



Life Cycle Management in NATO 9th NATO LCM Conference Brussels

Interoperability will require Standards and Specifications



**29th January 2013
Brussels**

Albert Grabmeier, CASSIDIAN Customer Support and ASD ILS Specification Group



Contents

- **ASD - AeroSpace and Defence Industries Association of Europe**
- **AIA – AeroSpace Industries Association (of America)**
- **Standardization role in A & D**
- **The Standardization Works**
- **Definitions**
- **A bit of (standard) history**
- **e-Business challenges and opportunities**
- **The Importance of Standards to Customers**
- **ASD SSG Radar Screen**
- **ASD Suite of ILS Specifications**
- **AIA/ASD Collaboration**
- **The ASD Strategic Standardization Group (SSG)**
- **Conclusion**



AeroSpace and Defence Industries Association of Europe

20 member countries*
30 member associations

Representing more than 2.000 companies and around 730.000 employees



*Bulgaria and Romania currently in process



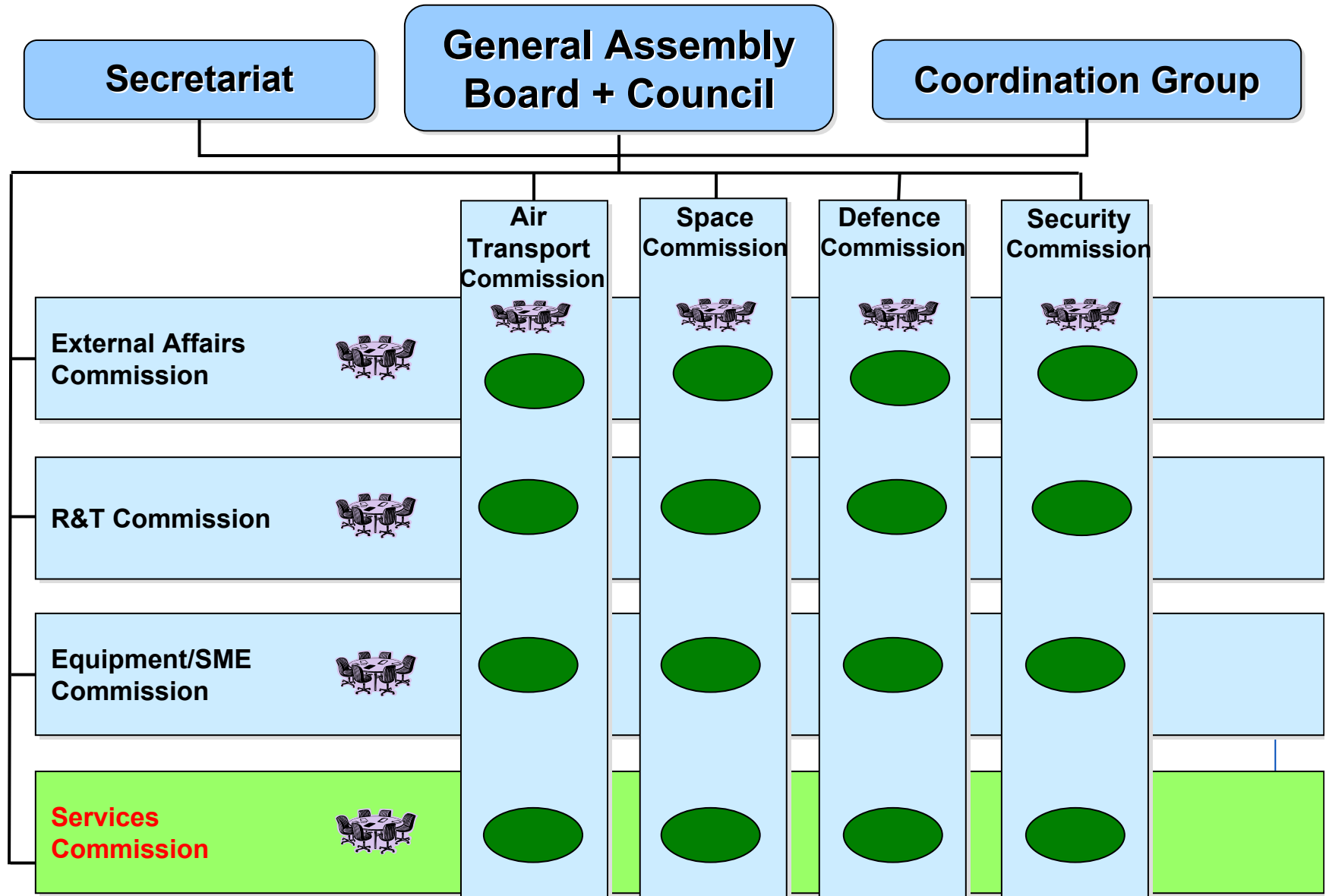
About ASD

The **AeroSpace and Defence Industries Association of Europe**, ASD, represents the aeronautics, space, defence and security industries in Europe in all matters of common interest with the objective of promoting and supporting the competitive development of the sector. ASD pursues joint industry actions which require to be dealt with on a European level or which concern issues of an agreed transnational nature, and generates common industry positions.

ASD has 28 member associations in 20 countries across Europe. In 2010 over 2.000 aeronautics, space and defence companies in these countries employed more than 730.000 people and generated a turnover of almost €171 billion.

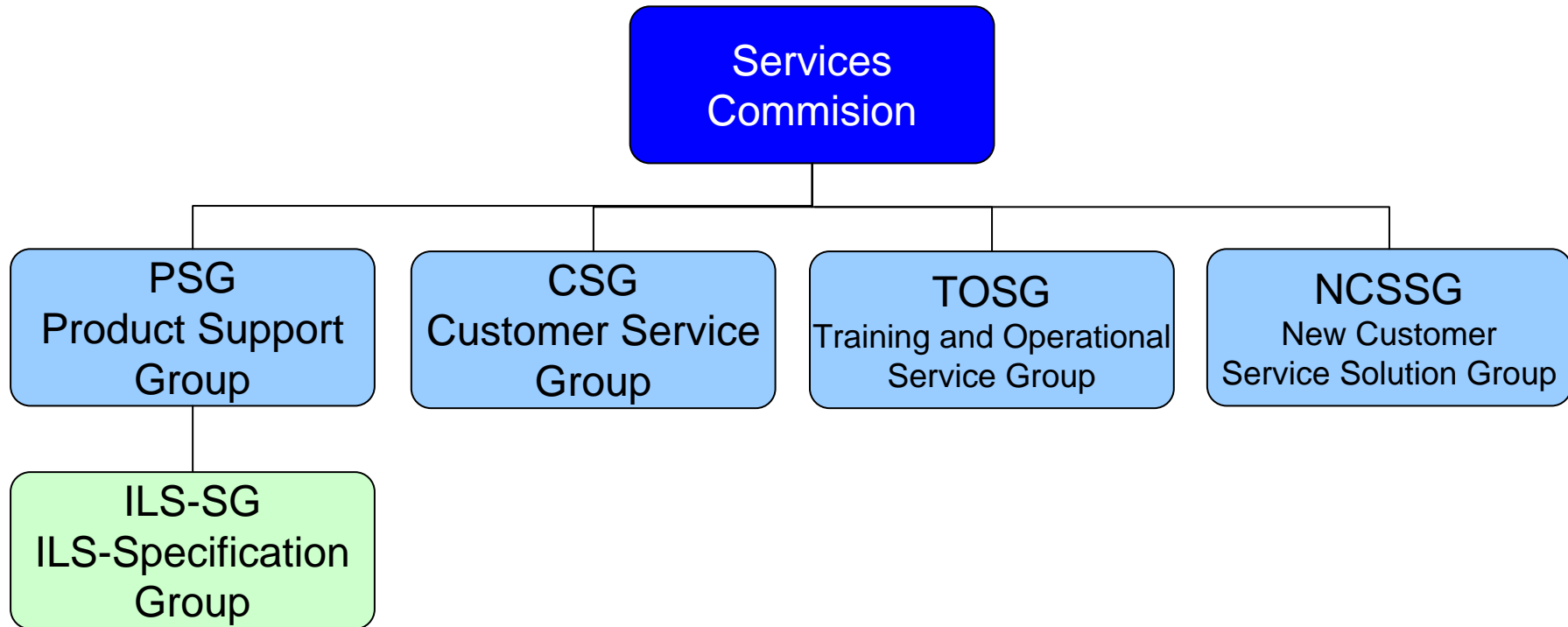
The President and Chairman of the Council of ASD is Mr Jean-Paul Herteman, CEO of Safran.

The ASD Secretariat is based in Brussels with an Office in Paris.



