



Brief Introduction into "Material Management" - Spec S2000M

ASD/AIA Spec S2000M

[ASD/AIA S2000M – International specification for material management](#)

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Company/Organization: **AIRBUS Defence & Space {ADS}**


Abstract-No: **A#34**

S2000M General Overview

SX000i SX000-06865-0X000-00

International specification for Integrated Product Support (IPS)

SX000-06865-0X000-00
Issue No. 3.0



S-Series IPS specifications
Block release 2021

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Applicable to: All SX000-A-00-00-0000-00A-001A.A

DIC-10000P-A-00-0000-00A-001A_001A_P01-001 2021-04-30 Page 1

S1000D S1000D-06865-01000-00

International specification for technical publications using a common source database

S1000D-06865-01000-00
Issue No. 5.0



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S2000M S2000M-06865-02000-00

International specification for Material Management

S2000M-06865-02000-00
Issue No. 7.0



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AIA Aerospace Industries Association of America (AIA)


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DIC-10000P-A-00-0000-00A-001A_001A_P01-001 2021-04-30 Page 1

S3000L S3000L-06865-03000-00

International procedure specification for Logistics Support Analysis (LSA)

S3000L-06865-03000-00
Issue No. 2.0



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S4000P S4000P-06865-04000-00

International specification for developing and continuously improving preventive maintenance

S4000P-06865-04000-00
Issue No. 2.1



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S5000F S5000F-06865-05000-00

International specification for in-service data feedback

S5000F-06865-05000-00
Issue No. 3.0



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S6000T S6000T-06865-06000-00

International specification for training analysis and design

S6000T-06865-06000-00
Issue No. 2.0



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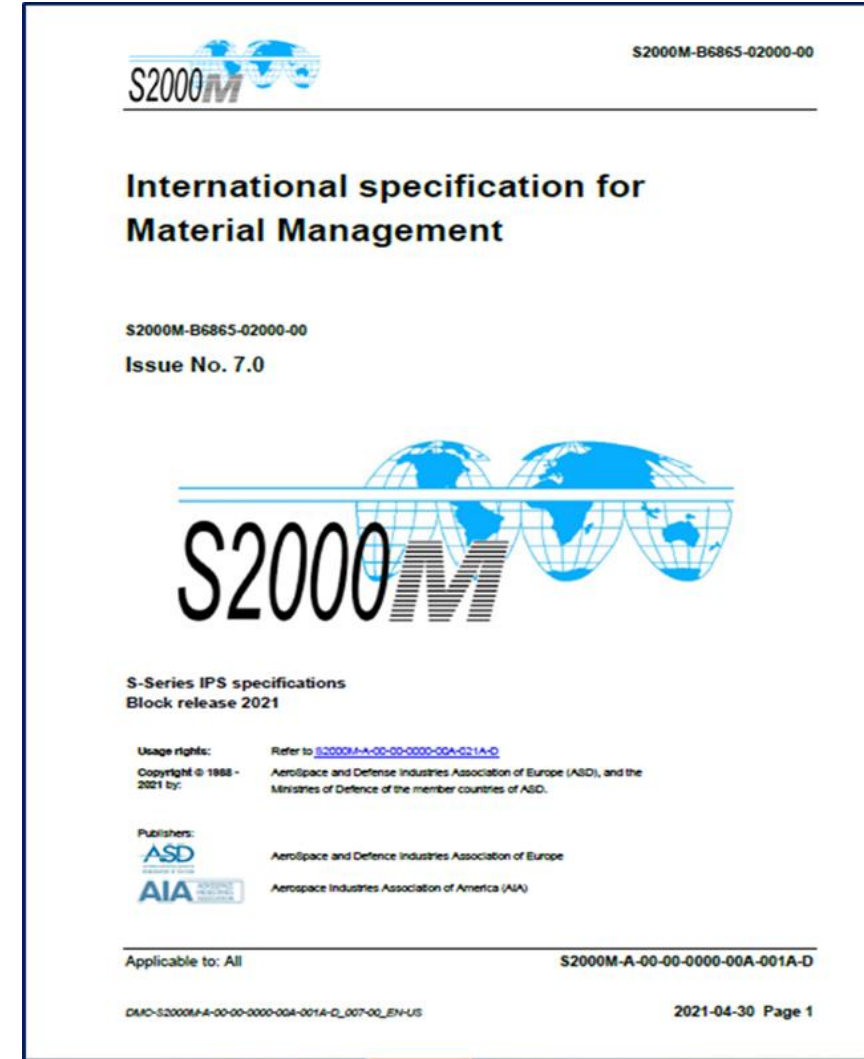
Applicable to: All S6000T-A-00-00-0000-00A-001A.A

