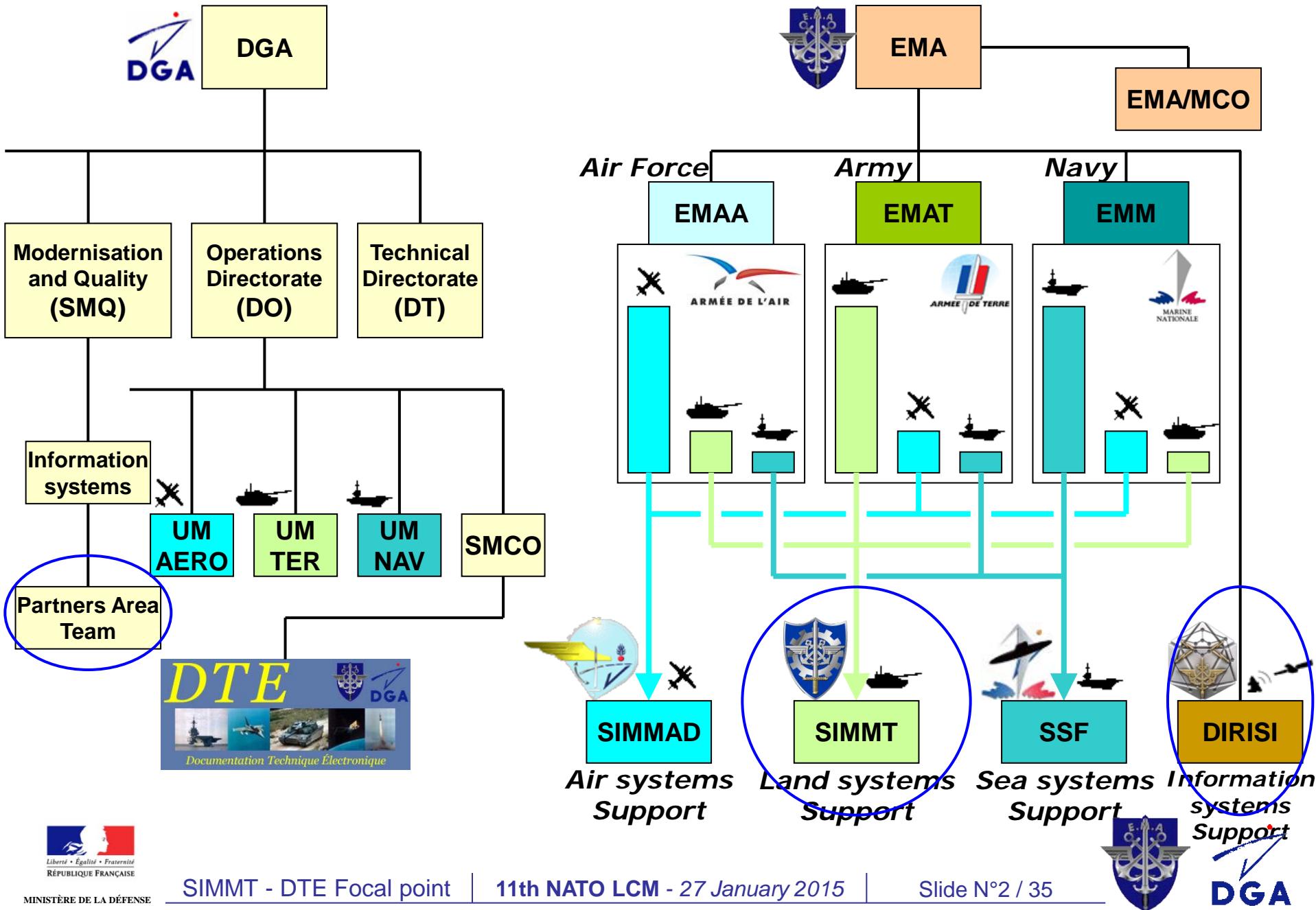




PLCS for data sharing between French MoD and Industry

What's new for the last two years ?





1. Introduction

2. PLCS for Land systems Support : PENCIL

(Plateforme d'Echange Normalisée et Centralisée d'Information Logistique)

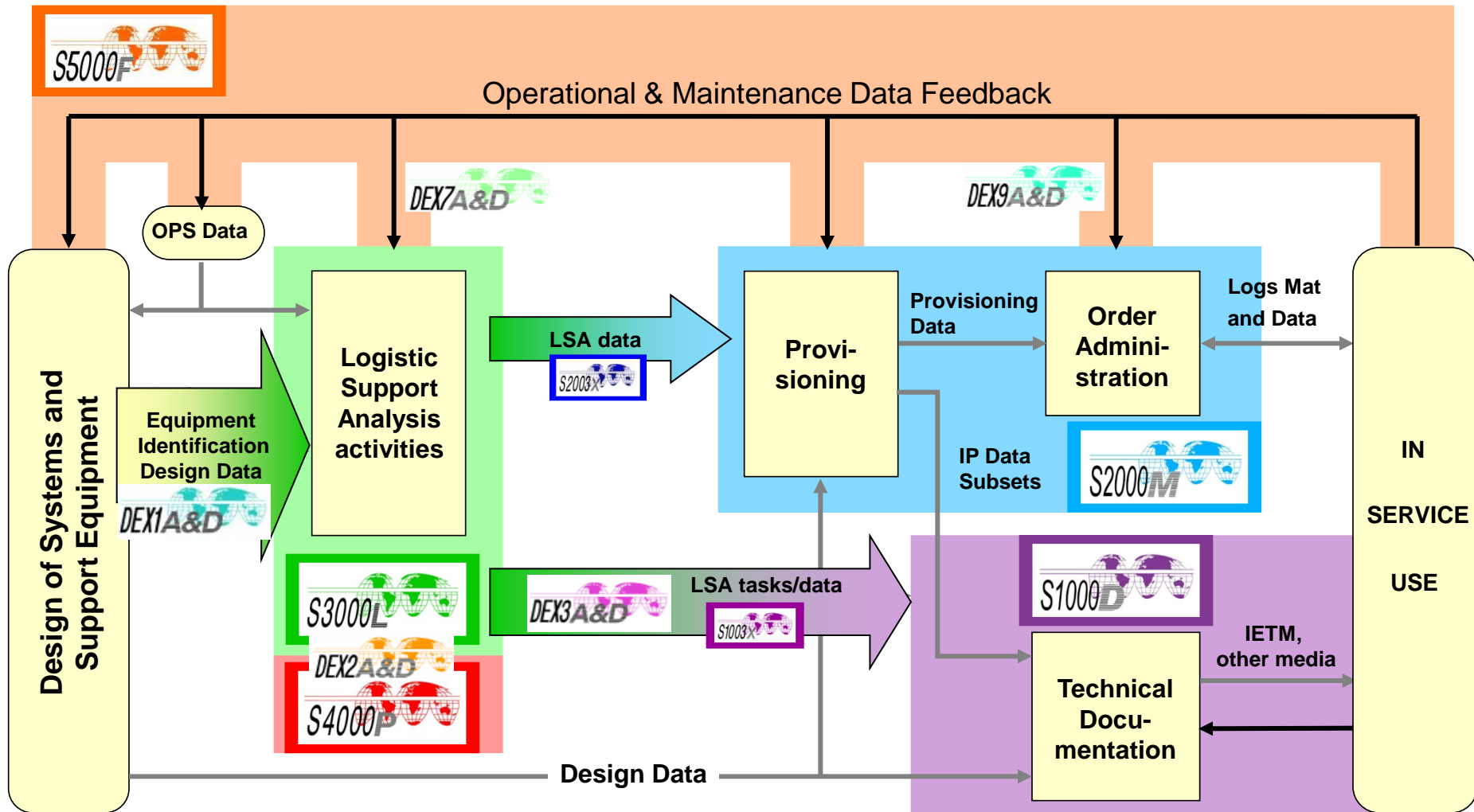
- Presentation
- Demonstration

3. MAPS Study (Marchés avec Achat de Prestations de Soutien)

4. Prospects



The ILS (Integrated Logistic Support) process








Acquisition Logistics Management - NATO (1993)



Suite of ILS specifications ASD/AIA/ATA

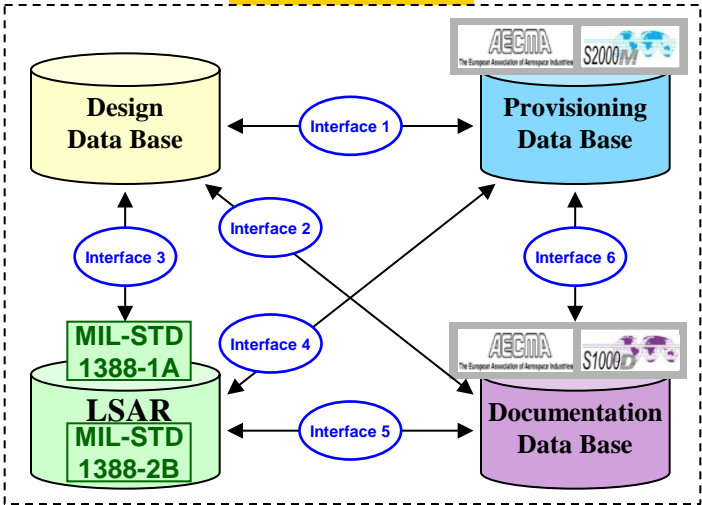
ASD : AeroSpace and Defence industries association of Europe
 AIA : Aerospace Industries Association of America
 ATA : Air Transport Association of America

