

Data Capabilities: SPECTRE-HD

Safe Processing Ecosystem for Trusted Reuse of Health Data

Speakers:

Yves Thorrez

Andre Vital Serafim Silva

Elyne Scheurwegs

Joëlle Thonnard

Tom Bouten



Health
Food Chain Safety
Environment



SPECTRE-HD

sciensano



Gaëtan Podevijn
Caroline Lievens
Joëlle Thonnard



Ben Goethuys
Myriam Goemans
Noëlla Pierlet



Elyne Scheurwegs
Ilse De Canck
Sofie De Wilder
Geert Hellebaut
Marjan De Rademaeker
Annelies Verbiest



Evelyn Vandermeersch, Frederik Hes, Heini Kanervo, Martine Grosber, Peter Janssens, Kristof Gentens, Dries Van Hool, Bert Remmerie, Katrien Van Der Kelen, André Vital Serafim Silva, Hans Leempoels, Steven Droogmans, Robin Demesmaeker, Bart Helsen, Pieter Cornu, Veronique Shiwa, Yves Thorrez

SPECTRE-HD

Introduction

MINE-HD platform

Hospital testimonials

Blackbar – Elyne Scheurwegs (UZA)

CSI - Joëlle Thonnard (CuSL)

R3D – Yves Thorrez (UZB)

TREzure platform

Next Steps

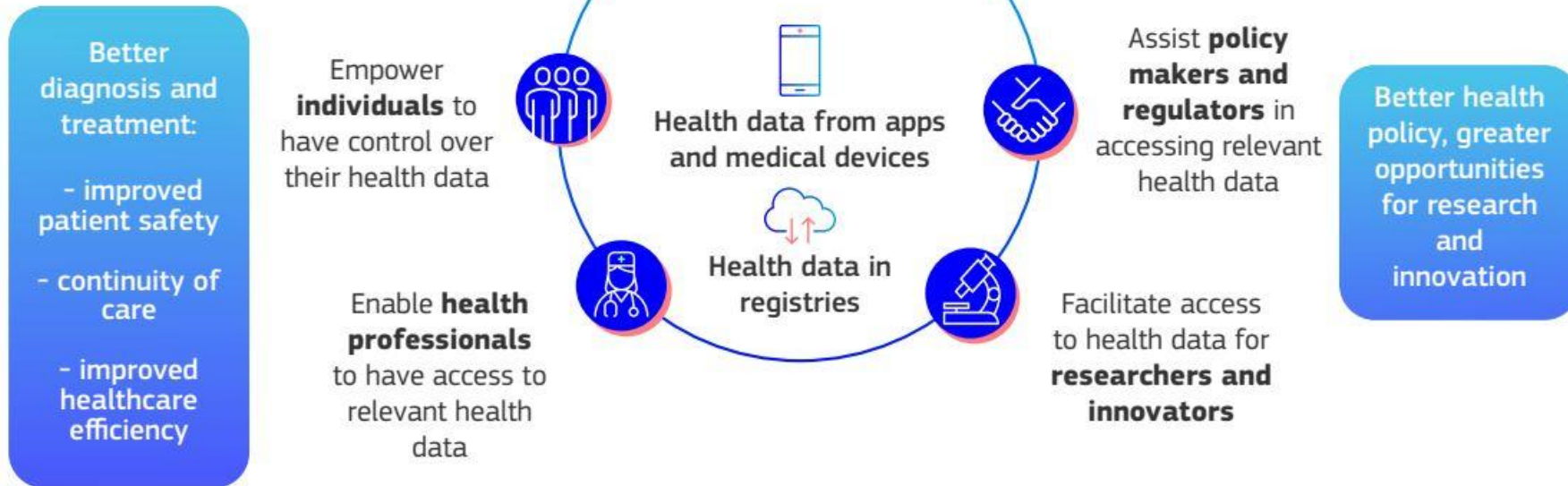
WHAT



ENVISIONS

PRIMARY USE
OF HEALTH DATA

SECONDARY USE
OF HEALTH DATA





European Commission

WHAT

EUROPEAN HEALTH DATA SPACE

ENVISIONS

#EUDigitalHealth

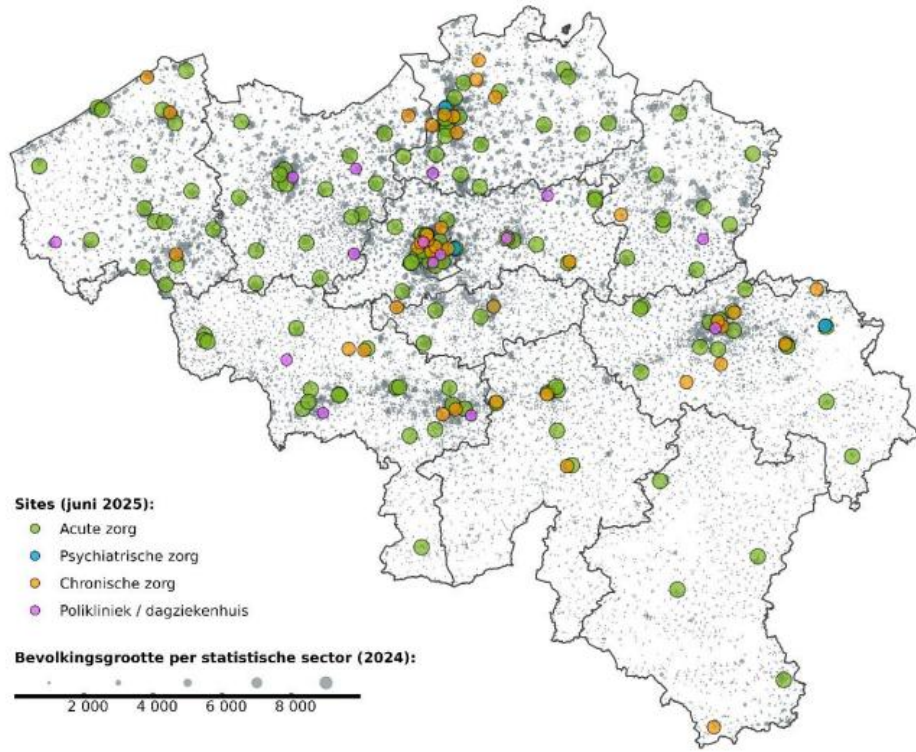


WHAT

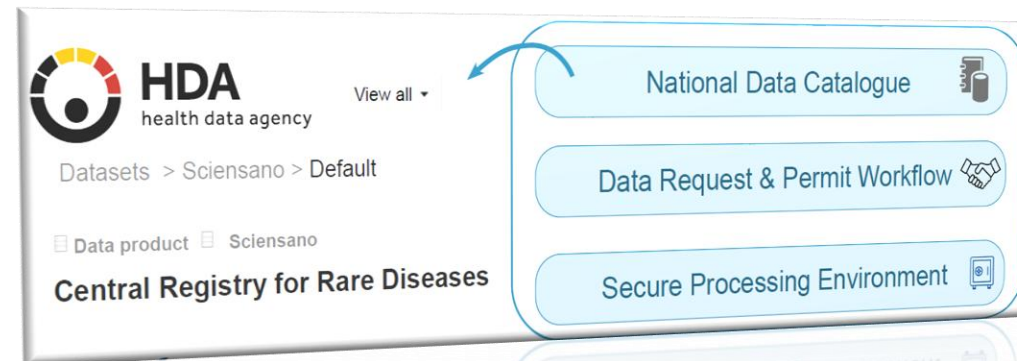


HDA
health data agency

EXPECTS



- Data holders provide information about their available data sets (= metadata)
- Data holders respond to Data Permits in a timely manner (from 2029 on)
- ...



WHAT



ARE FACED WITH

- Growing demand for their health data
- Strict timelines and penalties from EHDS
- Pressure on healthcare & IT staff and budgets
- Insufficient focus on data quality and modeling
- Lack of standardization
- Inefficient management of data requests
- Privacy & compliance concerns
- Fragmented data sources (silos)
- Difficulties in managing unstructured data
- Legacy infrastructure & technological gap
- Complexity of stakeholder needs
- ...

SPECTRE-HD

Introduction

MINE-HD platform

Hospital testimonials

Blackbar – Elyne Scheurwegs (UZA)

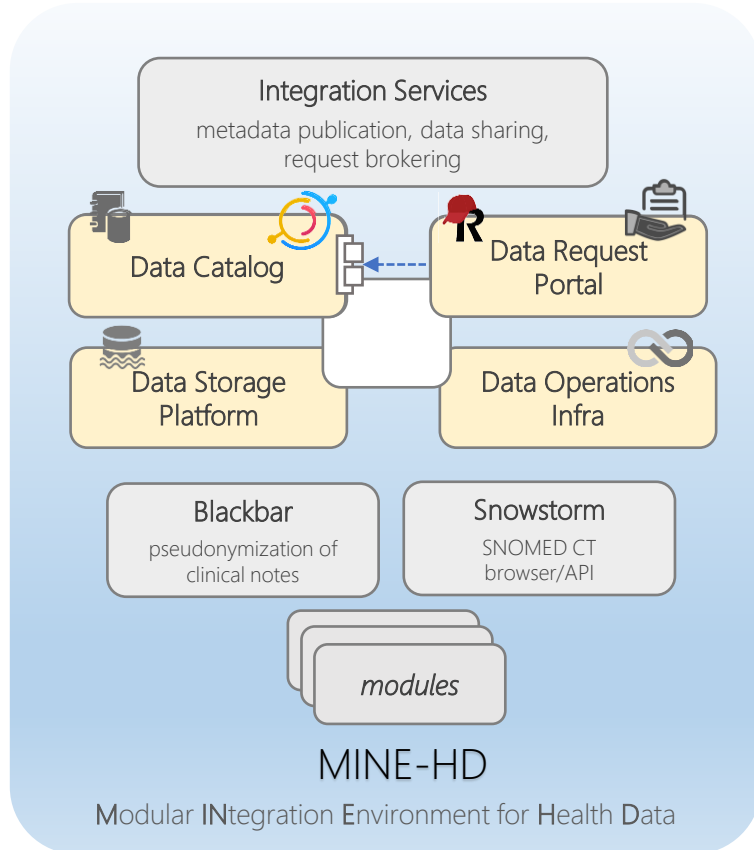
CSI - Joëlle Thonnard (CuSL)

R3D – Yves Thorrez (UZB)

TREzure platform

Next Steps

MINE-HD: a Request-Driven Data Platform for Hospitals

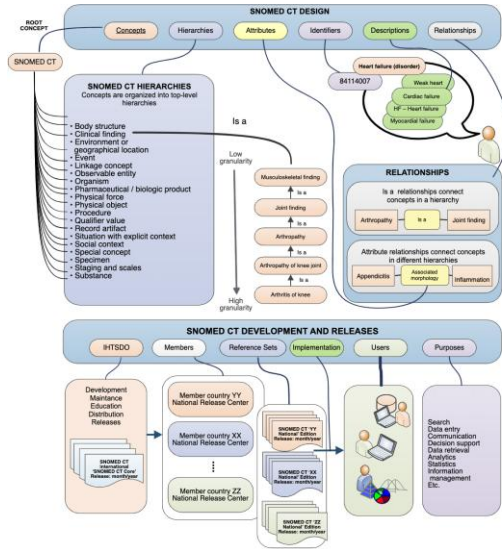


What part of the **data (re)use lifecycle** would you like to manage better?

