



Shipdex™ Protocol

Issue 1.0

Technical Presentation



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What is Shipdex™ ? (1)

- Shipdex™ is an international protocol developed to standardize the exchange of technical data within the shipping community
- The scope of this protocol is to cover the data exchange related to the information currently supplied in the form of Technical Manuals (on paper or in electronic format)

What is Shipdex™ ? (2)

Shipdex™ is addressed to:

- **Manufacturers**, to create the Shipdex™ datasets (technical data) to be exchanged
- **Shipyards**, to manage “ship configuration data”
- **Ship-owners**, to import technical data into their Information Systems
- **IT companies**, to improve their Information Systems to manage Shipdex™ datasets

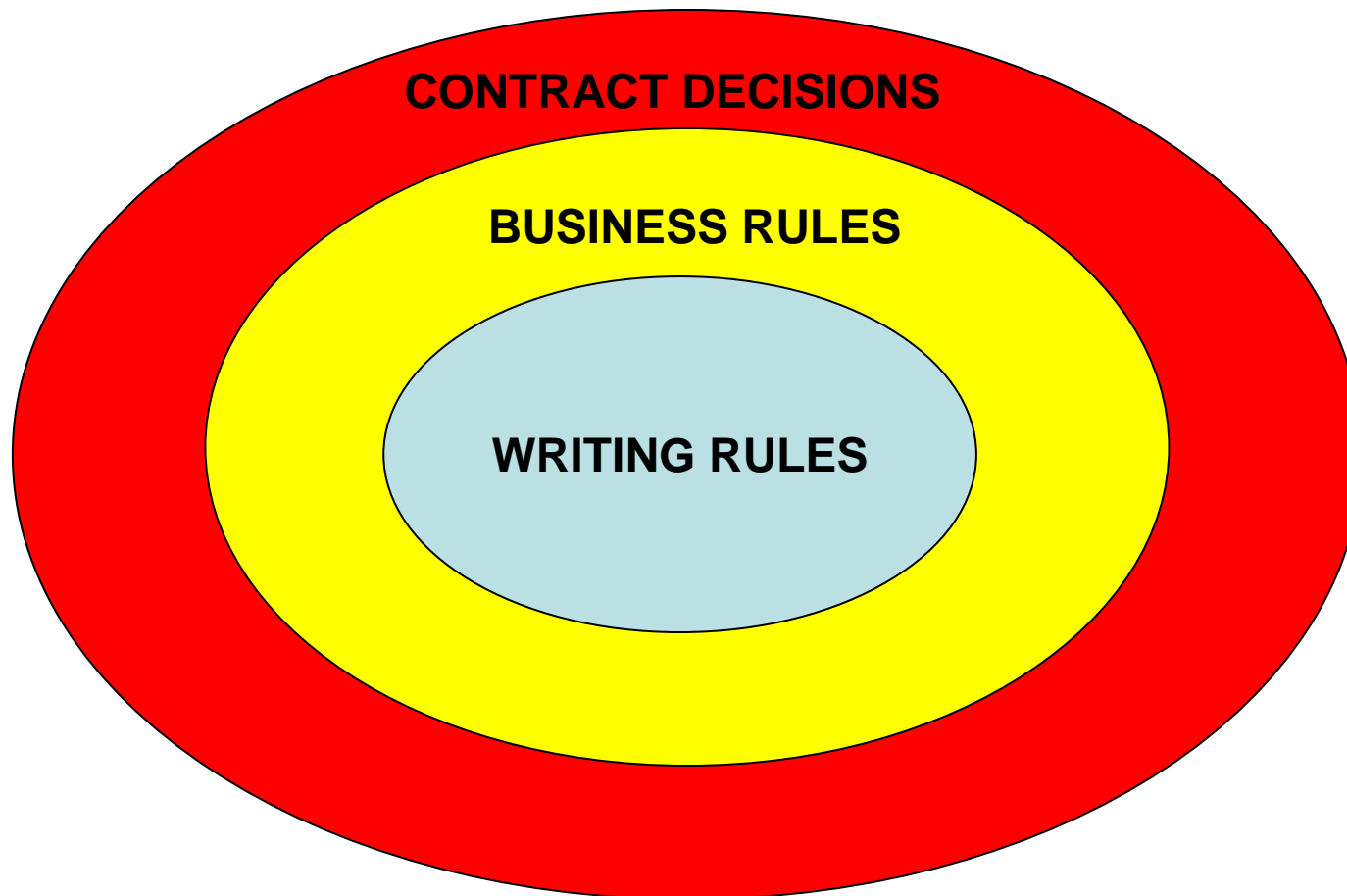
What is Shipdex™ ? (3)

