

Introducing buildingSMART

Bergen, May 20th 2011

Håvard Bell, Ph.D.
Lars Bjørkhaug, MsC



open international standards



CATENDA



buildingSMART
Dictionary

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“The aspects of interoperability identified as being in need of consideration by the European Interoperability Framework v.1.0 (EIF) are: **Organizational**, **Semantic** and **Technical** interoperability”

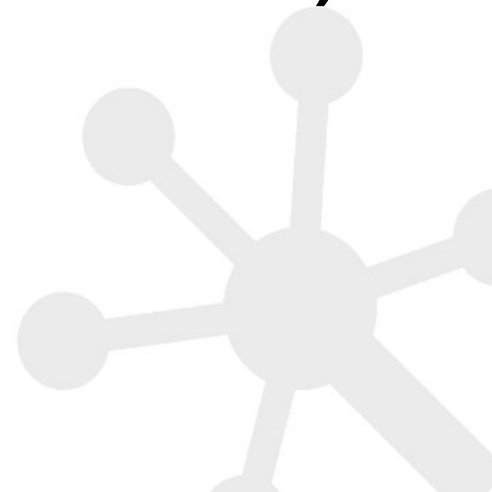
(EIF, section 2.1.2)



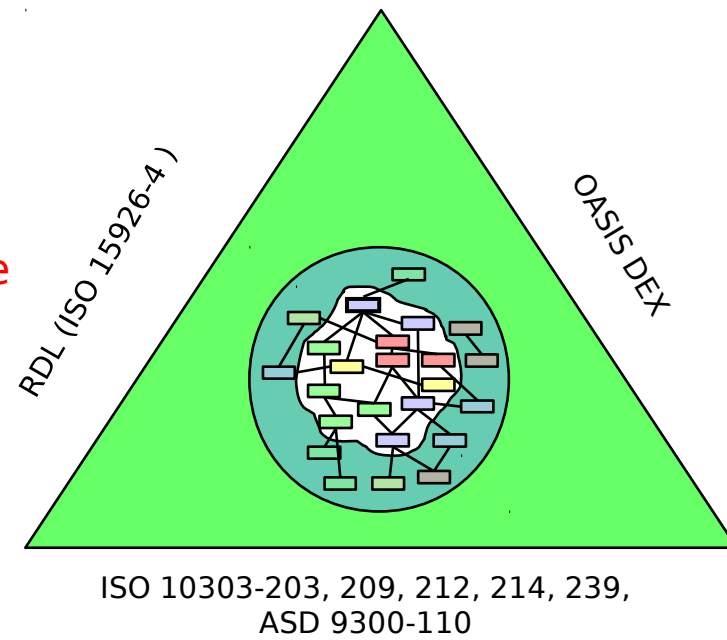
CATENDA



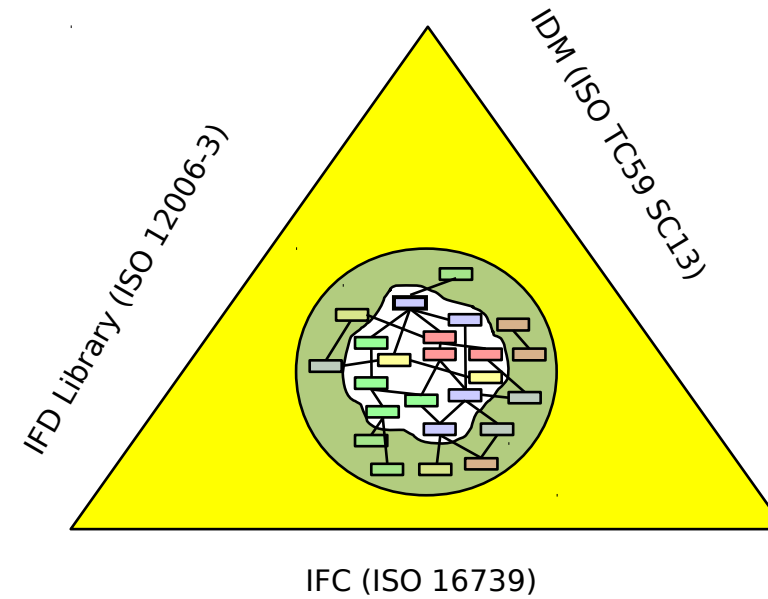
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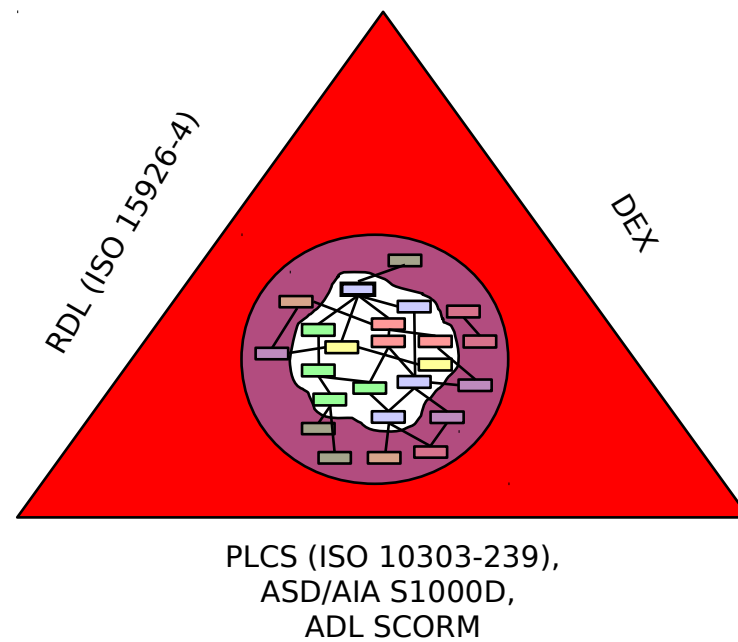
Aeronautics & Space