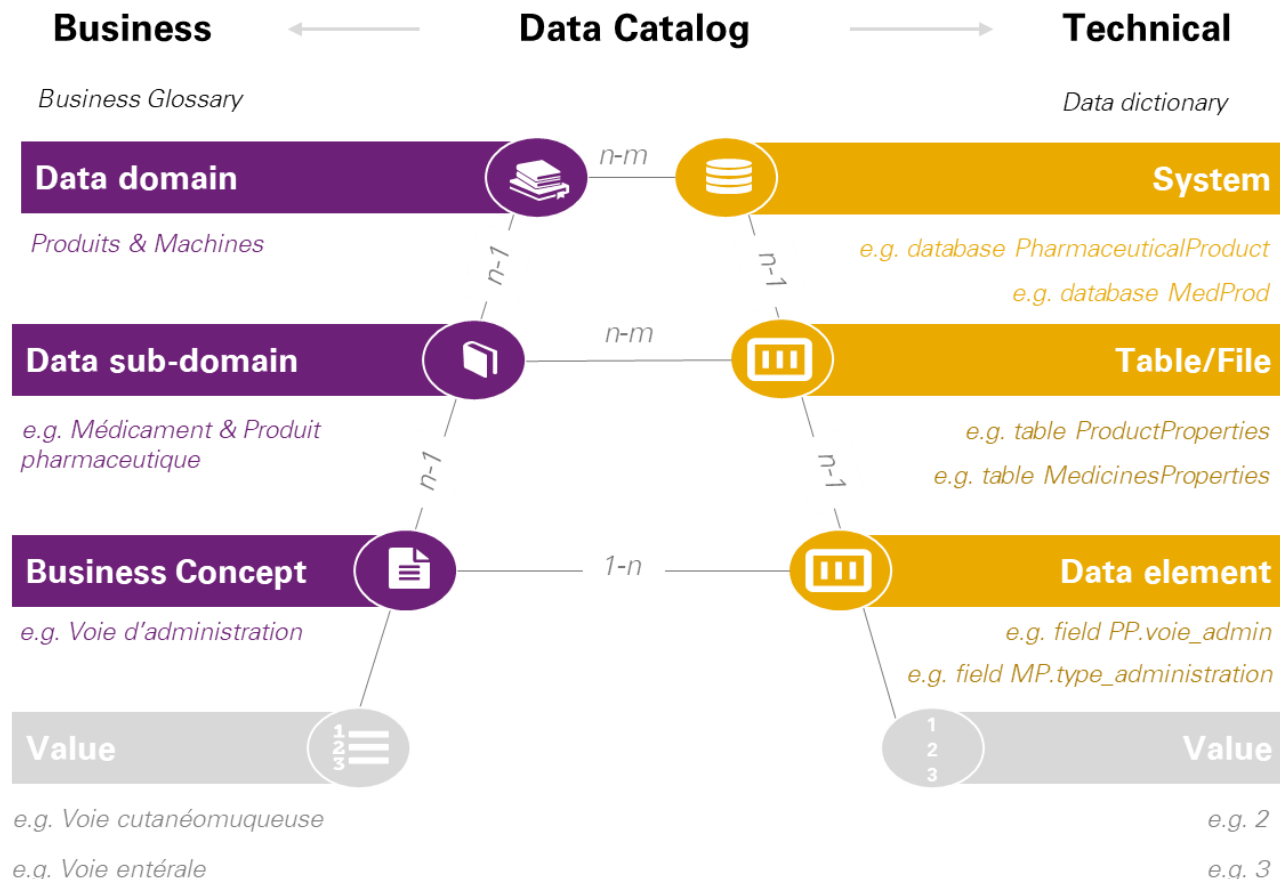
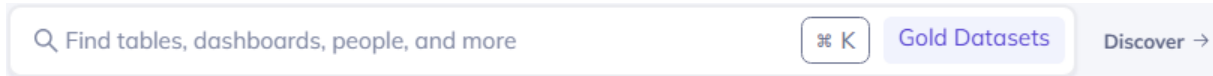
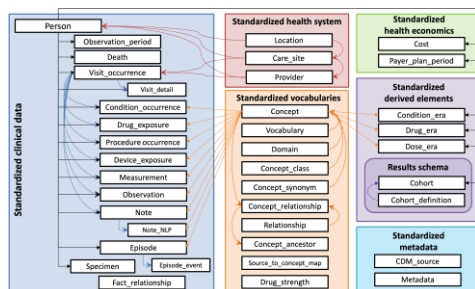
- ✓ only **Data Catalog**
- ✓ only **Data Request Portal**
- ✓ **Data Request Portal + Data Catalog**
- ✓ Functionalities for **automated full lifecycle** support:
 - **data delivery**: consistent sharing of data in the hospital
 - **data processing**: automate to scale data reuse
 - each data request **linked** to the Data Catalog
- ✓ Additional features:
 - metadata publication
 - clinical standards and terminologies
 - pseudonymization
 - and more...

DataHub: Data Dictionary & Business Glossary

SNOMED-CT Terminology



OMOP CDM

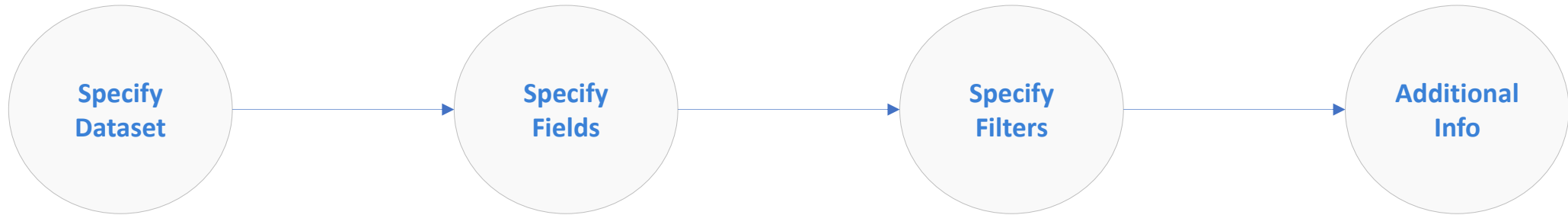


DataHub Integrations

Services that integrate with DataHub

Airflow Airflow is an open-source data orchestration tool used for orchestrating, monitoring, and triggering complex data pipelines.	Apache Hudi Apache Hudi is an open-source data lake framework that provides ACID transactions, efficient queries, time travel queries, and incremental data processing for large-scale datasets.	Athena Athena is a serverless interactive query service that enables users to analyze data in Amazon S3 using a standard SQL engine.
Azure AD Azure AD is a cloud-based identity and access management tool that provides secure authentication and authorization for users and applications.	BigQuery BigQuery is a cloud-based data warehousing and analytics tool that allows users to store, query, and analyze large datasets quickly and efficiently.	Business Glossary A feature provided by DataHub for ingesting business metadata that provides a comprehensive set of business terms and definitions used within an organization.
ClickHouse ClickHouse is an open-source columnar or analytical database management system designed for high-performance data processing and analytics.	CSV An ingestion source for enriching metadata provided by CSV format provided by DataHub.	Dagster Dagster is a next-generation open-source orchestration platform for the development, production, and observation of data workflows.
Databricks Databricks is a cloud-based data processing and analytics platform that enables data scientists and engineers to collaborate and build data-driven applications.	DataHub Integrate your open-source DataHub instance with DataHub Cloud or other on-premise DataHub instances.	dbt dbt is a data transformation tool that enables analysts and engineers to transform data in their warehouses through a modular, SQL-based approach.
Delta Lake Delta Lake is an open-source data lake storage layer that provides ACID transactions, schema enforcement, and data versioning for big data workloads.	Demo Data Demo Data is a data tool that provides sample data sets for demonstration and testing purposes.	Druid Druid is an open-source data store designed for real-time analytics on large datasets.
Elasticsearch Elasticsearch is a distributed, open-source search and analytics engine designed for handling large volumes of data.	Faast Faast is an open-source feature store that enables teams to manage, store, and discover features for machine learning applications.	File An ingestion source for single files provided by DataHub.
File Based Lineage File Based Lineage is a data tool that enables the lineage of data files and their dependencies.	Glue Glue is a data integration service that allows users to extract, transform, and load data from external sources into a data warehouse.	Great Expectations Great Expectations is an open-source data validation and monitoring tool that helps data teams maintain data quality and integrity.

Data Request Portal: Submission of Dataset Specifications



Which dataset would you like to request?

Which fields of the dataset would you like to request?

Which filters should be applied on the requested dataset?

Any extra relevant information?



Dataset Name



Dataset Fields

DosNrPatient	No	<input type="radio"/>	Yes	<input checked="" type="radio"/>
Rijksregisternummer	No	<input checked="" type="radio"/>	Yes	<input type="radio"/>
Naam	No	<input checked="" type="radio"/>	Yes	<input type="radio"/>
Voornaam	No	<input checked="" type="radio"/>	Yes	<input type="radio"/>
Geslacht	No	<input type="radio"/>	Yes	<input checked="" type="radio"/>

Fields Data Type Dataset Parameters

No filter	mm/dd/yyyy
on	02/02/2020
equals	value1
External data	<input checked="" type="checkbox"/> Upload file <input type="checkbox"/> Describe data <small>File upload will be available later</small>
No filter	Value

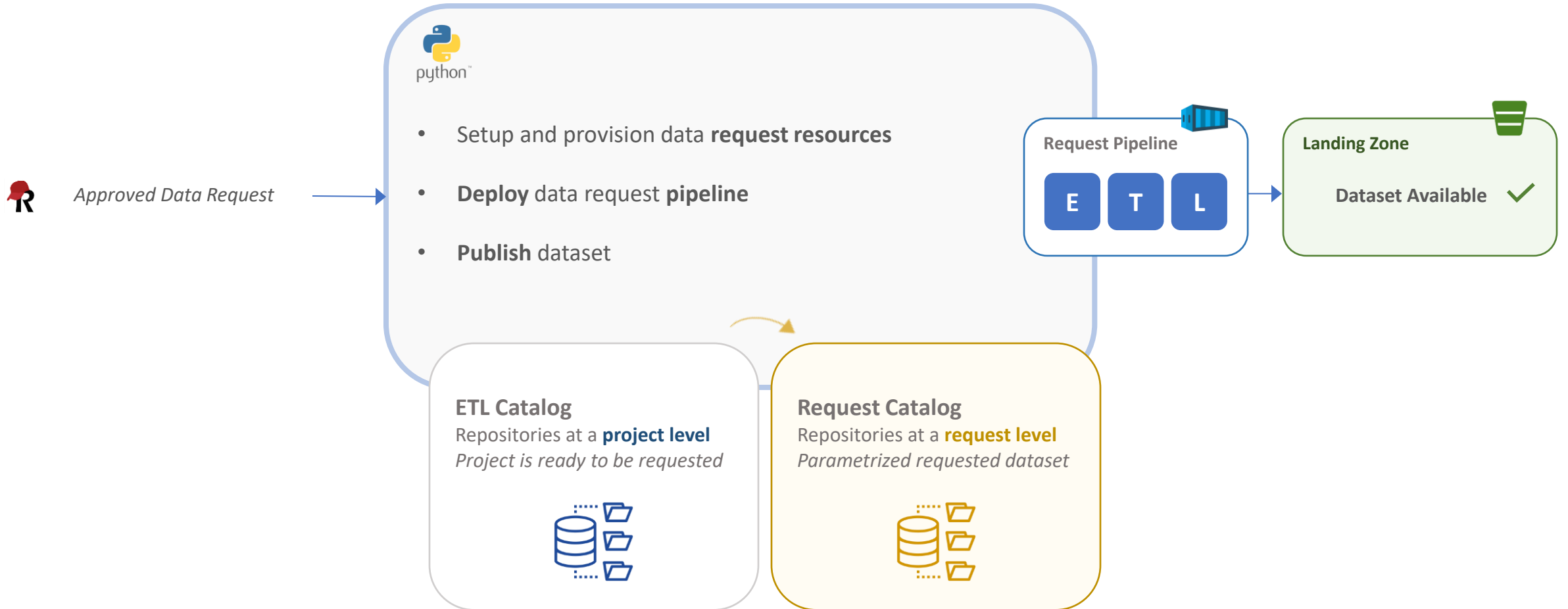
Incremental update
(Scheduling specification)

