

“S1000D Implementation for A350 XWB Program”



A350 XWB

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Agenda

- Presentation of A350 XWB program and technical data
- Use of S1000D Issue 4.1 as data exchange standard
- Information sets definition
- Supplier data integration
- Publication: access to data modules via A350 XWB breakdown
- Conclusion – Main challenges

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A350XWB

Extended enterprise

One complete, market-matching family



A350-1000

- Derived from -900 for maximum commonality
- Increased design weight, thrust, payload & range
- mid 2017 - Entry Into Service (EIS)

A350-900

- Optimum baseline configuration
- Intensive testing in Airbus & Partners
- MSN 1 in Final Assembly Line
- mid 2014 - Entry Into Service (EIS)

A350-800

- Adapted to meet growing market expectations
- Development pace adapted
- mid 2016 - Entry Into Service

ADAMS RITE: Cockpit Door Module
 AERNNOVA: HTP Box & Elevator
 AEROLIA: S11-12
 ALESTIS: Section 19.1, Belly Fairing
 AOA/LGG: Water Waste / Heating System
 AMSAFE BRIDPORT: Cargo Nets
 ARIES: VTP Box
 BELAIRBUS: LED
 B/E AEROSPACE: Oxygen system / Galleys / Gains
 CCA: Pylon Panels
 COMPOSITE INDUSTRIES: Cockpit Furnishing
 DAHER: Air Inlet Outer Surface
 DIEHL AIR CABIN: Airducts, Core Illumination,
 Floor2Floor, Crew Rest Compartments
 DIEHL AEROSPACE: Slat/Flap Control Computer / DSCS
 EADS-SOCATA: MLGD
 GE Aviation: Trailing Edge Details/Trailing Edge
 Secondary Structure
 GKN: FTE Assembly
 GOODRICH AEROSTRUCTURE: Nacelle system
 GOODRICH: Probes, Ice Detectors, Wheels & Brakes,
 External V...

TRAND: Electrical Power Generation, RAT
 ems, APU, FMS, AES
 phragms
 to and Cockpit Door Surveillance
 5/21 & 16/19
 recorders
 System



MESSIER DOWTY: MLG
 MONOGRAM: GAINS
 PACIFIC SCIENTIFIC: Cargo Fire Extinguisher
 MOOG: Primary FC Actuators / Flap Actuation System
 PANASONIC: Infotainment
 PARKER: Hydraulics, Fuel & Inerting
 PREMIUM AEROTEC: S13-14/S16-18 side shells
 RATIER FIGEAC: Side Stick
 ROCKWELL COLLINS: AFDX, THSA, DRA/MMR, GWP
 Communication, NavAids, FSA-NG ASF, OWC
 ROLLS-ROYCE: Engine
 RUAG: Wingtip
 SABCA: Flap Support Structure
 SAGEM: FSA-NG gateway, CDAU/ACMS, Throttle
 SAINT GOBAIN SULLY: Cockpit Windows
 SIEMENS: Smoke Detection System
 SIIOPANEL: ICP, Cockpit Lighting
 SOGERMA: MLGB, Cockpit Seats
 SPIRIT: Section 15 Upper Shell & FLS, Fixed Leading Edge &
 Front Spar
 TAI: Ailerons
 TELAIR: Cargo Loading System
 THALES: IFE, IMA / Inertial System, Cockpit Display System,
 HUD/OANS, Power Conversion, Remote Data Concentrator,
 ISIS, Flight Control Unit
 TRIUMPH: Cargo Door Actuation System
 VISION SYSTEMS: Sun Visors, Roller Blinds
 ZODIAC - ECE: EPDS, Ext. Lights, Wipers
 ZODIAC - INTERTECHNIQUE: Anti-Ice Protection System,
 Engine Interface System,
 ZODIAC - AIR CRUISERS: Evacuation Slides
 ZODIAC - C&D: Lavatories

**Firm sales status at end
 August 2013: 682 orders
 from 35 customers**



A350 XWB first flight

June, 14th



A350 XWB technical data

Key figures for Technical Data (Line Maintenance)

Maintenance



- 6.000 Maintenance Procedures
- 12.000 Trouble-Shooting Procedures for 36.000 Faults
- 7.000 Schematics & Wiring Diagrams for 80.000 Wires

Material



- 8.500 IPD figures for 120.000 items

Repair



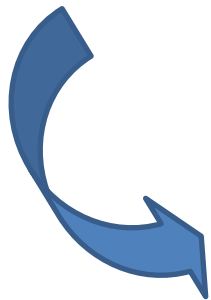
- 1.000 Descriptions / Damages / Repair Procedures