DIC-10000P-A-00-0000-00A-001A_001A_P01-001 2021-04-30 Page 1

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Table of Content

- **Welcome and Introduction to presenter**
- **History**
- **Organization**
- **Purpose and benefits**
- **Project examples**
- **Process Overview**
- **Input/Outputs**
- **Structure**
- **Data Model/XML Schema**
- **Future S2000M development plan**
- **Summary**



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Welcome and Introduction to Presenter

■ To my person

- Carlos Lafuente
- Expert – Tech. Information and Data (TID), Processes and Specifications
- Chair and ASD focal point on the governing S2000M Council
- Primary industry representative of Spain on the S2000M Steering Committee (SC)
- Member of the ASD Product Services Specifications Group (PSSG) representing S2000M
- Chairman in the ASD/AIA Bike Example WG
- Active support to other international boards, Working Groups / Task Team (eg, S2000M PWG/MSWG/IOTWG, S2000XWG, etc)

■ Presentation goal

- This presentation provides an overview of S2000M in terms of history, organizational structure, purpose, benefits of S2000M and project examples where S2000M is applied.
- The presentation also addresses the future development of S2000M after release of Issue 7.0 and its embedding in the integrated suite of product support specifications.

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History

➤ First usable publication was **Revision 2.1** including CP 1-4 of May 1992

- Supports NH90, TIGER, TYPHOON, TORNADO, BOXER and KEILER

➤ **Issue 3.0** including CP 1 of October 2000

- Supports A400M (Ch.1) and RAFALE

➤ **Issue 4.0** of January 2005

- Supports A400M (Ch.2-4), NATO AGS, FRIGATE 125 and KORVETTE K130

➤ **Issue 6.1** of March 2017

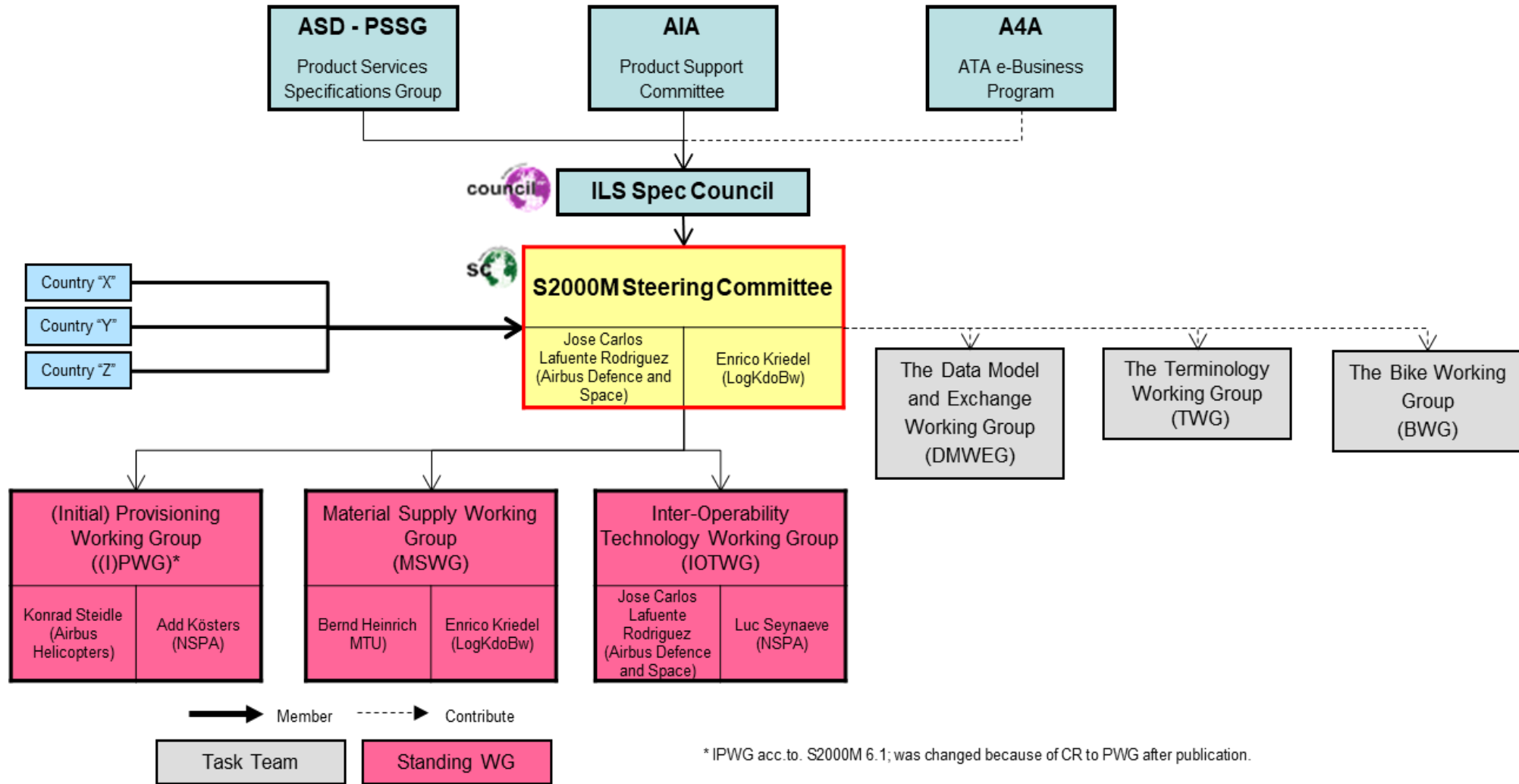
- Integration into the Suite of ILS Specifications
- Change to XML communication
- Facilitate easy integration into ERP systems

➤ **Issue 7.0** of April 2021

Performance Based Logistic (PBL) => Chapter 3.

Common Data Model (CDM): Integration with other Specs.

