



*Host (on behalf of ASD):*



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# S1000X

## Input data specification for S1000D

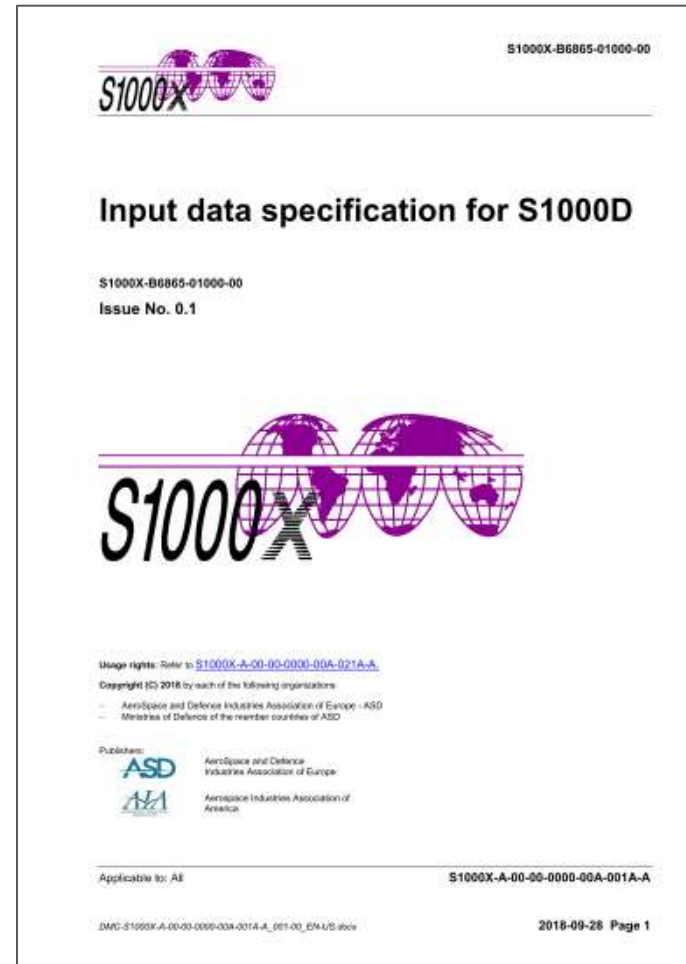
*Name of presenter:* Joakim Lundqvist  
*Rank/title of presenter:* S1000X Chair  
*Company/organization:* Saab

*S1000D User Forum, London*

*October 14-16, 2019*

# Agenda

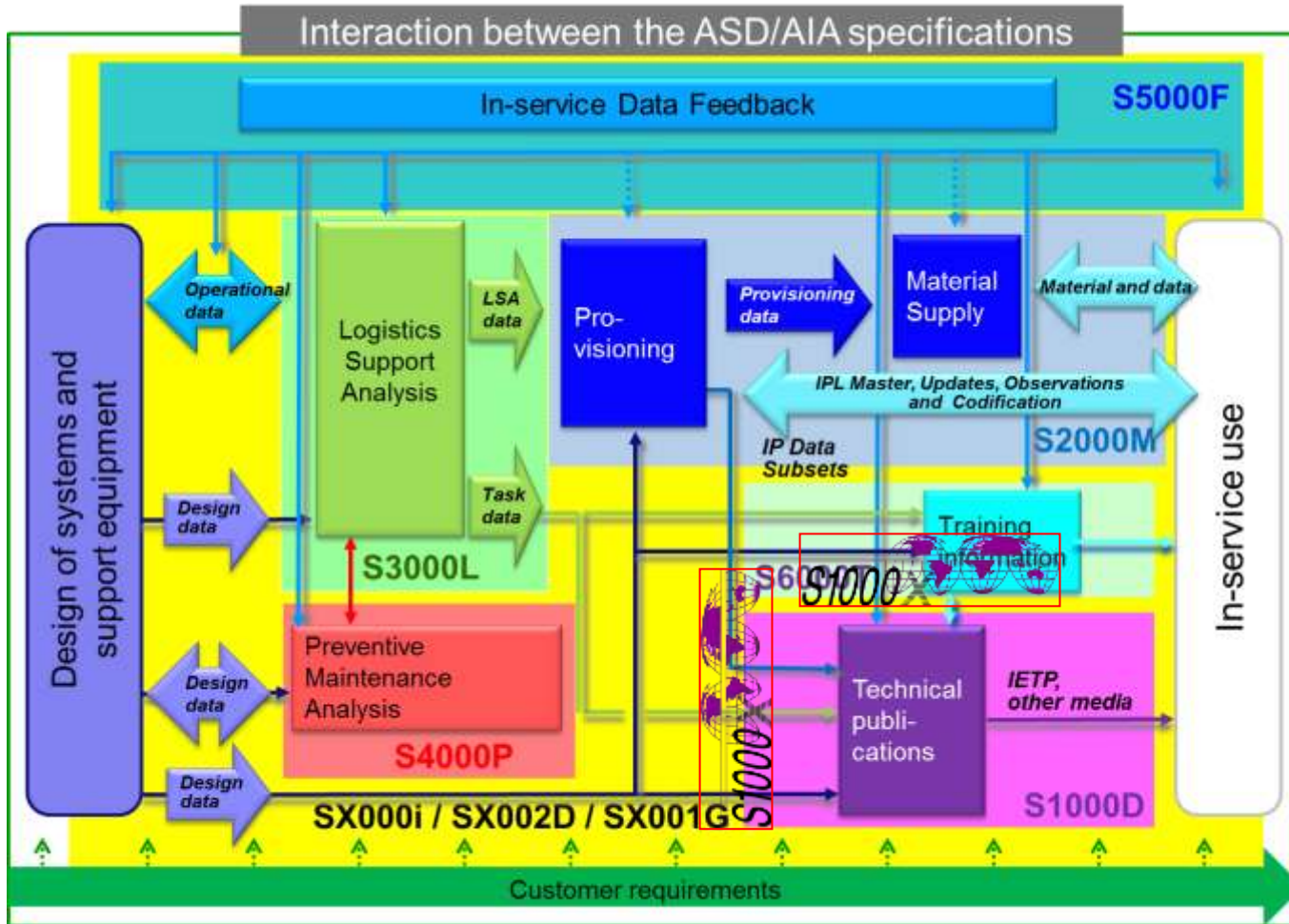
- Statement of work
- The team
- S1000D Chapter structure
- Document relationships
- Structure
- Future



## Statement of work

- The purpose of the S1000X Working Group (S1000XWG) is to specify all input data required from other specifications to S1000D. **These required data include but are not limited to the S-Series of specifications.** The task team's deliverable shall be a new specification numbered S1000X and titled "Input data specification for S1000D".
- It will first concentrate on specifying required input data from **S2000M 6.1, S3000L 1.1 and GEIA-STD-0007B to S1000D issue 4.1.**

