



> Manufacturer abilities in ATA and S1000D standards use for multiple aircraft programs

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Variety of aircraft programs: ATA civil domain



A320 - A340 - A380



→ Supplier's Equipments



In-Flight Entertainment

ATA Civil aircraft programs



SSJ



Airplanes cockpits



EC 145



Helicopters cockpits



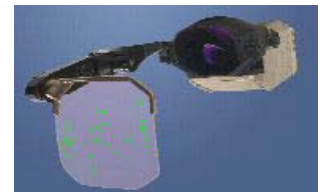
ERJ 145



B737 - B747



Global Express



Head-up displays



Variety of aircraft programs: S1000D military domain



MIRAGE



RAFALE

S1000D Military aircraft programs



NIMROD

BAE SYSTEMS



TIGER



NH90

→ Supplier's Equipments



Helmet system



Test benches



Aircraft cockpits



Calculators



Use of both ATA & S1000D standards and guidance

ATA Standard

ATA 100 – 06/1956
revisions

ATA Spec 2100 – 01/1994 – multiple revisions

ATA iSpec 2200 – 03/2000 – multiple revisions

Guidance AIRBUS



Guidance EUROCOPTER



Guidance BOEING



Guidance INTEGRATORS



S1000D Standard

Change 1.6
11/1995

Change 1.7
01/1998

Change 1.8
01/1999

Change 1.9
04/2001

Issue 2.0
05/2003

Issue 2.1
02/2004

Issue 2.2
05/2005

Issue 2.3
02/2007

Issue 3.0
07/2007

Issue 4.0
08/2008

C.T.G. RAFALE



C.T.G. EDEN



Guidance TIGRE



Guidance NH90



Guidance NIMROD

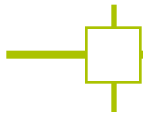


Main similarities between ATA & S1000D standards



ATA and S1000D standards ...

- Deal with Maintenance Manuals and Service Bulletins in Aircraft domain
- Focus on a vision of documentations as « Electronic Technical Publications », for S1000D as well as ATA, since Spec 2100 & iSpec 2200 evolutions
- Are based on the same fundamental principle of « separation between structured content and visual form »
- Have a production process based on
 - the use of DTD or schemas to create a SGML / XML structured content (similar languages with tags-attributes-values) ...
 - ... and the creation of final publications available for consultation, by applying a visual form on the structured content
- Require control, validation and delivery mechanisms to respect given rules
- Require a documentation management system to ensure appropriate conservation of documents creation and its differential updates



Main differences between ATA & S1000D standards

ATA standard ...

- Is based on a single electronic document piece organization
(Component Maintenance Manual / Service Bulletin)
- Provides standards DTD or schemas that are generally directly used by concrete Tech. Pubs programs
- Is based on the publishing of a unique final document's format
(classical PDF "paper" format)
- Generally requires PDF publishing production delivery from suppliers to integrators or end-users

S1000D standard ...