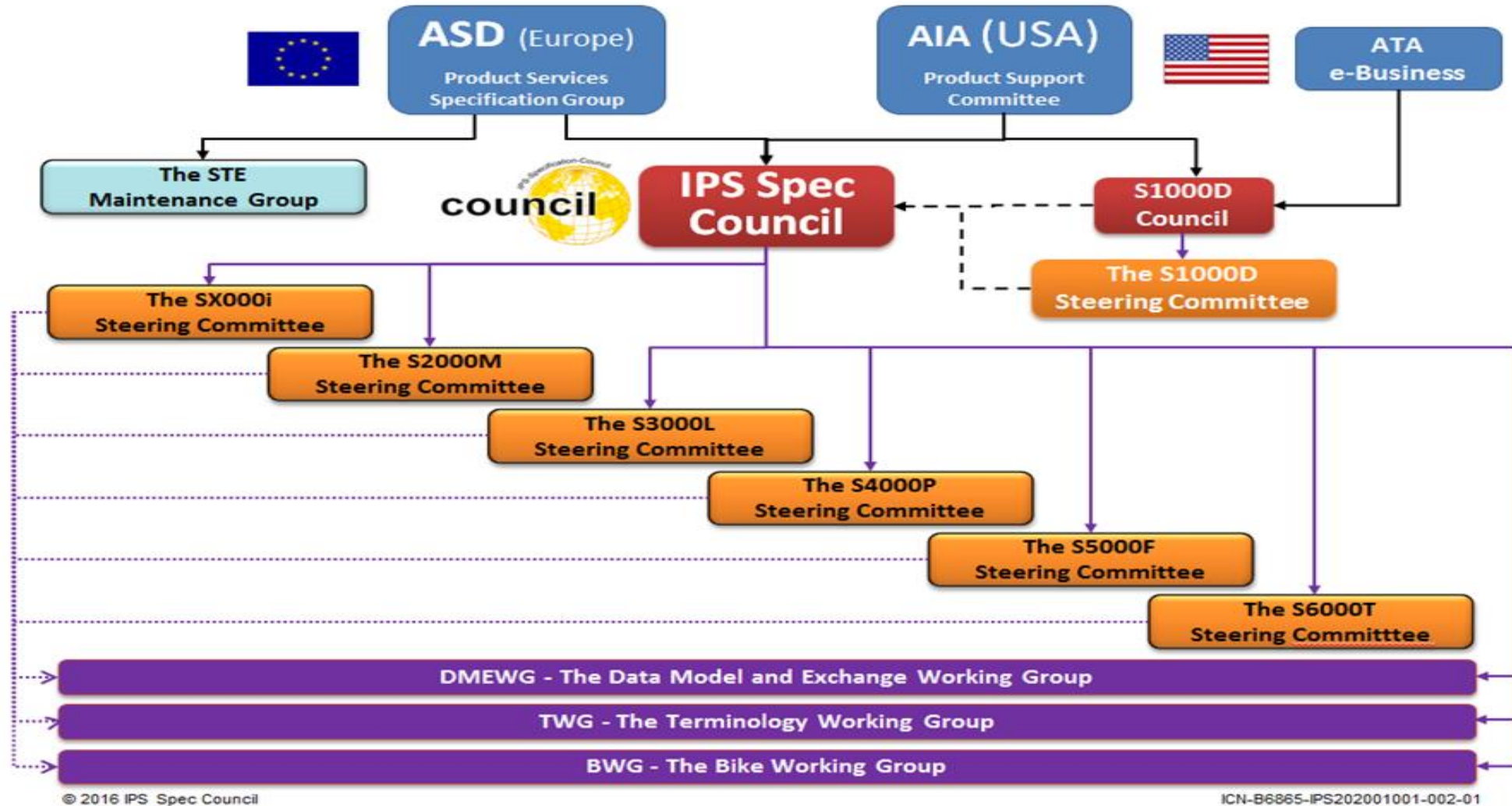
Organization



* IPWG acc. to S2000M 6.1; was changed because of CR to PWG after publication.

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Relationship to other IPS Committees



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Purpose

- **Uniform specifications for all project participants**
- **Standard formats for data exchange to ensure high data quality**
- **Improve interoperability (data and IT systems)**
- **Further processing of created data in: Other S-Series specifications**
- **National connection procedures (e.g. SASPF, LOGIS, etc.).**

Benefits

- **Provide all process participants with the same, relevant data**
- **Cost savings when creating information in the division of labor**
- **Avoid using different media (e.g. paper)**
- **Avoid duplication of effort in multinational projects other S-Series specifications**
- **Enable communication and execution of business processes between the contractor and customer (e.g. order administration, invoicing, etc.).**

Why Use S2000M

Cost savings

Less effort

Efficiency

Standard

File formats

Communication

Interoperable

Tailorable

Integrated

XML-based

No exchange protocol

Single data format

Project examples – “Aerospace and defence” products (1/2)



Eurofighter, Tornado, Gripen, Rafale, A400M, AWACS, NH90, TIGER, F35, B787, A350, F124, U212, Destroyer Type 45, Aircraft carriers, LEO2, ...



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Project examples – Addtional products: e.g. ships, rail wind ps (2/2)



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Process Overview (1/5)