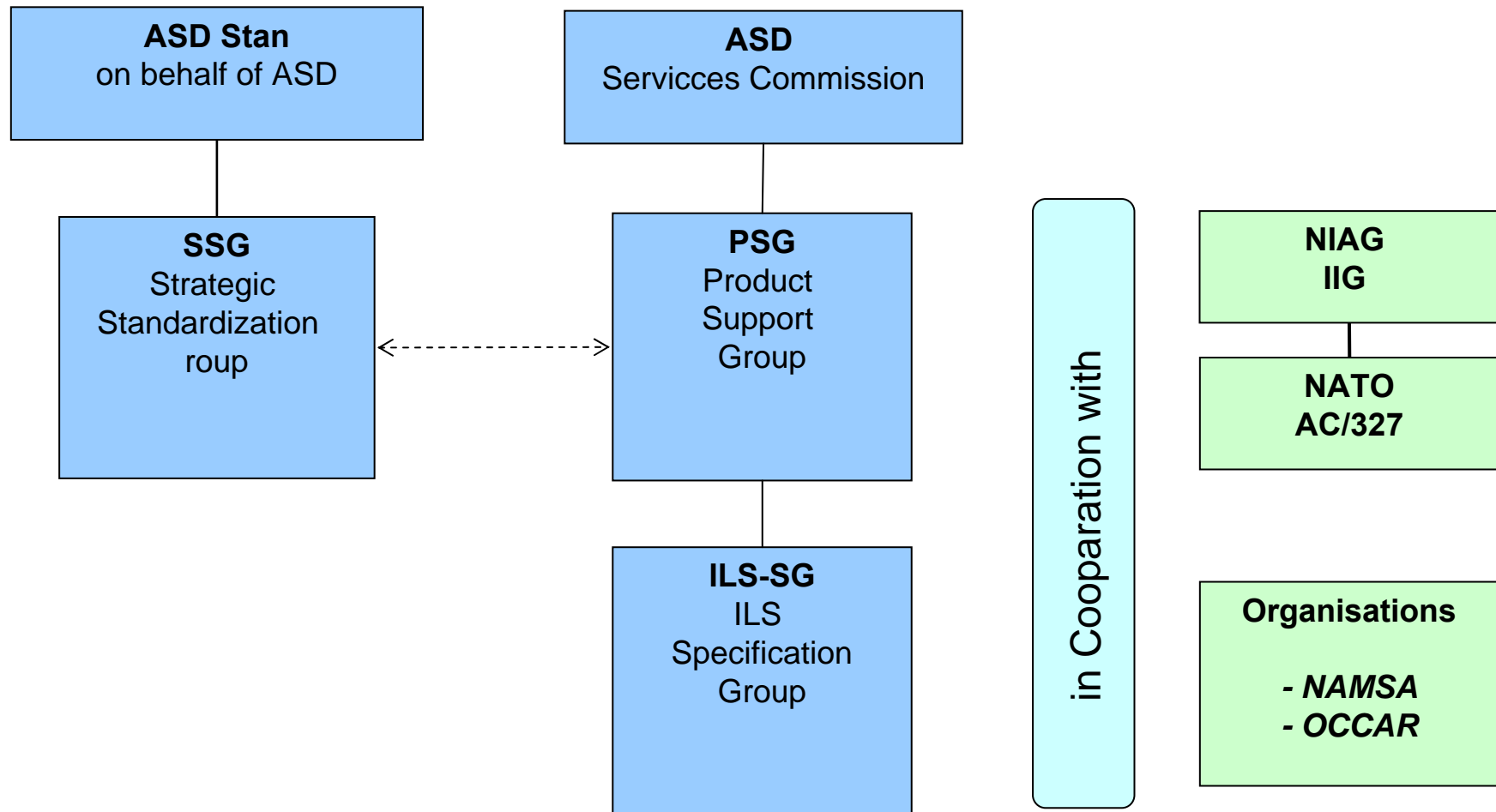


Services Commission Organisation



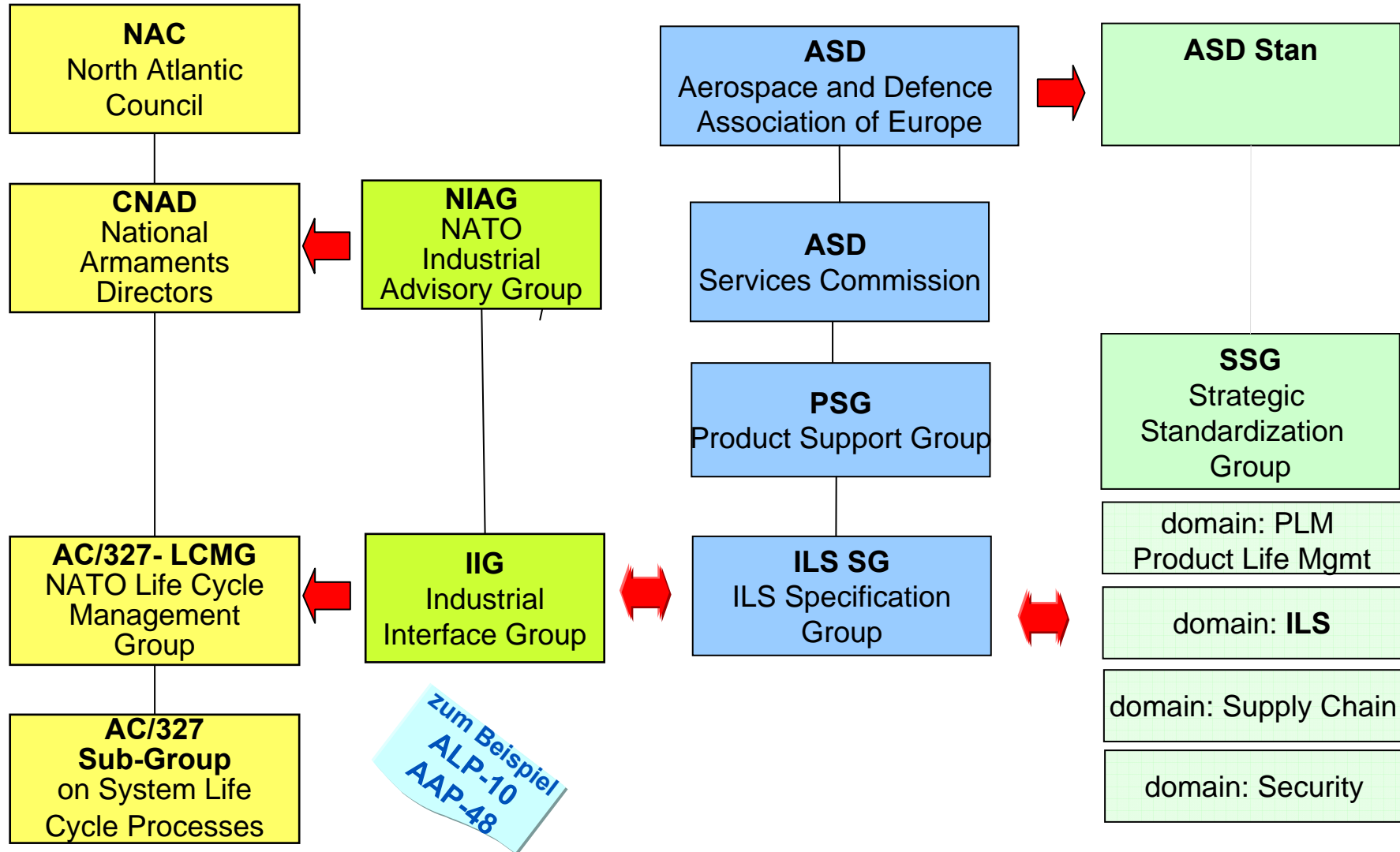


ASD Standardization Works





ASD Standardization Works



Aerospace Industries Association (of America)

Founded in 1919 as the Aeronautical Chamber of Commerce (ACCA)

- With a charter membership of 100
- Early members included Orville Wright and Glen H. Curtiss

Is the national aerospace industries association in the USA

- 154 full member companies
- 180 associated member companies
- Industry total \approx 450.000 employees
- 5 primary divisions: Space, Civil, National Security, Acquisition, and International Affairs
- Close to 40 Committees and Councils



<http://www.AIA-Aerospace.org>



already known?

Technical standard

from Wikipedia, the free encyclopedia

A technical standard is an established norm or requirement. It is usually a formal document that establishes uniform engineering or technical criteria, methods, processes and practices.

A technical standard may be developed privately or unilaterally, for example by a corporation, regulatory body, military, etc. Standards can also be developed by groups such as trade unions, and trade associations. Standards organizations often have more diverse input and usually develop voluntary standards: these might become mandatory if adopted by a government, business contract, etc.

A standard specification is an explicit set of requirements for an item, material, component, system or service



already known?

Interoperability

from Wikipedia, the free encyclopedia

Interoperability is the ability of diverse systems and organizations to work together (inter-operate).

The term is often used in a technical systems engineering sense, or alternatively in a broad sense, taking into account social, political, and organizational factors that impact system to system performance.

While **interoperability** was initially defined for IT systems or services and only allows for information to be exchanged (see definition below), a more generic definition could be this one:

Interoperability is a property of a product or system, whose interfaces are completely understood, to work with other products or systems, present or future, without any restricted access or implementation.

A bit of (standard) history

The metric system



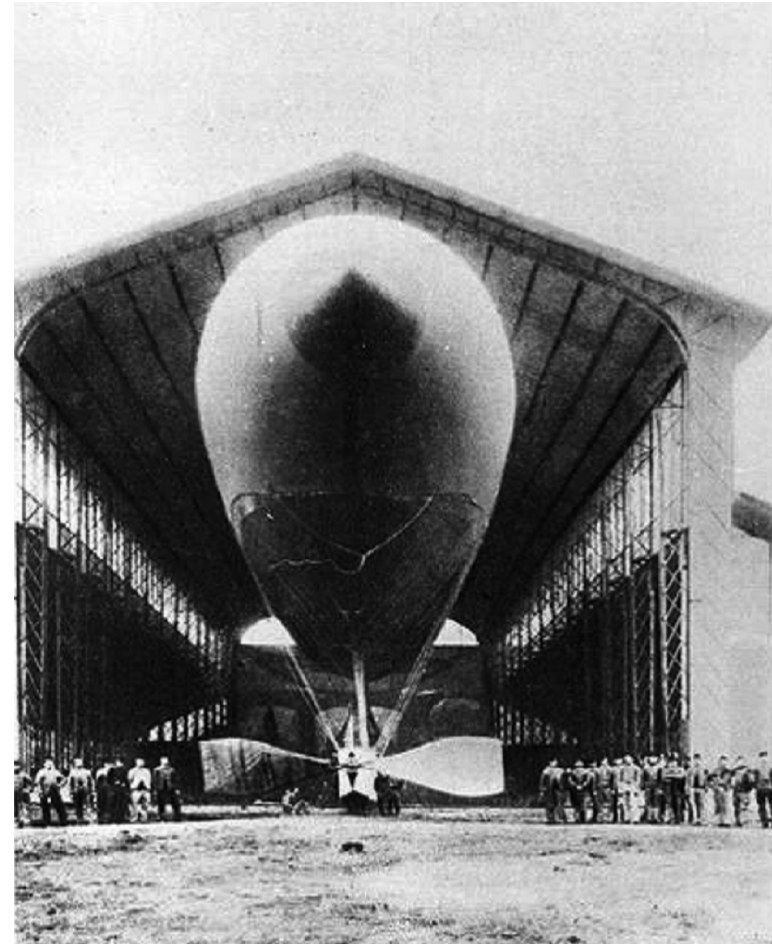
A bit of (standard) history Industrial development



