# ECCMA Procurement Master Data Quality Analysis

January 2025

About ECCMA

ECCMA is a not-for-profit association of international data quality and data governance experts founded in 1999. ECCMA members are companies, government agencies, or other organization that rely on quality master data for purchasing, inventory and supply chain management, as well as manufacturers, suppliers or service providers working to deliver quality portable data to existing and prospective customers. Software application providers also rely on ECCMA to certify that their applications are free from data lock-in, a feature where data is purposely made difficult to move to avoid customers switching application or service providers.
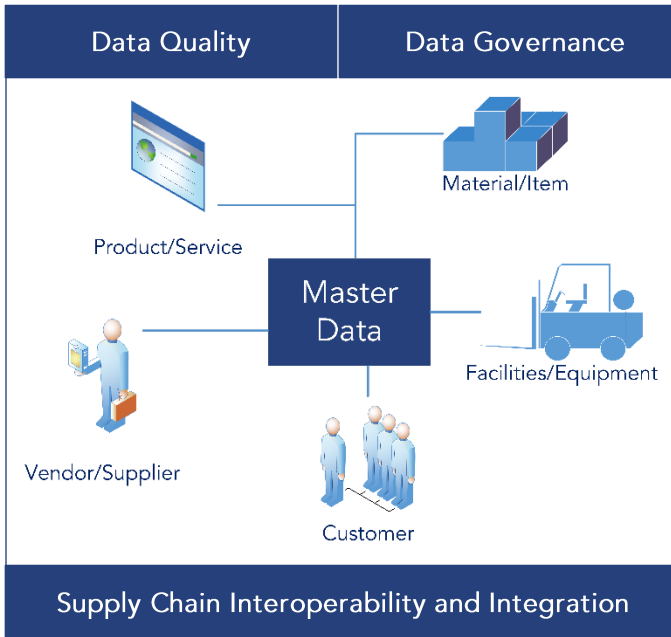
ECCMA is the American National Standards Institute (ANSI) appointed manager for USA delegation to the ISO committees responsible for the development international standards for industrial data.

It is the project leader for the ISO 22745, 29002, 8000 and 25500 series of international standards that cover cataloging, data verification, data quality, data governance and supply chain data interoperability and integration.

ECCMA is the original author of the UNSPSC classification, and the current manager of the world's largest ISO 22745 compliant Open Technical Dictionary (eOTD) used to format data as quality portable data as well as the ISO 8000-115 prefix name server (ePNS) used to validate authoritative legal entity and international part numbers.

ECCMA performs data quality assessment and remediation studies to assist its members in improving the accuracy of their data by providing training, certification, and standards-based, AI-enhanced data cleansing and data verification projects.

ECCMA certifies organizations and individuals on data quality standards implementation and ECCMA's leadership team speak and educate at events around the world on implementation of standards for data quality and supply chain data interoperability and integration.

www.eccma.org

Why focus on Master Data Quality?

Master data is a critical business asset that needs to be managed and protected. The principal value of quality data is increased trust in the data underlying business information and analysis. International standards for formatting master data can lower purchasing and inventory costs by 15% and at the same time reduce supply chain risk.

Duplication of supplier and item (material) master data records is one of the most common and avoidable causes of higher MRO costs and unnecessary supply chain risk. The application of international standards for formatting master data makes it easier to identify duplicate master data records within a business unit and across business units.

Benefits of Quality Data

❖ **Faster**, more accurate and more reliable analysis, decision-making, and operational efficiency

❖ **Reduces risks** associated with incorrect or misleading information

❖ **Compliance** with regulatory requirements is easier, reducing the risk of costly penalties

Supplier master data

A typical supplier master will contain as many as 20% unidentifiable suppliers. This occurs where the name in the master data record can not be found in an official government registry. Once the legal name has been verified, it is common to find that there is a 30% duplication in the supplier master. This can mean that items are bought from the same supplier under different names and typically at different prices.

