



**Implementing**  
< implementing

**Shipdex™**  
S1000D™ >

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**Digital Ship  
Conference**

Hamburg SAS Radisson  
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Part I: **Introduction of HiCo and this presentation**

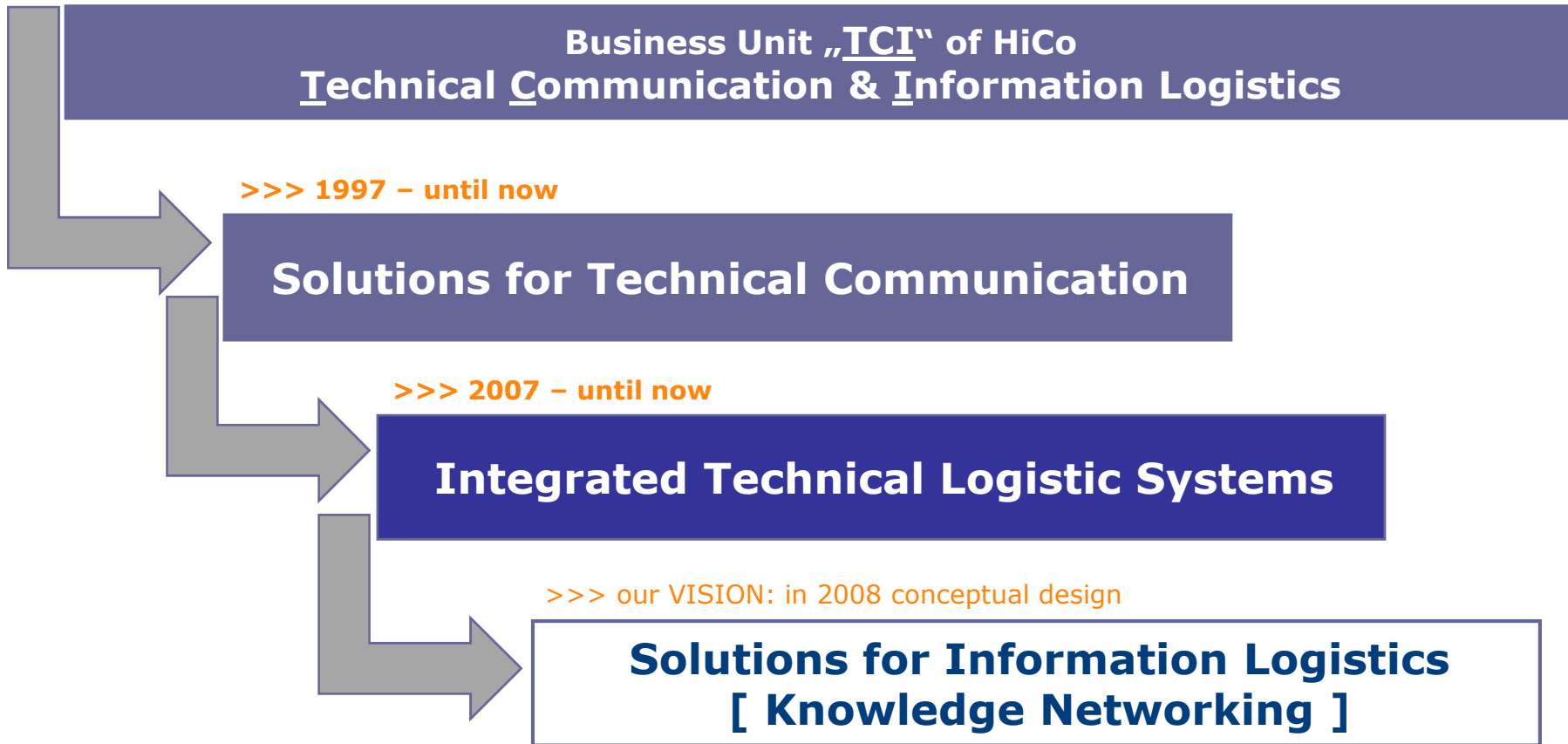
Part II: **S1000D™ - Where do I begin?**

Part III: **What is needed to enable S1000D™?**

Part IV: **AMOS Data Manager**

First Application to support the validation of Shipdex™-data and to store data in AMOS Business Suite in an automated way.

