



**International Organization
for Standardization**

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ISO/TMB/AHG/St_DB

&

The ISO Concept Database

Reinhard Weissinger, ISO/CS

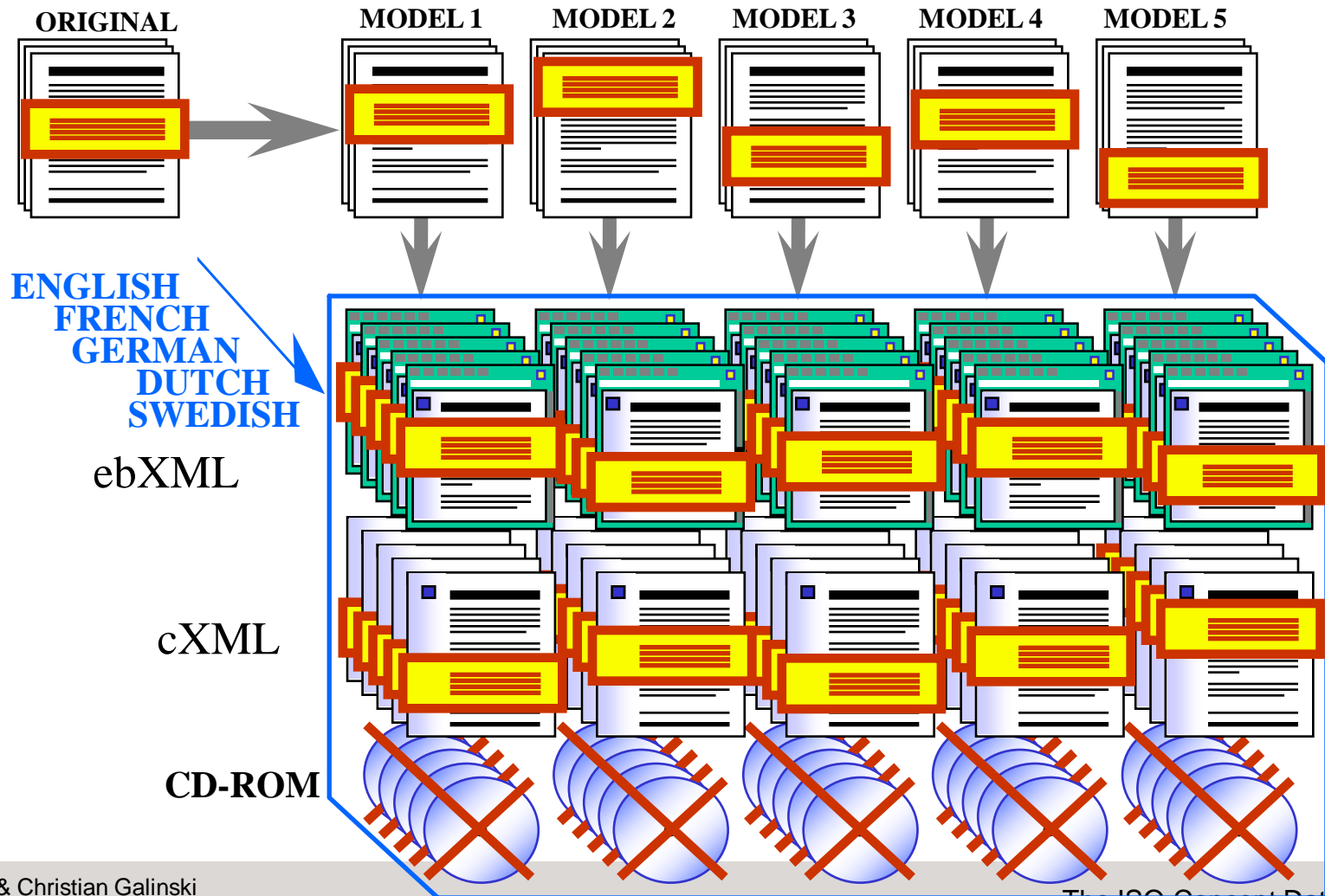
Christian Galinski, Infoterm

Structured content

- Textual databases vs. numerical databases
 - Non-verbal communication in applied linguistics
 - Non-verbal representations in Technical Documentation
 - Databases with non-verbal content elements
 - Metadata/data category registries
- global content integration → re-use
- content interoperability → re-purposing

Updating Item Descriptions

... ideally into various languages Source: Ben Martin (J.D. Edwards) 2002



Databases of structured content

- **Chemical formulas**
 - **Quantities and units**
 - **Brands and logos**
 - **Traffic/road signs**
 - **Graphical symbols (for graphical design)**
 - **Bliss symbols and other kinds of AAC**
 - **Video clips**
- **Increasingly combined with or embedded in each other** → **standardization**