# Where does S1000X belongs



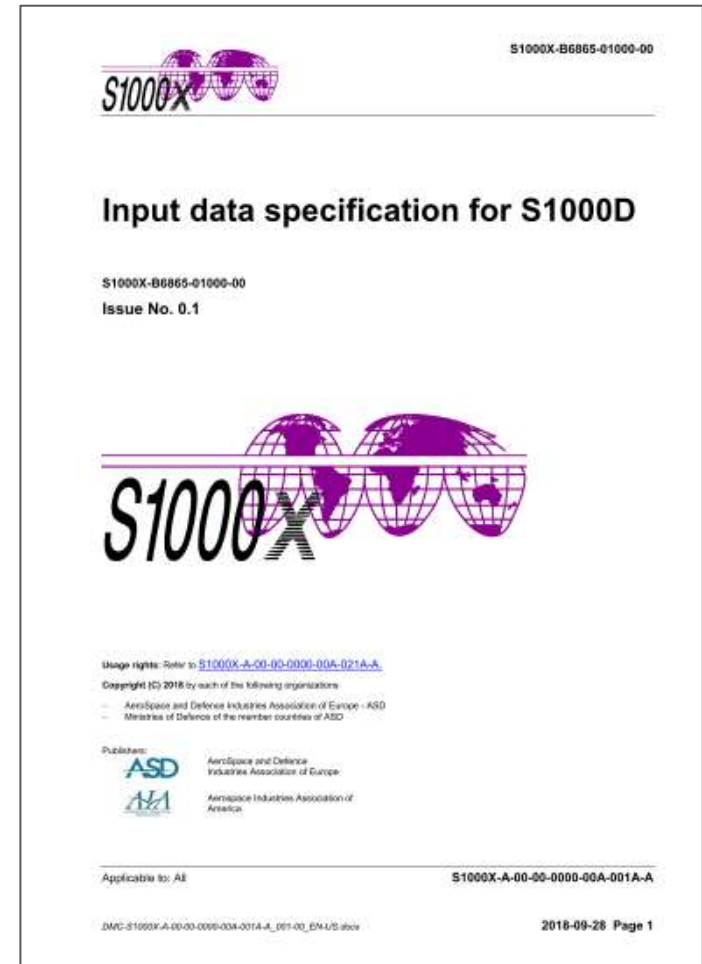
ICN-B6865-SX000I30019-004-00

## The S1000X team

- Current officers are:
  - Joakim Lundqvist, Chair (Saab)
  - Paul Haslam, Vice Chair (O’Neil & Associates)
  - Parker Owen, Secretary (Integrated Support Systems) (ISS))
- Companies and organizations that contribute to the S1000X work:
  - Airbus Defence and Space
  - Airbus Helicopters
  - BAE Systems
  - FBC
  - Isselnord
  - ISS
  - Leonardo
  - NAVSEA/DoD
  - Netherlands Ministry of Defence
  - NSPA/NATO
  - O’Neil & Associates
  - Saab
  - Swedish Defence Materiel Administration

# S1000X Chapter structure

- Chapter 0
  - Front matters
- Chapter 1
  - General chapter
- Chapter 2
  - General requirements
- Chapter 3
  - Common information chapter
    - Refer to data dictionary
    - Refer to chapter 4
- Chapter 4
  - The specific specification mapping details
  - Mapping examples
- Chapter 5
  - Terminology and terms



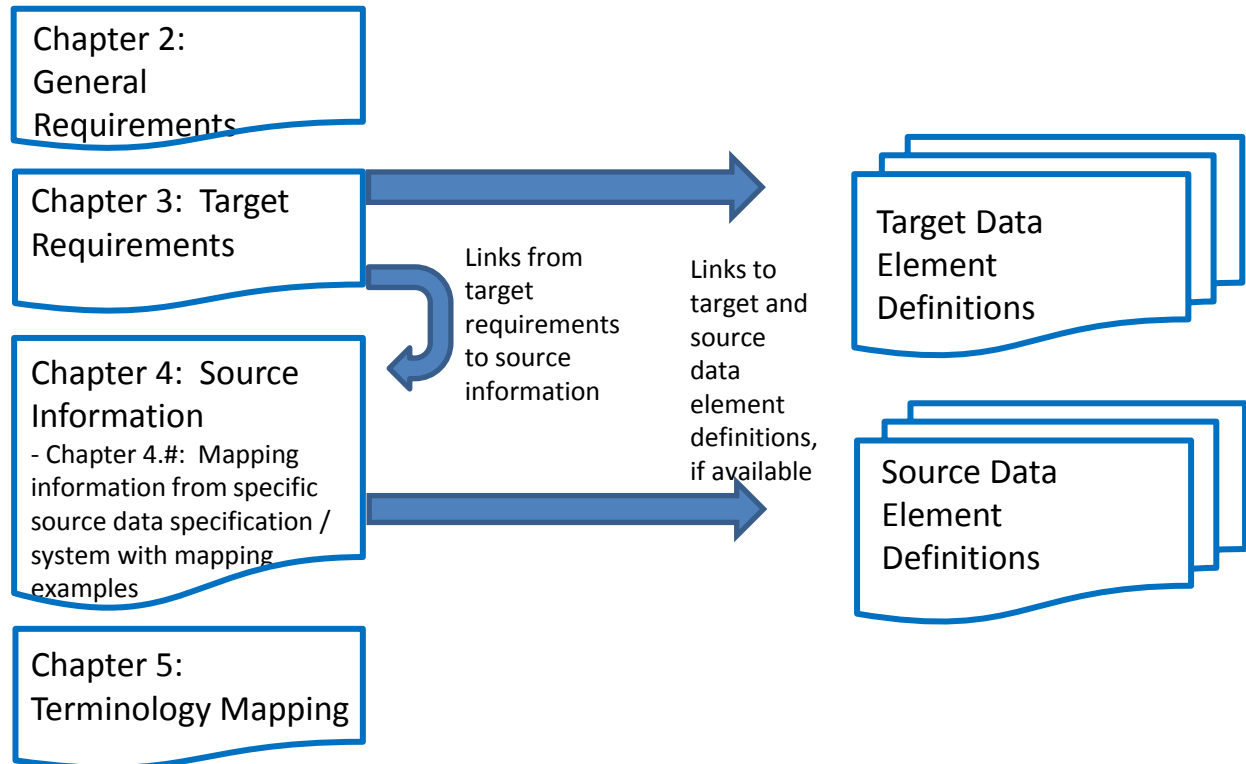
# S1000X – Chapter relationships

General requirements for input data specification for target S-Series specification