- ☛ **HiCo-ICS** was founded in **1997** in Eisenstadt / Austria
- ☛ European **provider of IT services & products for integrated & companywide solutions for Information Logistics**
- ☛ Headquarter in **Eisenstadt** close to **Vienna** with branchlet in **Pinkafeld** in the Southern Burgenland
- ☛ Organized in **different business units** for optimized communication and productivity of the defined target groups
- ☛ European presence by means of the integration in **partner and technology networks**
- ☛ Economic stability because of **long-term co-operation** with customers in partnership
- ☛ Our **customers are leading European and national companies**
- ☛ Highly **regional positioning** because of product offerings and Know-How transfer for the benefit of Ministries, Communities and SME 's
- ☛ Approx. **40 permanent employees**



## Partner and Technology networks



### Introduction of HiCo and this presentation



- International partner of the Software AG in the area of **XML-based information technologies** and **service-oriented architectures**
- Providing of technological basis for information and process integration



- Worldwide leading provider of **SGML-/XML-Authoring Tools** and **Enterprise Publishing Solutions**
- HiCo has been authorized partner of Arbortext (PTC) since **2001**
- PTC has taken over Arbortext in 2005 and Itedo in 2006
- Since 2007 Authorized **Maintenance Service Provider (MSP)**
- Since 2007 Authorized **Training Partner**



- Since 2007 cooperation with **SpecTec**, the worldwide leading company in asset management systems for shipping, oil & gas and navies.



- Since 2002 authorized engineering und sales partner of **Tridion B.V.**, the leading provider of Web Content Management and Business Communication

# Extract of Reference List



Introduction of HiCo and this presentation

## aviation, ship building industry & marine



## financial services & public sector



## public sector, communities and SME's



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## What is the Shipdex™-protocol?

[with reference to Shipdex™-presentation of Mr. Marco Vatteroni]

### ☛ Shipdex™ is ....

- ☛ the International Business Rule (“*The Protocol*”)
- ☛ to be applied to S1000D™
- ☛ to standardize the production and the exchange of technical data **within the shipping community**  
([www.shipdex.com](http://www.shipdex.com))

### ☛ Shipdex™ is a standard for **EDI** (Electronic Data Interchange) in the shipping community based on S1000D™

### ☛ ..bottom-up to this definition we will explain

- ☛ history and organizations behind S1000D™  
([www.s1000d.org](http://www.s1000d.org))
- ☛ the meaning of “Business Rules”
- ☛ What we need to enable S1000D™

- S1000D™ defines **standards for the technical publication** of any civil or military vehicle or equipment.
- S1000D™ is based on international standards such as SGML/XML and CGM for the **production, exchange and use of electronic technical documentation**.
- S1000D™ defines a Common Source Data Base (CSDB) to provide source information for compilation of **Technical Publications** and for use of the technical and logistic information in integrated electronic **Logistics Information Systems** to deliver modules of information directly to user.
- S1000D™ is a registered trademark of ASD Aerospace & Defence Industries Association of Europe ([www.asd-europe.org](http://www.asd-europe.org)).

# History and background of S1000D™



S1000D™ - Where do I begin?

1973

**AECMA** European Association of Aerospace Industries

1993

from 2004



Aerospace & Defence Industries Association of Europe

2001

from 2003



USA: Aerospace Industries Association

from 2007



AIR TRANSPORT ASSOCIATION

US → ATA: Air Transport Association



v1.x of the specification:

- ❖ v1.7: October 1993
- ❖ **European Standard**
- ❖ **Military aviation**
- ❖ v1.7 to v1.9 = SGML

v2.0 – v2.2 of the specification:

- ❖ **International Standard**
- ❖ **Adaption to support**
  - land,
  - sea/marine
  - and
  - **industry in general**
- ❖ from 2005: start of the integration of ATA iSpec 2200
- ❖ support of SGML and XML

v2.3 and v3.0 of the specification:

- ❖ Strong integration of ATA iSpec 2200 and therefore **increasing establishment in civil aviation**
- ❖ **Further expansion to the civil shipping industry: Shipdex™-Protocol**
- ❖ Focus on XML
- ❖ From v2.3: not downwardly compatible any more!



