Integrated Master Data Management

Albrecht Lederer DO-TEC*team*

ERP

PDM CAD Archive

QM CAX CAE

Parts Library

Loc	8.000		14.000	5.000
Loc	12.000		17.000	6.000
Loc	12.000		19.000	6.000
Loc	12.000		21.000	8.000
Loc	12.000	16.000	23.000	8.000
Loc	14.000	18.000	25.000	10.000
Locking screw DIN 908 - M22x1,5-St	M	22	1.500	RH	14.000	18.000	27.000	10.000
Locking screw DIN 908 - M24x1,5-St	M	24	1.500	RH	14.000	18.000	29.000	12.000
Locking screw DIN 908 - M26x1,5-St	M	26	1.500	RH	16.000	20.000	31.000	12.000
Locking screw DIN 908 - M30x1,5-St	M	30	1.500	RH	16.000	20.000	36.000	17.000
Locking screw DIN 908 - M36x1,5-St	M	36	1.500	RH	16.000	21.000	42.000	19.000
Locking screw DIN 908 - M38x1,5-St	M	38	1.500	RH	16.000	21.000	44.000	19.000
Locking screw DIN 908 - M42x1,5-St	M	42	1.500	RH	16.000	21.000	49.000	22.000
Locking screw DIN 908 - M45x1,5-St	M	45	1.500	RH	16.000	21.000	52.000	22.000
Locking screw DIN 908 - M48x1,5-St	M	48	1.500	RH	16.000	21.000	55.000	24.000
Locking screw DIN 908 - M52x1,5-St	M	52	1.500	RH	16.000	21.000	60.000	24.000
Locking screw DIN 908 - M27x2-St	M	27	2.000	RH	16.000	20.000	32.000	12.000

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The Team for Data Organisation Technology

DO-TEC*team*

DO-TEC*team* and CADENAS co-operate in the area of standardization and classification.

The offered services are:
- Classification and characteristics systems
- Creation of number systems
- Standardization
- Master data clean-up and supplementation
- Process and Change Management
- Product and Process documentation

DO-TEC*team* is instrumental in the development and standardization. DIN, VDMA, VDI, eCl@ss

CADENAS is a full member of eCl@ss e.V. and member of the eCl@ss Working Group CAx Applications

DO-TEC*team*

Albrecht Lederer

Short personal profile: Albrecht Lederer

- Independent consultant for the specialist areas Standardization, Documentation and Technical Organization.

- Managing Director of DO-TEC*team* Expert Co-operation.

- Active in the field of standardization since 1969.

- Chairman of the Standards Committee NSM

- Member of various standards committees
.

- Lecturer for Documentation and Standardization Expert Training with DIN.

- Author and co-author of several books and publications in his specialist area.

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Master data in the life cycle of products

Master data are the first data for products and
elements of catalogues and product documentations.
They accompany products over their whole life cycle.