Target S-Series specification requirements

Detailed source mapping information for applicable source data systems

Terminology Mapping



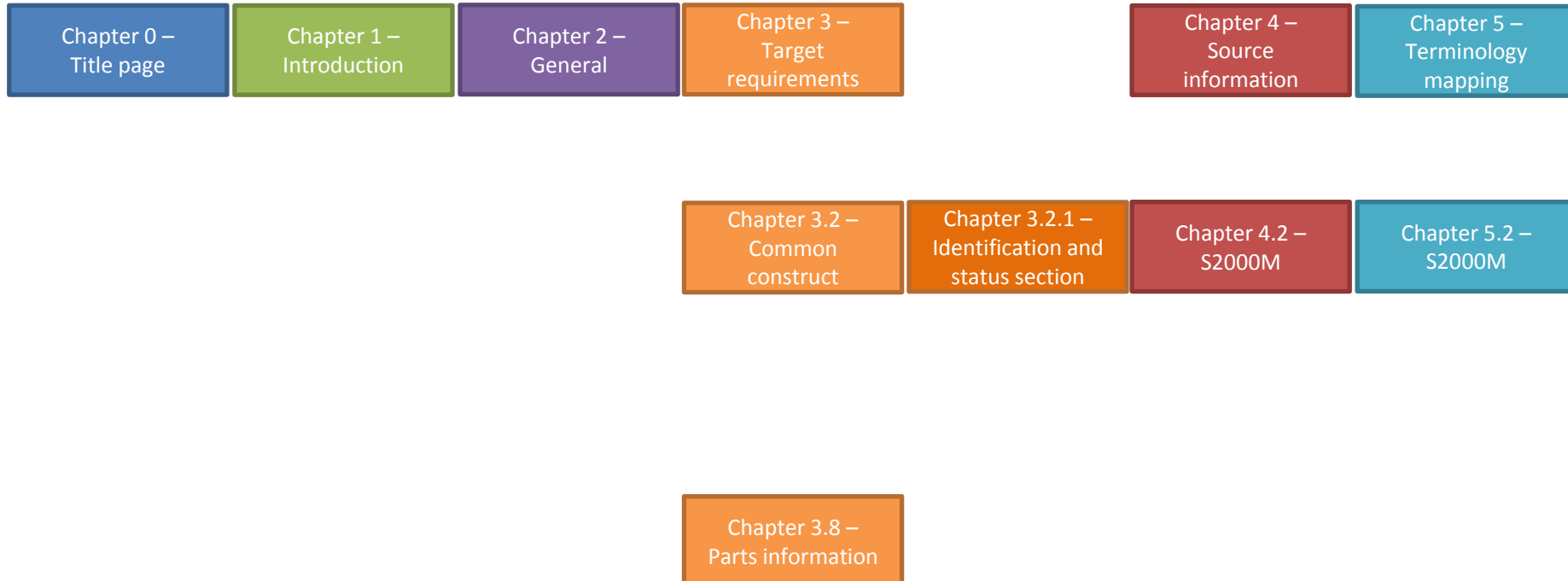


# S1000X structure, issue 0.1

Chapter 0 – Title page	Chapter 1 – Introduction	Chapter 2 – General	Chapter 3 – Target requirements		Chapter 4 – Source information	Chapter 5 – Terminology mapping
Chapter 0 – Highlights	Chapter 1.1 – Purpose and scope	Chapter 2.1 – Introduction	Chapter 3.1 – Introduction		Chapter 4.1 – introduction	Chapter 5.1 – introduction
Chapter 0 – Table of contents	Chapter 1.2 – How to use the specification	Chapter 2.2 – Implementation prerequisites	Chapter 3.2 – Common construct	Chapter 3.2.1 – Identification and status section	Chapter 4.2 – S2000M	Chapter 5.2 – S2000M
Chapter 0 – Copyright and user agreement	Chapter 1.3 – How to tailor the specification		Chapter 3.4 – Procedural information	Chapter 3.2.2 – Applicability	Chapter 4.3 – S3000L	Chapter 5.3 – S3000L
	Chapter 1.4 – Maintenance of the specification		Chapter 3.6 – Maintenance planning information	Chapter 3.2.3 – Preliminary requirements and requirements after job completion	Chapter 4.7 – GEIA-STD-0007-B	Chapter 5.7 – GEIA-STD-0007-B
			Chapter 3.8 – Parts information	Chapter 3.2.4 – Controlled content		
			Chapter 3.12 – Common information repository	Chapter 3.2.3 – Common information		



