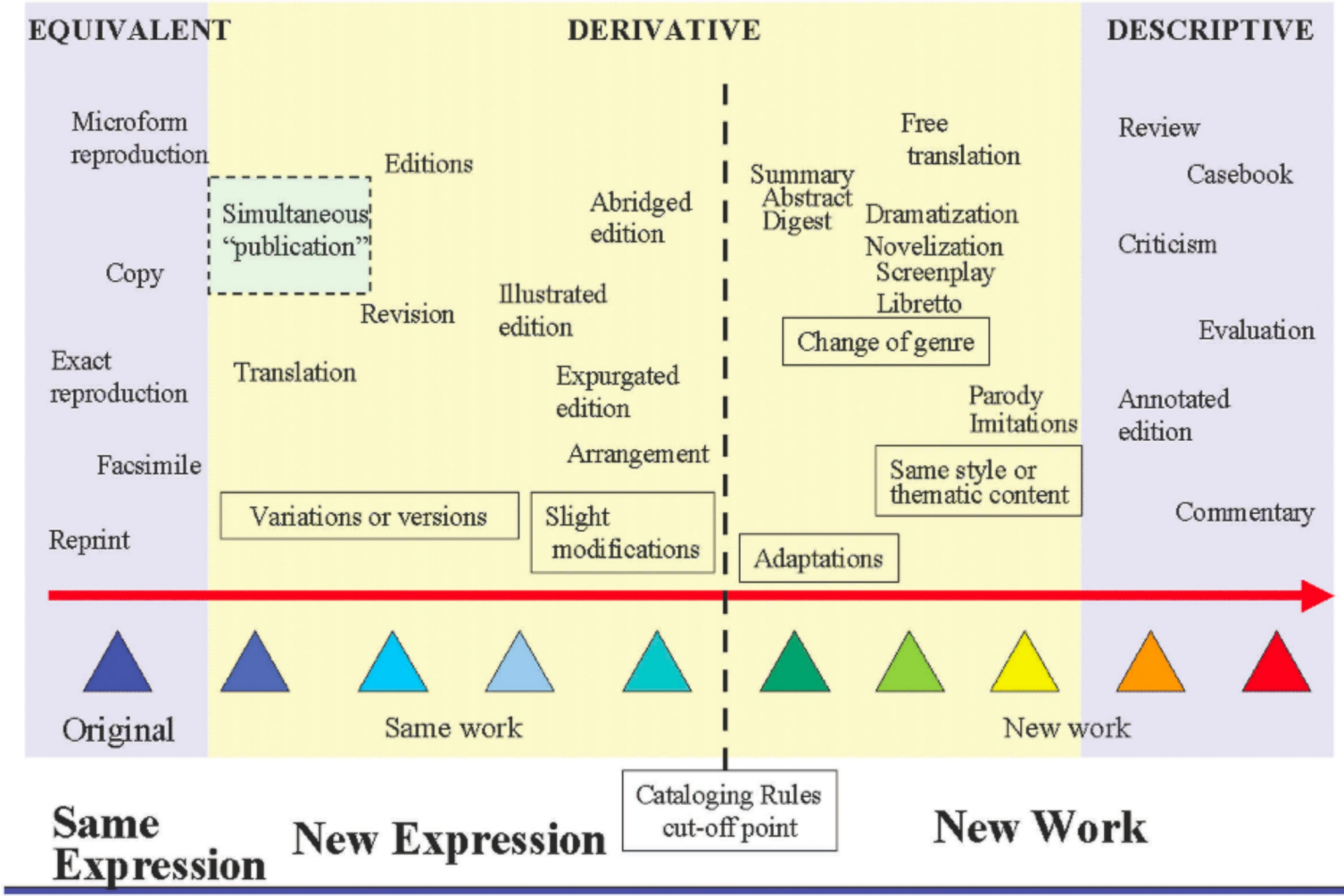


FOLIO Translation Management Tool

Lokalise provides a UI for FOLIO translation plus lots of cool features such as the ability to crowdsource translations, machine translation capabilities, duplicate finder, proofreading etc.

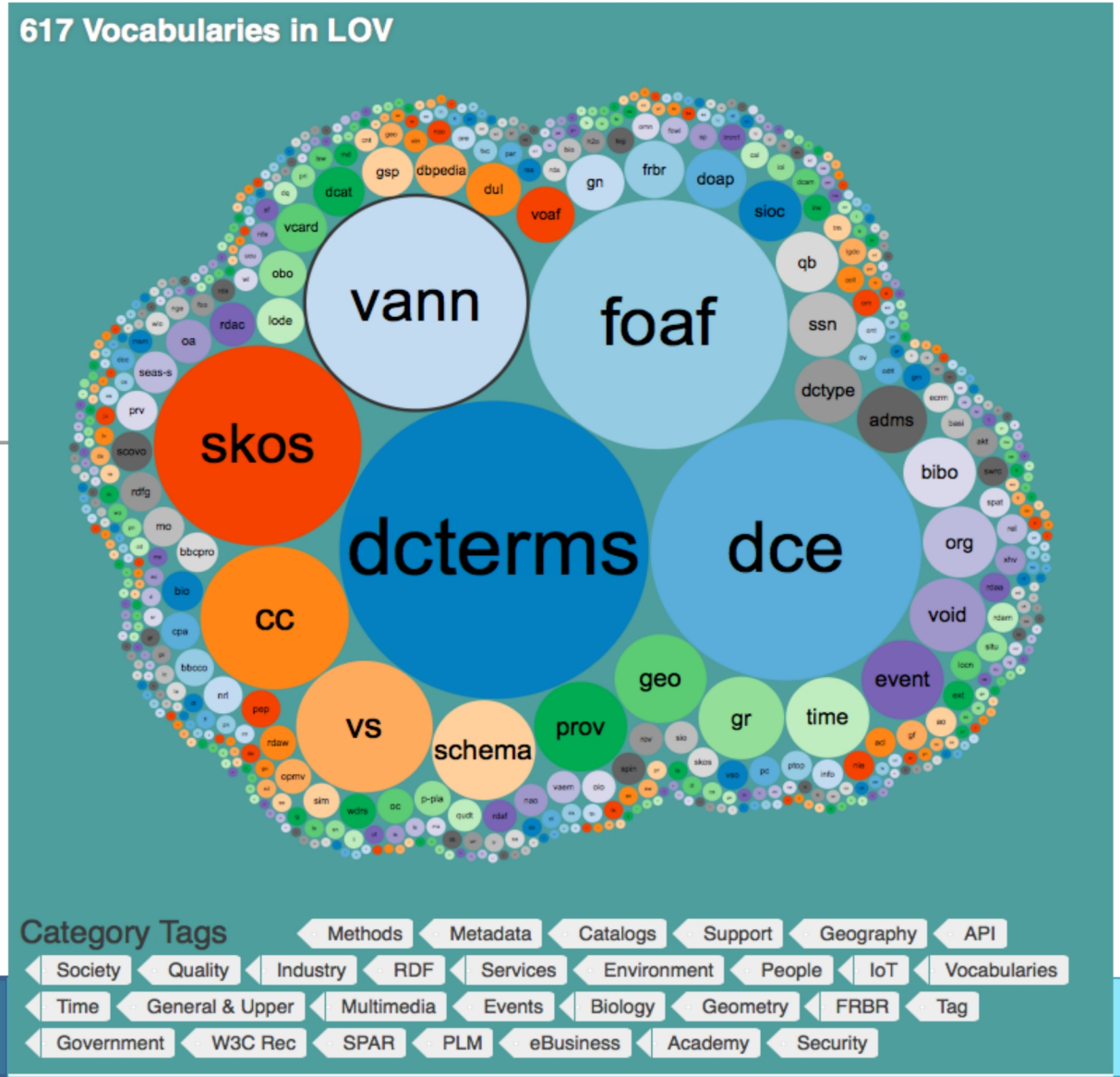


Family of Works

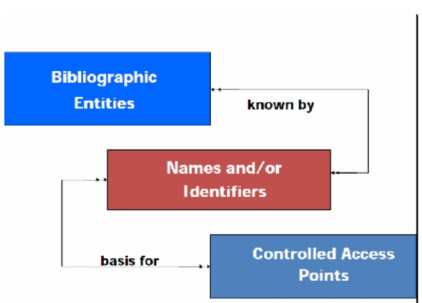


Relationships in the Organization of Knowledge, edited by Carol A. Bean and Rebecca Green, 2001, p. 23, "Bibliographic Relationships" by Barbara B. Tillett, Figure 2, © 2001 Kluwer Academic Publishers Boston, with kind permission of Kluwer Academic Publishers.

