Introduction to the NATO Codification System

ABSTRACT

During the IQIS 2010 symposium, the NATO Codification System (NCS) reported on initiatives to introduce ISO 8000 to improve the levels of data received in support of NATO Codification and ISO 22745 to reduce the manual handling errors and processing time when creating a Total Item Record for the NCS.

With the tools now in place within several NATO Codification Bureaus to deliver in accordance with these ISO Standards only one barrier remains, the gap between the Ontology Defence Supply Chains use for the in service support of equipment and the Ontology the commercial supply community bases their control of design, build and sales of equipment.

This presentation will focus on the efforts to bridge that gap using a Master Data Ontology Management system with the NCS working in close partnership with several large OEMs who's prime business is delivering for Defense.

BIOGRAPHY

Ian Smith
Chairman
NCS Transformation Steering Group

Mr Smith is the project manager for the Source Supplied Codification work and newly appointed Chairman of the NCS Transformation Steering Group. Ian has been a key participant in the project to implement the ISO Standards both in the UK and across the wider AC 135 community.

DE&S JSC SCM SCPol United Kingdom National Codification Bureau

The DNA of Modern Logistics - NATO Codification

Source Supplied Codification Project

Phase 1 – Proof of concept – 1995 - 2005

Phase 2 – Testing the principle – 2005 - 2007

Phase 3 – testing the IT – 2007 - 2010

Phase 4 – Testing the eOTD – 2011 -

Landauer's principle (1961)

In English

If the **information** is **complete** it should be **easy** to **identify** an item from that information.

If information is incomplete, the difference between the level of information existing and the actual item it describes, proportionately reduces the probability of identifying the item which reduces the value of having that information……..

……and that can lead to all sorts of problems!!!!!!!!!

The measuring stick

Type 1: All the mandatory eliments of the Federal Item Identification Guide for the item in question have been met. The item is considered to be **FULLY DESCRIBED**.

Type 4: At least ONE of the mandatory eliments of the Federal Item Identification Guide for the item in question have not been completed. The item is considered to be **PARTIALLY DESCRIBED**.

Type 2: NO mandatory or optional eliments of the Federal Item Identification Guide for the item in question have been answered. Only the manufacturers part number exists. The item has **NO technical description**.

Traditional Versus Supplier Sourced Codification

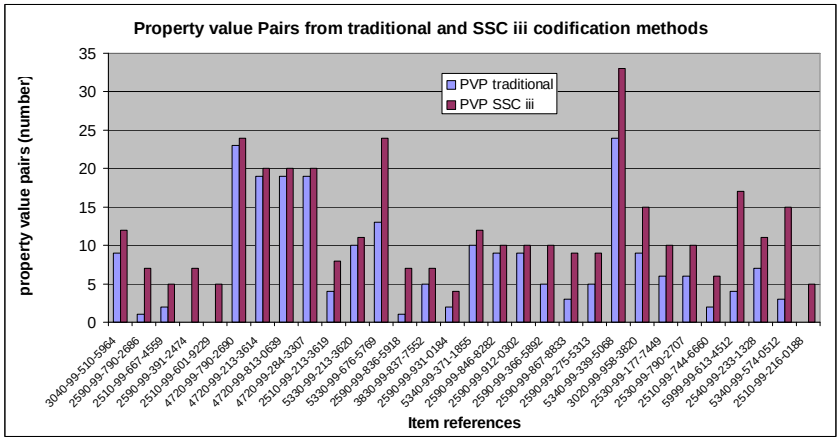
The first SSC III task was sent to one of our contractors with a special instruction to complete the task in accordance with ISO 8000 Pt 110 and use ISO 22745 transactions for the 30 item task.

The contractor missed the special instruction, which normally we would have been really unhappy with!

Every cloud has a silver lining though and this let us put together some comparison stats: The traditional codification was achieved using the technical drawing which was only provided to allow item naming for the 22745 task.