# S1000X structure, IPD example



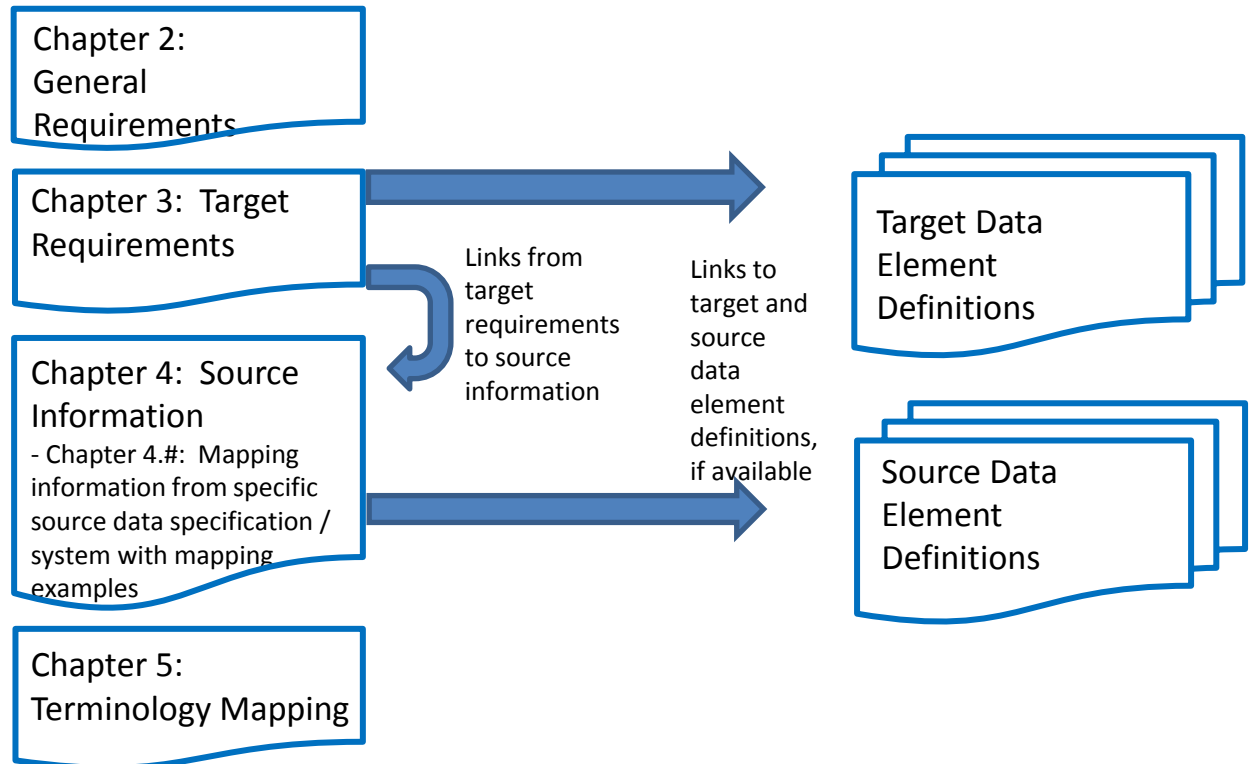
# S1000X – Chapter relationships

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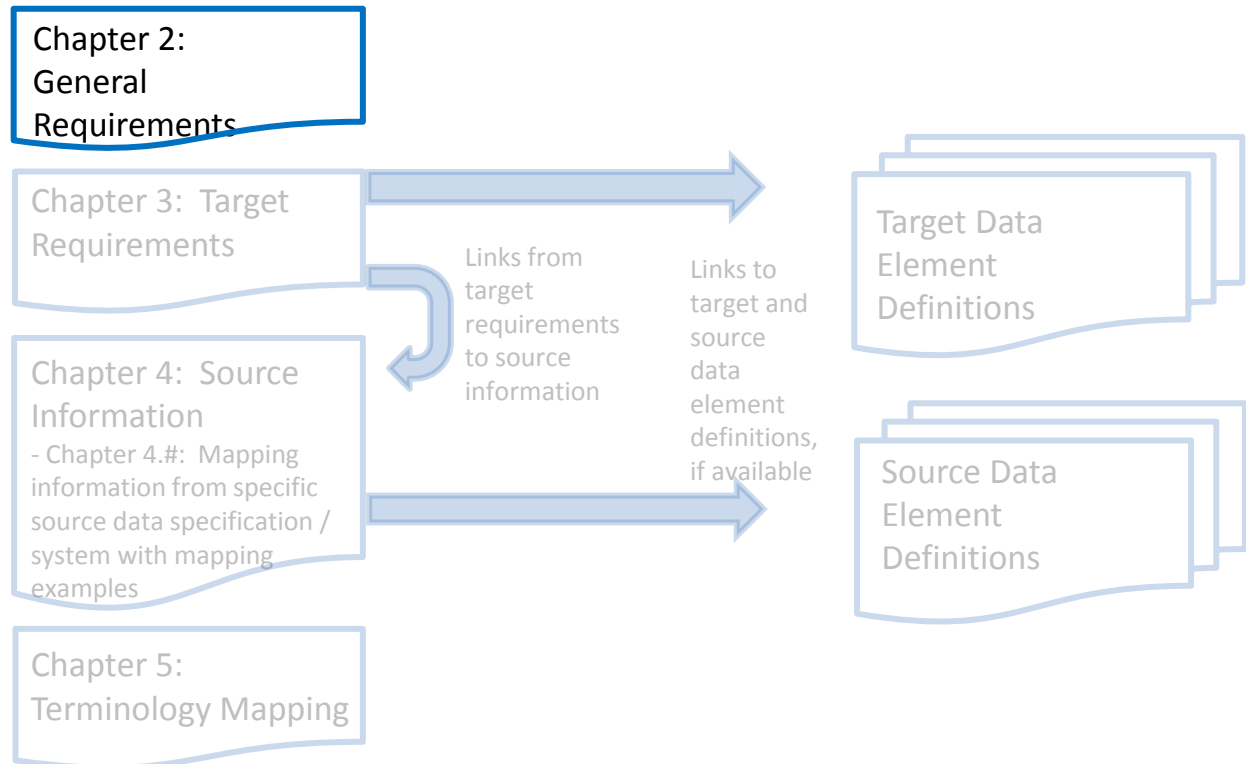
# S1000X – Chapter relationships

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Terminology Mapping



# Chapter 1 and 2

- Chapter 1

Chapter	Data module title	Data module code	Applic
<a href="#">Chap 1</a>	Introduction	S1000X-A-01-00-0000-00A-009A-A	All
<a href="#">Chap 1.1</a>	Introduction - Purpose and Scope	S1000X-A-01-01-0000-00A-040A-A	All
<a href="#">Chap 1.2</a>	Introduction - How to use the specification	S1000X-A-01-02-0000-00A-040A-A	All
<a href="#">Chap 1.3</a>	Introduction - How to tailor the specification	S1000X-A-01-03-0000-00A-040A-A	All
<a href="#">Chap 1.4</a>	Introduction - Maintenance of the specification	S1000X-A-01-04-0000-00A-040A-A	All

- Chapter 2

Chapter	Data module title	Data module code	Applic
<a href="#">Chap 2</a>	General requirements	S1000X-A-02-00-0000-00A-009A-A	All
<a href="#">Chap 2.1</a>	General requirements - Introduction	S1000X-A-02-01-0000-00A-018A-A	All
<a href="#">Chap 2.2</a>	General requirements - Implementation prerequisites	S1000X-A-02-02-0000-00A-040A-A	All