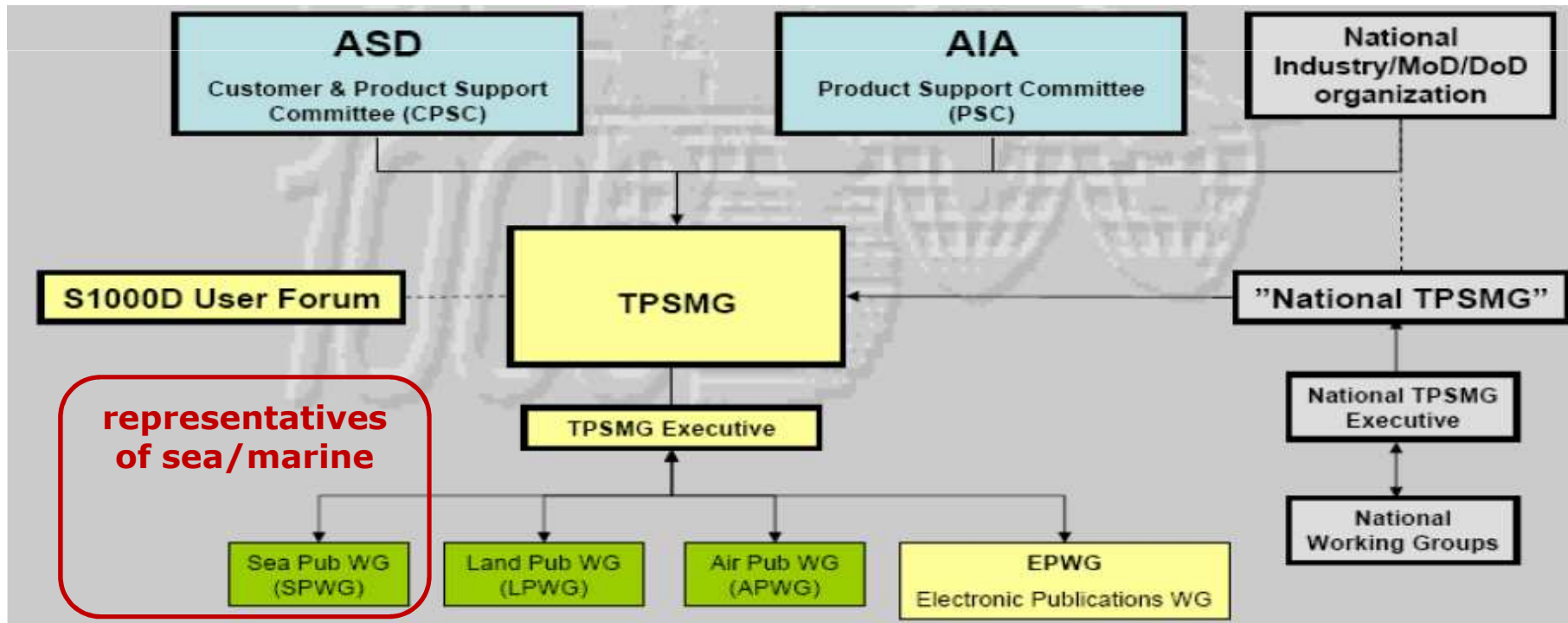
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# Who owns S1000D™?



S1000D™ - Where do I begin?

- The **Technical Publications Specification Maintenance Group (TPSMG)** is the Standardization Board of S1000D™ ([www.s1000d.org](http://www.s1000d.org))
- The **TPSMG combines forces of the**
  - **ASD** Aerospace & Defence Industries Association of Europe
  - **AIA** Aerospace Industries Association of USA
  - **ATA** Air Transport Association
- In close coordination with PLCS, Inc. to ensure STEP AP239 compatibility



- HiCo is member of AAIG .....
- AAIG (**Austrian Aeronautics Industries Group**) was founded in 1999 as a Non-Profit-Organisation and is a **member of the ASD** (Aerospace & Defence Industries Association of Europe)
- Since March 2004 ASD has been the new umbrella organization of the European Aeronautics/Aerospace and Defence Industries.
- Because of the membership in AAIG HiCo is also a full member of ASD (former AECMA).**
- ASD provides international standards**, which are used in current projects of HiCo Group in the area of aviation, ship building, military und other industries.
- In 2006 HiCo was affiliated to the **TPSMG** as Austrian industrial representative – an international **Standardization Board for further development of S1000D™**



