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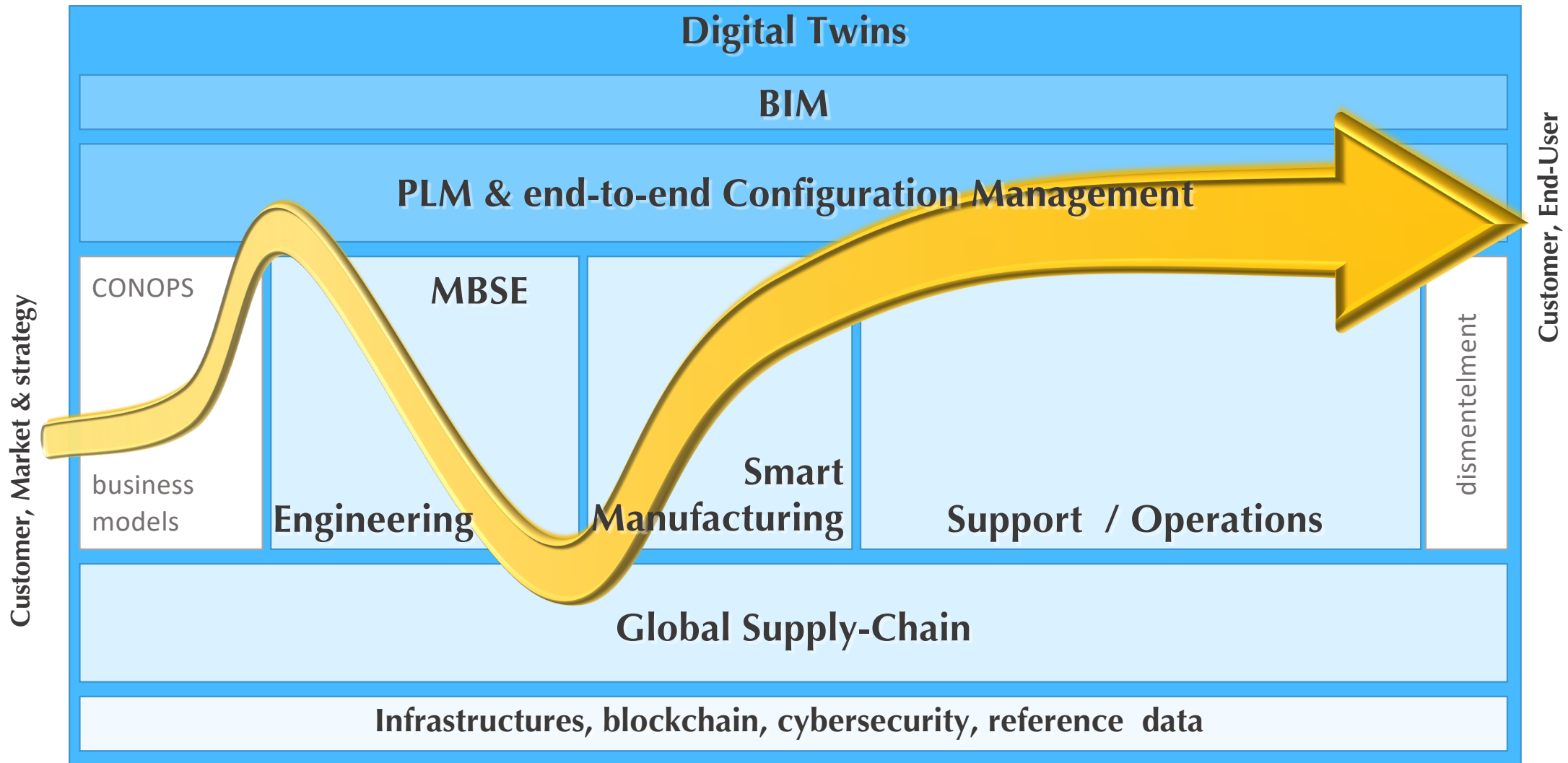
AFNeT Standards Days

MRO/ILS – Episode 3: DMEWG PLCSTT

by Félix Mitjans (Nexter Systems)