# S1000X – Chapter relationships

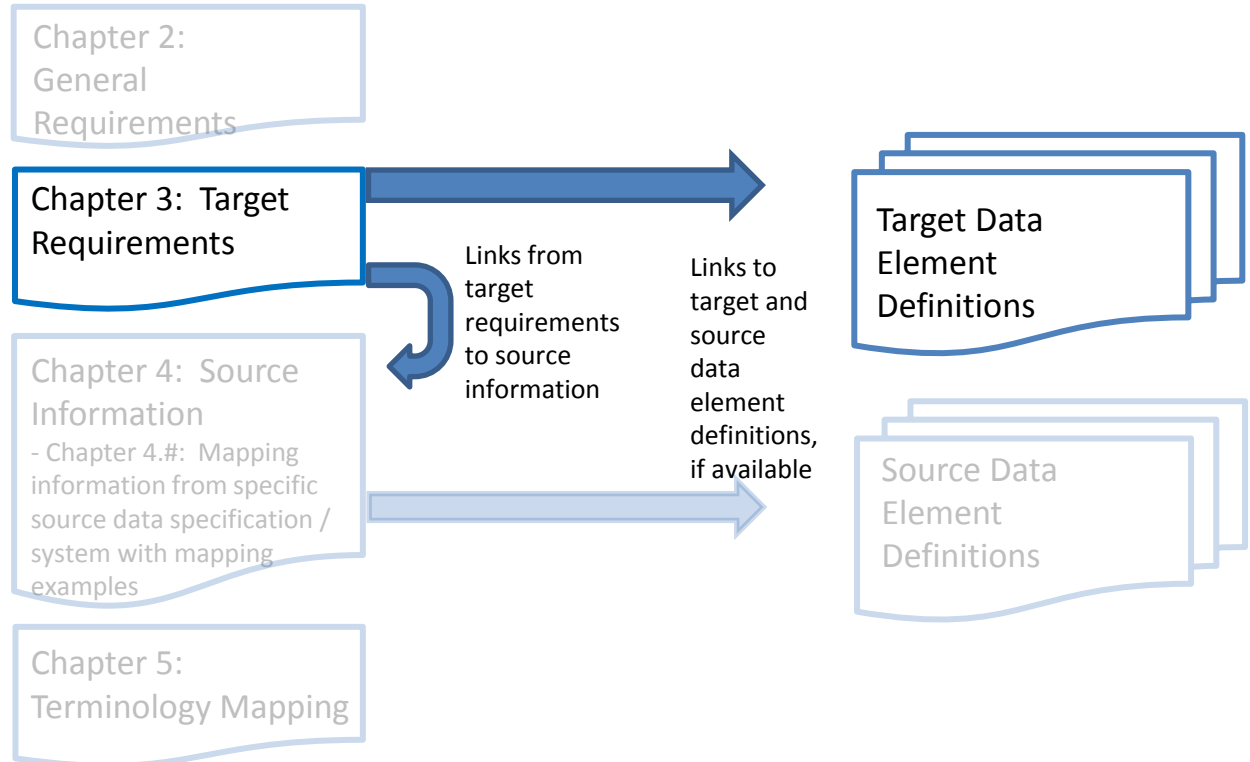
Target requirements

General requirements for input data specification for target S-Series specification

Target S-Series specification requirements

Detailed source mapping information for applicable source data systems

Terminology Mapping



# Chapter 3.8 – Parts information

S1000X-B6865-01000-00

*Table 2 Parts information - IPD*

No.	Target: Functionality area and Detail/Path	Target requirements	Source
3.9.5.1	Data Modules – Identification and status section <a href="#">identAndStatusSection/</a>	Refer to <a href="#">Chap 3.2.1</a>	
3.9.5.2.7_2@1	Content identifier <code>content</code> <code>sid</code>	Identifier of the element.	
3.9.5.2.7_2_1	Collection of external references <code>content/</code> <code>refs</code>	List the external references used in data module content.	
3.9.5.2.7_2_2	Content applicability collection <code>content/</code> <a href="#">referencedApplicGroup</a>	If required, the content applicability is always to be collected in element <code>&lt;referencedApplicGroup&gt;</code> <b>Note</b> Refer to <a href="#">Chap 3.2.2</a> concerning applicability information.	
3.9.5.2.7_2_3	Content applicability externalized collection <code>content/</code> <a href="#">referencedApplicGroupRef</a>	If required and in case the applicability is externalized and collected into the externalized applicability annotation CIR data module, the content applicability is always to be collected in element <code>&lt;referencedApplicGroupRef&gt;</code> <b>Note</b> Refer to <a href="#">Chap 3.2.2</a> concerning applicability information.	
3.9.5.2.7_2.1	<a href="#">illustrated parts catalog</a> <code>content/</code> <a href="#">illustratedPartsCatalog</a>	Define the illustrated parts catalog (IPC) information of a data module (excluding references).	<a href="#">S2000M</a>

Applicable to: All

S1000X-A-03-08-0000-00A-040A-A  
Chap 3.8  
2018-09-30 Page 8

DMC S1000X-A-03-08-0000-00A-040A-001-00\_EN-US.dwg

Unique ID

Link from S1000X chap 3.8 to chap 3.2.1

The requirement for the target

# Chapter 3.2.1 – Identification and status section

No.	Target: Functionality Area	Target requirements	Source
3.9.5.1_2.1.1.2@5	Sub-subsystem code <a href="#">identAndStatusSection</a> <a href="#">dmAddress</a> <a href="#">dmIdent</a> <a href="#">dmCode</a> <a href="#">#subSubSystemCode</a>		<a href="#">S2000M</a> <a href="#">S3000L</a> <a href="#">S4000P</a> <a href="#">S5000F</a> <a href="#">S6000T</a> <a href="#">0007</a>
3.9.5.1_2.1.1.2@6	Assembly code <a href="#">identAndStatusSection/</a> <a href="#">dmAddress/</a> <a href="#">dmIdent/</a> <a href="#">dmCode</a> <a href="#">#assyCode</a>		<a href="#">S2000M</a> <a href="#">S3000L</a> <a href="#">S4000P</a> <a href="#">S5000F</a> <a href="#">S6000T</a> <a href="#">0007</a>
3.9.5.1_2.1.1.2@7	Disassembly code <a href="#">identAndStatusSection/</a> <a href="#">dmAddress/</a> <a href="#">dmIdent/</a> <a href="#">dmCode</a> <a href="#">#disassyCode</a>		<a href="#">S2000M</a> <a href="#">S3000L</a> <a href="#">S4000P</a> <a href="#">S5000F</a> <a href="#">S6000T</a> <a href="#">0007</a>
3.9.5.1_2.1.1.2@8	Disassembly code variant <a href="#">identAndStatusSection/</a> <a href="#">dmAddress/</a> <a href="#">dmIdent/</a> <a href="#">dmCode</a> <a href="#">#disassyCodeVariant</a>		<a href="#">S2000M</a> <a href="#">S3000L</a> <a href="#">S4000P</a> <a href="#">S5000F</a> <a href="#">S6000T</a> <a href="#">0007</a>
3.9.5.1_2.1.1.2@9	Information code		<a href="#">S2000M</a>

Applicable to: All

S1000X-A-03-02-0100-00A-040A-A

Unique ID

Link to S1000D data dictionary

Link to source information S1000X Chap 4.2



# HTML file to explain the attribute

attribute **subSubSystemCode**

type	subSubSystemCodeAttType
used by	complexType catalogSeqNumberElemType catalogSeqNumberRefElemType categoryOneContainerLocationElemType @inCodeElemType
facets	kind Value Annotation pattern [A-Z0-9]{1}
source	<xsi:attribute name="subSubSystemCode" type="subSubSystemCodeAttType"/>

XML Schema documentation generated by **XML Spy** Schema Editor <http://www.altova.com/xmlspy>

HTML files for each data element per schema (IPD)

