

# S1000D - Defense Interest Group

## Facilitate adoption and implementation of S1000D in defense projects

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## Presentation

- Introduction
- Main priorities of the nations
- Most recent activities
- Way ahead
- Questions

# Introduction

## Introduction

### S1000D Defense Interest Group (DIG)

In the early years of this decade:

- Nations start a program to provide guidance proceedings in conformity with S1000D as applicable to defense projects

DIG members believe that applying S1000D in defense projects leads to:

- Higher quality results
- Lower Life Cycle costs
- Higher availability (less search time)
- An optimization of resources and a minimization of time to delivery of technical publications in military S1000D projects

## Introduction

### S1000D DIG Terms of Reference (summary)

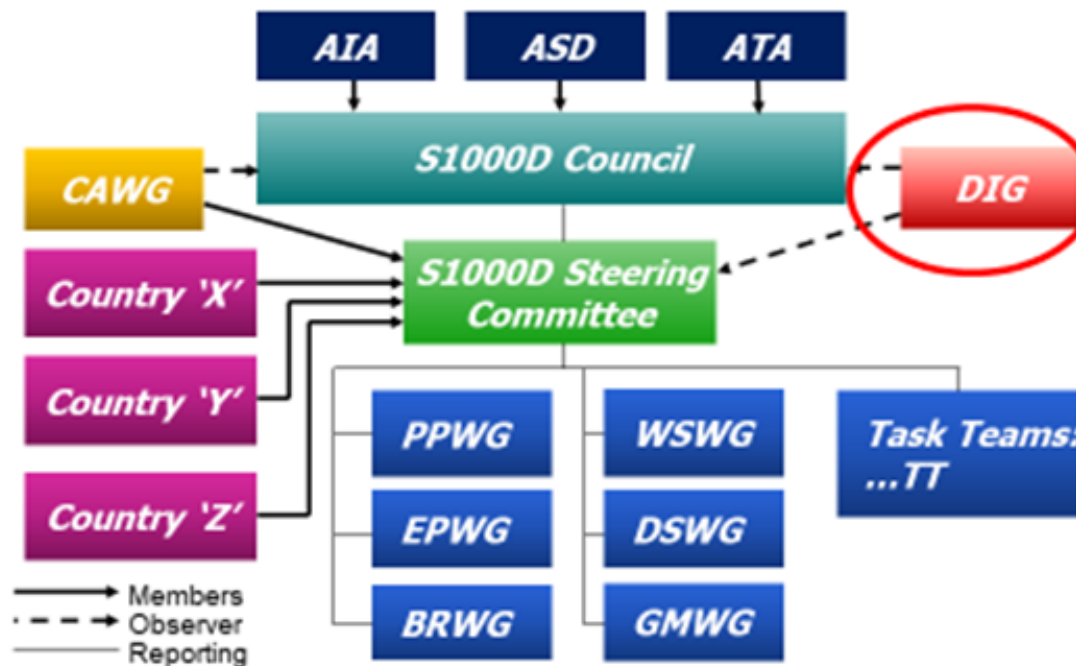
- The overall objective is to ensure that S1000D continues to meet the needs of global users and producers of defense products.
- The S1000D Defense Interest Group (S1000D DIG) is an independent body representing defense customers who have a vested interest in the specification.
- The role of the S1000D DIG is to ensure that defense requirements are articulated on and presented at the S1000D Steering Committee and Council.
- Membership on the S1000D DIG is comprised of representatives from defense customers, the national ministries departments of defense and international defense organizations.
  - Each nation may be represented by a primary and a secondary representative.
  - Nation's representatives may be supported by a (industry) specialist when required. These industry specialists can participate as observer members in the S1000D DIG.
- The Chair represents the S1000D DIG at the S1000D Council meetings and at the S1000D Steering Committee.

# Introduction

## S1000D DIG within S1000D organization

### DIG Participating nations

- Australia (DoD)
- Austria (BMLV)
- Canada (DoDN)
- Denmark (DALO)
- Finland (MoD)
- France (DGA)
- Germany (Bundeswehr)
- NATO Support and Procurement Agency (NSPA)
- Netherlands (MoD)
- Norway (FLO)
- Sweden (DMA)
- USA (DoD)
- UK (MoD)



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# Main priorities of the nations

## Main priorities of the nations

### The list of main priorities

- Modularization as a solution for making the spec easier
- 3D Model Engineering
- Contracting experience
- Knowledge transfer -> By sharing information
- More extensive descriptions for Sea and Land in Spec
- Harmonization of the S-Series suite of specifications
- Training: Lacks for more advanced tasks
- Common viewer plus offline viewing



## Main priorities of the nations

### Modularization

A modularized S1000D specification will make it much easier for the nations to use the specification and tailor it to their specific needs.