Shipdex™ is defined by the following documents:

- The “**Shipdex™ – Business Rules**” defines all the Shipdex™ business rules. This document should be used by:
 - Commercial Department managers to prepare data exchange contracts
 - Technical Documentation Department managers to organize internal processes
 - Technical Authors to organize the Shipdex™ datasets development stage

- The “**Shipdex™ – Writing Rules**” provides definitions and guidance on using the XML to create Shipdex™ datasets . All the writing rules are supplied, accompanied by detailed examples, to support Technical Authors during the Shipdex™ datasets development stage.

What is Shipdex™ ? (4)



What is Shipdex™ ? (5)

- Shipdex™ makes reference to the “ASD S1000D™ International Specification for technical publication utilizing a common source database” issue 2.3
- ASD S1000D™ is a trademark of Aerospace and Defence Association of Europe (www.s1000d.org)
- Shipdex™ allows to exchange data in a neutral and standardized format. This means that it can be implemented by anyone on different Information Technology systems
- Information produced in accordance with Shipdex™ Protocol is achieved in a modular form, called a "**data module**", which is defined as "the smallest self contained information unit within a Shipdex™ dataset".

What is a Data Module ? (1)

- The Shipdex™ data are gathered in an organic way, with a different structure depending on the type of data dealt with, in Data Modules (DMs) that represent the macro-information components
- Each DM corresponds to a specific, uniquely identified XML file, allowing to structure and identify each individual information contained in the DM itself (e.g. a single DM could contain all the information related to a single maintenance task)
- Shipdex™ protocol defines DMs as “containers” for data exchange

What is a Data Module ? (2)

- Shipdex™ protocol makes use of the following DM types (defined by the relevant XML Schemas):
 - **Descriptive**, structured to collect “free” descriptive information
 - **Procedural**, structured to collect the information to fully describe a maintenance task
 - **Illustrated Parts Data (IPD)**, structured to collect the information to fully define a spare parts catalogue

What is a Data Module ? (3)

- DMs produced by different manufacturers have the same standardized structure and contain the same information typologies
- DMs contain only technical information in ASCII format (content separated from the layout)
- DMs layout is automatically generated applying style sheets for paper and video representation
- DMs produced by different manufacturers have the same layout, based on the selected style sheet