	Type 1	Type 4	Type 2	Avg PVP
Traditional Codification	0	27	3	8
Supplier Sourced Codification	20	10	0	12

ISO 8000 Pt 110 WORKS!



DATA Collected From	Total Items	Type 1	Type 4	Type 2
ISIS Total Live Items	2,618,151	459,178 (17%)	1,699,549 (65%)	459,424 (18%)
*Sentry	351	35 (10%)	270 (77%)	46 (13%)
*Protected Mobility Group	4669	675 (14%)	3032 (65%)	962 (21%)
*Typhoon	199	32 (16%)	142 (72%)	25 (12%)
*Jackal	377	161 (42%)	210 (57%)	7 (1%)
Terrier SSC III	**398**	**191 (49%)**	**207 (51%)**	**0 (0%)**
*Terrier SSC III excluding screen outs	260	151 (58%)	109 (42%)	0 (0%)

SSC IV Tasks and Requirements

Everything we do with the SSC project re-affirms that ISO 8000 Pt 110 adds tremendous value to the codification process!

Standard statement for inclusion as both an NCB Contract Clause and Codification Requirement statement in any standards which have NATO Codification as part of their delivery.

Supply of Source Data in support of NATO Codification
The contractor, sub-contractor or supplier shall supply identification and characteristic data in accordance with ISO 8000-110:2009 on any of the selected items covered in this contract.

Following a codification request, the Home NCB shall present a list of the required properties in accordance with the US Federal Item identification Guides.

The ISO 8000 Pt 110 process DOES NOT require any IT capability, it can be carried out as a paper exercise if online services are not present.

The latest evidence in support of ISO 8000 Pt 110

Existing NSN 1 – Type 4

AGAV – sonar 2054 inboard replacement

CXCY – LM146c/TWS4H4347 Ethernet Shipboard Cable

ISO 8000 NSN 1 – Type 1

AGAV – sonar 2054 inboard replacement

CXCY – LM146c/TWS4H4347 Ethernet Shipboard Cable

Conductor Quantity – 8

Conductor Form – AY

Material – 990019001

Cross Sectional Shape Style – 6

Connector ID – JTRJ456F-16NXLSB

Connector Manufacturer – 0BW78

Overall Length - Varying

The latest evidence in support of ISO 8000 Pt 110

Existing NSN 2 – Type 4

AGAV – sonar 2054 inboard replacement

CXCY – LM146c/TWS4H4351

Cable Shipboard Ethernet

ISO 8000 NSN 2 – Type 1

AGAV – sonar 2054 inboard replacement

CXCY – LM146c/TWS4H4347 Ethernet Shipboard Cable

Conductor Quantity – 8

Conductor Form – AY

Material – 990019001

Cross Sectional Shape Style – 6

Connector ID – JTRJ456F-16NXLSB

Connector Manufacturer – U7739

Overall length – varying

Features – Double Sheathed.

The latest evidence in support of ISO 8000 Pt 110

The Cables

Both NSNs upgraded **from Type 4** partially described **to Type 1** Fully Described