Specification		Applicability	Origin	Issue	Date	Domain
1st generation		Land, Air, Sea	ASD/AIA/ATA	4.1	31/12/12	D ocumentation
		Land, Air, Sea	ASD/AIA	5.0 <i>pre-release</i> 6.0	03/05/12 12/12/13	M aterial management
2nd generation		Land, Air, Sea	ASD/AIA	1.1	01/07/14	L ogistics Support Analysis (LSA)
		Land, Air, Sea	ASD/AIA	1.0	23/05/14	P reventive maintenance
3rd generation		Land, Air, Sea	ASD/AIA	<i>Draft</i> 0.2	13/06/14	F eedback

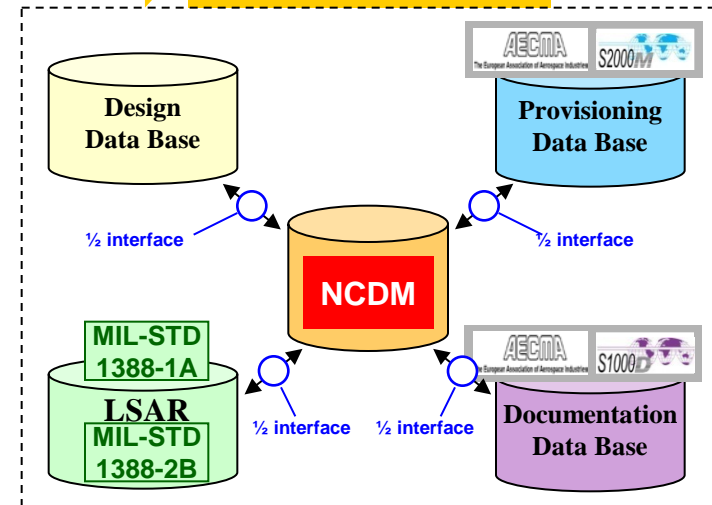
Data exchange based on DEXs (= subset of PLCS)



Before CALS



1996 : NATO CALS

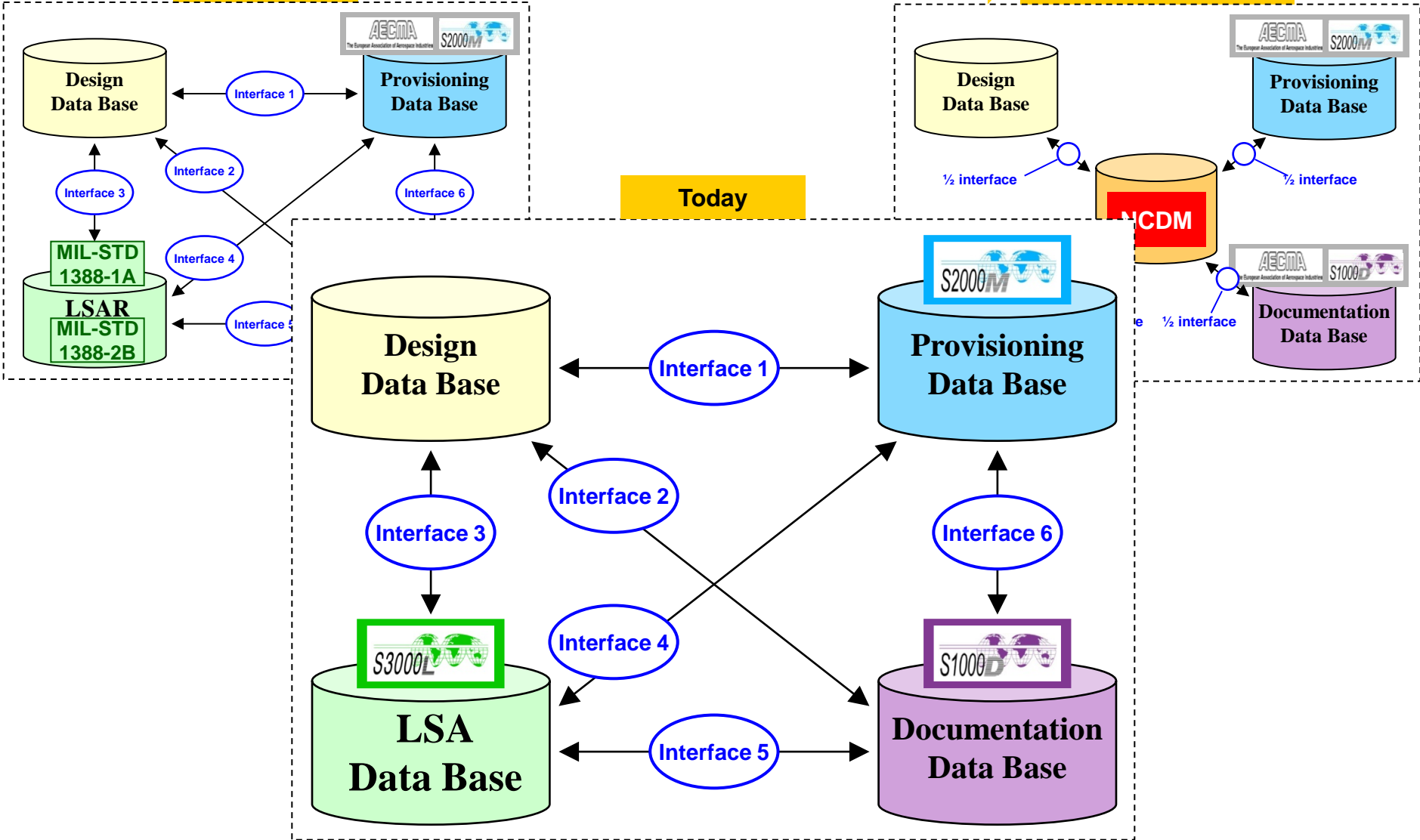




Before CALS

1996 : NATO CALS

Today

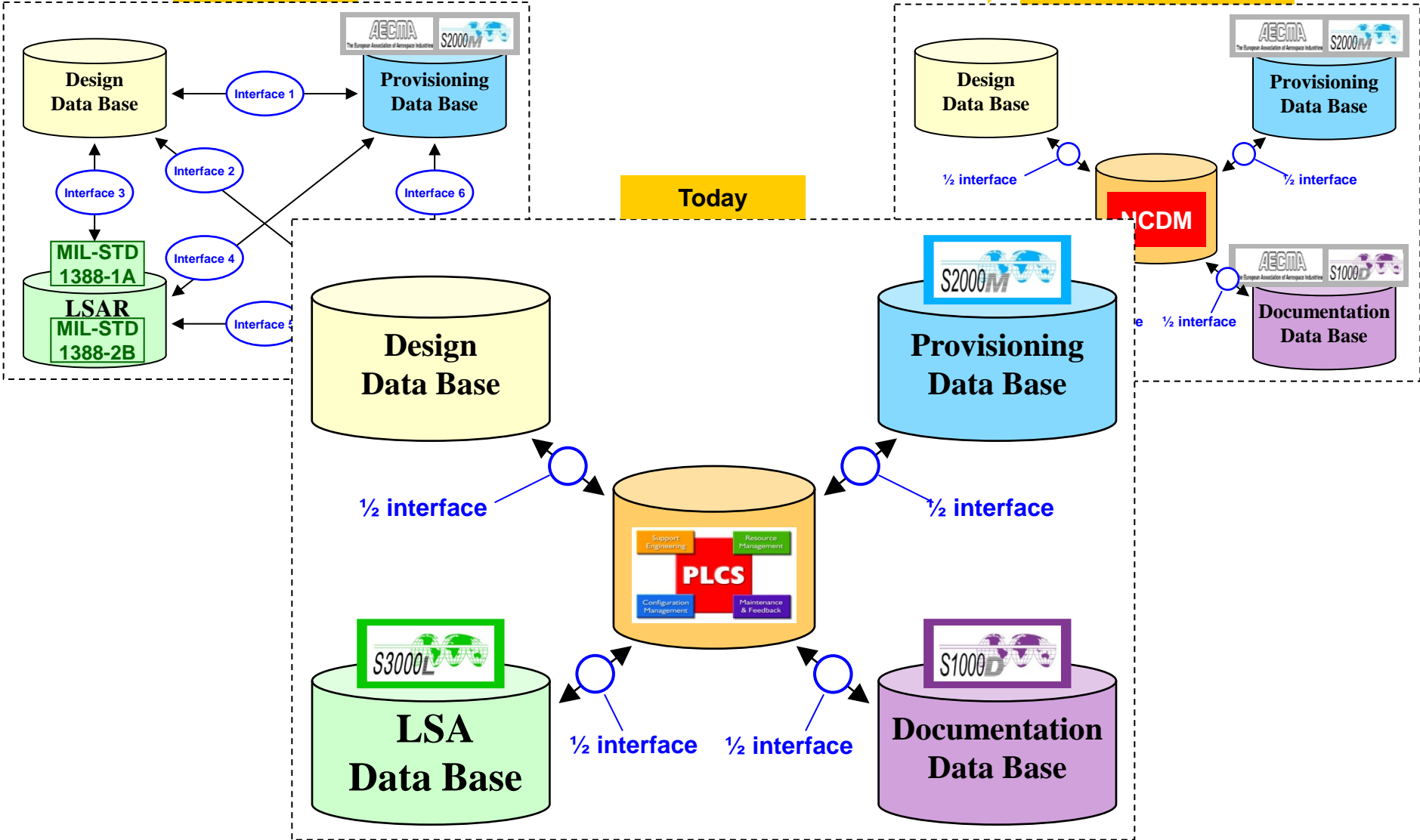




Before CALS

1996 : NATO CALS

Today





PLCS standard - PLCS DEX - Business DEX

ISO 10303 : STEP (STandard for the Exchange of Product model data)