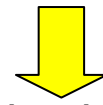
Manufacturer B

Manufacturer A

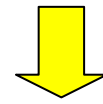
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<csn csn="A1-51-901-02-117" ind="1" item="117">
<isn isn="00A">
<qna>01</qna>
<mfc>D7655</mfc>
<pnr>P90151-0214-117</pnr>
<pas>
<dfp>Test equipment, combined safety valve</dfp>
<uoi>pc</uoi>
<pcs uom="pc">
<qui>01</qui></pcs></pas>
<ces>
<srv></srv>
<smr></smr></ces></isn></csn>
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<isn isn="00A">
<qna>01</qna>
<mfc>D9524</mfc>
<pnr>P90151-0214-022</pnr>
<pas>
<dfp>Name plate</dfp>
<uoi>pc</uoi>
<pcs uom="pc">
<qui>01</qui></pcs></pas>
<ces>
<srv></srv>
<smr></smr></ces></isn></csn>
```

XML DMs



Style sheet



Pos	Identification			Description	Qty	Customer number	Marpol A. VI	Interchangeability	Additional Information
	Indent	CAGE	Part Number						
001	1	S3218	873076359	FRAME HOOD	1 Piece	1234567890	N		2x7 black
002	1	S3218	507846359	LOCK NUT	1 Piece	986547321	N	Equivalent	2x10 black
002	1	S3218	598762654	LOCK NUT	1 Piece	986547375	N	Equivalent	2x10 black
003	1	S3218	24473934	WASHER NUT	1 Piece	789547375	N		2x12 red
004	1	S3218	24473856	CONNECTING HOUSING	1 Piece	78954985	Y		2x10 red
005	1	S3218	244734978	SPRING	1 Piece	78344985	Y		2x4 red
006	1	S3218	244734977	SCREW	1 Piece	67344985	N		2x5 red
007	1	S3218	244654977	ARM	1 Piece	68944985	N		2x13 white
008	1	S3218	904654977						2x3
009	1	S3218	904654977					Replaced/Obsolete	2x16 white
009	1	S3218	774654977	FRAME HOOD	1 Piece	34947365	Y	Replaces	2x16 white
