



Five Years of Digital Archiving in Flanders: Reflections and Next Steps

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Digital Archives Flanders



Introduction

The Agency for Facility Operations

Cluster Information Management

POLICY MAKER

Monitoring and creating legislation

DIGIPOST

A scanning and (post)distribution solution for the Flemish government

DIGITAL ARCHIVES FLANDERS

Managing and preserving digital records

PROCESS OPTIMISATION & DIGITISATION

Substitution, smart digitisation, towards paperless offices in the Flemish government ...

ANALOGUE ARCHIVE FOR THE FLEMISH GOVERNMENT

Managing and preserving the analogue archive of the Flemish government

CENTRE OF EXPERTISE

From basic to advanced training, consultancy ...

FRAMEWORK CONTRACTS

Archive boxes, archival processing, digitisation of administrative documents,...



Our services



Series Register

Central classification service



E-depot

Long term preservation



Depot Management

Analogue archive management



Portals

Access



Support

Functional analysis, training, research, service desk, advice ...

Digital Archives Flanders (DAV)

Shared service for managing and preserving digital records



Flemish government

- ✓ Departments
- ✓ Agencies
- ✓ ...



Local governments

- ✓ Provinces
- ✓ Municipalities
- ✓ ...



Bodies governed by public law

- ✓ Art. I. 3, 6° of the Administrative Decree



Digital Archives Flanders: a history

Specific public contract

▶ 2017-2018

→ No framework agreement of the Flemish government available to solve the needs of DAV

→ Public contract – SAAS (Software as a Service) → Cronos group

- × Corporate group of more than 570 companies
- × Zeticon = service provider DAV
- × DigiHaven is a custom-built, modular set of products based on MediaHaven by Zeticon



A dedicated team

▶ Zeticon

- Sales: 2 FTE
- Support: 3,5 FTE
- Operations: 2,5 FTE
- Development (incl. architect & security officer): 10 FTE

▶ Digital Archives Flanders (Flemish government)

- Project owner: 1 FTE
- Expert information management: 4 FTE
- Since 2025 project manager: 1 FTE



DAV: highly innovative, but progressive growth

- ▶ Mostly built 'from scratch'
- ▶ Demand driven
- ▶ With a strong focus on customers needs