1884 AD

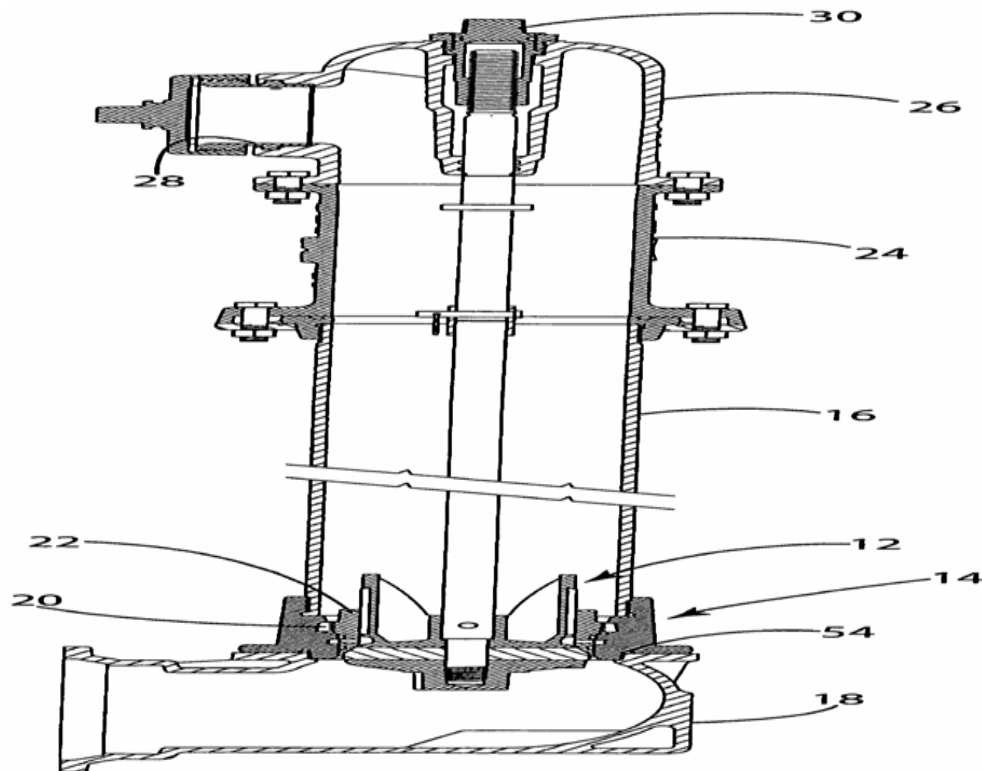
Charles Renard,
designer of air ships and dirigible war
balloons

Reduction from 425 to 17 types
of ropes and cables by using
a system of **preferred numbers**
(that was to become ISO 3)



A bit of (standard) history Interoperability

AD 1904 Fire hydrants and hoses



A bit of (standard) history Common understanding

Crossing borders asks for common understanding:

standardized pictograms may offer a solution

STOP WATCH OUT

No need to understand any of these three languages

...

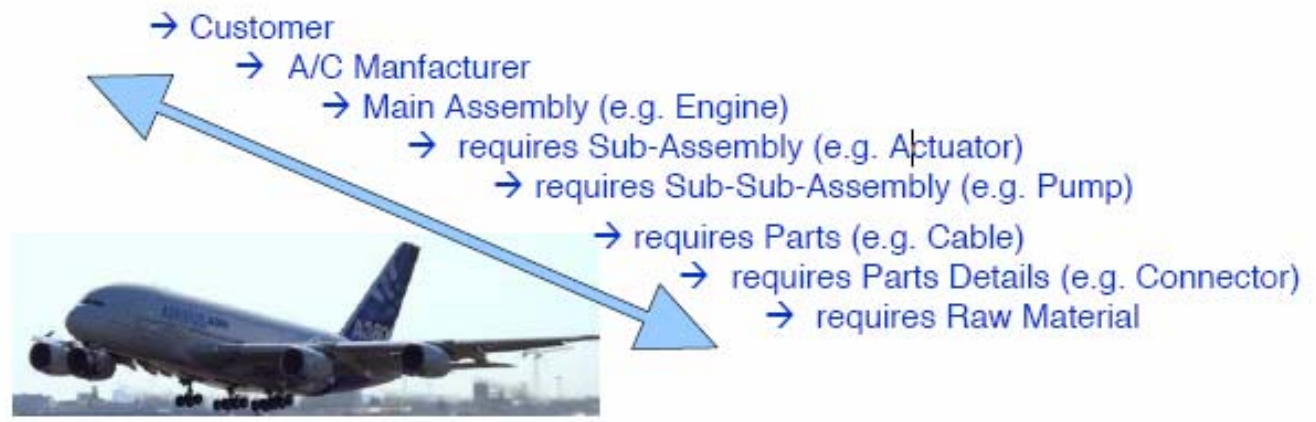
... or you may not have seen these animals before
you will





Extended Enterprise
Virtual Enterprise
Supply Chain

**Interoperability:
a critical factor for
the Aerospace and
Defence Industry**



**Digital collaboration
needed to improve
competitiveness**

**Increasing use of
digital product
models from the
preliminary design to
customer support**

**Long term archiving of
model-based dossier**

**Proliferation of
proprietary formats,
“digital breaks”**

**Processes, methods
and tools**

**Suppliers supporting
global market**

**Heterogeneous
practices, process and
platforms**

**Cost of evolution and
maintenance of effective
digital infrastructure**

**Need to secure the
investment made in
collaborative
infrastructure (e.g. PLM)**



Interoperability is a „must“



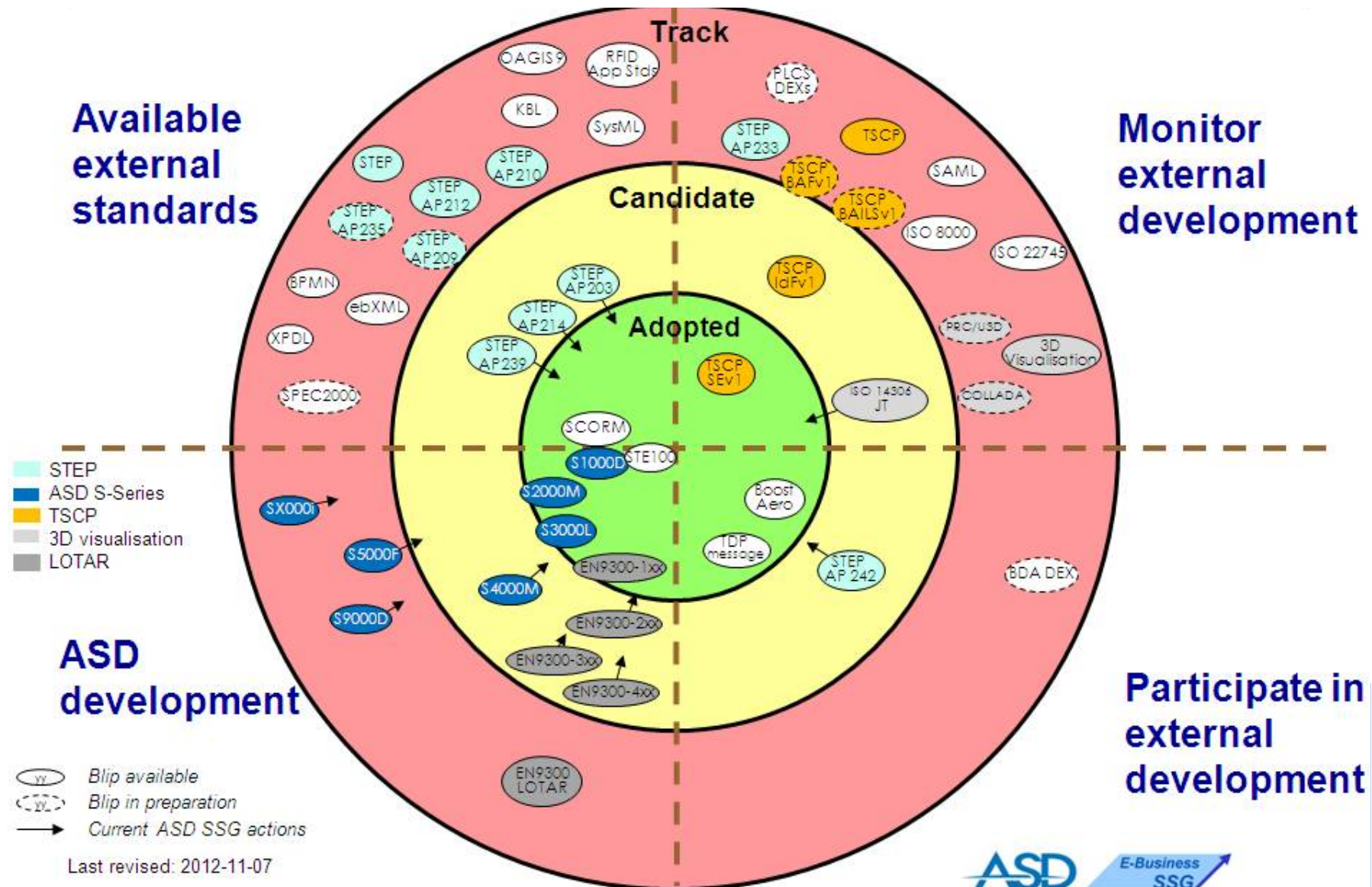
The Path to Interoperability

Many standards/initiatives/specifications have the potential to satisfy part of the overall requirement for interoperability