Structured content: Example 2: traffic informatics



Way to the airport – turn right in 5 km



Way to the train station – down to the right



ZONE = verbal

red ring = (morphology) prohibition sign

30 = micro-proposition: max speed 30km/h

→ variable message sign boards

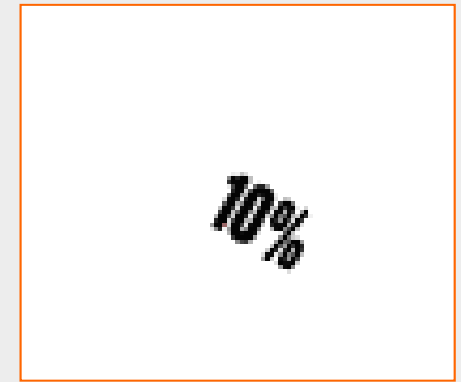
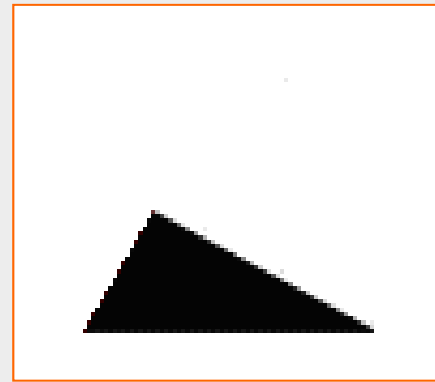
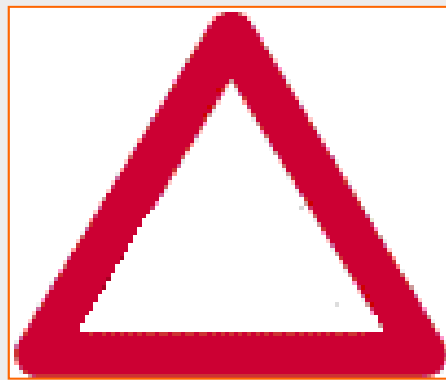
“Morphology” of pictogrammes

- Representation elements

- automatic segmentation?
- “fuzzy search”?