COLLECTING DATA



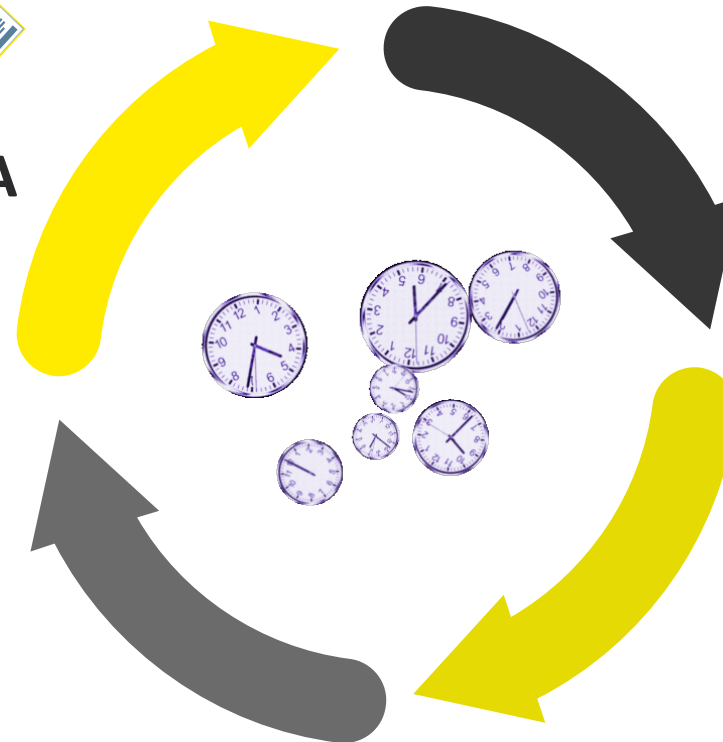
STUDY PROJECT



PRODUCT DESIGNING



INNOVATING IDEAS

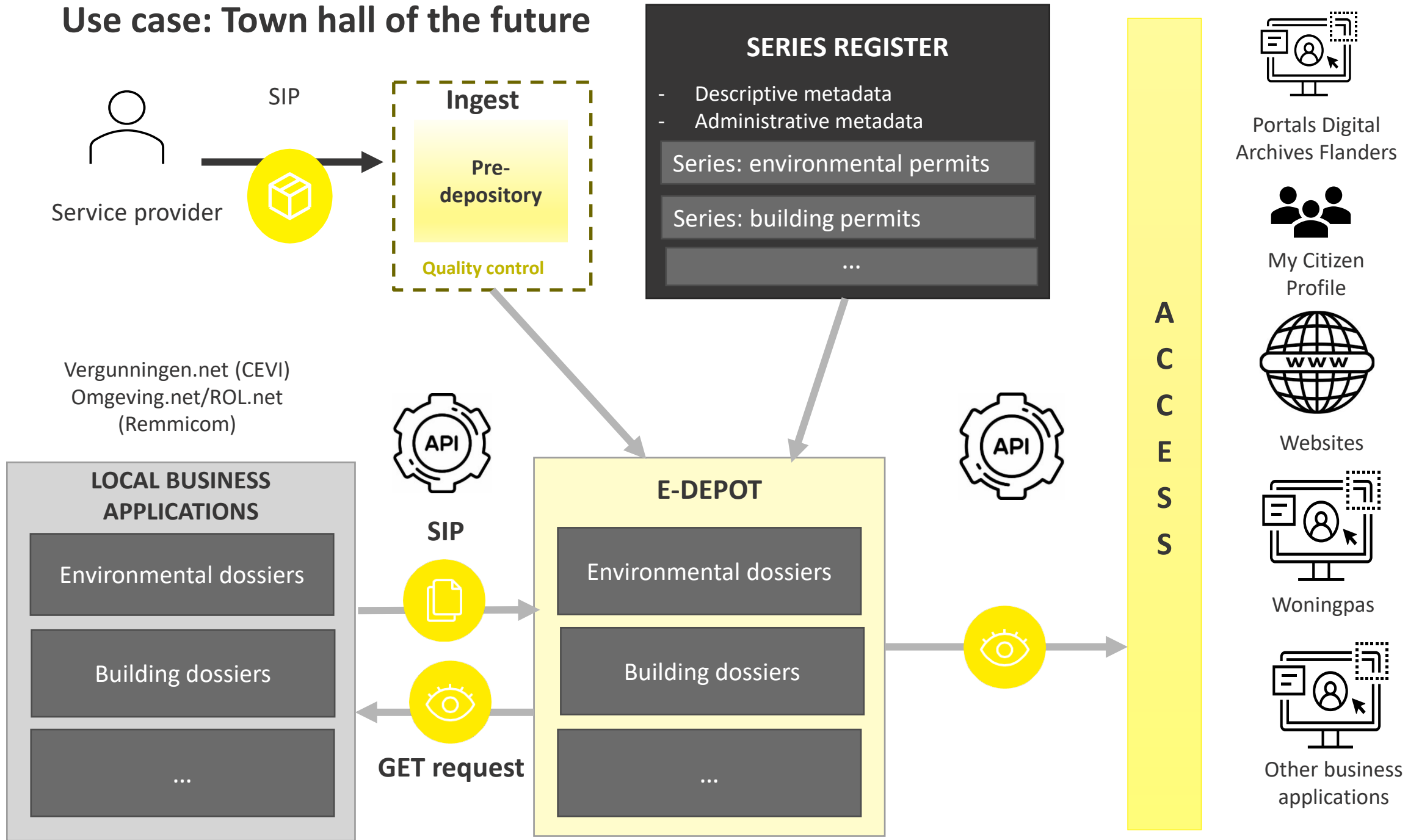


DAV: highly innovative, but progressive growth



2018	Public contract - Cronos
2019	DAV 1.0 is born: Series Register
2020	E-depot
2021	Document vault
2023	Depot management
2024	SIP-Creator
2025	Pre-depository

