The TDP message standard

Technical Data exchange standard
of AeroSpace & Def. (ASD) Europe
Amaury SOUBEYRAN
AIRBUS Group Corp Technical Office

GLOBAL PRODUCT DATA
INTEROPERABILITY
SUMMIT
2013

EADS Management structure *(changing…)*
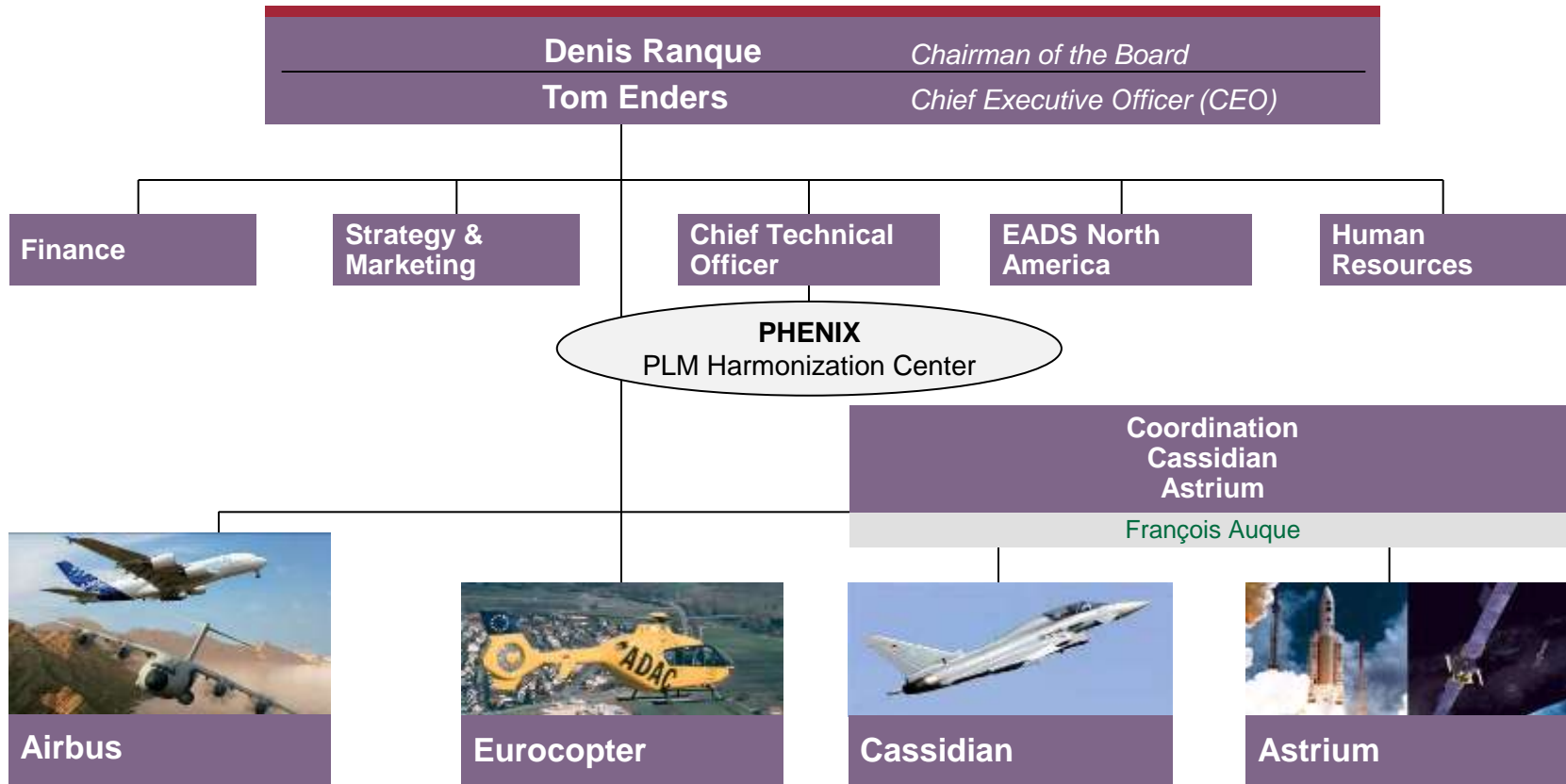
Denis Ranque	*Chairman of the Board*
Tom Enders	*Chief Executive Officer (CEO)*

- **Finance**
- **Strategy & Marketing**
- **Chief Technical Officer**
- **EADS North America**
- **Human Resources**