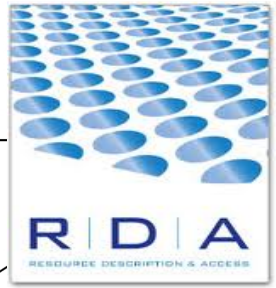
OPEN LINKED DATA



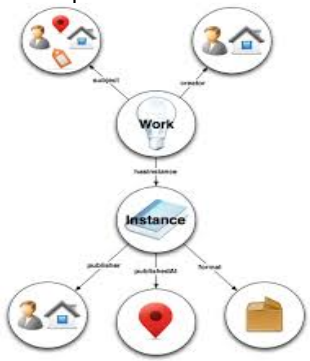
Identification, Linking of Data



Functional Requirements for Authority Data

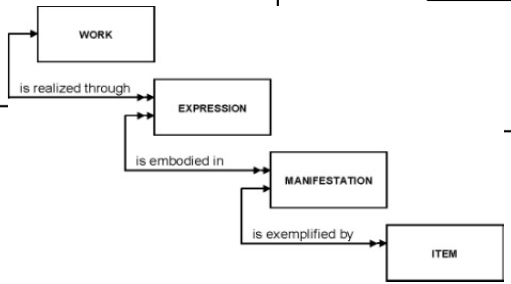


Resource Description and Access

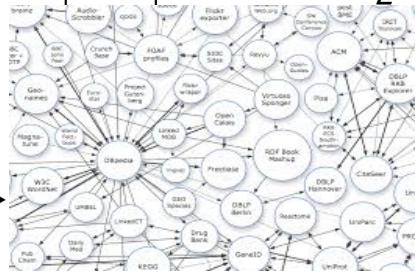


BIBFRAME

International Cataloguing Principles



Functional Requirements for Bibliographic Records

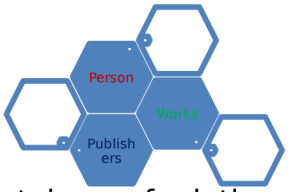


Semantic web / Linked data

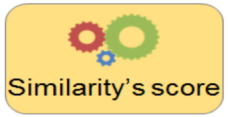
The Share-VDE process

Data creation
(RDF or MARC or ……)

Data enrichment (URIs)

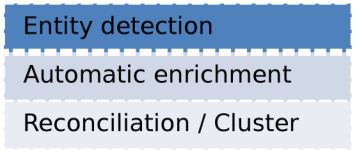


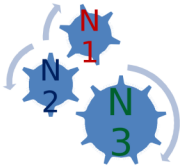
Database of relationships



MARC
Bibliographic
Authority

XML
Schema 1
Schema 2





Knowledge base of clusters

Dump
db

APIs

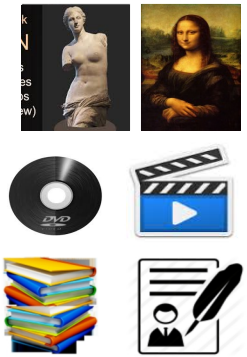
RDF/Bibframe dataset

External sources

Lodify: the evolution of Aliada for BIBFRAME conversion

The conversion process from any format to RDF

RESOURCES



METADATA CREATORS
(*Librarians, curators*)

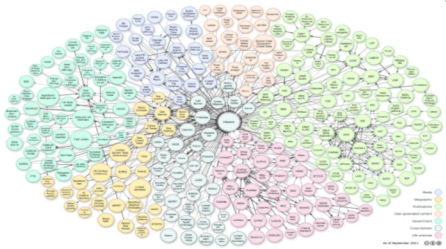
- Library Management System (ILS)
- Museum Collection Management System (MMS)
- Content Managemen

ALIADA

CROWDSOURCING (GOOGLE)