STANAG 4661

AP239 : PLCS (Product Life Cycle Support)

Manage information to support a product

Manage configuration change	
D001	Product Breakdown for support
D012	Item Identification
D001	Product Breakdown for support
D008	Product as Individual
D012	Item Identification

Generate support solution

Manage support engineering programme	
D002	Faults related to product structures
D010	System requirements
Establish requirements for support solution	
Assess support performance	
D005	Maintenance plan
D003	Task Set

Commission support system

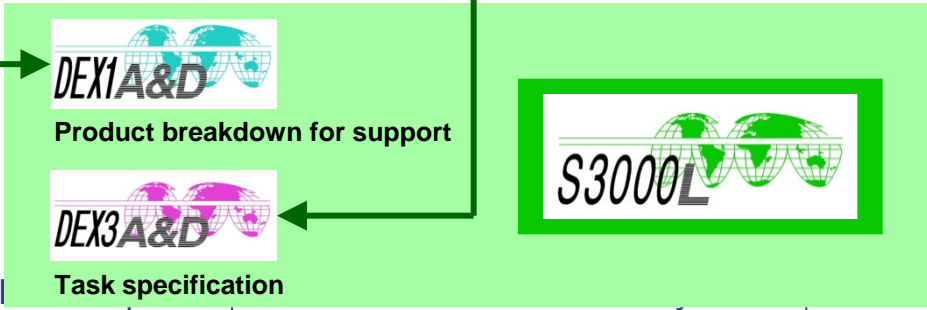
Develop commissioning schedule
Analyze commissioning data
Certify support system

Provide support

D004	Work Package Definition
D009	Work Package Report
D009	Work Package Report
D007	Operational Feedback
D009	Work Package Report
D011	Aviation maintenance

AP201

AP214





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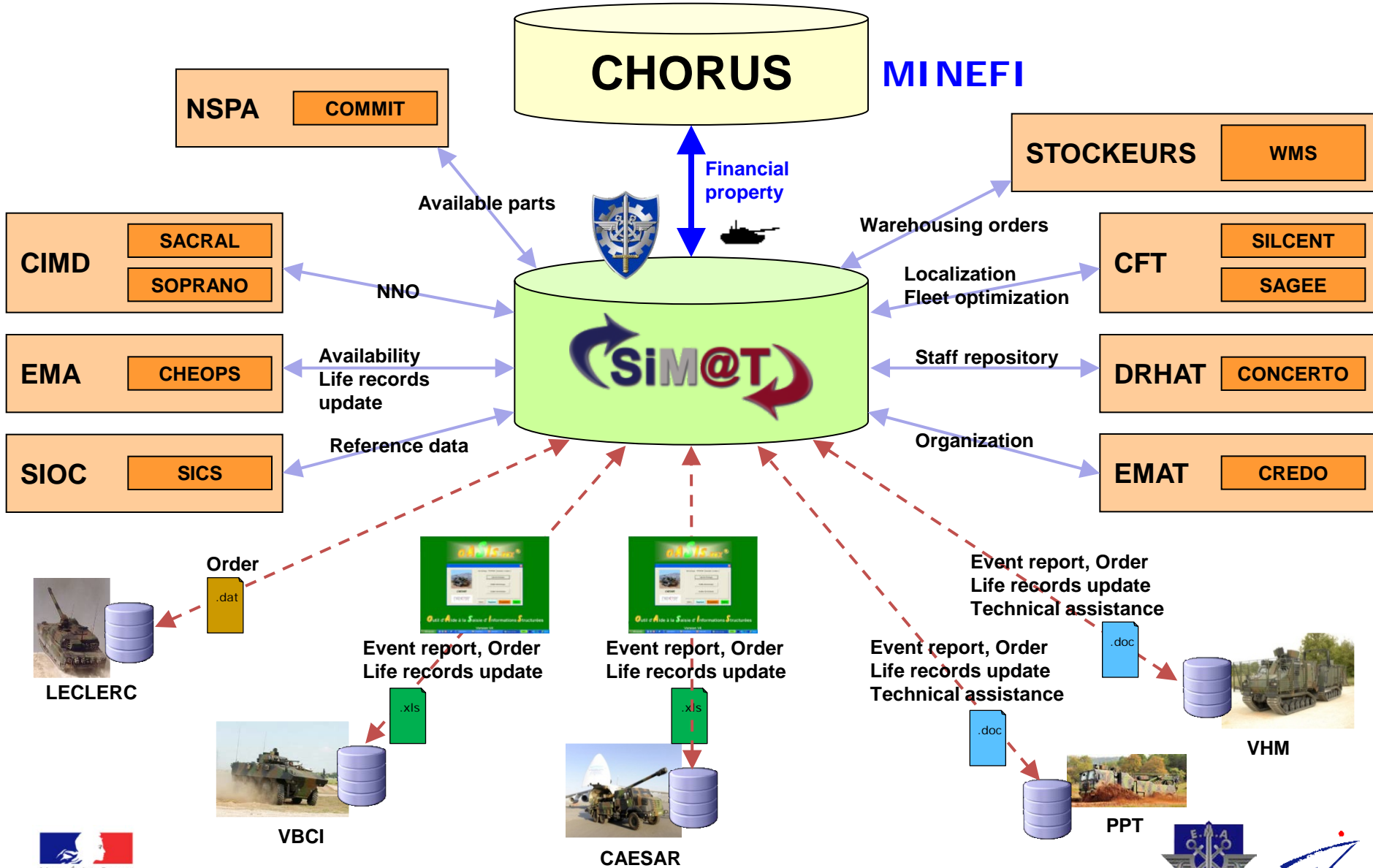
- **Presentation**
- **Demonstration**

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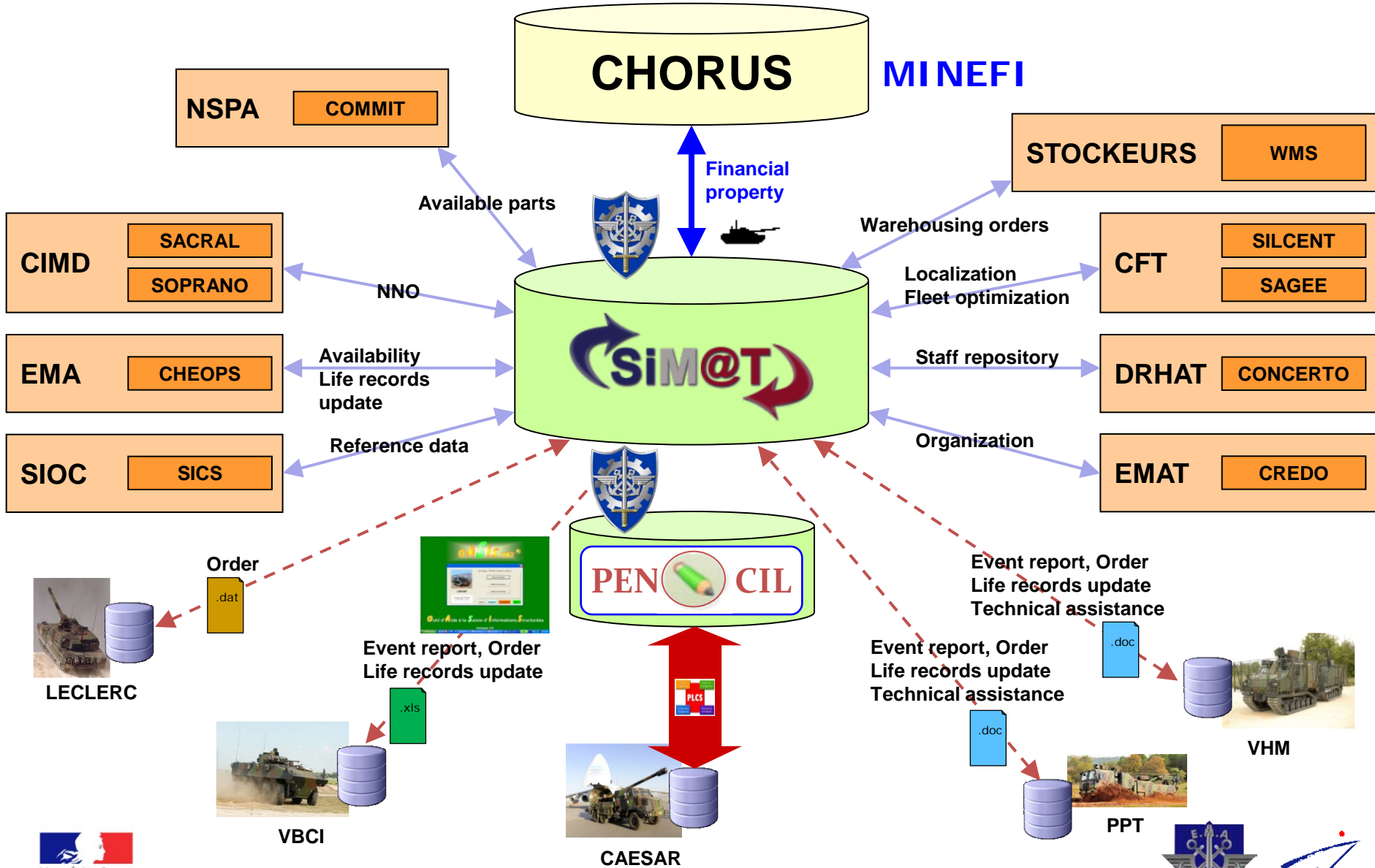


