

# **Interfacing Shipyard Catalogs with the ECCMA Open Technical Dictionary (eOTD)**

# Motivation

Data Requestor (user, buyer, manager)

To obtain the data necessary for the “safe and efficient” management of plant and equipment by:

- Creating clear and unambiguous requests for:
  1. characteristic data,
  2. the validation of characteristic data,
  3. part numbers for items that match characteristic data
- Automating the generation and distribution of requests for data in a simple format that can be automated by the recipient to create an integrated master data exchange system.

**Faster Access to Better\* Quality Authoritative Data**

\*recent tests show a 30% increase in the quality of data

# The tale of the tape

**BETTER** - Current NATO Average for the creation of Type 1 records is approximately 16%.

Supplier Sourced Codification Type 1 Creation = 60%

**FASTER** – UK NCB Average for the allocation of an NSN on receipt of the Source Data = approximately 50 minutes.

Supplier Sourced Codification = 10 Minutes

# Motivation

Data Provider (manufacturer, supplier)

Supplier and Manufacturers recognize that:

- data integration is one of the keys to a long term relationship
- the ability to provide their customers with quality data is a significant differentiating factor.

Suppliers and Manufacturers are:

- publishing the specifications of their products, capabilities and services on their web sites.
- looking to increase their visibility and understand that the best way to do this is to improve the quality of their data.

## So what does that mean in financial terms to the supplier?

389 Items for codification so far

129 Items screened out which is 33%

BAES will put forward approximately 2000 items for Terrier by project end.

That is a cost of approximately £44,000 in hard charging for codification

33% of £44,000 is **£14,520** which would be the estimated savings on codification costs.

So what does that mean in financial terms to the supplier?

**IF** a supplier was to place codification at the **design stage** and be able to accept the automated import of an R-XML File:

TERRIER had 129 Items Screened out as already existing in ISIS which UK NCB produced R-XML files which BAES GCS imported into the ISO 22745 Module they had access to.

It costs BAES GCS £3000 to introduce an item in to their catalogue

In accordance with the Shell UK commissioned survey 50% of those costs are for data.

129 x £1500 = **£193,500.00**

So what does that mean in financial terms to the supplier?

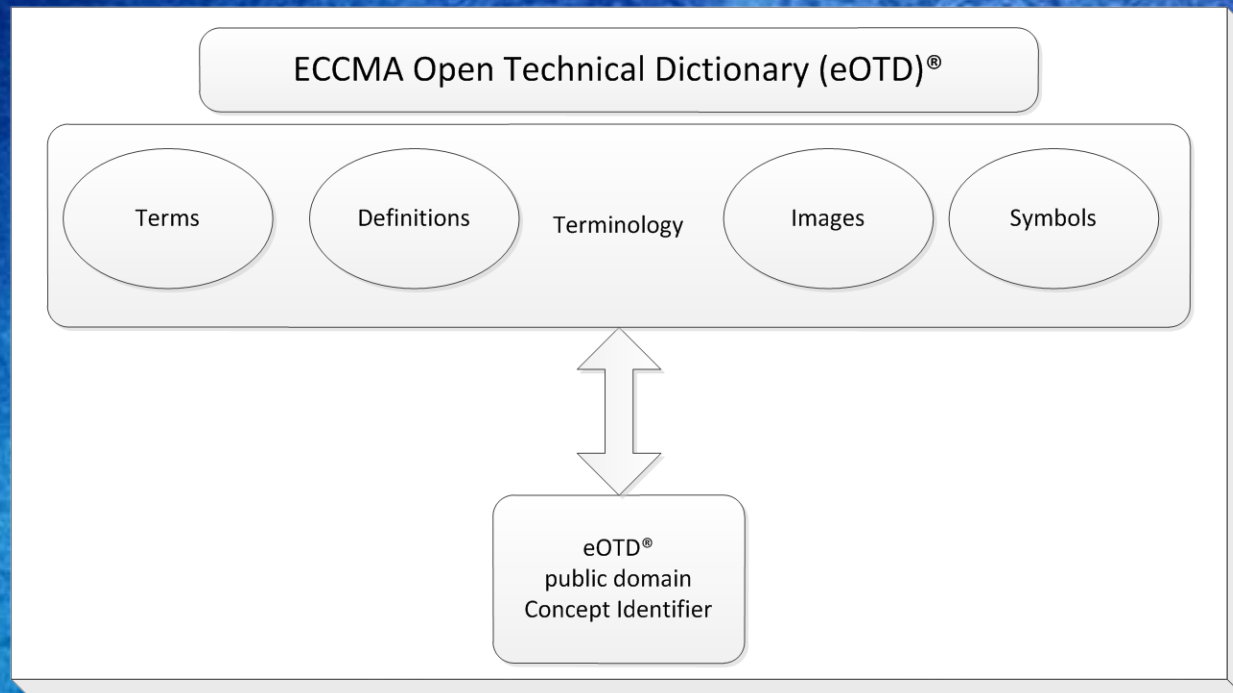
The potential to BAES GCS is far greater than that as UK NCB can provide data in r-XML format for 19,000 items that can be automatically loaded into any classification system they choose with XML capabilities. This data will be in ISO 22745 format and in accordance with ISO 8000 Pt 110.