PHENIX
PLM Harmonization Center

Coordination Cassidian Astrium
François Auque

Airbus

Eurocopter

Cassidian

Astrium

Content

- **EADS Strategic Standardization Committee**

- **ASD « Technical Data Package » (TDP) standard background & objective**

- **TDP message project content & status**

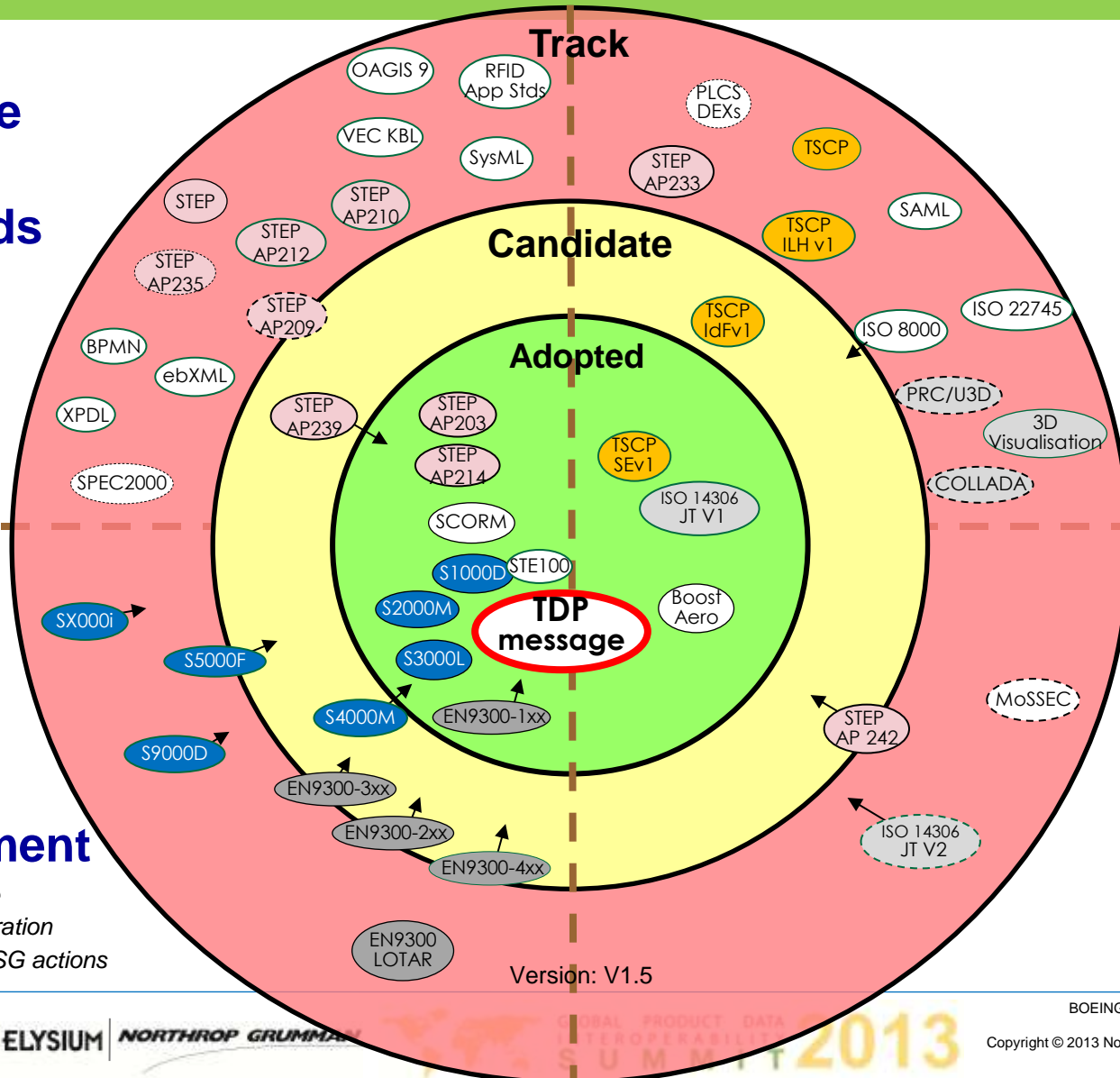- **TDP message standard way forward**

EADS Strategic Standardization Committee & EADS PLM Harmonization Center (PHENIX)

