The 12th Pacific Area Cataloguing Seminar

From Theory to Practice:
MC CATALOGUE – A Bridge between NATO Codification and Industry Using ISO 22745

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Sydney
27 April 2010

Agenda

- **Motivation**
  - Conventional Codification Process
  - Benefits and Goals of ISO 22745
  - How to Achieve the Goals

- **Standardization**
  - Published ISO Standards
  - AURA activities, Sources of Data

- **Software**
  - Accessible Applications
  - MC CATALOGUE Modules, Features and News

- **Go to live**
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  - Challenges of Using ISO 8000
  - LMV Smart Codification Project, Schema, Processes

- **Our Vision**
  - Synergy in Codification Area
  - International Cooperation
**Motivation - Conventional Codification**

- Conventional Codification

Vendor (Data provider)

NCB (Data requestor)

We need data. (product characteristics)

I’ll send some data

Incomplete data

Technical documentation

Proprietary information

**Motivation - Benefits and Goals of ISO 22745/8000**

DLIS and NATO Allied Committee 135 engaged with ISO and other standards organizations for the following reasons:

- To automate the codification process
- To improve the quality and availability of data
- To help align the NCS with international standards
- To increase cooperation with industry

Benefits of ISO 22745 and ISO 8000 for Government:

- Opportunities for improvement of the NATO/DLIS system through increased industry participation
- Promotion of NCS approach as an ISO standard
- Faster access to better industrial data

Goals:

- Electronic transfer of characteristic data from suppliers and manufacturers to NCBs
- Faster, better and cheaper codification
Motivation - How to Achieve the Goals

- **Standardization**: ISO 8000, ISO 22745
- **Data dictionaries**: DLIS, ECCMA
- **Software**: NCS and ISO 22745/8000 compatible
- **Go To Live**: Propagation, Projects, Usage

Standardization – Published ISO Standards

**ISO/TS 8000–100:2009 – Master data: Exchange of characteristic data**
- Part 1: Overview and fundamental principles, Part 2: Vocabulary
- Part 100: Master data: Overview
- Part 102: Vocabulary
- Part 110: Syntax, semantic encoding, and conformance to data specification
- Part 120: Provenance
- Part 130: Accuracy
- Part 140: Completeness

**ISO/TS 22745–10:2010 – Open technical dictionaries and their application to master data**
- Part 10: Dictionary representation
- Part 11: Guidelines for the formulation of terminology
- Part 13: Identification of concepts and terminology
- Part 14: Dictionary query interface
- Part 20: Procedures for the maintenance of an open technical dictionary
- Part 30: Identification guide representation
- Part 35: Query for characteristic data
- Part 40: Master data representation

- Part 4: Basic entities and types
- Part 5: Identification scheme
- Part 6: Concept dictionary terminology reference model
- Part 10: Characteristic data exchange format
- Part 20: Concept dictionary resolution services
- Part 31: Query for characteristic data
**Standardization – AURA Activities**

Membership in the ISO Technical Committee ISO TC 184/SC4
- Committee: Industrial automation systems and integration
- Subcommittee: Industrial data
- AURA is a member from 2008

ISO 80001 10:2008 certification – Master Data Quality Manager – MDQM™
- AURA as a company
- 8 specialists from AURA

Membership in eOTD Implementers Group
- moderated by Gerald Radack – author of ISO 8000 and ISO 22745
- creation of this group was initiated by AURA
- regular teleconferences every month
- active participation of AURA (3 persons)

**Data Dictionaries – Sources of Data**

- AC/135
- ACodP-1 Tables, ACodP-2/3, ...

- DLIS
- MRD, FIIG in XML

- eGR

- ECCMA Identification Guide Registry

- eOTD

- ECCMA Open Technical Dictionary
Software – Accessible Applications

- ECCMA tools with support of ISO 8000, ISO 22745 and eOTD:
  - ECCMA ImplArea – basic portal, mainly for the training purposes
  - eIGR – ECCMA Identification Guide Registry
  - eCLR – ECCMA Classification Registry
  - eGOR – ECCMA Global Organization Registry

- Data Cleaning Tools and Data Management Tools with support of ISO 8000, ISO 22745 and eOTD

- NCS Tools supporting eOTD and ISO 22745 data formats:
  - MC CATALOGUE – NATO Codification System application with wide support of ISO 8000, ISO 22745 and eOTD. A part of MC CATALOGUE is the module package MCC eOTD that includes following modules:
    - IG Manager (Identification Guide Manager)
    - Master Data Manager
    - Query Manager
    - eOTD–NCS Connector

Software – MCC eOTD Module Package
Software – MCC eOTD Smart Codification

![Diagram showing the process of MCC eOTD Smart Codification with roles and interactions between Purchaser, Manufacturer, and Subcontractor.]