Item master data

A typical item/material master will also contain many duplicate records. 25% to 30% is common. Improving the quality of an item/material master allows the Identification of duplicate and substitutable items/materials which drives down purchasing and inventory costs while at the same time highlighting opportunities to optimize suppliers to reduce cost or reduce risk by identifying alternate suppliers. Improved item/material and service specifications and descriptions using international formatting standards for quality data makes managing bids and contacts easier as well as improves the accuracy of spend analysis.

ECCMA Procurement Master Data Quality Analysis

value

The ECCMA Procurement Master Data Quality Analysis assesses your organization's data quality and portability for use within your procurement processes and throughout the supply chain. With quality data your business can exploit opportunities more rapidly and address challenges more dynamically to increase revenue and reduce risk.

strategy

ISO 8000 quality master data is interoperable data that provides more accurate references and descriptions, and allows the identification of potential duplicate master data records that can significantly reduce the accuracy of analysis as well as operational efficiency.

results

The ECCMA Procurement Master Data Quality Analysis includes an in-depth analysis of supplier and item master data in terms of its accuracy and fitness-for-purpose. The project looks specifically at the quality of the existing master data as well as the related data governance policies and how they are used in supporting sourcing, supplier onboarding and supplier optimization as well as accurate and timely contracting, requisition, purchasing and delivery of materials or services. The resulting Deliverables include:

- An expert report of findings and recommendations on Master data cleansing and enhancement priorities

- Recommendations on enhancements to Requisition to Order Workflow

- Spreadsheets containing detailed analysis, formatted data and recommended data enhancement resources for implementation within your Supplier and Item Master Data.

impact

Data quality is the basis for trust in data and business information. Trusted data enables faster, more efficient decision-making, with less time spent querying data and swifter action taken on key decisions. Through enhanced data quality in procurement and supply chain management, organizations could expect to **reduce Inventory by 50%; reduce MRO costs by 15%; reduce Requisition error by 60%.**

Project Parameters

Data to be provided	1. Confidentiality and non-disclosure agreement. 2. Data Dictionary if available. 3. Cataloging template library if available. 4. Data governance policies related to master data if available. 5. Supplier onboarding forms and workflow. 6. Supplier master data. 7. Item onboarding forms and workflow. 8. Item master data (materials and/or service). 9. Requisition, request for proposal or quote and purchase order or award workflow 10. Purchase order transaction data for three years.
Project Scope	The analysis evaluates the master data against one or more of the following ISO standards as applicable, and recommends the steps required to bring the master data into compliance. ISO 8601-1 (date and time formatting) ISO 22745-10 (data dictionary model) ISO 22745-30 (characteristic data requirements) ISO 22745-40 (master data representation format) ISO 8000-51 (exchange of data policy statements) ISO 8000-61 (data quality management process reference model) ISO 8000-62 (data quality management process maturity assessment) ISO 8000-110 (portable data that meets stated requirements) ISO 8000-114 (data interoperability) ISO 8000-115 (quality identification data) ISO 8000-116 (quality legal entity identification data) ISO 8000-118 (location identification data) ISO 8000-120 (ISO 8000-110 data with provenance) *The following are within the scope of this analysis:* 1. Review software application modules used to collect, store, or distribute master data to include review of software licenses to identify any proprietary metadata or reference data and any restrictions on the use or distribution of master data. 1.1. Review external data feeds used to verify or enhance master data to include review of data licenses to identify any proprietary metadata or reference data and any restrictions on the use or redistribution of the enhanced master data.

2. Review requisition to order or award forms and workflow.

3. Create or review existing data dictionary (metadata and code lists) used in supplier or item master data.

4. Supplier master data

    4.1. Identify active supplier master data records used in purchase order transaction data.

    4.2. Verify active supplier legal entity data (Business registration number, legal name, date of origin) with the appropriate authoritative government business registries.