Pseudonymization

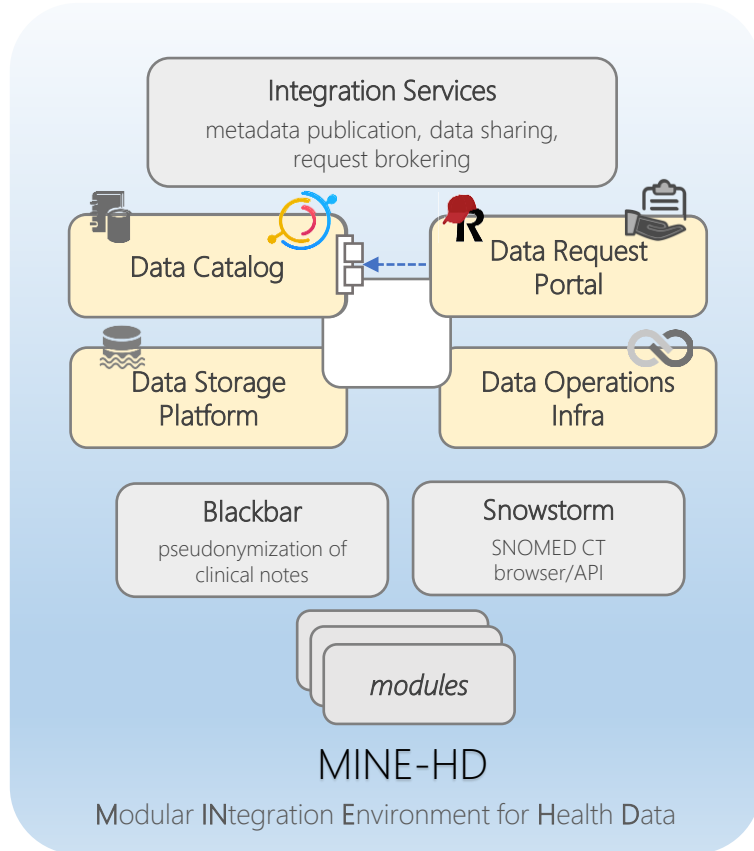
Retention period

Remarks

Request Integrator: Data Processing and Delivery



MINE-HD: Key Process Personas



Who are the key personas involved in the **data (re)use lifecycle**?



Data Requester

- **Browse** data assets
- **Submit** data requests
- Follow-up and **receive** requested data



Data Steward

- **Review** and **approve** submitted requests
- Plan intake with data requester to **ensure requested data** is clear
- Plan implementation with data team to **ensure request requirements** are met



Data Engineer

- **Develop** new datasets
- Do **custom work** on approved datasets
- **Review data** before release

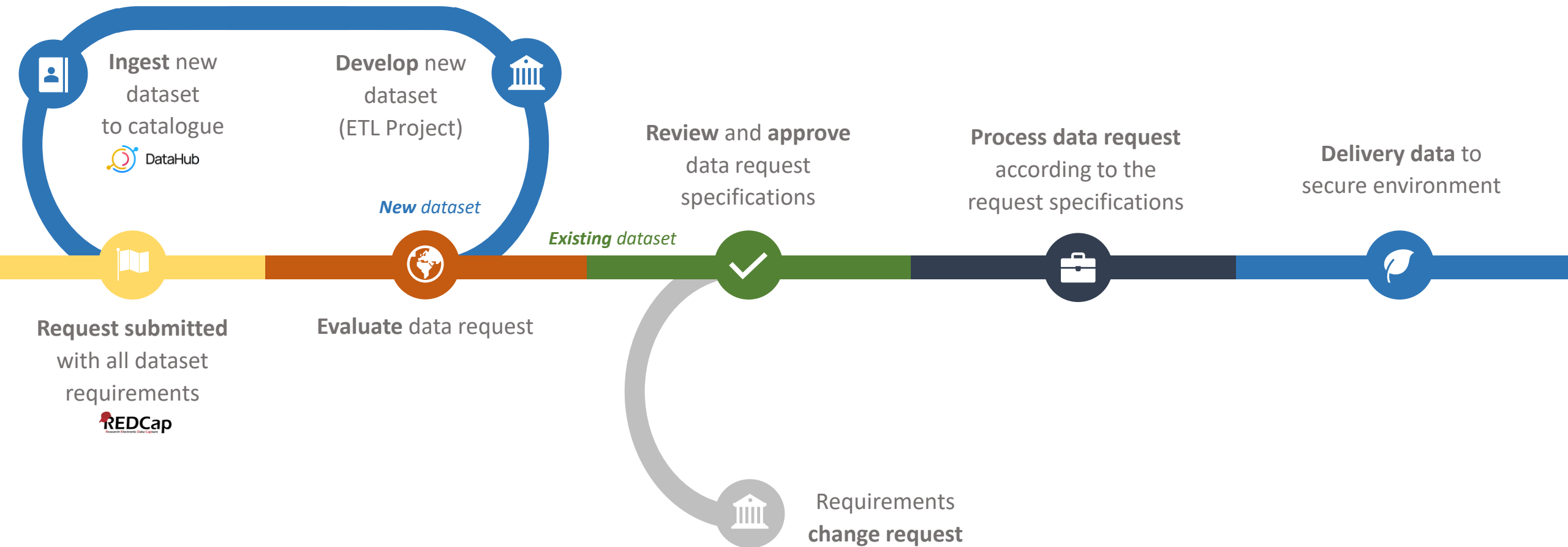
MINE-HD: Technical Perspective



Data Steward



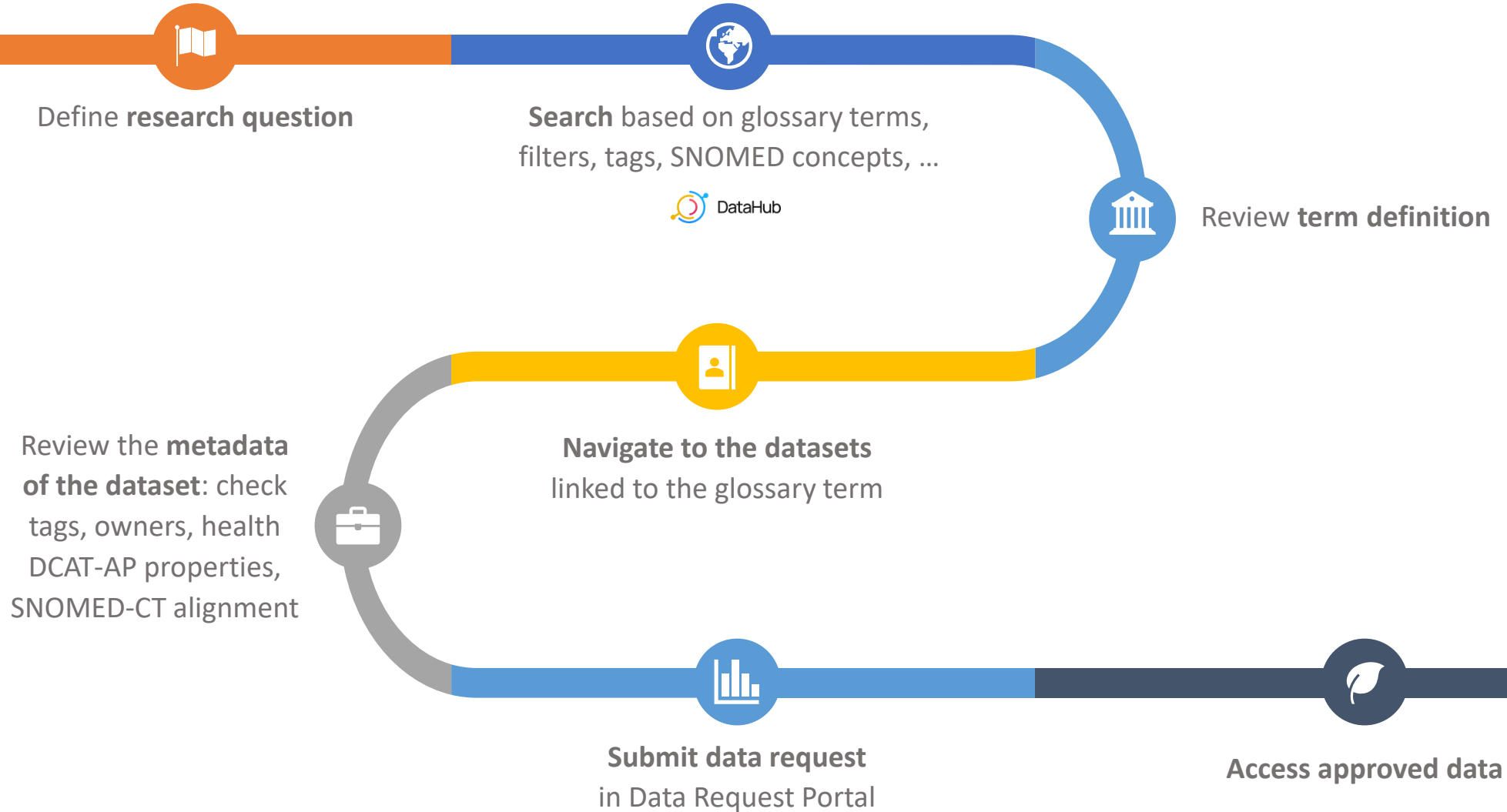
Data Engineer



MINE-HD: Use Case Perspective



Data Requester



SPECTRE-HD

Introduction

MINE-HD platform

Hospital testimonials

Blackbar – Elyne Scheurwegs (UZA)

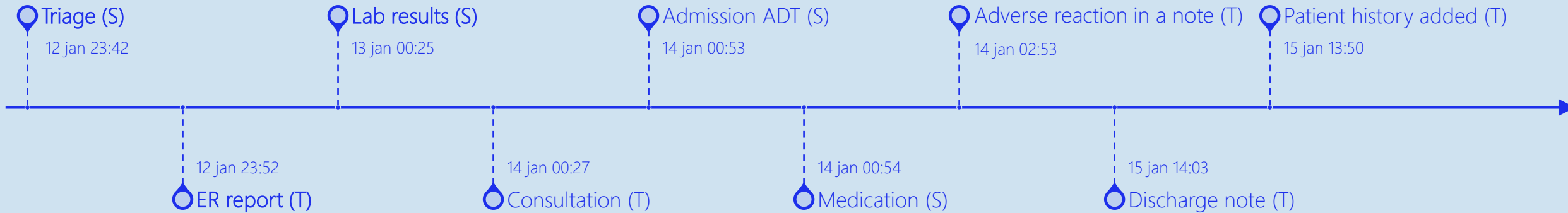
CSI - Joëlle Thonnard (CuSL)

R3D – Yves Thorrez (UZB)

TREzure platform

Next Steps

Importance of anonymization



Essential to create a Patient based journey

- Information density in documents.
- Complementarity with structural data.
- Supporting **research** with privacy-first design
 - o LLM
 - o Lookup for registers (e.g. rare diseases)
 - o Further structurization
 - (in a university context)

What Blackbar offers

Toolbox

- Anonimization and pseudonimization
- Annotation and development of own model (within constraints) on own data.
- Evaluation of those models