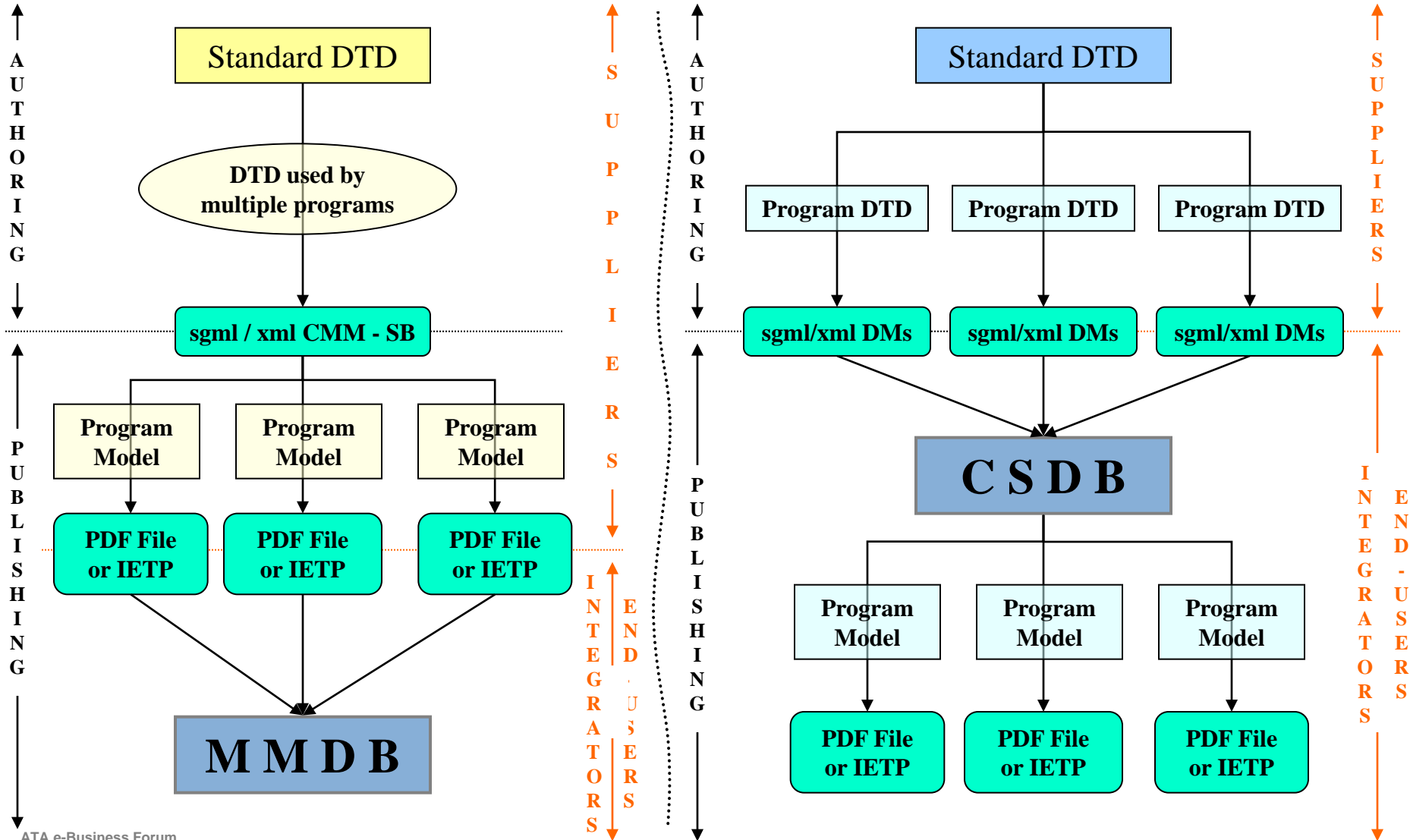
- Is based on a multiple electronic modular elements organization
(Data Modules)
- Provides standards DTD or schemas that are generally declined with specificities by concrete Tech. Pubs programs
- Is based on the publishing of many possible final document's formats
(classical PDF "paper" format or I.E.T.P. formats)
- Generally requires SGML / XML authoring production delivery from suppliers to integrators or end-users

Production process: suppliers/integrators/end-users

ATA standard

S1000D standard

Authoring / Publishing Production process between Suppliers, Integrators and End-Users





This large range of programs implies to ...