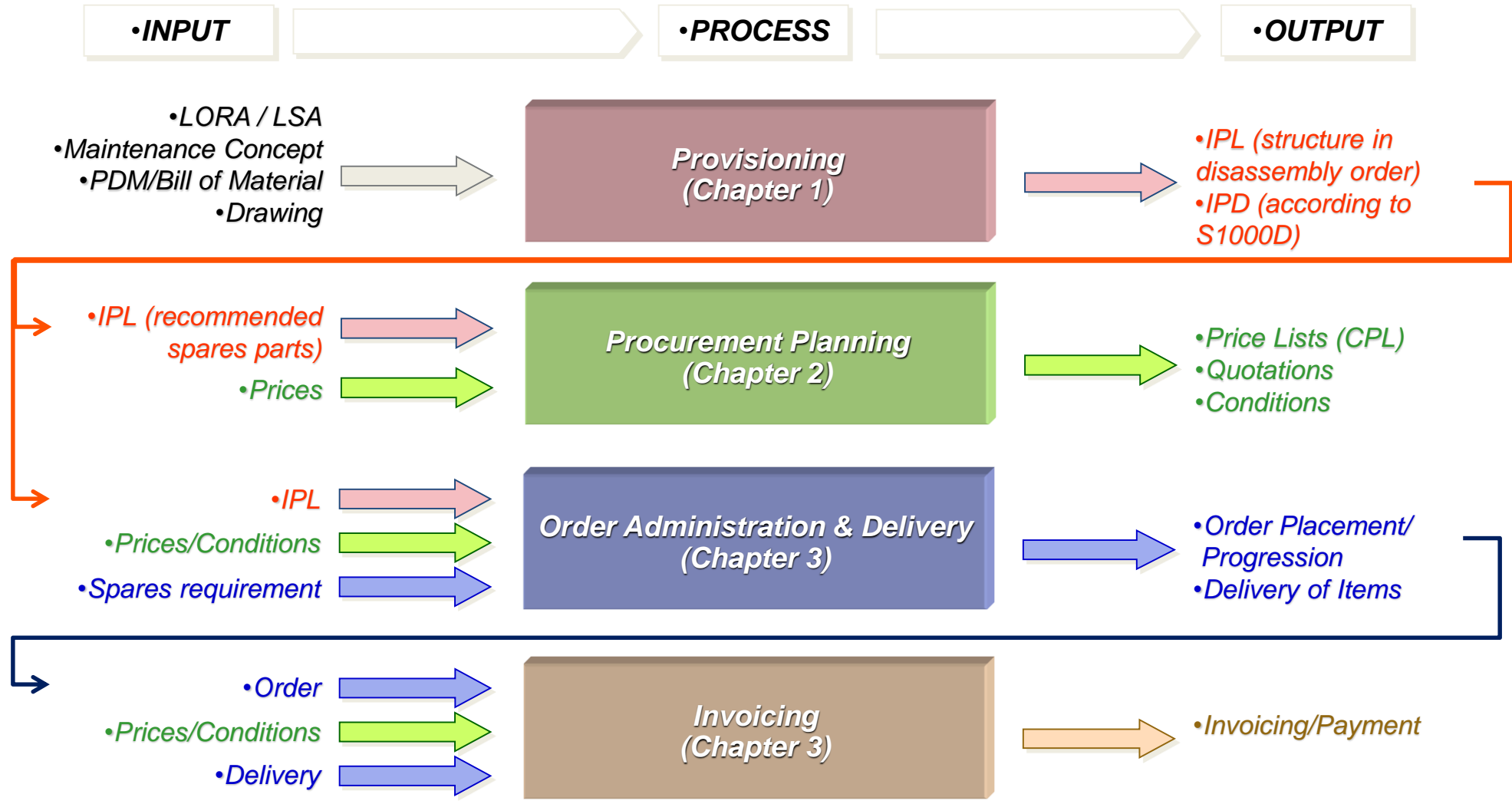
PROCESS

Provisioning
(Chapter 1)

Procurement Planning
(Chapter 2)