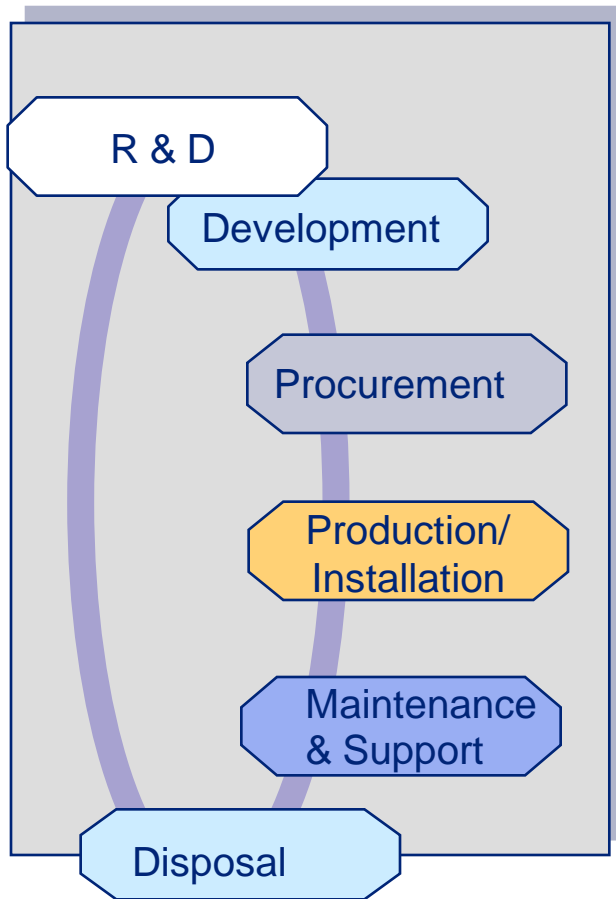


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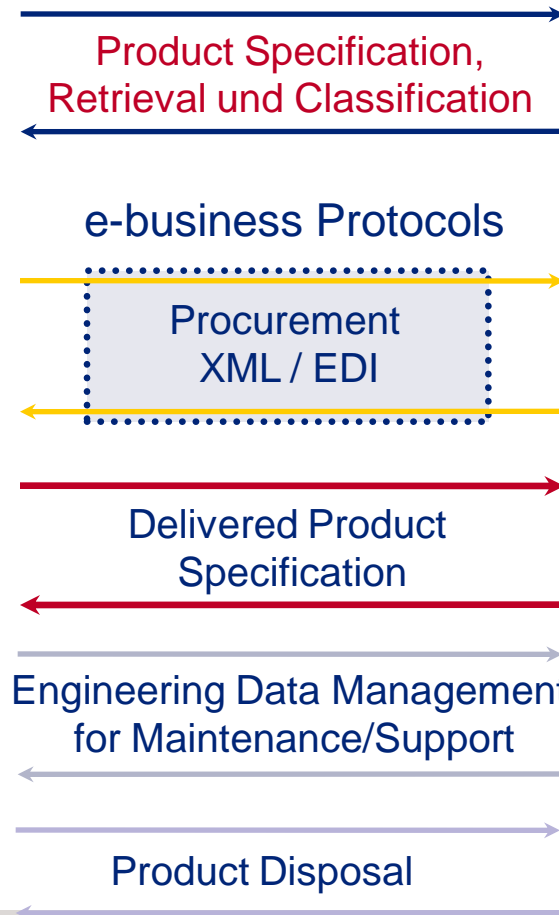


e-Engineering – Processes throughout the entire product life-cycle

Manufacturer



Supplier/Customer



www.DINsml.net – multilingual product properties

DINsml.net
DIN-Merkmallexikon

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News

15. April 2008: Das neue DINsml.net Portal ist online
Sie können sich auf der Startseite bequem mit Ihren Userdaten einloggen
[mehr...](#)

13. Februar 2008: DINsml.net Praxisberichte veröffentlicht - Berlin
Im Zuge des INS Projektes 133 wurde die Umsetzung in die Industrie betrachtet
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27. September 2007: 35. Konferenz Normenpraxis 2007 mit begleitender Fachaustellung
Spannungsfeld Normung und Recht - CE Kennzeichnung, Produktsicherheit, Informationsmanagement
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Events

18. Juni 2008: DIN Merkmallexikon/eCI@ss/PROLIST Workshop - Stuttgart
DIN Merkmallexikon - Grundlagen und Anwendungsbeispiele - 15% Rabatt für Unternehmen mit DINsml.net Download-Lizenz und eCI@ss / PROLIST Mitglieder
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04. März 2008: Workshop DIN Merkmallexikon/eCI@ss/PROLIST - Düsseldorf
DIN Merkmallexikon - Grundlagen und Anwendungsbeispiele - 15% Rabatt für Unternehmen mit DINsml.net Download-Lizenz und eCI@ss/PROLIST Mitglieder
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27. November 2007: Workshop DIN Merkmallexikon - Nürnberg
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Status Merkmallexikon

	Gesamt	Entwurf	Norm
Merkmale	5134	34	405
Klassen	998	10	97

[Hier geht's zur Detail-Statistik...](#)

DINsml.net - Lizenz
kostenloser Lesezugriff
[>>> zur Registrierung >>>](#)

DINsml.net - Lizenz
Standortlizenz
[>>> zur Bestellung >>>](#)