SIM@T : The LIS (Logistic Information System) for Land systems Support





SIM@T : The LIS (Logistic Information System) for Land systems Support





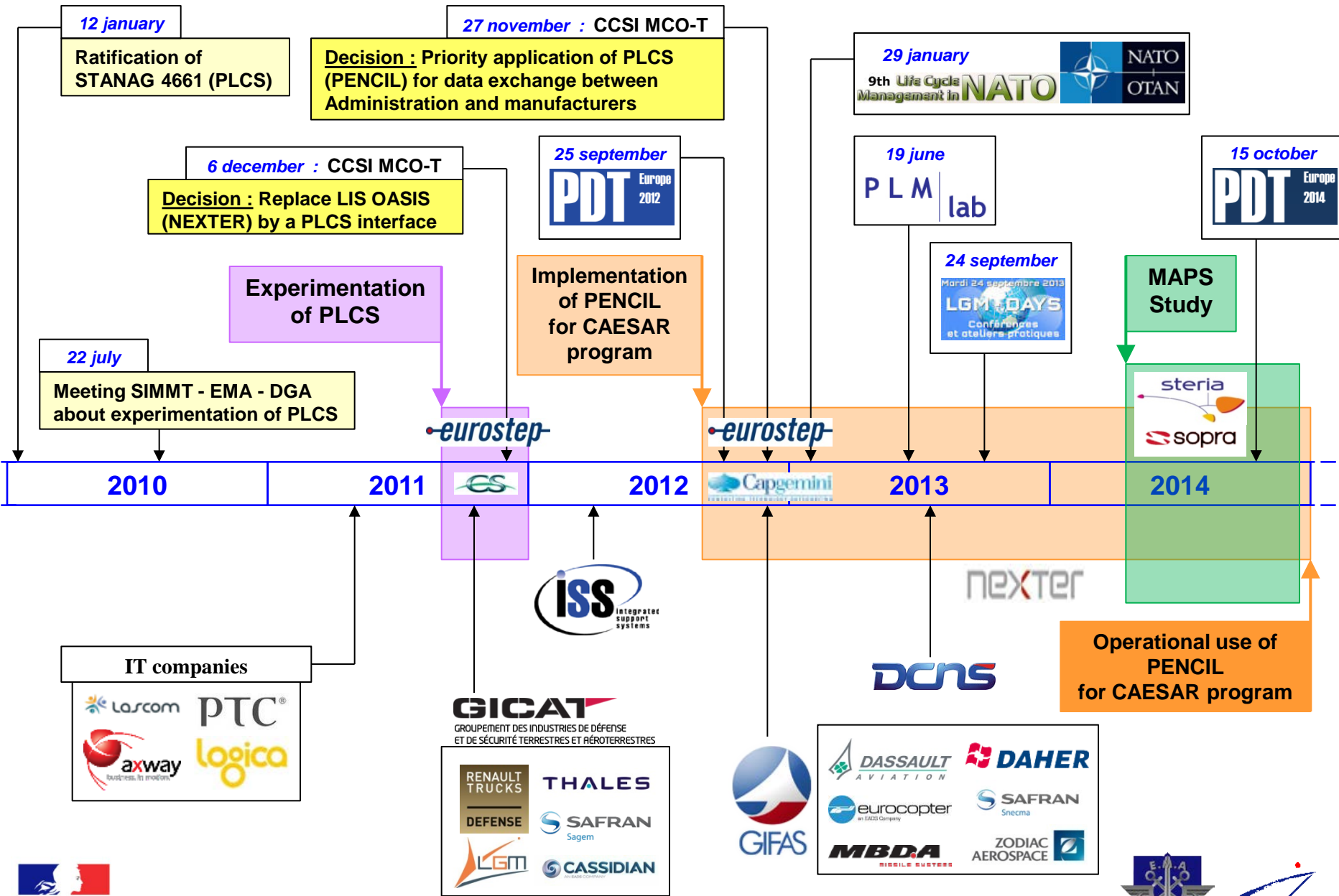
Benefits of PENCIL

➤ On data to be exchanged

- Today
 - No global vision of exchanged data
 - Differences between visions (manufacturers / Administration)
- PLCS :
 - forces to define in a clarified way all exchanged data
 - offers a generic and precise frame for data identification
 - quickly allows to identify the missing data and to converge on a common definition for all the actors

➤ On contracts

- Nowadays, every contract is specific
- PLCS allows to manage programs uniformly :
 - by using generic business processes
 - by handling contracts specificities