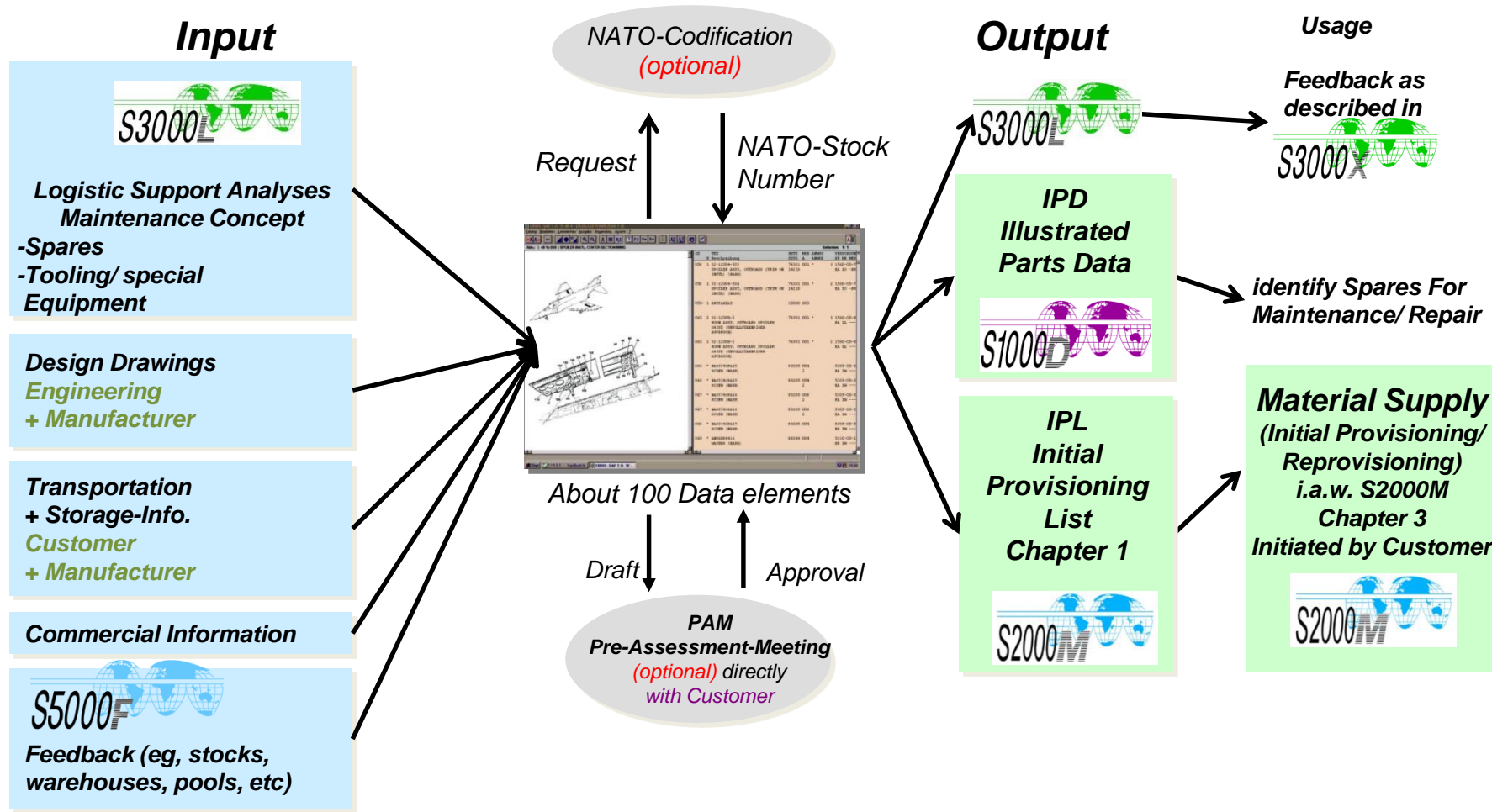
Order Administration & Delivery
(Chapter 3)

Invoicing
(Chapter 3)



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Input/Outputs



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Structure

S2000M is organized into chapters which are designed to stand alone for ease of understanding as well as ease of implementation.

Chapter 0	Introduction to the specification
Chapter 1	Provisioning
Chapter 2	Spare parts list
Chapter 3	Material supply
Chapter 4	Communication techniques
Chapter 5	Data model
Chapter 6	Data dictionary
Chapter 7	Definitions, abbreviations and reference documents

Structure

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Chapter 0 explains the background and history of the specification, its structure and how it should be used.

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Chapter 1 defines the process of selecting support items and spares that are necessary to support all categories of products.

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Chapter 2 allows customer and supplier to process parts data (including commercial information) without the need to go through a provisioning process.

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Chapter 3 describes the process, procedures and techniques for on-line operation of pricing, ordering, shipment and invoicing.

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Chapter 4 describes the standards that exist for the exchange of information in accordance with the S2000M procedures.

