

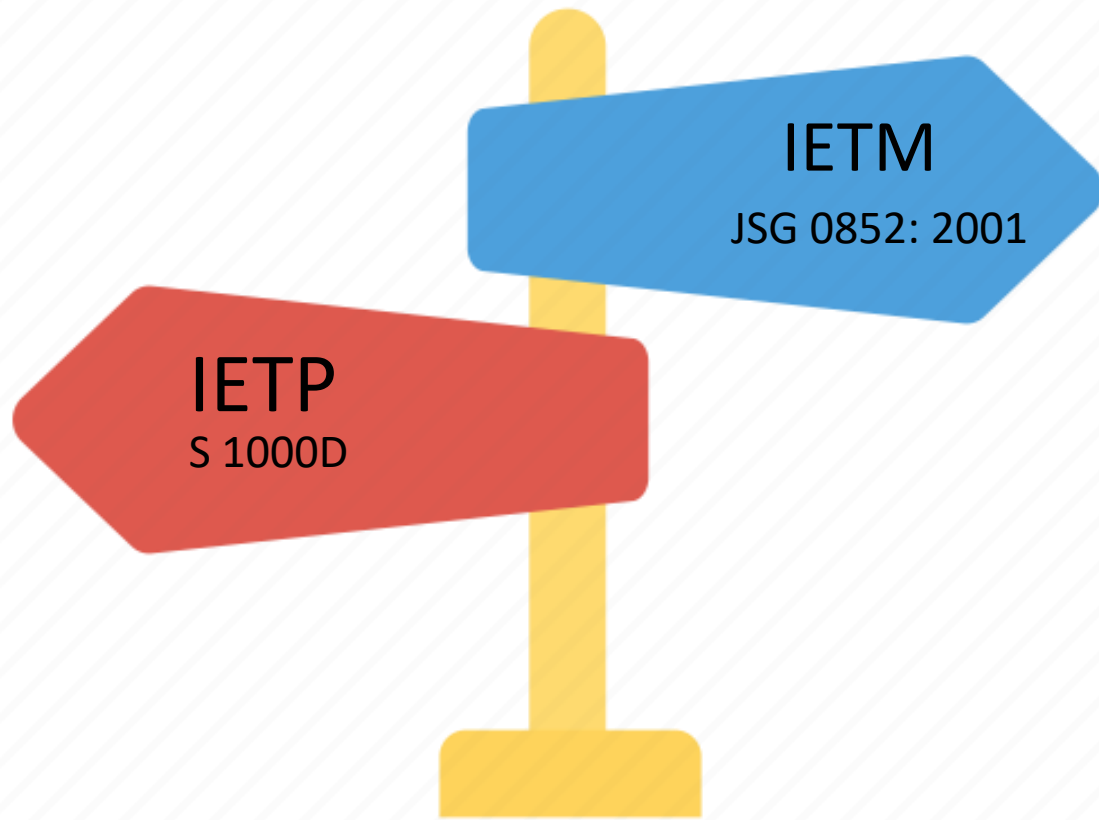


# Complete Guide on IETM and IETP



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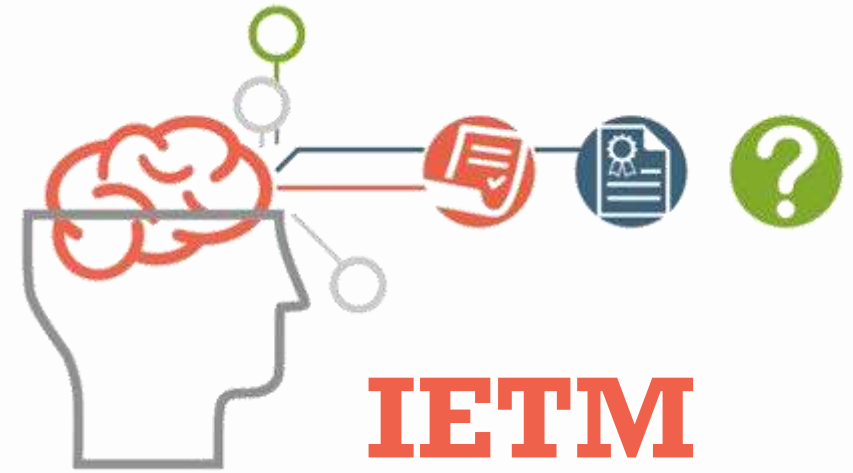
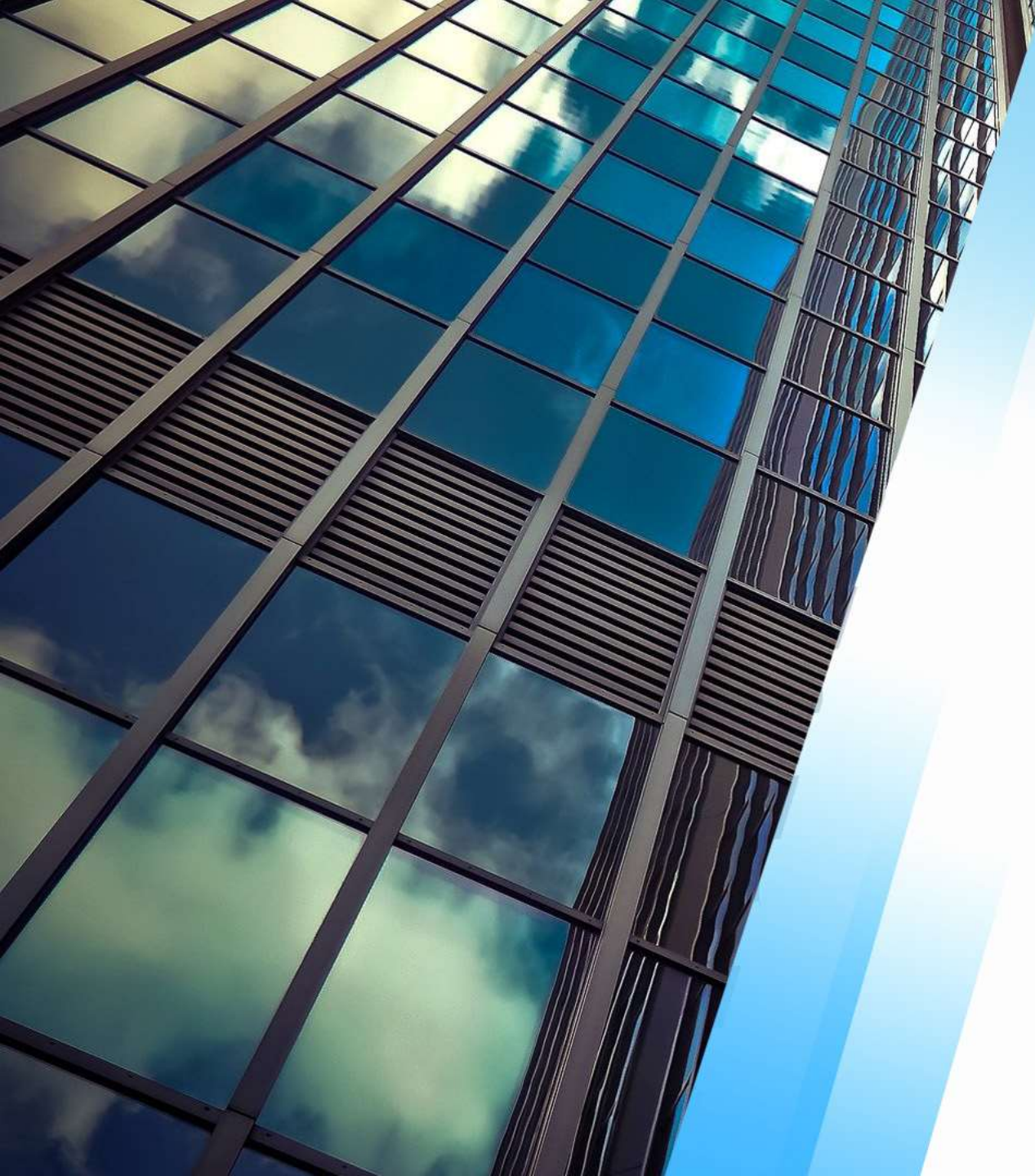