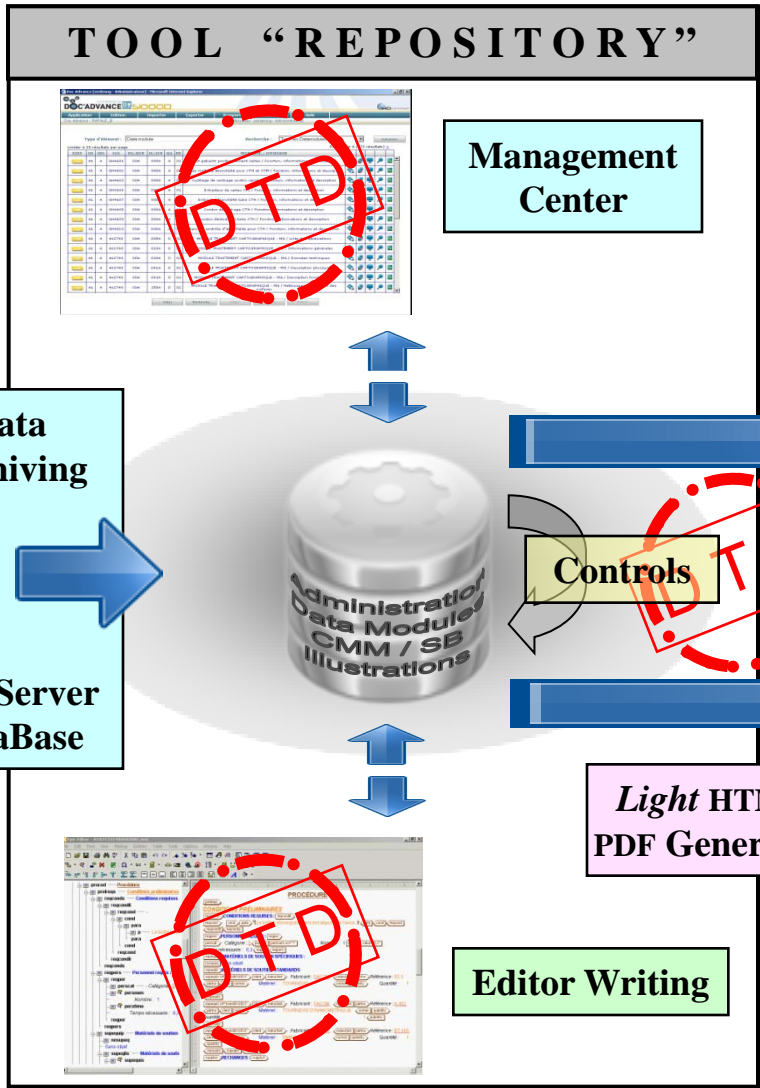
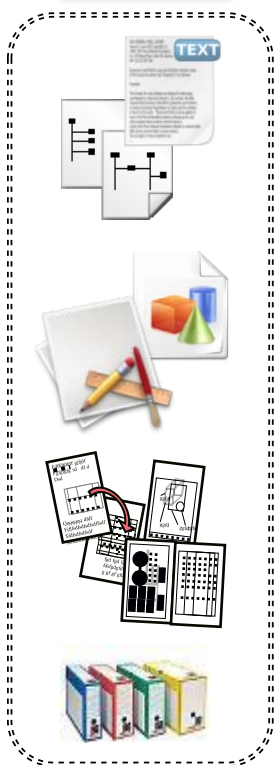
- Understand the complete business rules provided by Guidance or Requirements documents, coming from integrators or end-users customers:
 - Particular authoring rules requested into a specific DTD / schema structure
 - Particular publishing visual model including format, text-style, color, ...
 - Particular data delivery and exchange process expected by the clients
- Apply the authoring precise rules to fill the pre-defined content structure
- Realize precisely the requested publishing visual model final output
- For that, define, develop and then use the right Tools and Methods helping to guide, control, respect these requirements during all production phases
- Insure that Tech. Pubs production ability (data creation, updates and management) during all the provided equipments' life time (*ie* ~ 30 years) !

New tool for ATA & S1000D programs: authoring part

AUTHORING

DTD Adapted to each context

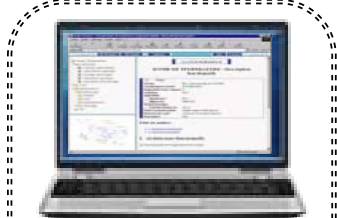
Input Data



Documentation DELIVERY



C
S
D
B



Interactive Viewer
HTML Tech. Pub.