100% success

NSN 1 increased from 2 Property value pairs to 9 property Value Pairs

NSN 2 Increased from 2 Property Value Pairs to 10 Property Value pairs

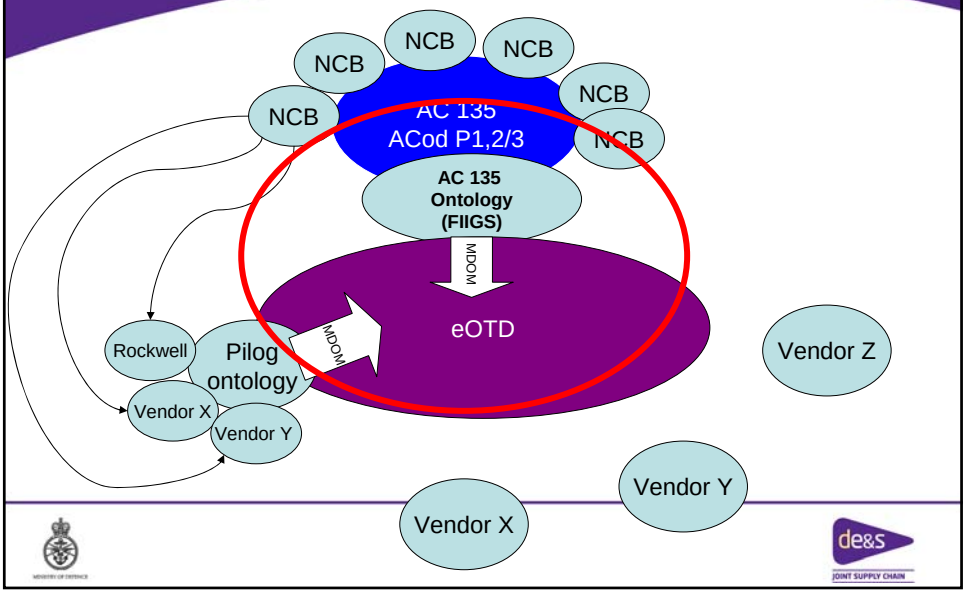
350% improvement

The data quality

These NSN were created as separate NSNs because the part numbers are different but no reason for the difference was know by the UK MoD and therefore the in service users of the kit.

The extra property value pair on NSN 2 shows the same fit form and function, but with increased operating tolerance.

AC 135 SSC IV Project Ontology Management via the eOTD



SSC IV Progress So Far – Positives

BAES UK Surface Ship Support.

This project to build the biggest aircraft carriers the UK has ever owned is in production as we speak.

The Information Management Team will introduce an ISO 22745 interface with the data warehouse specifically to meet the codification requirements.

The same interface will be used on all future platforms if successful.

NATO Mandatory Requirements

Class – VALVE BALL

Property 1 – Material

Property 2 – Style

Property 3 – Valve Operation

BAES Part Classification – 40,000,000

Class – Valve, Stainless Steel, 3 way L ported, manually turned.