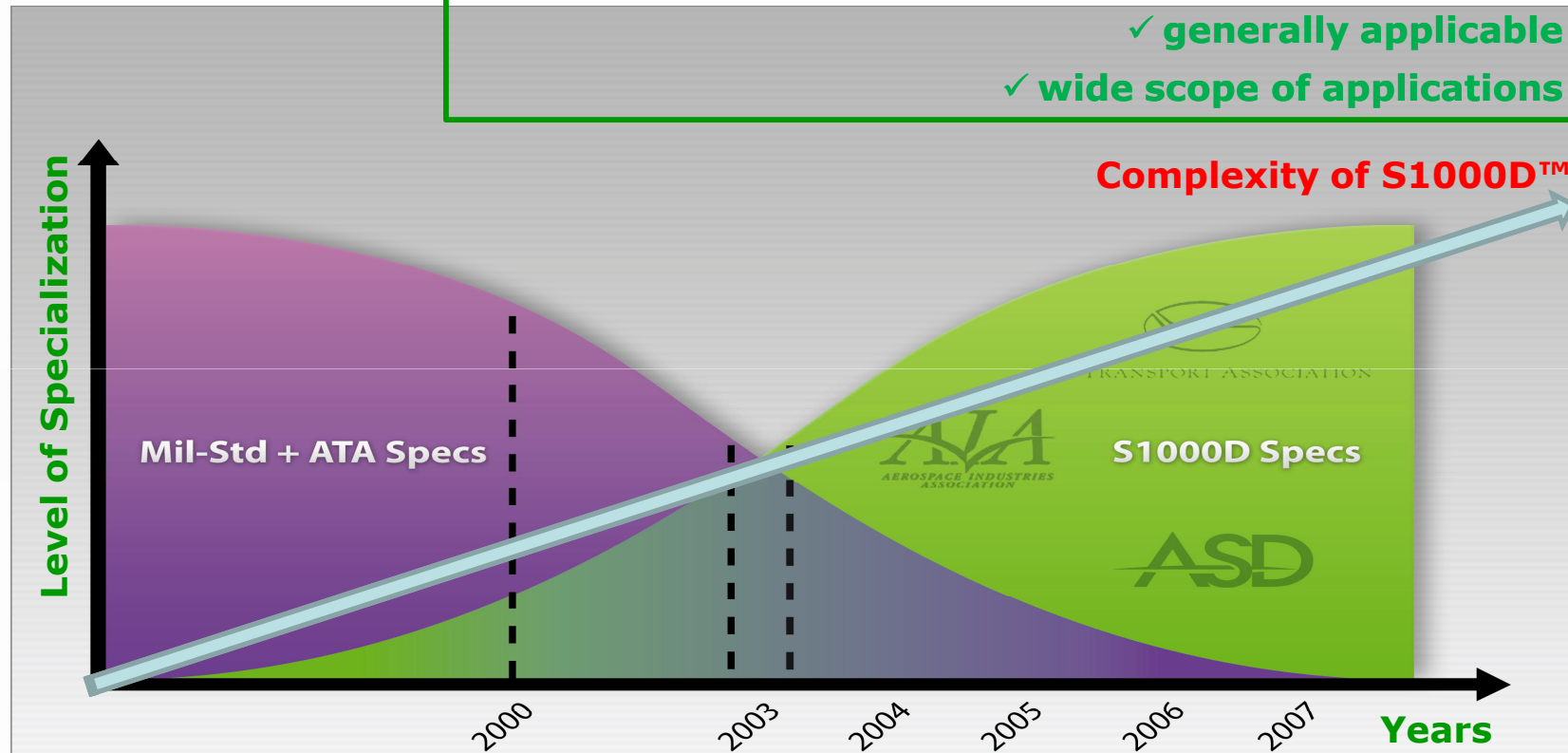
# S1000D™ has enhanced to an international standard



S1000D™ - Where do I begin?

## Advantages of the internationalization of S1000D™:

- ✓ international standard
- ✓ generally applicable
- ✓ wide scope of applications



## Disadvantages of the internationalization of S1000D™:

- ✓ **continuous enhancement of specification** – high number of pages  
(v1.7/1993: ca.980 pages; v2.0/2003: ca. 2.000 pages; v2.3/2007: ca. 2.600 pages)
- ✓ **increase of complexity**