Software – MCC eOTD Features

**Standard MC CATALOGUE features:**
- User-friendly codification and Master Data Management
- Mature and rich graphical user interface which is intuitive and easy to learn
- Multilingual support for the user interface and data
- Independence from hardware platform and operating systems

**Special features of MCC eOTD:**
- Support of cataloging at source including Smart STEP Codification
- Data processing in formats compatible with ISO 22745
  - eOTD-r-XML for Master Data
  - eOTD-q-XML for Data Queries
  - eOTD-i-XML for Identification Guides
- Full support of ISO 8000 data quality processes
- Codification of services
Software – MCC eOTD News

- **New modules**
  - Contracts
  - UNSPSC classification
- **Support of recently published ISO 22745**
  - Implementation of XML schema 1.0 defined in published ISO 22745
- **IG Generator improvements**
  - Implementation of FIIG I/SACs in ISO 22745 format
  - Transformation of all FIIGs to ISO 22745 format (IG generator)
- **Implementation at NCB**
  - First MCC eOTD implementation at the NCB Slovakia

Software – MC CATALOGUE as a Bridge
**Go To Live** - Public Presentations of AURA
ISO 8000/22745 and eOTD Solutions

Sydney, London, Newcastle, Bristol, Luxembourg, Prague, Brno, Trencín, Liptovský Mikuláš, Moscow, Bethlehem, Battle Creek, Seoul, Dubai

**Go To Live** - Challenges of Using ISO 8000

**Challenges explored by AURA**

1. Manufacturers do not want to provide complete technical documentation – confidential data
2. Missing of guidelines for using ISO
3. Core data dictionary is not ready
4. Official Web–services for eOTD are not available
5. Missing FIICS in ISO 22745
6. Missing rules for maintenance of IGs
7. Missing system of codification of services
8. It is not easy to find a correct INC
9. Source products data are not available in suitable electronic format
10. NCBs use legacy NCS software incompatible with ISO 22745/8000

**How we cope with the challenge**

1. Support of eOTD – XML format – only required data are requested
2. Cooperation with author of ISO 8000, 22745 (Gerry Radack)
3. Cooperation with ECCMA (Sheron Koshy – president of ECCMA India)
4. Import of eOTD data from accessible formats (MS Access, csv)
5. Automatic generation of IGs by IG Generator
6. Maintenance in MCC eOTD using IG Manager
7. MCC eOTD supports codification of services
8. Quick navigation through the UNSPSC tree
9. Manual or semiautomatic process, conversion from XLS, CSV, PDM proprietary formats
10. Current data formats (NADEK format: LNx, KFF, ...) supported in MC CATALOGUE

Our motto: 'No obstacle is too big to overcome'
Light Multipurpose Vehicle LMV IVECO M65E
- Produced by IVECO (ITALY)
- Currently purchased by the Armed Forces of the Czech Republic
- NSN: 2355-16-005-9647
- RN: M65E 19 WM 4x4 ZS
- INC: 36857
- FULL AIN: LIGHT ARMORED VEHICLE

Spare parts for LMV IVECO:
- LMV IVECO M65E 19 WM 4x4 (Iveco S.p.A. – ITALY)
- PROTECTOR M151 A2 (Kongsberg Defence Systems – NORWAY)
- Machine Gun M2HB QCB (FN HERSTAL, S.A. – BELGIUM)
- Weapon station ZSRD 07 (EVPÚ a.s. Nová Dubnica – SLOVAKIA)
- Final assembly (VOP 025 s.p. Nový Jičín – CZECH REPUBLIC)
Go To Live - LMV Smart Codification Goals

The goal of the Pilot Project is to verify:
- Possibility of product identification (its description using eOTD) directly by a manufacturer.
- Data transfer from the manufacturer to the appropriate National Codification Bureau (NCB).
- Influence of used technology on time consumption of product identification and on data creation cost.

Within the Pilot Project two functional models will be verified:
- Data exchange in xml format (NCB Slovak Republic, NCB Norway).
- Processing data in xml format and its conversion into NADEX format with usage of LNx transaction (NCB Italy, NCB Belgium).

Go To Live - LMV Smart Codification Functions

Following functions of MC CATALOGUE will be verified:
- Import of Items of Supply (IoS) from manufacturers inxls format.
- ISO 8000 and ISO 22745 functions:
  - Import and creation of Identification Guides (IG Manager module)
  - Generating, sending, receiving and processing queries (Query Manager module)
  - Item description by characteristics, export of xml files, import of xml files and projection of master data records into TIR (MD Manager)
- Item maintenance and conversion of master data records into NADEX format:
  - Modification and completion of mandatory data elements IoS (TiIC RPDMRC; MOE Code; RNCC, RNVC, DAC, RNSC, RNAAC)
  - Generating of transaction LNx (NADEX)
**Go To Live - Proposal For Cooperation**

- AURA has started **pilot implementations** of eOTD for selected government and commercial organizations.
- The pilot projects are **opened for NCBs, organizations and companies** that want to:
  - enter the new ISO 8000/22745 world with minimal expenses
  - have faster access to better industrial data
  - establish processes for data exchange based on modern technologies, standards
  - gain ISO 8000 certification
- You are **welcomed to participate** in the pilot projects
- For more detailed information:
  - contact us during breaks at PACS
  - contact us on email address aura@aura.cz

**Our Vision – Synergy in Codification Area**

- DATA DICTIONARIES
  - DUS, NAMSA, ECCMA
- STANDARDIZATION
  - ISO 8000
  - ISO 22745
- SOFTWARE KNOW–HOW
  - MC CATALOGUE
  - AURA
- USERS PROJECTS
  - NCBs
  - VENDORS