NATO Mandatory Requirements

Class – VALVE BALL

Property 1 – Material

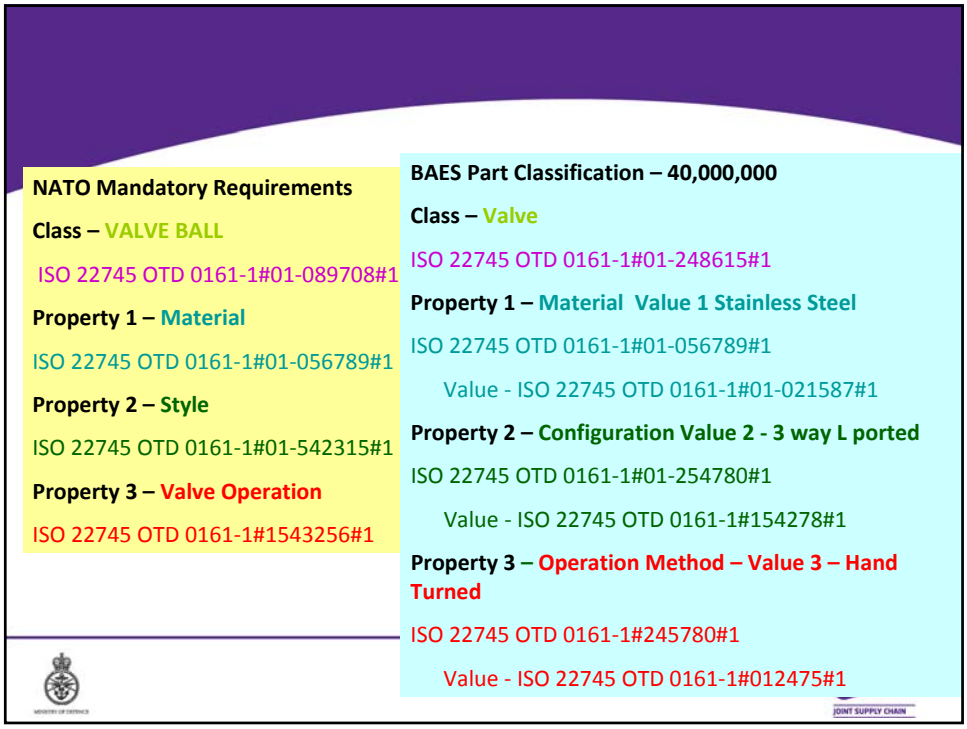
Property 2 – Style

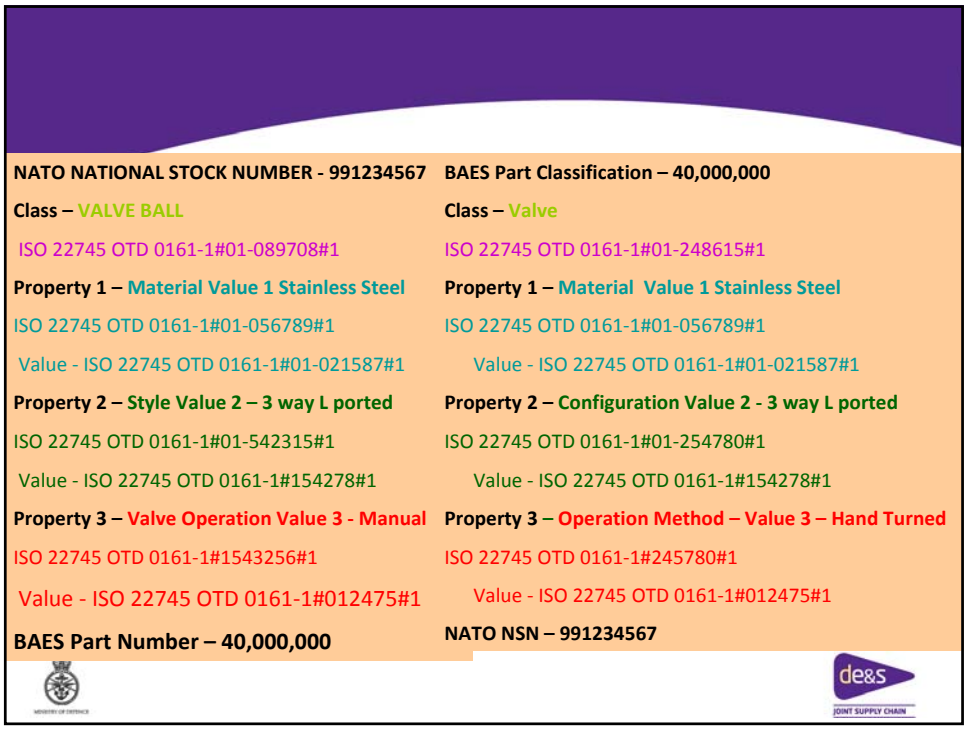
Property 3 – Valve Operation

BAES Part Classification 40,000,000

Class – Valve, Stainless Steel, 3 way L ported

Property 1 – Operation Method – Hand Turned


NATO Mandatory Requirements
Class – VALVE BALL
ISO 22745 OTD 0161-1#01-089708#1
Property 1 – Material
ISO 22745 OTD 0161-1#01-056789#1
Property 2 – Style
ISO 22745 OTD 0161-1#01-542315#1
Property 3 – Valve Operation
ISO 22745 OTD 0161-1#1543256#1
BAES Part Classification – 40,000,000
Class – Valve
ISO 22745 OTD 0161-1#01-248615#1
Property 1 – Material Value 1 Stainless Steel
ISO 22745 OTD 0161-1#01-056789#1
Value - ISO 22745 OTD 0161-1#01-021587#1
Property 2 – Configuration Value 2 - 3 way L ported
ISO 22745 OTD 0161-1#01-254780#1
Value - ISO 22745 OTD 0161-1#154278#1
Property 3 – Operation Method – Value 3 – Hand Turned
ISO 22745 OTD 0161-1#245780#1
Value - ISO 22745 OTD 0161-1#012475#1