Structure

S2000M is organized into chapters which are designed to stand alone for ease of understanding as well as ease of implementation.

Chapter 0	Introduction to the specification
Chapter 1	Provisioning
Chapter 2	Spare parts list
Chapter 3	Material supply
Chapter 4	Communication techniques
Chapter 5	Data model
Chapter 6	Data dictionary
Chapter 7	Definitions, abbreviations and reference documents

Chapter 5 describes how the S2000M data are related with each other and defines the messages that are used by the previous chapters.

Structure

S2000M is organized into chapters which are designed to stand alone for ease of understanding as well as ease of implementation.

Chapter 0	Introduction to the specification
Chapter 1	Provisioning
Chapter 2	Spare parts list
Chapter 3	Material supply
Chapter 4	Communication techniques
Chapter 5	Data model
Chapter 6	Data dictionary
Chapter 7	Definitions, abbreviations and reference documents

Chapter 6 includes a catalogue of all data elements used by S2000M.

Structure

S2000M is organized into chapters which are designed to stand alone for ease of understanding as well as ease of implementation.

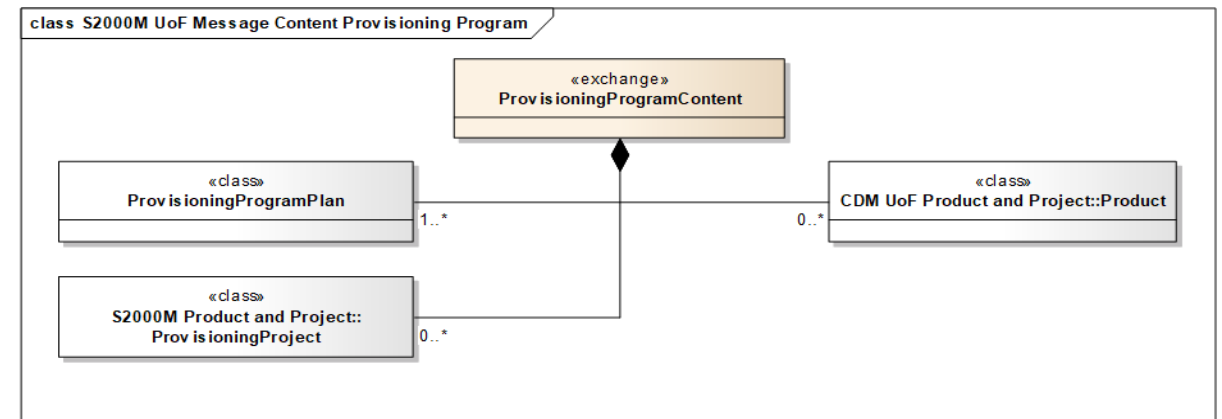
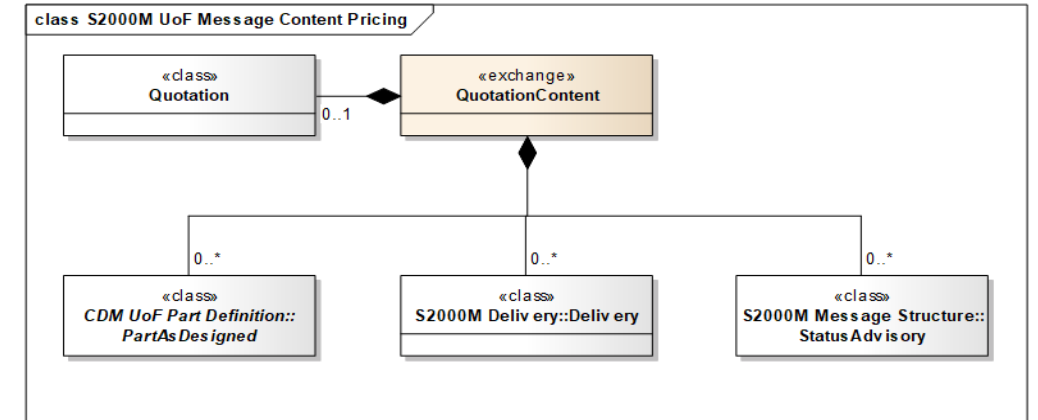
Chapter 0	Introduction to the specification
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Chapter 7 is a glossary of terms and definitions , cataloguing all the items used in S2000M.

