

Investment project use-case targets in Arrowhead fPVN (2024 – 2026)

THTH Spring webinar 2024

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Investment project use-case

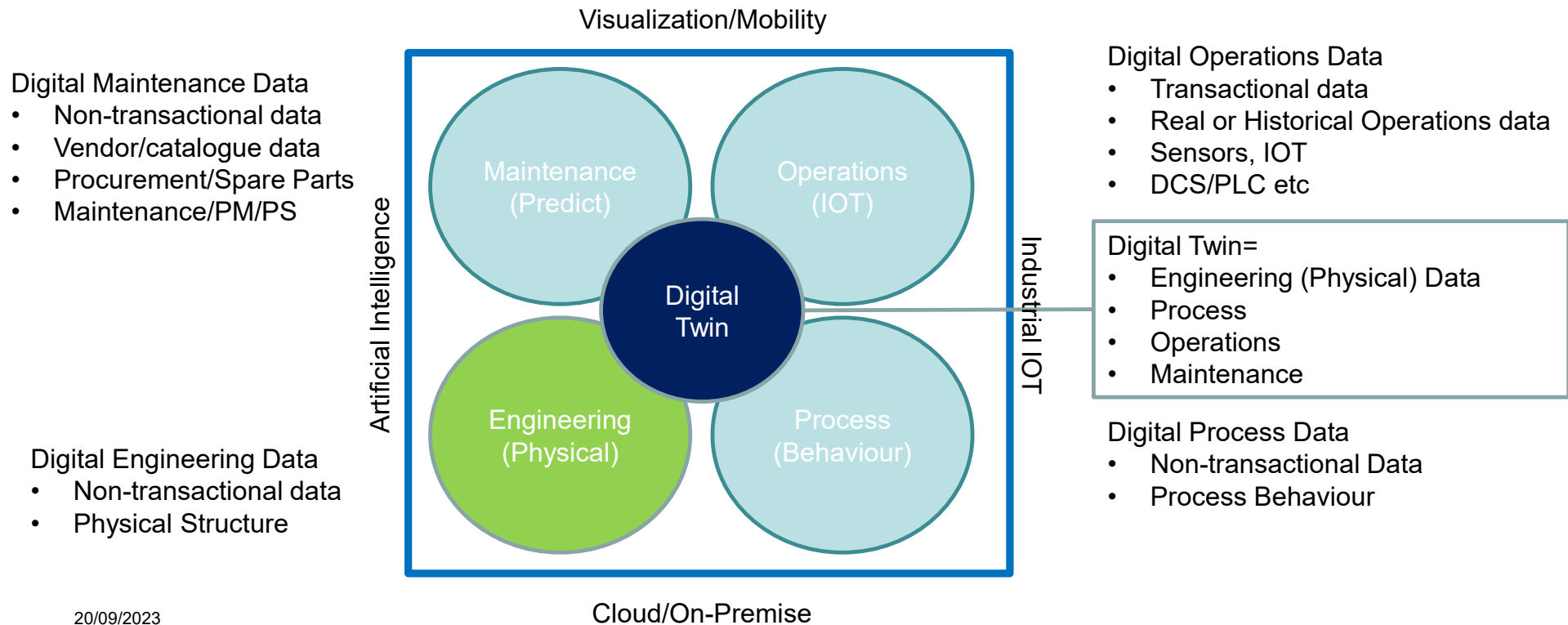
- Target is to find a concept for digitizing technical information exchange in process industry investment projects and service operations
 - Engineering and design (including FEED) phase
 - Quotation phase
 - Order phase
 - Delivery phase
 - Invoicing phase
- Procurement requisition
- Pre-award business processes (PEPPOL)

Post-award business processes (PEPPOL)
- Business process automation (combining commercial and technical data into same workflows)
 - **Investment project** use-case in digital value chains
 - Is part of both pre- and post-award business processes
 - **Supplier service** use-case in digital value chains
 - Is part of post-award business processes

New way of working

- New digital workflows simplify and speed up business processes and lower operative costs
 - In business networks between collaborating companies (rules and principles)
 - Shared standards and technologies lowers IT costs
 - Each company decides on its own internal new way of working
 - Internal IT/business architecture, business processes and systems integrations
 - Companies jointly agree the new ecosystem way of collaborative working
 - **Business infrastructure** principles for all ecosystem companies – commonly agreed general principles and rules; commonly accepted use-case specific workflows; commonly approved standardization infrastructure
 - **Standardization infrastructure** specifications – jointly defined specifications for the ecosystem how to utilize, maintain and develop ecosystem required standards together with international and national standardization bodies
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- Note 1: we can agree only on issues related to use-cases
 - Note 2: all companies should be involved in creating this agreement. In TIE division now 13 companies participating in CoPVN
 - Note 3: these agreements between companies should evolve according to ecosystem demands (governance model to be agreed too)