If, we can get codification introduced at the design of a platform, before the engineers start to create properties and values:

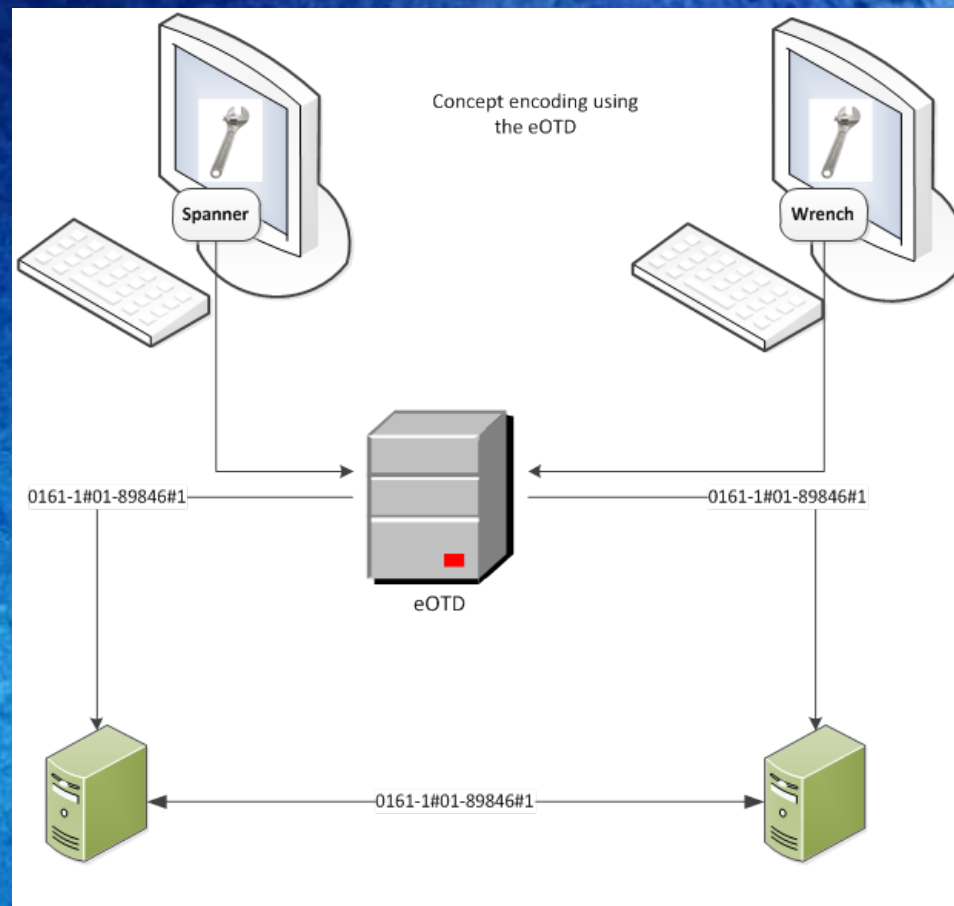
The potential is there to save hundreds of thousands of pounds



**eOTD (ECCMA Open Technical Dictionary):** a registry of terminology from many sources where each concept is assigned a unique and permanent public domain identifier and where concept identifiers may be mapped to each other and ranked according to their use (ISO 22745).