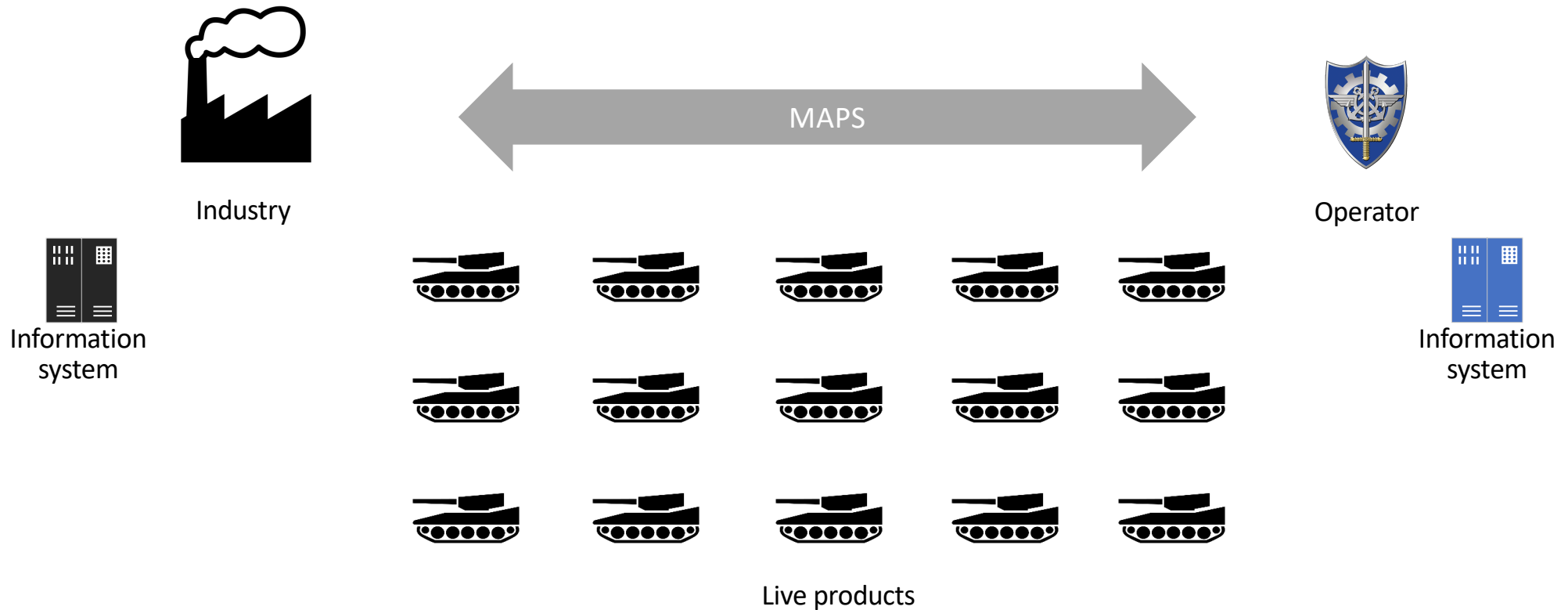
7/10/2020

<http://standardsdays.afnet.fr> - AFNeT Standards Days 2020 : 6 & 7 October 2020



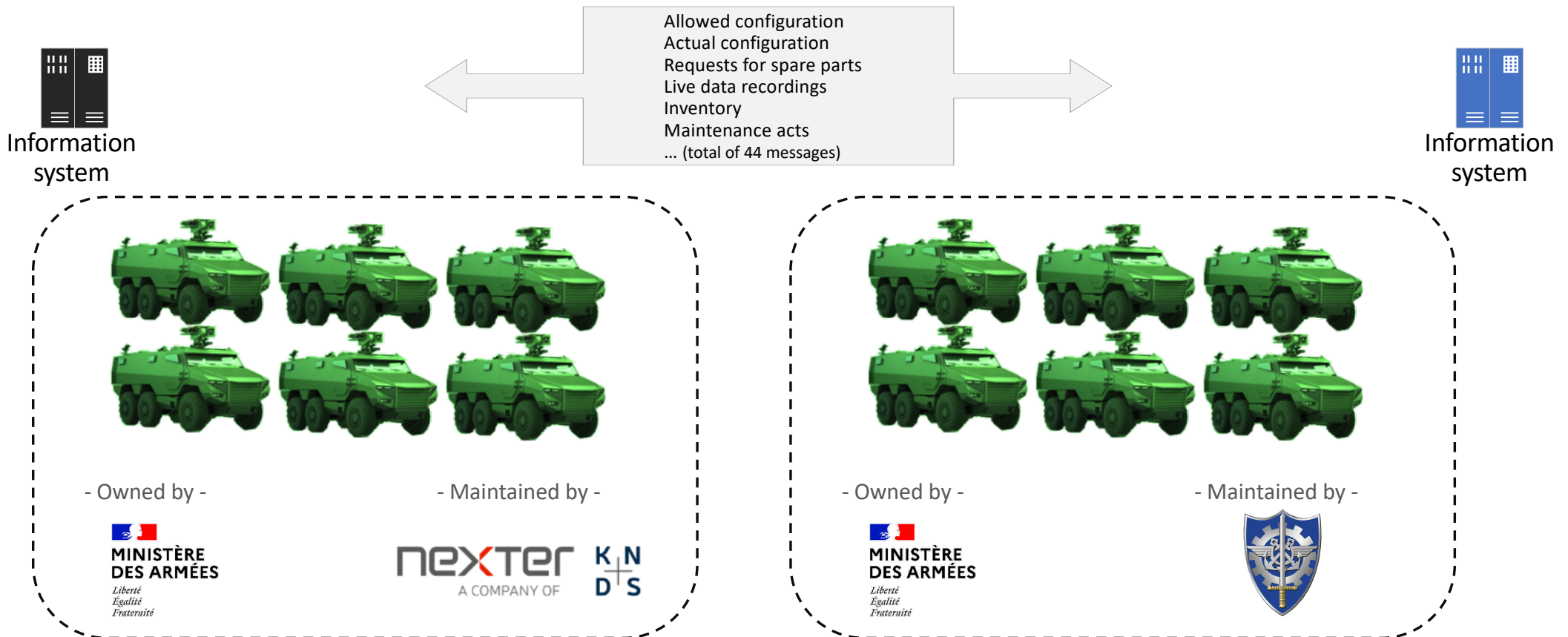
MAPS – French MoD's exchange protocol for in-service support

- MAPS encompasses all the exchanges between the French MoD and its contractees on live product data