Product

Internal

Master data

Idea

External

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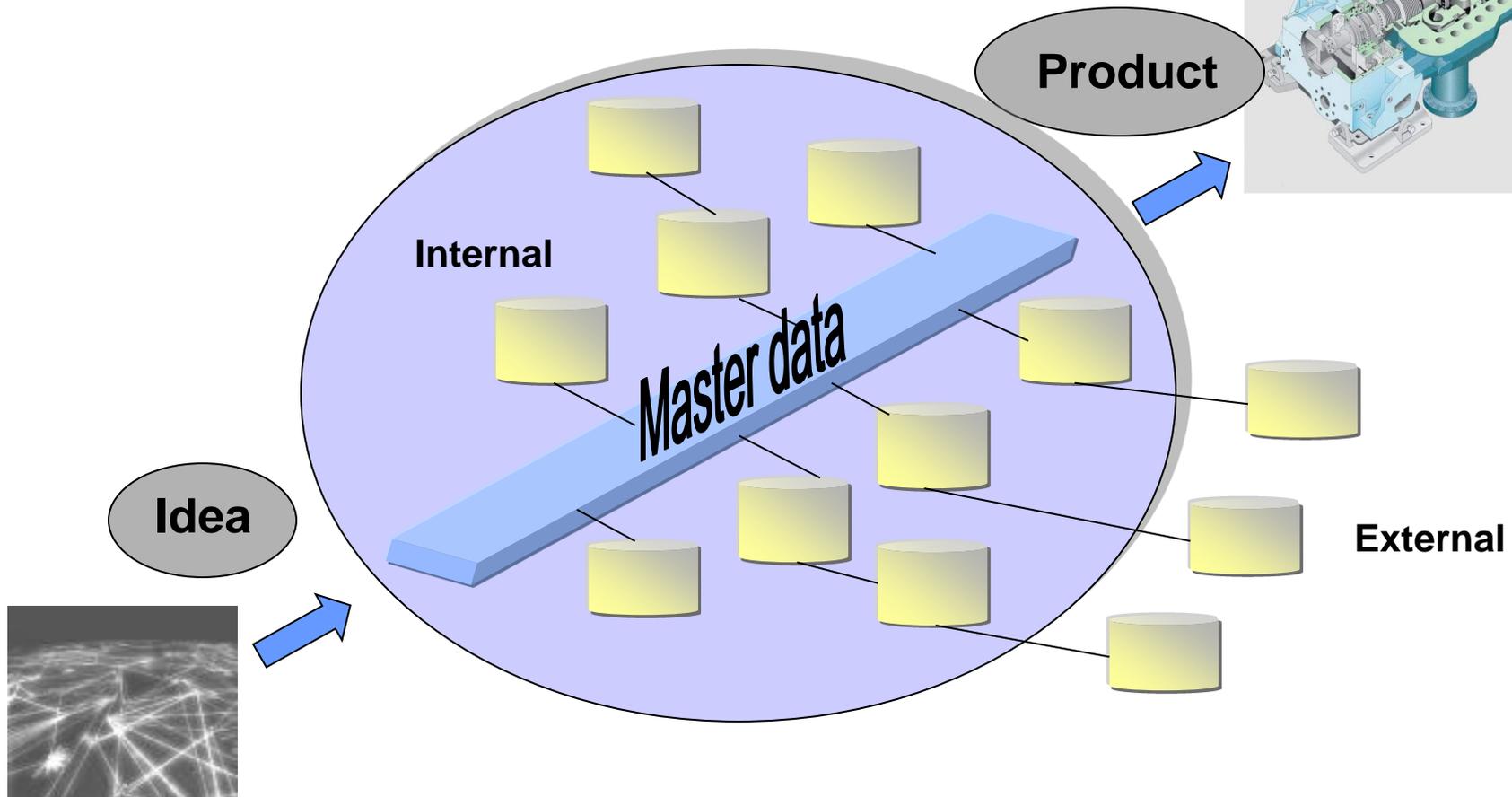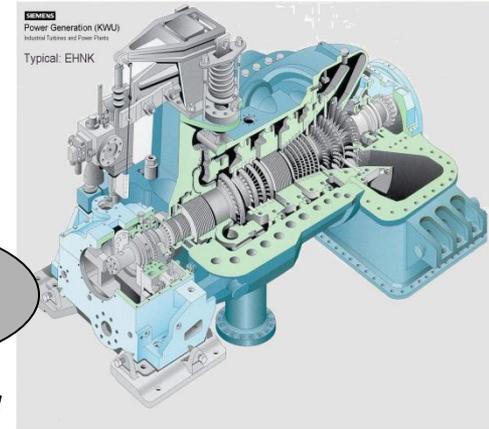
Master data for all objects in the enterprise