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Rationale for S1000D

Airbus strategy : Stick to Aviation Industry Standards



1) Data organisation & structure

Access to Business data instead of Manuals
Focus on customer processes

2) Enhanced content & Data access

Data consistency improved and redundancy reduced thanks to CIR data modules
New data access for Airbus viewer

3) Data exchange with Extended Enterprise

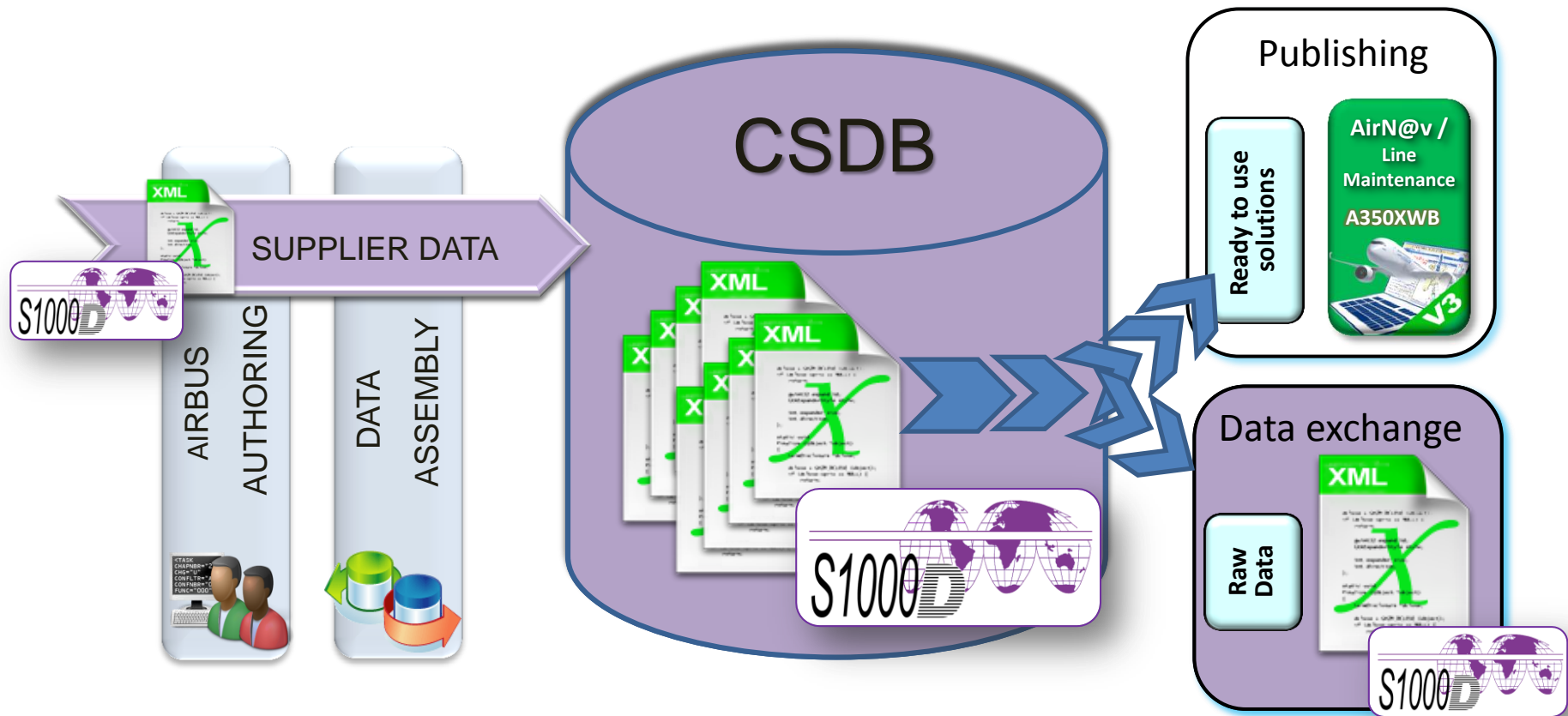
Supplier data smooth integration

4) Data exchange & Delivery to Airlines

XML technology for raw data delivery instead of SGML format
Modularity

Opportunity to improve data definition and access

Scope of Standard use



Agenda

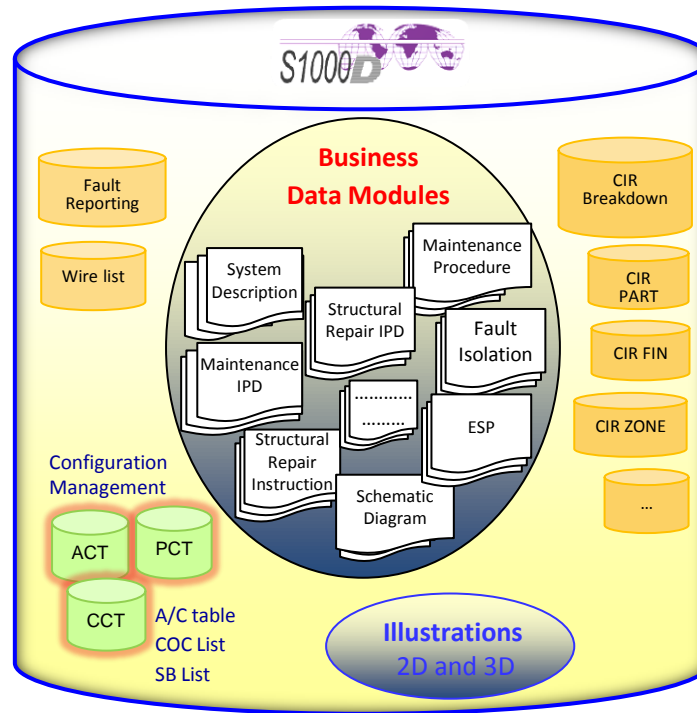