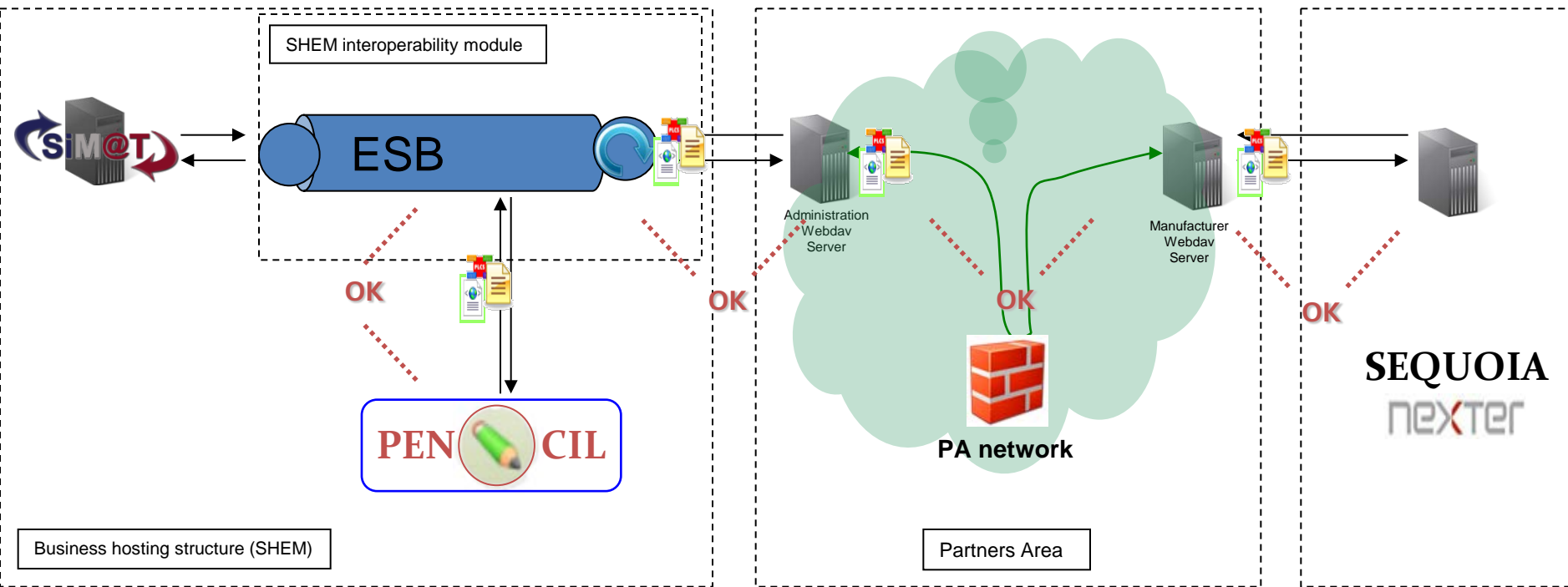




Architecture of the project

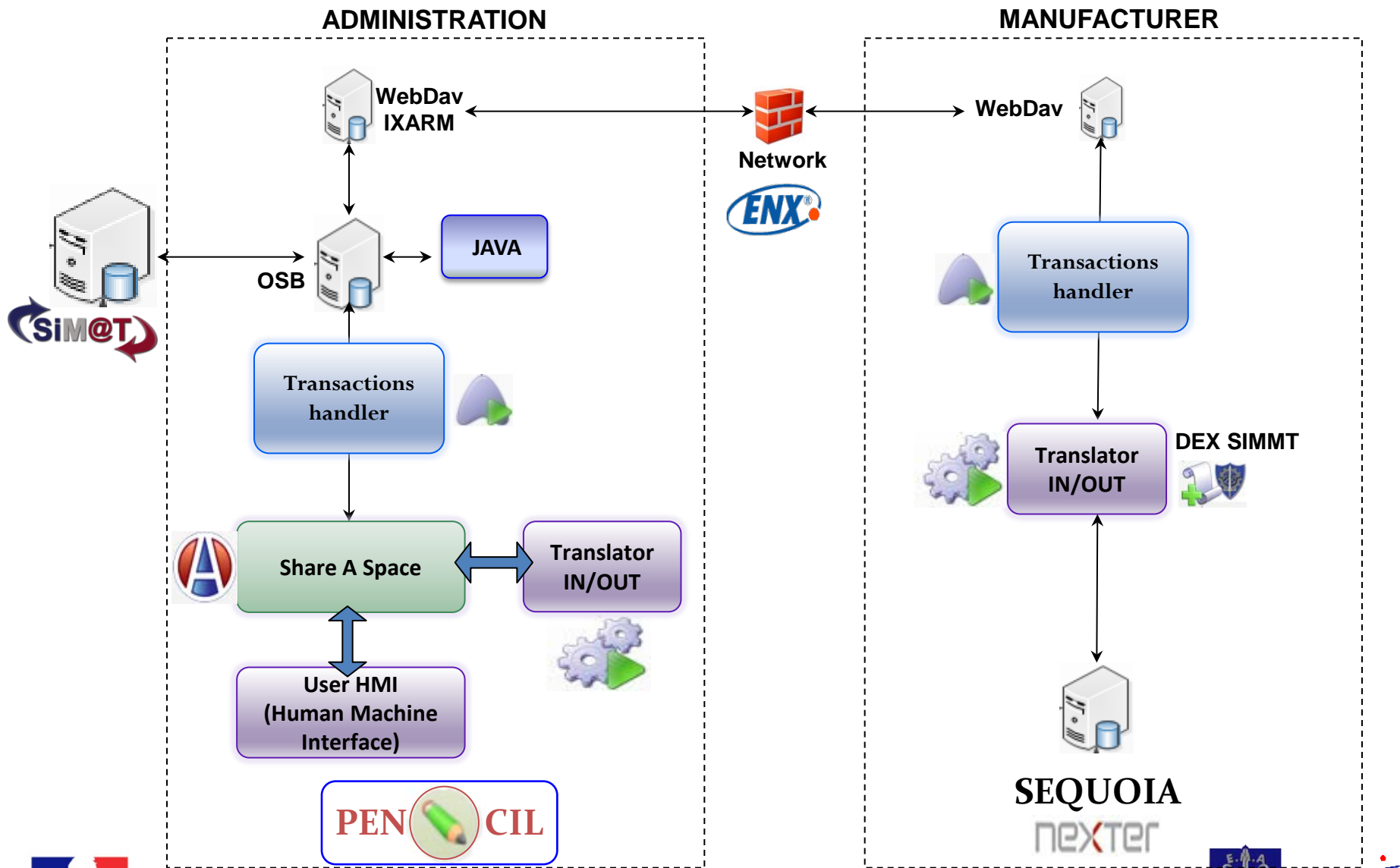
ADMINISTRATION

MANUFACTURER





Software components





DEX SIMMT, messages and associated workflow

DEX		Message		OEM	SIMMT
N°	Title	N°	Title		
1	ProductConfigurationDelivery	Composed by 5 messages			
2	InServiceProductStructureUpdate	1	InServiceProductStructureUpdate		
3	ProductLifeRecordUpdate	1	LifeRecordUpdate		
4	SparePartOrder	1	SparePartOrder		
		2	OrderReceiptAcknowledgement		
		3	SparePartDeliverySlip		
		4	ProofOfDelivery		
5	TechnicalEvent	1	TechnicalEventInit		
		2	TechnicalEventUpdate		
		3	TechnicalEventApproval		
		4	TechnicalEventClosure		
6	MissionStock	1	MissionStockDelivery		
		2	MissionStockReturn		



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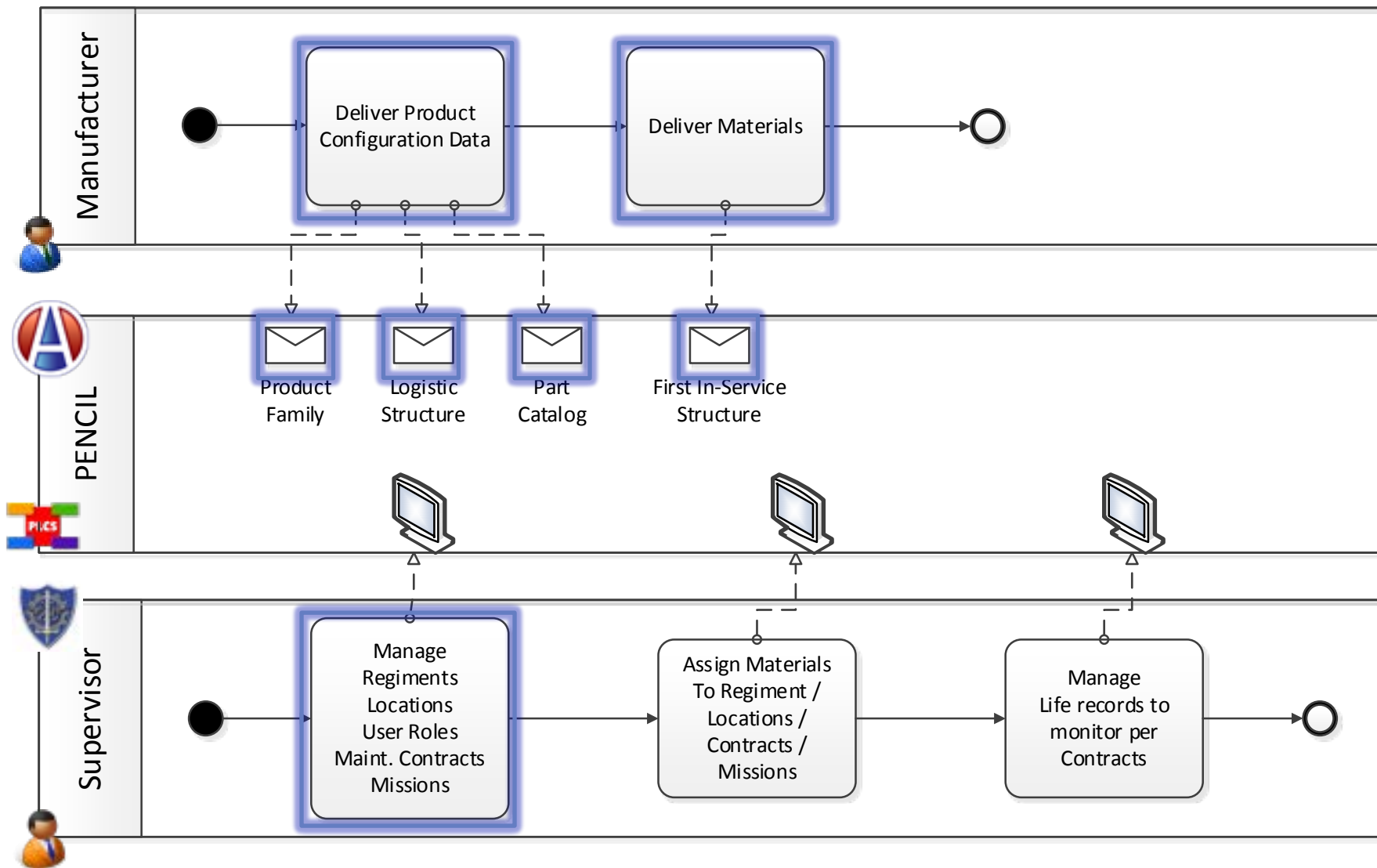
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DEX 1 : ProductConfigurationDelivery - Associated workflow





PENCIL



Bienvenue dans PENCIL (Plateforme d'Echange Normalisée et Centralisée d'Information Logistique).
 Vous êtes connecté en tant que : Operateur1 Maintenance