Master data for

Materials

Parts

Components

Products

Operating facilities
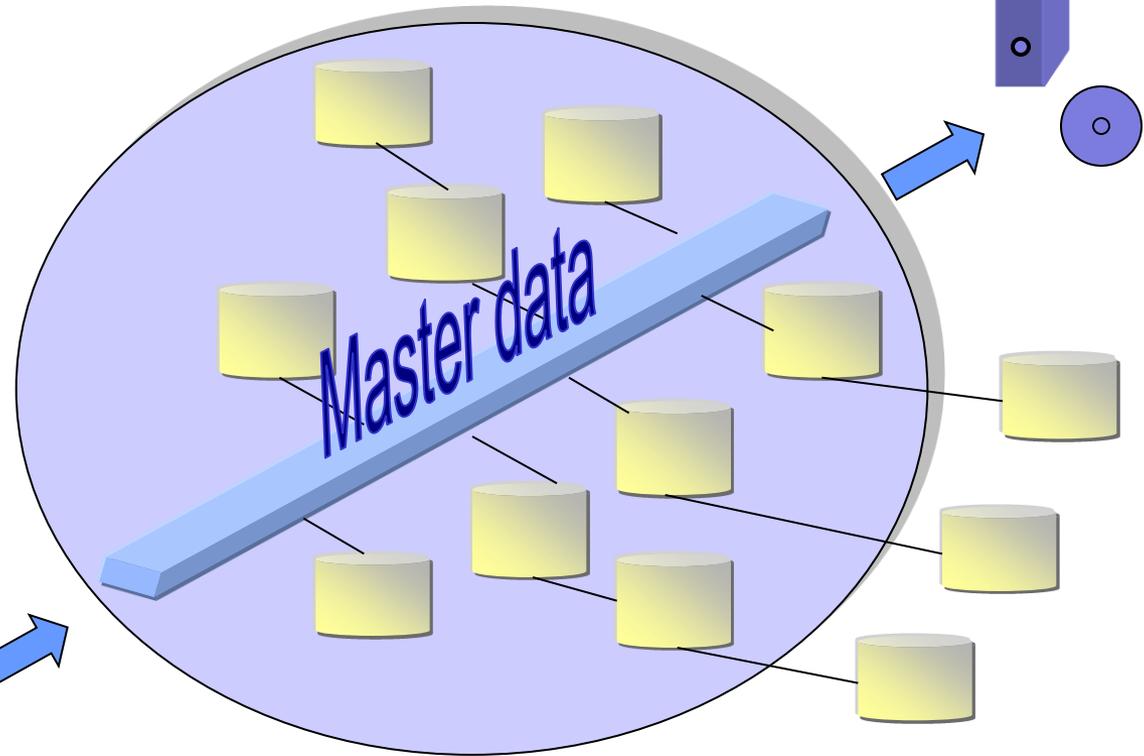
Master data

From requirements specification to documentation

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Just as products and operating facilities, master data are subdivided

SIEMENS
Power Generation (KWU)
Industrial Turbines and Power Plants

Typical: EHNK
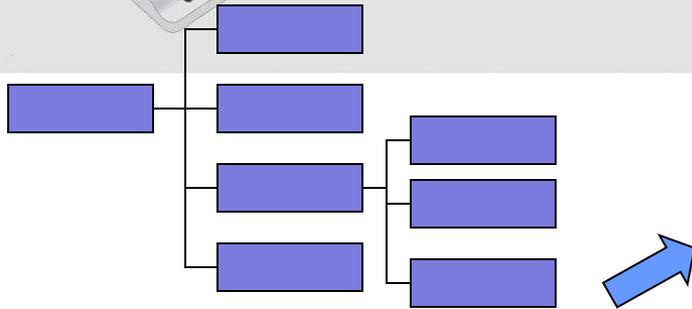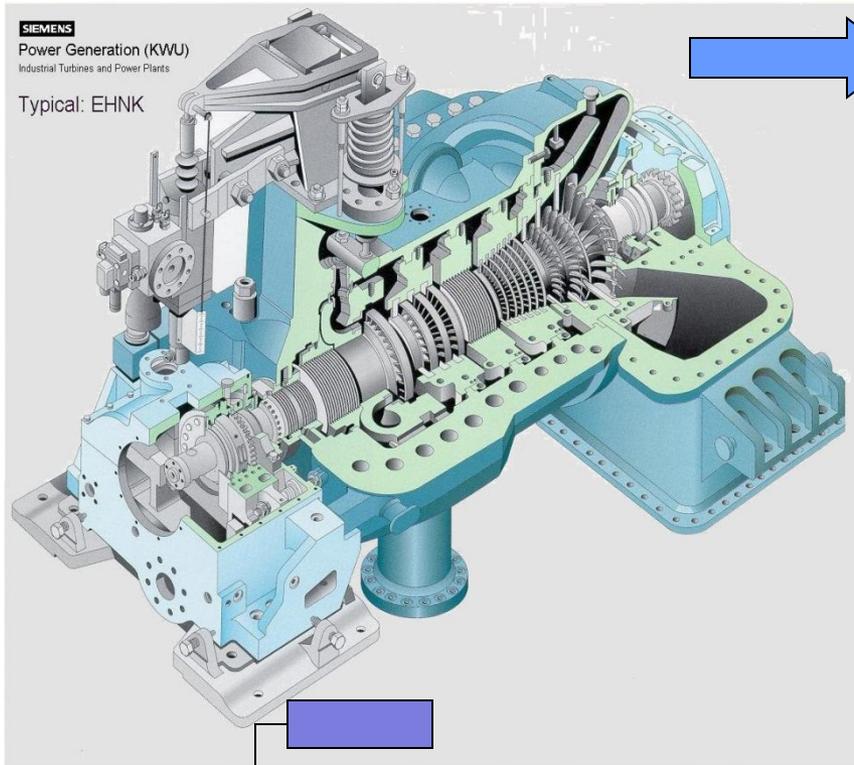
A product is divided into different data. The master data connect these data areas.