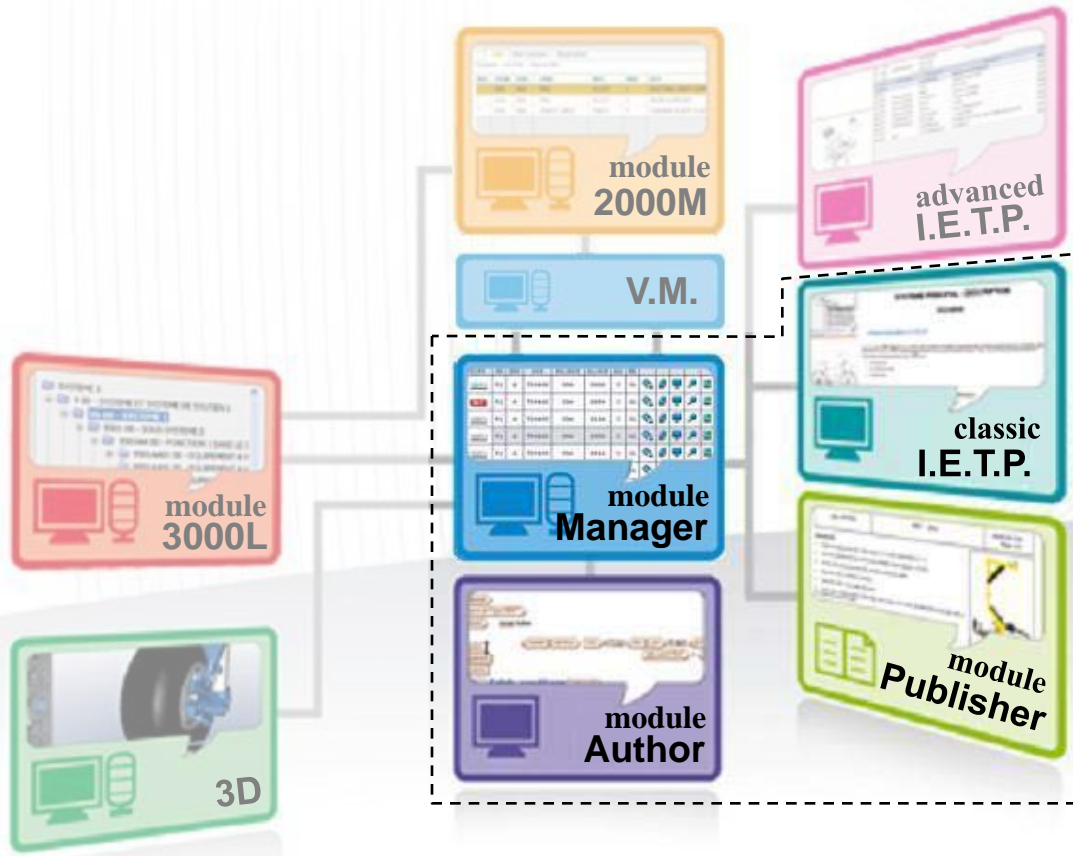
« Paper » PDF
Format Manual

i Covers all our
ATA & S1000D programs

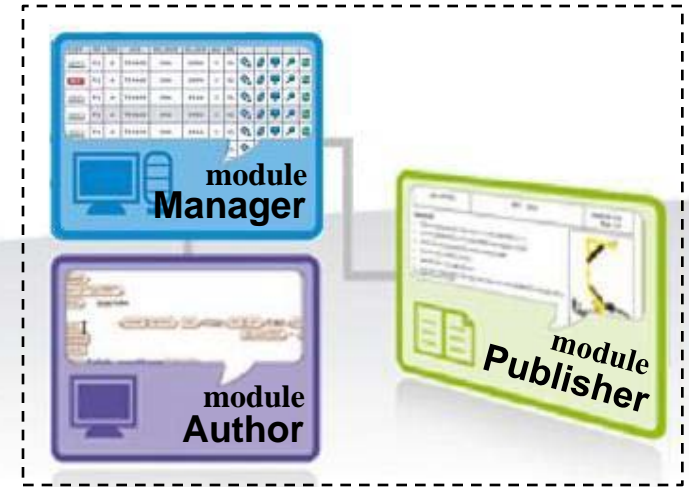
Presentation of ATA and ASD modular workshops