- Between companies and business partners
- Between functions in an organisation
- Between application systems

Challenge:

- Reduce overall cost and complexity by identifying the most appropriate solution components
- Provide concrete guidance on how to satisfy specific business requirements using an appropriate selection of those components





behind the “Radar blip”

- Abstract
- Full Title of Standard or Initiative (Acronym)
- Responsible organisation
- Business justification
- Description of activity/deliverables
- Relationship to other standards
- Known implementations
- Link to a standards host site
- Link to supporting material
- Business benefits
- Location in EEIC Framework
- EEIC Action Plan –Monitor/Participate/Develop/Adopt –Guidelines?
- EEIC Status (updated as necessary)
- Adoption plan
- Stakeholder adoption statement (final disposition decision)
- ASD recommendation
- Lead Organization within ASD / Other stakeholders – by function/organisation



Typical 'blip' S1000D Specification for Technical Publications

Abstract

- The International specification for technical publications utilizing a common source database, commonly known as S1000D, has been produced to establish standards for the documentation of any civil or military vehicle or equipment. It is based on international standards such as SGML/XML and CGM for production and use of electronic documentation.
- In addition, it defines a Common Source Data Base (CSDB) to provide source information for compilation of the publications and for use in electronic logistics information systems to deliver modules of information direct to the user.
- More recently, it has been linked to the PLCS development, which enables the compilation of technical documentation direct from the current product structure, and to SCORM, for training materials

*Click the icon below
to view the details.*

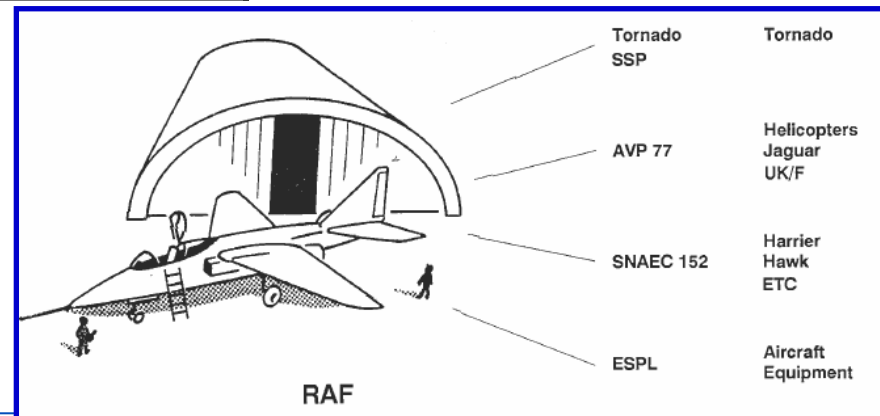


S1000D

Back to the Radar

Scenario of the early 70s: Provisioning – Procedures in use

Procedure	User
MIL-H-8910	Netherlands, Italy, Belgium
MIL-STD-1388	USAF
ATA 200	Civil Airlines
TORNADO SSP	RAF, IAF, GAF for TORNADO
B007 (VG 95007	German Army, Navy
GAF T.O. (C-1-4)	German Air Force
AVP 77 (AIR 104)	RAF, French AF, French Army



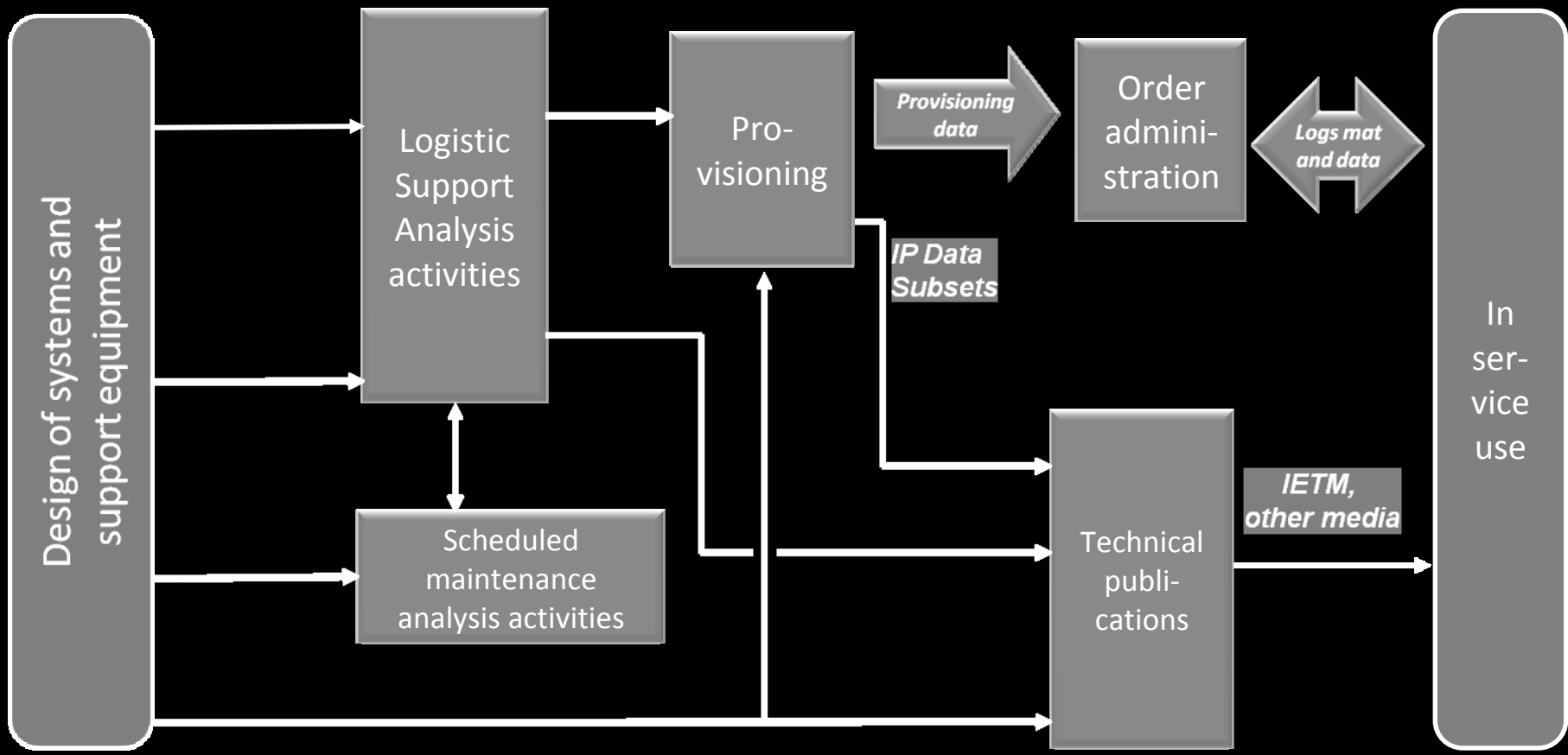
Back in anno 1993
a
NATO Acquisition
logistics workshop was held.

The outcome
of three intense weeks
was a
main business processes.

This process will be the framework for the
ASD/AIA Suite of S - Specifications

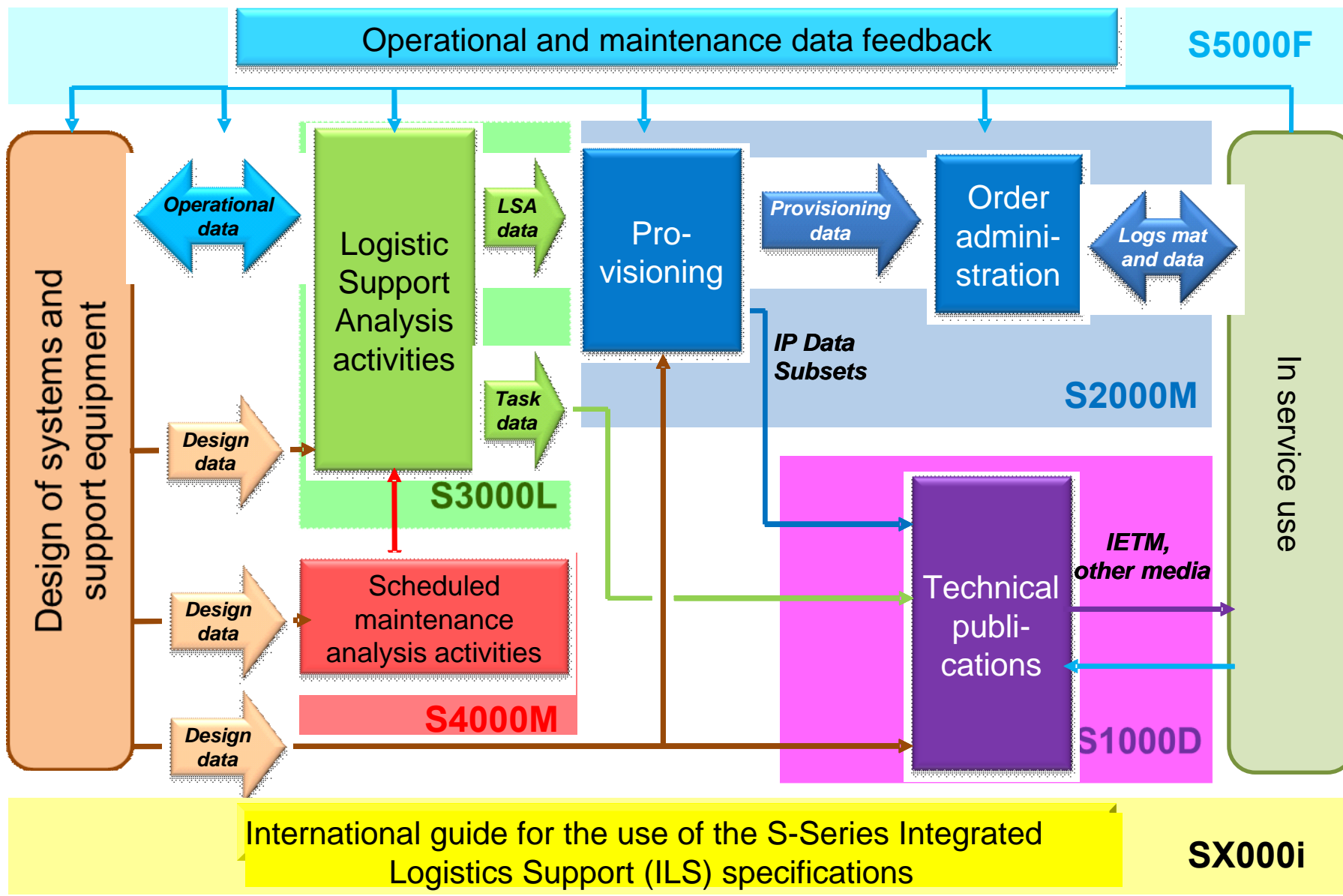
Original NATO acquisition logistics main business processes