Master data

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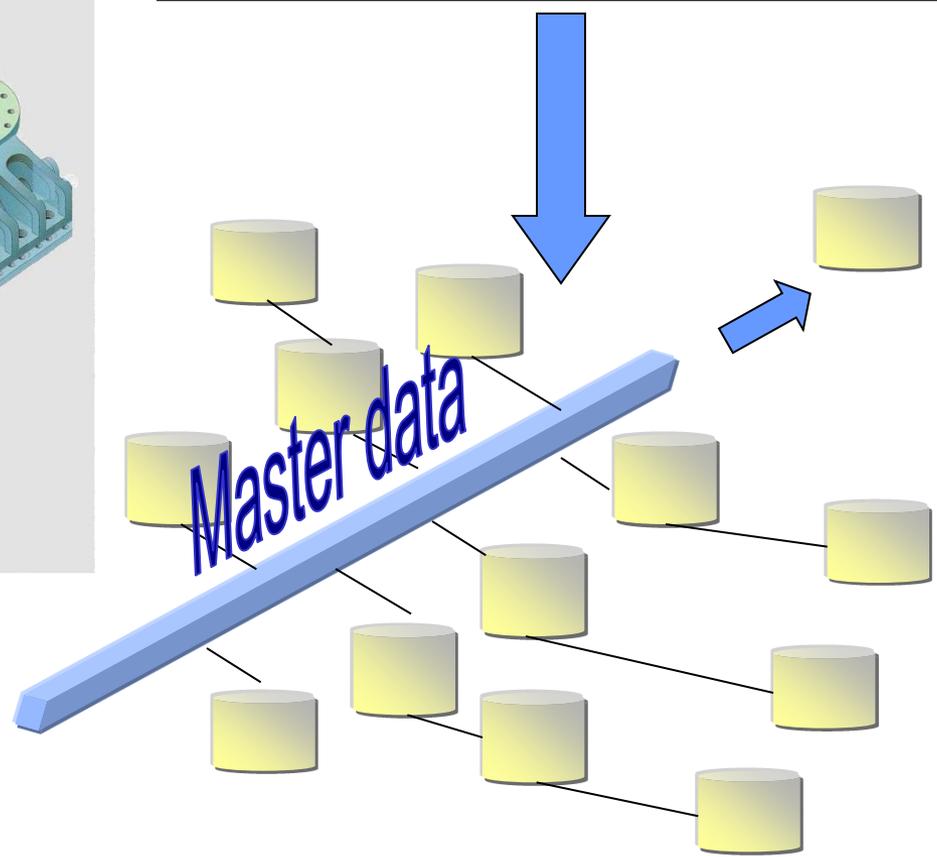
Example:

Designation of a screw for the unambiguous assessment by a person

Hexagon screw ISO 4014-M12x90-8.8

The automated processing requires a division into individual characteristics.

Name:	Hexagon screw
Standard number:	ISO 4014
Thread type:	M
Thread size:	12
Screw length:	90
Property class:	8.8

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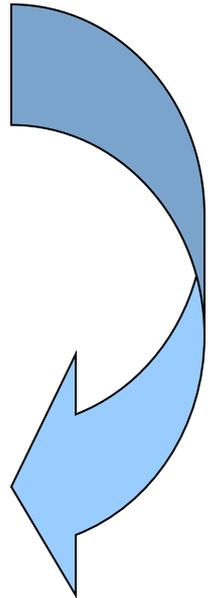
The individual characteristics are contained in the PARTsolutions Software of CADENAS and can be used directly for the master data management.

ERP System

CAD System 1-N

Warehouse Control

E-CAD System

PART SOLUTIONS

Archive System

Evaluation System

Product Catalogue System

Parts ID System

QM System

PLM/ PDM System

It is inadvisable to create and administer different master data in the individual systems. The PARTsolutions Software of CADENAS can be used for catalogue parts as a Master Data Base for the creation and update of master data!

Example:

CAE   **CAD**   **Bill of materials**   **Service spare parts Operating facilities**