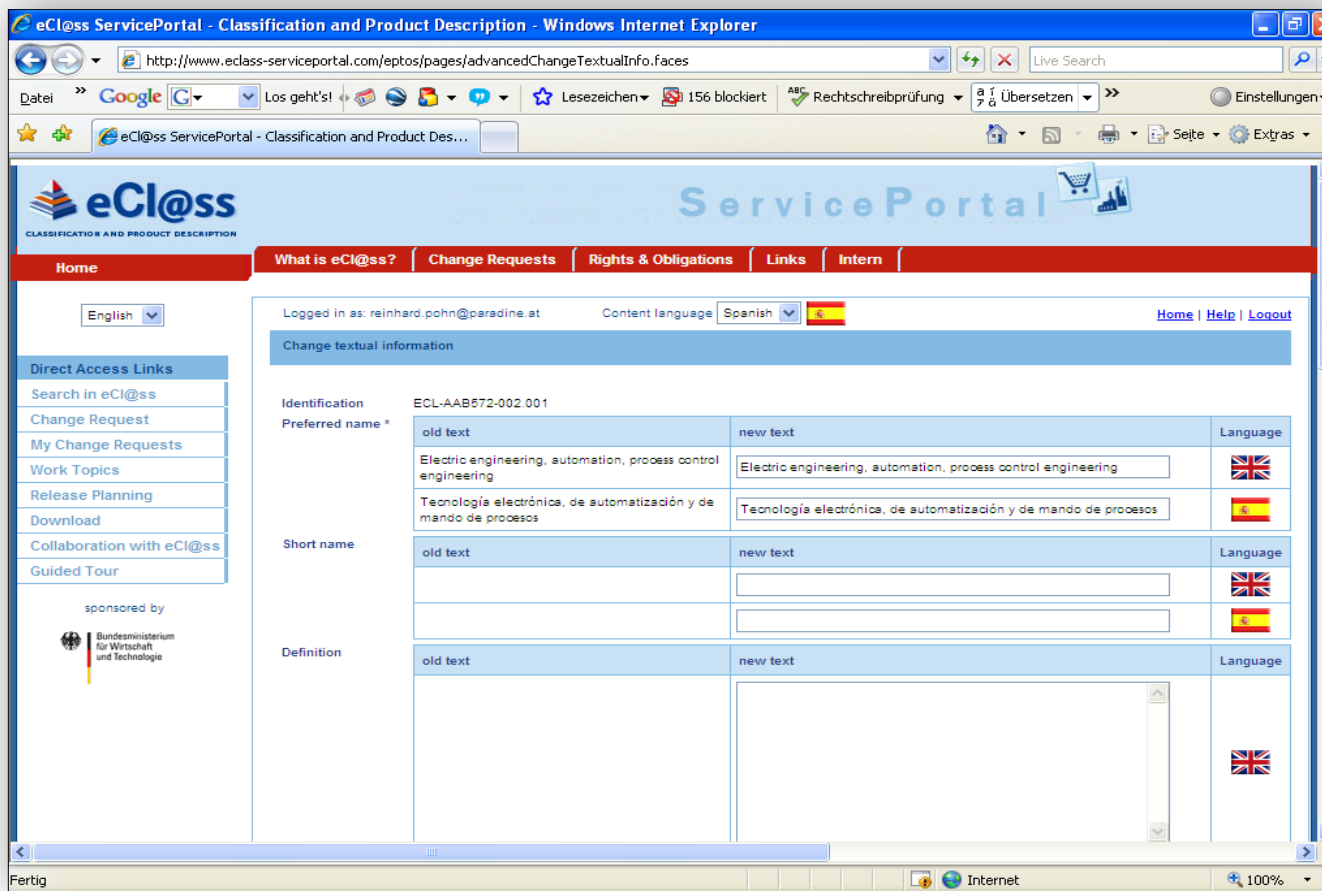
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PARADINE
Ihr Spezialist
in Sachen
Merkmal-Definition
und Klassifizierung
www.paradine.at

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Was ist das DIN Merkmallexikon?
Das DIN Merkmallexikon ist eine branchenübergreifende Produktmerkmal-Datenbank mit dem Ziel genormte Merkmale zur Verfügung zu stellen.
Das DIN-Merkmallexikon:

– multilingual product classification



Applicability of the CDB approach

Standard consists in full or in part of a “**collection of items**” (of structured content), e.g.

- graphical symbols
- terms and definitions
- product properties
- data dictionaries of all types
- classification systems
- codes (for various types of objects)
- etc.

ISO/CDB – Content (1)

- ISO standards containing terminology
 - Vocabulary standards: app. 800
 - Other standards with terminology: app. 8000
 - App. 180.000 - 200.000 terms in ISO standards
 - → Cooperation with EAFTerm (China, Japan, Korea): ISO/CS obtained around 120.000 terminology records from ISO standards entered during a project implemented by CNIS

ISO/CDB – Content (2)

- Graphical symbols
 - App. 4500 (in ISO standards)
 - App. 1000 (in IEC standards) [inclusion to be discussed]
- Other types of representations (codes, product properties etc.)
 - Numbers - ????

Increasing use of DBs in standards development

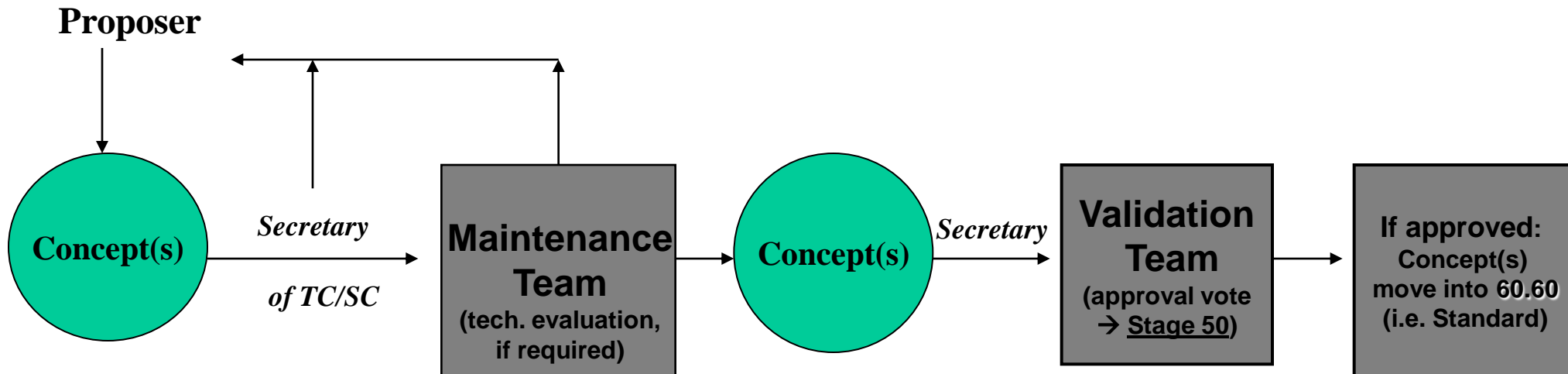
Result of a survey done by ISO Central Secretariat:

- June 2005: Approximately 15 TCs/SCs
- June 2007: Over 40 TCs/SCs
- March 2006: First DIS disseminated in the form of a database (ISO/TC 61/SC 1 – *Plastics vocabulary*)

→ Emerging approach to standards development

ISO/CDB – Procedure (3)

« Normal » DB-procedure [2 – 6 months]



ISO/TMB/AHG/St_DB – Participation

Committees represented in the TMB AHG:

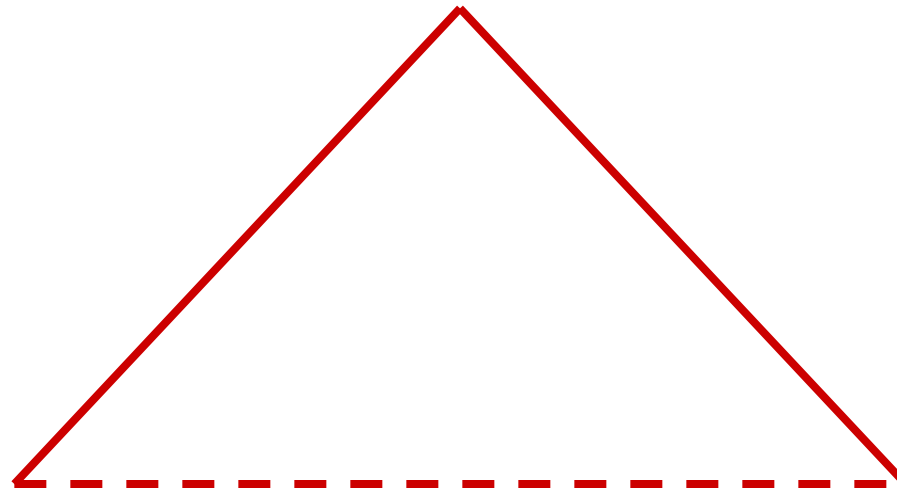
- ISO/IEC JTC 1 *Information technology*
- ISO/IEC JWG 1 *Product classification*
- ISO/TC 10/SC 10 *Technical product documentation*
- ISO/TC 23/SC 19 *Agricultural electronics*
- ISO/TC 29 *Small tools*
- ISO/TC 37 *Terminology and other language and content resources*
- ISO/TC 145 *Graphical symbols*
- ISO/TC 172 *Optics and photonics*
- ISO/TC 184/SC 4 *Industrial automation*
- ISO/TC 199 *Safety of machinery*
- ISO/TC 215 *Health informatics*
- IEC TC 3 *Information structures, documentation and graphical symbols*

- IEC Central Office, representatives from AFNOR, BSI, DIN, JISC

Why a « Concept » database? Concepts – Designations – Referents/Objects

Unit of thinking (concept)

*(Unit of thought, unit
of knowledge etc.)*



Designation

(Symbol, sign, term, formula etc.)

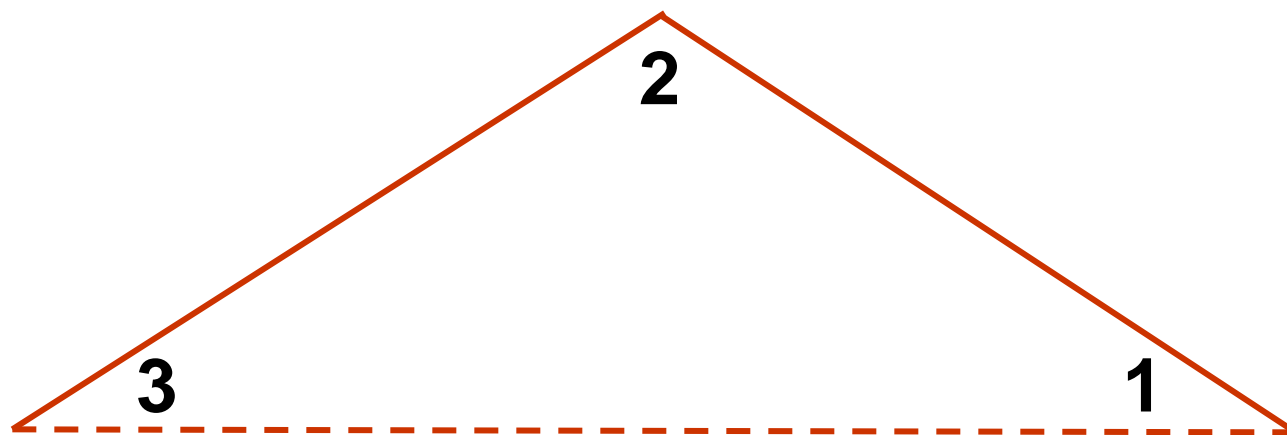
*→ Different types of
designations/representations*