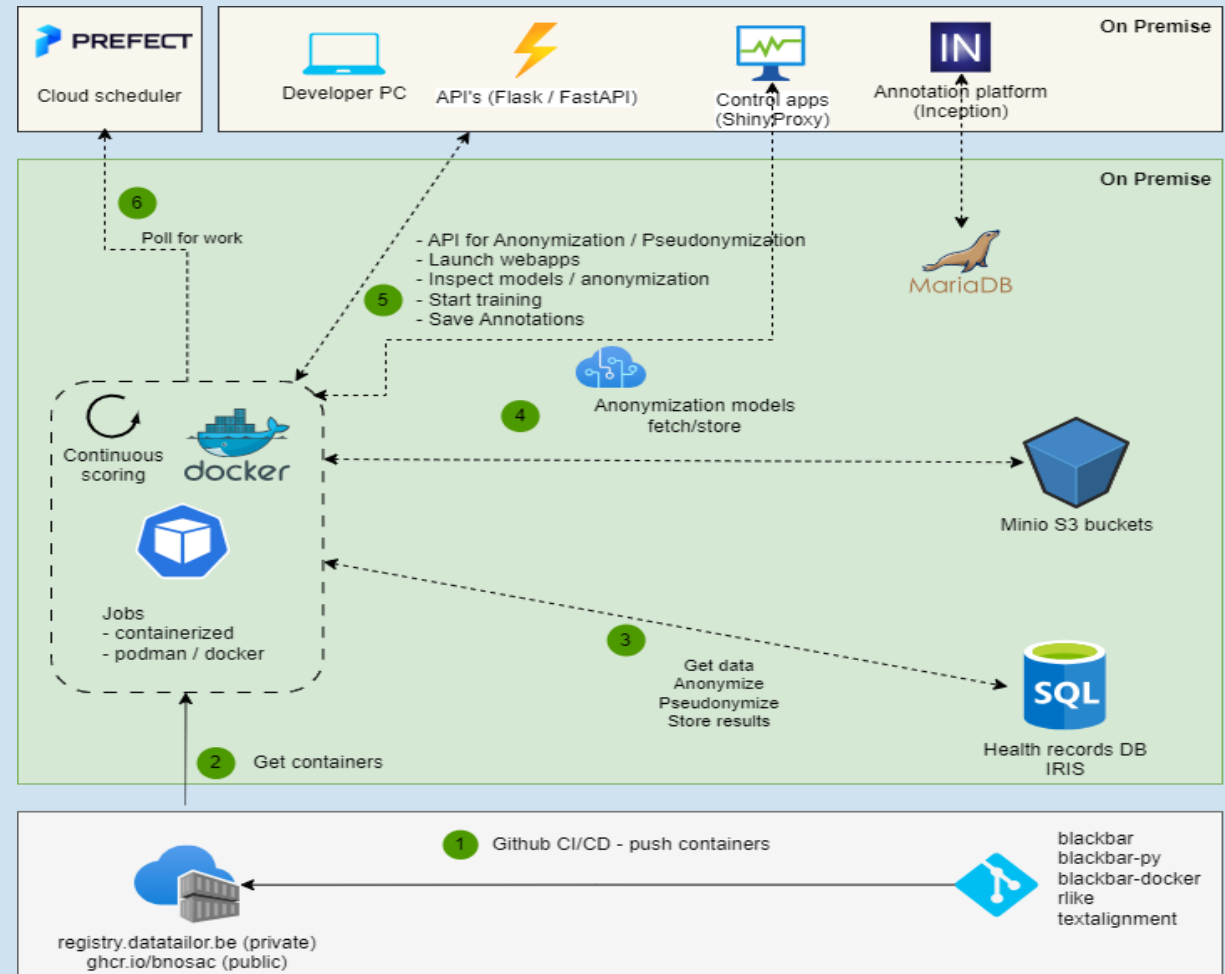
On-premise server (with external database)

GUI-based interface

Integrations for

- Manual annotation with Inception
- Scheduling with Prefect

Cohort creation with CSI



Blackbar as an anonymization tool

De te anonimiseren tekst

Resultaat van model - herkende entiteiten

dagnota : 10/4/2021
 Opname D12
 RvO/ SAB op onderliggend aneurysma a. communicans anterior - 30/03 coiling gehad.
 A/
 Geen bijzonderheden.
 O/
 114/60 - 36.1C - 60/min - 98% zonder O2
 Tele zonder bijzonderheden
 Labo/
 Geen bijzonderheden
 TCD 09/04: geen vaatspasmen
 P/
 - Monitoring tot en met maandag (14 dagen), dan naar A480
 | Uitvoerder: Dr. Jan Janssens |
 | Verantwoordelijke: Dr. Jan Janssens |

Gespeudonimiseerde versie

Pseudonimisation mapping table for the patient

Admin

dagnota : 03/02/2018
 Opname D12
 RvO/ SAB op onderliggend aneurysma a. communicans anterior - 23/01/2021 coiling
 gehad.
 A/
 Geen bijzonderheden.
 O/
 114/60 - 36.1C - 60/min - 98% zonder O2
 Tele zonder bijzonderheden
 Labo/
 Geen bijzonderheden
 TCD 02/02/2021: geen vaatspasmen
 P/
 - Monitoring tot en met maandag (14 dagen), dan naar A480
 | Uitvoerder: Dr Conny De Sutter |
 | Verantwoordelijke: Dr Conny De Sutter |

Blackbar features

Hybrid ensemble model

- Local alignment
 - Smith-Waterman
 - leverages marked PHI
- Named Entity Recognition
 - Machine Learning (BiLSTM/CNN)
 - recognizes patterns

Pseudonymization

- Database-backed code map
- Consistent aliases
- Date shift
- LLM available, but computationally expensive for bulk

Patient context aware

- Structure data about patient available and used
- Insertion of a fictitious (but consistent) alias
 - obfuscates potential errors!

Result of the model - detected entities

dagnota : 10/4/2021 03_Datum

Opname D12

RvO/ SAB op onderliggend aneurysma a. communicans anterior - 30/03 03_Datum coiling gehad.

A/

Geen bijzonderheden.

O/

114/60 - 36.1°C - 60/min - 98% zonder O2

Tele zonder bijzonderheden

TCD 09/04 03_Datum : geen vaatspasmen

P/

- Monitoring tot en met maandag (14 dagen), dan naar A480

| Uitvoerder: Dr. Jan Janssens 01_Naam |

| Verantwoordelijke: Dr. Jan Janssens 01_Naam |

Adaptations for our specific context



- SQL Server instead of InterSystems IRIS
- Different IDs (sha256-based)
- Document quality
 - o Invalid UTF-8 characters
 - o Proper escaping RTF-tags
- Local instance of prefect

- Ecosystem adaptations
 - o On-prem (UZBrussel)
 - o Azure cloud-based (UZA)

- Communication

Practical Applicability

- Demonstration in rare diseases use-case
 - o Anonimized documents to enable use of CSI by clinicians
 - o Snapshot of current data

- Research project
 - o How does the algorithm compare to LLM-based deidentification?
(Stig Hellemans)

- As a part of our data warehouse
 - o As is: model building and evaluation
 - o Further integration
 - Single container
 - Data I/O directly from data lake

SPECTRE-HD

Introduction

MINE-HD platform

Hospital testimonials

Blackbar – Elyne Scheurwegs (UZA)

CSI - Joëlle Thonnard (CuSL)

R3D – Yves Thorrez (UZB)

TREzure platform

Next Steps



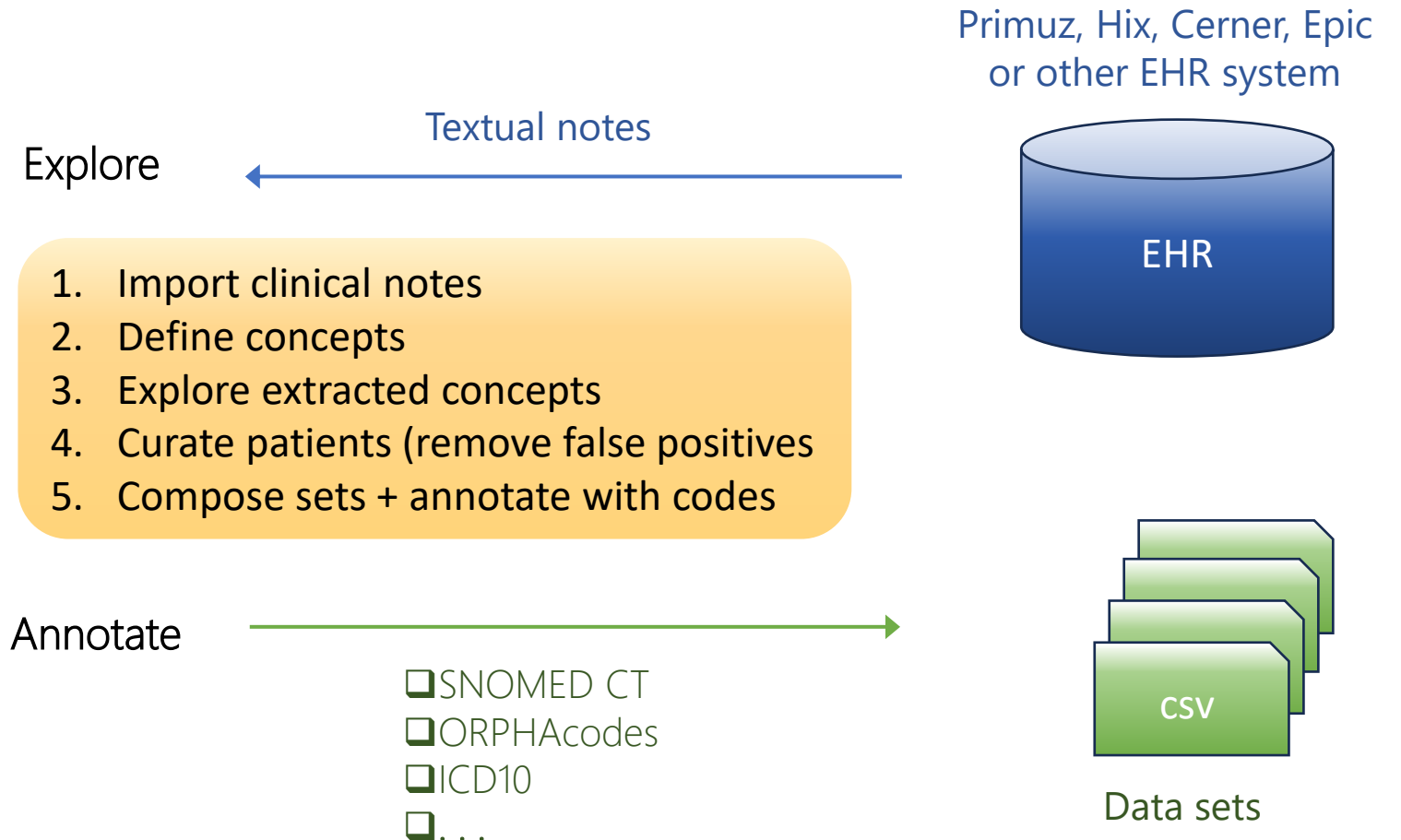
CSI - Cohort Selection & Identification

Joëlle Thonnard, CuSL, Medical Information Department, Rare Disease Institut

I want to find all patients with a rare renal disease :
Search terms are "autosomal dominant polycystic kidney disease" and variants as "ADPKD" in our clinical notes.
Also consider "kidney polykystosis",
...