    4.3. Identify potential duplicate supplier master data records.

    4.4. Research or register ISO 8000-115 SmartPrefix for each unique supplier.

    4.5. Review supplier onboarding forms for ISO 8000 compliance (questions should be explicit, metadata and reference data must link to data dictionary).

    4.6. Review supplier onboarding workflow.

5. Item master data

    5.1. Identify active item master data records referenced in purchase order transaction data.

    5.2. Evaluate the accuracy of external item references (part number, batch number).

    5.3. Review item descriptions and free text descriptions of purchase order transactions that do not reference the item master.

    5.4. Review accuracy of classifications assigned to master data records and free text descriptions of purchase order transactions that do not reference the item master.

    5.5. Review accuracy of classifications assigned to item descriptions in purchase order transactions that do not reference the item master.

    5.6. Identify potential duplicate item master data records.

    5.7. Review new item addition forms and workflow.

The following are out of scope of this analysis:

1. Item master data verification or enhancement (ECCMA can provide a separate estimate for master data cleansing, enhancement or verification if these services are required).

2. ISO 8000 Quality Master Data (QMD) certification

Project Deliverables	The following are delivered on completion of the analysis project.
	1. Report (.docx) on findings and recommendations including:
	1.1. Recommendation on requisition to order workflow to include any improvements in the item descriptions used in requisitions, requests for quote (RFQ), and orders (award).

    1.2. Master data cleansing and enhancement priority analysis and estimated cost.

    1.3. Appendix containing list of application modules used to collect, store, or distribute master data and external data feeds used to verify or enhance master data to include identification of any proprietary metadata or reference data and any restrictions on use or redistribution of master data.

2. Spreadsheet (.xlsx) containing initial data dictionary mapped to eOTD.

3. Supplier Master Data

    3.1. Spreadsheet (.xlsx) containing a list of active suppliers with ISO 8000-116 formatted International Business Registration Number (IBRN), Legal Name, Date of Origin, and ISO 8000-115 SmartPrefix.

    3.2. Spreadsheet (.xlsx) containing a list of potential duplicate supplier master data records.

    3.3. Sample text (.docx) for requesting suppliers verify reference data.

    3.4. Sample text (.docx) for requesting suppliers provide technical specifications.

    3.5. Sample "data clause" (.docx) for use in purchase orders or contracts.

    3.6. Recommendation on supplier master item data improvement and validation.

    3.7. Recommendation on preparation of supplier master data for certification as ISO 8000 Quality Master Data (QMD).

4. Item Master Data

    4.1. Spreadsheet (.xlsx) containing list of item classes, number of items in each class and number of attributes by class.

    4.2. Spreadsheet (.xlsx) or ISO 22745-30 formatted (xml or json) file containing cataloging templates and rules for formatting descriptions for each item class.

    4.3. Spreadsheet (.xlsx) containing a list of potential duplicate item master data records.

    4.4. Recommendation on item master data improvement and validation.

    4.5. Recommendation on preparation of item master data for certification as ISO 8000 Quality Master Data (QMD).

Work Schedule

The ECCMA Procurement Master Data Quality Analysis is conducted over a six to eight week period and consists of the following phases.

1. Introduction to ISO 8000 master data quality, project scope and schedule (four hours preferably over two days). This first phase consists of an initial kickoff meeting to introduce the ECCMA team to the data stewards who will be responsible for providing documents and data to include an introduction to the fundamental principles of ISO 8000 quality data and a review of the documents and data required for the review and certification as well as agreement on the work schedule.

2. Initial document and data collection (schedule to be agreed in kickoff meeting). If required, ECCMA will help in the extraction of master data and transaction data required for the review.

3. Document and data analysis (four weeks). ECCMA may request clarification during the analysis phase.

4. Initial report of findings (four hours preferably over two days). The initial report will highlight potential compliance issues and provide recommendations for their remediation.

5. Document and data collection for certification (one week).

6. Certification (one week).

7. Final report on findings and recommendations (four hours preferably over two days).