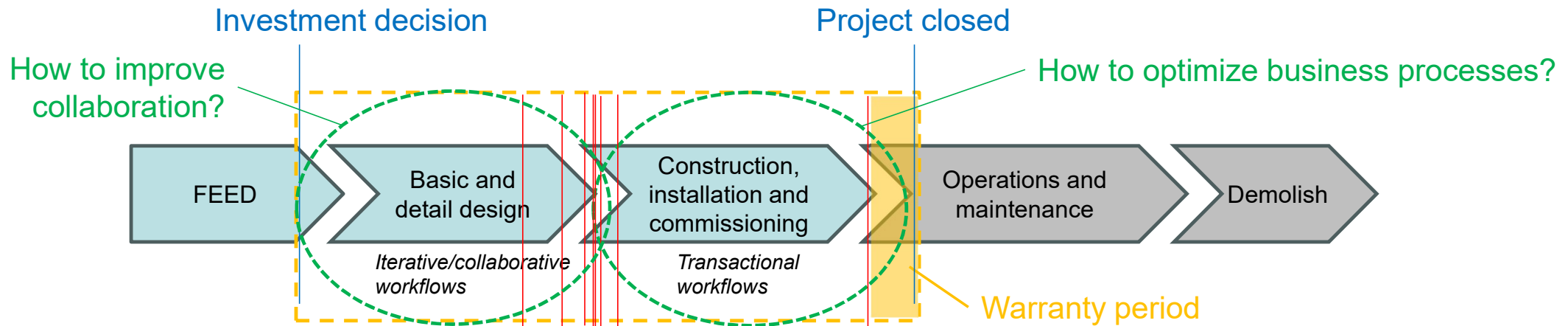
AfPVN WP9 use-cases cover many areas



20/09/2023

Investment project as a part of plant lifecycle

- Investment project covers a part of mill lifecycle phases and is split to several different kind of technical disciplines (brownfield project is a subset of greenfield project)
- Merging commercial and technical data exchange workflows (transactions) means fewer workflows to deploy and less implementation and operational costs
- The pilot use-case scope is limited – general rules to be extrapolated from use-cases