Use case: Town hall of the future





Series Register

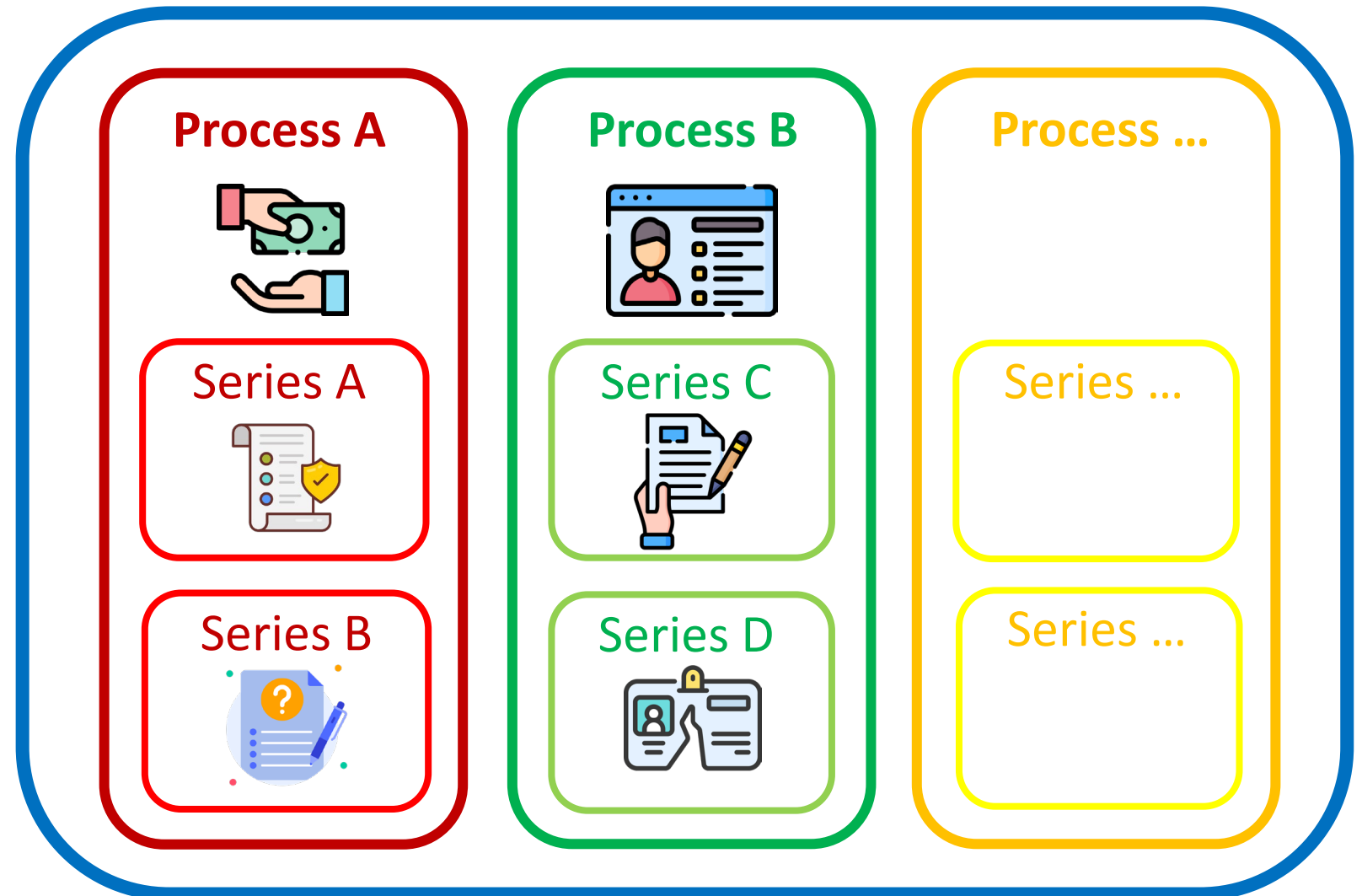
Series



Organisation

Definition:

A grouping of the same kind of administrative information created or received by the same governing body within the same process



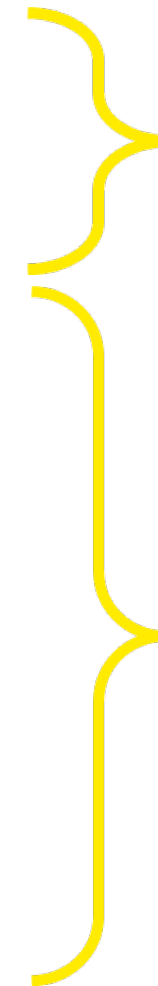
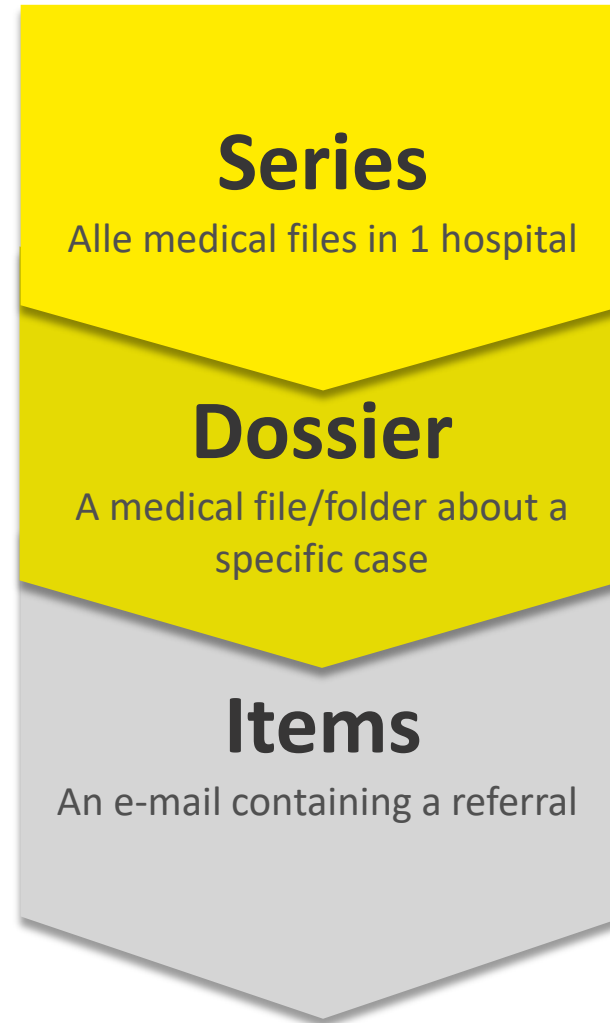
Series