Matériels appartenant à cette famille :

List of Materials

Référence du Matériel	Libellé du Matériel	Contract
60930028	CAESAR 141(CAESAR 72F)	Contrat MSS CAESAR EMAT
60930005	CAESAR 117(CAESAR 72F)	Contrat MSS CAESAR EMAT
61030012	CAESAR 161(CAESAR 72F)	Contrat MSS CAESAR EMAT
61030010	CAESAR 159(CAESAR 72F)	Contrat MSS CAESAR EMAT
61130003	CAESAR 176(CAESAR 72F)	Contrat MSS CAESAR EMAT

Détail du matériel sélectionné :

Potentiels

Actions [Mise à jour Potentiels](#)

Potentiel	Valeur	Unité	Date de Relevé
Kilométrage	4700	km	2/11/2014 5:32:10 PM
Nombre de coups tirés	70	--	1/30/2014 9:29:25 AM

Life Records

Rapports d'Événements

Actions [Gestion des kits](#) [Rapport d'Événement](#)

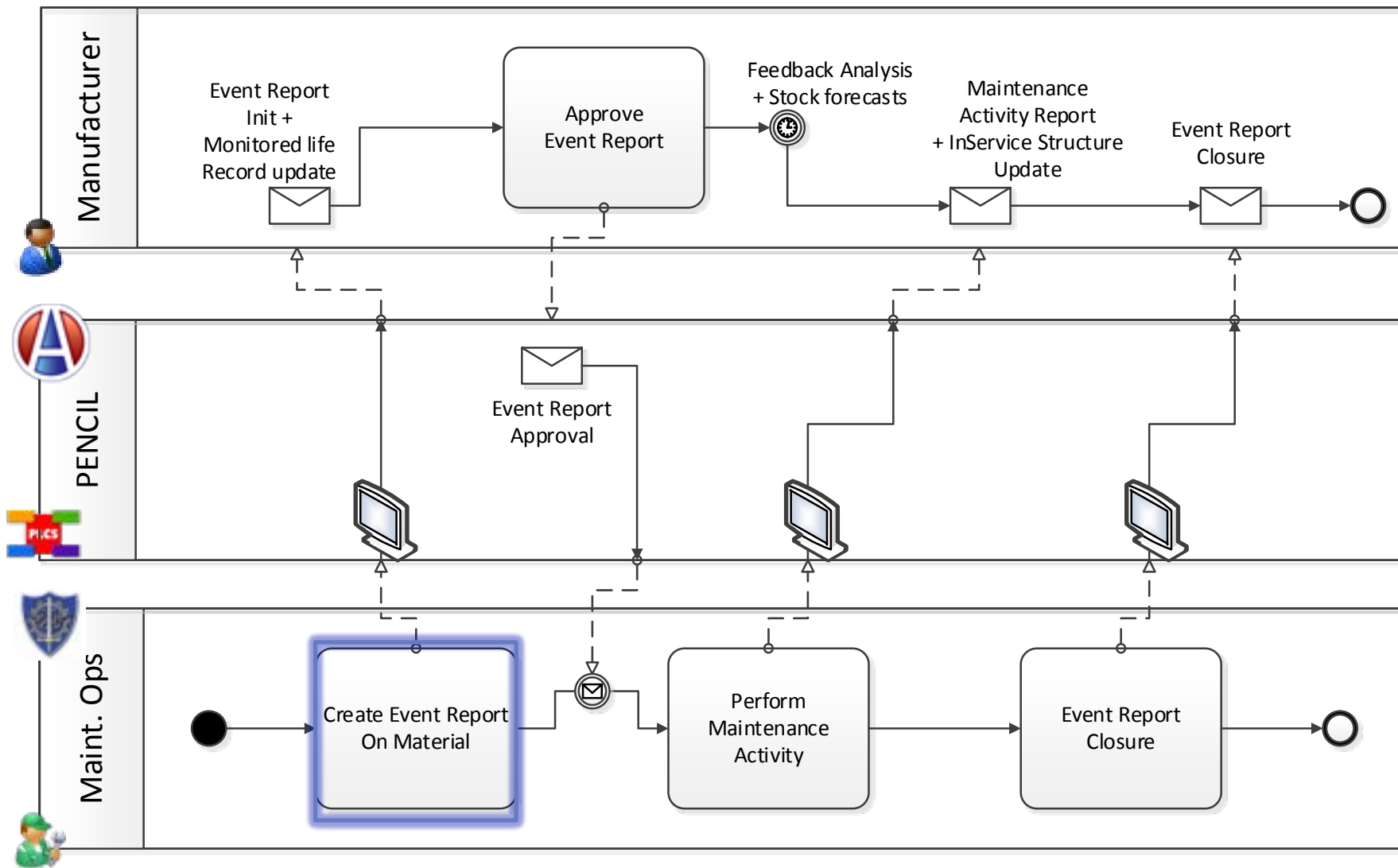
Numéro Événement	Libellé	Date de Création	Emis Par	Statut	Visa
2014PER0000001	Observation A	1/22/2014 1:14:07 PM	opmaint1@simmt.fr	Visé	Accepté
2014PER0000002	Observation Btest	1/22/2014 2:11:14 PM	opmaint1@simmt.fr	Nouveau	
2014PER0000003	Observation C modif	1/24/2014 9:10:42 AM	opmaint1@simmt.fr	Visé	Accepté
2014PER0000005	Voyant Rouge allumé	1/27/2014 10:56:01 AM	opmaint1@simmt.fr	Clos	
2014PER0000006	test SEQUOIA #1	1/28/2014 3:19:25 PM	opmaint1@simmt.fr	Visé	Accepté
2014PER0000007	test SEQUOIA #2	1/28/2014 3:25:27 PM	opmaint1@simmt.fr	En Cours de Traitement	
2014PER0000008	test SEQUOIA #3	1/28/2014 3:33:33 PM	opmaint1@simmt.fr	En Cours de Traitement	
2014PER0000009	Test SEQUOIA #4	1/29/2014 12:34:33 AM	opmaint1@simmt.fr	En Cours de Traitement	
2014PER0000010	Test SEQUOIA	1/30/2014 8:29:33 AM	opmaint1@simmt.fr	Visé	Accepté

Event Reports





DEX 5 : TechnicalEvent - Associated workflow





Event Report Type

Nouveau Rapport Événement/Initialisation

Initialisation :

Matériel

Type Rapport Événement

Relevé des Potentiels :

Nom du Potentiel	Valeur	Date de relevé
Heures moteur (heure)	<input type="text"/>	
Nombre de coups tirés (-)	<input type="text" value="70"/>	<input type="text" value="1/30/2014 9:29:25 AM"/>
Kilométrage (km)	<input type="text" value="4700"/>	<input type="text" value="2/11/2014 5:32:10 PM"/>

Update life records

Conditions Environnementales :