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Information sets definition

A350 XWB Line Maintenance CSDB

Business Data Modules

- Supporting Line Maintenance process
- System Descriptions
- Maintenance procedures
- Fault Isolation
- Maintenance IPD
- Structural Repair IPD
- Non Destructive Testing
- Structural Repair Instructions
- Wiring Diagrams
- Schematic Diagrams
- Electrical Standard Practices
- General information
- ...



Repositories

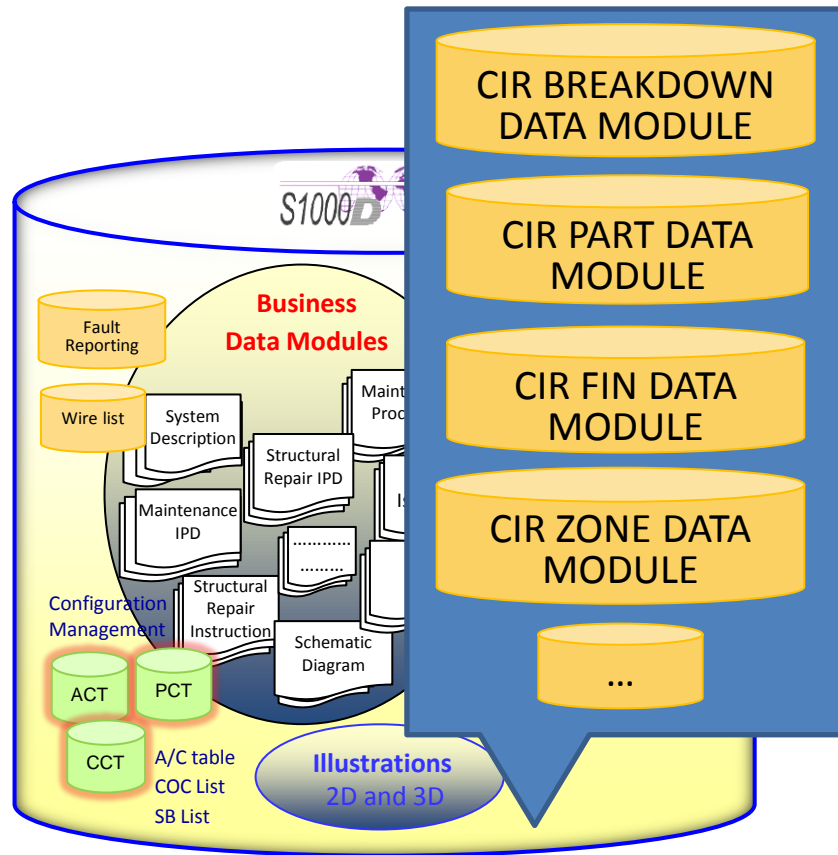
- Transverse information used by Business Data Modules
- Access and navigation means
 - CIR Breakdown
 - CIR FIN and CIR CB
 - CIR ZONE and CIR ACCESS
 - CIR Warning and Caution (W/C)
 - CIR PART
 - CIR ENTERPRISE
 - Fault Reporting and Wire List
 - ...