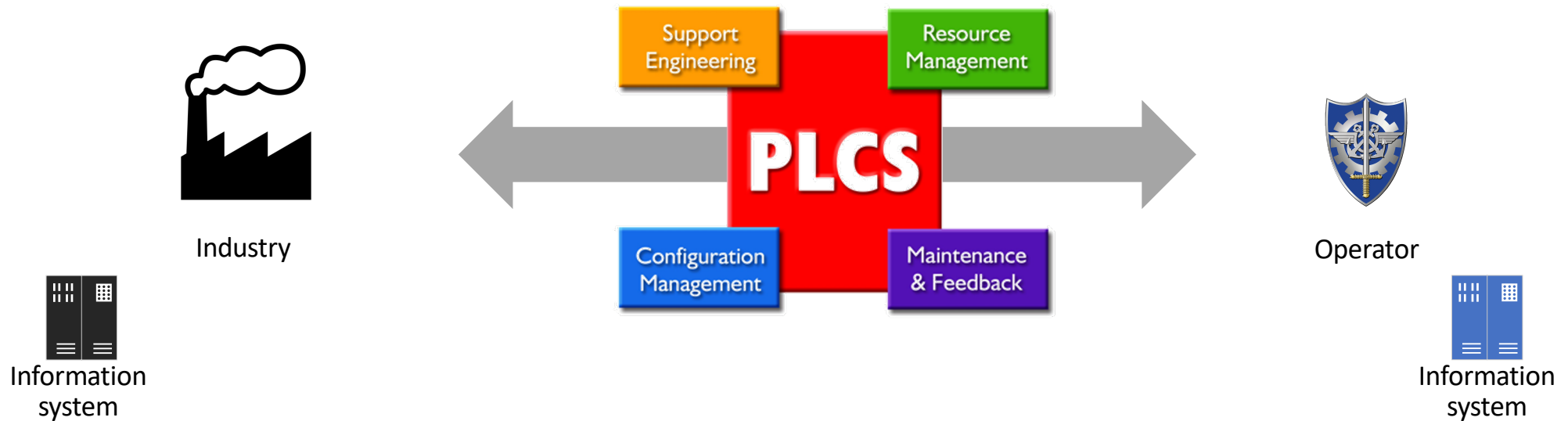


MAPS – French MoD’s exchange protocol for in-service support

- In case of Nexter: Vehicles are jointly maintained by Industry and by customer’s Materiel maintenance agency (SIMMT) through a PBL contract.
 - ➔ Requires to keep all IT systems in sync with each other