Hierarchical structure: Series – Dossier – Items

An aggregation of files created and maintained by an owner that is in the same identifiable sequence, or result from the same accumulation or filing process and is of similar function, format or informational content

A sequence of items which makes up an organizational/business activity

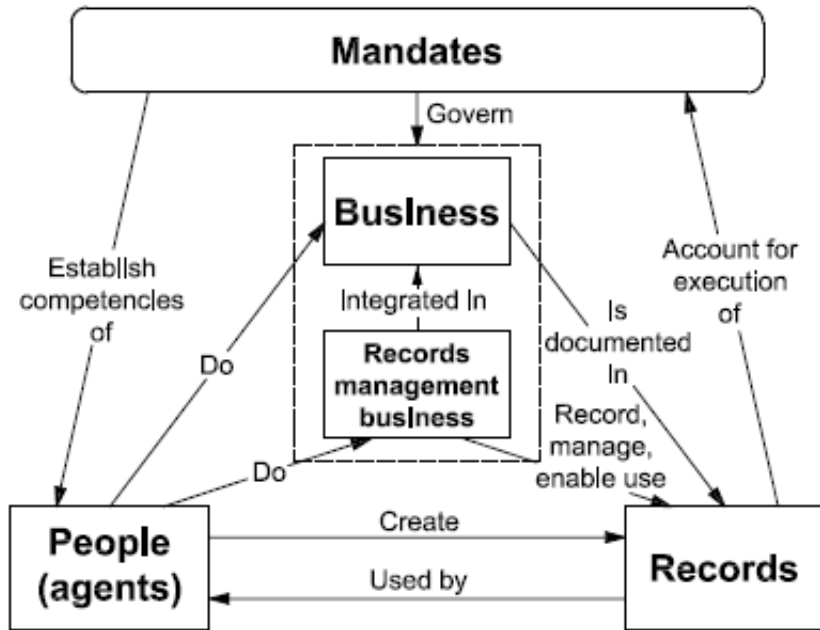
The smallest unit of records managed as an entity