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Data Model

- 30 Units of Functionality (UoF)
- 4 domains
 - Configuration
 - Item
 - Message
 - Miscellaneous
- 11 message definitions



XML Schema

- The S2000M data model is converted automatically into an XML schema.
- Each item in the data model has a corresponding XML entity.
- The data exchange is then performed by exchanging messages in XML format.

```

<xsd:complexType name="message">
  <xsd:annotation>
    <xsd:appinfo>
      <source>SX001G:Message</source>
    </xsd:appinfo>
  </xsd:annotation>
  <xsd:sequence>
    <!-- UML-Attributes -->
    <xsd:element name="msgId" type="messageIdentifier"/>
    <xsd:element name="msgDate" type="messageCreationDateTime" nillable="true" minOccurs="0"/>
    <xsd:element name="msgLang" type="messageLanguage" nillable="true" minOccurs="0"/>
    <xsd:element name="msgStatus" type="messageContentStatus" nillable="true" minOccurs="0"/>
    <xsd:element name="msgType" type="messageContentType" nillable="true" minOccurs="0"/>
    <xsd:element name="msgBizType" type="messageBusinessType" nillable="true" minOccurs="0"/>
    <xsd:element name="iec" type="informationExportTradeControl" nillable="true" minOccurs="0"/>
    <!-- UML-CompositionRelationships -->
    <xsd:group ref="messageContentNonAbstractClasses"/>
    <!-- UML-EmbeddedAssociations -->
    <xsd:element name="msgContext" type="messageContext" nillable="true" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element name="msgPty" type="messageParty" nillable="true" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element name="relatedMsg" type="messageRelationship" nillable="true" minOccurs="0" maxOccurs="unbounded"/>
    <!-- UML-Extends -->
    <xsd:element name="docs" type="documentReferencingItem" nillable="true" minOccurs="0"/>
    <xsd:element name="projAttr" type="projectSpecificExtensionItem" nillable="true" minOccurs="0"/>
    <xsd:element name="rmks" type="remarkItem" nillable="true" minOccurs="0"/>
    <xsd:element name="secs" type="securityClassificationItem" nillable="true" minOccurs="0"/>
    <xsd:element ref="xsig:Signature" minOccurs="0"/>
  </xsd:sequence>
  <xsd:attribute name="uid" use="optional">
    <xsd:simpleType>
      <xsd:restriction base="xsd:ID">
        <xsd:annotation>
          <xsd:appinfo>uidPattern:msg</xsd:appinfo>
        </xsd:annotation>
        <xsd:pattern value="msg[1-9][0-9]*"/>
      </xsd:restriction>
    </xsd:simpleType>
  </xsd:attribute>
  <xsd:attribute name="uri" type="xsd:anyURI" use="optional"/>
  <xsd:attribute name="crud" type="crudCode" default="I"/>
</xsd:complexType>
    
```

Future S2000M Development

- **Planned in 2024 (Next block release with the other S-Specifications)**
- **Main topics:**
 - **New CODREC message in XML data structure**
 - **Incorporation of the SER CR that will allow to exchange serial numbers**
 - **Update of the existing information**
 - **If necessary, clarification or error correction**
 - **Incorporation new change requests (CR).**

SUMMARY

- **Used by most military projects in Europe.**
- **Requires a high level of specialist experience for all project participants**
- **Cannot be implemented / used without thorough planning, coordination and collaboration between all project participants**
- **The same language / understanding of the data elements enables organizational use**
- **New XML-based communication makes it interoperable with other S-Series specs.**
- **With consistent application / use, a strict spare parts management is possible**
- **Use of the data and data structures for further use in logistical connection processes on the customer side (e.g. SASPF).**

Download it from <http://www.s2000m.org>



Austrian Aeronautics Industries Group (AAIG)
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IPS User Forum 2022 in Vienna, October 17th – 20th

www.IPS-UF.com



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Thank You for your attention! Questions?

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