Modularization of the specification is on the S1000D Steering Committee's (SC) roadmap.

The nations in the S1000D DIG emphasize the importance of modularization.

## Main priorities of the nations

### 3D Model Engineering

Large amounts of data for S1000D projects originate from 3D engineering models.

There is a growing need in defense projects to get better support for using 3D engineering data in an S1000D environment.

## Main priorities of the nations

### Contracting experience - challenge

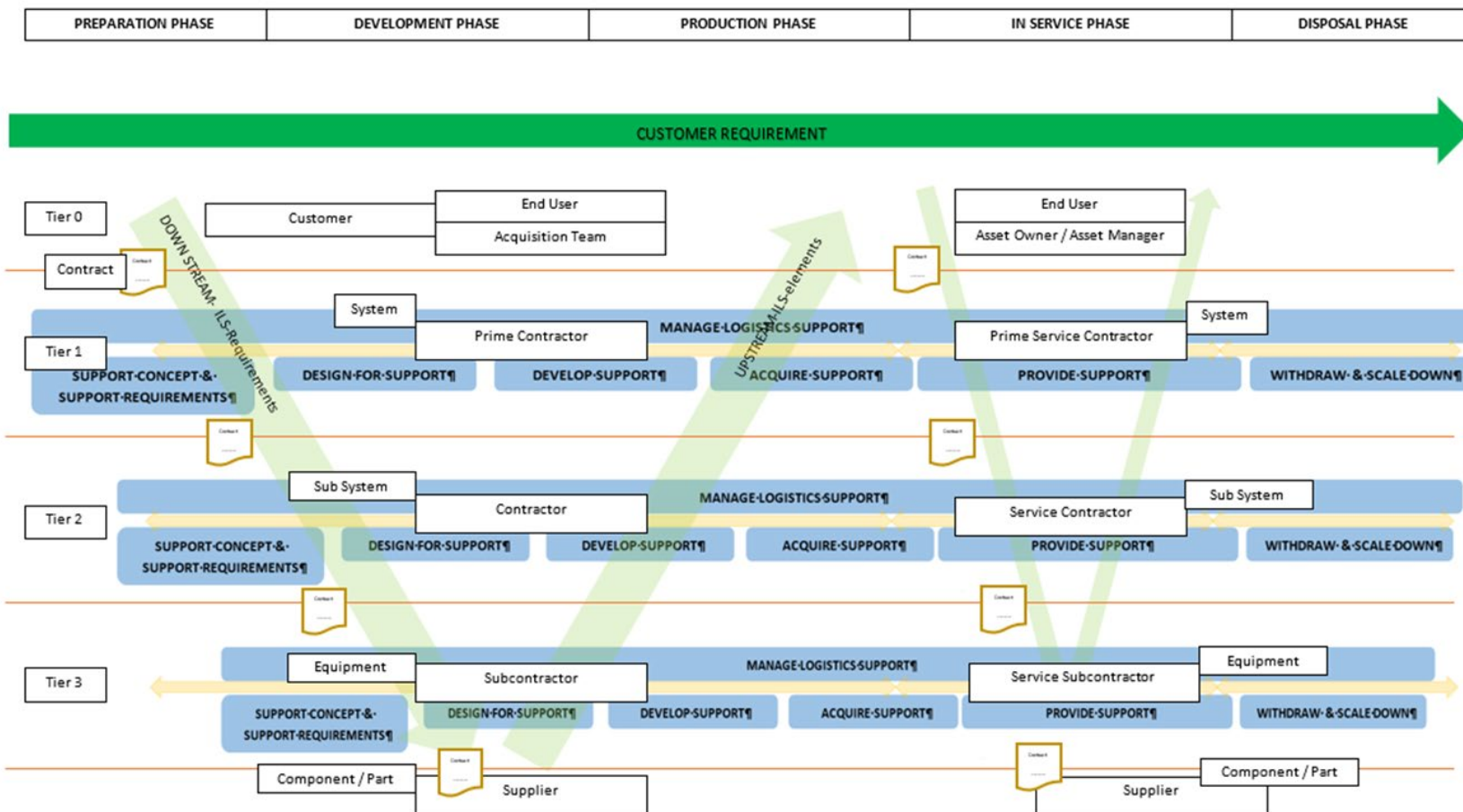
Contracting S1000D can be a complex task.