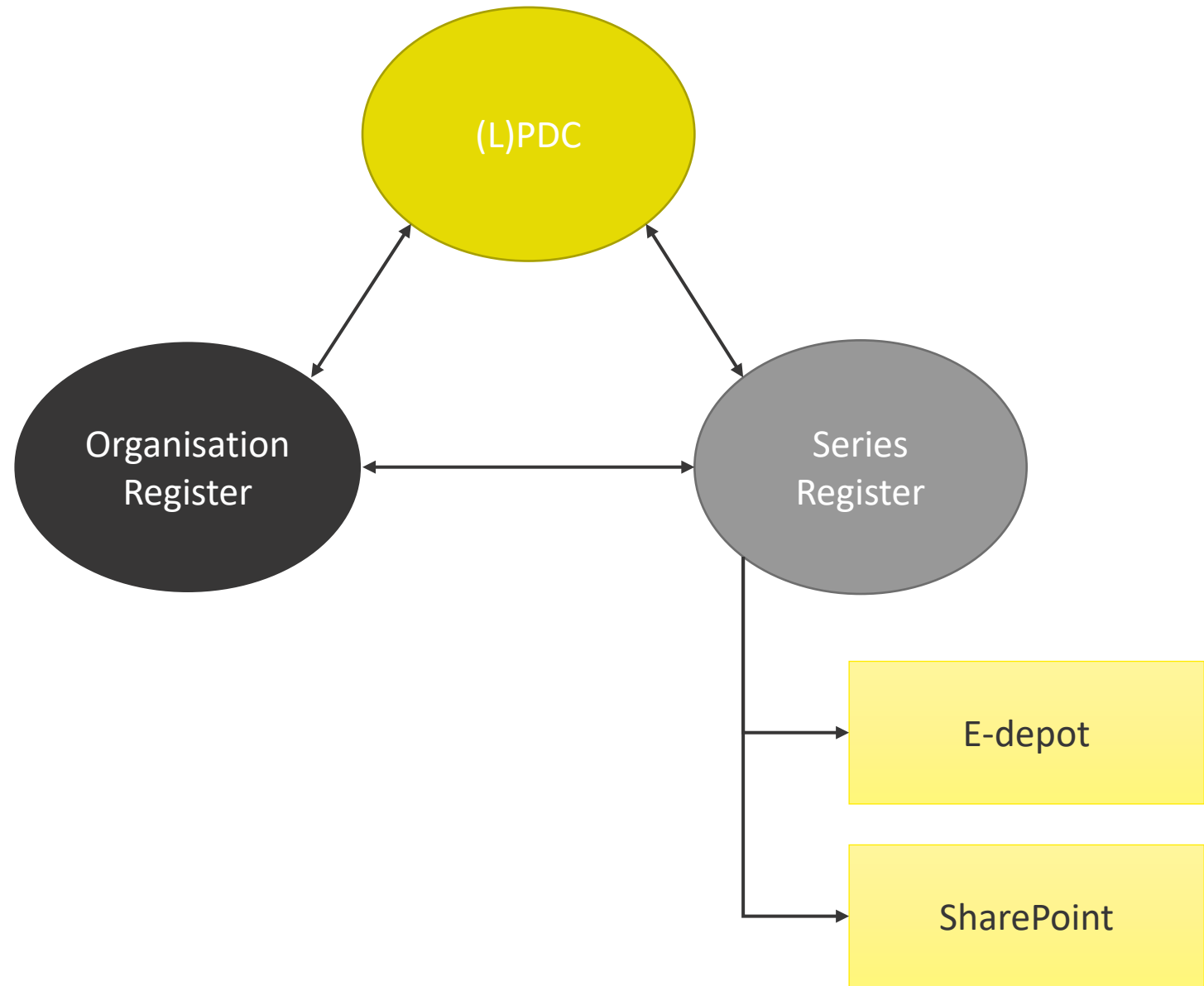
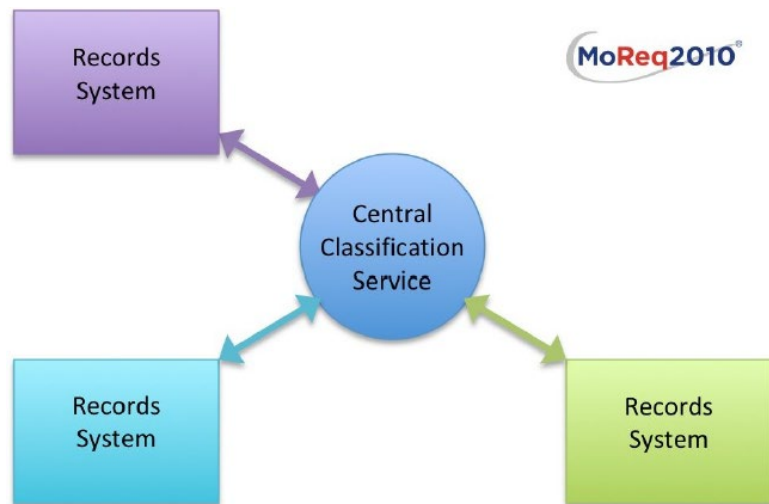
Series Register

E-depot

Series Register: a central component



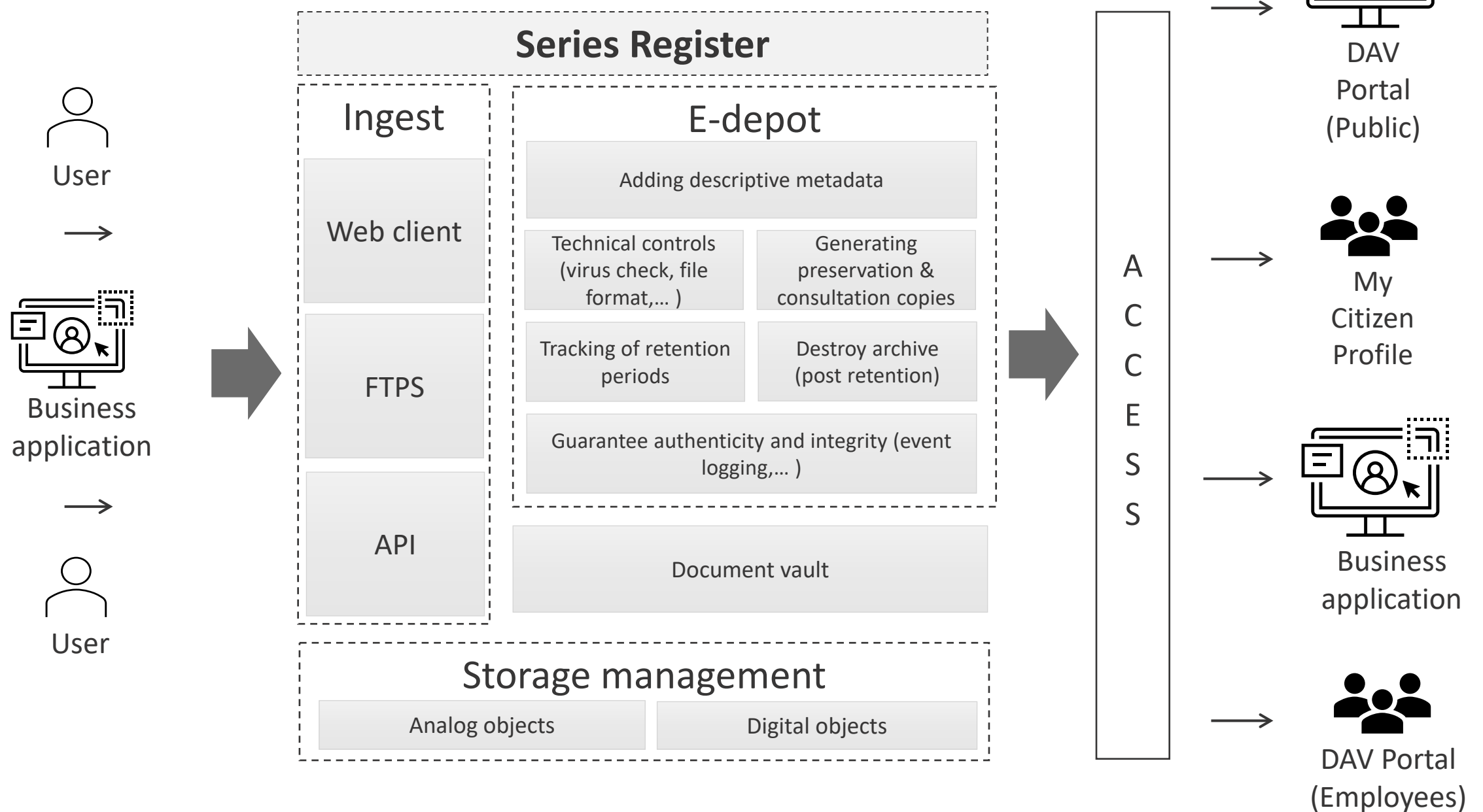
ISO 23081-1:2006, 9.1.