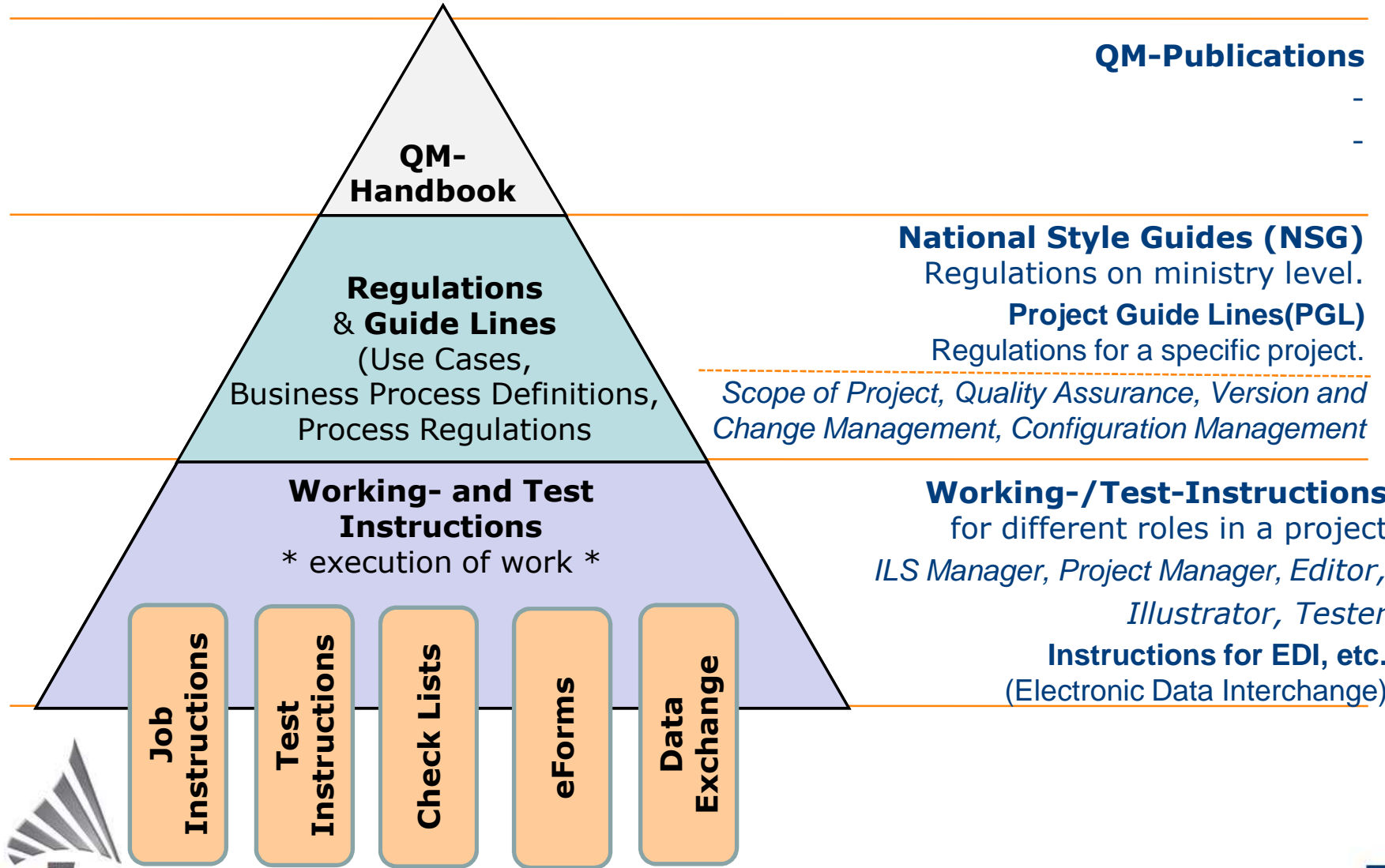
# The 1st step to implement S1000D™: Tailoring of S1000D™



S1000D™ - Where do I begin?

**QMS** (DIN EN ISO 9001):

**„S1000D-™-Projects“**



- ☉ **National Style Guides (NSG) and Project Guide Lines (PGL) .....**
  - ☉ are referencing "1 to n" Versions of S1000D™

### **Business Rules will be deducted from the NSG and PGL**

- ☉ **Business Rules defines**
  - ☉ information structures,
  - ☉ electronic workflows,
  - ☉ configuration parameters
  - ☉ and the flow controlof the defined workflows and IT-systems with the objective of a high quality of data.
- ☉ **The amount and complexity of business rules depends on the Information Supply Chain Management which has to be implemented.**

**Shipdex™ defines a specialized Business Rule Set with the objective of the standardized Electronic Data Interchange (EDI) within the shipping community**

# What is needed to enable S1000D™?



What is needed to enable S1000D™?

## Authoring Capability [to create data]

- An authoring application is needed capable of authoring XML/SGML modules in compliance with S1000D schemas/DTDs. To be effective, the authoring application must be XML/SGML native like the Arbortext Editor application.
- An effective Illustrating tool, such as IsoDraw, capable of producing illustrations meeting S1000D requirements is also required

## CSDB (Common Source DataBase) Capability [to manage data]

- Data management environment is needed capable of managing S1000D™-modules and related information. Per the S1000D™ specification this could be as simple as a file/folder system on a shared drive and as sophisticated based on a component based content management system.
- automated Business Rule and Data Validation Utilities

## Publication Capability [to publish data]

Ability to distribute appropriate publications as needed in appropriate formats for different media.



# What is needed to enable S1000D™?



What is needed to enable S1000D™?