In the eOTD a unique number is assigned to a concept such as table (0161-1#01-089388#1), chair (0161-1#01-086445#1), weight (0161-1#02-018635#1), length (0161-1#02-005808#1), Monday (0161-1#07-277660#1), kilogram (0161-1#05-001122#1).



# What is Master Data?

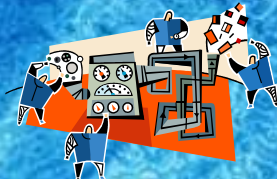
## master data

data held by an organization that describes the entities that are both independent and fundamental for an enterprise, that it needs to reference in order to perform its transactions

ISO 8000-102

*Master data describes individuals, organizations, locations, goods, services, rules and regulations.*

- Customers
- Suppliers
- Materials
- Services

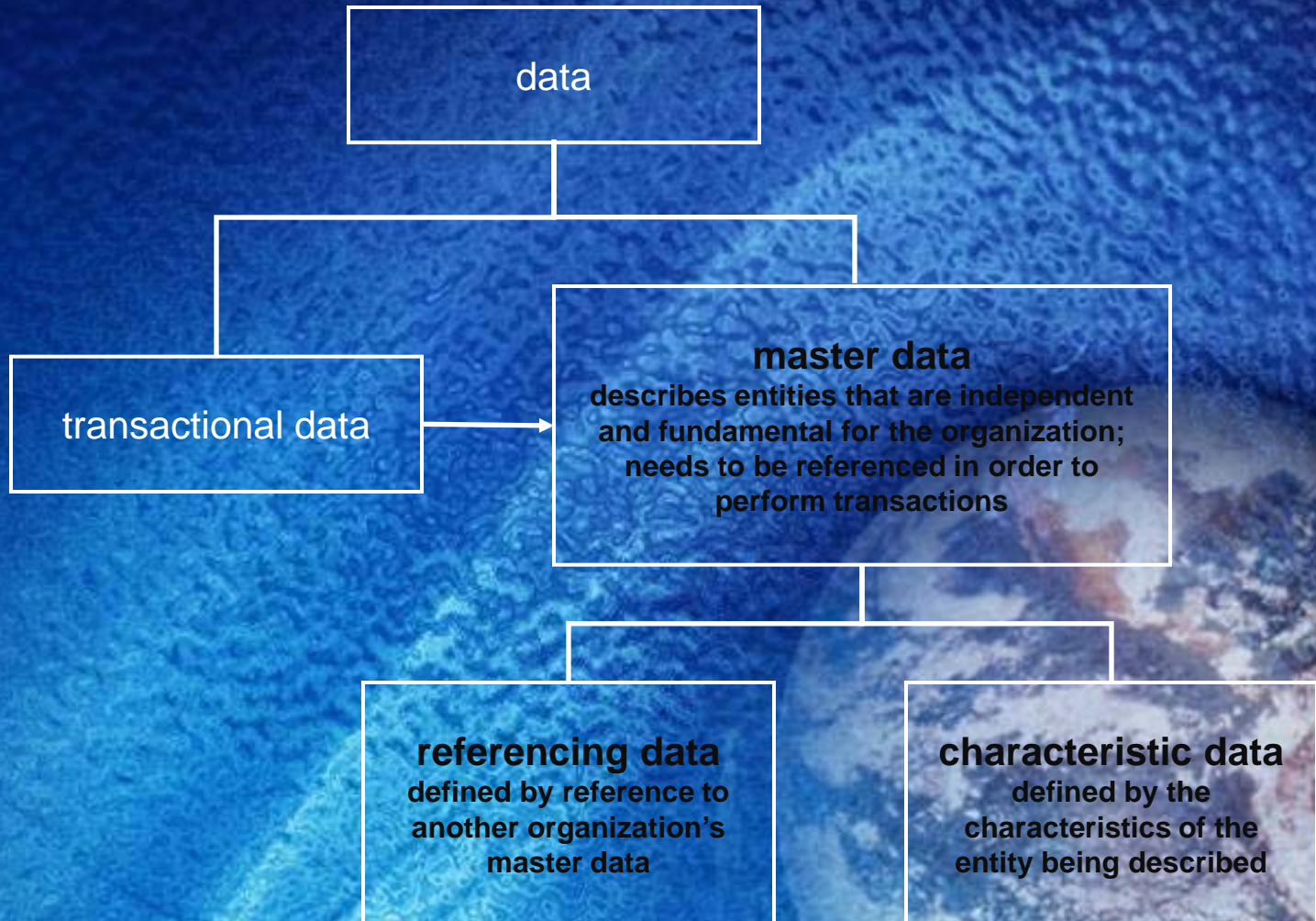


- Assets
- Locations
- Employees
- Rules
- Regulations



# Master Data

Data that identifies and describes individuals, organizations, locations, assets, goods, services, processes, procedures, rules and regulations.