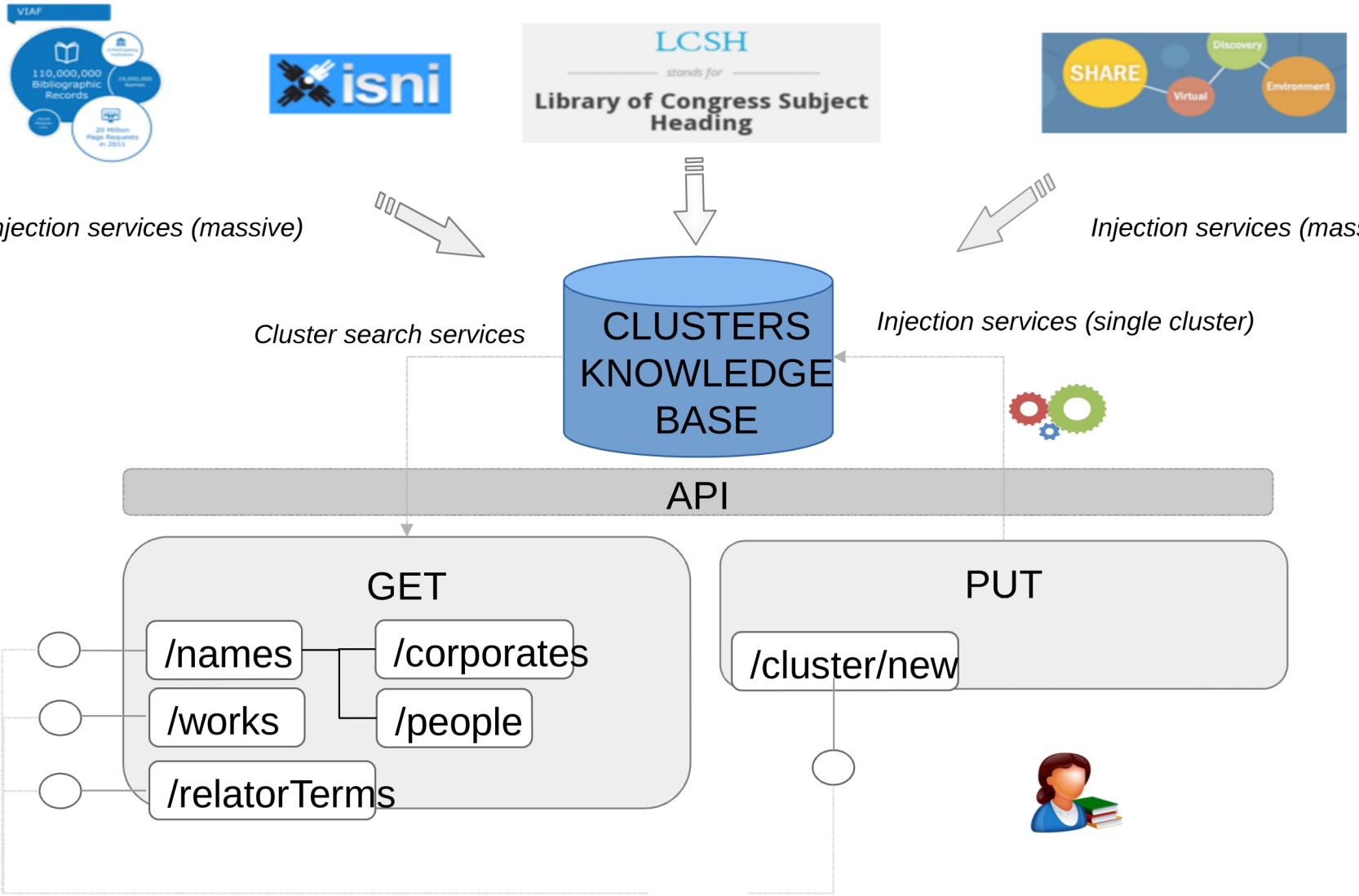
IT COMPANIES

OTHER PUBLIC AND CULTURAL INSTITUTIONS

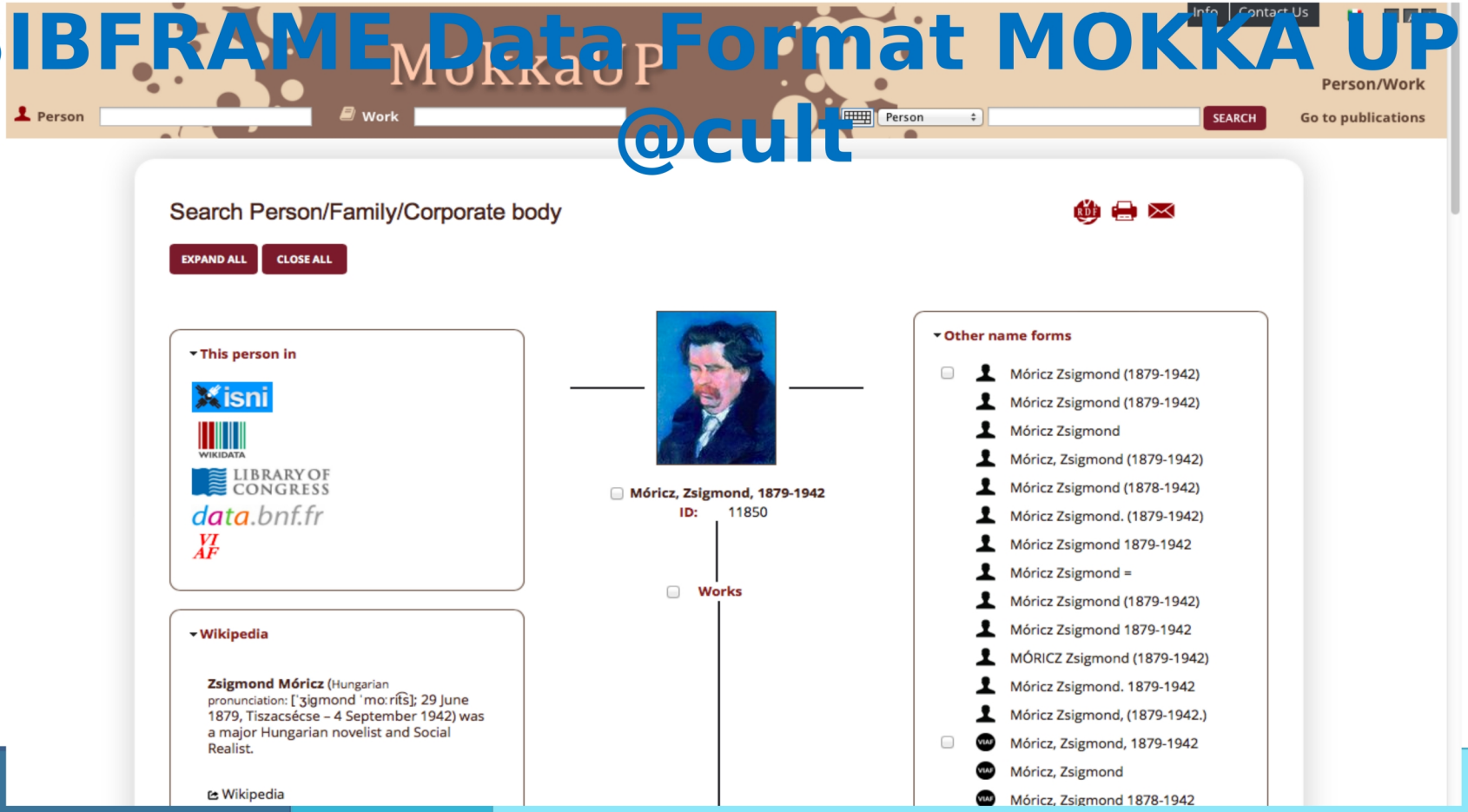


LINKED DATA CLOUD

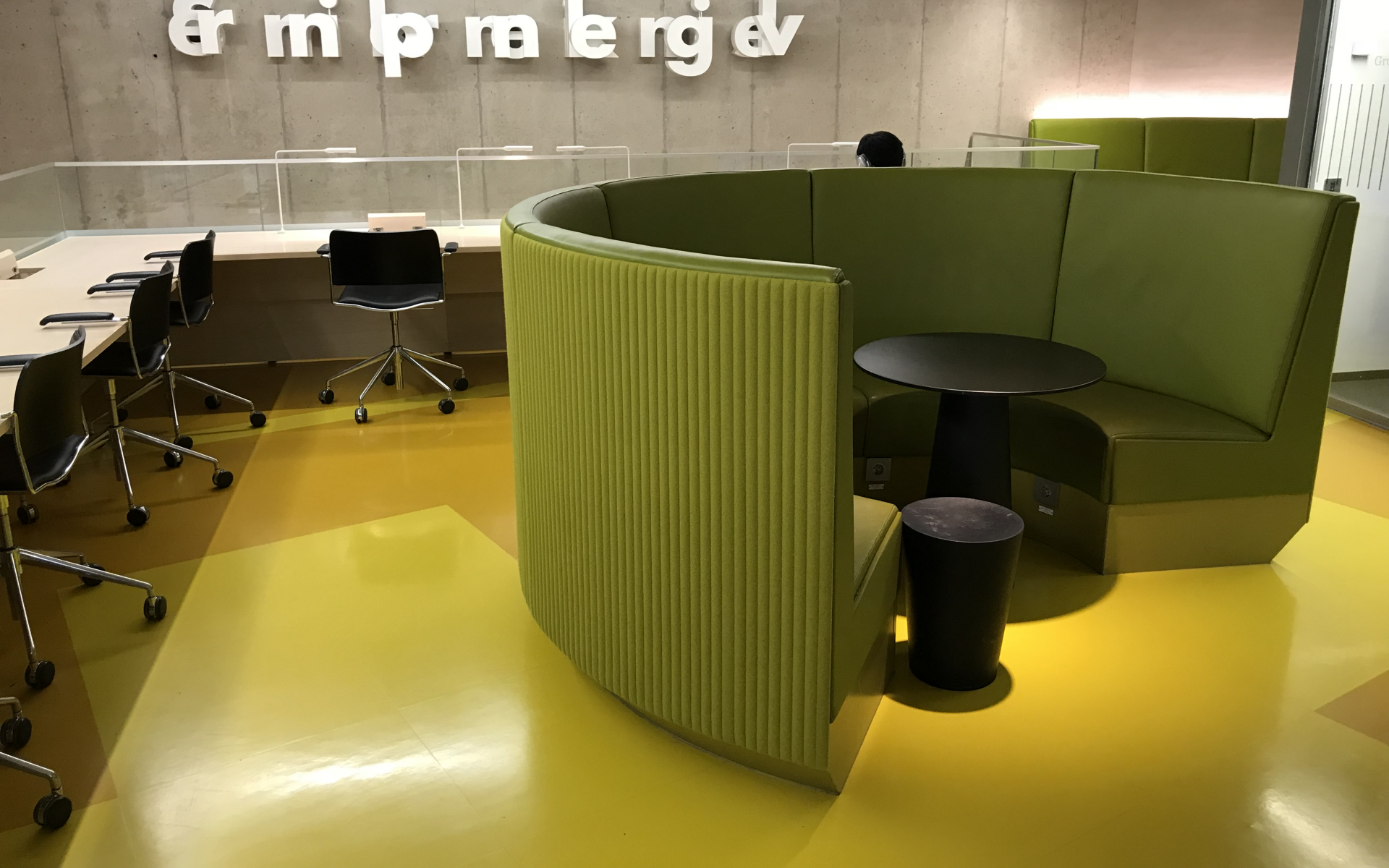
http://lod-cloud.net/


VIAF
110,000,000 Bibliographic Records
isni
LCSH
stands for
Library of Congress Subject Heading
SHARE
Discovery
Virtual
Environment
Injection services (massive)
Injection services (massive)
CLUSTERS KNOWLEDGE BASE
Cluster search services
Injection services (single cluster)
API
GET
/names
/corporates
/works
/people
/relatorTerms
PUT
/cluster/new