Global Product Data Interoperability Summit | **2013**

1 PHC *EVOLUTION COMMITTEE* (BOARD)
AIRBUS · ASTRIUM · CASSIDIAN · EUROCOPTER

Orientation

EXECUTIVE LEVEL

PLM **H**ARMONIZATION **C**ENTER

SSC

EADS Corp. Quality & Business Improvt

Solution Proposal

2 PHC OPERATIONAL COMMITTEE
AIRBUS · ASTRIUM · CASSIDIAN · EUROCOPTER

EXPERTS LEVEL

3 PLM Competency Network (enablers)

1. **The EVCOM steers the PHC → decides harmonization activities,…**

2. **The OPCOM manages the portfolio of PLM harmonization projects**

3. **… with the support of ENABLERS, the competency network of technical contributors to PHC projects**

BOEING | ELYSIUM | NORTHROP GRUMMAN

GLOBAL PRODUCT DATA INTEROPERABILITY SUMMIT 2013

Radar screen

ASD — AeroSpace and Defence Industries Association

E-Business SSG

Available external standards

Monitor external development

ASD development

Participate in external development

Track

Candidate

Adopted

TDP message

Legend:
- STEP
- ASD S-Series
- TSCP
- 3D visualisation
- LOTAR

yy — Status available
yy — Status in preparation
→ Current ASD SSG actions

OAGIS 9, RFID App Stds, PLCS DEXs, TSCP, VEC KBL, SysML, STEP AP233, STEP AP210, SAML, STEP, STEP AP212, TSCP ILH v1, STEP AP235, STEP AP209, ISO 22745, BPMN, ebXML, ISO 8000, TSCP IdFv1, XPDL, STEP AP239, STEP AP203, PRC/U3D, 3D Visualisation, STEP AP214, TSCP SEv1, COLLADA, SPEC2000, SCORM, ISO 14306 JT V1, SX000i, STE100, S1000D, S2000M, Boost Aero, S5000F, S3000L, S4000M, EN9300-1xx, MoSSEC, S9000D, STEP AP 242, EN9300-3xx, EN9300-2xx, ISO 14306 JT V2, EN9300-4xx, EN9300 LOTAR

Version: V1.5

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ASD-SSG DEX

- "TDP Message Header DEX": an ASD SSG specification (ASD-SSG-001) since 5/10/2012
- One of the eBusiness PLM standard elected by ASD SSG
- Published at http://www.asd-ssg.org/tdp-message

ASD SSG TDP Message Header DEX specification

ASD recommends the TDP Message Header DEX specification as a relevant standard mechanism to exchange Technical Data Packages.

The TDP Message Header DEX specification identifier is **ASD-SSG-001**.

The current version is **V1.0** published 5/10/2012:

Main document	TDP Message Header file – Usage in PLM Hub context
Annex A: EXPRESS Schema	TDPMessage.exp
Annex B: XML schema	TDPMessage.xsd plus referenced schemas cnf.xsd and ex.xsd
Annex C: TDP Message Header portal pages	http://tdp.asd-ssg.org

To know more about the project context, let's refer to the project web site.