This Presentation covers following information

- What is IETM
- What is IETM and What is IETP
- JSG 0852 VS S1000d
- IETM Architecture
- S1000D
- Advantages of S1000d
- Do you need S1000D?
- Code and Pixels and S1000D





# **IETM**

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# **Knowledge Center**





Vendor/Supplier/OEM



PSU/Defense



# IETM

If you are a Vendor / Supplier / OEM or a PSU/Defense lab looking for INFORMATION AND KNOWLEDGE (Practical) regarding Interactive Electronic Technical Manual delivery then you are in right place.



**CODE & PIXELS**

*Interactive Technologies Private Limited*

# IETM

You might have studied enough about IETM's abundant unorganized literature available over the internet and instead of gaining knowledge, you must have developed confusion regarding IETM by Now.

By the end of this presentation, you will have clear idea about IETM



A brief about us



Indian Navy 



Indian Army



Indian Air force



*50+ Professional IETM Documentation Engineers*

*Experience - 8 Years*

30+  
IETMs



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**Registered with**

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We are the pioneers in the field of IETM and our team has worked in association with IETM approval agencies of India.

## Our IETM Client Base



L&T - BRAHMOS NAVY IETM



TATA - NAVY IETM



RCI

- Medium Range Surface to Air  
Missile (MRSAM) IETM



BDL - AKASH MISSILE IETM



POONA BEARING  
- Missile Handling Trolley (MHT)  
IETM



POONA BEARING  
- Missile Handling Trolley Vehicle  
(MHTV) IETM





HITECH HYDRAULICS

- Missile Transportation Vehicle  
(MTV) IETM



HITECH HYDRAULICS

- Akash Tent Vehicle (ATV) IETM



TIL

- Transport Cum Loader Vehicle  
(TLV) IETM



TIL

- Akash Auto Crane (AAC) IETM



ECIL

- Mobile System for Missile  
Checkout (MSMC) IETM



ECIL

- Combat Command Control  
Centre (CCC) IETM



TATA

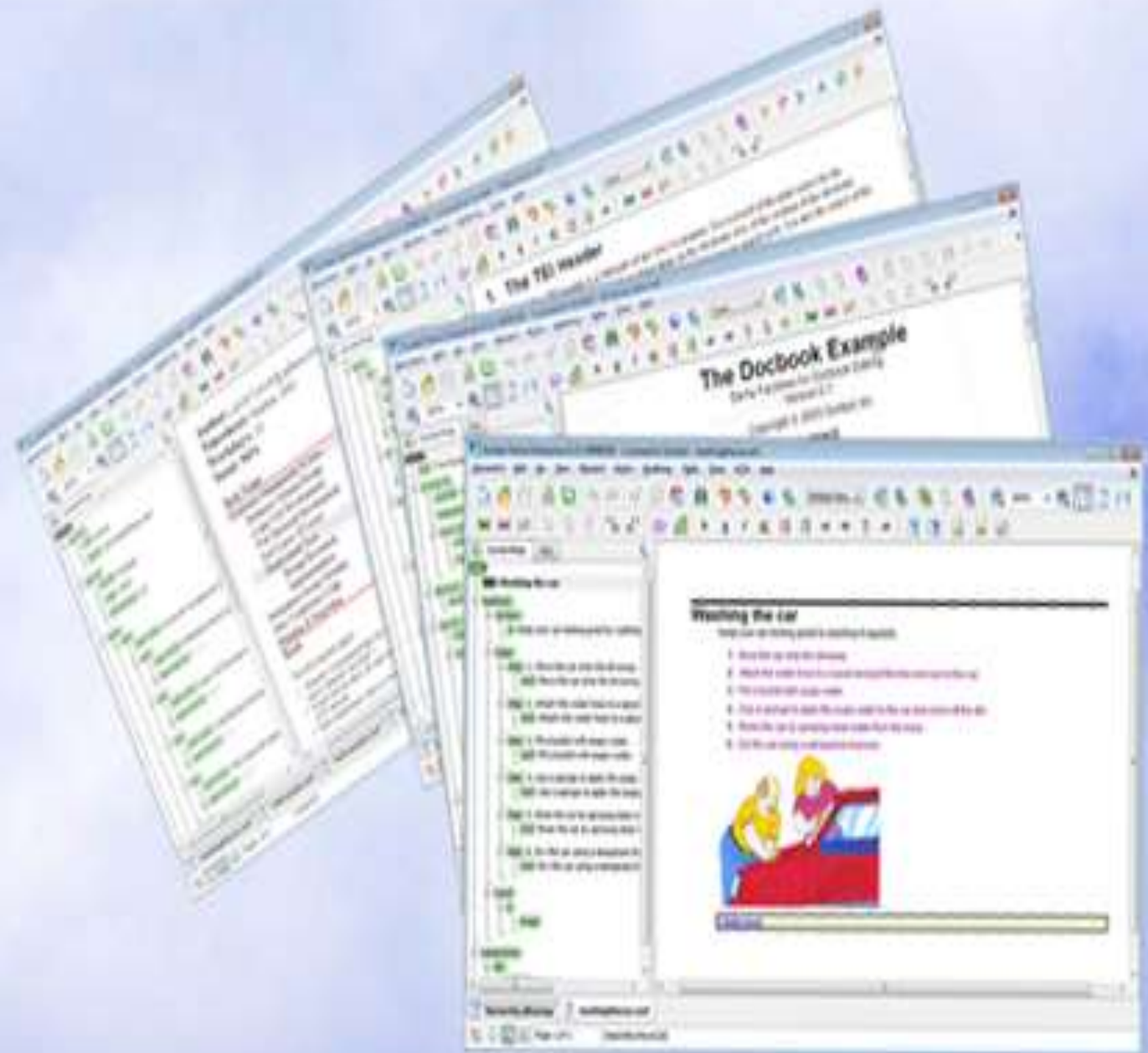
- Akash Army Lancher (AAL) IETM



TATA

- Mobile Lancher Repair Station  
(MRLS) IETM

# *Introduction to IETM and IETP*



# Introduction to IETM and IETP



- IETM and IETP are used as interchangeable words.
- But the fact is they are entirely different from each other.
- IETM and IETP are entirely different set of deliverables.
- Inputs are common for both.
- Finally both are used for training purpose.