- All MAPS exchanges (including outside Nexter's scope) are realized in PLCS PSM

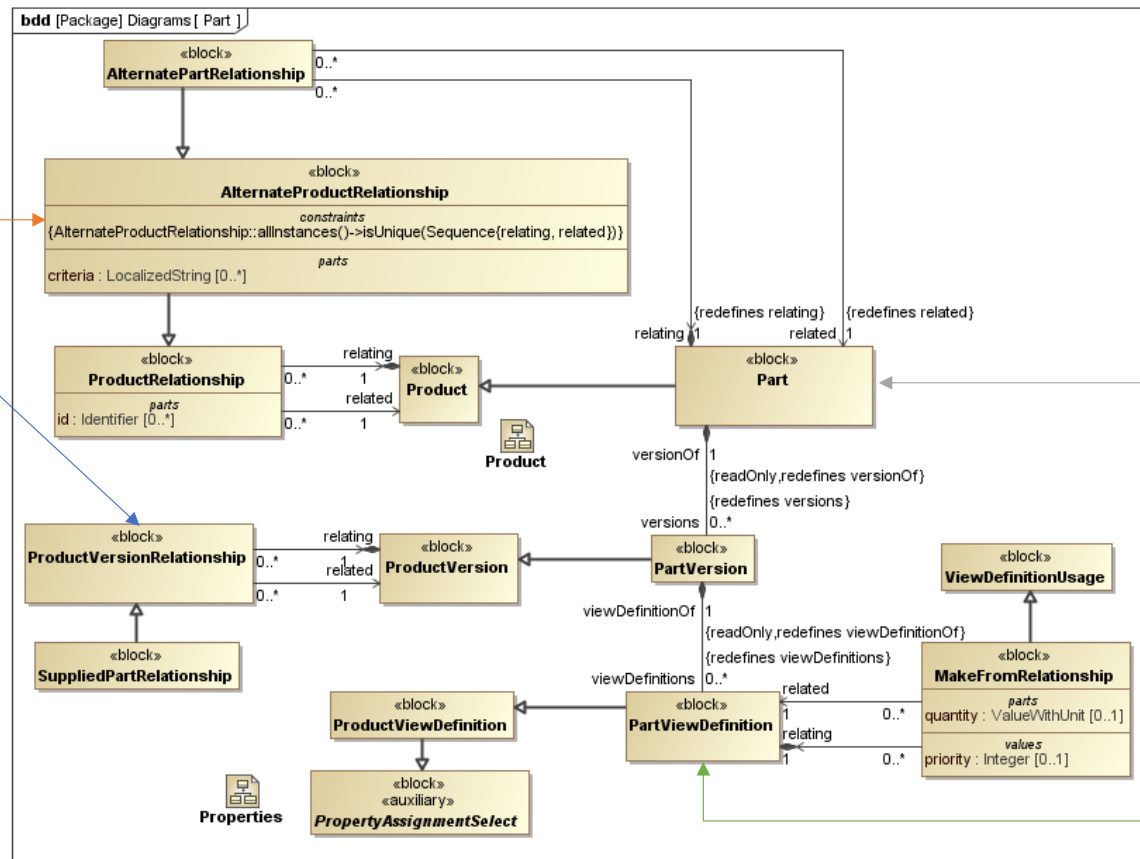


PLCS: What's Inside the Box

- OASIS PLCS PSM is in fact a data model derived from ISO 10303-239 ed 2 (PLCS)
- Just like PLCS ed2, the PSM is inherently very generic, it cannot be used directly → Requires an *Exchange specification* (a DEX) with reference data

What kinds of relationships to represent?















???

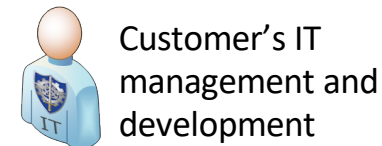
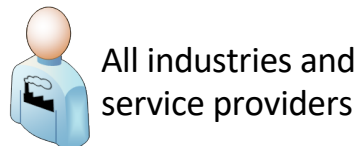


How should I identify a part?

What are these view definitions?