010	1	S3218	905134977		1	34944985	N		2x1 white

Just one layout !

What is an Information Set ?

- Shipdex™ protocol organizes DMs into the following **Information Sets**:
 - **Description and operation**: descriptive and operational information (Descriptive DMs)
 - **Maintenance procedure**: maintenance tasks information (Procedural DMs)
 - **Troubleshooting**: troubleshooting information (Descriptive DMs)
 - **Illustrated parts data**: spare parts information (IPD DMs)
 - **Service Bulletin**: changes information (TBD)

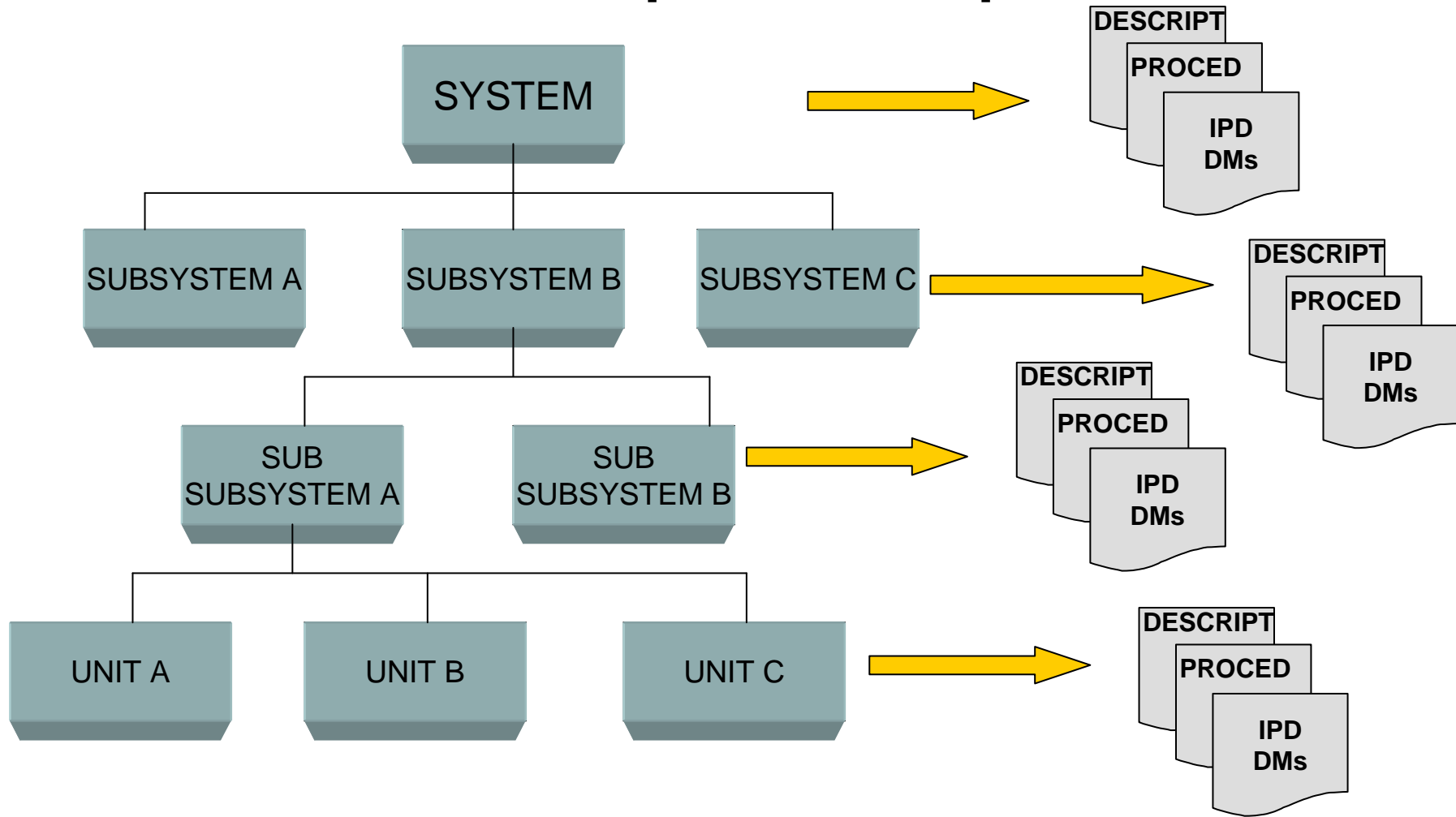
Data Modules production process ⁽¹⁾

- Manufacturers generate their own “system breakdown structure” for any Product, on the basis of their respective and already in use breakdown and coding rules