Configuration data

- Applicability Cross Reference Table
- Product Cross Reference Table
- Condition Cross Reference Table

Data packages in line with customer processes

Use of various CIR data modules



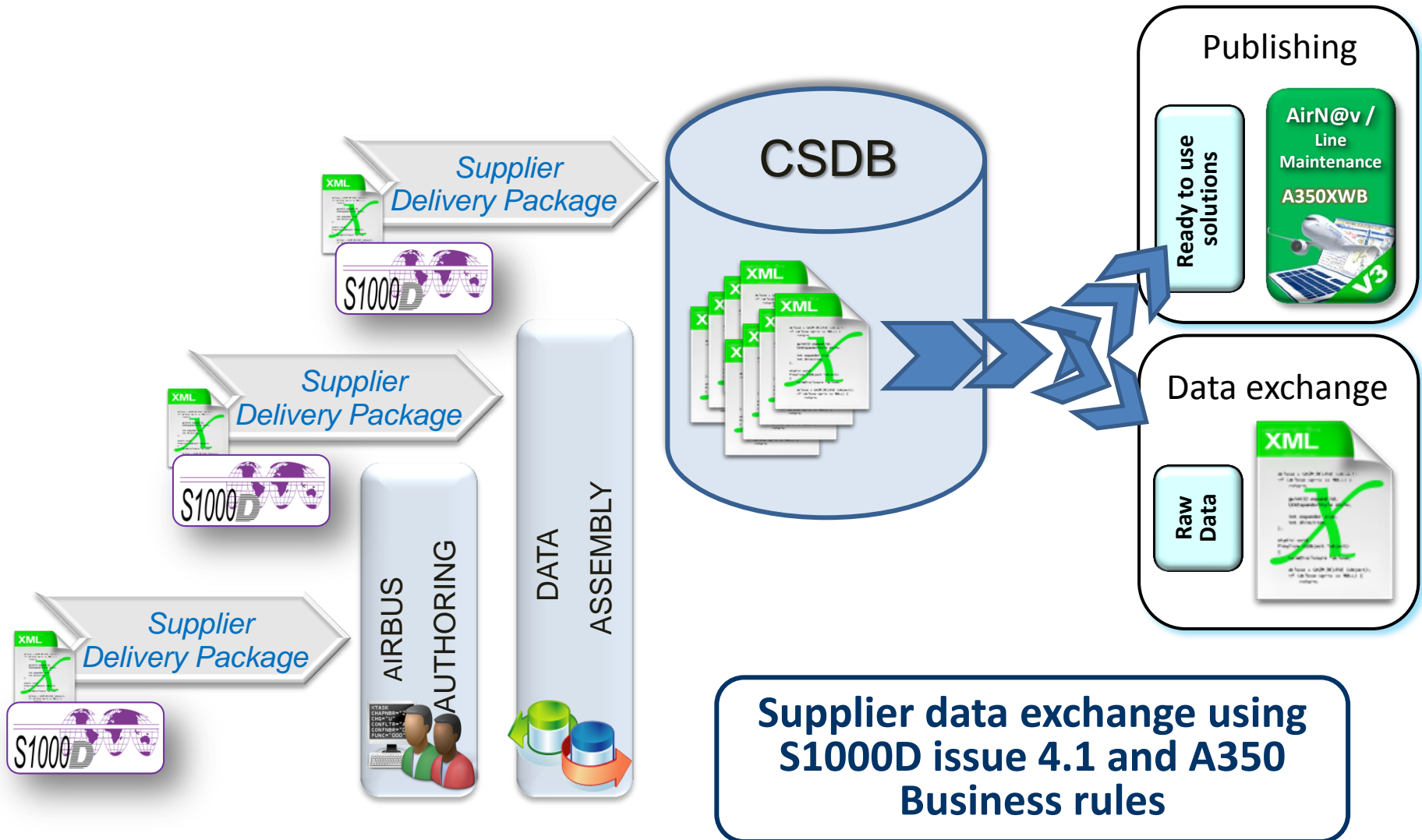
- Common Information Repositories data modules
 - New deliverables
 - Database-oriented
- Simplified access
 - FIN (Functional Item Number) / EIN
 - Parts
- Easy handling & data exchange
 - Filtering, sorting, calculation
 - MIS / Inventory systems