Hungarian Catalogue In FRBR Structure, BIBFRAME Data Format MOKKA UP - @cult

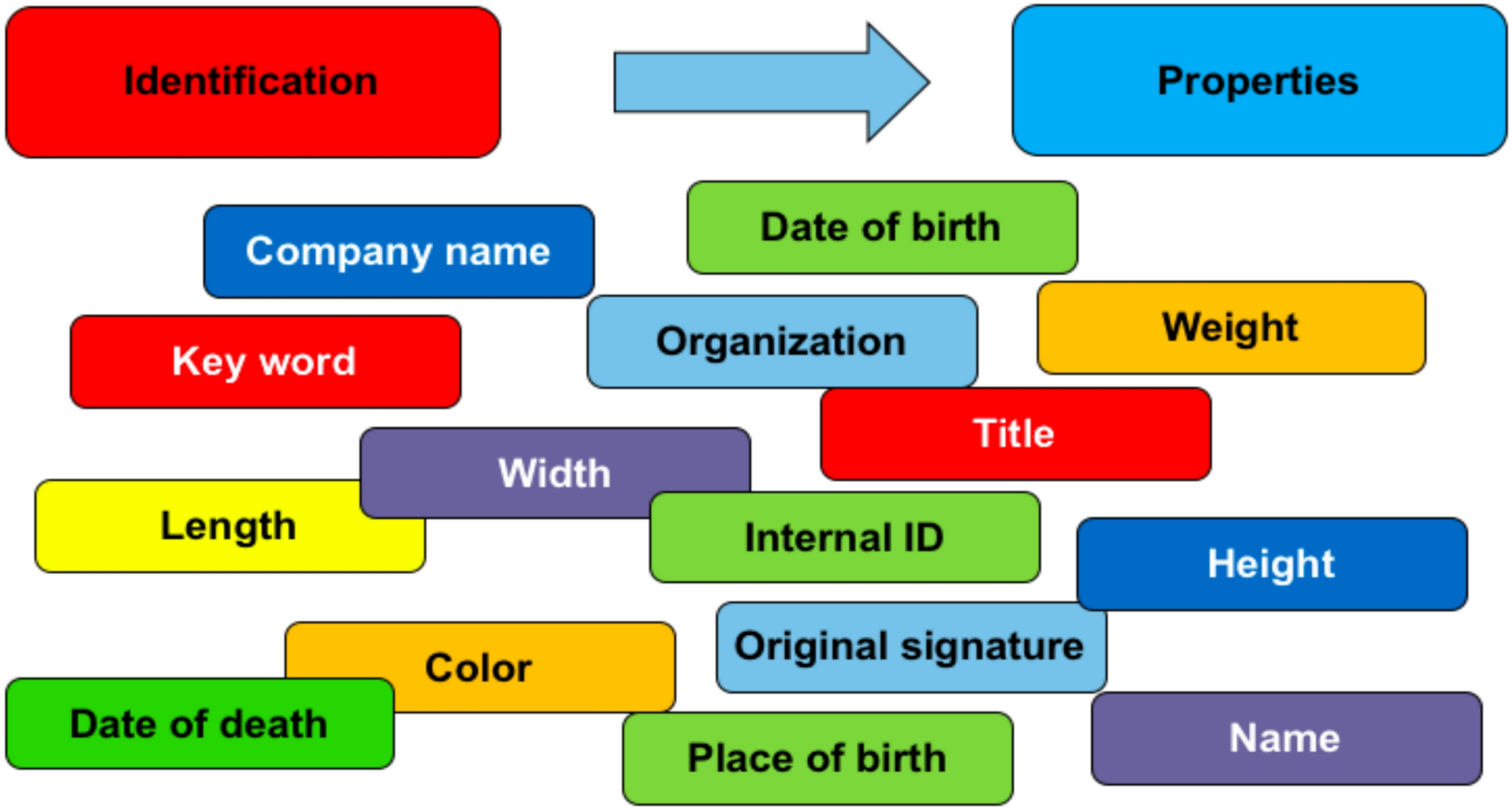


Swedish National Catalogue in BIBFRAME



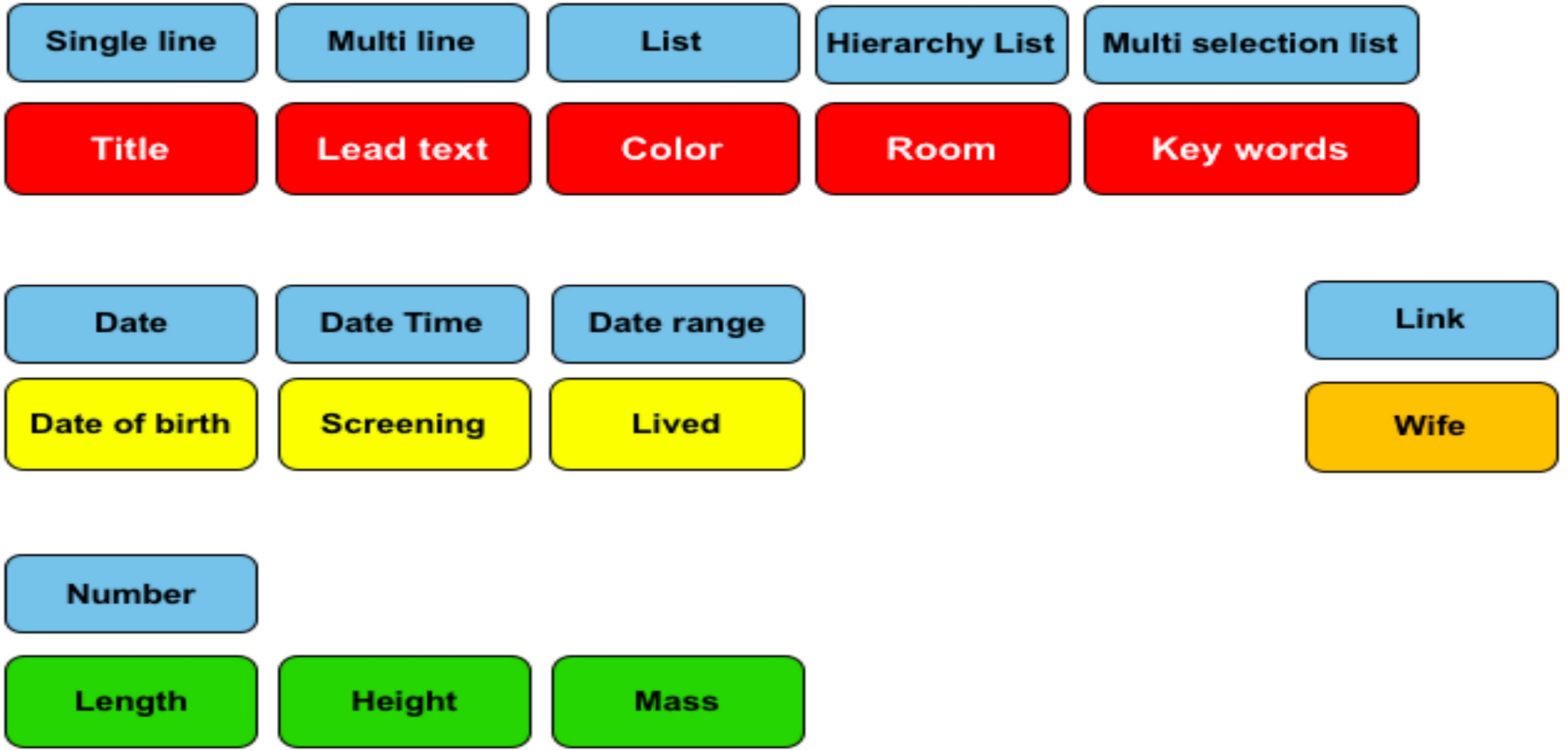
SL

Properties



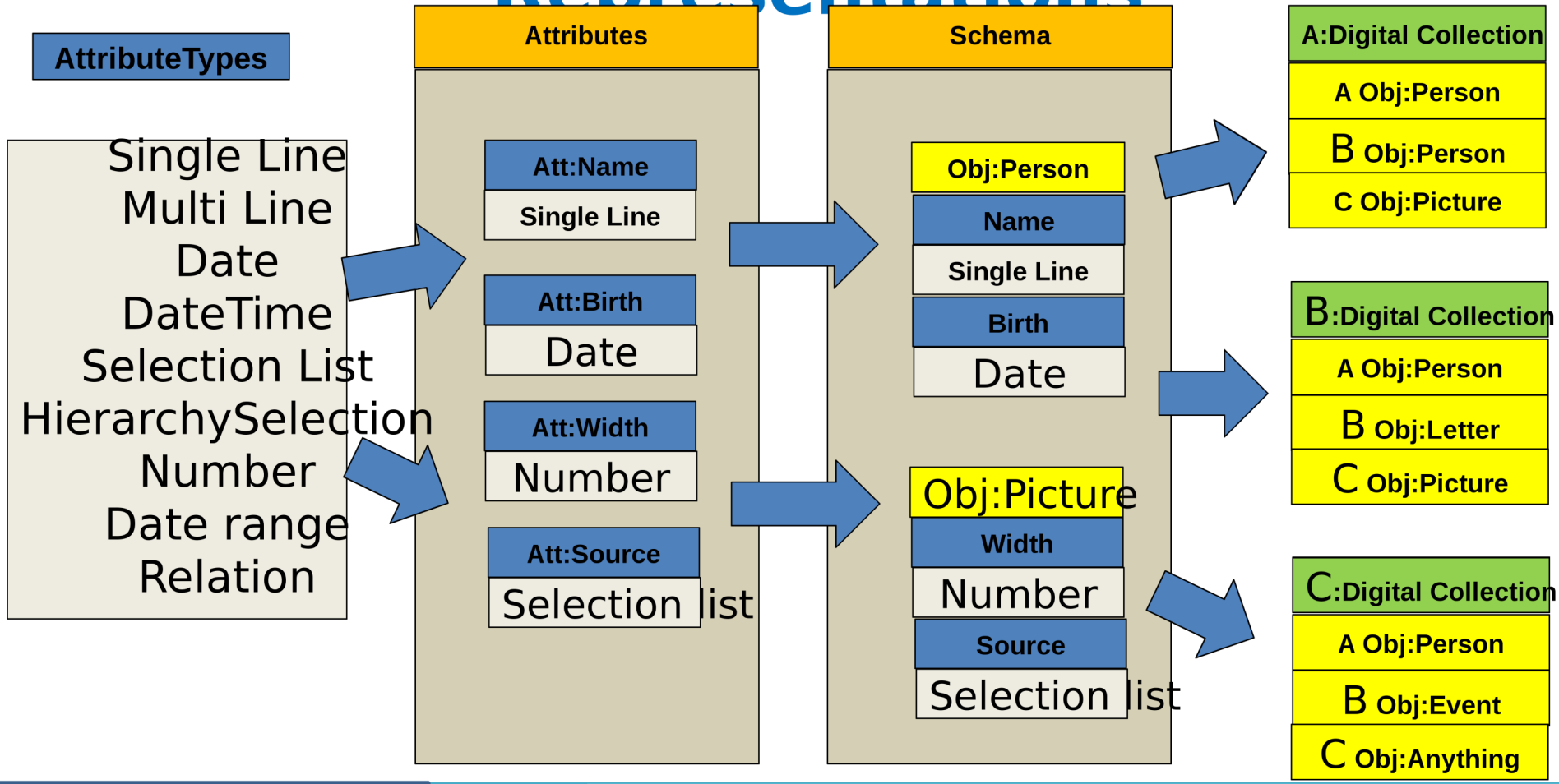
Source / Copyright: Hel-
Mész Soft