CAD archive

Parts library   **Parts library**   Mat master   **Service Parts library**

ERP

PARTsolutions catalogues
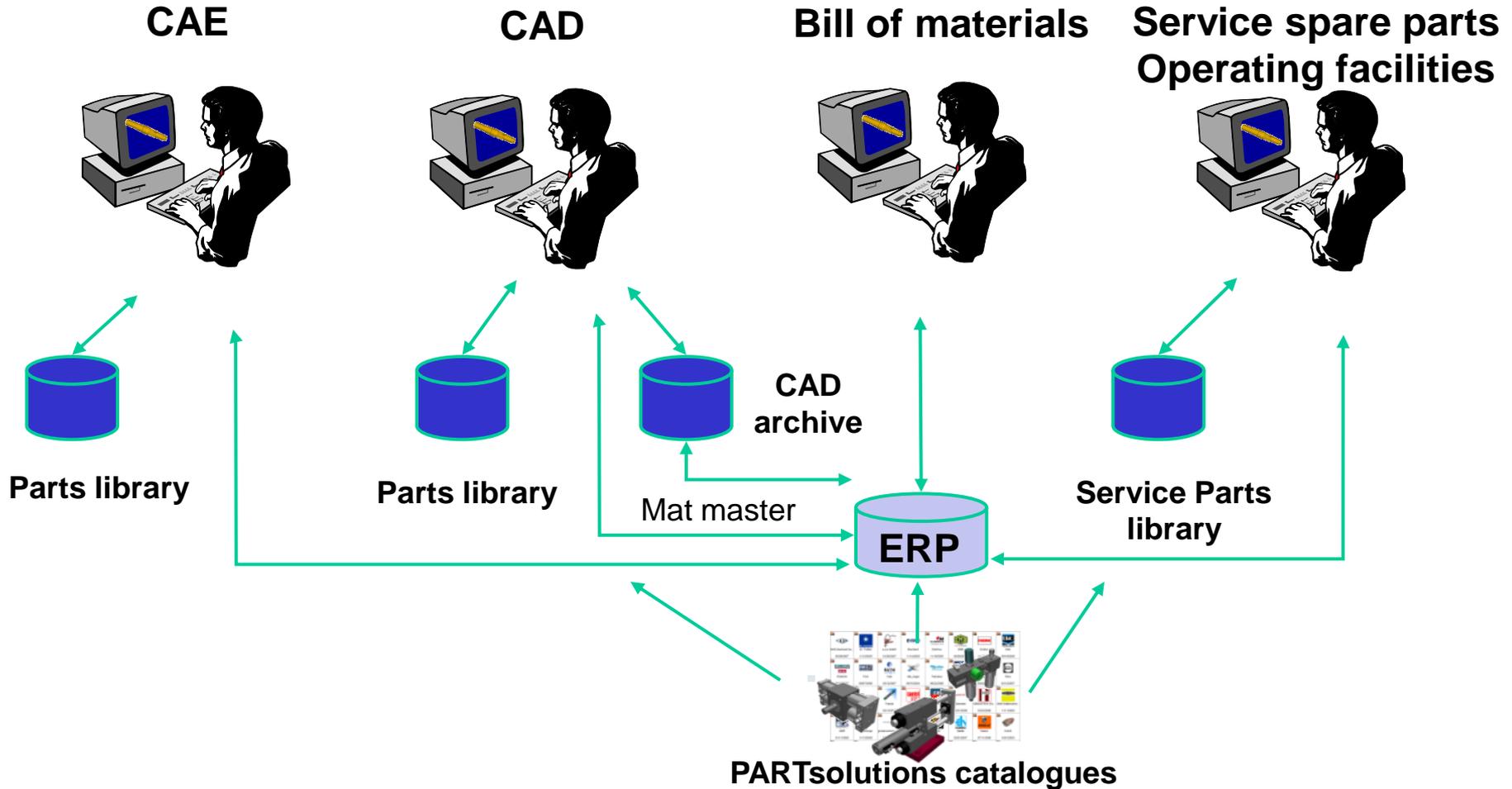
Ordered master data are the prerequisite for effective processes and cost-reducing IT use
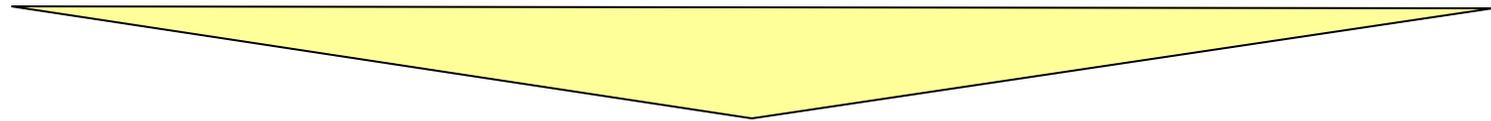
Standardized master data with characteristics that are accessible to everybody form the basis of consistent process data

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Master data and enterprise structure