The S1000D DIG members have agreed that the more experienced nations will share their experience in how to successfully contract S1000D in defense projects with the less experienced nations.

Many parties are involved in defense projects, e.g. the contracting authority, the main contractor, many sub-contractors and suppliers.  
(See next slide).

# Main priorities of the nations

## Contracting experience – many parties involved



## Main priorities of the nations

### Knowledge transfer

In order to optimize all aspects of the S1000D in defense projects, a profound knowledge of the specification is essential.

The S1000D DIG members have agreed to optimize the knowledge transfer by setting up a system for information sharing between the nations.

Examples of information that is shared:

- Business Points Decisions;
- Guidance documents;
- Practical experiences & Best practices;
- .....

## Main priorities of the nations

### More extensive descriptions for Sea and Land in Spec

S1000D covers Air, Land and Sea systems. With the increasing number of defense projects for Land and Sea products, the need for more detailed descriptions for Land and Sea products increases as well.

S1000D DIG therefore asks the S1000D SC to add more extensive descriptions for Land and Sea systems.

## Main priorities of the nations

### Harmonization with other (S-Series) IPS/ILS specifications

There is a growing need for the interchange between or linking to data from other Integrated Logistic Support (ILS) domains.

An increasing number of nations ask their OEMs to supply the ILS data in accordance with the S-Series ILS specifications.

In order to optimize the interchange of the information between the S-Series ILS specifications, the S1000D included, further harmonization between those specifications is required.

The recently published S1000X specification is an important specification with respect to harmonizing with S-Series and other IPS/ILS Specifications.



## Main priorities of the nations

### Training

There are a number of basic courses in XML and S1000D basic concepts.

However, these courses do not fulfill the needs for S1000D users that need to perform the more advanced and S1000D tasks specifically for the use in defense projects. E.g. how to (re)use data in S1000D from the ILS and engineering disciplines, like breakdown structures, configuration management data, applicability information, material management data, logistic support analysis data, maintenance planning information, training information and in-service feedback data).

Trainers need to have at minimum extensive experience in the integrated product/logistics support and life-cycle support approach in defense projects.

The S1000D DIG asks for more advanced and certified S1000D training courses to become available.

**Note: S1000D is a lot more than just another XML implementation!**



## Main priorities of the nations

### Common viewer

An increasing number of nations receive an increasing number of S1000D publications.

Depending on the nation, the OEM, the product and many more variables, the final deliveries (IETPs) come with completely different and proprietary viewers and supporting IT-infrastructure.

The S1000D DIG nations ideal would be to have only one common viewer for all of their IETPs. To be used both in networked and offline environments.

# Most recent activities

## Most recent activities

### New and updated S1000D DIG suite of information products

1. The S1000D DIG BREX was updated
2. A Recommendation concerning the use of one of the specific maintained SNS is described.
3. An overview of the mandated S1000D Business Rules of the participating nations is made.

## Most recent activities

### 1. S1000D DIG BREX - updated

#### Reason for update

Different patches of S1000D issue 4.1 exist and therefore S1000D DIG decided to create two BREXes to support all patches:

1. DIG BREX issue number 001-00 refers to S1000D default BREX issue number 009-00 and the 4-1 schemas.
2. DIG BREX issue number 002-00 will work work for the two S1000D issue 4.1 patches.