This process chart is proudly presented by the Heritage Council of Retired ILS Managers



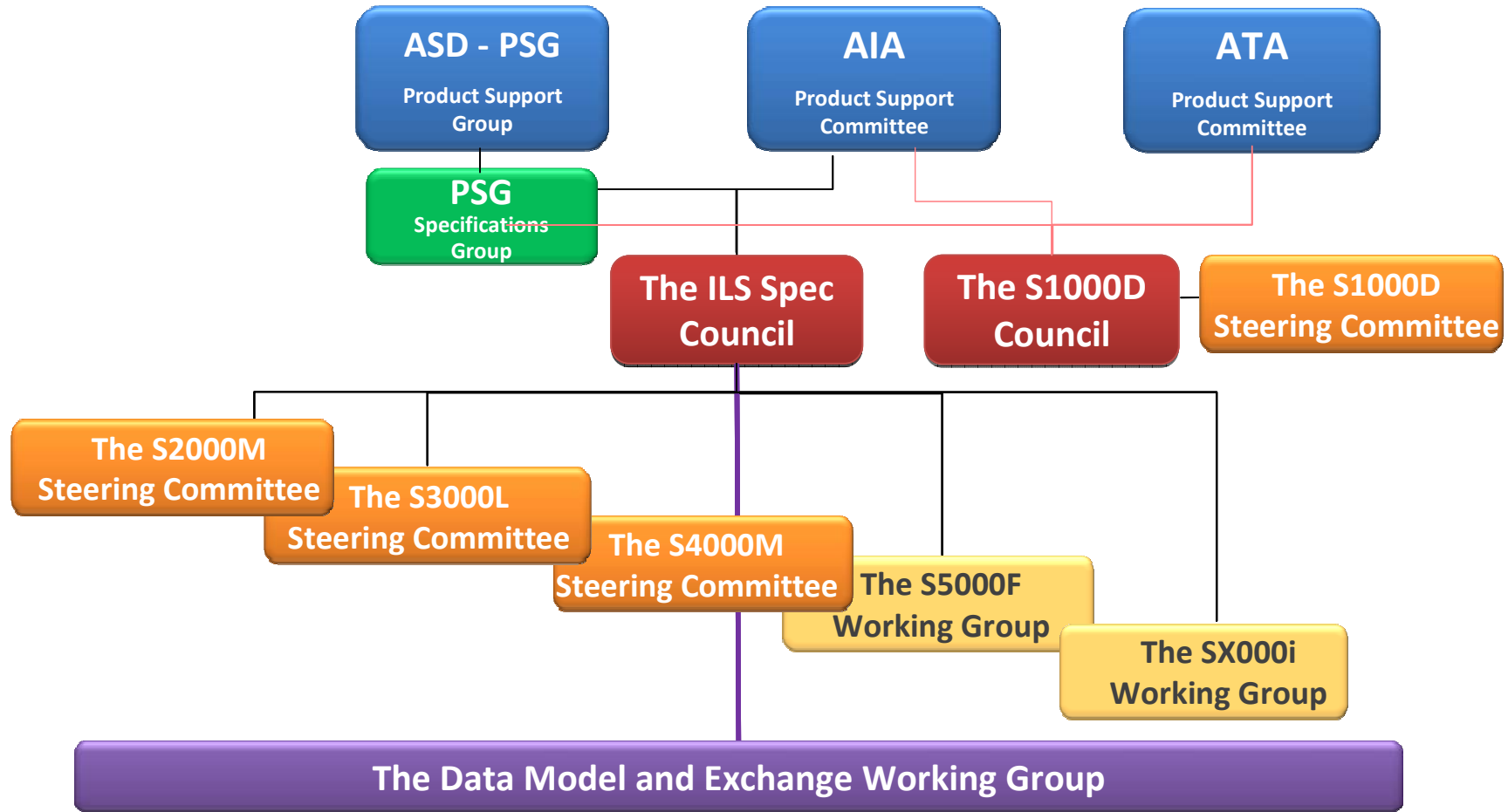


The ILS Process



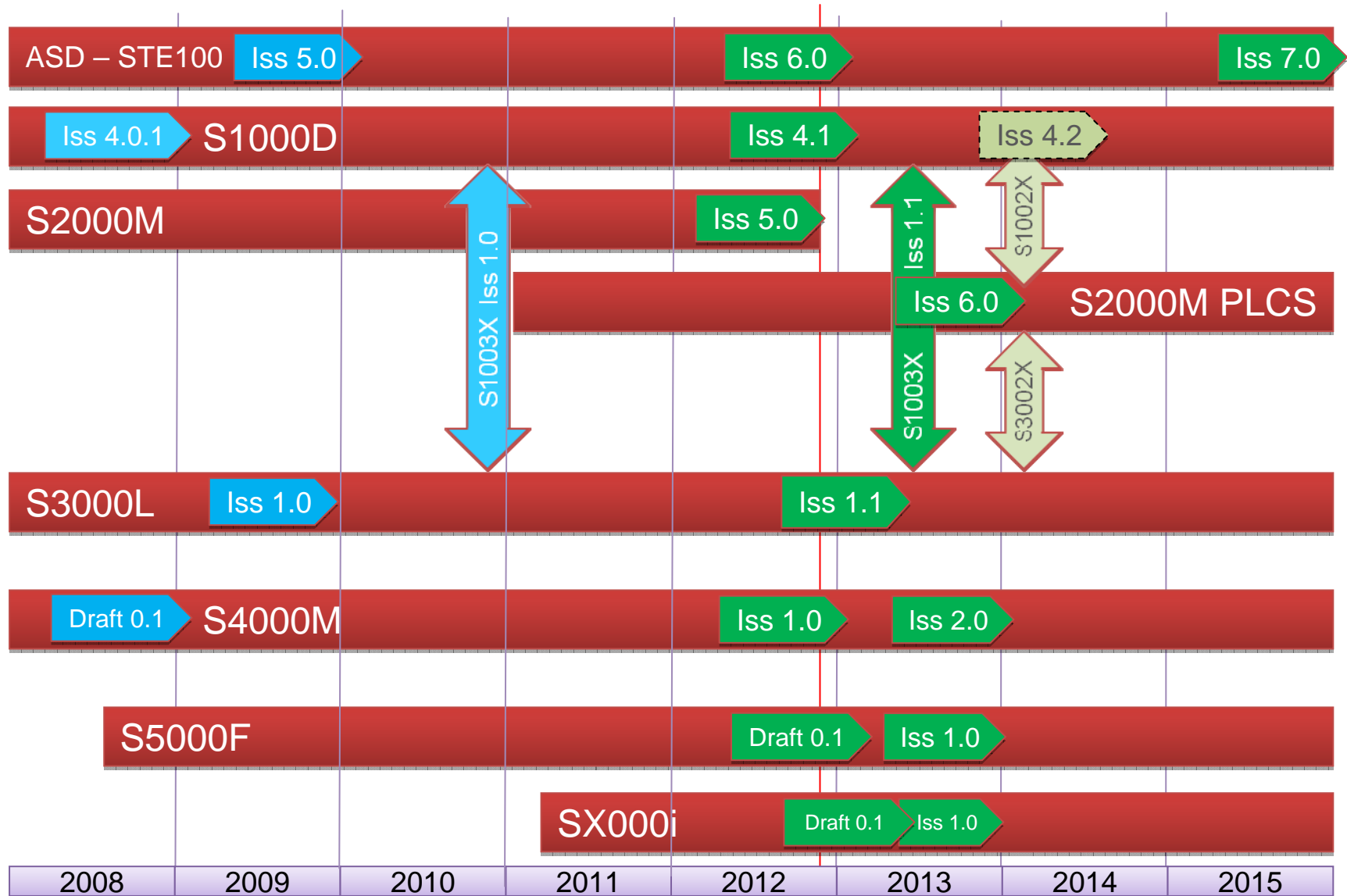


The ILS Specification Council





The Suite of S-specifications - Issue plan



The happy family





AIA/ASD Collaboration

- MoU for S1000D in place since 2004 (with ATA since 2008)
- MoU for other ILS standards signed July 2010
- Discussions held between SSG and corresponding AIA Electronic Enterprise Integration Committee to extend the co-operation
- Using common planning process – originating in AIA (the Radars)
- Areas of collaboration identified
 - LOTAR
 - REACH
 - Engineering information exchange standards
 - 3D visualisation
- MoU to promote the global development and exploitation of a wider set of e-Business Specifications signed Oct 2011



MoU between ASD and AIA on S-series specifications cooperation

The AIA/ASD MoU on the S-series specifications was duly signed by Marion Blakey and Francois Gayet on 21 July 2010.