Data Grouped According Content



Source / Copyright: Her-Mész Soft

Special Collections And Knowledge Representations



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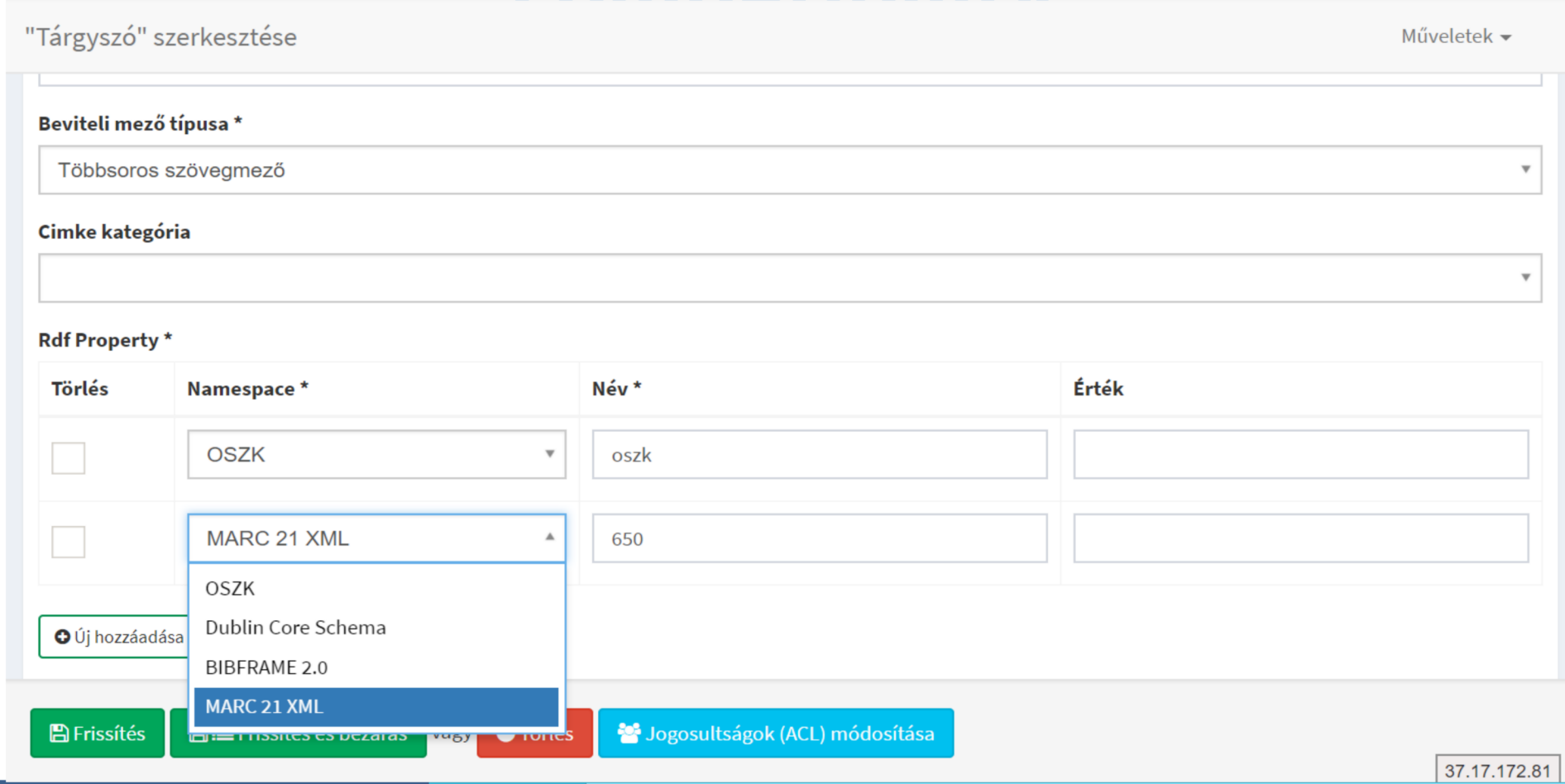
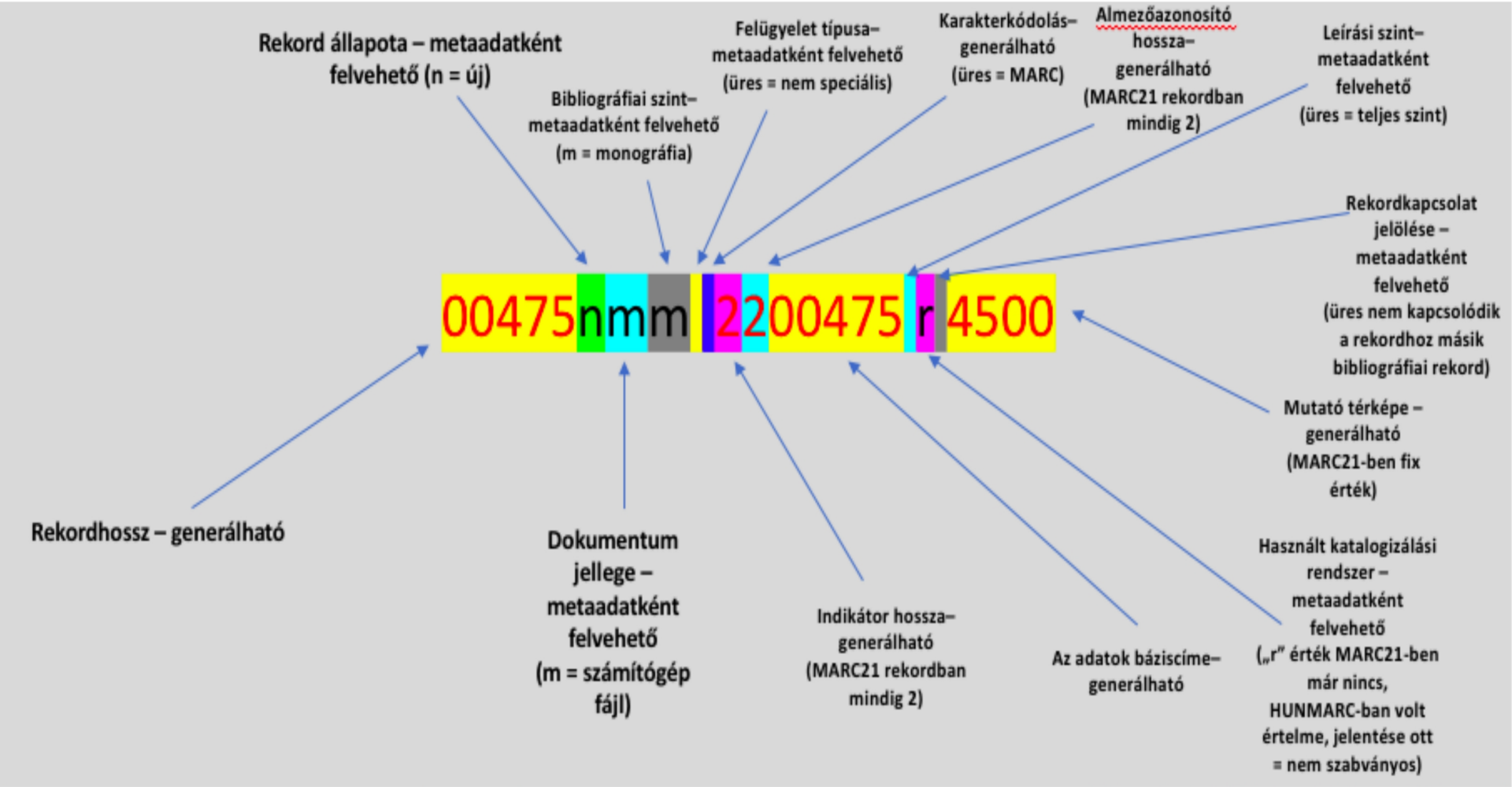
Schema Definition Attribute - compatibility