Referent

*(Material object,
conceived object,
something real etc.)*

The “semantic triangle”

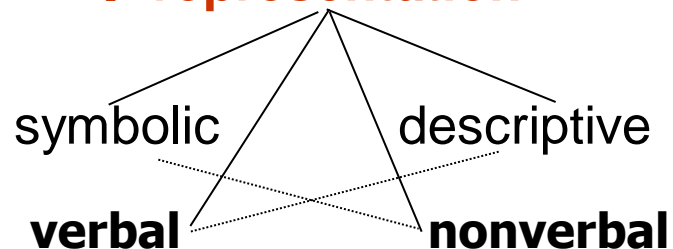
meaning / concept



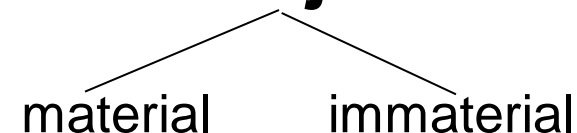
term

→ designation

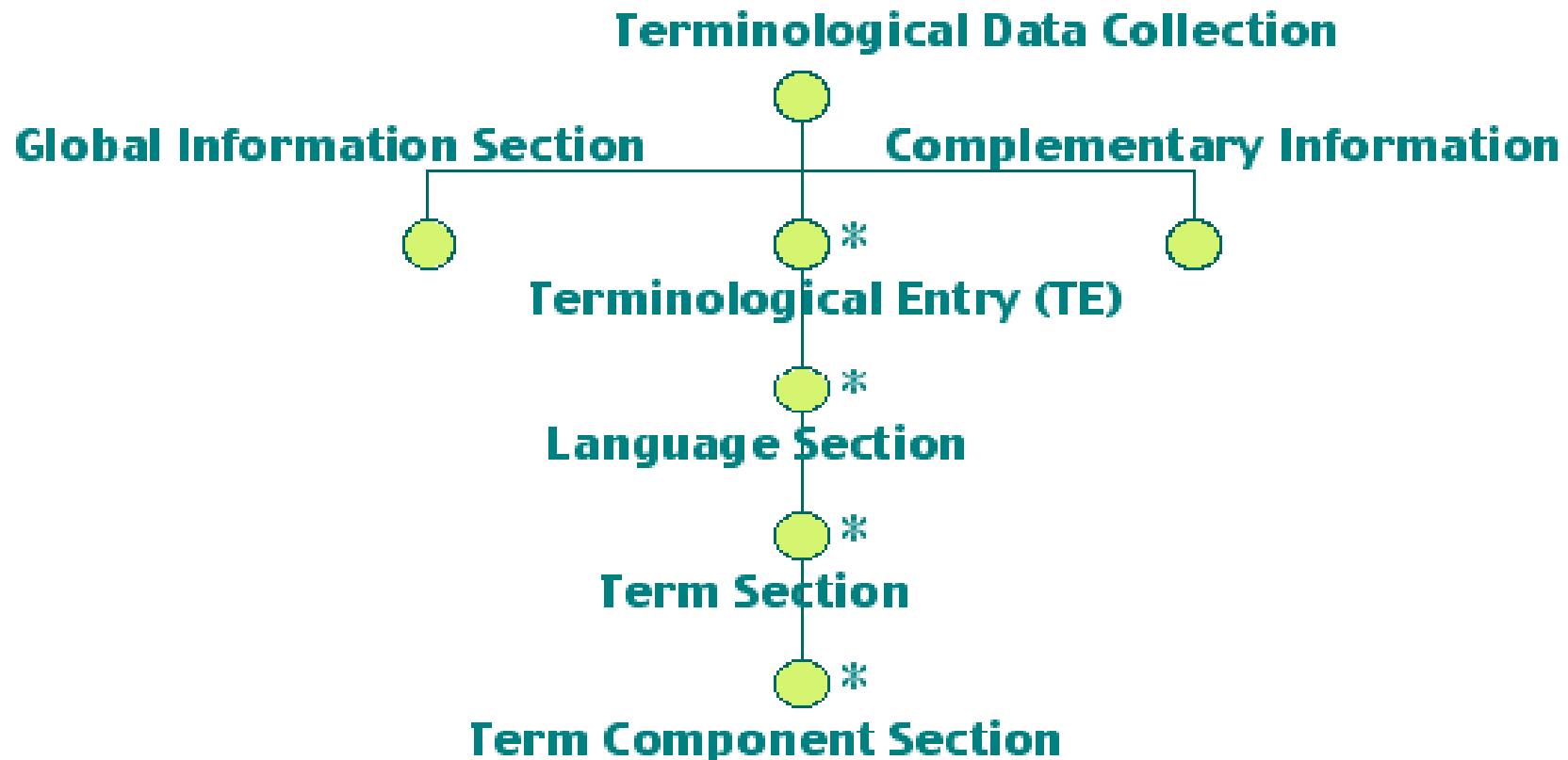
→ **representation**



object

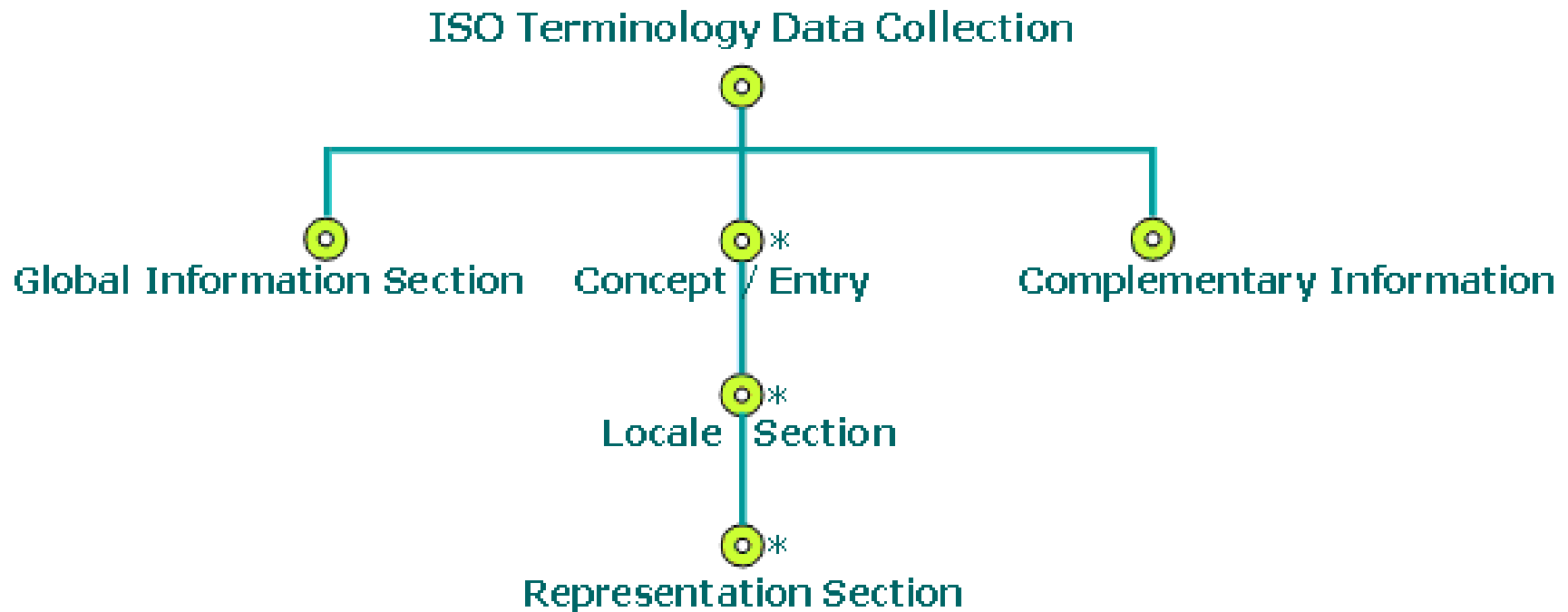


Terminological metamodel



Source: Klaus-Dirk Schmitz 2005

Terminological Metamodel revised



Source: Klaus-Dirk Schmitz 2005

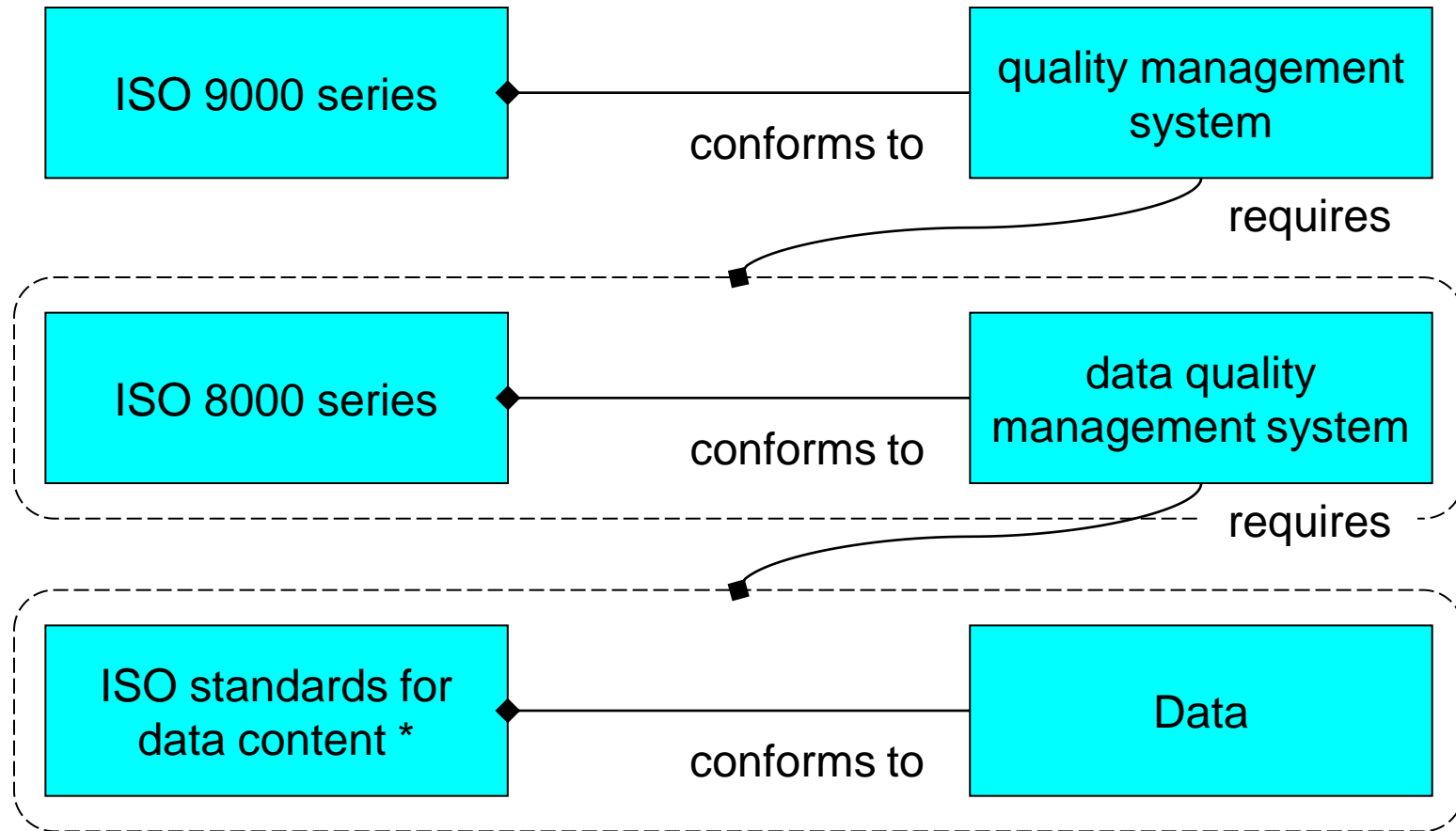
ISO/CDB – Data model

- Extended data model based on ISO 16642:2003
 - Concept-oriented
 - Support for concept representations other than terms (graphical symbols, codes etc.)
 - Multilinguality & multimodality
- Model needs to be further tested with other types of representations

Conclusion and outlook

- **Content integration** – whether in the form of virtual or real data integration – and **content interoperability** must be based among others on:
 - **Consistent methodology standards for datamodels and data modelling (of structured content);**
 - **Coordinated standardization of several kinds of structured content;**
 - **Standardized identification systems for individual pieces of information (of structured content);**
 - **Standardized transfer protocols and interchange formats (for structured content);**
- in order to be efficient and reliable.**

The quality stack from ISO/TC 184/SC 4



* e.g. ISO 10303, ISO 13584, ISO 15926, ISO 22745, ISO 29002
& ISO/TC 37 standards

Thank you!

QUESTIONS?