*IETM*

**IETM/Joint Service Guide**

**(JSG 0852:2001)**

**Indian Defence Standard**

An Interactive Electronic Technical Manual (IETM) is a technical manual (e.g. maintenance, user, training, operations, etc) prepared or “authored” in digital form on a suitable medium, by means of an automated authoring system, designed for electronic screen display to an end-user.



*IETP*

**IETP/S1000D**

**European Standard**

An IETP is built on the outlined functionality that is described in S1000D Matrix. This specification was initially developed by the Aero Space and Defence Industries Association of Europe (ASD). S1000D is jointly produced by the following organizations, their members, and customers

There are two specifications/standards that exist.



***IETM***  
**(JSG 0852:2001)**

**Designed and Developed by**

Directorate of Standardization Department of Defense  
Production. Ministry of Defense, New Delhi

**Guidelines Framed by :**

**Stakeholders and steering committee:** Army, Navy, Air force,  
Scientist of Defense labs, Capt, Lt. Cdr from various  
organizations

**Labs :** BEL, ADG systems, NHQ, ACAS, HAL, BDL, GRSE, Goa  
Shipyard, MIDHANI, MDL, BEML, DQAL, Dte Standardization,  
CQA, DS cell Bangalore, etc.



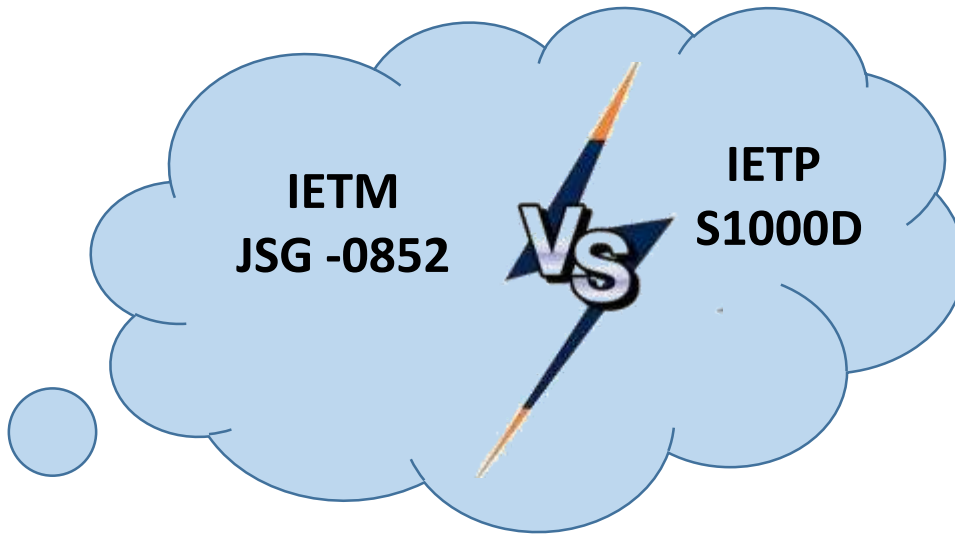
***IETP***  
**S1000D**

**Jointly produced by**

Aerospace and Defense Industries Association of Europe  
(ASD), Aerospace Industries Association of America  
(AIA), and ATA e-Business Program

**This is not called IETM.**

**This is called the IETP.**



# IETM, NEW word in your RFQ/ SCOPE...? Know the story behind.

For the past few years, the Navy/Air force/ Army wants all the OEMs to deliver training Aids along with equipment or the machines.



Technical Manuals / Technical Literature



Computer-based Training



Video film



Charts and Blowups



Training Work Models



Scale down models

Now, They want OEMs to deliver **IETMs** along with actual machinery. IETM is one of the deliverables mentioned in the RFQ/Scope document.

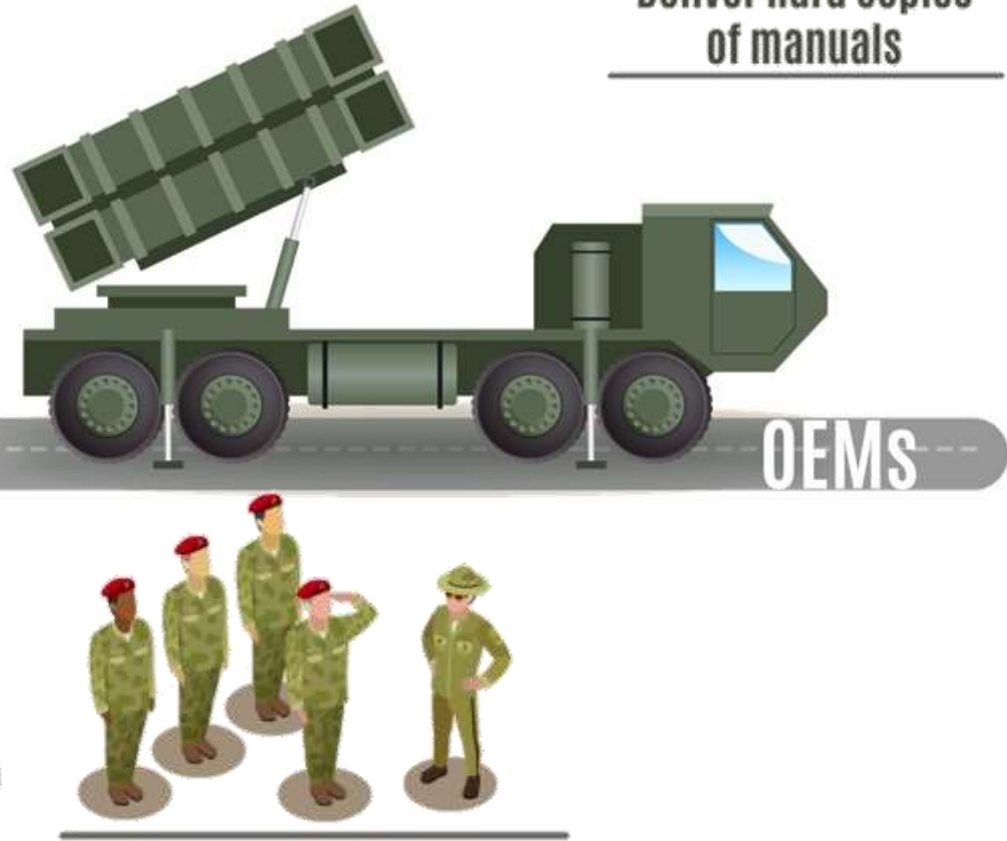




Deliver hard copies  
of manuals



Difficult to refer some operating  
process or trouble shooting from  
thousands of hardcopies



Need of IETM : It is very difficult to refer thousands of hard copies or PDF files when the issue arises in equipment to fix it.

Now from the past few years as per the guidelines received from Navy/Air force/ Army headquarters, IETM is must deliverable. IETM makes the reference very easy and fast compared to traditional hardcopies or even PDF files.