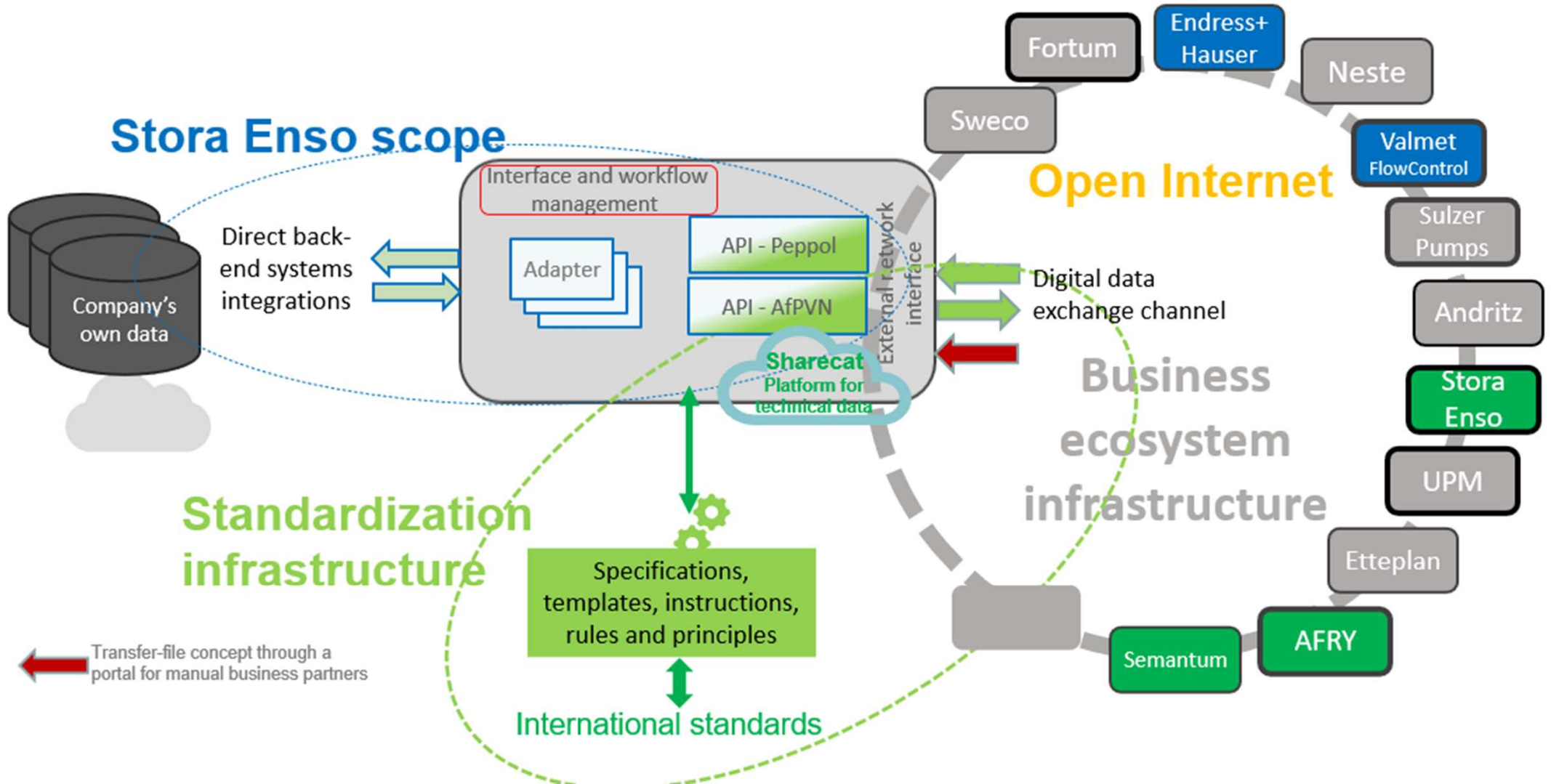


FEED

Front End Engineering and Design

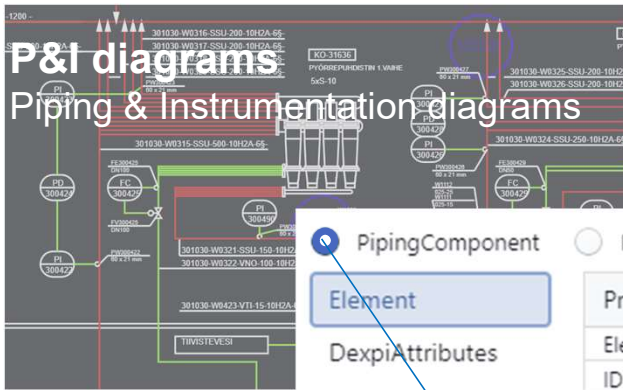
- Idea
- Conceptual Study
- Pre-feasibility study
- Feasibility study

Development vision



Arrowhead fPVN use-cases in WP9.3

Process Flow Diagrams



Pre-engineering (FEED)

Detailed engineering

Request for quotations and tendering

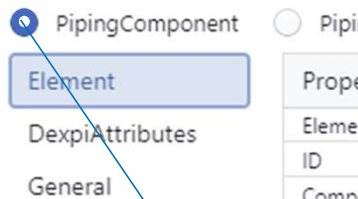
Steady-state simulation, VTT
Dynamical simulation, Semantum
Intelligent P&I diagrams, Semantum
Engineering & design, AFRY
Functional requirements, Stora
Enso, AFRY

ModelBroker
AutoCAD
...

Pre-award

Catalogues, Stora Enso, AFRY,
suppliers

Catalogues



Property	Value
ElementName	
ID	
ComponentClass	
Comp	
Comp	

IEP

Digital data sharing platforms
64b6c497c4ef10d40d197b35f6d4c2318a...

Sharecat™

Procurement/sales

Purchase requisition, Stora Enso,
AFRY

Delivery and commissioning

Ordering and delivery, Stora
Enso, suppliers

Invoicing and payment

Post-award

ERP/SAP/Fiori
PLMS
...