Master data of individual enterprise

Group Master Data

Master data of subsidiary enterprise

Master data of co-operation partner enterprise

Master data of vendor enterprise

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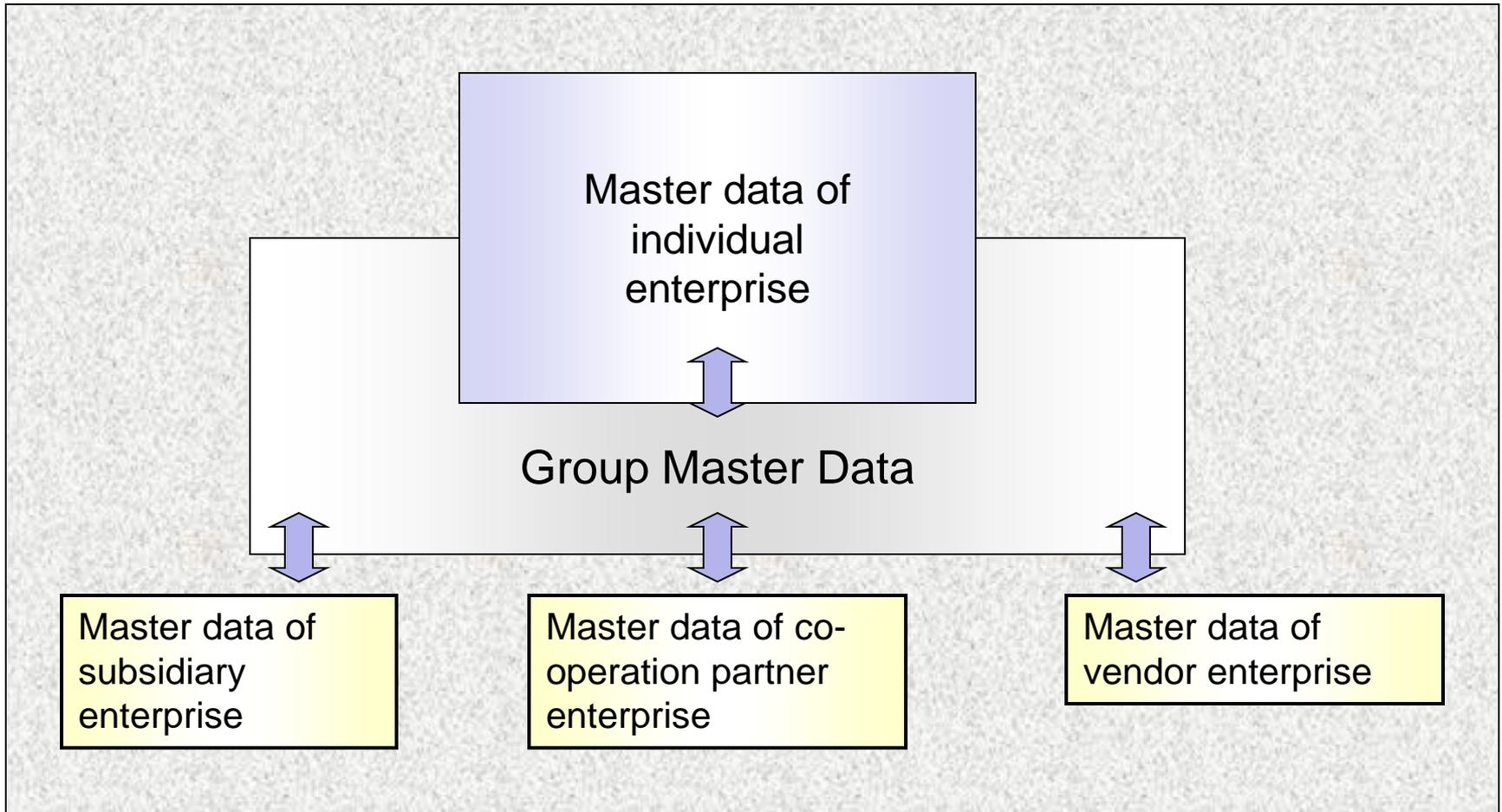
Connecting the complex structures with the master data

The multiple creation of master data

- in different IT systems

- in different processes

- for different applications

- in different enterprise departments

is costing enterprises significant amounts of money.

Multiple errors occur, and the quality suffers.

Therefore, one master record should be created only once, but must be created and maintained with special diligence.

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3. Quality is decisive for secure and economic processes

Often master data are in bad condition and do not meet the requirements of today's processing and applications of the IT systems in use.

This radically reduces the capabilities of the expensive IT systems.

For this reason, far in excess of 60 % of IT projects do not achieve the set targets.

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# Quality is decisive for secure and economic processes

How must master data be evaluated for this and which?

- the existing master data (legacy data)

- the new master data to be created

- the permanent maintenance of the master data

Must all master data be cleaned up and expanded?