Reusing the schema data to get a full definition of the data element in S1000D

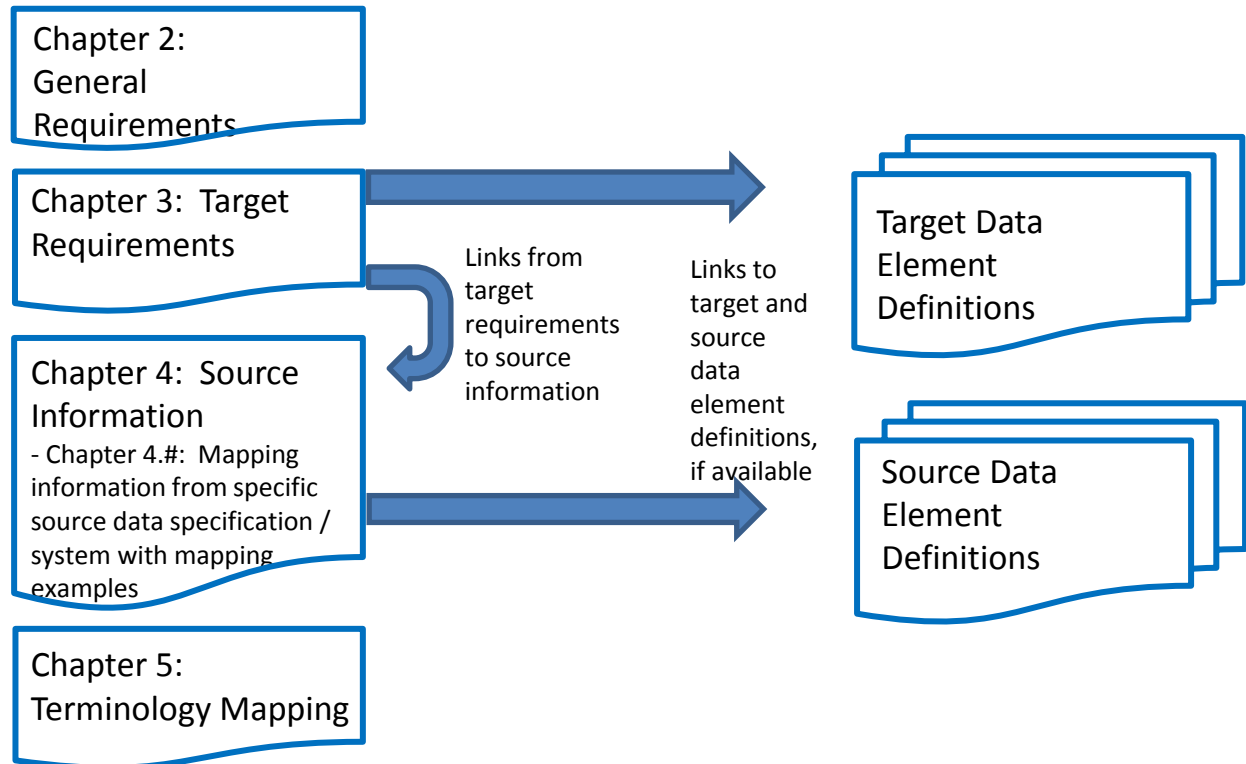
# S1000X – Chapter relationships

General requirements for input data specification for target S-Series specification

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Terminology Mapping



# S1000X – Document relationships

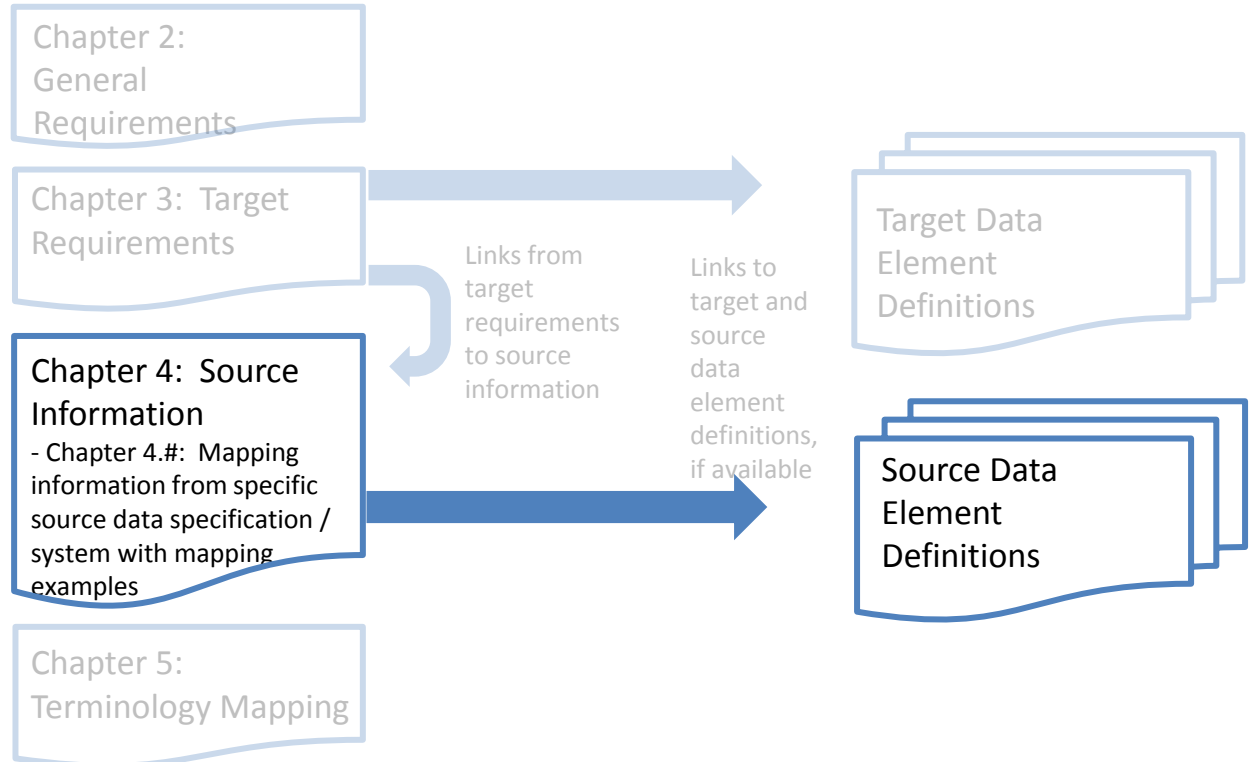
Source Information

General requirements for input data specification for target S-Series specification