NATO NATIONAL STOCK NUMBER - 991234567
Class – VALVE BALL
ISO 22745 OTD 0161-1#01-089708#1
Property 1 – Material Value 1 Stainless Steel
ISO 22745 OTD 0161-1#01-056789#1
Value - ISO 22745 OTD 0161-1#01-021587#1
Property 2 – Style Value 2 – 3 way L ported
ISO 22745 OTD 0161-1#01-542315#1
Value - ISO 22745 OTD 0161-1#154278#1
Property 3 – Valve Operation Value 3 - Manual
ISO 22745 OTD 0161-1#1543256#1
Value - ISO 22745 OTD 0161-1#012475#1
BAES Part Number – 40,000,000
BAES Part Classification – 40,000,000
Class – Valve
ISO 22745 OTD 0161-1#01-248615#1
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Property 3 – Operation Method – Value 3 – Hand Turned
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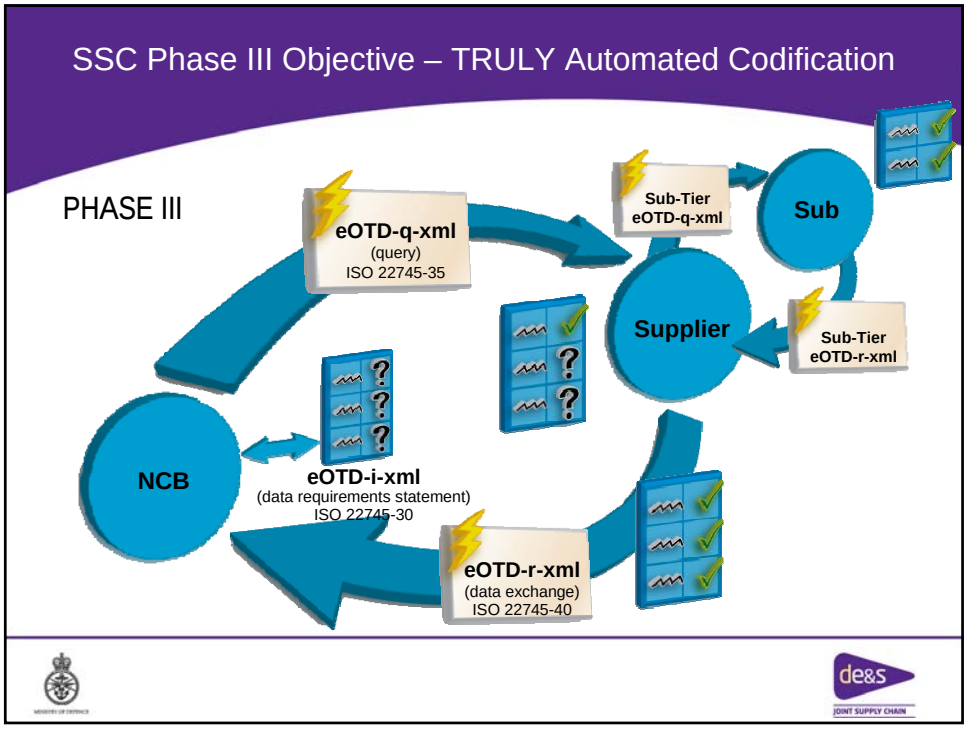
Value - ISO 22745 OTD 0161-1#012475#1
NATO NSN – 991234567


SSC Phase III Objective – TRULY Automated Codification
PHASE III
eOTD-q-xml
(query)
ISO 22745-35
Sub-Tier
eOTD-q-xml
Sub
Supplier
Sub-Tier
eOTD-r-xml
NCB
eOTD-i-xml
(data requirements statement)
ISO 22745-30
eOTD-r-xml
(data exchange)
ISO 22745-40
de&s
JOINT SUPPLY CHAIN