DMC-DIG-E-00-00-0000-00A-022A-D\_001-00\_EN-US.XML

```
<dmModule xmlns:dc="http://www.purl.org/dc/elements/1.1/"
  xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:xlink="http://www.w3.org/1999/xlink" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:noNamespaceSchemaLocation="http://www.s1000d.org/S1000D_4-1/xml_schema_flat/brex.xsd">
  <identAndStatusSection>
    <dmAddress>
      <dmIdent>
        <dmCode modelIdentCode="DIG" systemDiffCode="E" systemCode="00" subSystemCode="0"
          subSubSystemCode="0" assyCode="0000" disassyCode="00" disassyCodeVariant="A"
          infoCode="022" infoCodeVariant="A" itemLocationCode="D"/>
        <language languageIsoCode="en" countryIsoCode="US"/>
        <issueInfo issueNumber="001" inWork="00"/>
      </dmIdent>
    <dmAddressItems>
      <issueDate year="2018" month="12" day="03"/>
      <dmTitle>
        <techName>DIG General</techName>
        <infoName>Business rules</infoName>
      </dmTitle>
    </dmAddressItems>
  </dmAddress>
</dmModule>
```

DMC-DIG-E-00-00-0000-00A-022A-D\_002-00\_EN-US.XML

```
<dmModule xmlns:dc="http://www.purl.org/dc/elements/1.1/"
  xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:xlink="http://www.w3.org/1999/xlink" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:noNamespaceSchemaLocation="http://www.s1000d.org/S1000D_4-1-A/xml_schema_flat/brex.xsd">
  <identAndStatusSection>
    <dmAddress>
      <dmIdent>
        <dmCode modelIdentCode="DIG" systemDiffCode="E" systemCode="00" subSystemCode="0"
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        <infoName>Business rules</infoName>
      </dmTitle>
    </dmAddressItems>
  </dmAddress>
</dmModule>
```

## Most recent activities

### 2. Recommendation use of maintained SNS SVS

#### Recommendation

The DIG representatives recommends to use the S1000D maintained SNS for Sea vehicles for defense projects.

#### Goal of the recommendation

The goal of this recommendation is to support Sea vehicle programs in their decision to opt for this SNS over other technical product breakdown structures.

#### Reason

- S1000D DIG has noted that the military ship community recognizes the advantages of having a common technical PBS across the different (technical) disciplines.
- To encourage the military ship community all over the world to work towards a situation which is comparable to the aviation community, where it is common practice to use the S1000D maintained SNS for Air vehicles, (formerly known as the 'ATA coding structure').
- In the military ship building there is no authority or body (yet) which recommends or even mandates the use of such a common technical PBS. Therefore S1000D DIG issues this recommendation.