Overview of the communication of the Technical Data Package standardized message
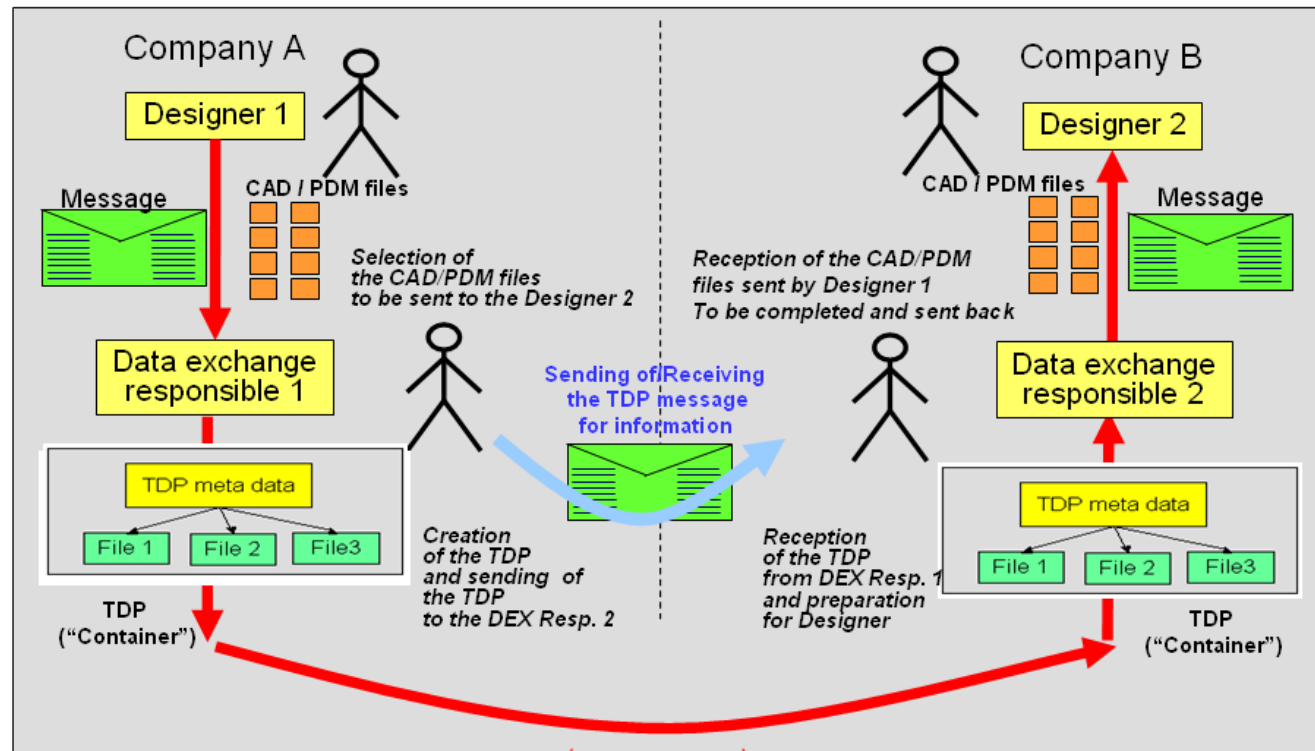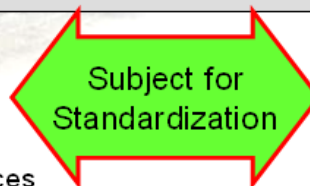
Scope of Technical Data Package
State of the Practice

Several heterogeneous "local" TDP methods (e.g. Eurofigther Standards, Airbus Procedures)

Eurofighter Standard for Step Data Exchange (J17.400)
"Data Despatch Note"

MESSAGE, message-identifier
DDN,ddn-sequence-identifier
SENDER,company-name,contact-name,technical-contact-name
RECIPIENT, company-name,contact-name
TIMESTAMP,yyyymmdd,hhmmss
MASTERFILE'.physical-file-name.file-change-indicator,security-clas;
DOCUMENT,physical-file-name,format,compression indicator,securi
SECURITY,security-classification
CONTRACT,contract-id
COMMENT,comment
SUBSTITUTE,substitute-identifier

**Airbus Procedure (AP2650)**
"Data Transfer Sheet"

```
+-------------------------------------------------
+-------
|              Airbus Industrie
|              DATA TRANSFER SHEET
+-------------------------------------------------
+-------
|              Airbus Deutschland GmbH
+-------------------------------------------------
+-------

Jobnumber: 3037890/001
Date: 14/10/2008
File: eddm2dasam.r00.20081014T213447
Type: UNIX COMPRESSED TAR
System: HP-UX
Program: tar -cvf and compress
Transfer: ftp
Delivery Format:
CAD-System: CATIA
Revision:
Dex Ty

From:---------------------------------------------
Name:
Company    bus Deutschland
Department: EDDM
Phone: +49 421 538 5745
Fax:
Email: Fabian.Lilie@airbus.com

To:-----------------------------------------------
Name: Brueckl, Arno
Company: EADS Military Aircrafts
Department: OPES
Phone:
Fax:
Email: Arno.Brueckl@eads.com

Done by:------------------------------------------
Name: Bernd Feldvoss / Lilie, Fabian
Company: Airbus Deutschland
Department: EDDM
```

We need a single standard !