E-depot

High-level architecture of DAV

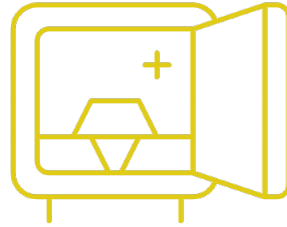


Other DAV services



Depot Management

Additional module to E-depot for logistics management of analog (archive) spaces



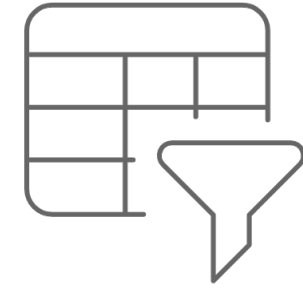
Document vault

Manage and preserve 'single documents' without series context



Pre-depository

Separate ingest flow for quality control of digitised material



SIP-Creator

Tool to simplify the ingest process.



Pre-depository

Pre-depository for QC digitised material



Automatic quality control	
Virus check	None
Validation TIFF	Well-formed and valid
Validation PDF/A	Valid
Bit integrity (checksums)	100%
Validation SIP	Valid
Manual quality control (samples)	
Damage originals (analogue files)	No damage
Completeness originals (analogue files)	100%
Completeness scans	100%
Sequence scans	100%
Absence of dirt and dust, image quality	Accurate representation, no artefacts
Filenames	100%
Conformity digitisation parameters	100%
Completeness and correctness metadata	100%
Completeness and correctness categories	100%

SERIES REGISTER

- Descriptive metadata
- Administrative metadata

Series A

Series B

...

E-depot

Validation metadata SIP

Virus checks

Generating preservation & consultation copies

User management

Adding descriptive metadata

Disposal workflow

File format identification

Tracking of retention periods

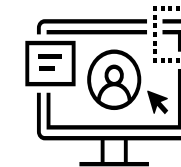
Event logging

Appraisal workflow (optional)

File format validation
TIFF and PDF/A

Visual QC by information manager

Dossiers and items



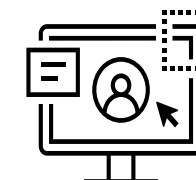
DAV Portals (Public & Employees)



Citizens' platforms



Websites



Other business applications

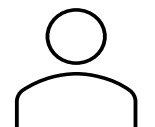
A
C
C
E
S
S

Pre-depository

Watchfolder-S3
Scan supplier 1

Watchfolder-S3
Scan supplier 2

Validation SIP &
MD5



Service provider

SIP



Rejected by e-mail notification to scan supplier





Lessons learned and challenges

Objectives

2025

-

2028

- ▶ Integration with **business & citizens' platforms** & development of **new DAV portals**
- ▶ **Mandatory use of the E-depot** for **entities of the Flemish government** and the consolidation of DAV as a standard for **local governments**
- ▶ A DPIA for DAV & **hosting and cloud storage by a European provider**
- ▶ Analysing the needs and adjusting DAV to be recognised as a **“Qualified e-Archiving service”** (eIDAS 2.0)
- ▶ Adjusting DAV 2.0 toward NIS 2 and ISO 27001
- ▶ **Improve solidness of DAV and make it future-proof**