In a system, all the manuals put together

Page count < 4,000

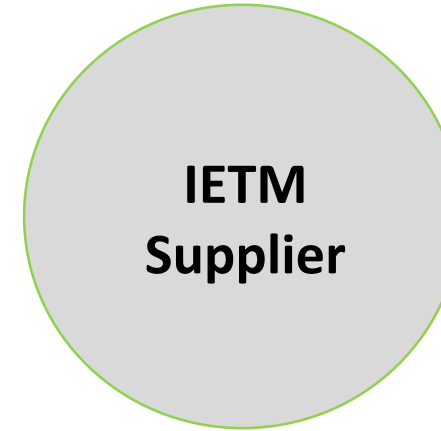
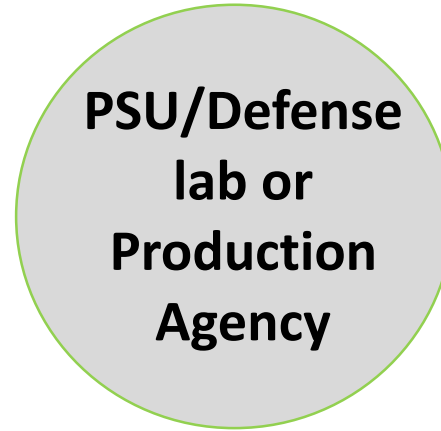
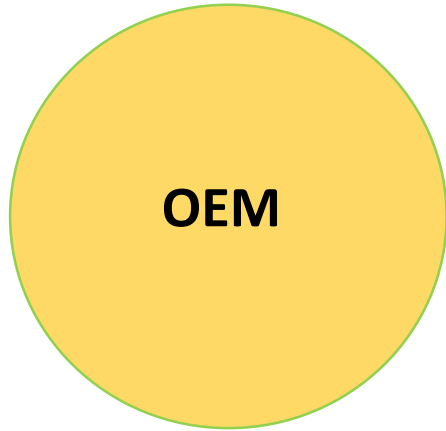
IETM Level 3 is proposed

Page count > 4,000

IETM Level 4 is proposed

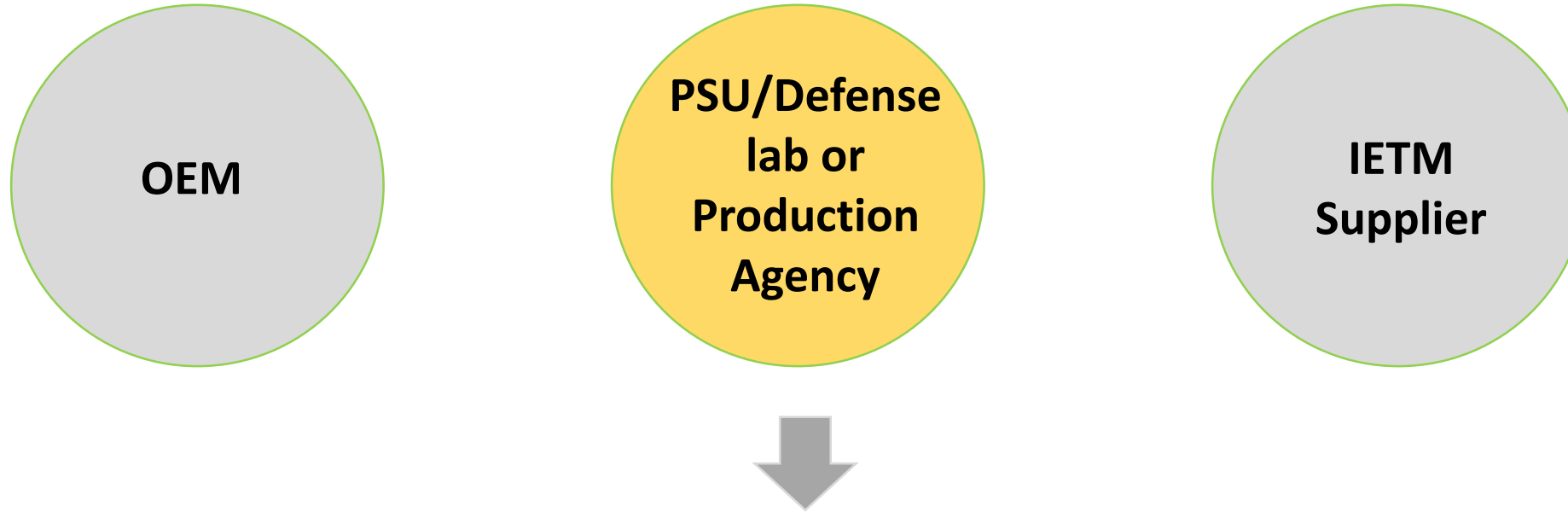
If the system is small (we mean page count of all the manuals put together is not more than 4,000) IETM Level -3 is asked in RFQ or scope document. If the page count is more IETM Level 4 is proposed.

## If you are



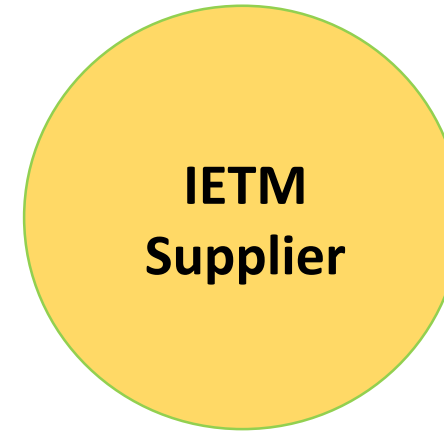
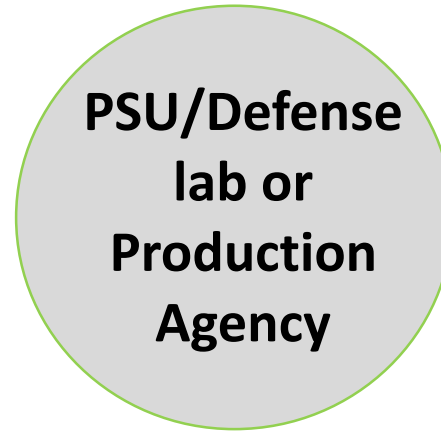
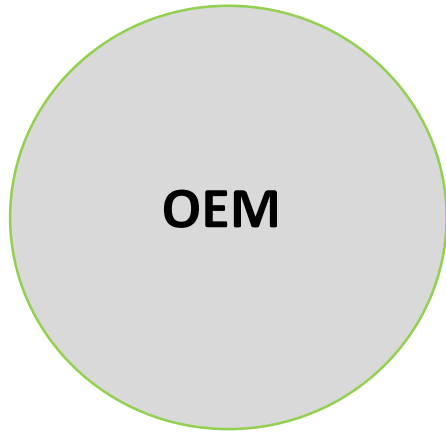
- ✓ RFQ/ Bid document says IETM as a deliverable along with your System/Subsystem.
- ✓ You want to know the tentative cost of IETM so that you submit a competitive quote.
- ✓ If you are awarded a contract of supply, you need to start IETM development and search for the right partner who can guide you.