PLCS – Process to Defining an Exchange of Data, the Theory

# Step	Activity description	Involved
1.	Define a development plan for the implementation of business domains (stocks, configuration, service...)	
2.	For each business domain, define messages, business processes and a business object model	   
3.	For each message, define the mapping with PSM into a DEX and deliver it into a bundle ('PLCSlib') that will contractually hold all the data exchange details	
4.	For each message, implement the PSM export according to DEX	 
5.	Test and validate the exchanges	   
6.	Enjoy!	 



PLCS – Process to Defining an Exchange of Data, in Practice

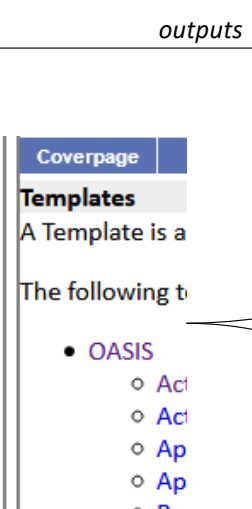
Input:
functional
specification

# Step	Activity description	Involved
3.	For each message, define the mapping with PSM into a DEX and deliver it into a bundle ('PLCSlib') that will contractually hold all the data exchange details	

In practice

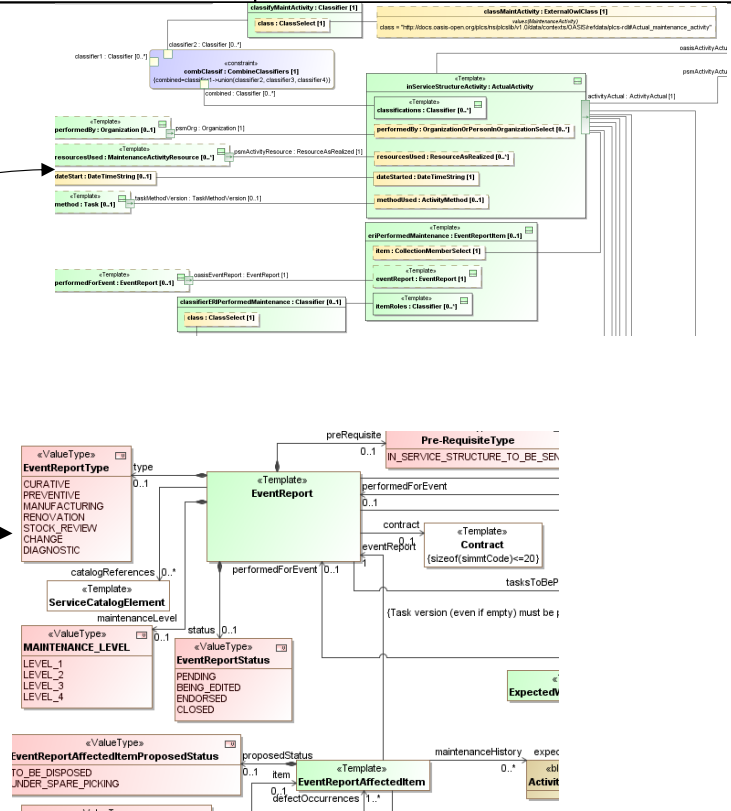


Plcslib



contains



Final business
object model and
exchange
processes



Mappings with
PLCS PSM

PLCS – Process to Defining an Exchange of Data, in Practice

Input: PLCSlib

# Step	Activity description	Involved
4.	For each message, implement the PSM export according to DEX	 

In practice

outputs



New software that implemented the mapping (😱) described in the PLCSlib

This step is the longest and the hardest for the industry as it requires altering its software to comply with these specifications