Température

Météo

Nature du Sol

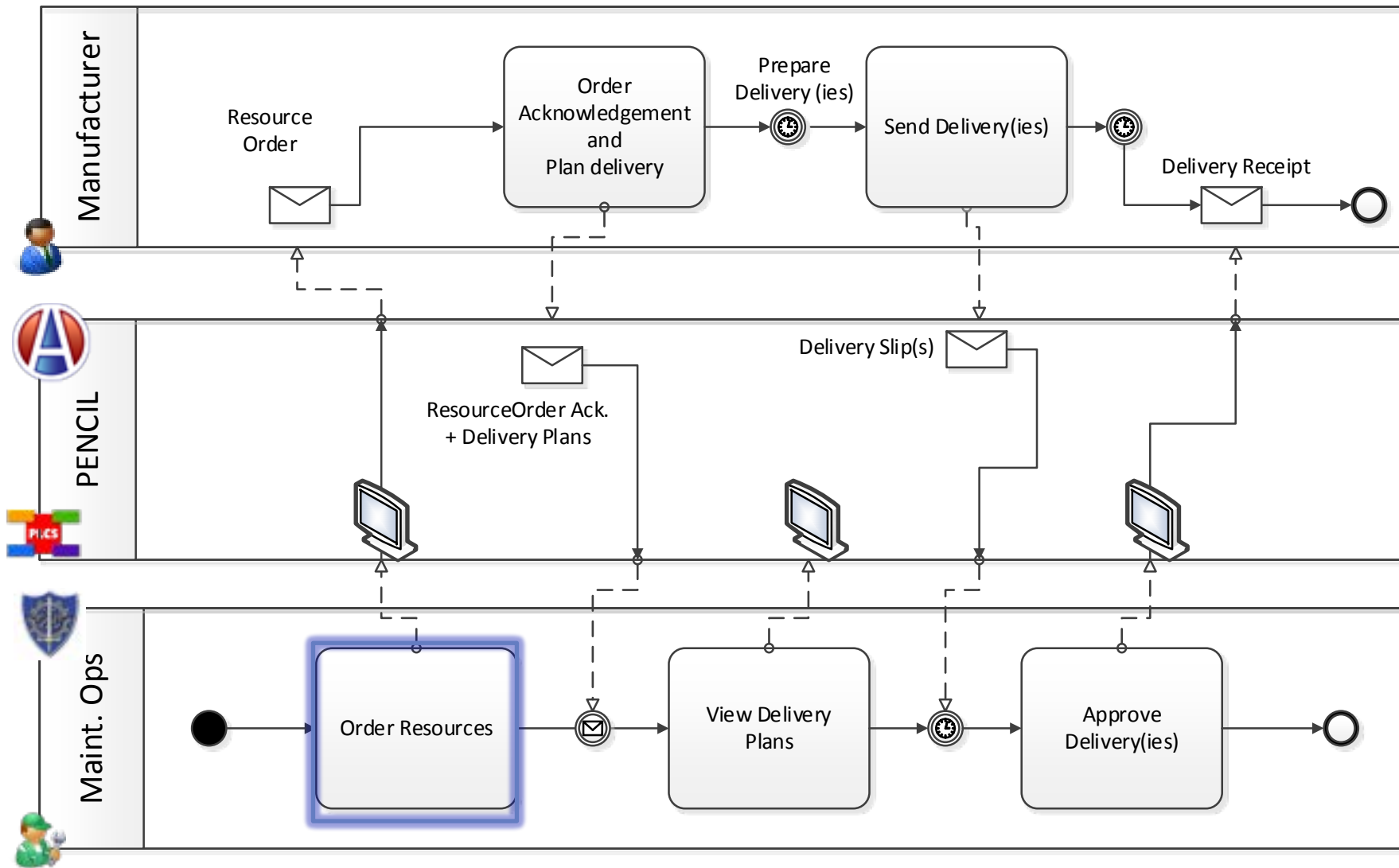
Conditions d'utilisation

Conditions Particulières

Usage conditions
(Temp, Weather, Ground, ...)



DEX 4 : SparePartOrder - Associated workflow





Nouvelle Commande/Édition

Informations générales :

Matériel	61130003 — CAESAR 176(CAESAR 72F)
Type Commande	Commande de Pièces
Destinataire	ORG_A_TEST
Date Commande	4/7/2014 4:54:38 PM
Contract	MSS CAESAR / Contrat MSS CAESAR EMAT / FASL3 / NEXTER SYSTEMS

Adresse de Livraison:

N°	Rue
Ville	AddressA
Code Postal	
Pays	

Articles commandés :

Num. Ligne	Réf. Commandée	Quantité
Automatique	F6573 - CAESAR 1500000100000A rev. FREINAGE	1
Automatique	F6573 - 7400949278 rev. ECROU A EMBASE	10
Automatique	F0665 - Z044975 rev. ROBINET DE FREIN EBS	5

Resource Order Line Items

Structure du Catalogue Illustré

FREINS-\$01--\$000-00A-\$000-00A-\$002-00A	
CAESARFR-\$15.20.00 Figure 01_ - COMMANDE MECANIQUE DES FREINS-\$01--\$000-00A-\$000-00A-\$002-00B	
CAESARFR-\$15.20.00 Figure 01_ - COMMANDE MECANIQUE DES FREINS-\$01--\$000-00A-\$000-00A-\$002-00C	
CAESARFR-\$15.20.00 Figure 01_ - COMMANDE MECANIQUE DES FREINS-\$01--\$000-00A-\$000-00A-\$002-00D	
F0665 - Z044975 rev. ROBINET DE FREIN EBS	0
CAESARFR-\$15.20.00 Figure 01_ - COMMANDE MECANIQUE DES FREINS-\$01--\$000-00A-\$000-00A-\$003-00A	
CAESARFR-\$15.20.00 Figure 01_ - COMMANDE MECANIQUE DES FREINS-\$01--\$000-00A-\$000-00A-\$003-00B	
CAESARFR-\$15.20.00 Figure 01_ - COMMANDE	