All master data in the enterprise

All receive an identification

Identifying the master data that were used during the past years and classifying them roughly

Detailed classification and expansion by characteristics

Master data of high quality
Requirement is a subset of all master data

Evaluation of classification results and reduction of master data
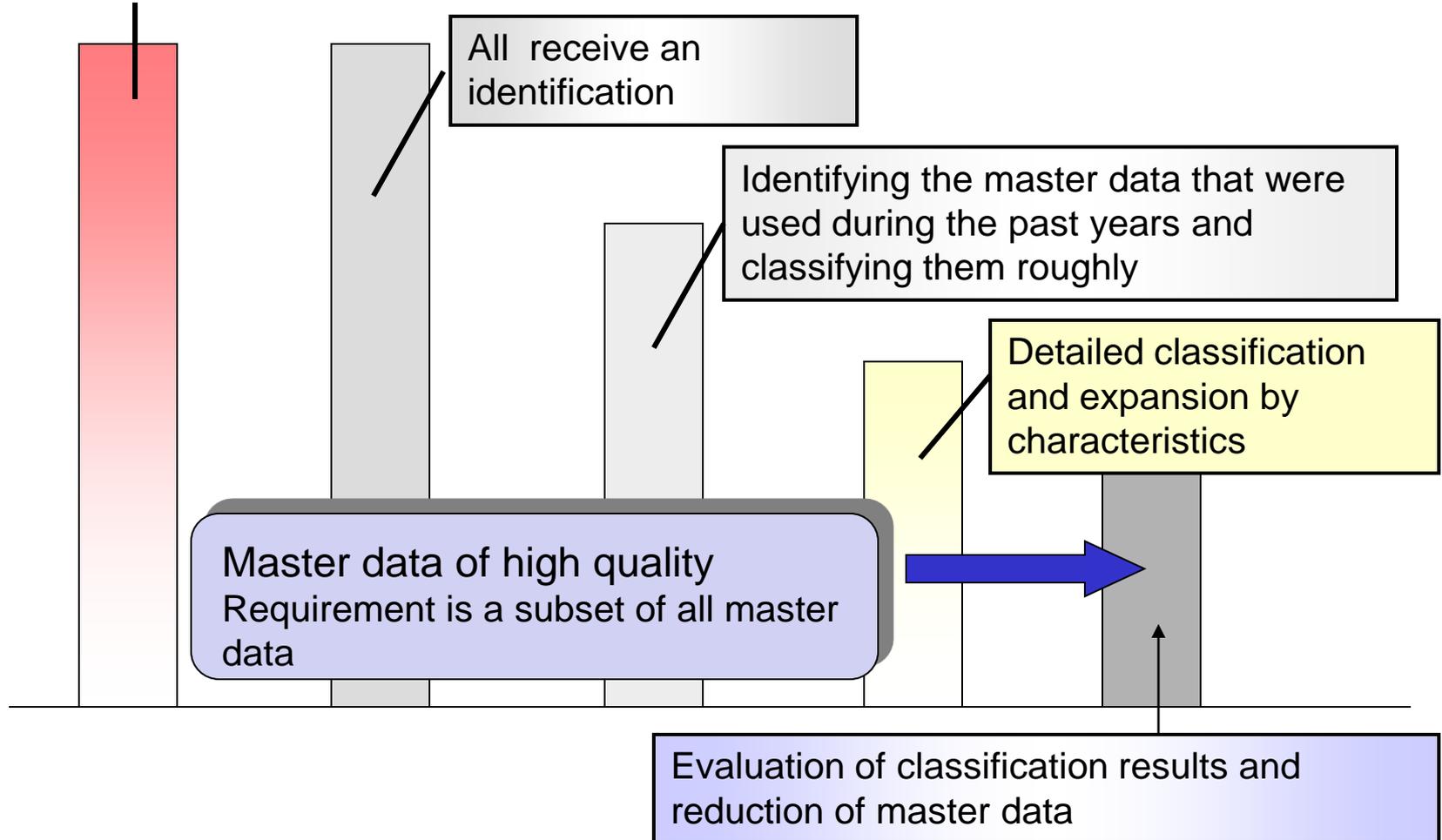
Expanding master data for standard and purchased parts.

Master data of the ERP System consist of own data and data existing as attributes in PARTsolution.

Master data	ID data
	Commercial data
	Descriptive data
	Technical data

The steady increase of data and data types results in growing demands for the adoption of existing data.

These demands can be met by :

- adoption of vendor catalogue data

- adoption of CAD data

- use of parts libraries

The data interchange requires uniform standards.

The development of standards has made great advances nationally and internationally.

The PARTsolutions Software offers standard interfaces to all current CAD systems and among others to the ERP System SAP.