MoU between ASD and AIA on S-series specifications cooperation

Vision

to be the international integrated specification suite for logistics support of aerospace and defence products



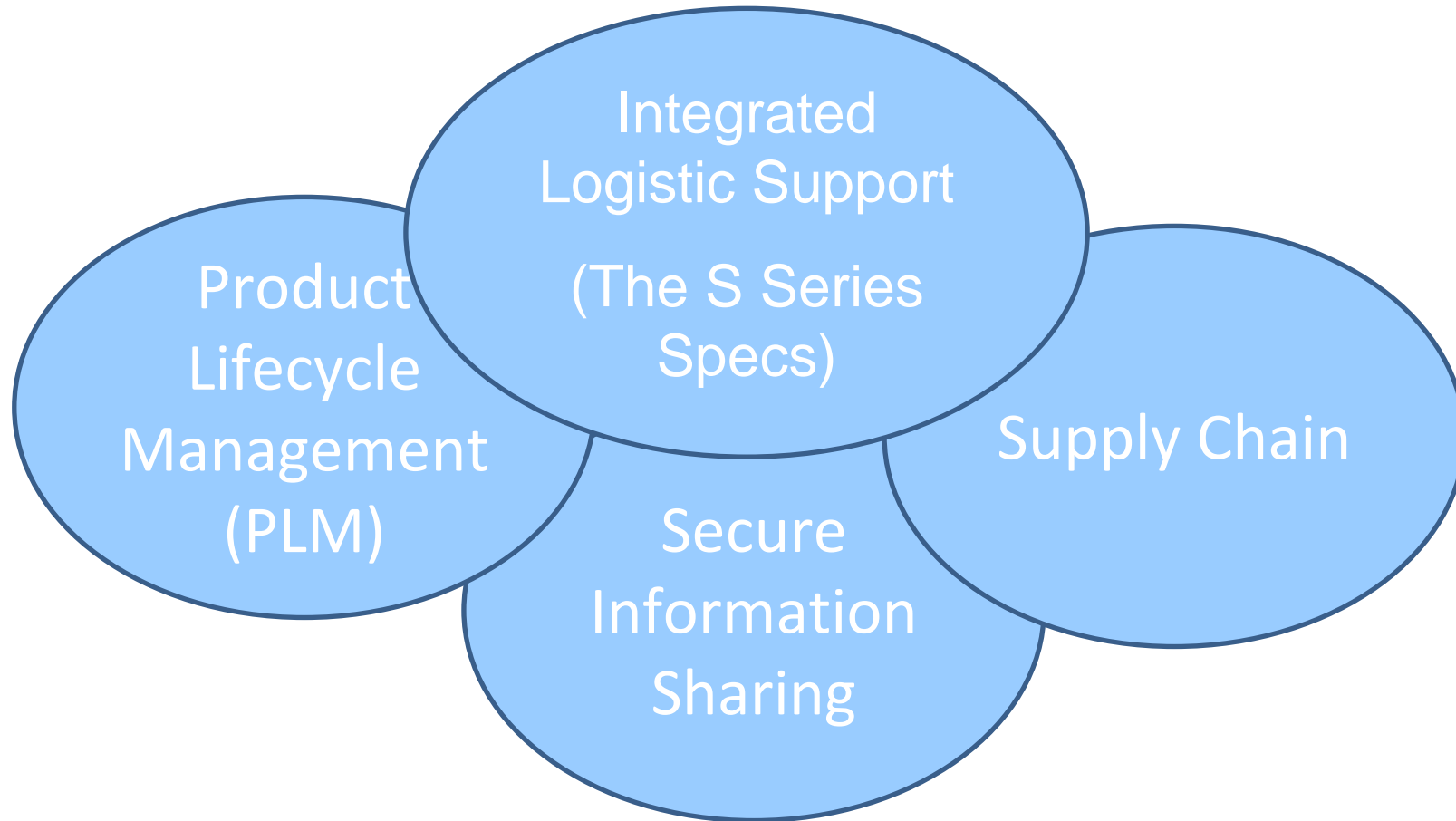
MoU between ASD and AIA on S-series specifications cooperation

Mission

- to minimize project dependency by defining clear guidance and by avoiding inclusion of project and national specific rules and constructs
- to ensure commonality between the ILS related specifications to support the re-use across projects
- to give rules and guideline for the realization of an integrated logistic support to emphasize the main principle of ILS, the integration of the different logistic disciplines (the "I" in ILS must be the main driver)
- to ensure the application of the basic ISO standards
- to establish well defined data transfer mechanism between the different logistic disciplines based on PLCS.
- to cover all aspects of supportability over the entire life cycle of a product.
- to be the contractual baseline for industry and customers
- to be up to date with the technical development and changes in support philosophy



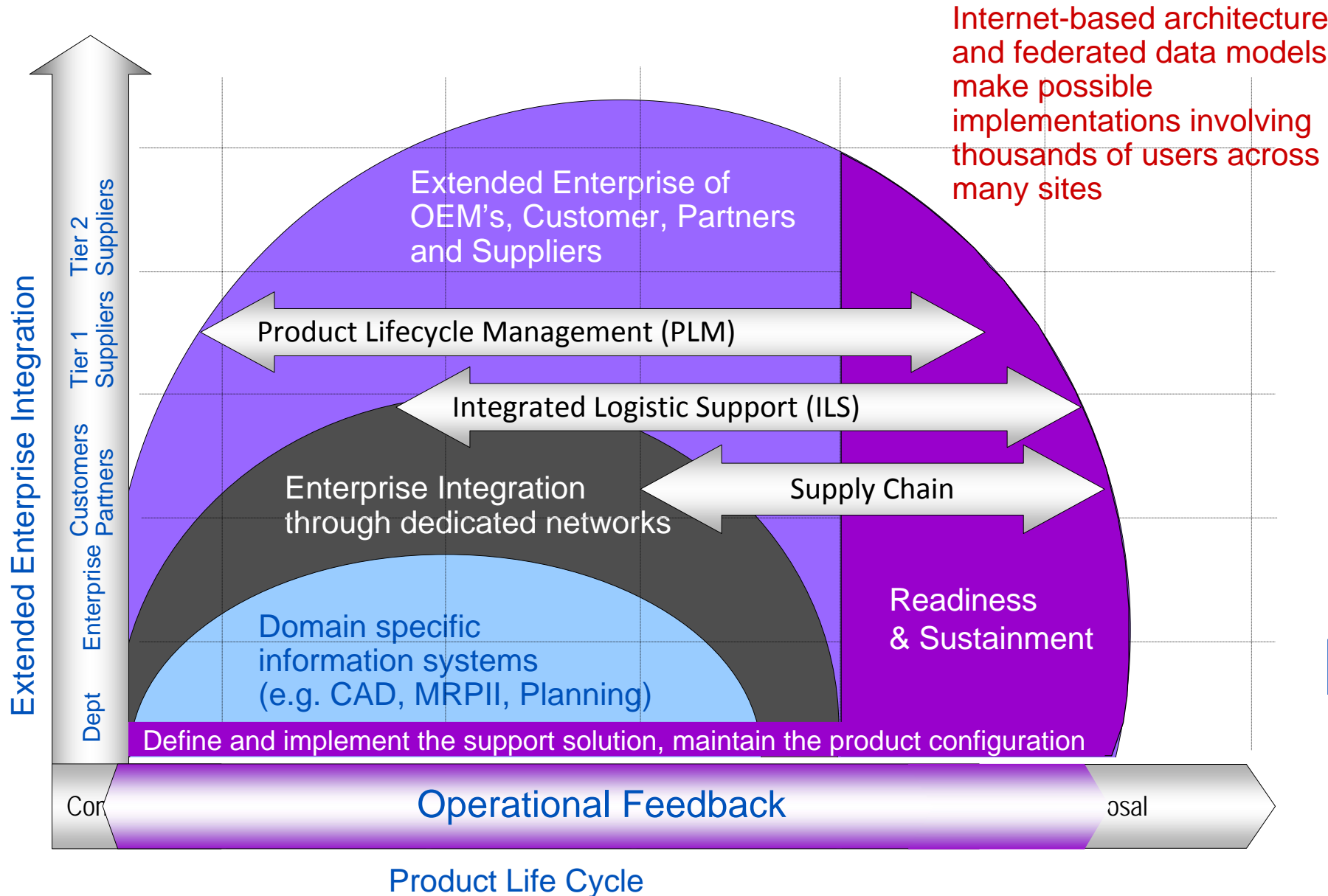
Third MoU signed between ASD and AIA to promote the global development and exploitation of a wider set of e-Business Specifications