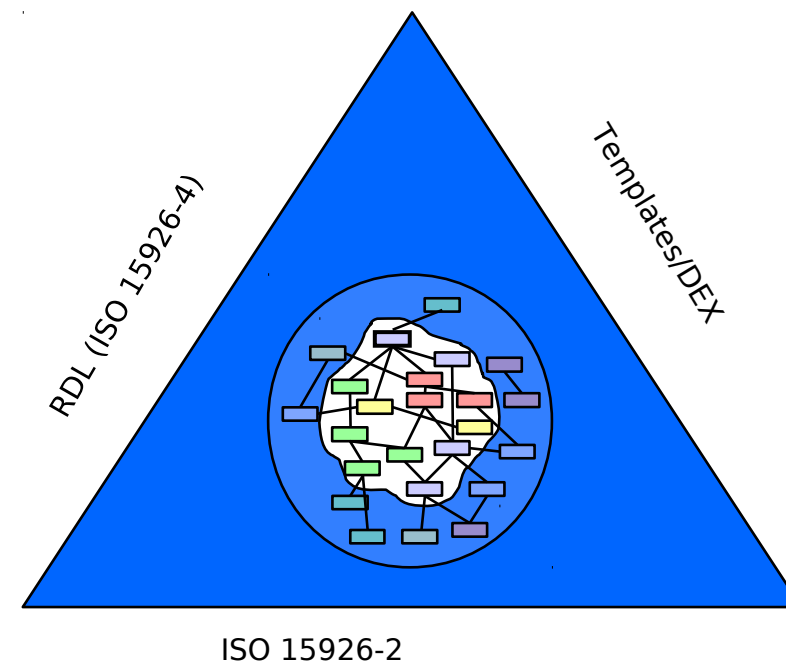
Built Environment
(AEC-BIM)