## Tools for efficient communication [for use of data]

S1000D™ contains some expectation around the presentation of technical publication. One important element of that is the support of hot spotted graphics within the S1000D™ has a preference for CGM graphics.

- **Browser-Applications for IETP/IETM**
- **PDF-/Paper-Publications**
- **Simple Browsing in HTML-Publications**

## Tools for Business Process Integration

[to integrate existing systems & information]

S1000D™ offers some flexibility to be configured based on the products being documented. As such, there is a need for tools to insure customer business rules. This is needed for the exchange of S1000D™ data amongst partners and even internal to a company.

- **Process Integration**
  - Quality Inspection, Change-/Configuration-Management, eForms
- **Information Integration**
  - Integration of existing legacy data
  - Integration of different sources of information
- **System Integration**
  - Bridge to Authoring-/CMS-Systems of different vendors
  - Integration of ERP-Systems, CMMS (AMOS BS), etc.



# Information Supply Chain Management

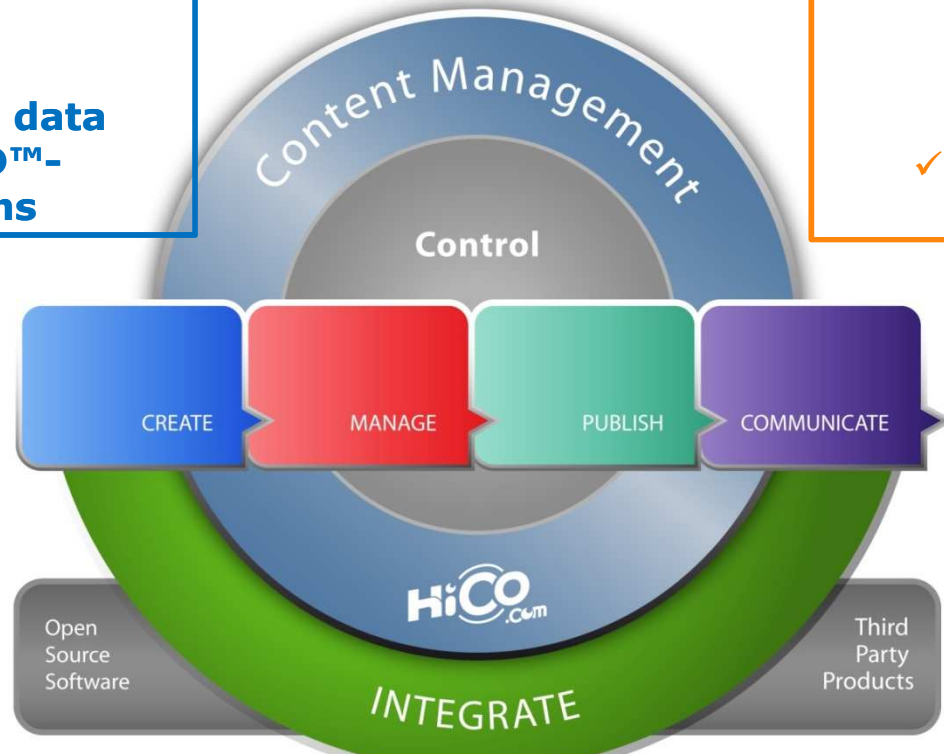


What is needed to enable S1000D™?

The HiCo product portfolio supports the whole information and product life cycle in different kind of projects!

Project Scenario 1  
→ main focus on:  
✓ **Editing and store data based on S1000D™-Authoring systems**