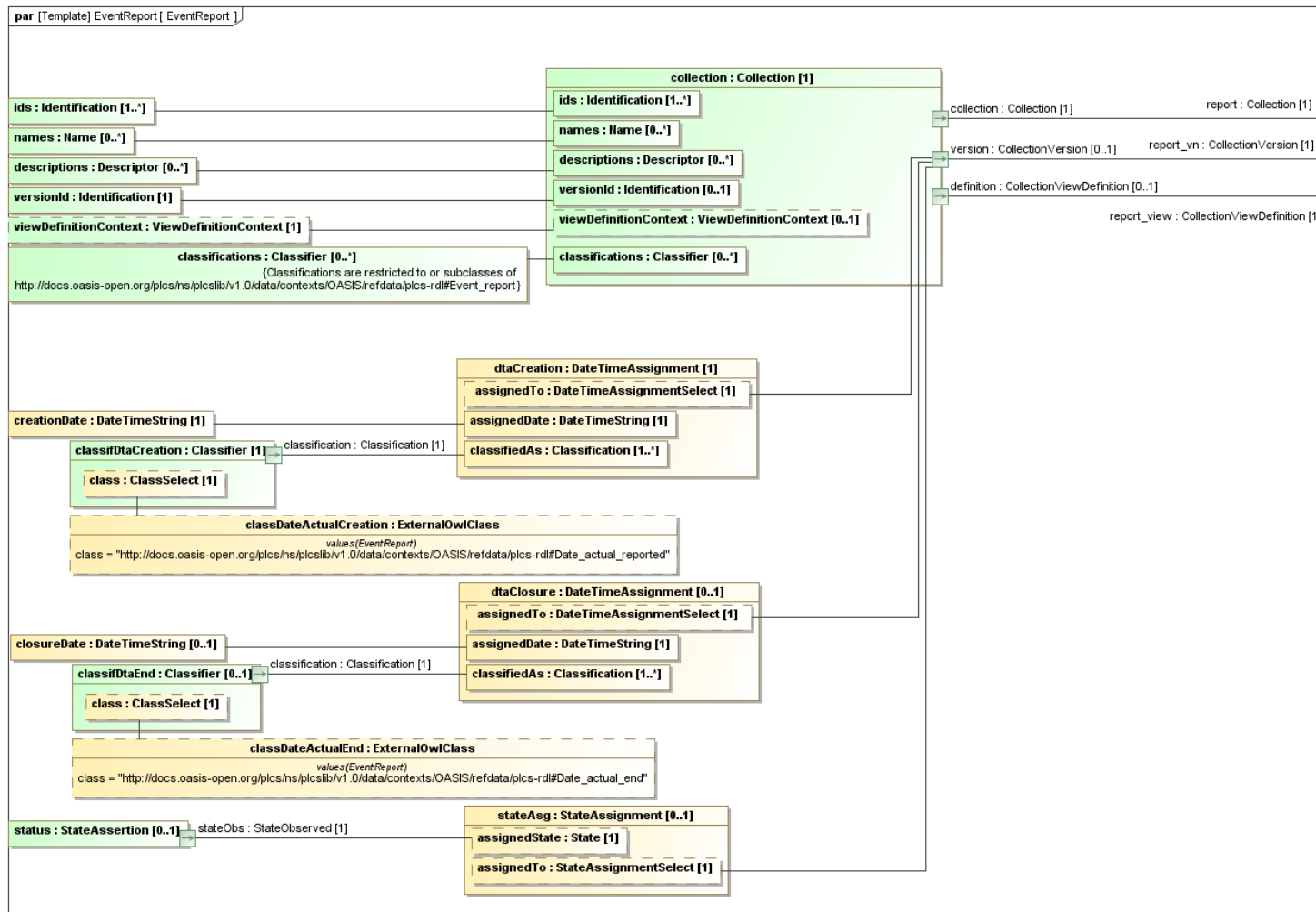


PLCS expert (may be different from PLCS expert that developed the DEX)



All industries and service providers

Example of a Mapping Specification for One Business Object



PLCS – Process to Defining an Exchange of Data, in Practice

Input: test messages (from customer & industry)

# Step	Activity description	Involved
5.	Test and validate the exchanges	

In practice



PLCS experts can have differing interpretations of the DEX

If you opt to have a PLCS expert different from that of the customer, add this person



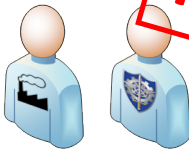
The complexity may add up to that of the underlying information system



Many people involved to make it work

A working data exchange with the customer!