## If you are

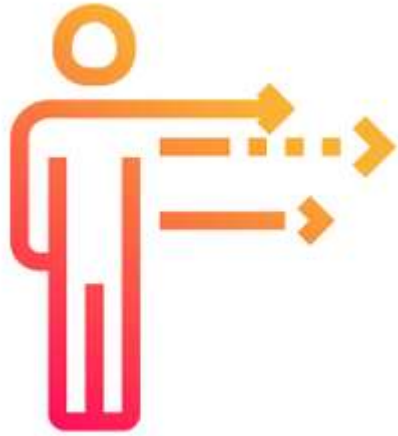


- ✓ You want to make a specifications/ Scope document for IETM
- ✓ You want to understand the latest standard/ technology of IETM
- ✓ If you are a production agency, you might want to initiate IETM

**If you are**



- ✓ You want to know what's new in IETM technology and want to know about date of next webinar on technology



- We are very glad to share of experience and knowledge, irrespective you give business to us or not.
- Talk to our experts for 5 minutes, who had delivered 30 IETM project life cycle. Get an insight into your need. Understand the process, cost, time, efforts, inputs required.
- We are proud to serve the nation and Defense and happy to assist you with all your queries.

## **Our Basic Questions to you :**

- How many pages does your entire manuals/System has
- Do you have to start the documentation of the system or are the documents readily available and you need to convert them to IETM ?
- Does the SCOPE/RFQ mentioned IETM level 3 or LEVEL -4?
- Does your scope says JSG 0852 or S1000D
- Are you supplying to Army/Navy/Air force



**98495 27706**

**If you have answers for these questions**

**Share your details. Our technical team will call you within a hour**

IETM

JSG -0852



IETP

S1000D



## Coffee or Tea? Select one (JSG or s1000d)

- ❖ If your RFQ / SCOPE says IETM, then it has to be IETM developed as per JSG 0852: 2001 ONLY.
- ❖ S1000d is Not an IETM. It's an IETP Interactive electronic Technical Publication and it is not as per JSG 0852:2001 standards.
- ❖ If your RFQ/Scope says IETM as per S 1000D AND also JSG 0852:2001 Then ask your client to edit the specifications.
- ❖ It is like a Coffee and TEA. You cannot make Coffee with Tea powder.
- ❖ If someone is asking for IETM as per S 1000D AND JSG 0852:2001 means, Coffee made with Tea powder and expecting to get Coffee aroma.
- ❖ Either drink coffee or else drink TEA.
- ❖ This means either go for JSG 0852 or S1000D



## Original Chinese Fried Rice Vs Indian Version of Fried rice.

- Now, when a client approaches for s1000d, then Indian companies can't say NO. Then they have adopted an Indianised version of S1000d. People are coming up with Local solutions which are nowhere matches with s1000d.
- To give a very simple example, let's take the example of "Chicken Fried Rice", a Chinese recipe. You eat that in china or the restaurants that serve genuine "Chinese food"
- Now order the same from our colony vendors. They Indianise the recipe. Indian street food cook will add red mirchi powder, Daniya, Turmatic, Ginger, Garlic and all Indian spices along with Soya sauce and adds chopped deep-fried Manchurian pieces, chopped coriander, Onion and lemon slices and adds egg and names it as "Chicken fried rice"
- S 1000d says XML as a deliverable, Vendors are giving XML. But it's no way meets the s1000d requirements.



Example - "Chinese Fried Rice"



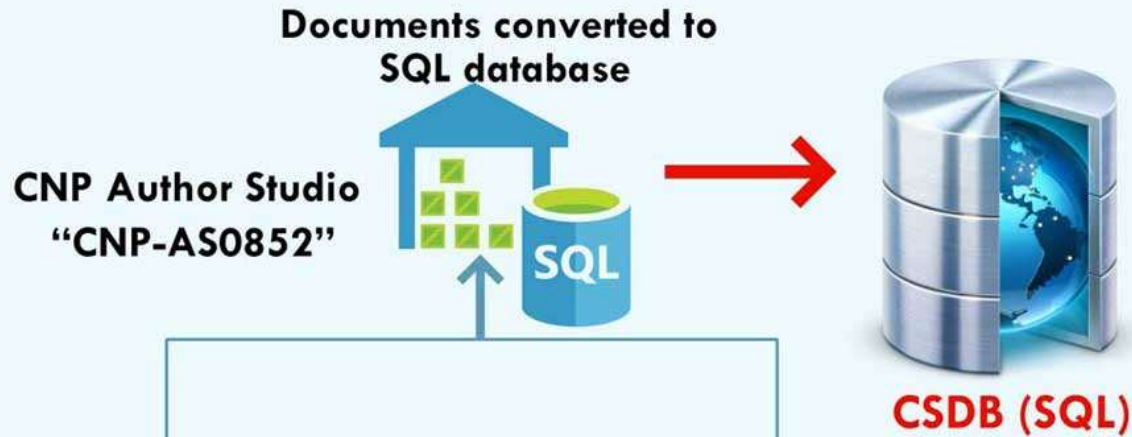
# IETM JSG -0852 - Architecture



# IETM JSG -0852 - Architecture



## Code and Pixels Premises



CNP CSDB Viewer "CNPV-0852" software will be installed at client server or cloud



or



IETM Administrator

CNP Document conversion Engineers work stations



All types of legacy documents, Manuals, ISPL, Pictures, Videos

CNP = Code and Pixels

CSDB = Common Source database

Operator

Maintainer

# JSG -0852 :2001



Documents converted to  
SQL database



CNP CSDB Author Studio  
"CNPAS-0852"



**CSDB (SQL)**



# IETP S1000D - Architecture



HSL/Service Provider-1



S1000d  
Authoring tool

Data  
Modules of  
System -X

Data Modules  
of System -X  
&A &Z

1) XML Source files,  
Manifest file to import in  
to Navy S1000d  
suite/webserver  
+

2) IETM Standalone Viewer

BHEL/Service Provider-2



S1000d  
Authoring tool

Data  
Modules of  
System - A

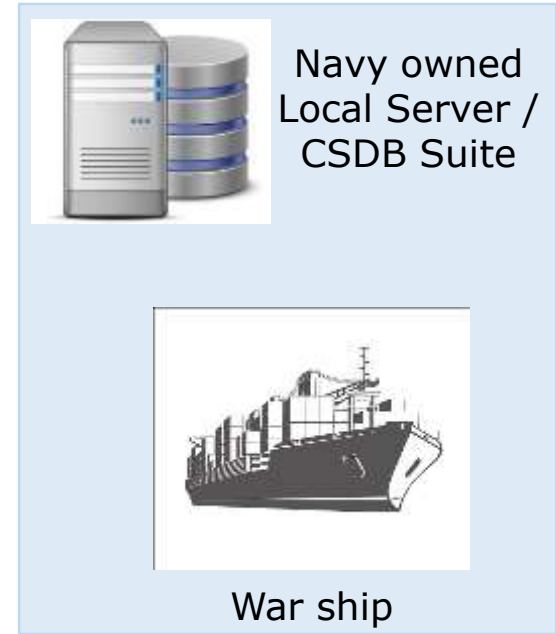
Data Modules  
of System -  
X&A&Z

DRDO/Service Provider-3



S1000d  
Authoring tool

Data  
Modules of  
System -Z



Raw  
Content  
supplied  
to service  
provider



Data Modules  
of System -  
1&2&3

Navy owned Local  
CSDB Server /  
CSDB Suite



Navy Headquarter /Back office  
/Ship

- ✓ When Navy/IAF/Army wants s1000d IETM, it is implied that they have CSDB Suit /Local CSDB Server
- ✓ 20- 50 OEMs or Service providers will give S1000d data Modules of various systems and end user's CSDB Local server will host them and monitor them and does user management
- ✓ If Navy/IAF/Army do not have CSDB suit then, still they can run IETM, but a standalone version where no user management will be done by IETM Viewer.
- ✓ (User management will be done by end users CSDB Local server which hosts all the data modules of various OEMs)



