S1000D in Russia

Dmitry Zanozin
Chief of Department
CALS R&D Center “Applied Logistics”

S1000D User Forum 2009
Hilton Head, SC, 2009-10-14
Agenda

- Main Players
- Projects
- Software
- Standards
- Other
Main Players in Russian Aircraft Industry

- Russian United Aircraft Corporation
- “Russian Helicopters” Corporation
- Russian Motor Building Corporation
- Component Producers

National Aircraft Industry Association
Other Important Player

➢ Rosoboronexport

- Sole supplier of the whole range of armaments and military equipment nomenclature produced by Russian defense enterprises and authorized for export
- Supported by the Russian state providing governmental guarantees for all its export operations
- One of world's leading arms exporters
S1000D Projects performed

- Tupolev: TU204, TU214 (Civil)
- Sukhoi: SU-30MK fighters family (Mil)
- MiG: MiG-29K/KUB carrier-based fighter (Mil)
- Antonov: AN-148 (Civil, Russia/Ukraine cooperation)
- PS-90 aircraft engines family (Civil)
- Mil helicopters: MI-171, MI-17V5 (Civil/Mil)
- VK-2500 helicopter engines (Civil/Mil)
- T-72S, T-90S battle tanks (Mil)
- K36D ejection seat for aircrafts (Mil)
- Documentation of component suppliers…
The Latest Projects

➢ Tupolev: TU-204/TU-214
  Twin-engined medium range airliner
  ▪ 5294 data modules (19711 A4 pages)
  ▪ 3897 figures
  ▪ about 50000 hyperlinks
  ▪ multilingual publications: Russian and English

➢ Mil helicopters: MI-17V5
  Medium multi-purpose helicopter
  ▪ 2100 data modules
  ▪ about 900 figures
The Latest Projects (cont.)

MiG: MiG-29K/KUB
Carrier-based fighter
- IETP + Paper publications for the aircraft and all components
- Multilingual publications: Russian and English
- Delivery to foreign customer
Developing Projects

- Mil helicopters: MI-171
  Medium multi-purpose helicopter
  - Revised version of techpubs
  - over 2000 data modules
  - issue 2.3 base publications

- Mil helicopters: MI-35M
  Large helicopter gunship
  - Initial phase

- Tupolev: TU-214
  Twin-engined medium range airliner
  - Completely revised fault isolation procedures
  - about 800 data modules
Developing Issues

- Quality assurance
- Complete multilingual publications
- Incorporation of 3D models (developing API for 3D viewers, etc…)
- Tupolev: wide cooperation with component producers:
  - Over 40 enterprises
  - Harmonization of configuration management
  - Interaction via internet
Software - Background

- Delay of deployment of ILS software
- Analysis of existed solutions
- Shortcomings
  - Lack of support of Russian language
  - Disinterest of software vendors in updates for Russian industry
  - Very high cost of deployment
S1000D Software

Technical Guide Builder™ – S1000D software suite

CSDB management
- Projects, DMRL, Teamwork, Integration

CSDB analysis
- More than 30 analysis types,
- Batch modifications

Authoring tools
- User-friendly interface,
- Hide XML complexities

Paper and Interactive publications
- PDF output,
- Free Interactive Browser

Publication security
- IETP publication security based on hardware encryption
Related Software

LSS™ - Logistic Support Analysis Suite

- Functional analysis of the Product.
- Development of the Logistic Structures.
- Failure Modes Effect and Criticality Analysis (FMECA).
- Calculation of recommended maintenance intervals.
- MSG3 analysis.
- Development of maintenance tasks and procedures.
- Provisioning planning.
- LSA reports and exchange files (DEF STAN 00-60).
- Generation of Illustration Parts Catalog (IPC) data for Tech Pubs development system.
- LSAR database compliant with DEF STAN 00-60.
Related Software (cont.)

- ATLAS™ - Aircraft Technical Logbook’n’Analysis Software
  - Completeness
  - Fault records
  - Reliability analysis
  - Operation log
  - etc…
Integration

➢ Use the results of Logistic Support Analysis
  ▪ Schedule DM
  ▪ Procedural DM
  ▪ IPD DM (for various levels of maintenance)

➢ Interchange data with Aircraft Technical Logbook and Analysis Software
  ▪ Fault codes as initial data for fault isolation procedures
  ▪ Providing information about required tasks and replaceable parts to Logbook software
National Specifications

- S1000DR – Official translation of S1000D Issue 2.3 to Russian (has status of aviation handbook).
- GOST 2.6xx series – supports modular structure
- GOST 18675 – Renewed national civil standard: “Operational and repair manuals for aircrafts and aircraft equipment” – based on S1000D specification.
- New military standard: “…manuals consist of data modules…”.
Naval Implementation

Ship building enterprises try to form agreement with Indian side

- Special naval implementation of S1000D has been created
- “Common Russian-Indian requirements for technical documentation for ships, submarines and equipment”
- Based on issue 2.3
Cataloging

- Host international conference (Sep 30 – Oct 1, 2009)
- Developed workbook: “Cataloging process of military equipment for export purposes” (approved by Rosoboronexport and Russian Ministry of Industry and Trade in July 2009)
- Work out the final rules of interaction with National Codification Bureau (based on extension of S1000D IPD DM)
National Website

- Reserved domain name s1000d.ru
- Current stage: preparing the materials
- Draft version at http://www.cals.ru
Thank you for listening!

Dmitry Zanozin

dmitryzan@cals.ru

www.cals.ru