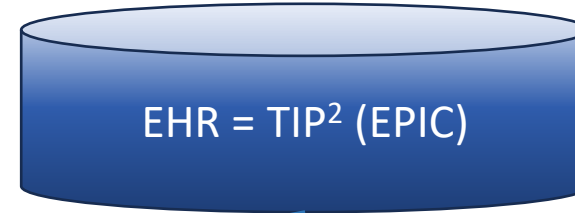
NLP-Based concept extraction from clinical text



CSI implementation at Cliniques universitaires Saint-Luc Bruxelles

Technical
 implementation

CuSL Network



ETL for note transfert

CSI on VM (4 CPU)
 IRIS specific instance

Synthetic notes

Nephrology

Hepatology

XXX

Account Management and Monitoring by DIM Data Engineer

Access to patient data by DIM engineer and
 DIM data managers

Access to patient data by CuSL users (ex. Physicians,
 scientists)
 on a project / department basis
 after Project approval by CuSL DAC

- Nephrology department
- Hepatology departement

Access for Winfo
 only during
 deployment and
 test phase on
 synthetic notes
 (1,5 days)

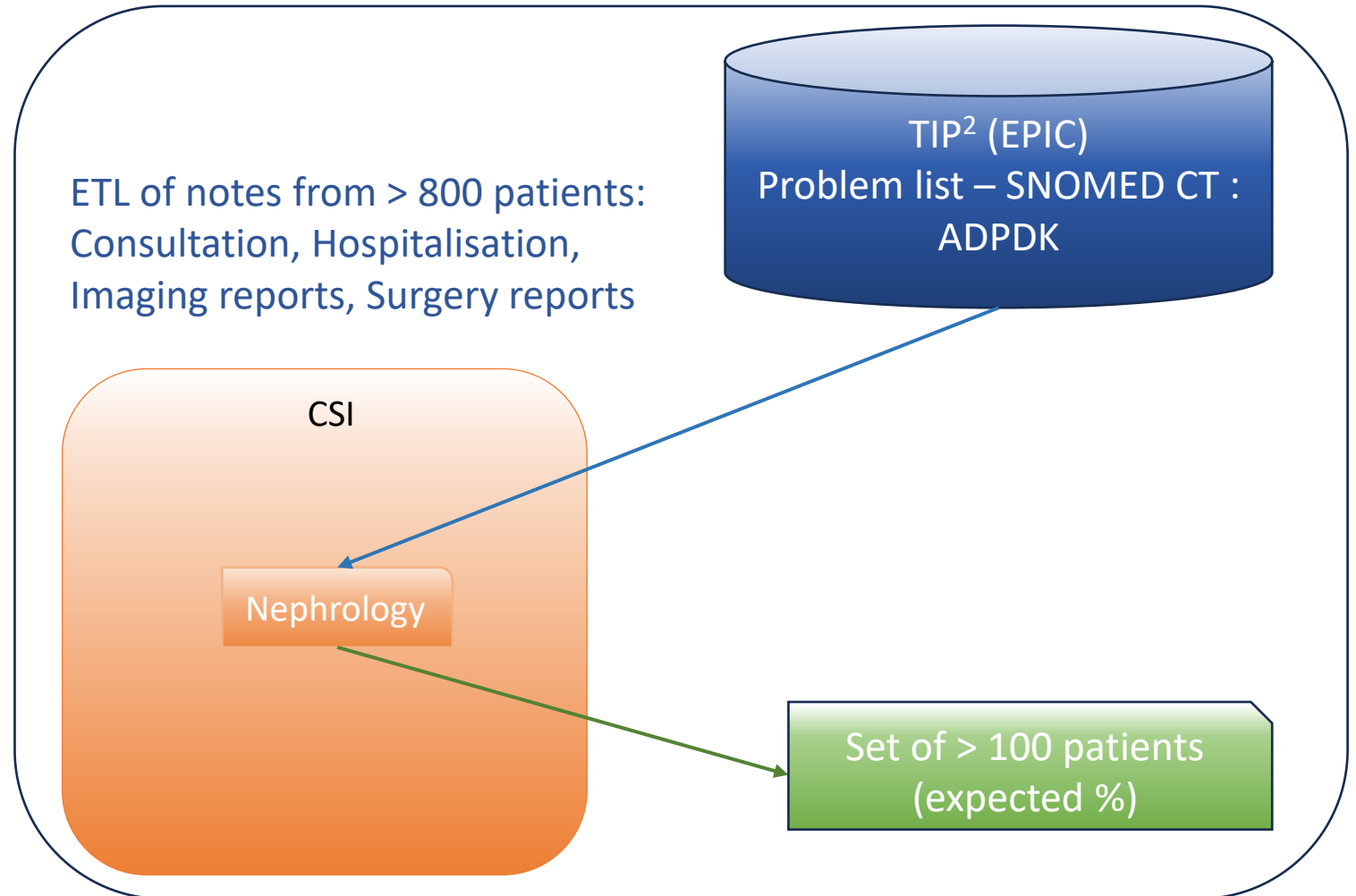
CSI implementation at Cliniques universitaires Saint-Luc Bruxelles

Use case

I want to find among patients with "autosomal dominant polykystic kidney disease (ADPKD)" those with "cerebral aneurism"



CuSL Network



CSI Démo

Search term: « cardiaque »

Explore Concepts Select Concepts Filter Patients Identify Patients Coding Export Graph

Excluded (0)	Found (157)	Included (7)																																																																																				
	<table border="1"> <tr><td></td><td>rythme cardiaque</td><td>192</td><td></td></tr> <tr><td></td><td>cathétérisme cardiaque</td><td>159</td><td></td></tr> <tr><td></td><td>fréquence cardiaque</td><td>137</td><td></td></tr> <tr><td></td><td>cardiaque</td><td>128</td><td></td></tr> <tr><td></td><td>enzymes cardiaques</td><td>96</td><td></td></tr> <tr><td></td><td>chirurgie cardiaque</td><td>41</td><td></td></tr> <tr><td></td><td>échographie cardiaque</td><td>38</td><td></td></tr> <tr><td></td><td>stimulateur cardiaque</td><td>37</td><td></td></tr> <tr><td></td><td>examen cardiaque</td><td>25</td><td></td></tr> <tr><td></td><td>facteurs de risque cardiaque</td><td>24</td><td></td></tr> <tr><td></td><td>maladie cardiaque</td><td>24</td><td></td></tr> <tr><td></td><td>sons cardiaques distants</td><td>24</td><td></td></tr> <tr><td></td><td>historique cardiaque</td><td>22</td><td></td></tr> <tr><td></td><td>index cardiaque</td><td>22</td><td></td></tr> </table>		rythme cardiaque	192			cathétérisme cardiaque	159			fréquence cardiaque	137			cardiaque	128			enzymes cardiaques	96			chirurgie cardiaque	41			échographie cardiaque	38			stimulateur cardiaque	37			examen cardiaque	25			facteurs de risque cardiaque	24			maladie cardiaque	24			sons cardiaques distants	24			historique cardiaque	22			index cardiaque	22		<table border="1"> <tr><td></td><td>insuffisance cardiaque congestive</td><td>187</td><td></td></tr> <tr><td></td><td>insuffisance cardiaque</td><td>152</td><td></td></tr> <tr><td></td><td>cathétérization cardiaque</td><td>48</td><td></td></tr> <tr><td></td><td>arrêt cardiaque</td><td>45</td><td></td></tr> <tr><td></td><td>crise cardiaque</td><td>40</td><td></td></tr> <tr><td></td><td>insuffisance cardiaque diastolique</td><td>40</td><td></td></tr> <tr><td></td><td>échec cardiaque congestif</td><td>26</td><td></td></tr> </table>		insuffisance cardiaque congestive	187			insuffisance cardiaque	152			cathétérization cardiaque	48			arrêt cardiaque	45			crise cardiaque	40			insuffisance cardiaque diastolique	40			échec cardiaque congestif	26	
	rythme cardiaque	192																																																																																				
	cathétérisme cardiaque	159																																																																																				
	fréquence cardiaque	137																																																																																				
	cardiaque	128																																																																																				
	enzymes cardiaques	96																																																																																				
	chirurgie cardiaque	41																																																																																				
	échographie cardiaque	38																																																																																				
	stimulateur cardiaque	37																																																																																				
	examen cardiaque	25																																																																																				
	facteurs de risque cardiaque	24																																																																																				
	maladie cardiaque	24																																																																																				
	sons cardiaques distants	24																																																																																				
	historique cardiaque	22																																																																																				
	index cardiaque	22																																																																																				
	insuffisance cardiaque congestive	187																																																																																				
	insuffisance cardiaque	152																																																																																				
	cathétérization cardiaque	48																																																																																				
	arrêt cardiaque	45																																																																																				
	crise cardiaque	40																																																																																				
	insuffisance cardiaque diastolique	40																																																																																				
	échec cardiaque congestif	26																																																																																				

SPECTRE-HD

Introduction

MINE-HD platform

Hospital testimonials

Blackbar – Elyne Scheurwegs (UZA)

CSI - Joëlle Thonnard (CuSL)

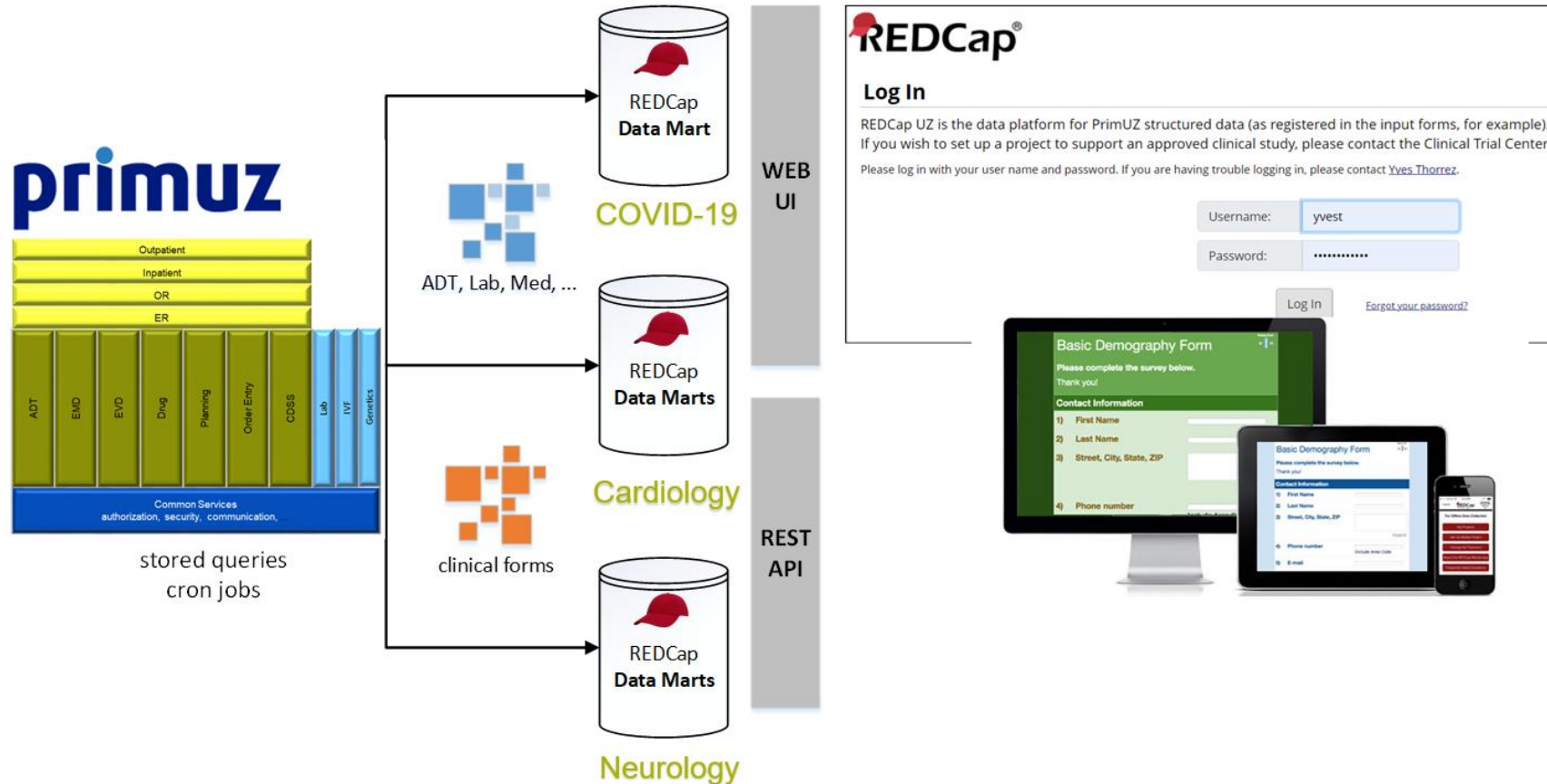
R3D – Yves Thorrez (UZB)

TREzure platform

Next Steps

UZ Brussel Background: Building Hospital Registries

- Share quality data on specific diseases or conditions with stakeholders in/of the hospital
- Enable self-service through automated data pipelines