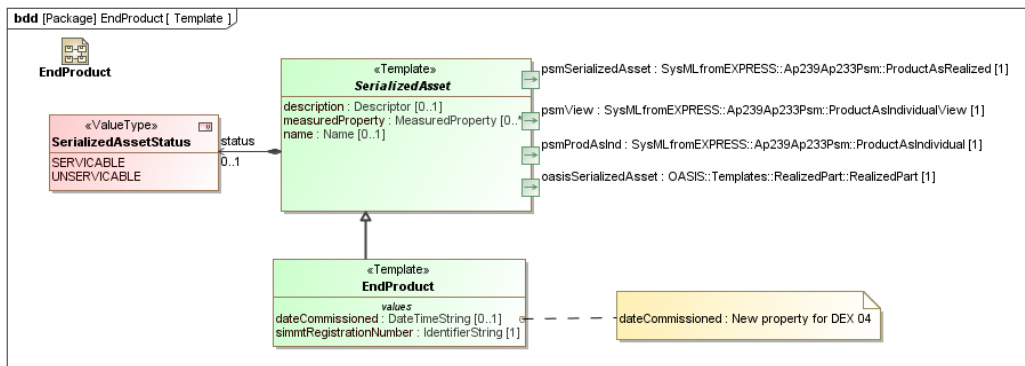


# Step	Activity description	Involved
6.	Enjoy!	

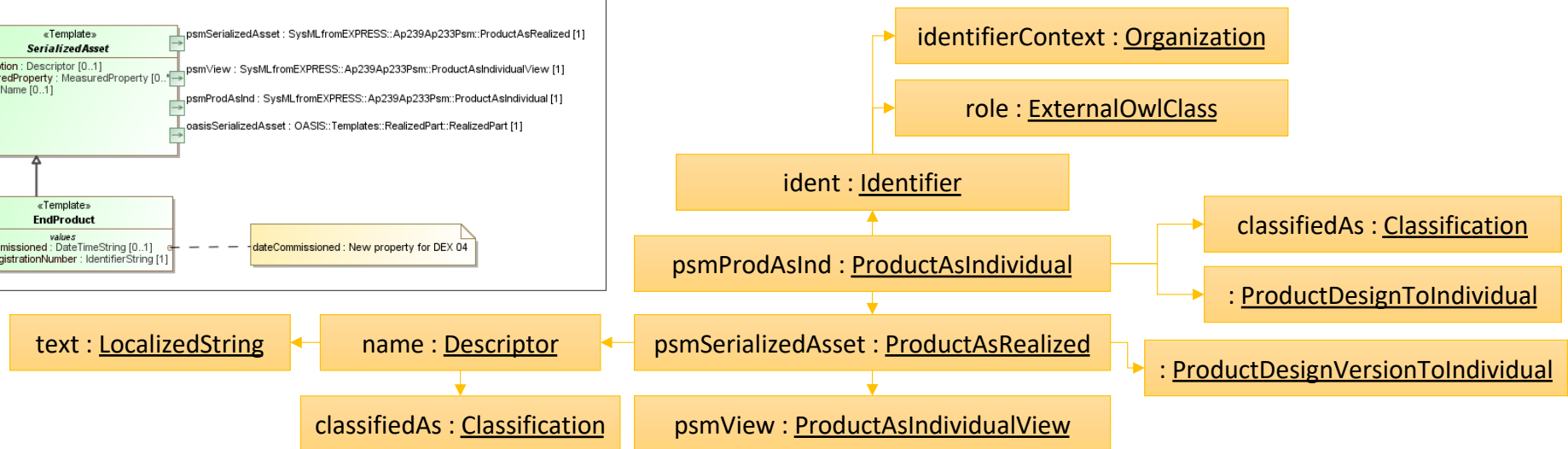
In practice

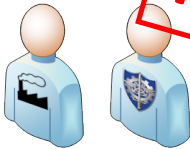
- PSM very generic, not easily human-readable (for troubleshooting purposes), requires specific tools to translate PSM entities back into business entities

From a business model...