Reduce info redundancy & increase data consistency

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Supplier data integration



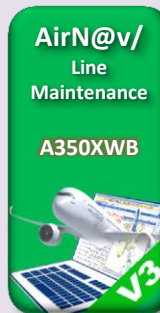
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A350 XWB Data accesses



Do Line
Maintenance

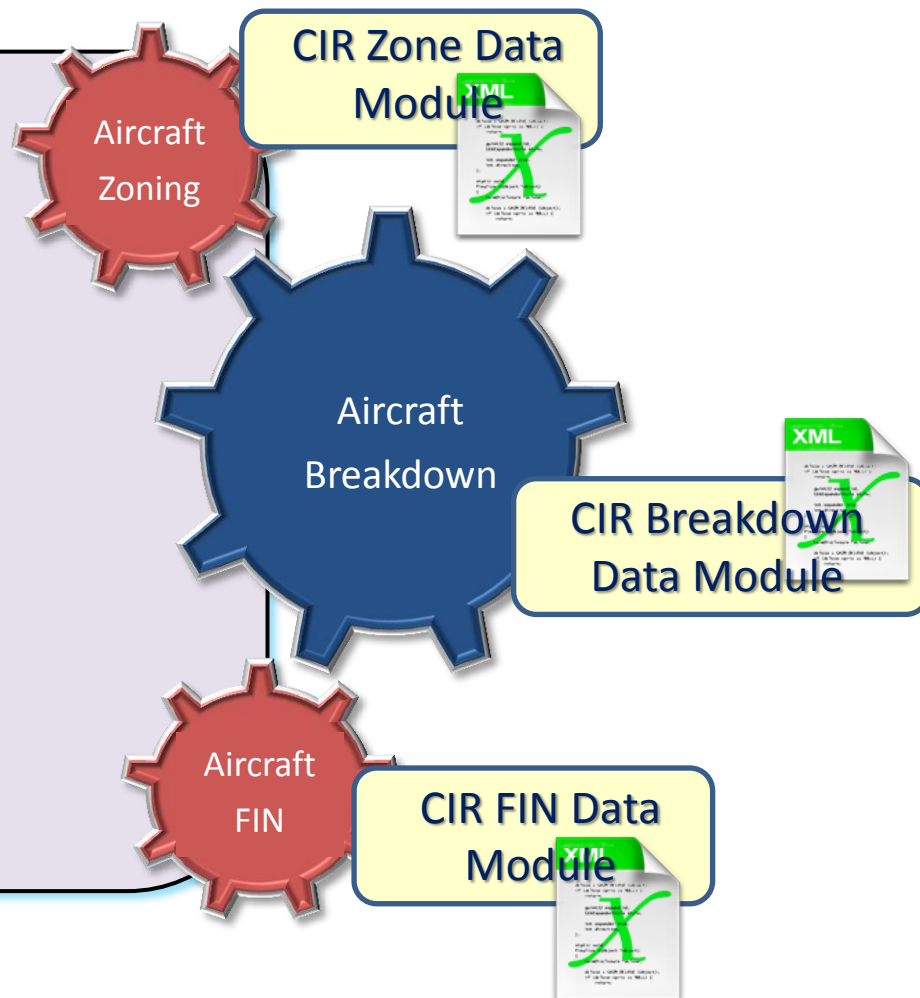


Business Data Modules

- Supporting Line Maintenance process

System Descriptions
Maintenance procedures
Fault Isolation
Maintenance IPD
Structural Repair IPD
Non Destructive Testing
Structural Repair Instructions
Wiring Diagrams
Schematic Diagrams
Electrical Standard Practices
General information