S 1000D



Documents converted to XML based Data Modules



CSDB Author Studio

Published



IETM – S1000D



Data Modules

Data Modules of System



End user owned Local Server / CSDB Suite



## Major similarities and differences between JSG 0852 & S1000D



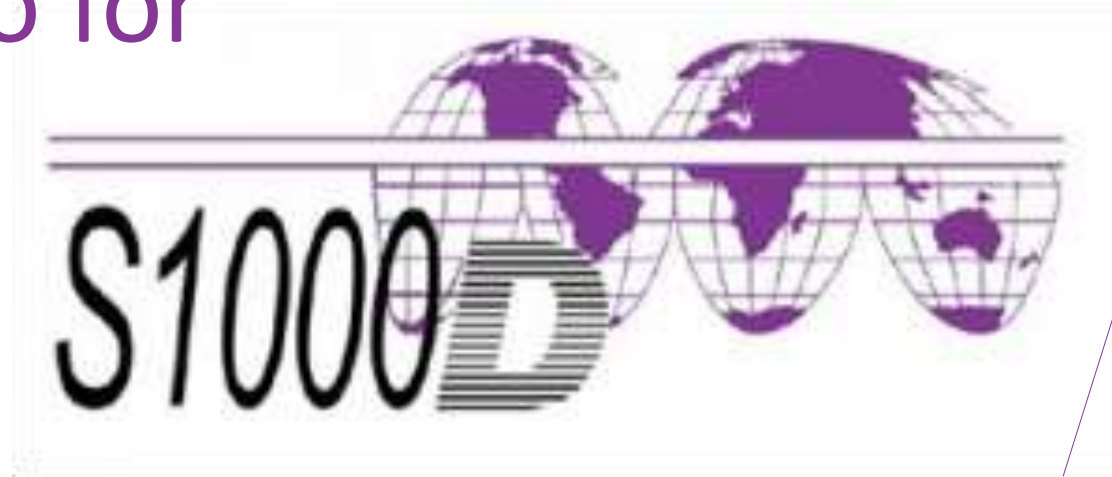
### JSG – 0852 : 20001

1. Needs Raw content to convert to SQL Database
2. HTML/SGML as source file
3. IETM has inbuilt Authoring tool, Content management tool, User Management and reporting
4. Works in Standalone and Client server mode
5. IETM has Viewer and Administrator and Author Modules
6. Content can be edited by OEM without any tool
7. In short, OEM need not have any software to deploy IETM

### S1000D

1. Needs Raw content to convert to XML Database
2. XML as source file
3. OEM or the place IETM is being deployed must have CSDB webserver to host the Data Modules/ s1000d XML files to have user management and content management.
4. Vendor give s1000d files to OEM. If OEM has CSDB studio server then IETM can be hosted in that server. Otherwise, it plays in standalone machine as a Viewer.
5. OEM needs S1000d author tool, commercially available off the shelf software to edit.
6. OEM must have s1000d CSDB server to deploy s1000d files. If no CSDB Server is available then S1000d can still be viewed in Viewer without any Administration tools

# Should we go for



# When?



- ❖ If you are OEM and end user has asked you for S1000d, then ask them that being a OEM you will give s1000d XML files. Where will they host them ? do they have CSDB Server to host the files? Are they planning for CSDB Server in future?
- ❖ User administration and management, course allocation is done from CSDB Server only
- ❖ if they don't have CSDB server, still they can View S1000D, but in standalone mode (IETM Viewer)

# Major advantage of s1000d

- Lets say each ship is built by has 50 OEMs and all 50 OEMs supply IETMS in different formats, then it will be difficult maintain uniformity.
- If all 50 vendors gives the end user s1000d IETMs then all the IETMs will almost in similar format.
- To achieve this, the end user must have S1000d CSDB server with them to host all the files received by various vendors.
- If end user does not have S1000d CSDB Server with them, then the purpose and benefits of S1000d cant be achieved

**50 OEMs → 50 IETMs**



**Definitely S1000d has Advantage if the end user (Navy/Army/Air force) has a S1000d CSDB Server, otherwise its equalent to seeing files in IETM Level 3 viewer.**

**\$1000D**

# S1000D

1. A new buzzword in the technical publishing world. New word? Not exactly new, but surely it's a new word in the Indian Defense Technical Publishing segment.
2. S1000D is an Interactive Electronic Technical Publishing IETP. It's also called IETM too.
3. S1000d is not new but very few Indian companies, which support documentation of foreign Airline documentation are similar to S1000d word. But almost 90 % of the people who do S1000D conversation do not know what s1000d is.
4. Few tools available in the market which are used to make XML files But they are not an IETM creating tool, Just XML conversion tools.
5. After converting to XML, they send to foreign airlines company, where they foreign airline companies plug-in theses XML into their S1000d suits.

## What is S1000D

S1000D is the European standard of technical publications or technical documentation being followed in Aerospace since 1980, which uses CSDB, a Common source database which is used for preparing, managing, and publishing technical information for a warship, or Aerospace, or even Civil airlines too.

The first release of the S1000D Specification was in 1989 and in August 2019 the latest 5 Issue was release

An airplane or ship is built with thousands of components, subcomponents and navigation equipment, and many more. Hence, these components are supplied by many OEMs (Original equipment manufacturers). OEMs make the documents to their own standards. Each document and format is entirely different because all OEMs don't maintain similar standards. At that point, the Technical Publications Specification Maintenance Group (TPSMG) was formed. They proposed a DM-based (Data Module) Based structure. TO manage these Data modules CSDB was maintained. (Database). Data Module is the standalone section of the document. For example, let's assume that one data module is prepared on Operation of GPS and stored in CSDB, then whenever GPS operations are to be reproduced for different aircraft or different systems, simply that Data module can be copied and plugged.

In short, reusability and the format used is XML, and tags are defined by the S1000D steering committee



## S1000D History in brief

1. A few years back S1000d is mainly used in the Aerospace segment, because S1000d is basically governed by Steering Committee formed by ASD, Aerospace Industries Association of America (AIA) ATA e-Business Program These organizations form the S1000D Council
2. Hence, it's more apt for the Aerospace industry.
3. Currently, Defense systems – including land, sea, and air products, civil aviation, Ship industry of the US have adopted these standards while making documentation.
4. Now Indian Defense system is also trying to adopt S1000D for their documentation activities.
5. When Navy/IAF/Army wants s1000d IETM, it is implied that the navy has CSDB Suit /Local CSDB Server
6. 20- 50 OEMs or Service providers will give S1000d data Modules of various systems and the Navy CSDB Local server will host them and monitor them and does the user management
7. If the Navy/IAF/Army does not have a CSDB suit then, still they can run IETM, but a standalone version where no user management will be done by IETM Viewer.
8. (User management will be done by Navy CSDB Local server which hosts all the data modules of various OEMs)
9. S1000D is not suitable for smaller systems. It's very apt for the systems which have around 1 lakh pages of documentation and the project has just initiated the documentation.