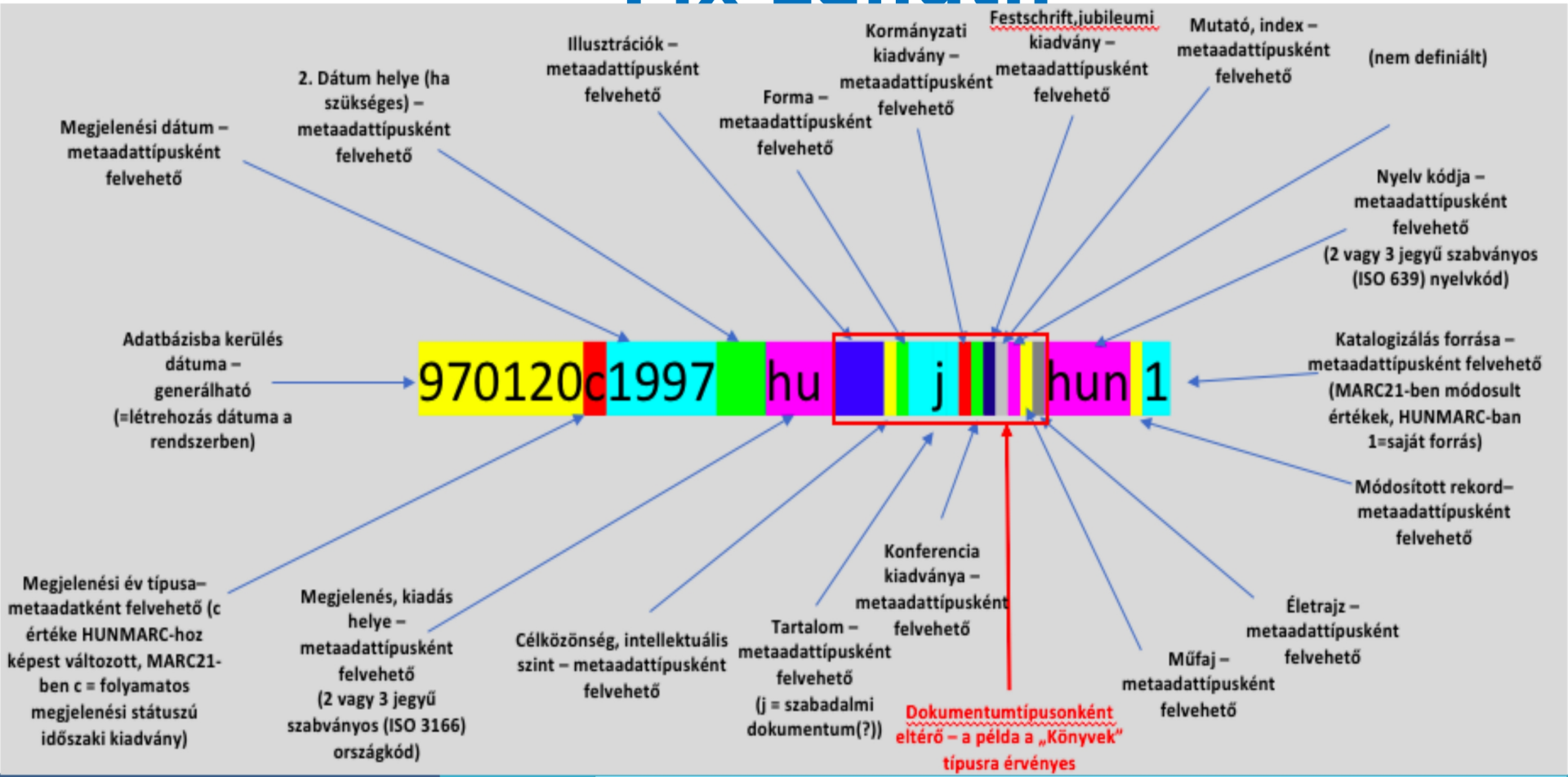
Source / Copyright: Her-Mész Soft

MARC21 000 – Record Heading



Source / Copyright: Her-Mész Soft

MARC21 008 – Data Elements With Fix Length



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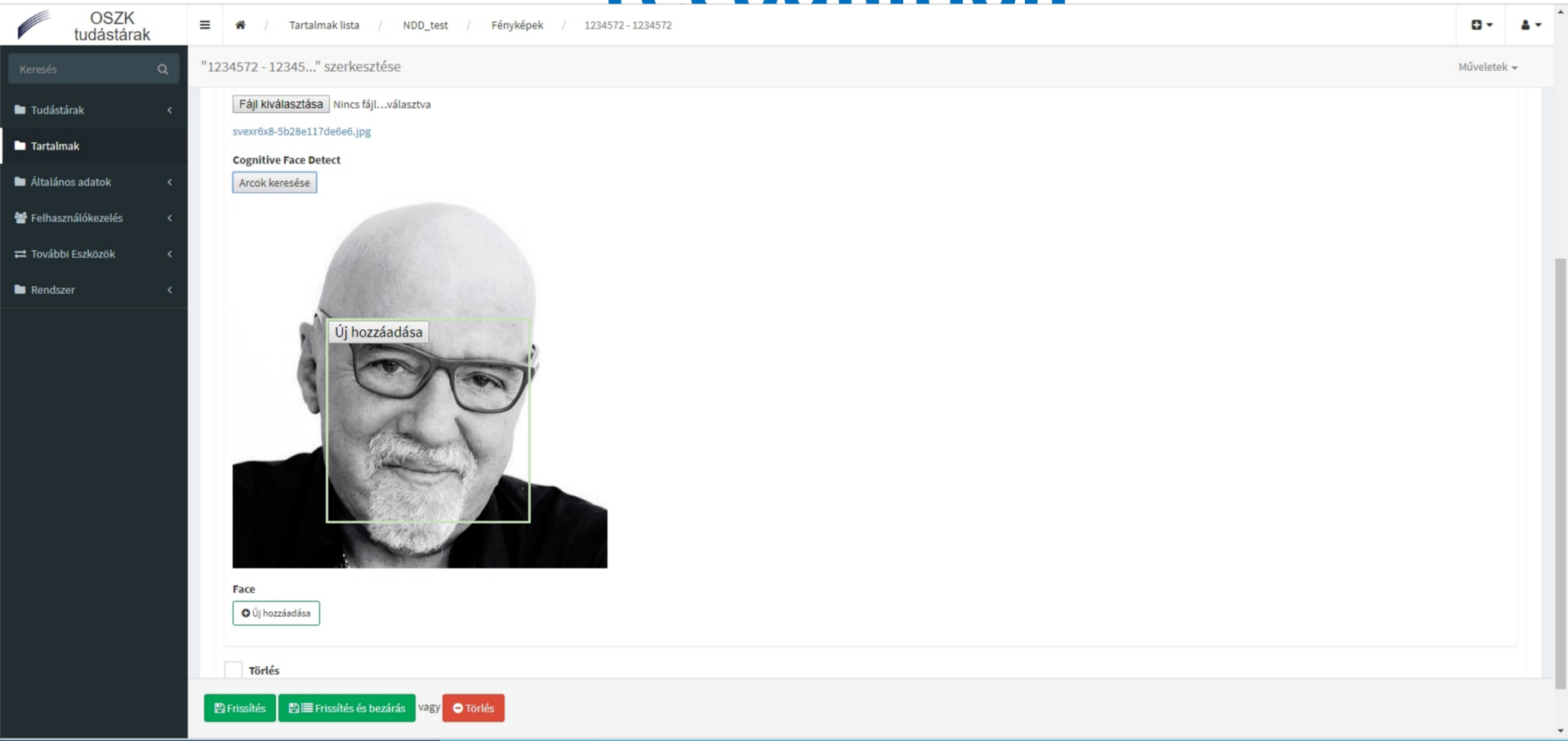
Artificial intelligence – face recognition



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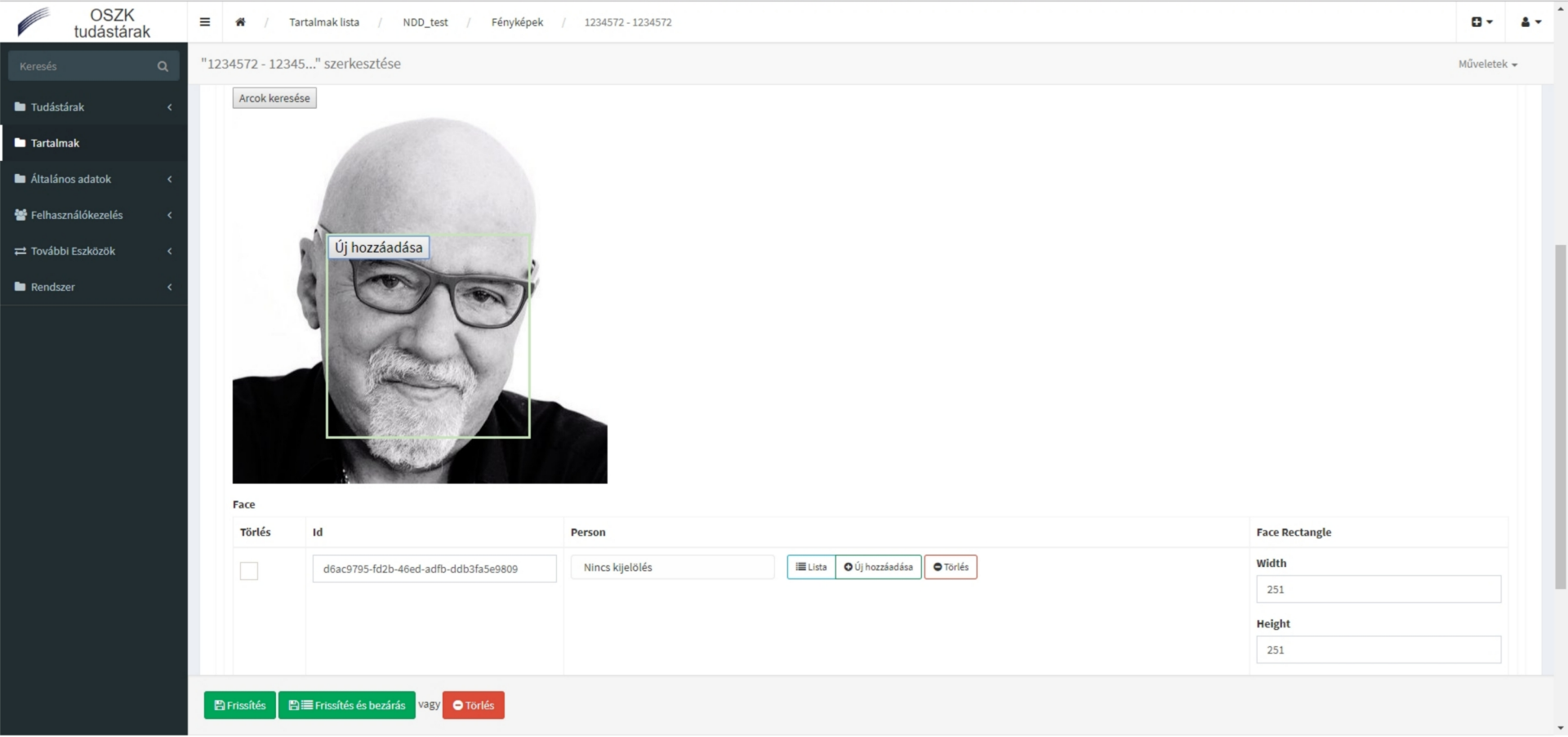
Teaching the machine – adding a name / ID