ASD Standards
Modular Workshop

ATA Standards
Modular Workshop



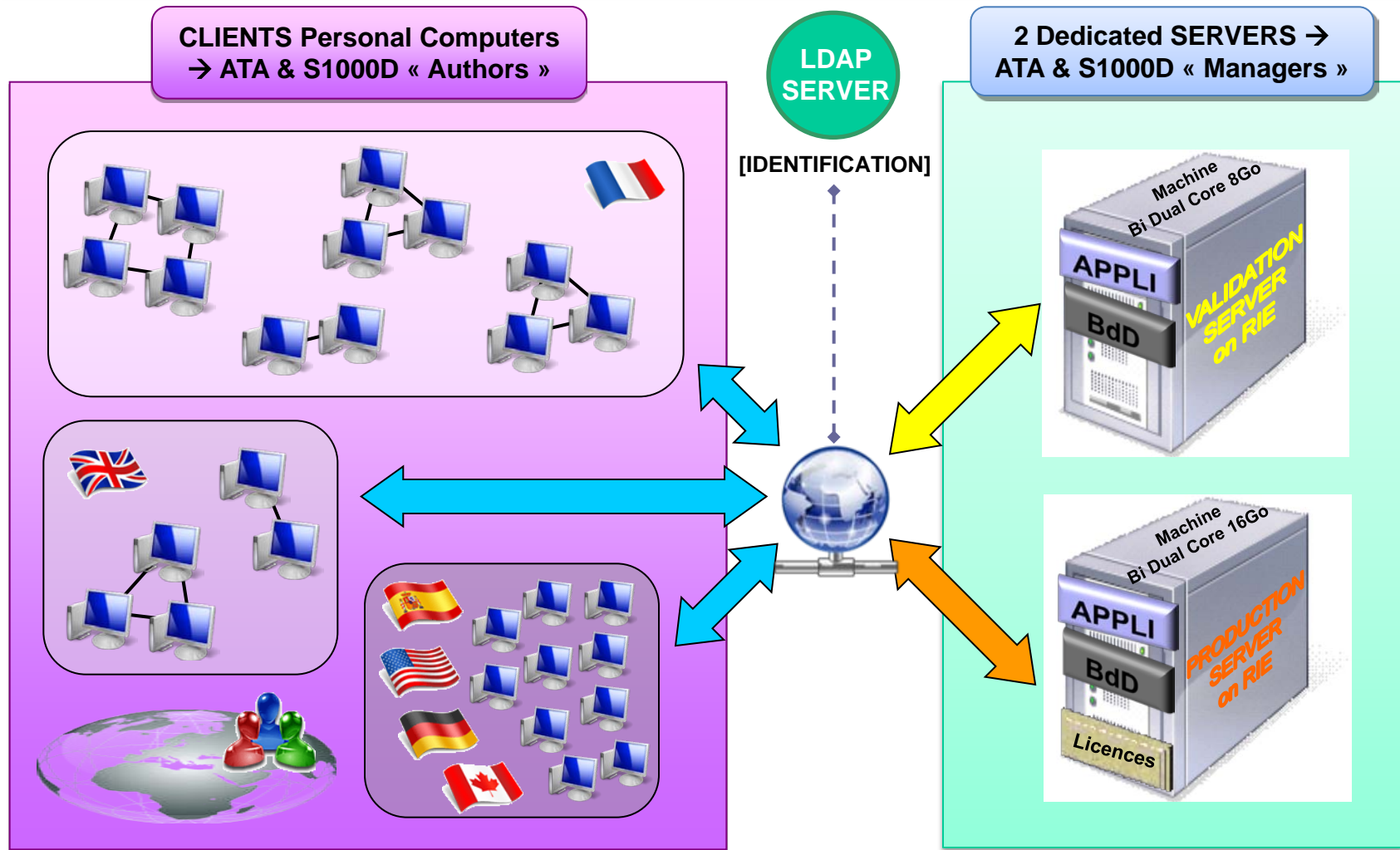
S1000D Tech. Pubs Solution



ATA Tech. Pubs Solution

Presentation of ATA & S1000D workshops infrastructure

ENTERPRISE INTERNAL NETWORK





Our new workshop for ATA and S1000D contexts permits to obtain:

- Simplicity of an unique format management (final authoring formats) associated to an unique structure management (external official DTD / schema)
- Authoring activity focused on structured content work, guided and controlled directly by official DTD / schema basis, with permanent validity check
- Direct HTML and PDF generation abilities for internal validation use
- Multiple distinctive publishing phases abilities, from same electronic data
- Good general process, with separation between authoring and publishing
- Complete management functions system (supplier 'CSDB' concept)
- + Network architecture permitting facilities for internal work organization
- + Import / export function when deciding to use external sub-contractor help
- + Possibility to establish connections with linked activities: Training & eLearning

→ Performing and efficient tool and process, in accordance with the philosophy of structured Technical Publications production