Process hierarchies

Functional requirements

Equipment information

Documentation

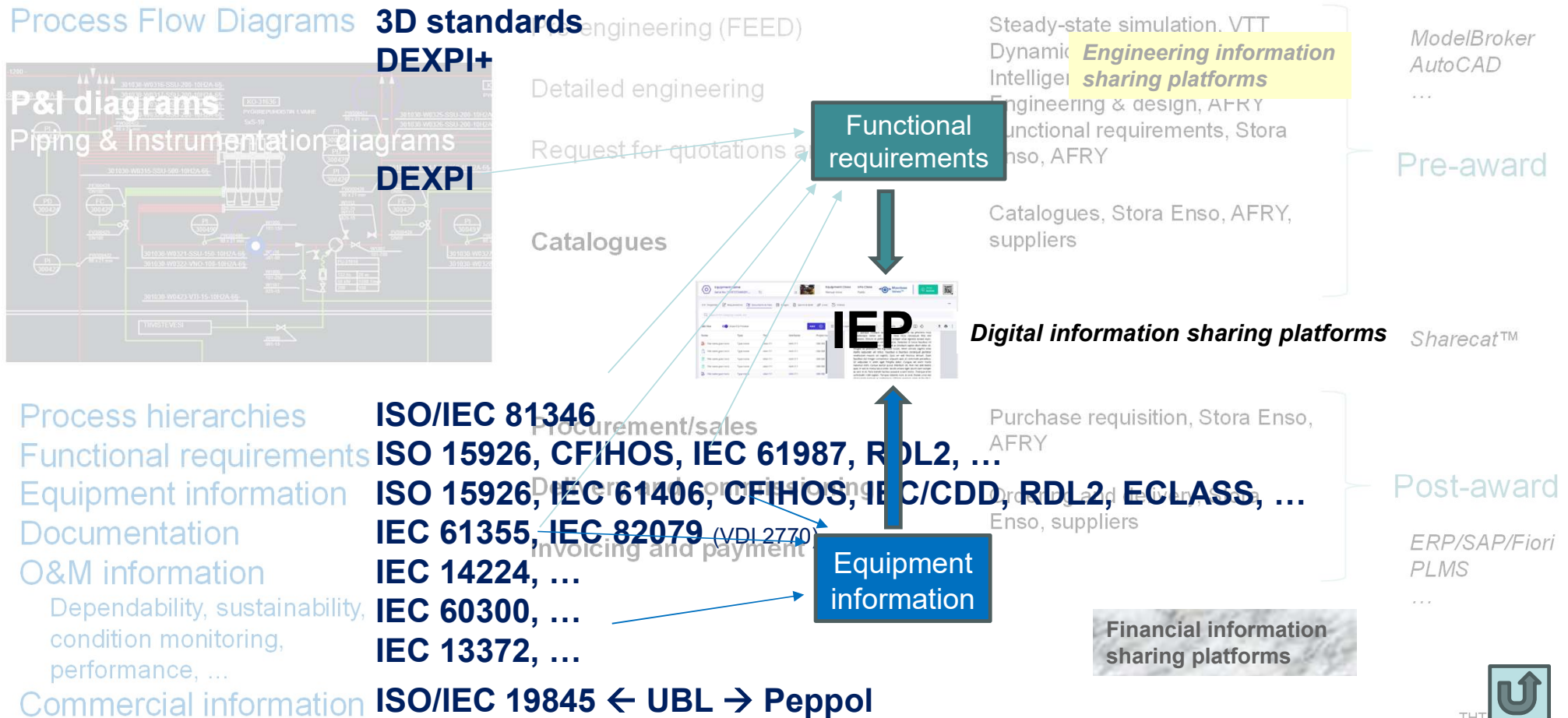
O&M information

Dependability, sustainability,
condition monitoring,
performance, ...

Commercial information

Target: high level information interoperability and integrity, enables
combining information from many different sources for new purposes
(e.g., AI based analytics for productivity, performance cost, efficiency, ...)

Arrowhead fPVN standards in WP9.3



Standardization and regulation

Peppol is an open network

- Through which different parties can transmit electronic business documents to each other in a standardised, sector-independent manner.
- OpenPeppol AISBL is an international non-profit association
- Peppol parties: National Peppol authorities, Peppol service providers, End users
- The State Treasury is the Finnish Peppol authority

EU Digitalization Acts and Directives

- **DSA** [Digital Services Act](#) - [Digipalvelusäännös](#)
- **DMA** [Digital Market Act](#)
- **DGA** [Data Governance Act](#) - [Datahallintosäädös](#)
- **AIA** [Artificial Intelligence Act](#)
- **DA** [Data Act](#) - [Datasäädös](#)
- **NIS2** New [NIS Directive](#) for European Cyber-security
- **ESPR** [Ecodesign for Sustainable Products Regulation](#) (this includes Digital Product Passport)
- **eFTI** electronic Freight Transport Information Regulation in [European Digital Transport and Logistics Forum \(DTLF\)](#)

THTH

Thank you!

END