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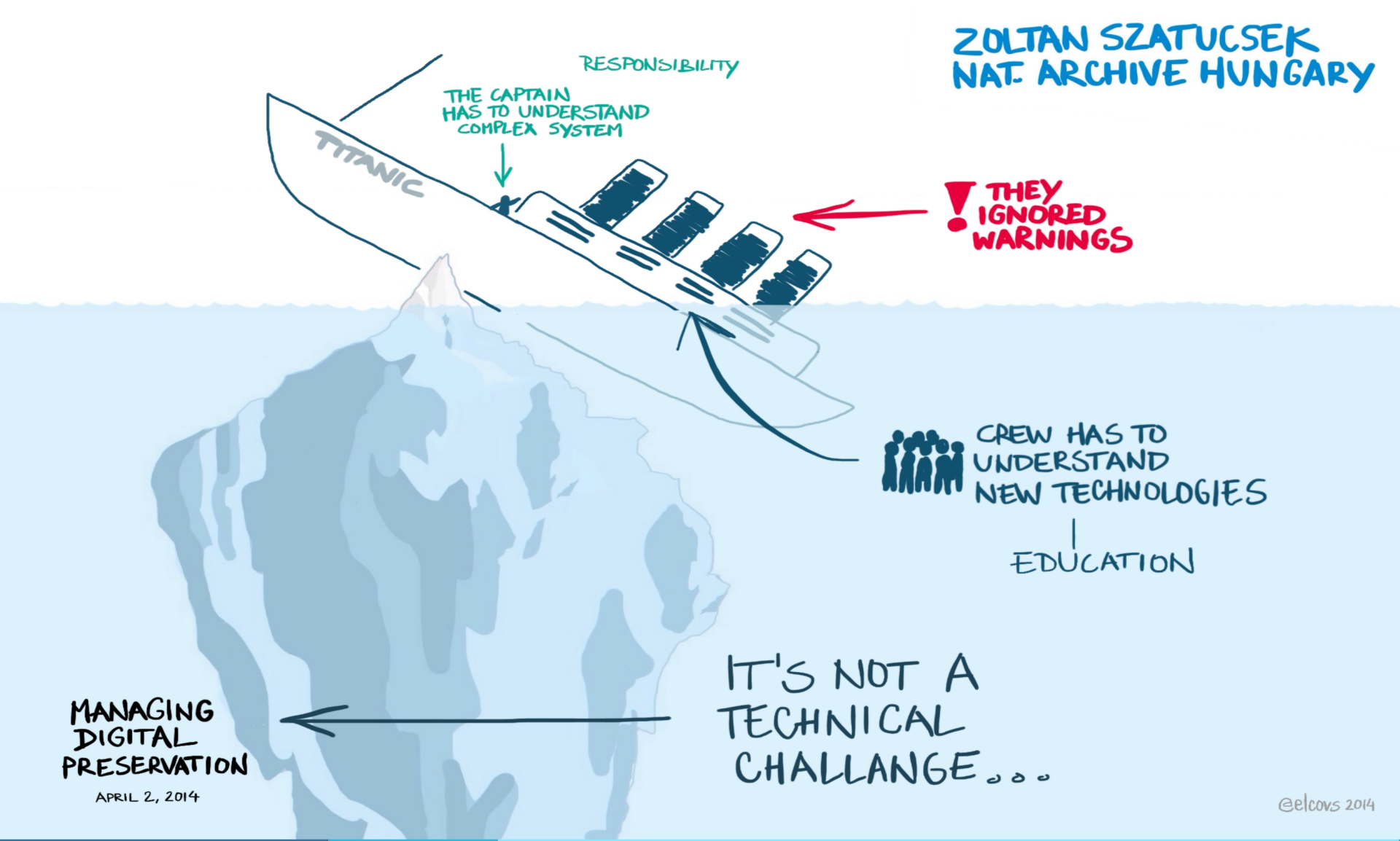
Arctic World Archive

SECURE VAULT STORAGE

Arctic World Archive

For data that deserves ultra-secure storage.


ZOLTAN SZATUCSEK
NAT. ARCHIVE HUNGARY
RESPONSIBILITY
THE CAPTAIN HAS TO UNDERSTAND COMPLEX SYSTEM
TITANIC
THEY IGNORED WARNINGS
CREW HAS TO UNDERSTAND NEW TECHNOLOGIES
EDUCATION
IT'S NOT A TECHNICAL CHALLANGE...
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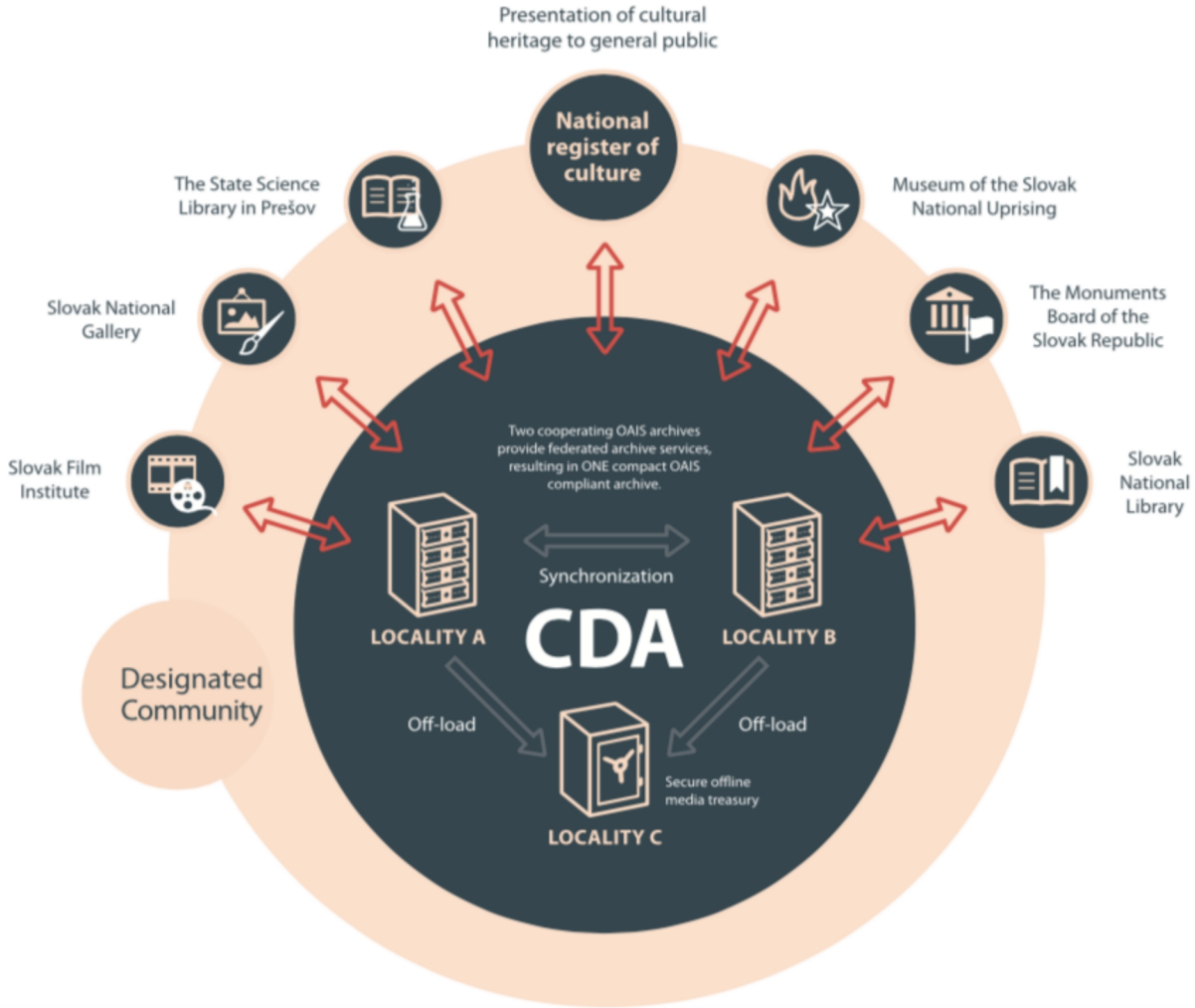

Source: web

digital
preservation
technology
resources
organization

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Shared

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Free

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Identified

Authenticated

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