# Most recent activities

## 3. Overview decisions mandated BRs of participating nations

BRDP_ID	BRDP_Title (4.1)	DIG BR decision Issue 4.1	Canadian DND BRs (AS46951 v4-DIT-LSTL) Issue 5.0	DEFRAUSTERS-5650 Issue 5.0	Retired/Retiring Maritime S1000D Business rule decisions - Candidate decisions for Retired/Retiring Maritime S1000D Business Rule/BRs	FMV decision Issue 4.1	NSPA Layered BRs Issue 4.1 (p07)	UK BRs DEFSTAN9001_P1 Issue 4.1	UK BRs DEFSTAN9001_P2 See Issue 4.1	UK BRs DEFSTAN9001_P3 Land Issue 4.1	Turkey BRs Issue 4.1	Finland BRs Issue 4.1 *** not an S1000D BR ***	Norway BRs Issue 4.1
BRDP-S1-00001	Use of "I" and "O"	The alpha characters "I" and "O" can only be used for the Model Identification code in the Data Module Code (DMC). For the rest of the DMC "H" and "Q" shall not be used in data module coding.	Layer DND DND Layer Rule: "The alpha characters "I" and "O" can only be used for Model Identification codes. Do not use "H" and "Q" for the rest of the data module codes; publication module Layer DND DND Layer Rule: <Originator/permissions> codes must be as follows: 38376 - Air element, 38307 - Land element, 38229 - Sea element.	Where it can be avoided, the use of "H" and "Q" in Data Module Codes, Publication Module Codes and any other Data Management Lists shall not be used. Where a project must use them, the use is to be clearly defined.	DIG BR The alpha characters "I" and "O" can only be used for the Model Identification code in the Data Module Code (DMC). For the rest of the DMC "H" and "Q" shall not be used in data module coding.	Refer to DIG BR	They may be mixed up with a numeric character	Agreed that these characters would not be used in information that they may cause conflict.	Agreed that these characters would not be used in information that they may cause conflict.	Agreed that these characters would not be used in information that they may cause conflict.	Mandated	Refer to DIG rule.	
BRDP-S1-00002	List of permitted CAGE codes and/or names of the originator companies to be used for the technical publications		Contractor to propose, Commonwealth to agree	Project decision. The list of permitted CAGE codes shall include supplier and sub-supplier, CAGE codes.	BAS: Unless otherwise explicitly specified, FMV must be referenced by its CAGE code "A188N". REQ: Each project has to define the information sets to be used in a project decision and shall be determined before the guidance conference. The following information sets or available (Also refer to chapter 19 information sets): 1. Description and operation information 2. Maintenance information 3. Wiring data 4. IPD 5. Maintenance planning information 6. Mass and balance information 7. Recovery information 8. Equipment information 9. Vapour loading information 10. Cargo loading information 11. Stores loading information 12. Role change information 13. Battle damage assessment and repair information 14. Illustrated tool and support equipment information 15. Service bulletins 16. Material data 17. Common information and data 18. Training	Project/Organization specific	Project decision.	Project decision.	Project decision.		LOGCOM (A781G) plus the NCAGE codes required by the OEM.	A list of permitted CAGE codes and/or names of the originator companies must be established	
BRDP-S1-00003	Issue of S1000D to be used	Issue of S1000D to be used	S1000D Issue 5.0 is to be used for the development of IETPs for the Commonwealth. If technical data and IETPs has been developed in other issues of S1000D (e.g. 2.2 or 3.0), this will require agreement between the project and the OEM.	Issue 4.1 shall be used.	Issue 4.1	S1000D Issue 4.1	S1000D Issue 4.1	S1000D Issue 4.1	S1000D Issue 4.1	Mandated	FDI recommends using issue 4.1 or newer. For older issues agree with FDI first.	- Issue 4.1 of S1000D must be used. If it is not possible to comply with this requirement, the full consequence for NDMA must be addressed.	
BRDP-S1-00004	Information sets to be used	Information sets to be used	An information set is the required information in a defined scope and depth (author view) in the form of data modules managed in the CSDE. A publication is the compilation and publishing of information for a customer. Common information sets: - Crew/Operator information, - Description and operation, - Maintenance information, - Wiring data, - IPD, - Maintenance planning information, - Mass and balance information, - Recovery information, - Vapour loading information, - Weapon loading information, - Cargo loading information, - Stores loading information, - Battle damage assessment and repair information, - Illustrated tool and support equipment information, - Service bulletins, - Material data, - Common information and data, - Training, - Common information sets -	Information sets to be used is a project decision and shall be determined before the guidance conference. The following information sets or available (Also refer to chapter 19 information sets): 1. Description and operation information 2. Maintenance information 3. Wiring data 4. IPD 5. Maintenance planning information 6. Mass and balance information 7. Recovery information 8. Equipment information 9. Vapour loading information 10. Cargo loading information 11. Stores loading information 12. Role change information 13. Battle damage assessment and repair information 14. Illustrated tool and support equipment information 15. Service bulletins 16. Material data 17. Common information and data 18. Training	Information sets to be used is a project decision and shall be determined before the guidance conference. The following information sets or available (Also refer to chapter 19 information sets): 1. Description and operation information 2. Maintenance information 3. Wiring data 4. IPD 5. Maintenance planning information 6. Mass and balance information 7. Recovery information 8. Equipment information 9. Vapour loading information 10. Cargo loading information 11. Stores loading information 12. Role change information 13. Battle damage assessment and repair information 14. Illustrated tool and support equipment information 15. Service bulletins 16. Material data 17. Common information and data 18. Training	Project/Organization specific	Project decision.	Project decision.	Project decision.		To be decided by the project responsible. Must be agreed on with the OEM. Information sets can be found in Issue 4.1 Chap 5. This is information needed in general, projects may refer to FDI via HL365.	- The use of specific information sets is not required.	

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# Way ahead

## Way ahead

The following activities are planned to be implemented and continued.

1. Publication of
  - a. S1000D DIG BREX
  - b. Recommendation concerning the use of one of the specific maintained SNS
  - c. The overview of the S1000D Business Rules of the participating nations and maintain them
2. Harmonization with the other IPS/ILS specifications
3. Sharing (contracting) experience

Implement the following activity:

- Process how to deal with BRs from other S1000D issues



# Thank you

for your attention!

## Questions?

S1000D DIG: <http://www.s1000ddig.org/>



Ministry of Defence

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