Target S-Series specification requirements

Detailed source mapping information for applicable source data systems

Terminology Mapping



# Chapter 4 – Mapping details

No.	Target: Functionality area and Detail/Path	Source: Detail/Path	Mapping details and requirements	Triggering event BRDP
3.9.5.1_2.1.1.2@4	Subsystem code identAndStatusSection/ dsAddress/ dsIdent/ dsCode @subSystemCode	<u>figureItemIdentifier (CSN):</u> 100ipd/magContent/cas/figCsn/ can/id or (exclusive or): 100ipd/magContent/cas/headCsn/ can/id or (non-chapterized) <u>provisioningProjectIdentifier (IPP):</u> 100ipd/magContext/ippn/ipp/id	Take the content at position 4 of child element <id> of element <csn>, formatted as an1. If there is a space character at this position (separate IP presentation of equipment - non-chapterized), then take the content at position 6 of child element <id> of element <ipp>.	
3.9.5.1_2.1.1.2@5	Sub-subsystem code identAndStatusSection/ dsAddress/ dsIdent/ dsCode @subSubSystemCode	<u>figureItemIdentifier (CSN):</u> 100ipd/magContent/cas/figCsn/ can/id or (exclusive or): 100ipd/magContent/cas/headCsn/ can/id or (non-chapterized) <u>provisioningProjectIdentifier (IPP):</u> 100ipd/magContext/ippn/ipp/id	Take the content at position 5 of child element <id> of element <csn>, formatted as an1. If there is a space character at this position (separate IP presentation of equipment - non-chapterized), then take the content at position 7 of child element <id> of element <ipp>.	

Applicable to: All

S1000X-A-04-02-0000-00A-040A-A  
Chap 4.2

Same unique ID

Link to S1000D data dictionary

Source (S2000M) path

Link from the mapping details to the mapping examples

Description of the mapping details and/or special requirements

# Chapter 4 – Mapping examples

S1000X-B6865-01000-00

No.	Target: Functionality area and Detail/Path	Target example (XML fragment only)	Source data (XML fragment only)
3.9.5.1_2.1.1.2@5	Sub-subsystem code identAndStatusSection/ dmAddress/ dmIdent/ dmCode #subSubSystemCode	<dmCode subSubSystemCode="0"/>	figureItemIdentifier (CSN): <locipd>...<msgContent><cas>...<headCsn><csn> <id>D000000001A000A</id></csn></headCsn> </cas></msgContent></locipd>
3.9.5.1_2.1.1.2@6	Assembly code identAndStatusSection/ dmAddress/ dmIdent/ dmCode #assyCode	<dmCode assyCode="0000"/>	figureItemIdentifier (CSN): <locipd>...<msgContent><cas>...<headCsn><csn> <id>D000000001A000A</id></csn></headCsn> </cas></msgContent></locipd>
3.9.5.1_2.1.1.2@7	Disassembly code identAndStatusSection/ dmAddress/ dmIdent/ dmCode #disassyCode	<dmCode disassyCode="01"/>	figureItemIdentifier (CSN): <locipd>...<msgContent><cas>...<headCsn><csn> <id>D000000001A000A</id></csn></headCsn> </cas></msgContent></locipd>
3.9.5.1_2.1.1.2@8	Disassembly code variant identAndStatusSection/ dmAddress/ dmIdent/ dmCode #disassyCodeVariant	<dmCode disassyCodeVariant="A"/>	figureItemIdentifier (CSN): <locipd>...<msgContent><cas>...<headCsn><csn> <id>D000000001A000A</id></csn></headCsn> </cas></msgContent></locipd>

Applicable to: All S1000X-A-04-02-0000-00A-040A-A  
Chap 4.2

Same unique ID

Link to S1000D data dictionary

What are we looking for (S1000D)

Where to find it in the source (S2000M)

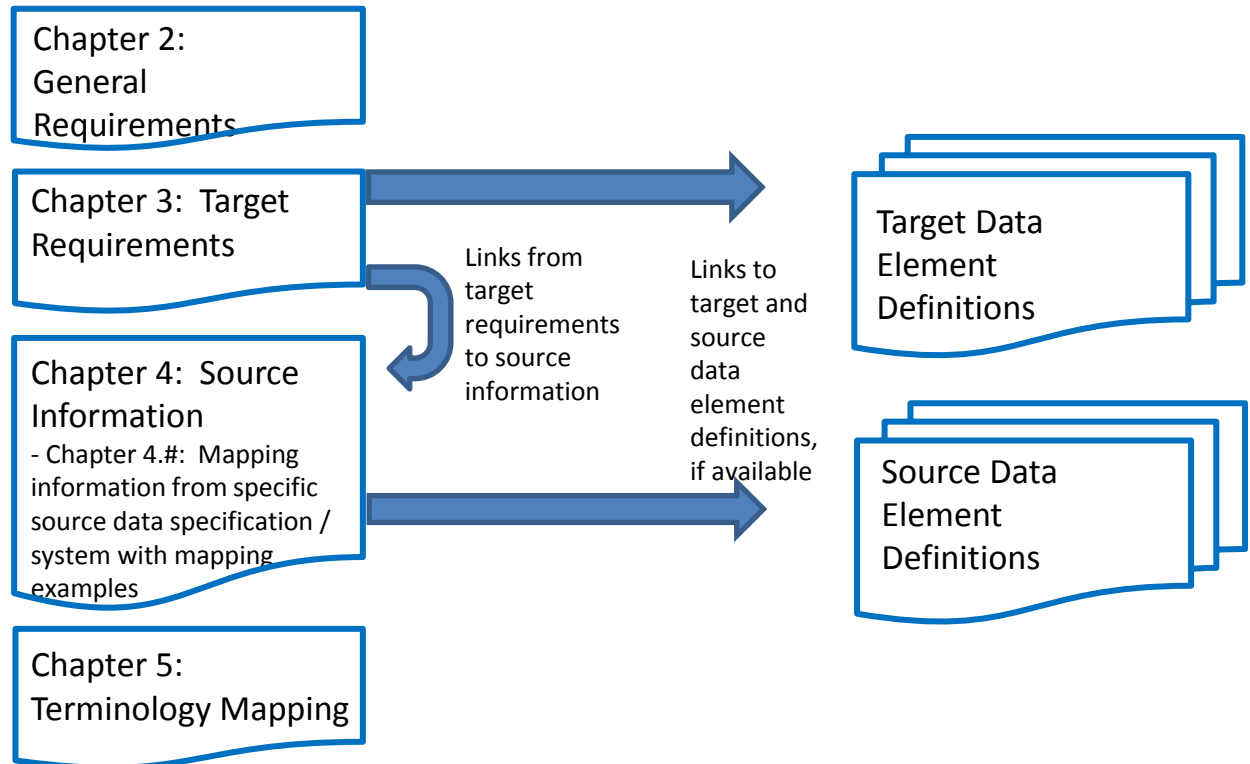
# S1000X – Chapter relationships

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Detailed source mapping information for applicable source data systems