TDP message project objective

- **TDP message (or header) aims to gather <u>simple information for secured transportation</u>,** independent from any protocol for Product Data exchange and sharing

- **A typical "Technical Data Package" contains:**
  - Product files (one to n digital files)
  - Product metadata (allowing import of product data into the receiving target system)
  - **<u>Data dispatch note </u>(= TDP Message) : at least <u>sender, receiver and list of all digital files </u>in order to support automatic routing, acknowledgment and validation of transportation etc...**

- **TDP producer can be different according the phase of the lifecycle:**
  - 1st focus on design phase (pilots) -> PDMs systems or CAD tools
  - other phases of the lifecycle -> Requirement Management systems, Simulation Management Systems, Enterprise Resource Planning Systems, Customer Support systems, etc…
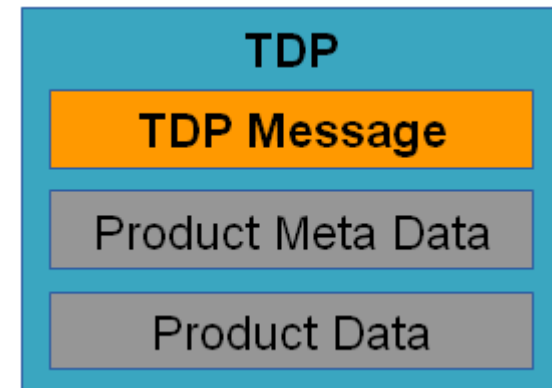
TDP

TDP Message

Product Meta Data

Product Data

TDP Transfer

Information

Message identification amaury_soubeyran-eads_net-20121130_12112100.zip
Message type TDPTransfer
TDP creation date 2012-11-30 / 12:11:21.0 (UTC+2:0)
Import context WP_Engine_Block

Sender

Name amaury.soubeyran.eads, amaury.soubeyran.eads
Company eads
Mail address amaury.soubeyran@eads.net

Receiver(s)

Name : Soubeyran, Amaury
Company : EADS
Mail address : amaury.soubeyran@eads.net

Name : Tobias
Company : AIRBUS
Mail address :

Name : Arno
Company : CASSIDIAN
Mail address :

Name : Michael
Company : ASTRIUM EADS
Mail address :

Content

File name	File size	Data format
2011-09-18_101.JPG	2476408	image/jpeg

PROSTEP
integrate the future

for

PHENIX

PHUSION
The EADS WorldWide
PLM Collaboration Platform

Strategic choice to define the content based on existing set of standards and hub initiatives:

- BOOST (SEINE -> BoostAeroSpace)
- EADS Phenix PLM for Global Collaboration (PHUSION)
- STEP AP232
- Eurofighter
- PLCS community
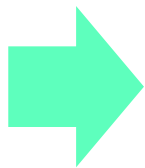
Driver: not to create a new standard but reuse existing ones making it possible to support current practices, standards and trends

TDP Message header format and syntax

- TDP message header schema is defined using a <u>subset of AP239</u>, the only application protocol formalizing messages and envelops (inside modules being part of the STEP Modules library)

- It can be used by any kind of processes <u>not only PLCS</u>

- File syntax is XML, based on <u>ISO Part 28</u>

- Content of the TDP message is covered by AP232 Conformance Class 1, i.e. <u>file related</u>. TDP transportation is for any file, not specifically for document or product parts.

The **schema for the TDP message header is today defined and ready to use**. Both EXPRESS and XML Schema languages were used to define it, and associated specifications for usage in the context of a hub were formalized.

A <u>second version </u>is under preparation through feedback coming from Industrial pilots such as BoostAerospace and Phenix/PHUSION. Recommended practices will be adapted in order to ensure <u>interoperability between different industrial hubs</u>

Formalized DEX under preparation

- DEX formalization and submission at OASIS after feedback of the on-going pilot projects;
- Infrastructure for formalizing the DEX is under preparation:
    - DEXLIB technological framework is quite complex and requires a lot of effort to produce a formal DEX
    - PLCSLIB is under validation and will be used as soon as frozen
- Service specification will be considered

S5000F usage of TDP message specifications

- Proposed section about unstructured data will lead to new version of recommended practice

TDP Message specifications implementation

- To be assessed in STEP implementer forum

Alignment with AIA: meeting under preparation

The "Technical Data Package" (TDP) message project:

- identified by ASD-SSG (Aero Space & Defense Strategic Standardization Group – Europe): lack of standard formalizing and providing recommended practices for producing a TDP message (or header) for <u>secured transportation</u> of files

- launched by several <u>European AS&D companies</u>: EADS, Airbus, Cassidian, BoostConseil,… *(open to any new member)*

- to support eBusiness <u>PLM collaboration</u> through emerging hubs: BoostAeroSpace, EADS Phusion, …

- contact points are <u>Nicolas Figay</u> and <u>Alexandre Fournier</u>.

<u>http://www.asd-ssg.org/tdp-message</u>