## S1000D and its basic principle

1. Content or data produced following the standard is in Data Module
2. This data module is the smallest and self-contained content or data unit within a technical publication
3. A data module must have sense and meaning when viewed without any supporting data other than images and diagrams
4. These data modules will be stored and managed in CSDB, Common Source DataBase
5. Using this CSDB we can publish output in a page-oriented or Interactive Electronic Technical Manual
6. These Individual data modules are re-usable components and can be used repeatedly in an output.

## Benefits of S1000d?

1. Reusability of data hence reduces production cost
2. Standardization of data and naming conventions
3. Open source and non-proprietary
4. Good for legacy data conversion
5. Proper documentation and version control management
6. Zero printing cost and zero occupancies of space as no Hard copies are to be maintained.  
Achieved by reusing instead of recreating information each time it is required
7. Easily to maintain and distribute: Facilitates transfer of information and electronic output between systems very easily and conveniently
8. Multiple Vendor support
9. Fastest reference to operator or maintainer than traditional paper-based documents
10. Many different output forms can be generated from a single data source i.e. from CSDB we can generate IETM and also PDF format which can be used for printing if need be
11. Customized Output creation: Allows sub-sets of information to be generated to meet specific user needs and user levels.

# S1000D USERS

- Military
  - Air
  - Land
  - Maritime
  - International
- Civil/commercial
  - Aviation
  - Shipping
  - Space
  - Urban
  - General technology

## **Others:**

- Manufacturer
- Integrator
- Supplier
- Suppliers of documentation
- Technical service providers
- Software vendors/

## Common information sets provide the following data: -

- Crew/Operator information
- Description and operation
- Maintenance information
- Wiring data
- Illustrated Part Data (IPD)
- Maintenance planning information
- Mass and balance information
- Recovery information
- Equipment information
- Weapon loading information –
- Cargo loading information
- Stores loading information
- Role change information
- Battle damage assessment and repair information
- Illustrated tool and support equipment data
- Service bulletins
- Material data
- Common information and data
- Training
- List of applicable publications
- Maintenance checklists and inspections

# One of the greatest advantages of S1000D is

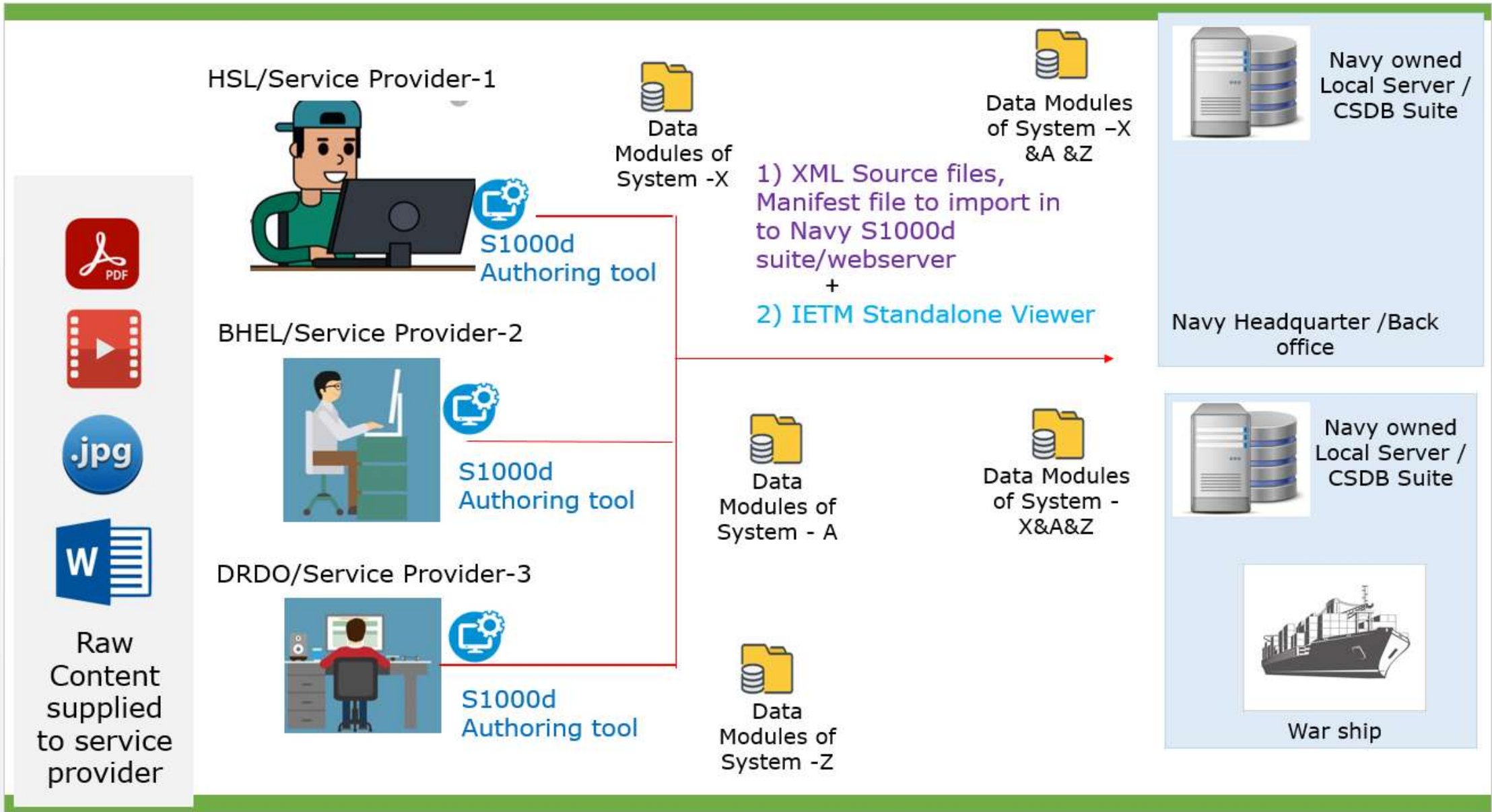
In JSS 0852 IETM, first, documentation has to be done in JSS 251 format, in MS word then IETM activity starts.