Overview lessons learned and challenges

- ▶ **Contract & governance**
- ▶ **Technical**
 - ▶ API integrations
 - ▶ System performance
 - ▶ Dependencies
 - **DAV: review and improve**
- ▶ **Budget and human resources**

Contract & governance: lessons learned

▶ SaaS contract

- Initially many advantages BUT...
- Limited access to back-end resulting in less technical control
- Less flexibility in updates and governance and influence on the functional roadmap of the product
- Depending on the vendor's support for complex issues

▶ Governance

- Less emphasis on formal SLAs and comprehensive documentation



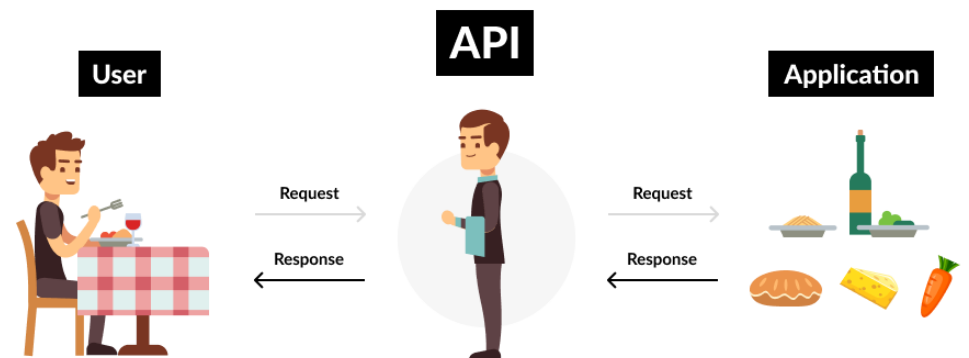
API integrations: a few challenges

▶ Integrators

- ▶ Depending on goodwill of external software vendors
- ▶ Limited in providing technical support to integrators due to SaaS

▶ System performance

- ▶ Currently only 1 pipeline for data ingest: oftentemporary scale-up infrastructure needed for large projects
- ▶ Volume and size limitations for ingest:
 - Maximum file size
 - Maximum number of objects in SIP



API integrations: a few challenges

System performance

- Implications peak traffic on performance of all services:
 - Delayed actions, (undefined) errors, unexpected behaviour, interruptions
- Mitigate possible issues through load balancing:
 - Rate limiting, queuing, fail-safes, monitoring & load testing, controlled roll-outs
- ▶ **Synchronisation between systems**
- ▶ **Handling of error messages**
- ▶ **Impact of upgrades & patches**



Avoiding dependencies

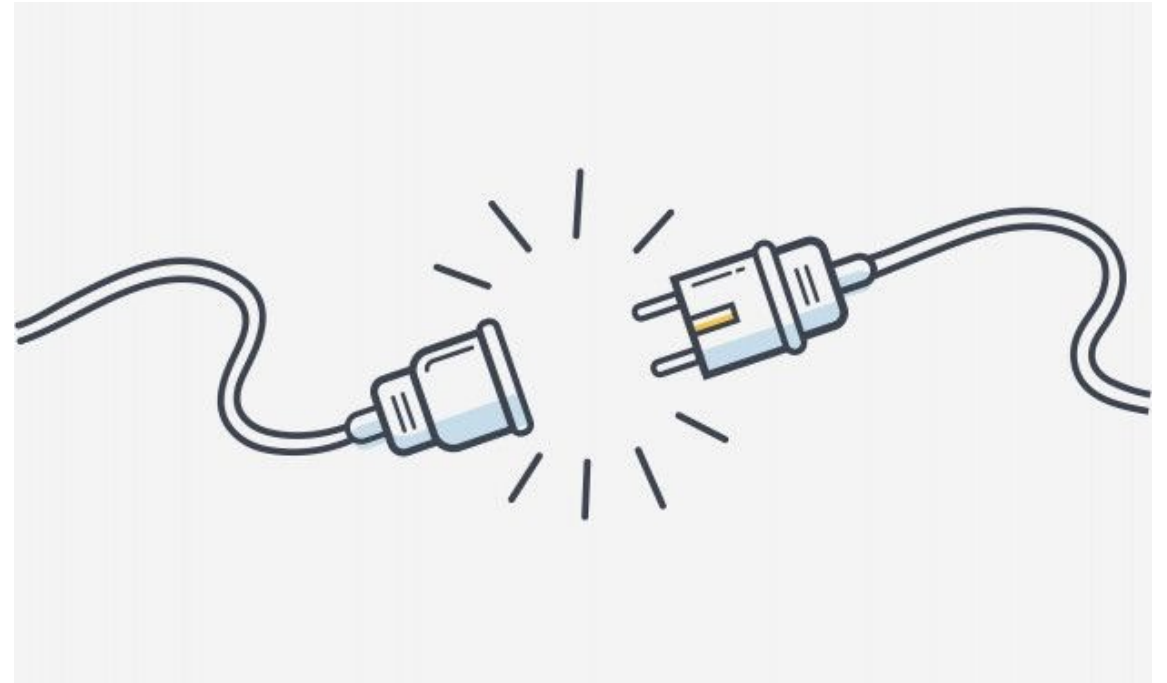
▶ Lessons learned

→ Extensive customisation of a system may lead to technical complexity

▶ Challenges

→ Possibility of technical dependencies in design: no 100% guarantee that sub-facets can be **smoothly plugged in and out**