..... for a complete e-Business capability



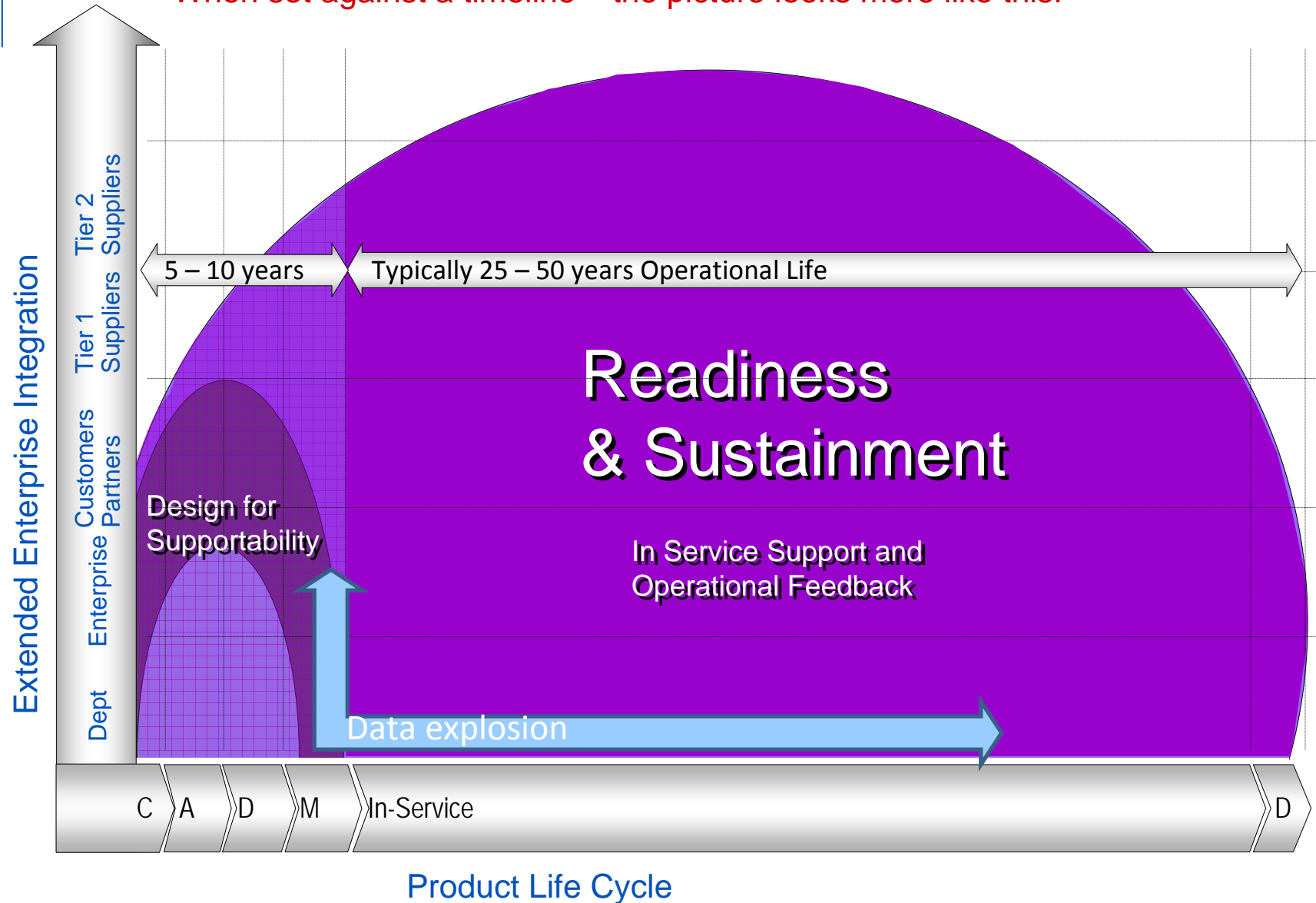
Integrating the Enterprise





The Information Challenge

When set against a timeline – the picture looks more like this!





The ASD Strategic Standardization Group (SSG)

The ASD Strategic Standardization Group (SSG) is a group of European manufacturers, A&D associations and military governmental agencies that shares efforts in the identification, development and maintenance, where necessary, and adoption of a set of coherent A&D e-Business standards and associated harmonised policies for operational use that drive interoperability



The ASD Strategic Standardization Group (SSG)

The European Aerospace, Space and Defence companies response to the challenge of e-Business standardisation:

- Identify a coherent set of e-Business Standards to reduce overall cost and complexity
- Drive the identification, development, maintenance and exploitation of a set of coherent e-Business standards
- Managed across 4 Enterprise e-Business Domains:
 - Design and Collaboration
 - Integrated Logistics Support
 - Supply Chain
 - Security (Secure Information Sharing)



The ASD Strategic Standardization Group (SSG)

The ASD SSG does not aim to create new e-Business standards but to **support effective governance at European level of International and European standards:**

- Identifying set of standards to use or to develop in order to cover the full spectrum of needs for e-Business;
- Proposing and applying governance tools at strategic and technical level (e.g. radar screen)
- Developing a network of experts
- Developing liaisons with all relevant standardisation organisations

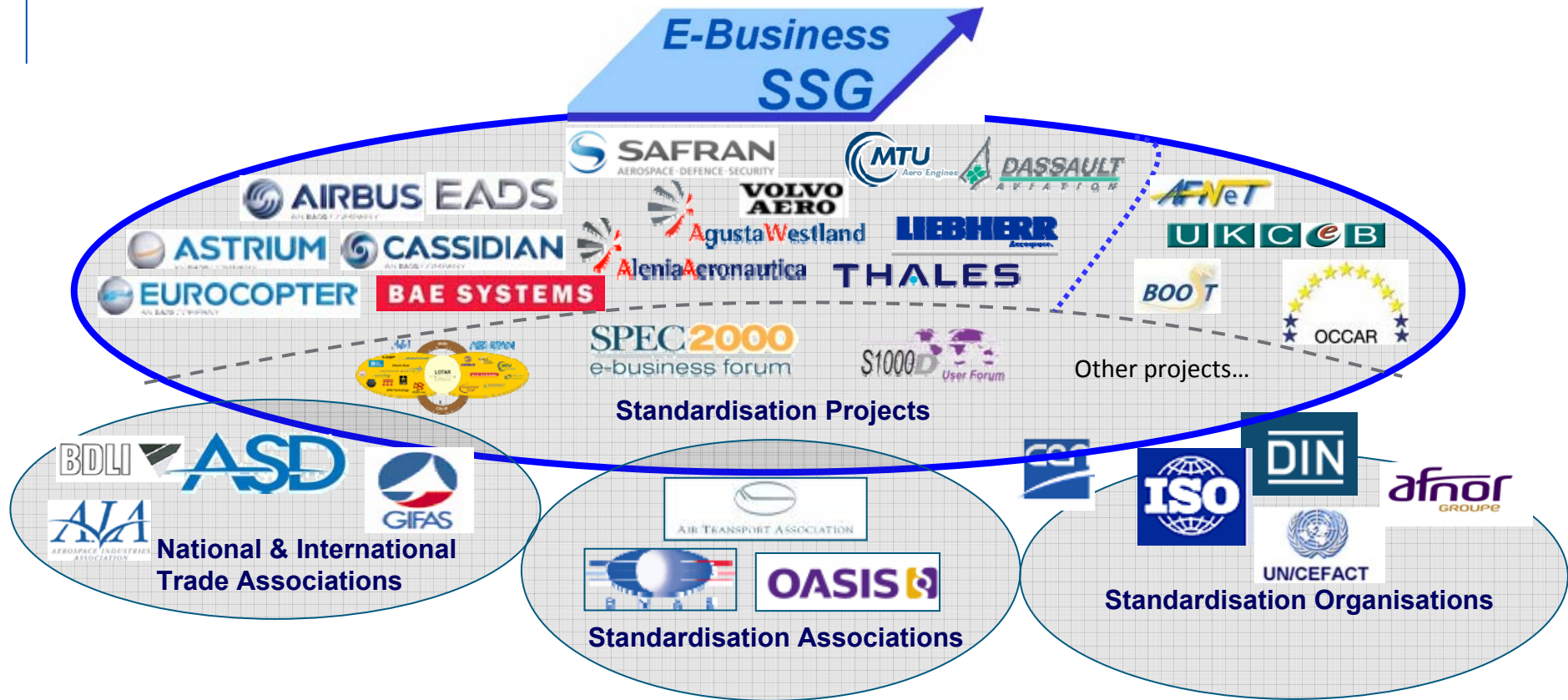


The Business Case for Electronic Integration

AIA/ASD members are committed to a vision for e-Business across the **industry**, where:

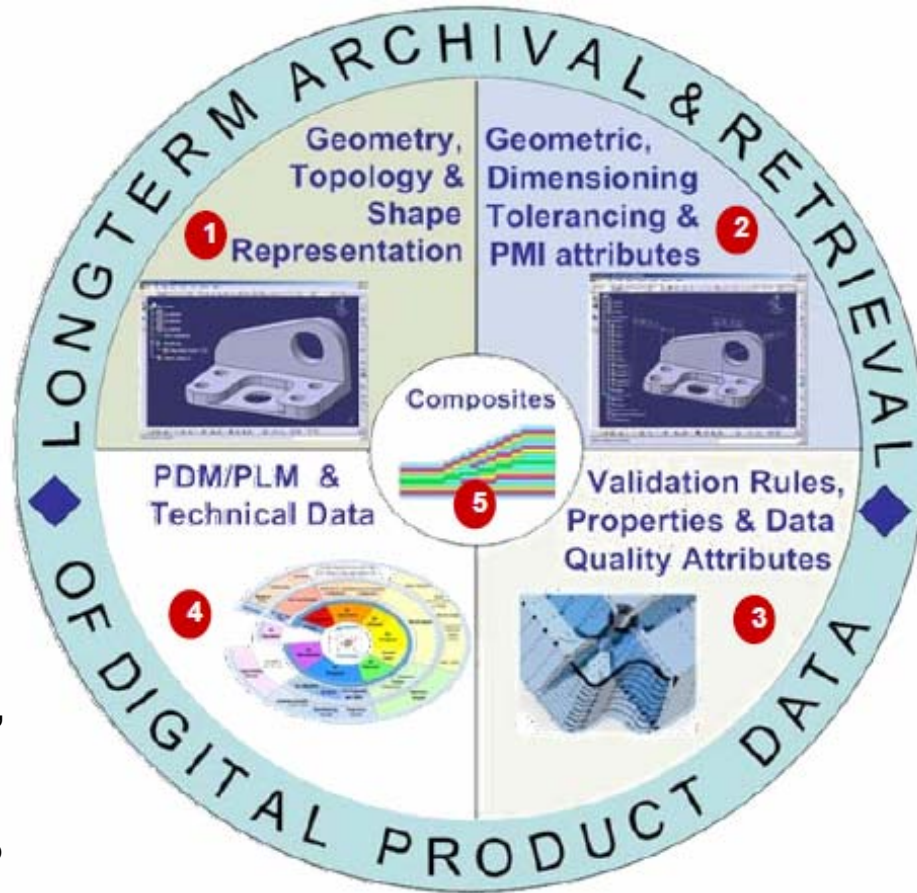
- all participants in the aerospace value chain will be able to exchange information across an information backbone relative to:
 - product design,
 - business relationships,
 - transactions,
 - and product support
- This vision is to be achieved through industry-level adoption of:
 - policies and standards,
- benefits to prime contractors, suppliers and customers through simplification of electronic trading,
 - fewer interfaces and simpler processes,
 - reduced support costs
 - more agile
 - responsive teaming.
- generate innovative process changes to further improve performance