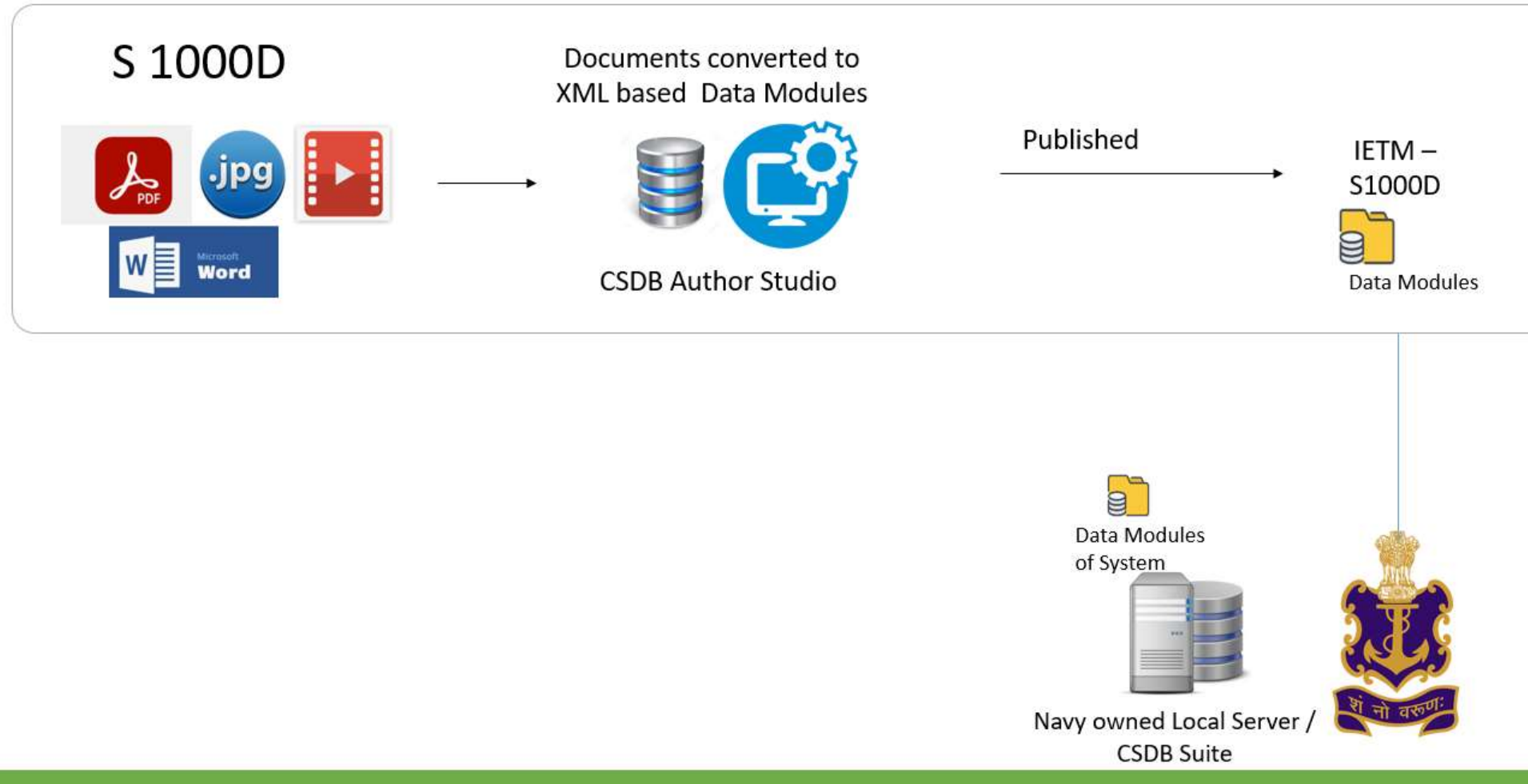
In S1000D, Separate documentation need not be done. Whatever we do in MS word will be done using s1000d Author software.

Once all the documentation is done, We can simply export them either as **PDF or as IETM or XML files** with Project manifest file so that these can be deployed in any other S1000d distribution servers/ CSDB studios of the end user (Navy/IAF/Army)

## The major advantages of s1000d

- let's say each ship is built by 100 OEMs and all 100 OEMs supply IETMS in different formats, then it will be difficult to maintain uniformity.
- If all 100 vendors give end user S1000d IETMs then all the IETMs will almost in a similar format.
- To achieve this, the End user (Navy/IAF/Army) does must have an S1000D CSDB server with them to host all OEMs received by various vendors.
- If the End user (Navy/IAF/Army) does not have an S1000d CSDB Server with them, then the purpose and benefits of S1000d cant be achieved







## Do we Need S1000d?



Well, the answer is Yes and NO. It depends on how big is your System/equipment.

S1000d mostly suits to airline industry where every part has a unique number may it be AIRBUS, BOEING BUSINESS JETS, BOMBARDIER AEROSPACE, CESSNA AIRCRAFT. Parts and part numbers are the same.

In S1000d documentation, every part is developed as a standalone module/document (data Module). While delivering a document, they compile all data modules and deliver.

And all these companies have their own S1000d suit which costs in crores.

They maintain a centralized repository. They maintain their own software which takes care of publishing, document management.

To maintain s1000d, even Clients must have s 1000d CSDB Studio or Server, and all the s1000d publications supplied by various OEMs/ Vendors will sit in that CSDB Server

For that client has to share BREX, business rules to vendors, and guidelines to all vendors so that all the documents will sit properly in the client's S1000d CSDB Server

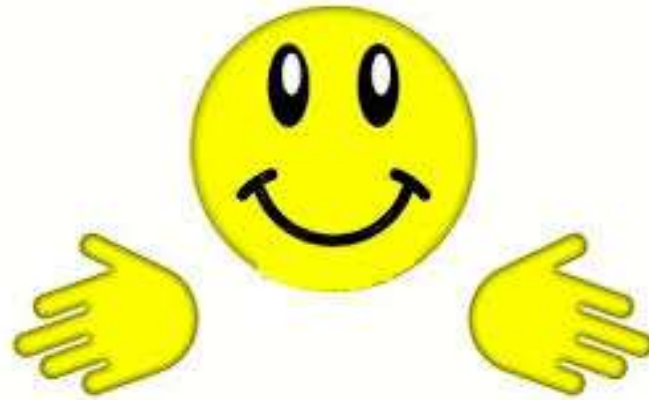
This is needed when the system has around 2 lakhs of documents to share.

And its commercially very costly solution. If, JSG IETM costs you 20 lakhs then S1000d costs you 80 Lakhs.

If the system is very big, like documentation for the entire Ship /flight, and documentation has just been initiated, then S1000D is the best solution. Because One S1000d is made, then we can export PDFs and also IETM from the same source files.

## Do we Need S1000d?

If your PO says S1000D then, obviously, you need to go for S1000D only



## CODE AND PIXELS AND S1000D:

- For the past 8 years, we have been executing IETM projects for Army, Navy, and Airforce in JSG 0852 format.
- In 2016, the first time we received an inquiry from a Dubai-based oil and gas firm. We have also come across the s1000d term in various Navy documentation meetings. we have then initiated R&D activities on S1000D Implementation and hired S1000d experts who have worked on various defense Aerospace projects.
- we have interviewed 50 members who mentioned s1000d in their profiles. We picked them from LinkedIn. They don't even know what s1000d is. They were told that the project was s1000d, and they blindly did data entry work on the conversion of word to XML.
- We initially tried to develop software for S1000d. We later realized that S1000d is not just making Doc files into XML files. It has thousands of standards of XML tags as mentioned by S1000d documentation.
- We have searched for an organization that is already an expert in delivering S1000d solutions. After almost 6 months of evolution, we have done a technical tie-up with one of the best s1000d service provider companies. (US-based firm)
- We have executed projects in S1000d successfully.



**We are Just  
a Call away**

**Thank You**

**Code and Pixels Interactive Technologies Pvt. Ltd.**  
CNP Elite Tower, Plot Number 4, Door Number – 3-11-206/4  
Road Number -5, Sri Shankar colony,  
Seris Road, L.B Nagar , Hyderabad 500074  
Tel: 098495 27706  
e-mail: [gopikrishna@codeandpixels.net](mailto:gopikrishna@codeandpixels.net)  
[www.codeandpixels.net](http://www.codeandpixels.net)



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*Interactive Technologies Private Limited*