Pick Parts from the Catalog

Cancel **Finish**



```

export-1.p21 - Notepad
File Edit Format View Help
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#279=LOCALIZEDSTRING($,'http://docs.oasis-open.org/plcs/ns/plcslib/v1.0/data/plcs/plcs-psm/refdata/plcs-psm#ObservedEnvironment');
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```



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MAPS (Marchés avec Achat de Prestations de Soutien)

➤ Definition

MAPS are procurement contracts for buying In-Service Support services. They consist of at least one service of **storage**, **distribution**, **maintenance** or **elimination** made by a manufacturer for the benefit of Administration.

➤ Objectives

Improve the management of manufacturer services with SIM@T by centralizing informations.

- Improve Administration technical control of materials
- Implement automated data exchange with manufacturers
- Feed SIM@T with necessary informations for monitoring services
- Automate data exchange used to follow maintenance & configuration of equipments
- Systematize resources order with SIM@T input for transferring automatically in manufacturers LIS (Logistic Information System)

➔ **MAPS = Generalization of PENCIL and integration in SIM@T**



Logistic Description of Markets (LDM)	Other repositories
<p>Automated data exchange with manufacturer</p>	<p>Equipment specifications exchange</p>
Maintenance	Technical repositories
<p>Technical event transaction with manufacturer</p>	<p>ILS (Integrated Logistic Support) informations exchange</p>
Logistic Management	Supply
<p>Follow-up of Administration stock (stored at manufacturer)</p>	<p>Automatical orientation of needs (manufacturer or Administration)</p>



MINISTÈRE DE LA DÉFENSE

PEN **CIL**



Logistic Description of Markets (LDM)

- Data model modifications : **12**
- Use case : **32** in **4** processes
- Data integration : **3**

Data flow : **1**

Other repositories

- Data model modifications : **2**
- Use case : **22** in **3** processes
- Data integration : **2**

Data flows : **4**

Maintenance

- Data model modification : **0**
- Use case : **46** in **3** processes
- Data integration : **1**

Data flows : **9**

Technical repositories

- Data model modifications : **3**
- Use case : **35** in **3** processes
- Data integration : **5**

Data flows : **6**

Logistic Management

- Data model modification : **0**
- Use case : **64** in **4** processes
- Data integration : **2**

Data flows : **11**

Supply

- Data model modifications : **6**
- Use case : **70** in **6** processes
- Data integration : **1**

Data flows : **5**

SIM@T / PENCIL interfaces

- **33** data flows :
 - ✓ New flows : **18**
 - ✓ Modified PENCIL flows : **15**
 - ✓ Deleted flows : **3**
- Business class model mapping SIM@T / PLCS

DEX creation

Development of **14** new DEX

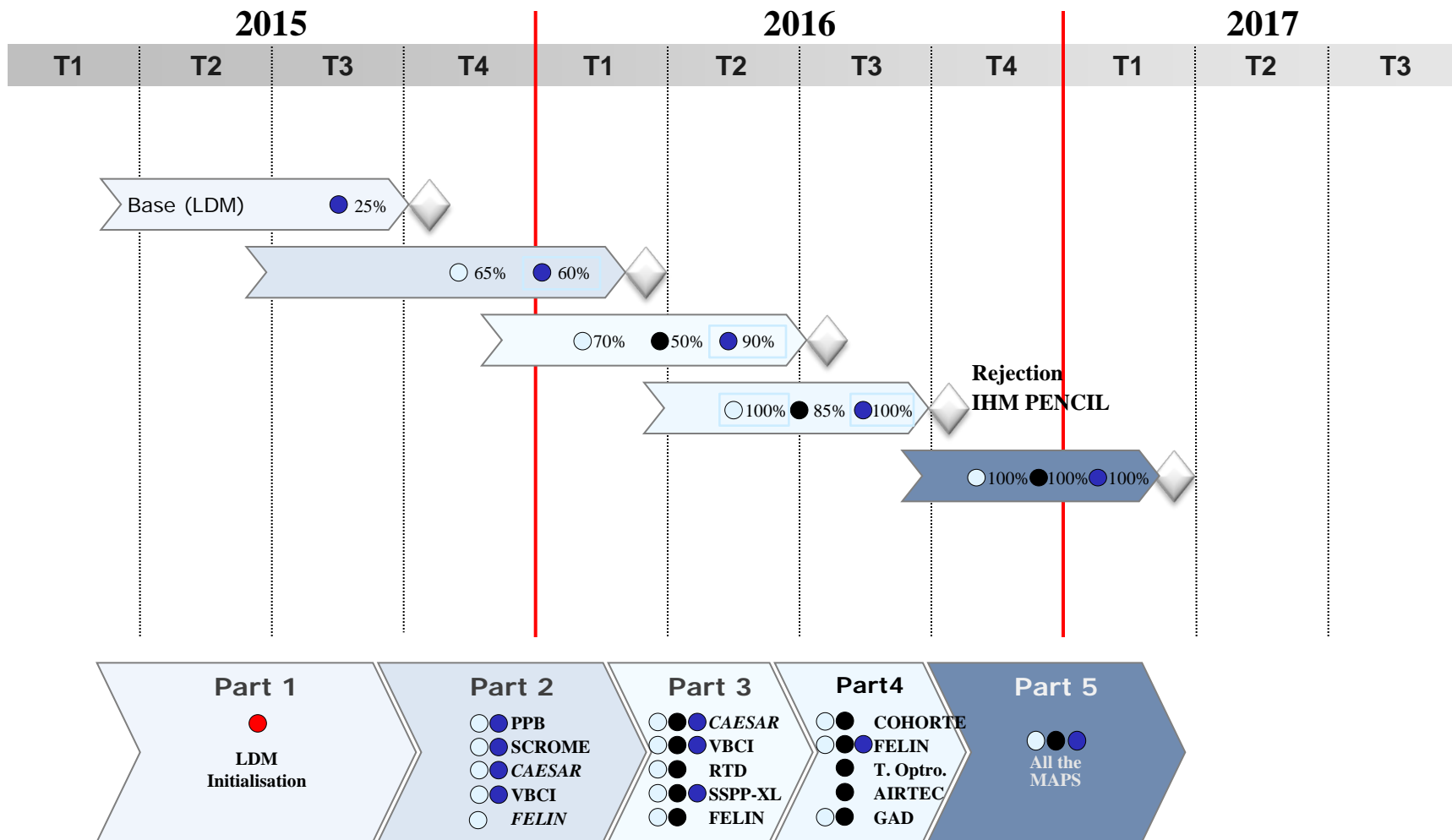


Implementation

Extension of PENCIL for data hosting of **14** new DEX



MAPS Plan



Legend: ○ Supply ● Maintenance ● Patrimonial Accounting



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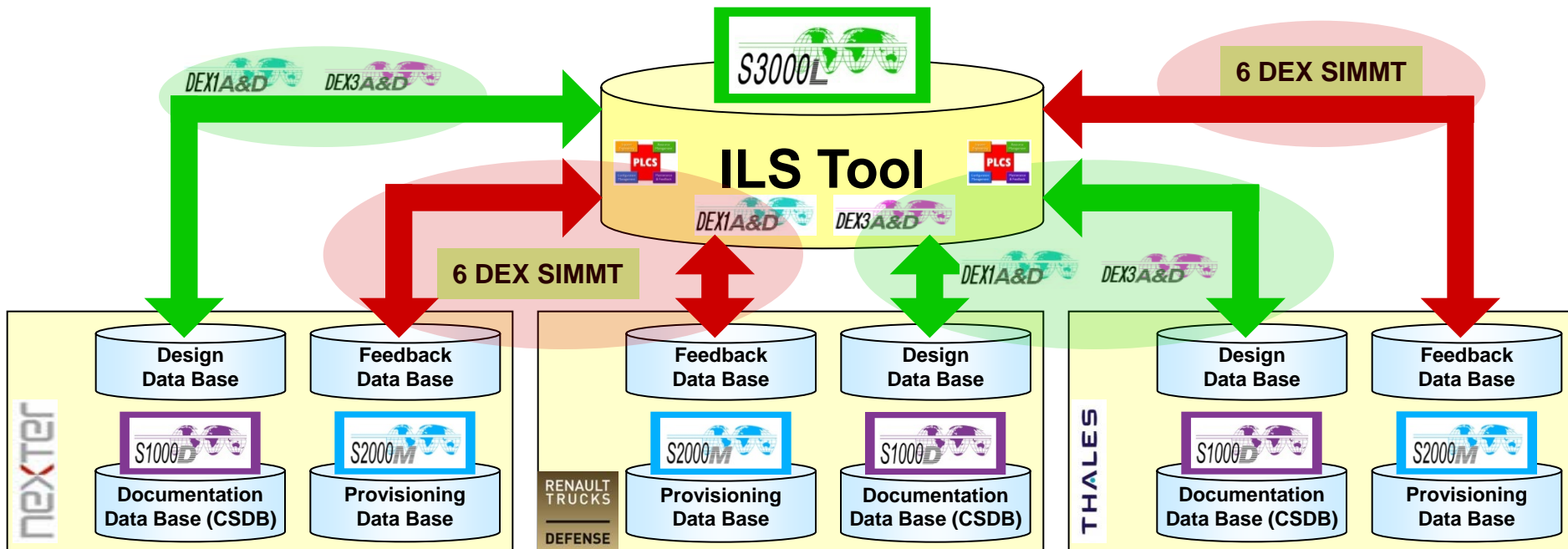


➤ 2 requirements :

- Application of PLCS for In-Service Support data (6 DEX SIMMT)
- Application of S3000L for LSA (methodology and data)

➤ Opportunity to develop an ILS Tool, based on Share-A-Space

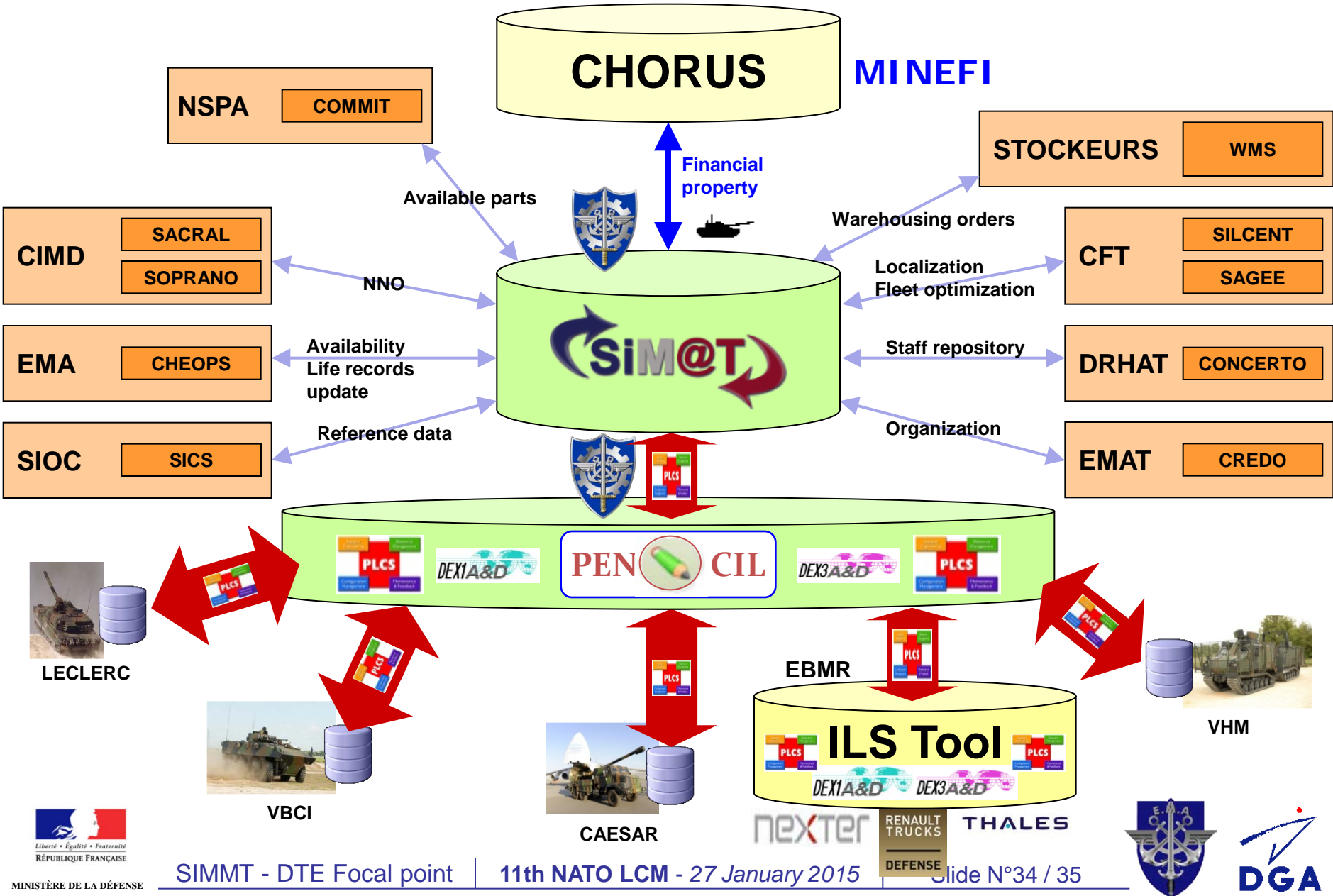
- Common to the 3 manufacturers : NEXTER, RTD, THALES
- For implementation of 6 DEX SIMMT
- For implementation of S3000L :
 - by using 2 DEX ASD (DEX1A&D and DEX3A&D), OASIS and SIMMT templates
 - with HMI development to create and manage LSA Data Base content



➔ This ILS Tool will be connected with PENCIL



SIM@T interfaces in the future





SIM@T : An extended functional scope...

Back

Manage resource

Manage purchases

Ensure maintenance

Ensure mark function



Manage complete materials

Manage stocks

Maintain accountings

Ensure consistency of PARTS repository

Ensure consistency of MANUFACTURERS repository

Ensure consistency of STRUCTURES repository