→ Check-up and review is necessary



Main objective: review and improve

- ▶ **Review to adapt to changing regulation, technological needs and emerging trends**

- Review the architecture & re-define where needed
- Check-up every service
- Improve, scale up, change
- Plug in & out new parts if necessary

- ▶ **But... how to improve/innovate our systems while ‘working’?**

- How do you prevent service interruption when changes are made to or when switching to parts of a new digital preservation system?



Budget & human resources



- ▶ How to finance the recurrent cost of a central service such as DAV? Continuous tension between
 - Central financing and self-supporting organisation
 - Fixed prices versus 'pay as you use' including a cost ~ volume, service & support

Budget & human resources

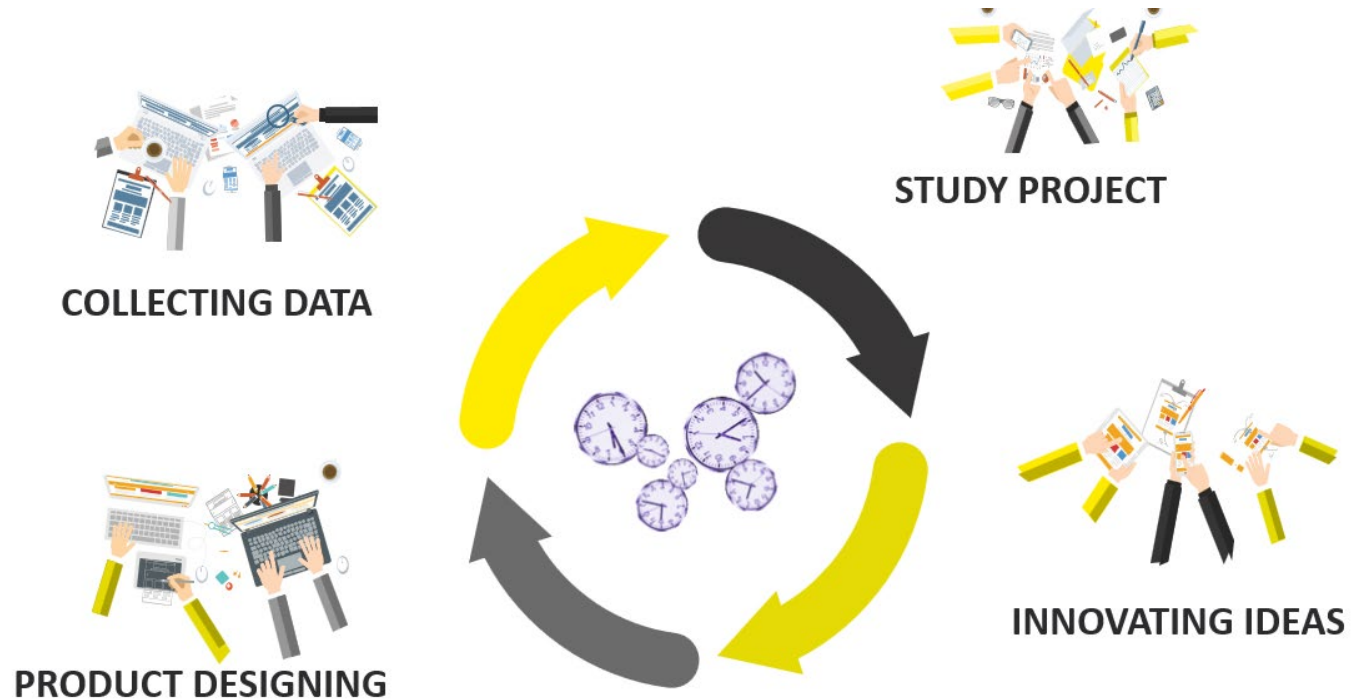
- ▶ A small team, due to SaaS and a small budget... → we need extra technical skills to improve

→ In which profiles do we need to invest?

- × ICT architect and business analyst

- × Other?

→ Permanent staff or insourcing?



Questions?





Share / Discuss

Contact



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Digital Archives Flanders, a division of the Agency for Facility Operations from the Flemish Government

DIGITAL
ARCHIVES
FLANDERS



Flanders
State of the Art