Applied to Rare Diseases

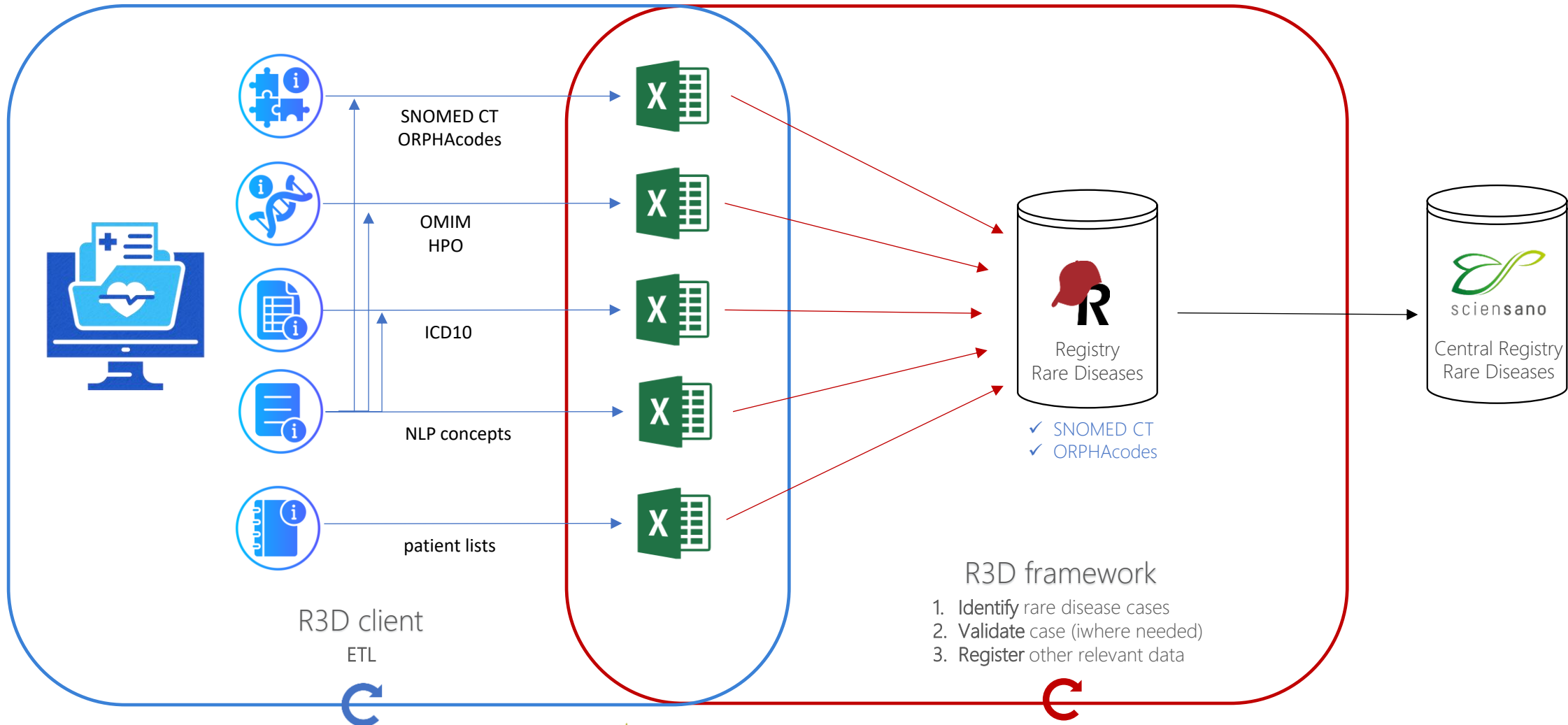
- Identify patients from diagnostic markers in the hospital EHR
 1. in **already coded** data (SNOMED CT, ORPHAcodes, OMIM, ICD10, ...)
 2. in **uncoded/unstructured** data (clinical notes)
- Engage data managers, clinicians, researchers, policy makers
 - **harmonized data model** for all participating hospitals (tailored to RD)
 - **efficient workflow** to validate new cases prior to further screening
 - **self-service reporting**
- Support sharing of data with the national registry (CRRD)
 - **only 100% validated cases** (corrections are current bottleneck!)
 - from local REDCap registry to CRRD via HD4DP
- Roadmap:
 - **scale-out** to hospital landscape with (focus: rare disease functions)
 - explore **federated** scenario (with on-demand data sharing, cf. EHDS)
 - document the new framework for **other medical areas**



Pilot project: Rare Diseases

In Belgium, around 500,000 people are affected by one of over 7,000 known rare diseases, yet fewer than 2% are to be found in the national rare disease registry (CRRD). This underreporting stems largely from the difficulties hospitals face in broadly identifying and managing rare disease cases. Today's approach is centered on diagnoses in genetic centers, since about 80% of known rare diseases have a genetic origin. However, after a rare disease diagnosis, genetic centers struggle to capture all further relevant patient data for submission to the CRRD.

The SPECTRE-HD pilot project introduces an innovative workflow for the identification of individuals with a rare disease. It is based on diagnostic markers located within structured and unstructured sources of the hospital's electronic patient records, spanning various medical specialties beyond genetics.



Registering a rare disease in the EHR (Primuz)

Bewerk zeldzame ziekte

Diagnose

Bevestiging Tentatief Definitief

Datum Exact: do 10/10/2024 Jaar: Onbekend

Opmerkingen



Opgelet: deze patiënt heeft 2 geregistreerde zeldzame ziektes!

Klik op het icoon in de toolbar om het overzicht te openen.

Zeldzame ziektes

Code -	Ziekte -	Sinds -	Bevestiging -	?	🗑️
632	Kleine gestalte als gevolg van geïsoleerde groeihormoondeficiëntie met X-gebonden ...	09/10/2024	Definitief	🔍	🗑️
245	Syndroom van Nager	2024	Definitief	🔍	🗑️
48652	Syndroom van Phelan-McDermid	09/10/2024	Tentatief	🔍	🗑️
64745	Pruritische urticariële papels en plaques bij zwangerschap	10/10/2024	Tentatief	🔍	🗑️

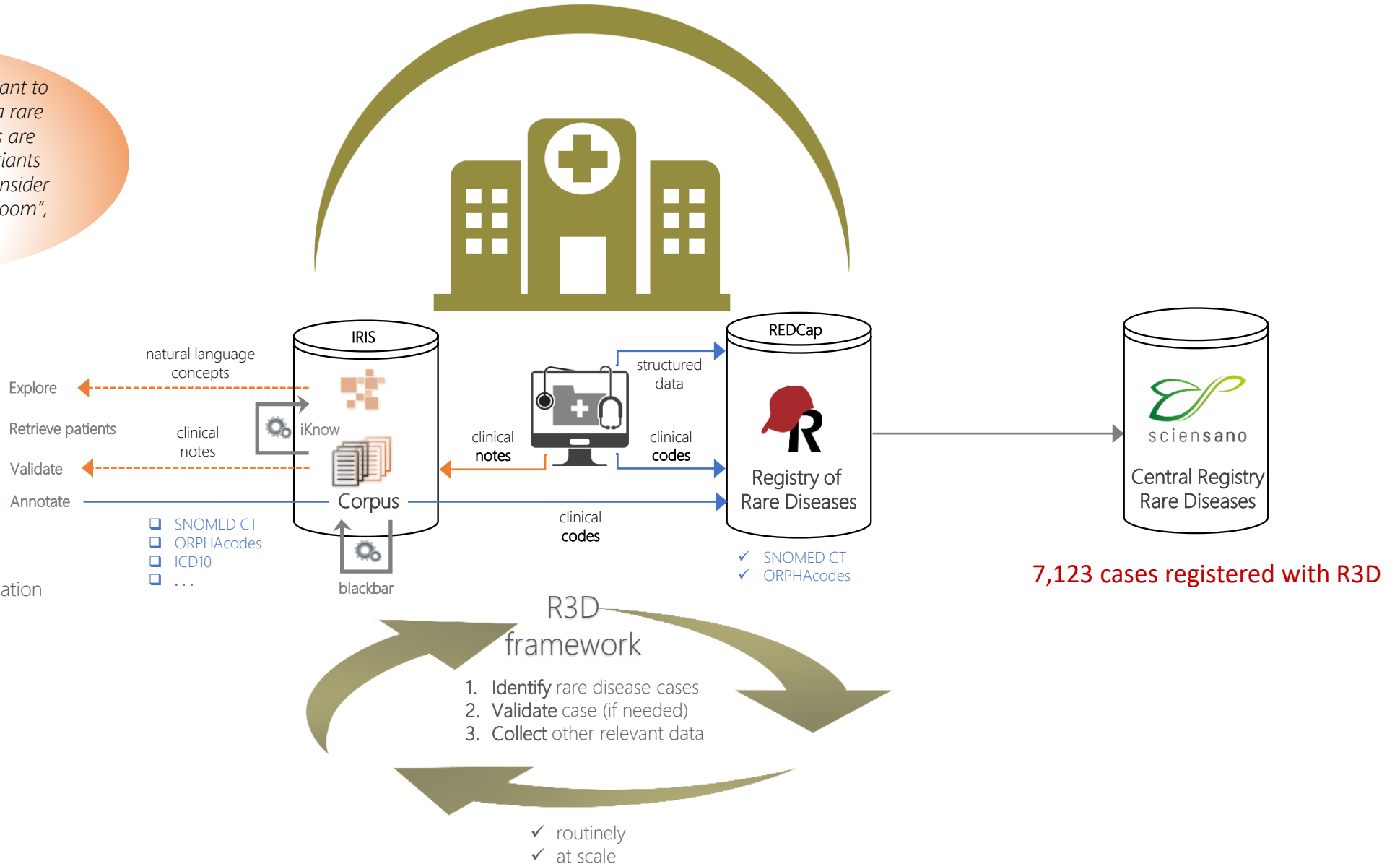
SPECTRE-HD: CSI

For **ERN Liver** eligibility, I want to find all patients that have a rare liver disease. Search terms are "lipomatose" and all its variants in our clinical notes. Also consider "Budd-Chiari", "hepatoblastoom", "choledochus cyste", ...



CSI

Cohort Selection & Identification



Demo

<https://redcapuz.uzbrussel.be/index.php?action=myprojects>



☐ Rare Diseases (13)

- Reference Definition ICD-10 (CM)
- Reference Definition HPO
- Reference Definition OMIM
- Reference Definition SNOMED
- Reference Definition ORPHA
- Reference Mapping ORPHA - ICD-10
- Reference Mapping ORPHA - HPO
- Reference Mapping ORPHA - OMIM
- Reference Mapping ORPHA - SNOMED
- Register Zeldzame Ziekten met CRRD
- Rare Disease Indicator Blacklist
- Reference Definition ICD-10 (PCS)
- Reference ORPHA - ERN

Displaying record Page 1 of 26: "100014681" through "1013951" of 6.252 records

Enter new record name

Displaying: Instrument status only | [Lock status only](#) | [All status types](#)

Record ID	Patient	Patient Information	Patient Journey	Medical History	Confirm a potential rare disease	Decide who can access this patient	Link confirmed rare disease to ERN
100014681	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +
100030103	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input checked="" type="radio"/>	<input checked="" type="radio"/> +	<input type="radio"/>	<input type="radio"/>
100042445	<input type="radio"/>	<input checked="" type="radio"/>					