- Each breakdown is composed by the relevant physical nodes (breakdown nodes)
- For each breakdown node the relevant DMs can be produced:
 - Description and operation
 - Maintenance Procedures
 - Illustrated Parts Catalogue
 - Troubleshooting

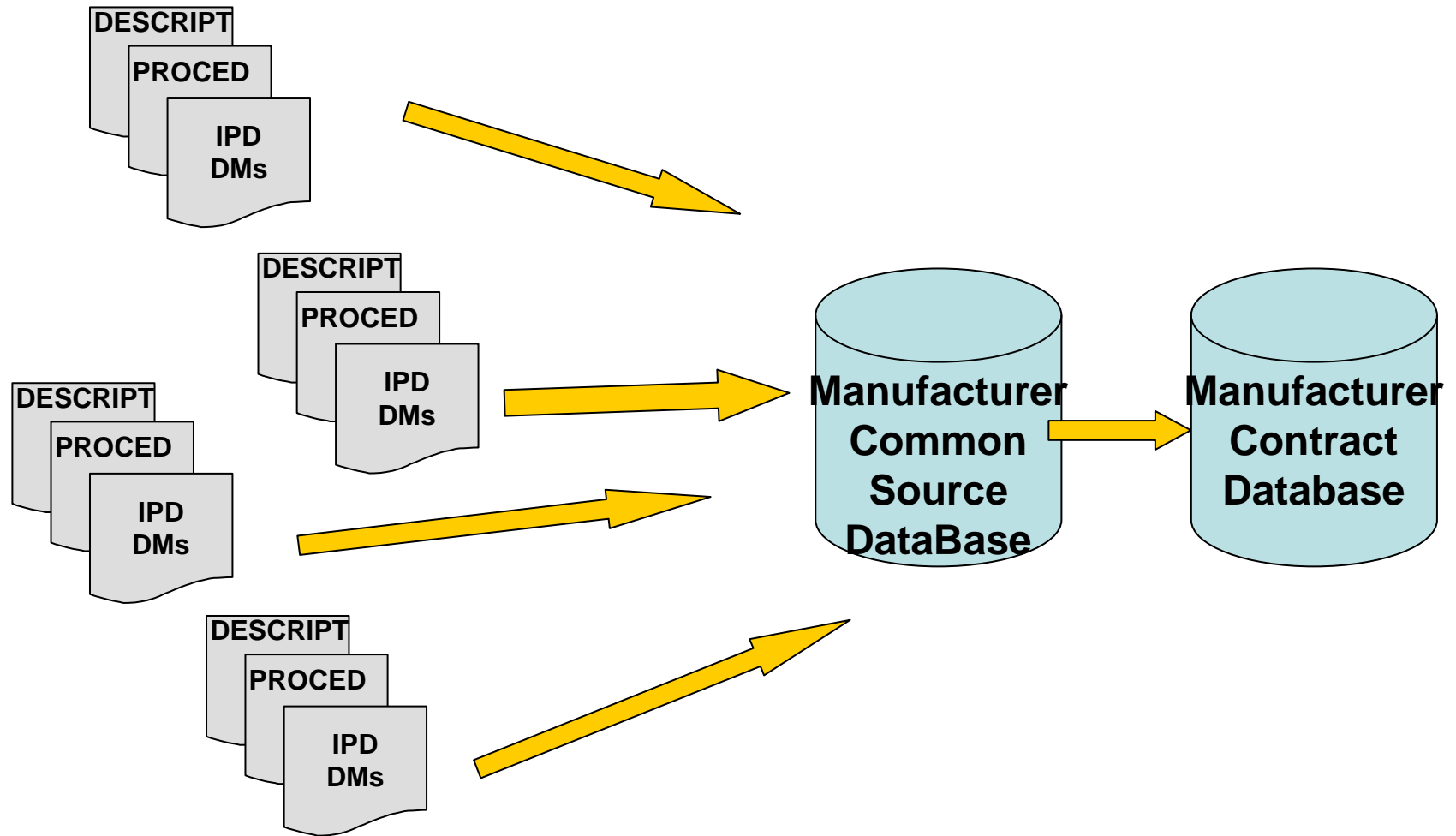
Data Modules production process (2)

- DMs can be developed:
 - automatically, from existing “logistic databases”
 - converting already existing Technical Manuals developed with other standards and formats
 - directly in XML language
 - RE-USING already existing DMs
- **Contracts** can decide what Information Sets are required:
 - Description and Operation
 - Maintenance Procedures
 - Illustrated Parts Data
 - Troubleshooting

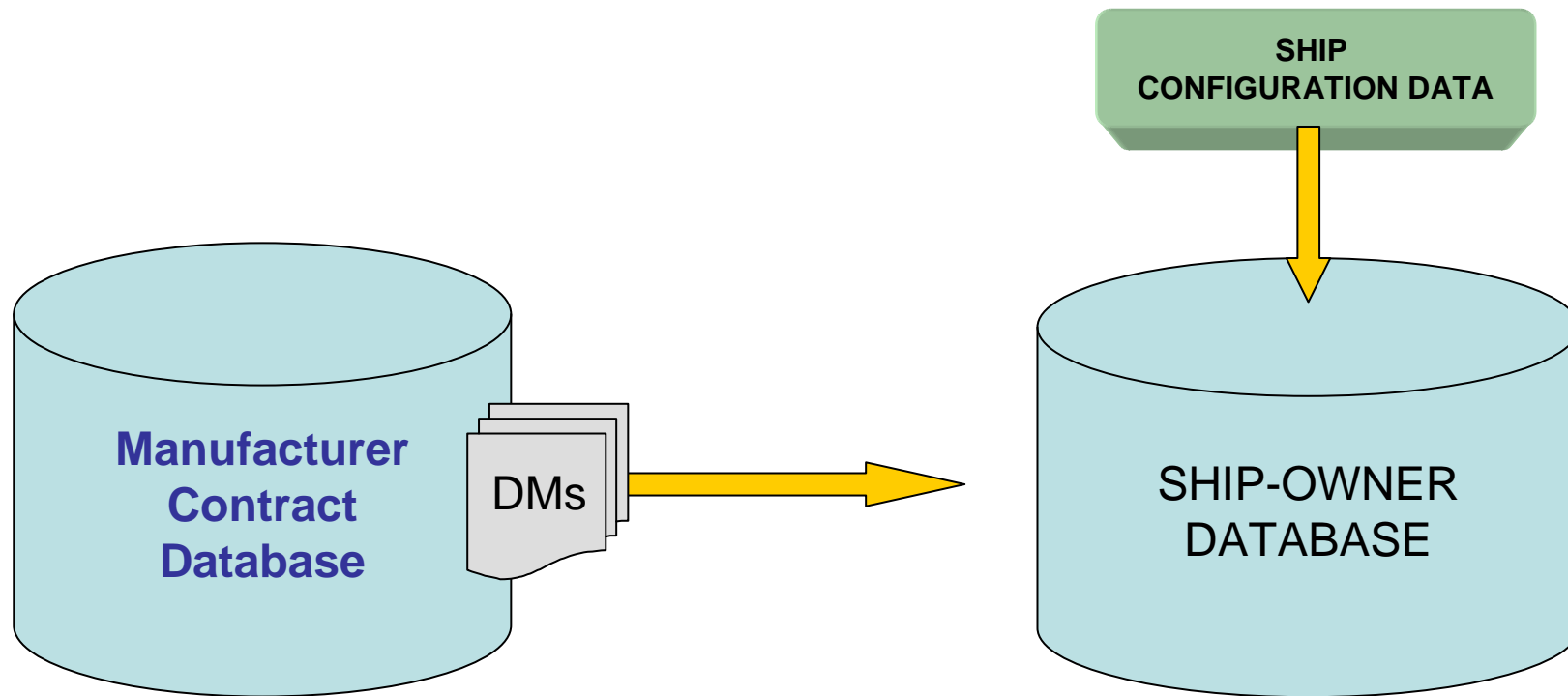
Data Modules production process (3)