project scenario 3  
→ main focus on:  
✓ **Enterprise Publishing**



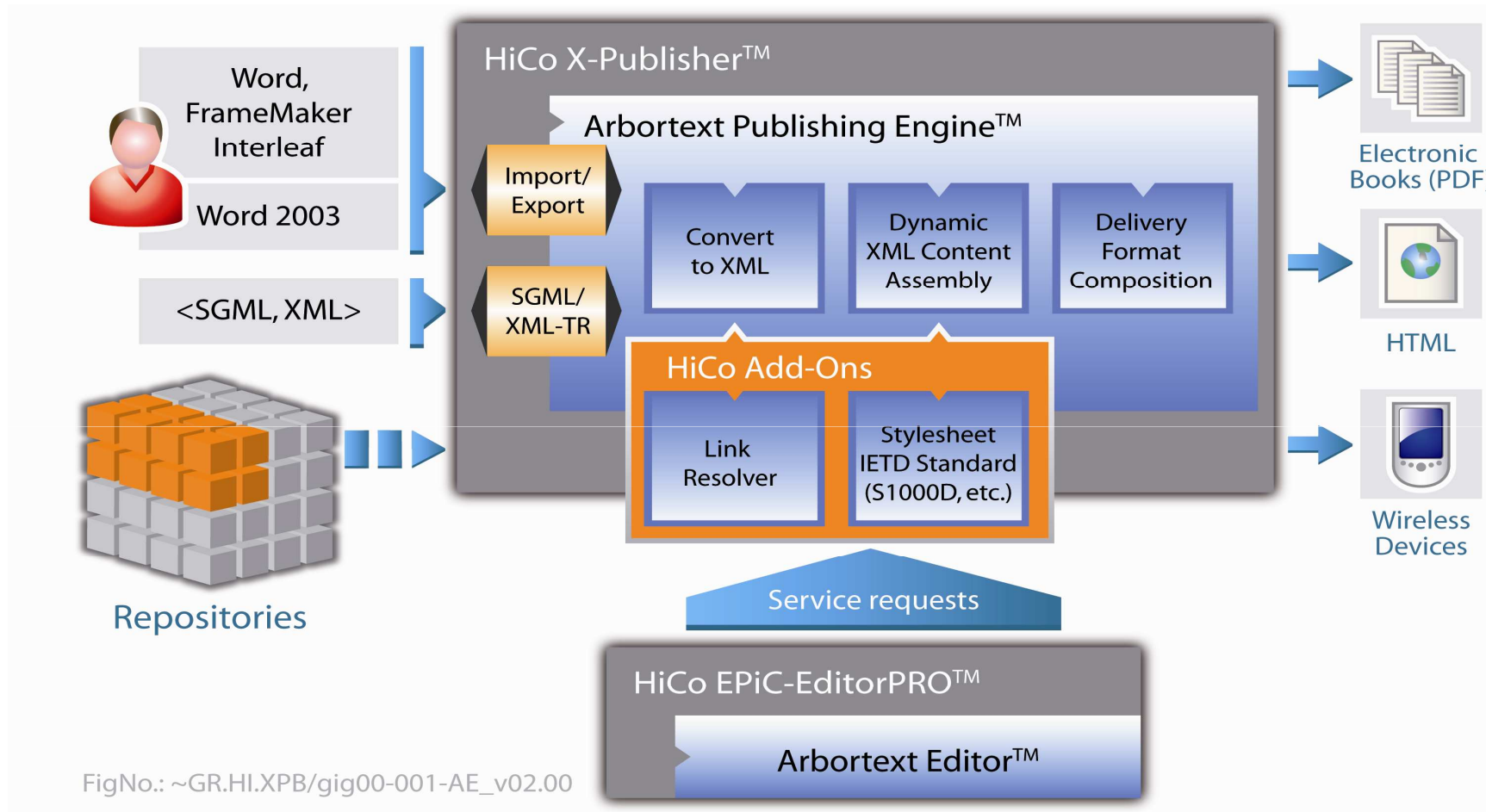
Project Scenario 2 → main focus on:  
✓ **Integration of existing legacy data**  
✓ **Bridge to Authoring-/CMS-Systems of different vendors**  
✓ **Integration of different sources of information**  
✓ **Integration of ERP-Systems, CMMS (AMOS BS), etc.**



# Enterprise Publishing System



What is needed to enable S1000D™?



FigNo.: ~GR.HI.XPB/gig00-001-AE\_v02.00





- For the **implementation of the AMOS Data Manager** we have decided to do it regarding to project scenario 2
- **Based on the concepts of “Business Process Integration (BPI)”**
  - Independent from Authoring Systems, CMS/CSDB
  - Optimized to support AMOS Business Suite