Ameliorations and ROI expected for ATA & S1000D programs

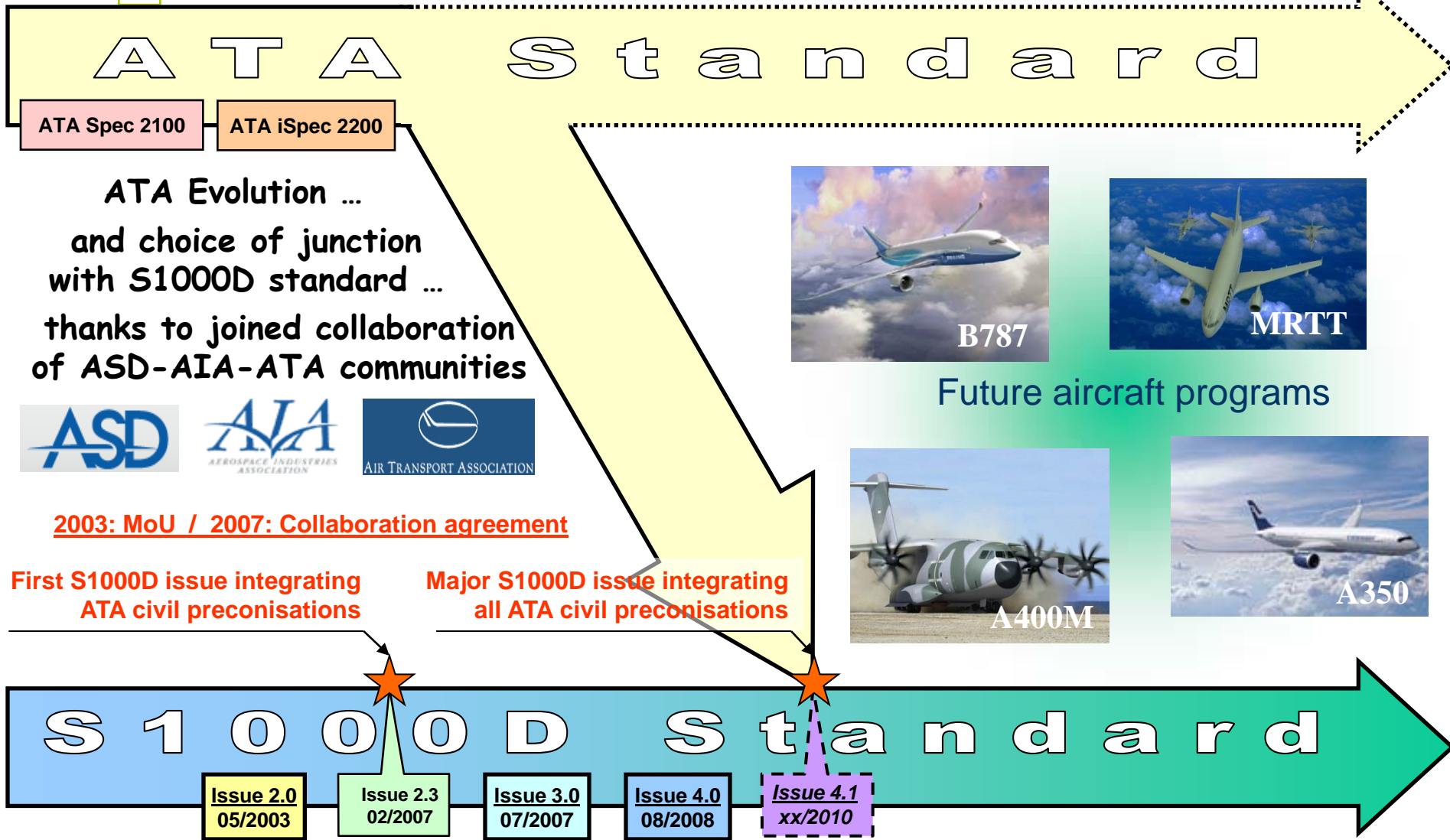


Moving ATA and S1000D contexts on our new workshop will permit to ...

- Overtake the disadvantages and limits associated to our original tool
- Migrate all our electronic documentations activities on the same workshop
- Establish a junction between our ATA and S1000D contexts production, around the same well-formed process, separating authoring and publishing
- Take advantage of all functions and abilities linked to our new workshop
- Take the benefit of the new workshop's experience on S1000D contexts to extend it to a similar workshop dedicated to ATA contexts
- Enjoy ideal conditions to realize the final PDF formats, thanks to ATA and S1000D standards dedicated publishing engine

→ Final goal and completion = use of the unified workshop and process for ATA & S1000D programs, in accordance with the philosophy of structured Technical Publications production

New programs around ATA & S1000D standards



→ **Enlargement of Electronic Tech. Pubs' field**

Treatment of new programs - technical perspectives

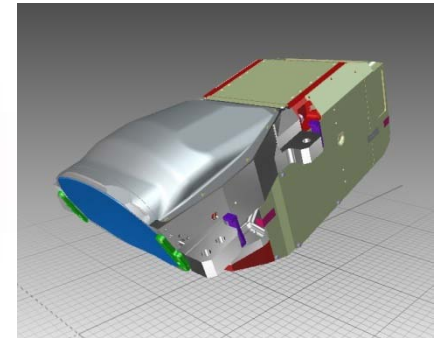
- Integration of the new programs' specificities into the common and integral process of the production workshop

Depending on business rules provided by Guidance or Requirements

Taking into account the emergent Multimedia technologies ...



Audio-visual materials



Animated 3D formats



Mobile viewers



Head vision

... and the modern electronic Tech. Pubs visualization ways

➔ Ready for future standards and programs challenges !

Our supplier experience and its main teachings ...



- ❖ **Concrete use of ATA & S1000D standards for a large range of aircraft programs, in both civil and military domains**
- ❖ **Approach around the common electronic Tech. Pubs philosophy associated to the ATA & S1000D standards**
- ❖ **Imperative respect of the major concepts:**
 - ✓ a distinct work on structured content and visual form
 - ✓ a separate process with successive authoring and publishing
 - ✓ a set of technical abilities to insure the production life cycle
- ❖ **Creation of common workshop and process for the complete electronic Tech. Pubs production approach, with all specific contexts integrations for aircraft programs concrete needs**

Thank you for your attention ... and questions to come !



→ Personal contact for more information and details

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*For further information,
please do not hesitate to contact me !*