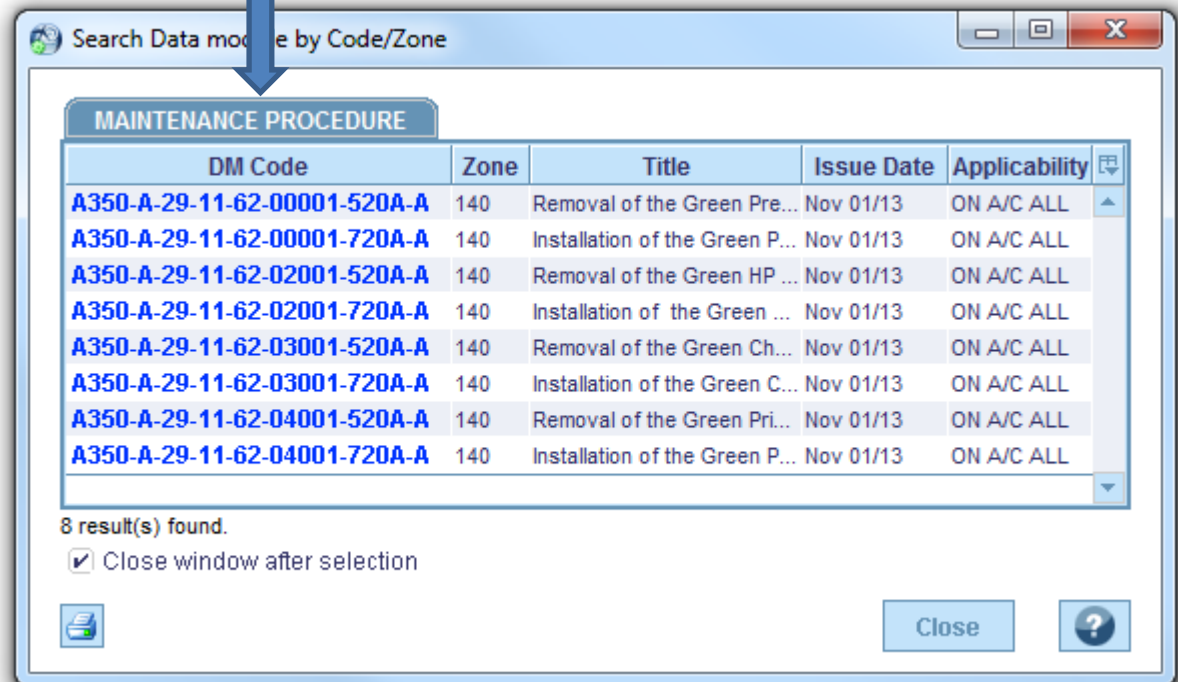
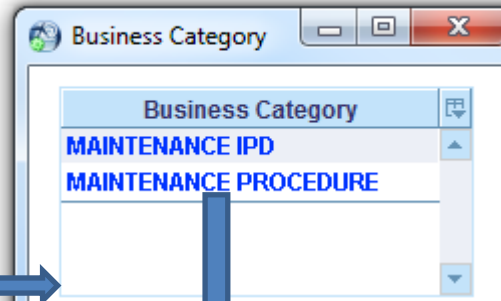
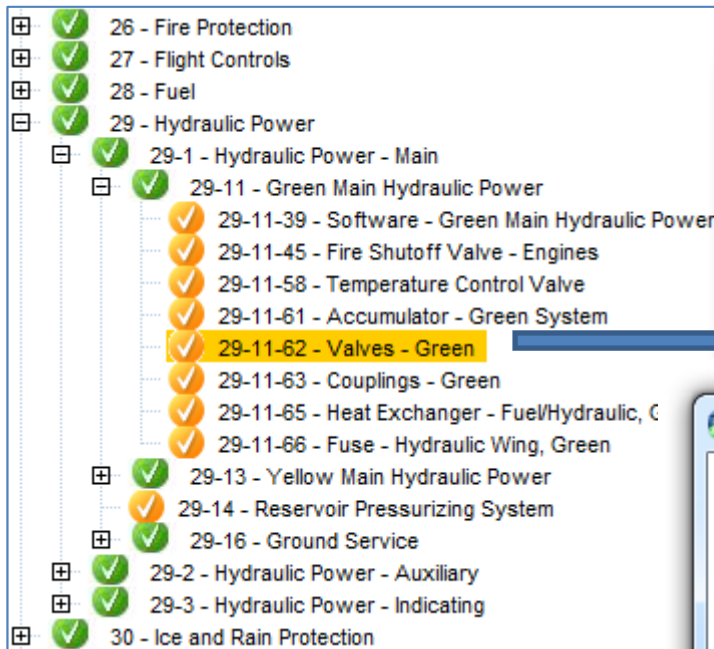
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New way to navigate and access to Business Data

A350 XWB breakdown

- No publication module
- Use of the CIR Breakdown to organize and access chapterized data modules in the viewer



A unique
breakdown access
for the whole CSDB

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Main challenges

- Civil aviation – competition market
 - Constantly evolving documentation following new aircraft features and customer needs
- ⇒ Need for a standard with fast evolution process
- ⇒ Need for upwards compatibility of data between standard issues
- Civil aviation – data exchange
- ⇒ Change management - Support our customers to handle the new standard