The ASD Strategic Standardization Group (SSG)



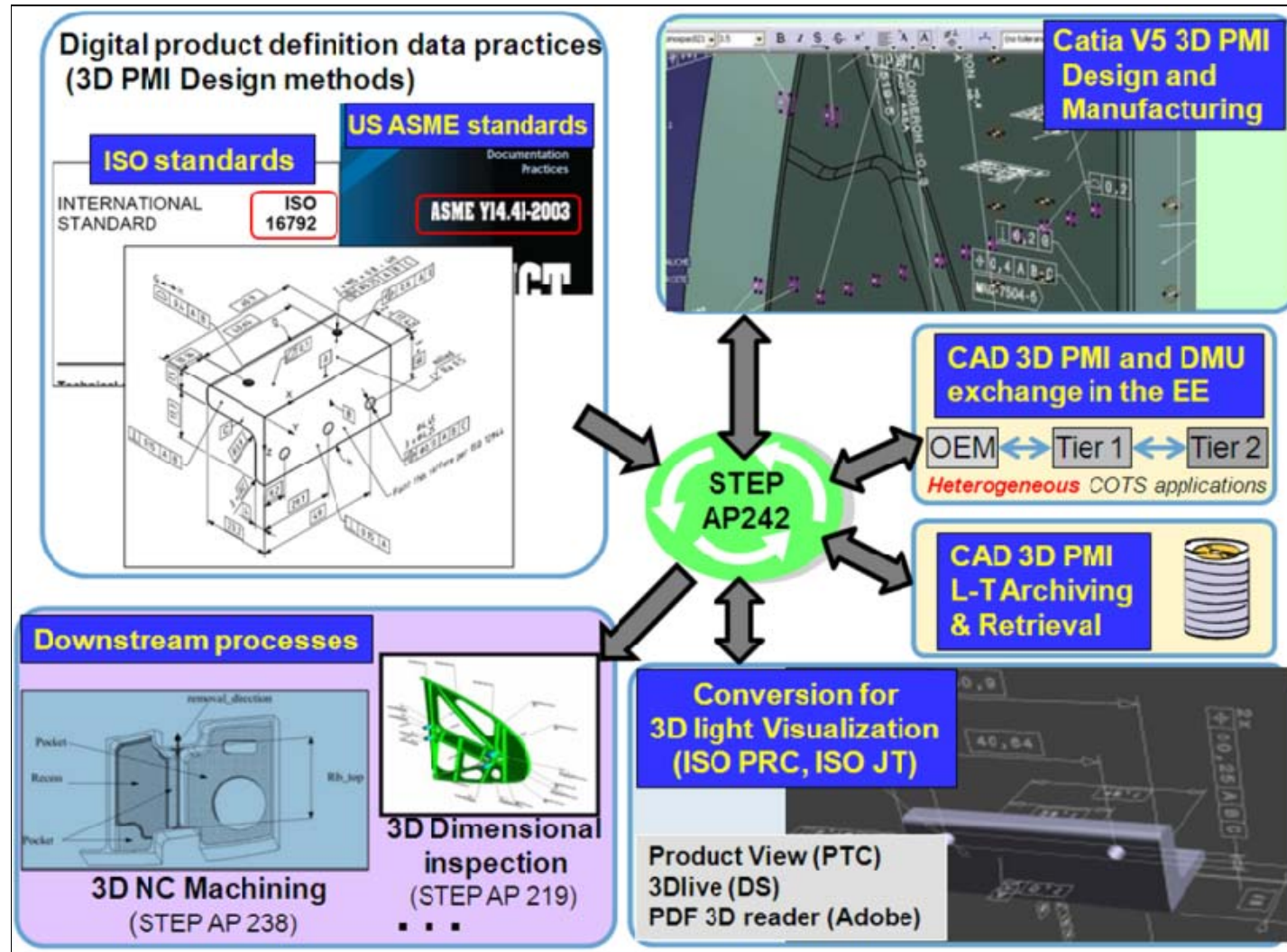
Drive for co-ordination and coherence...

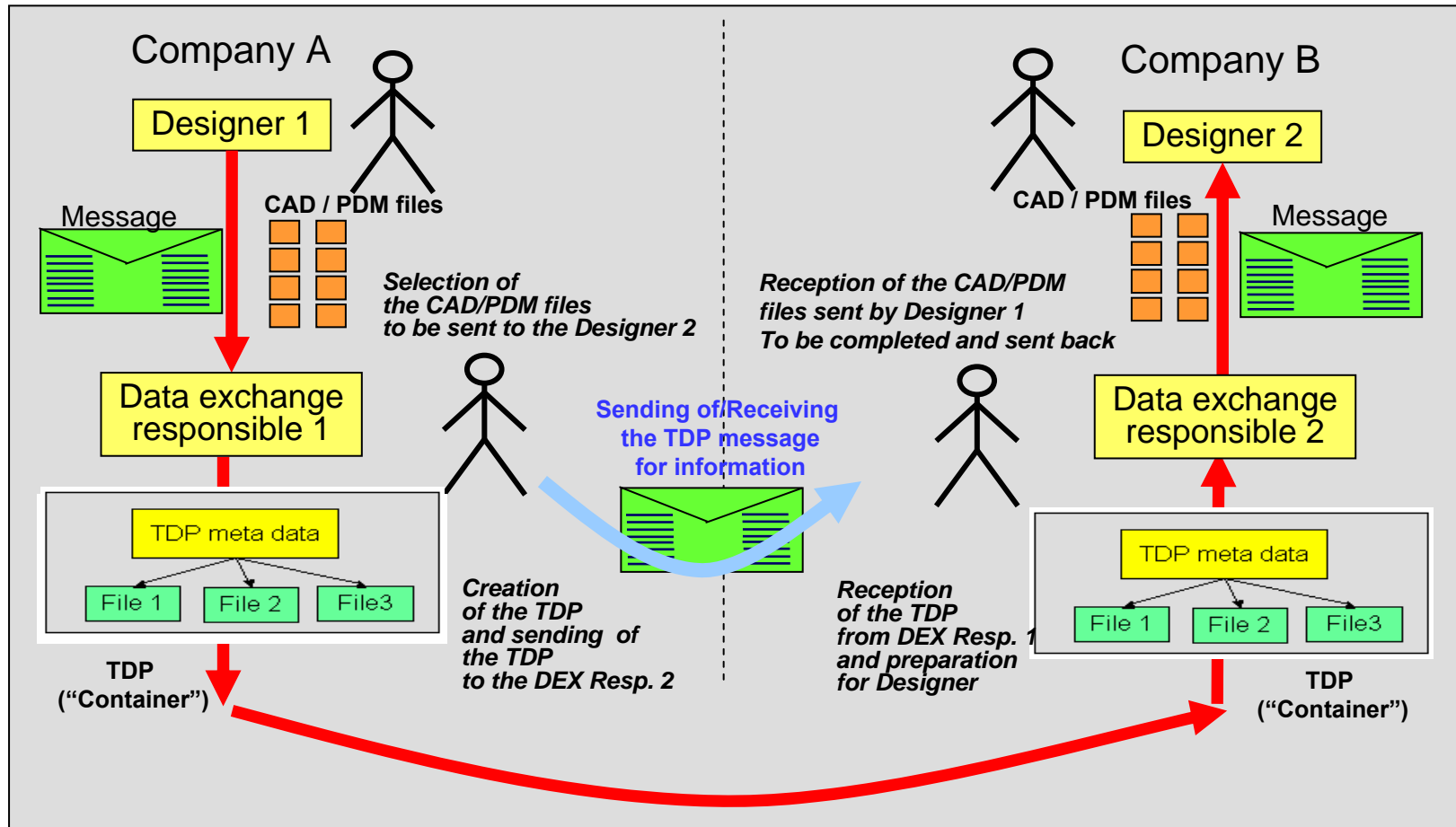
The 5 areas addressed by the LOTAR project



Participants: Airbus, BAE Systems, Boeing, Dassault Aviation, EADS, Eurocopter, General Dynamics, Goodrich, IAI, Lockheed Martin, SAFRAN, Sandia, and Spirit, with PDES Inc. and ProSTEP iViP

LOTAR public web site: <http://www.prostep.org/lotar/>







Conclusion

Need for the Aeronautical Industry to develop a strategy on “Design and Collaboration”

Common approach with AIA

ASD SSG drives this strategy through

- **Agreed Use Cases**
- **Initiation of new projects (e.g. STEP AP242, TDP Message)**
- **ASD policies and standards adoption statements**

More information: www.asd-ssg.org



already known?

World Standards Day

from Wikipedia, the free encyclopedia

World Standards Day is celebrated internationally each year on 14 October.

1. The day honours the efforts of the thousands of experts who develop voluntary standards within standards development organizations such as the International Electrotechnical Commission (IEC), International Organization for Standardization (ISO), and the International Telecommunication Union (ITU).

The aim of World Standards Day is to raise awareness among regulators, industry and consumers as to the importance of standardization to the global economy.

14 October was specifically chosen to mark the date, in 1946, when delegates from 25 countries first gathered in London and decided to create an international organization focused on facilitating standardization.

2. Even though ISO was formed one year later, it wasn't until 1970 that the first World Standards Day was celebrated.

World Standards Day

Each year, ISO determines a theme based on a current aspect of standardization.



2012

Less waste
better results



2011

Creating
confidence
globally



2010

Accessibility fo all
with International
Standards

Employment interview at IKEA





Thank you for your attention!

The reproduction, distribution and utilization of this document as well as the communication of its contents to others without express authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or design.