SPECTRE-HD

Introduction

MINE-HD platform

Hospital testimonials

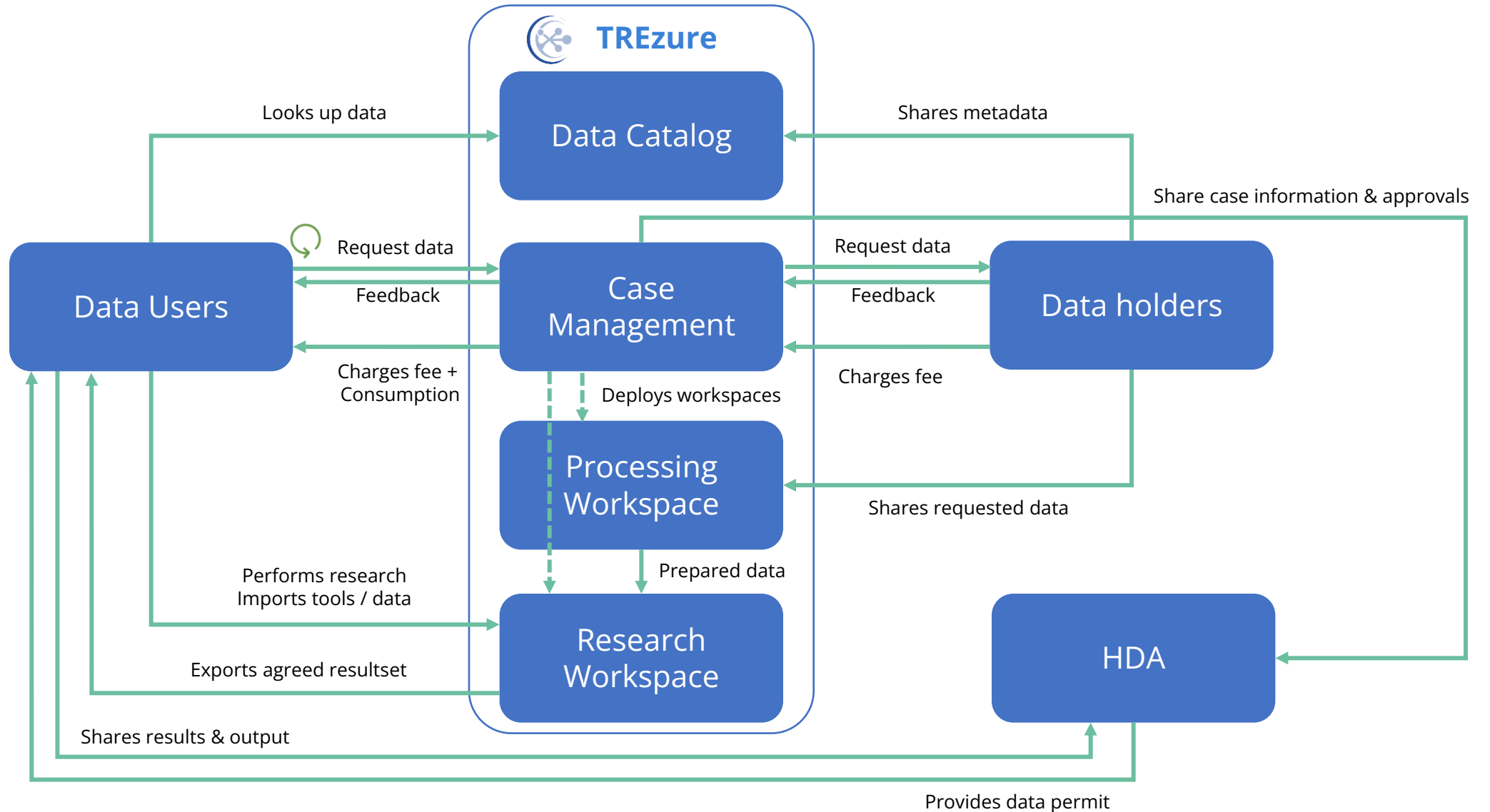
Blackbar – Elyne Scheurwegs (UZA)

CSI - Joëlle Thonnard (CuSL)

TREzure platform

Next Steps

Enabling safe and efficient data request and data use



Network Data Catalog



- **Discover data** from different health care providers



- **Understand** the content
- **Navigate** with glossary terms

The screenshot displays a data catalog interface for a dataset named 'comorbiditeit'. The main view shows a table with columns for Name, Type, Description, Tags, and Glossary Terms. The table lists various comorbidity categories such as 'comorbiditeit_0_comorbiditeit', 'eerdere_opname_0_comorbiditeitbox', and 'neuro_0_comorbiditeitbox'. The right sidebar provides a 'Summary' section with expandable categories: Documentation (with a 'Request a sample here' link), Owners (Technical Owners: DataHub X), Domain (No domain yet), Data Product (No product yet), Tags (No tags yet), and Terms.

Name	Type	Description	Tags	Glossary Terms
comorbiditeit_0_comorbiditeit	Enum	comorbiditeit		
eerdere_opname_0_comorbiditeitbox	Enum	eerdere zkh opname (in laatste 12 mnd) voor comorbide aand.		
neuro_0_comorbiditeitbox	Enum	neurologisch		
dementie_0_neurobox	Enum	dementie		
beroerte_0_neurobox	Enum	beroerte/CVA		
neuromusculaire_0_neurobox	Enum	neuromusculaire afwijking		
cardiovasculair_0_comorbiditeitbox	Enum	cardiovasculair		
diabetes_0_cardiovasculairbox	Enum	diabetes		
hypertensie_0_cardiovasculairbox	Enum	hypertensie		
hart_0_cardiovasculairbox	Enum	hart/cardiologische aandoening (excl hypertensie)		

Case Management

- **Facilitating communication** between Data Holder, Data User, and HDAB
 - Data Discovery
 - Data Extraction Definition
 - Data Request
 - Data Permit
 - ...
- **Automated deployment** of selected services in TREzure
- **Store key information** about
 - Data user
 - Organizations
 - Cases
 - Data requests