## What is AMOS Data Manager ?

AMOS Data Manager

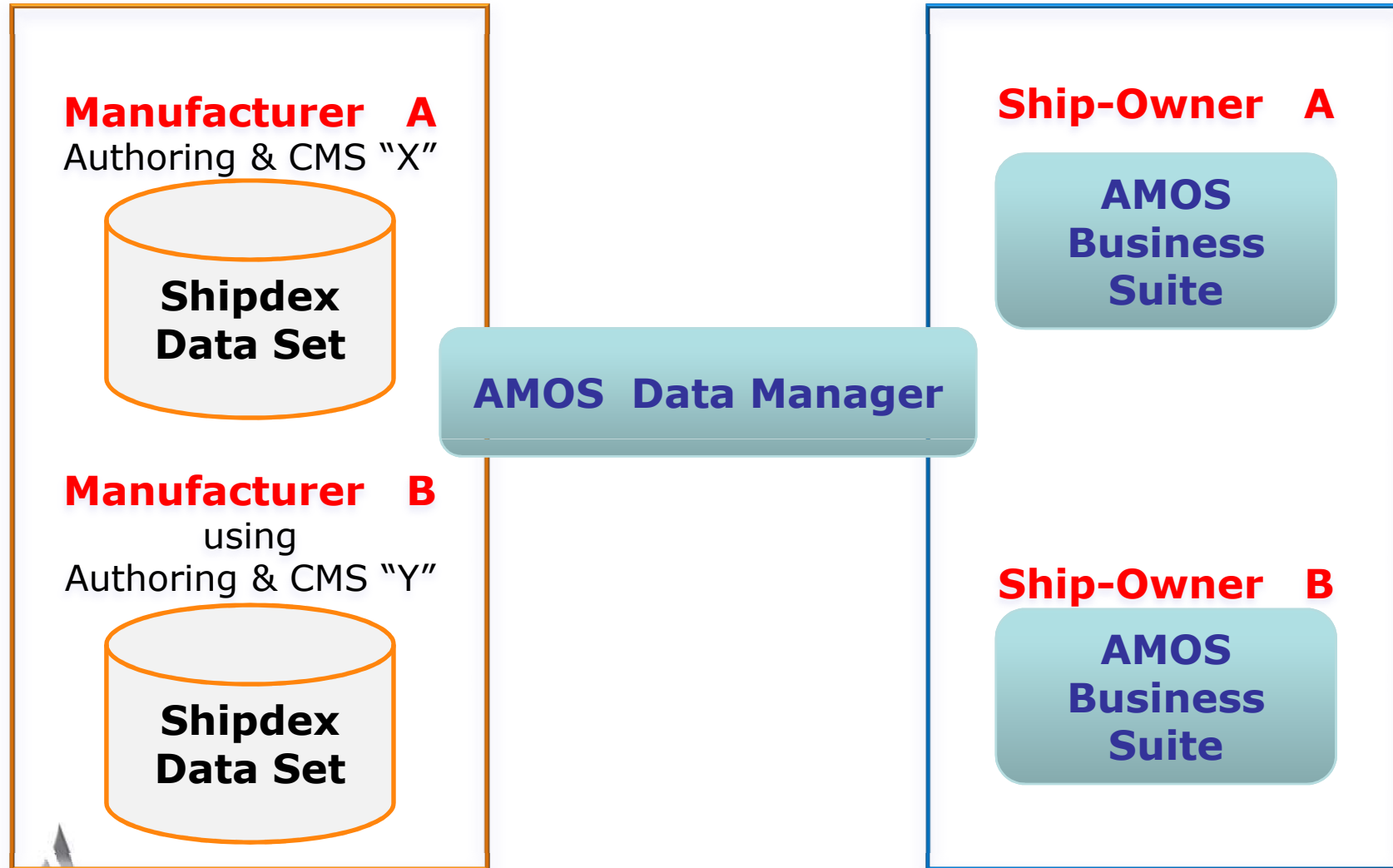


- AMOS DM is a new module developed in cooperation with "HiCo Information and Communication Management GmbH" based on their products
- **AMOS DM is an integration platform between:**
  - Shipdex™ Data Sets
  - AMOS Business Suite
- AMOS DM is independent of the Authoring and Content Management Systems used to produce Shipdex™ data sets

# Basic Architecture of AMOS Data Manager



AMOS Data Manager



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### The most important AMOS Data Manager features are:

- Check and validate Shipdex™ data sets against:
  - XML rules
  - Shipdex™ rules
  - Shipdex™ standard tables
- Create a Virtual Publication Structure (VPS) for each Shipdex™ data set
- Enhance Shipdex™ data sets with Ship Configuration Data
- Prepare Shipdex™ data sets for importing into AMOS Business Suite database

- Manufacturers to:
  - Check and validate their own Shipdex™ data sets
  - Enhance Shipdex™ data sets with Part Numbers and Serial Numbers
  
- Shipyards and/or Ship-owners to:
  - Check and validate received Shipdex™ data sets
  - Enhance received Shipdex™ data sets with “ship configuration data”
  - Create Virtual Publications Structures from received Shipdex™ data sets

## Next Presentations?

AMOS Data Manager



- AMOS Data Manager to check, validate and enhance a Shipdex™ data set
- A Virtual Publication Structure (VPS) automatically generated by AMOS Data Manager from a Shipdex™ data set
- Shipdex™ data set import into AMOS Business Suite database