The new feature is that vendor catalogues missing for the master data management can be adopted in the BMEcat (XML) format and used via PARTsolutions!
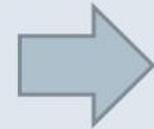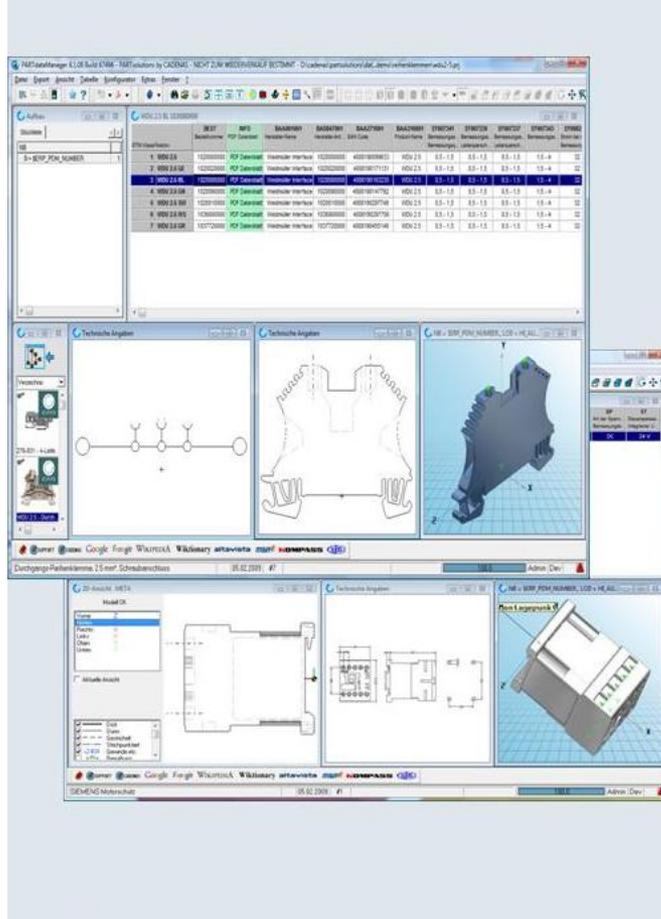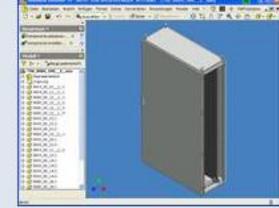

Standard-Schnittstelle → MCAD, Beispiel Inventor
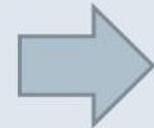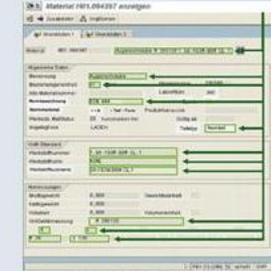
Standard-Schnittstelle → SAP-MM
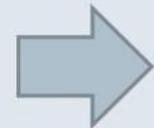
ECAD/CAx, Beispiel E³

New creation and maintenance of master data

The clean-up, expansion, harmonization and reduction of existing master data require an orderly organization for the creation and maintenance of master data even during their implementation.

This task requires a master data management with the following functions.

- Checking, supplementing and releasing the creation of new master data

- Accompanying and releasing of change processes

- Managing the meta data for classes and characteristics

- Managing the terminology data

- Identifying and implementing new requirements for the master data

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4. Economic benefit

Master data are one of the underestimated cost reducers.

The bigger the part of the IT systems, the greater the importance of the master data.

Without master data organization, unnecessary and duplicated master data increase with all their consequences through the creation of additional data and documents.

> Costs of this process EUR 1,000.00 to 3,000.00.

> Just 100 unnecessary master data result in EUR 100,000.00 to 300,000.00

Enterprises with 60,000 to 100,000 master data were able to achieve reductions of 10-16 %. In case of creation of new data, more than 20% were possible.

Procurement enjoys special benefits in this. Bundling of orders, reduction of vendors.

Today special significance is given to legal certainty. Incorrect data lead to incorrect decisions, which can become very expensive.

5. Summary

• Master data have great importance and must be created and maintained with due diligence.

• Use reliable data to enter the master data

• The creation of master data in different systems (processes) is very costly for enterprises. The same applies to the duplicate creation of a master record for one and the same object.

• Master data should be accessible for all IT systems at all times.

• Use existing data from catalogues, vendor data, CAD data and parts libraries (PARTsolutions).

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Thank you for your time

Your business success can be facilitated by good master data.

Interested? Your contacts:

Albrecht Lederer / DO-TECteam
T: ++49/(0)9503 / 50 28 34
E-mail: Albrecht.Lederer@t-online.de

Markus Poppinghuys / CADENAS
T: ++49/(0)201 / 632 69 47
E-mail: M.Poppinghuys@cadenas.de