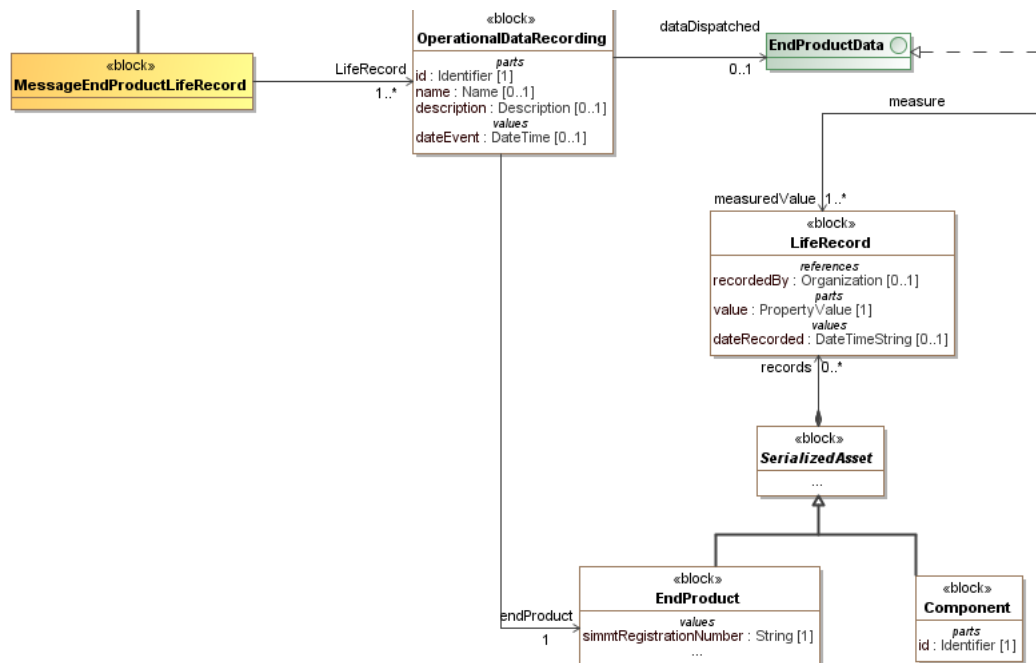
...to the PSM generic model



# Step	Activity description	Involved
6.	Enjoy!	

In practice

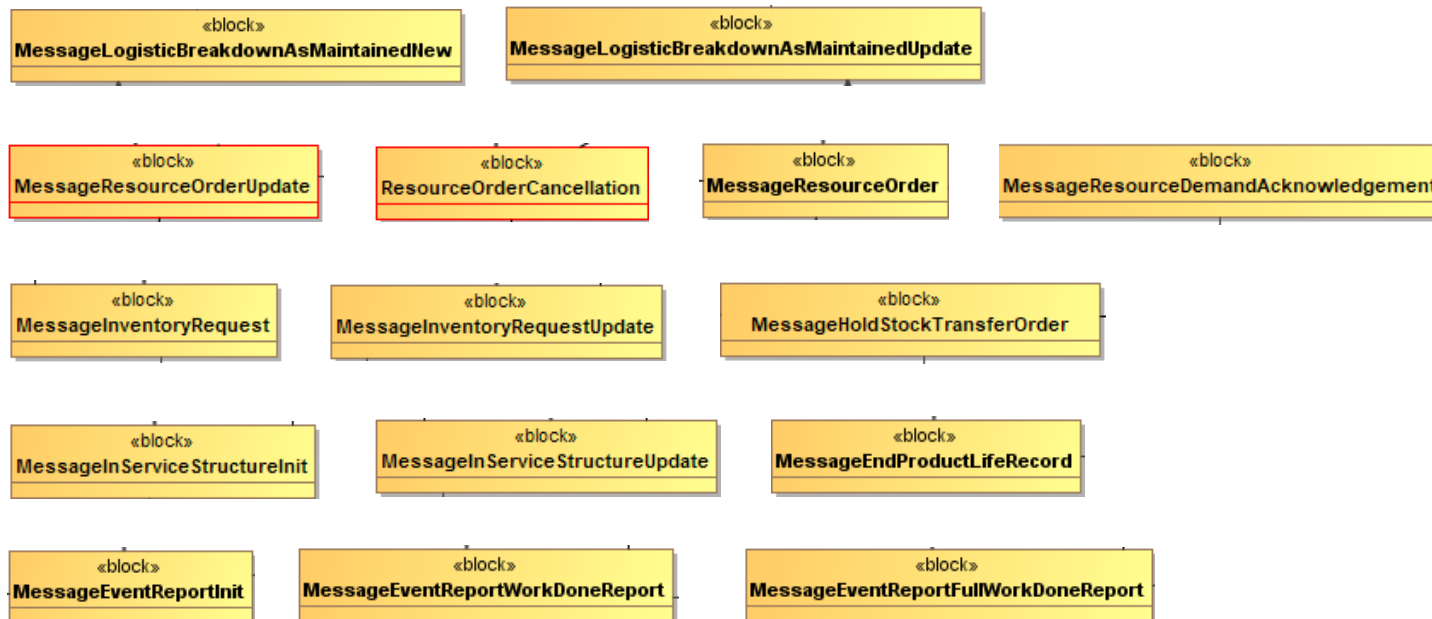
The Bigger Picture



# Step	Activity description	Involved
6.	Enjoy!	

In practice

- The Big (Biggest) Picture



Questions
&
Answers



6th and 7th October

<http://standardsdays.afnet.fr>