# 2009



- ☑ ISO 22745 Open Technical Dictionary
- ☑ ISO 8000 Data Quality
- ☑ ISO 8000 data cleansing services becomes an international commodity
- ☑ Commercial of the shelf (COTS) ISO 8000 Master data quality management software
- ☑ Growing \$250 Million ISO 8000 master data quality solution industry

# 2010

- ☑ ISO 8000-110:2009 Certified Master Data Quality Managers
- ☑ **Cataloging at Source (C@S) - Supplier Sourced Codification (SSC)**
- ☑ Authoritative master data on demand
- ☑ Faster-Better-Cheaper access to master data

# ✓ A Vision Realized

A single open source method\* for identifying and describing individuals, organizations, locations, assets, goods, services, processes rules and regulations.

\* *Thank you US Department of Defense (again)*



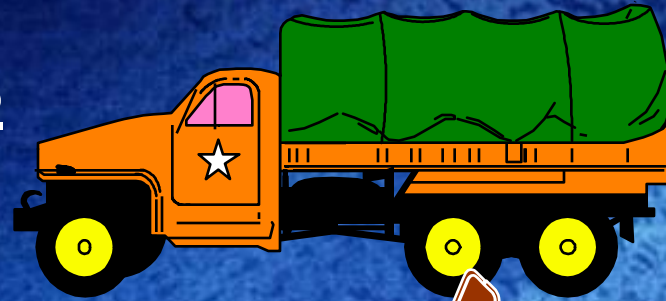
# ✓ Common Concept Encoding

## “public domain metadata”

- Across the supply chains
- In design and engineering applications  
CAD-CAM-CAE
- In ERP applications  
vendor-customer-material-service masters
- In production applications  
PDM
- In product life cycle management
- In asset management applications
- In human resources applications



# The Value



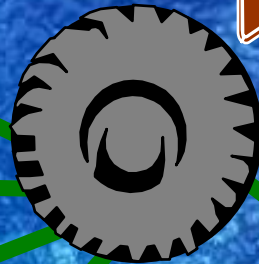
## MANUFACTURERS IDENTIFICATION SYSTEM

DUNLOP  
11-00-20SPTGM

GOODYEAR TIRE CO  
11-00-20SRLER

GOODYEAR FRANCE  
11-00-20UNISRL

CUP SNC  
1100R20GSRT4-16PR



## NATO CODIFICATION SYSTEM

NAVY  
ARMY  
AIR FORCE  
OTHER  
DEPARTMENTS

**2610-14-3224604**  
Single NATO Stock Number

# The Value Common Description



52368965412 – Tire Bridgestone  
435/95 R25



56329845 – Tire BS 435/R25 Standard  
Purpose E3 2 Star Radial



125435 – Bridge Stone 25inch 435/95



965123465 – Tire Bridgestone Part  
Number 12345



## Common ERP descriptions

*Generated automatically*

### Standardised Long Description:

Tire: Pneumatic, Vehicular: Service Type  
for Which Designed: Loader Tire Rim  
Nominal Diameter: 25' Tire Width: 445mm  
Aspect Ratio: 0.95 Tire Ply Arrangement:  
Radial Ply Rating: 2\* Tire & Rim  
Association Number: E3 Tread Material:  
Standard Tire Air Retention Method:  
Tubeless Tire Load Index and Speed  
Symbol: NA Tread Pattern: VHB TKPH  
Rating: 80