Terminology Mapping



# S1000X – Document relationships

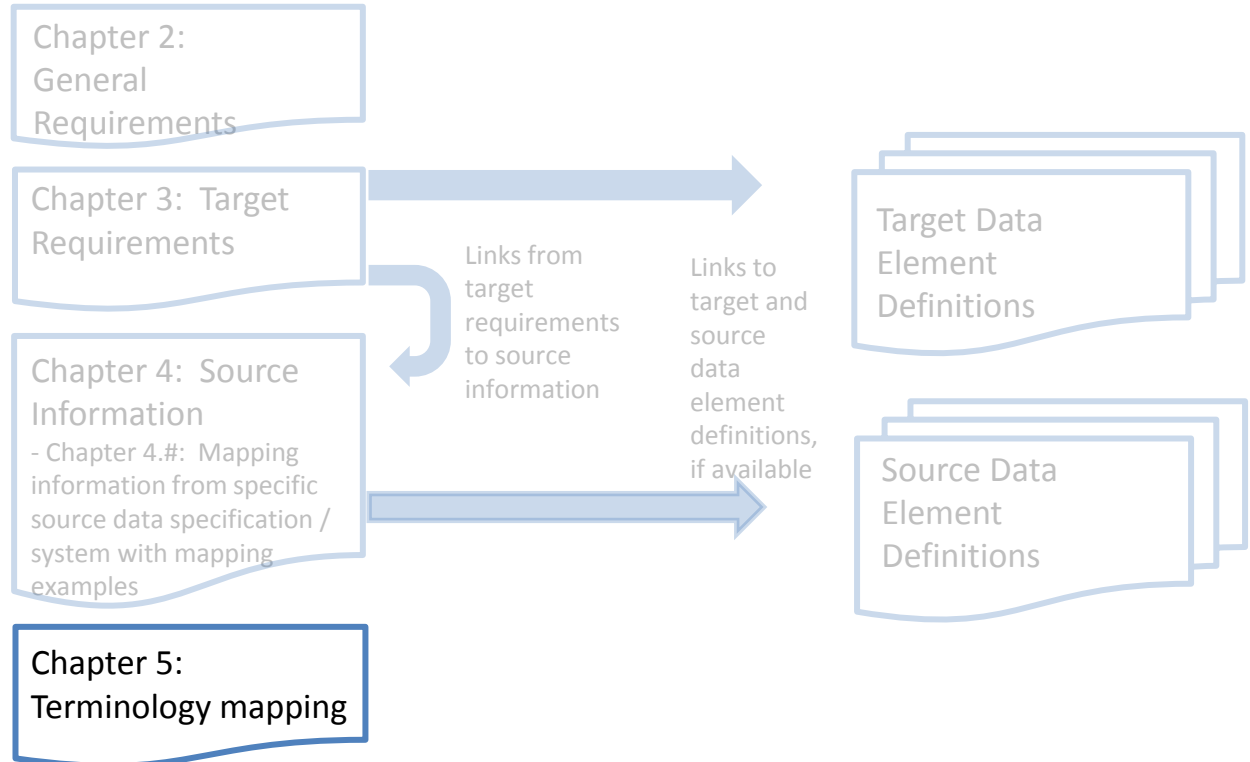
Terminology mapping

General requirements for input data specification for target S-Series specification

Target S-Series specification requirements


Detailed source mapping information for applicable source data systems

Terminology Mapping





# Chapter 5 – Mapping details

S1000X 

Unique for S2000M – The acronym

Table 3 Terminology mapping - S2000M

No.	Data element name	TEI / Acronym	Format	Type	Min length	Max length	Definition / Purpose
1	figureItemAttachingStorageOrShippingItem	ASP	n1	string	1	1	Indicates an item to be an attaching, storage or shipping part at a specific figureItemIdentifier (CSN). <b>Notes</b> - 1 = Attaching part - 2 = Storage part - 3 = Shipping part
2	changeAuthorizationIdentifier	CAN	an 20	string	1	20	Identifies an authority or an authorizing notice for engineering or other changes.
3	customerIdentifier	CIN	a2	string	2	2	Identifies the customer to whom specific data is applicable. It contains either a country code (as ISO 3166-1, or an organizational code maintained by the S2000M administrator.
4	hardwarePartCalibrationRequirement	CMK	n1	boolean	1	1	Identifies an item that requires calibration. <b>Notes</b> - 0 = False: item does not require to be calibrated. - 1 = True: item requires to be calibrated.
5	figureItemIdentifier	CSN	an16	string	16	16	Identifies the location of the item within the illustrated parts catalog (IPC) according to the standard numbering system. <b>Notes</b> - Position 1: Material item category code (alphanumeric) - Positions 2 and 3: Product chapter number (alphanumeric) - Position 4: Section (alphanumeric) - Position 5: Subsection (alphanumeric) - Positions 6 thru 9: Subject (alphanumeric) - Positions 10 and 11: Figure number (alphanumeric) - Position 12: Figure number variant (alpha except "I" and "O") - Positions 13 thru 15: Item number (numeric) - Position 16: Item number variant (alpha except "I" and "O")
6	figureItemContainerLocation	CTL	an7	string	7	7	Identifies the location at which the data record for the item's category 1 container is held.

Applicable to: All

S1000X-A-05-02-0000-00A-040A-A  
Chap 5.2

Sequence number

The name of source data element

Unique for S2000M – The acronym

Build up for the data element

Definition of the source data element

## Tailoring of S1000D

- **Business rules**
  - Example: [S3000L](#) vs GEIA-STD-0007 for procedural information

### **Business rule decision point BRDP-1X-00001 -**

#### **Applicable source specifications:**

Identify the source specifications applicable to the mapping of required input data for [S1000D](#) in a given project.

# Publishing plan

	2019							2020
	June	July	August	September	October	November	December	January
Current plan	EDIT	EDIT	EDIT	EDIT	EDIT	Finish internal Review	External Review	Publish issue 0.1



# Next step - Chapters

Chapter 3.3 – Descriptive information	Chapter 3.14 – Learning data module	Chapter 4.4 – S4000P	Chapter 5.4 – S4000P
Chapter 3.5 – Fault information	Chapter 3.15 – Maintenance checklists and inspections	Chapter 4.5 – S5000F	Chapter 5.5 – S5000F
Chapter 3.7 – Crew/Operator information	Chapter 3.16 – Service bulletin data module	Chapter 4.6 – S6000T	Chapter 5.6 – S6000T
Chapter 3.9 – BDAR information	Chapter 3.17 – SCO content data module	Chapter 4.8 – Other sources	Chapter 5.8 – Other sources
Chapter 3.10 – Wiring data	Chapter 3.18 – Incremental update		
Chapter 3.11 – Process data module			
Chapter 3.13 – Container data module			

## Next step - specifications

- S1000D issue 4.2
- S1000D issue 5.0
- S2000M 6.2
- S3000L 2.0
- S4000P
- S6000T



# Thank you

for your attention!

## Questions?



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