Power Platform



Public Portal through Power Pages



Administrative portal through Power Apps

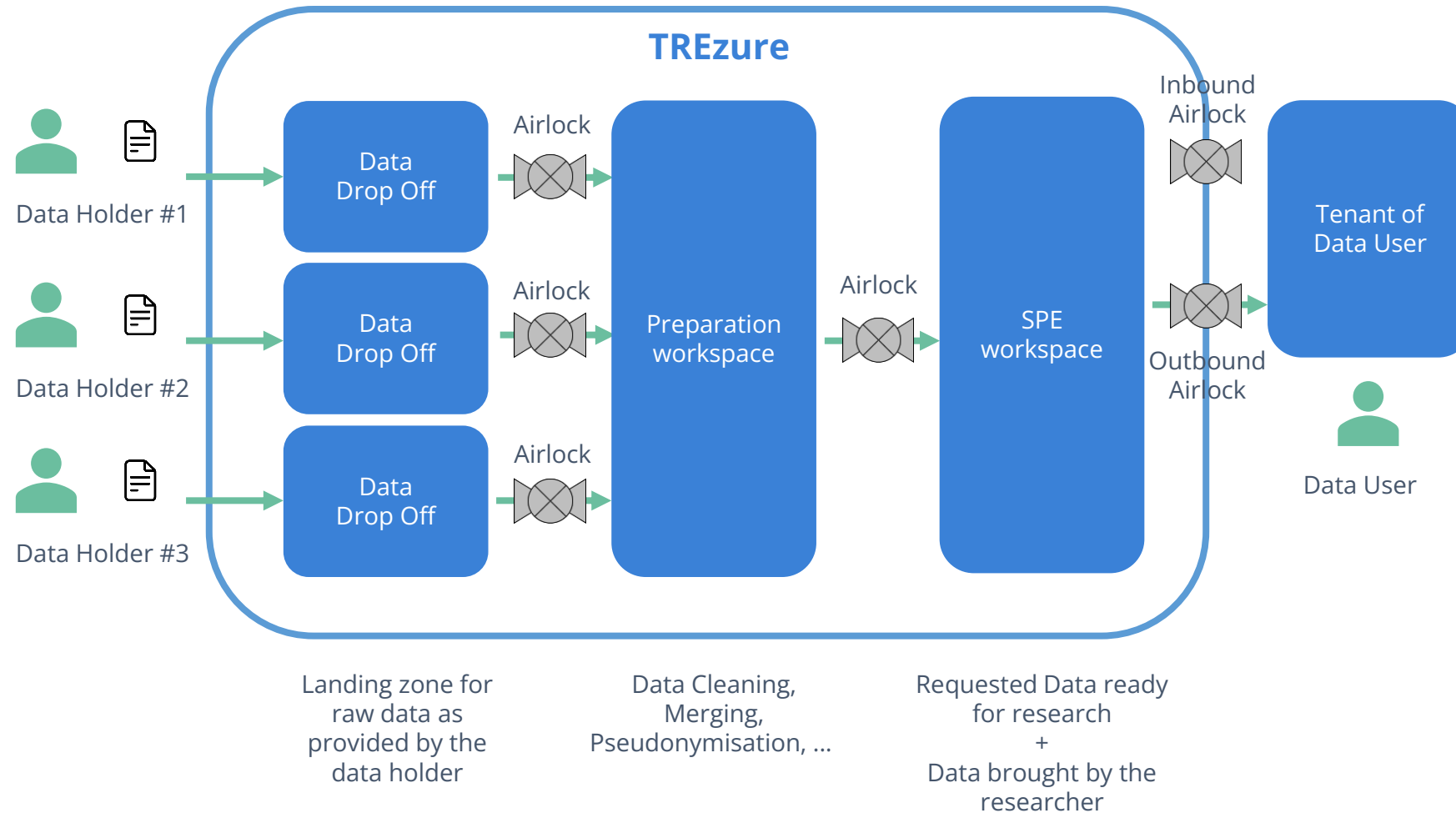


Common data model with Dataverse



Automation Flows with PowerAutomate

Preparation Workspaces



Research workspaces

Virtual Machines



Linux



Windows

Advanced Computes



Azure ML



Databricks

Gen AI



Open AI

Storage



Data Lake



SQL



MySQL

Health Services



OHDSI
OMOP CDM



Azure Health
Services

Repo



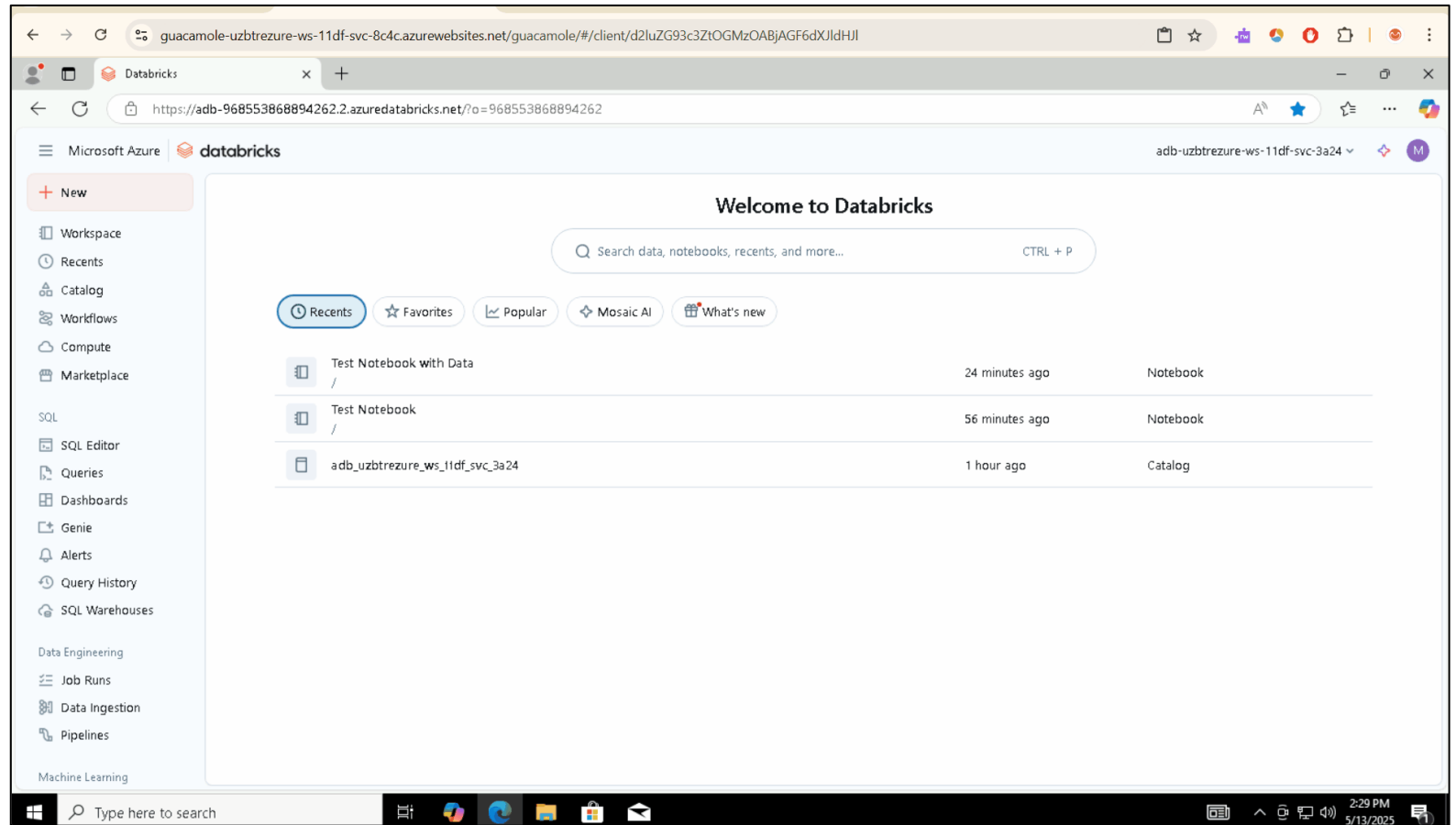
Gitea



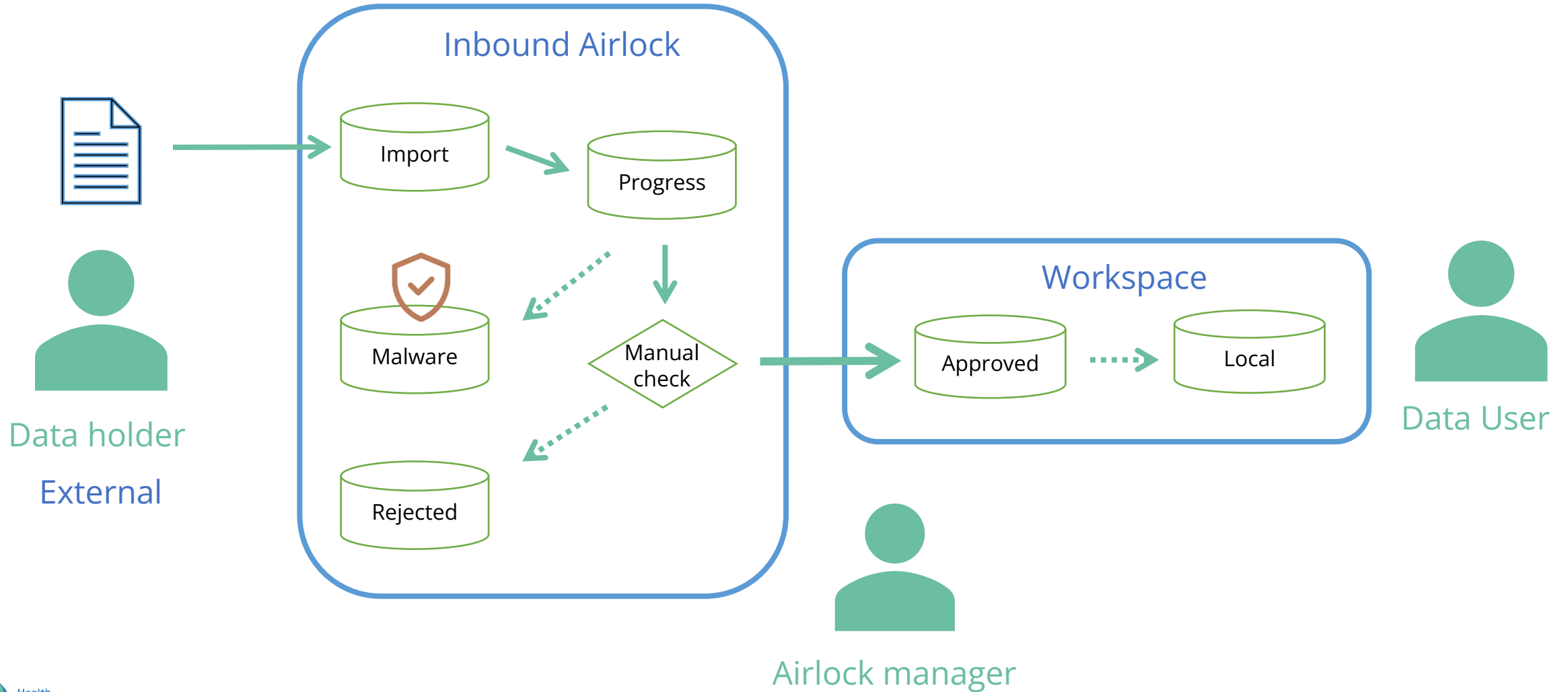
Secure
Research
Environment

Work in an isolated environment

- From the workspace you **cannot access the public internet**
- **From your local machine**, you cannot access the **resources in TREzure** (e.g. Databricks)



Airlock



SPECTRE-HD

Introduction

MINE-HD platform

Hospital partner testimonials

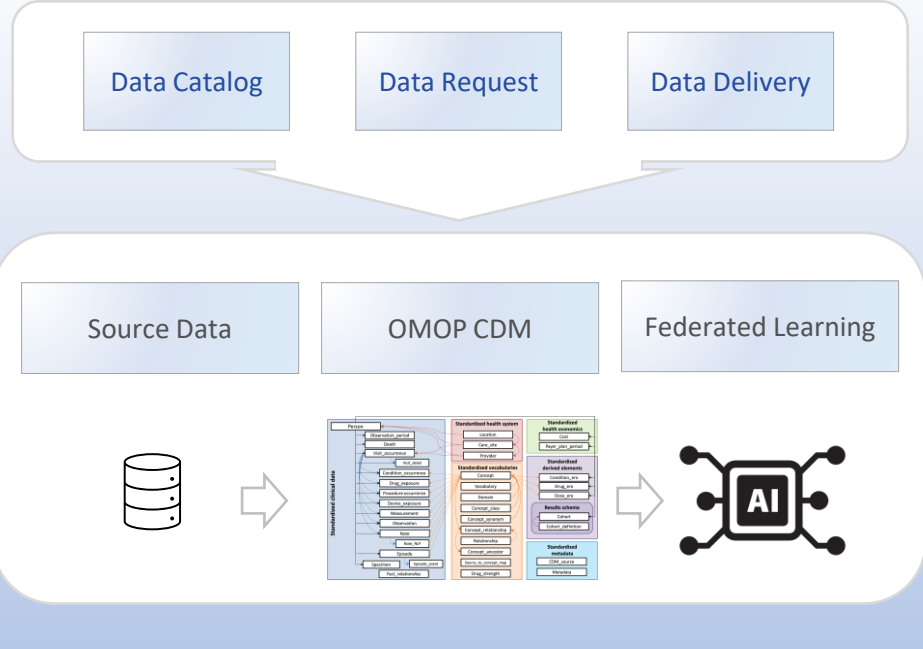
Blackbar – Elyne Scheurwegs (UZA)

CSI - Joëlle Thonnard (CuSL)

TREzure platform

Next Steps

Creating synergy



- ➔ Data Discoverability
- ➔ Data Interoperability
- ➔ Data Governance
- ➔ Privacy-Preserving Collaboration
- ➔ Trusted Data Access
- ➔ Advanced Secure Analytics



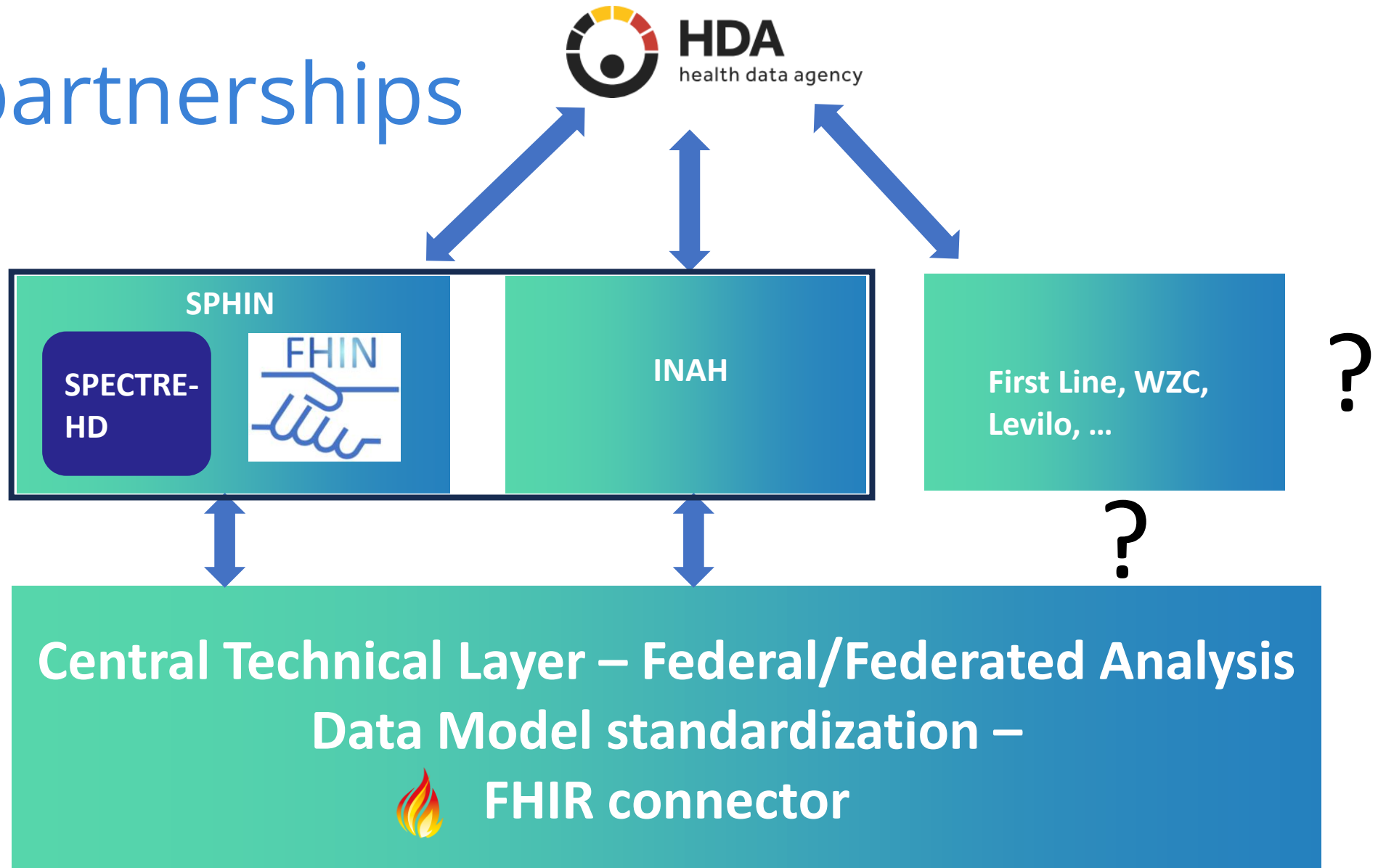
SPECTRE-HD

An ecosystem for Belgian hospitals:

- building data capabilities to collaborate on secondary use
- becoming ready for EHDS by 2029



New partnerships



Principles

Principle	What It Means	Why It Matters
Open-source foundation	All core components published openly	No vendor lock-in; community sustainability
Local-first design	Data (including results) stay at hospitals until explicitly shared	Hospitals retain full sovereignty
EHDS-ready	Built to standards like SATRE and HealthDCAT-AP	Compliant before the deadline
Modular adoption	Hospitals can implement components individually	Lower barrier to entry