### Standardised Short Description:

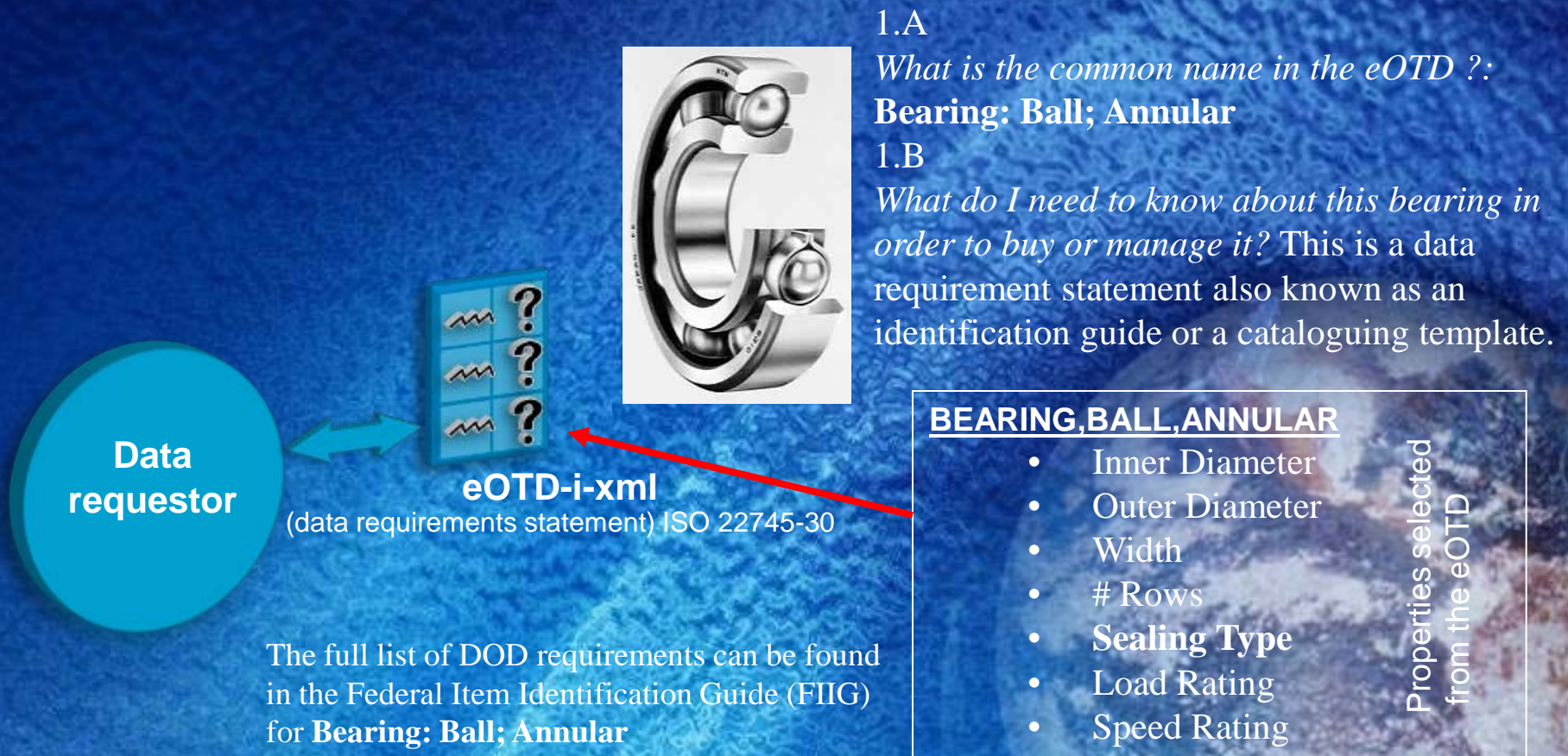
Tire Pneumatic: Loader 25' 445mm 0.95 2\*

# Creating a data requirement

The buyer, item manager or user as the data requestor defines their requirements for data:

*What is the item name and what characteristic data do I need?*

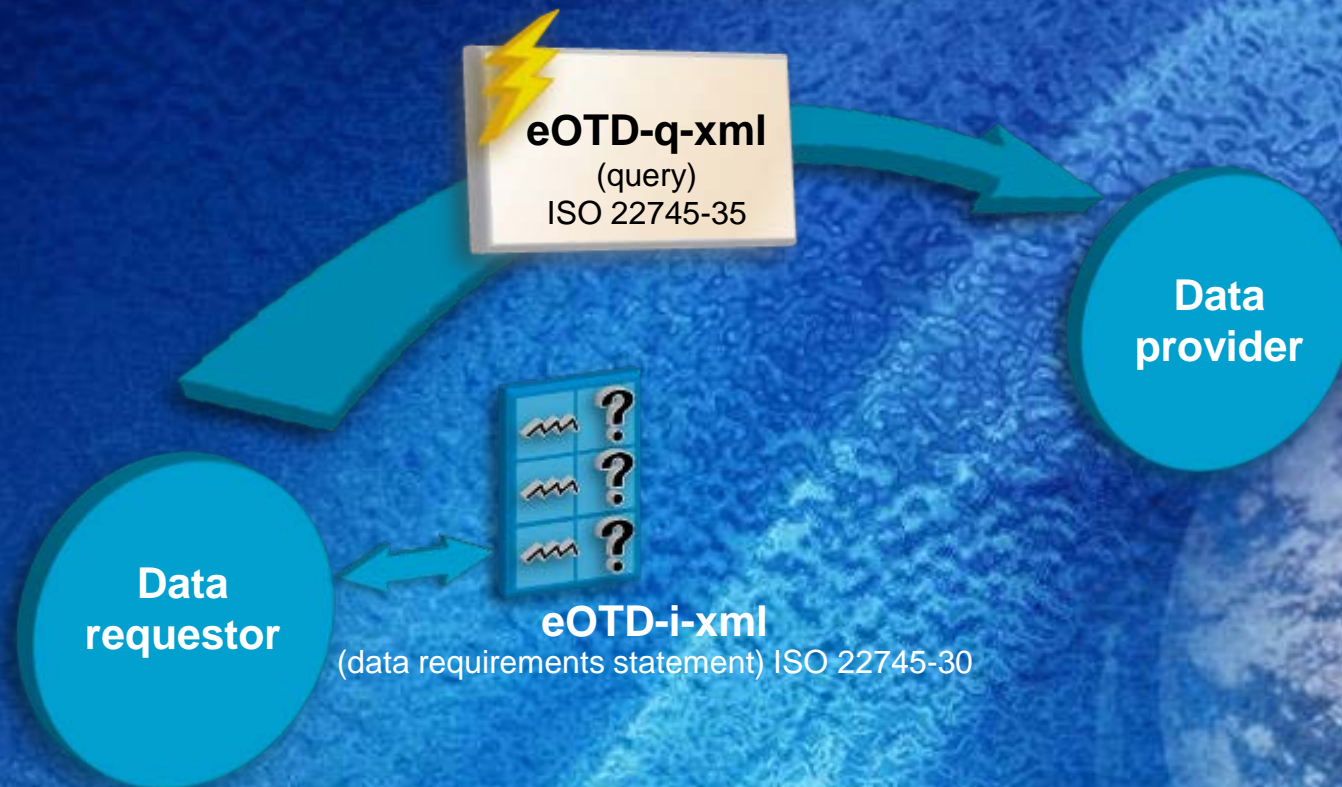
A data requirement statement is created as an eOTD-i-xml file, an XML file that conforms to ISO 22745 part 30 in which the item name is the class and the characteristic data is represented by property-value pairs



# Creating a request for data

The buyer, item manager or user, as the data requestor creates a query and sends it to the supplier or manufacturer as the data provider