Data Modules production process (4)



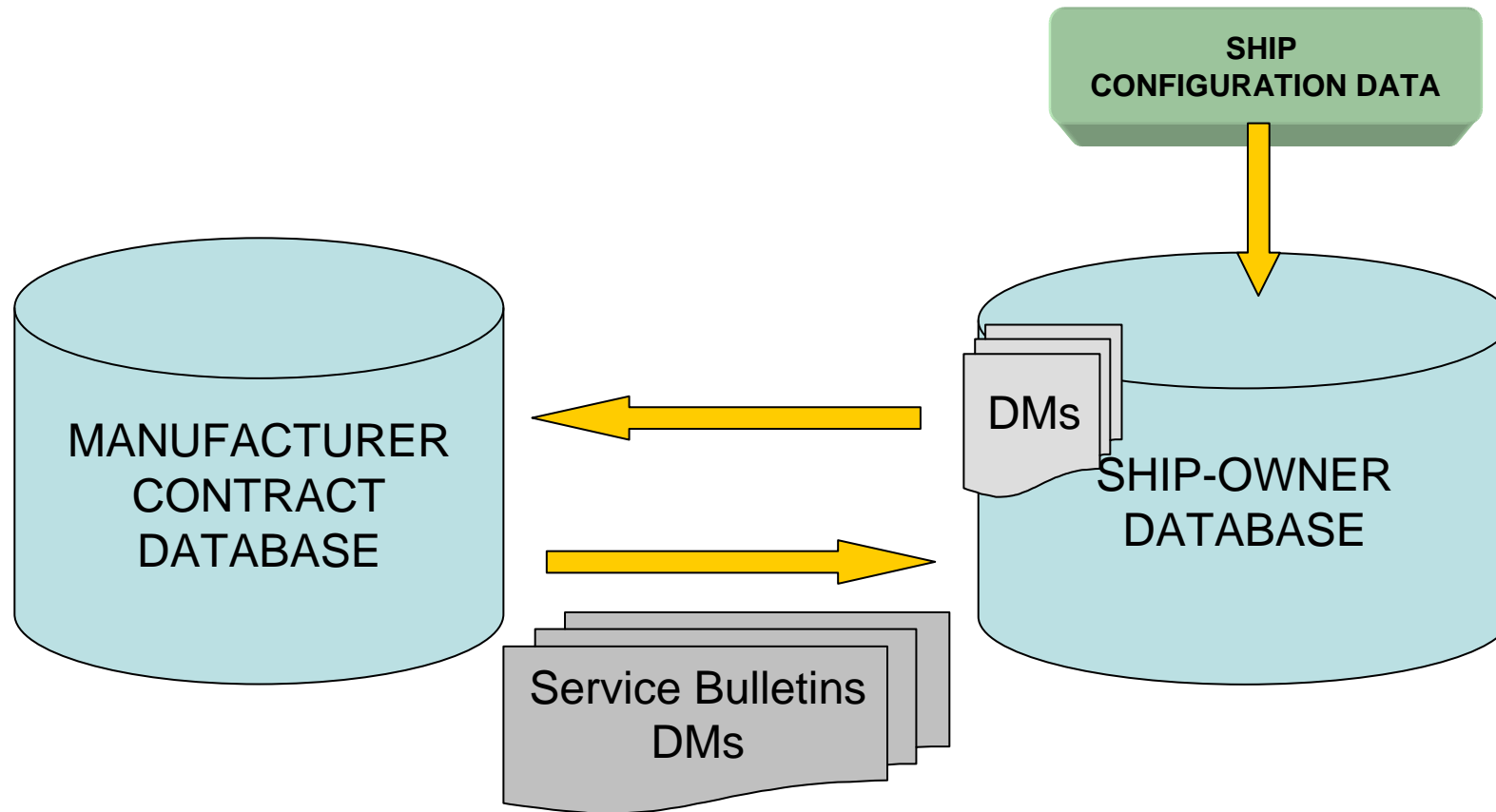
Shipdex™ Data Exchange process TODAY



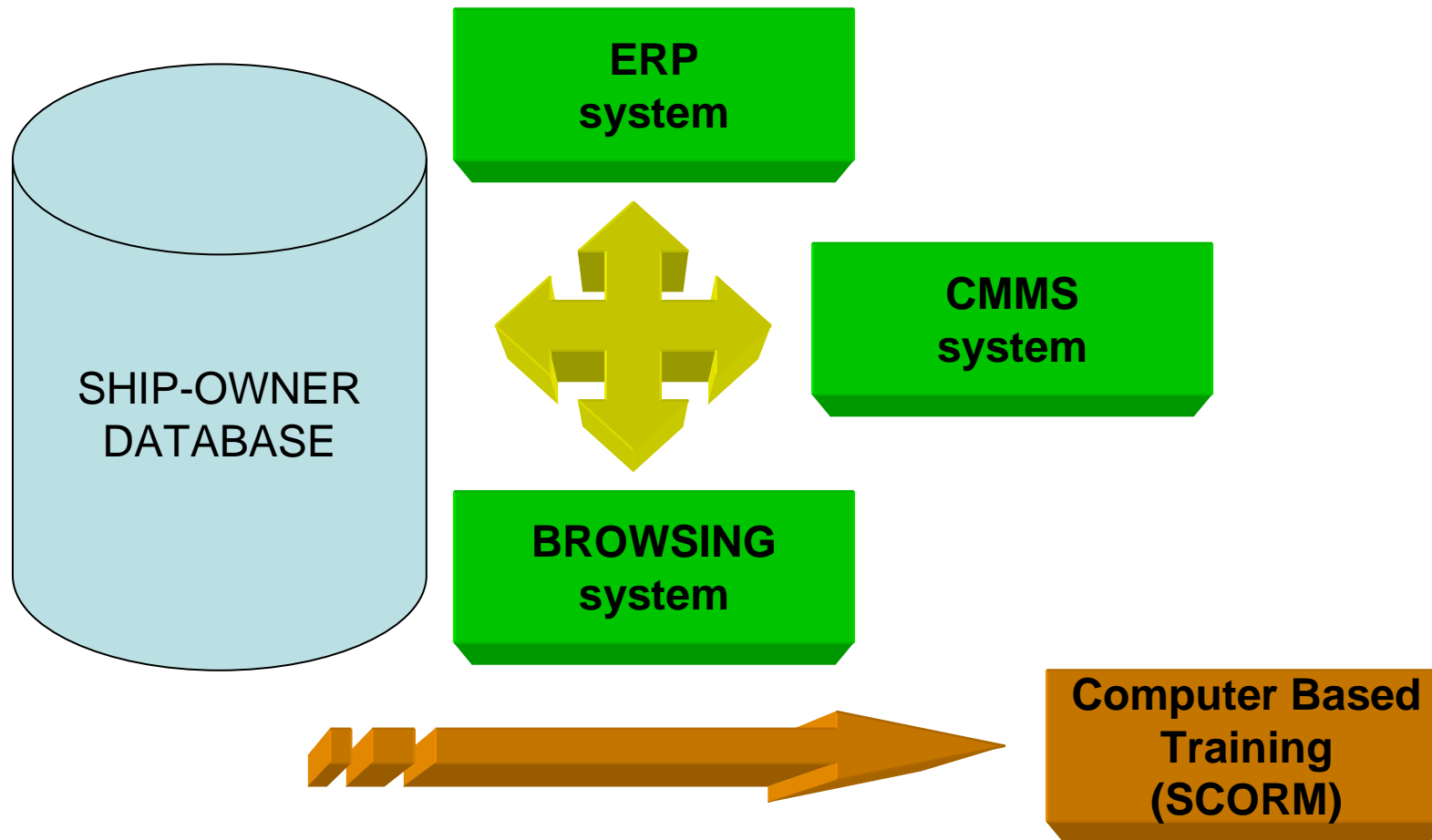
What are “ship configuration data” ?

CYLINDER FRAME-ILLUSTRATED PARTS DATA - IPD									
DMC									
MD21K98ME8-AAAA-HA1-51-0005-00000-941A-A									
DATE	ISSUE NUMBER AND TYPE		APPLICABILITY			RPC - RPC name			
19/01/2007	001-NEW		Type	Engine		D9524-Manufacturer A			
			Model	K98ME8					
			Version	P90301-0175					
			Mfc						
			Part Number						
			Serial Number						
IMO Number	Functional Code		Part Number		Serial Number				
123456789	3201140		P90301-0175		sn_01				
123456789	3201142		P90301-0175		sn_02				
123456789	32011590		P90301-0175		sn_03				
999999999	32077890		P90301-0175		sn_04				
999999999	32077665		P90301-0175		sn_05				