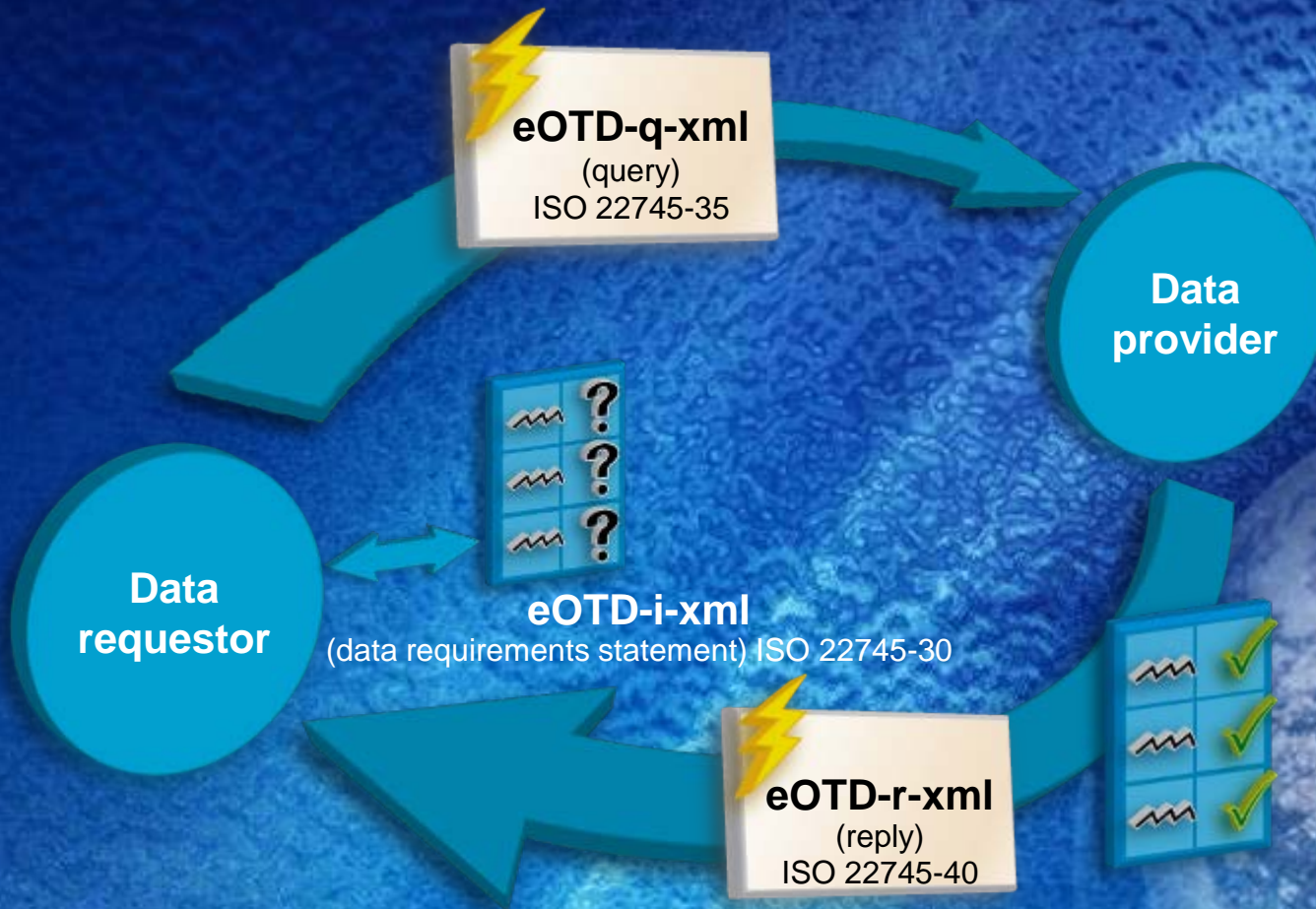
*Please provide (validate) the specified characteristic data for the item identified by the reference (part number) or Please provide a reference (part number) for an item(s) that matches the specified characteristic data. A query is created as an eOTD-q-xml message, an XML file that conforms to ISO 22745 part 35 in which the item name is the class and the characteristic data is represented by property-value pairs\*. The file is sent as an attachment to an email.*



# Creating a response to a request for data

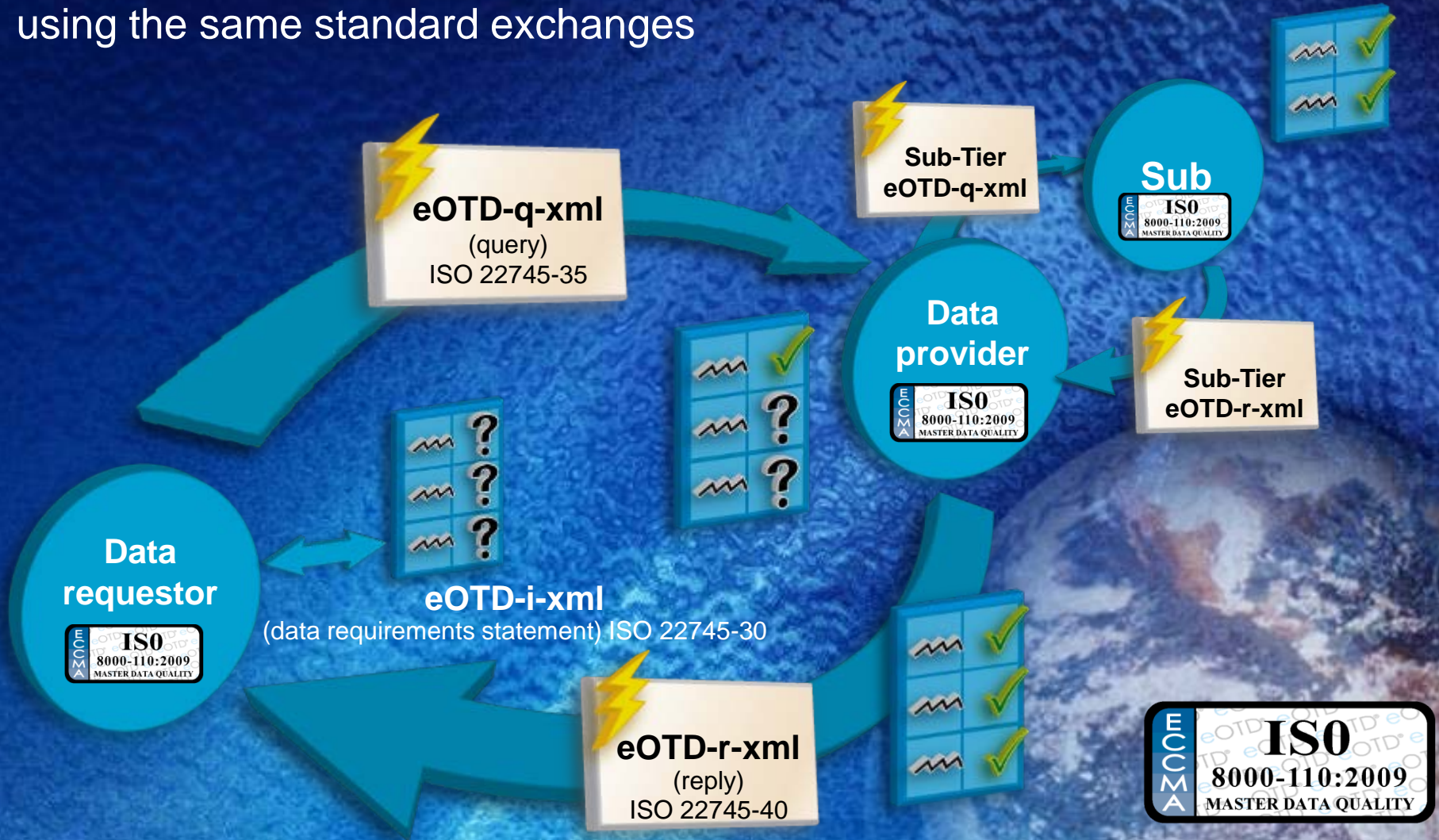
The supplier or manufacturer as the data provider , sends the reply to the buyer, item manager or user, as the data requestor

The reply is created as an eOTD-r-xml\* , an XML file that conforms to ISO 22745 part 40 in which the item name is the class and the characteristic data is represented by property-value pairs



# Automating the data supply chain

In practice a supplier or manufacturer as the data provider may not have all the data requested so they in turn send a request through their supply chain using the same standard exchanges



# Leveraging the standards

The contractor, sub-contractor or supplier shall, as and when requested to do so, supply technical data in electronic format on any of the items covered in this contract as follows:

The data shall be ISO 8000-110:2009 compliant.

- The data shall comply with registered ISO 22745-30 compliant Identification Guides.
- The data shall be encoded using concept identifiers from an ISO 22745 compliant open technical dictionary that supports free resolution to concept definitions.
- The data shall be provided in an ISO 22745-40 compliant Extensible Markup Language (xml) format.

***Providing the data necessary for the safe and efficient operation of plant and equipment is an established legal requirement in most countries.***

***Creating ISO 8000-110:2009 compliant data does not require the payment of any license fees or the use of specialized software, it is within the technical ability of all businesses regardless of their size.***





# A not for profit international association of Master Data Quality Managers

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