999999999	32077654		P90301-0175		sn_06				
REFERENCES									
Figure 1 - Cylinder Frame									
									
Pos	Identification			Description	Qty	Customer number	Marpol A. VI	Interchangeability	Additional Information
	Indent	CAGE	Part Number						
015	1	D9524	P90301-0175-015	Screw	16 Piece		N		
039	1	D9524	P90301-0175-039	Protective tube	02		N		

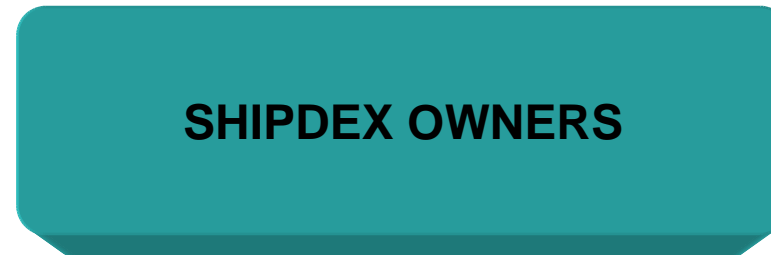
Shipdex™ Data Exchange process TOMORROW



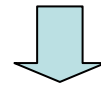
How to use Shipdex datasets ?



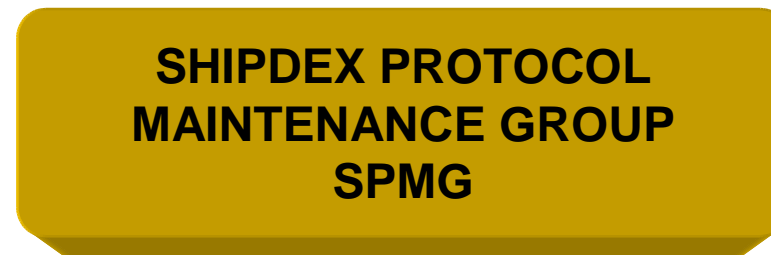
Shipdex organization



GRIMALDI
INTERSHIP



ALFALAVAL
GRIMALDI
INTERSHIP
MACGREGOR



MAN DIESEL
SPECTEC GROUP
YANMAR

**Many Thanks
for
your attention !**

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