Defense



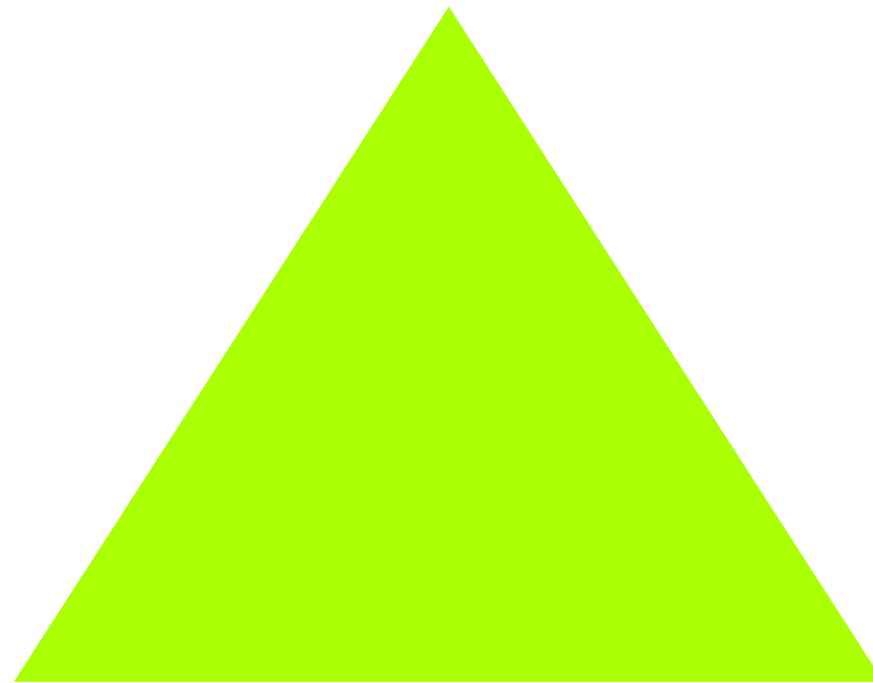
Oil & Gas



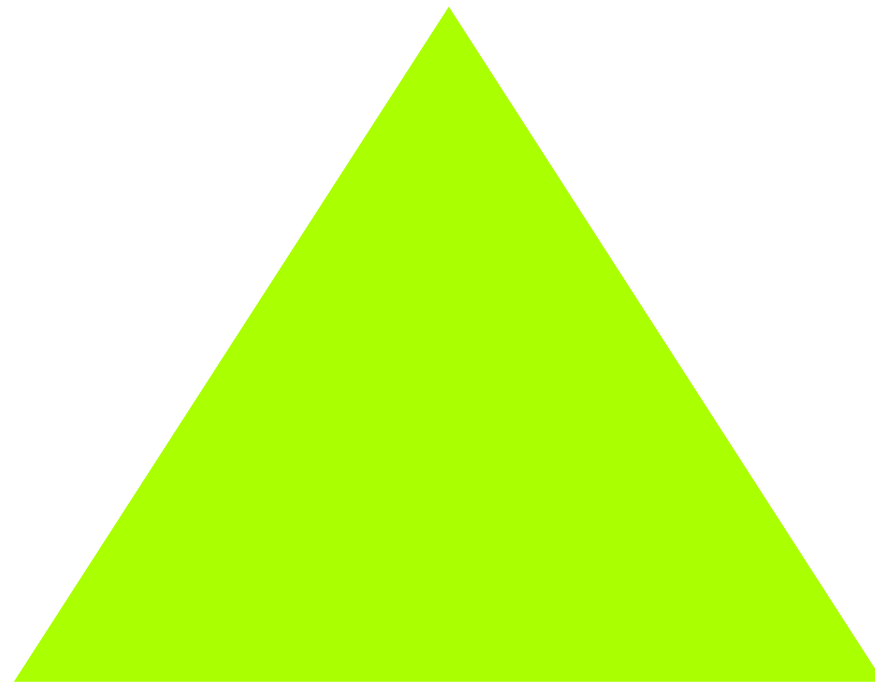
IFD

IDM

IFC



semantics



process

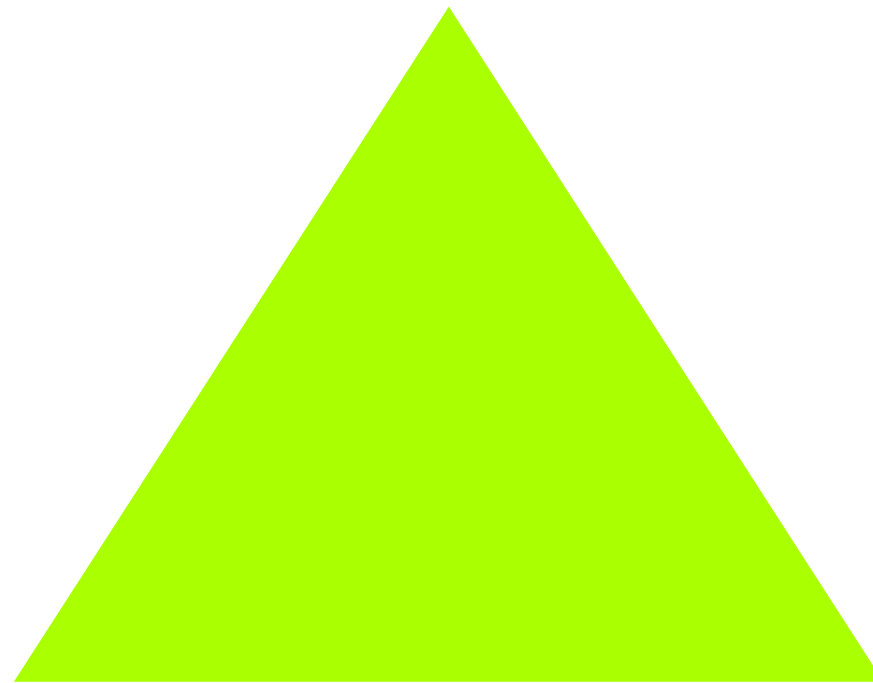
exchange



IFD

IDM

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The three pillars of buildingSMART



IFC



IFD



IDM

Laws and regulations
 -Building regulations
 -Building specifications

Knowledge databases
 -Best practise knowledge
 -Own practice

Briefing
 -Functional req.
 -Estimates
 -Conditions
 -Requirements

Demolition, refurbishment
 -Rebuild
 -Demolition
 -Restoration

Facility management
 -Letting, sale, operations
 -Maintenance
 -Guaranties

By: Lars Bjørkhaug, Catenda ,
 Illustrations: Statsbygg,
 Arkitektstudio AS. Olof Granlund,
 NBLN Stanford University

Construction management
 -Scheduling
 -Logistics, 4D

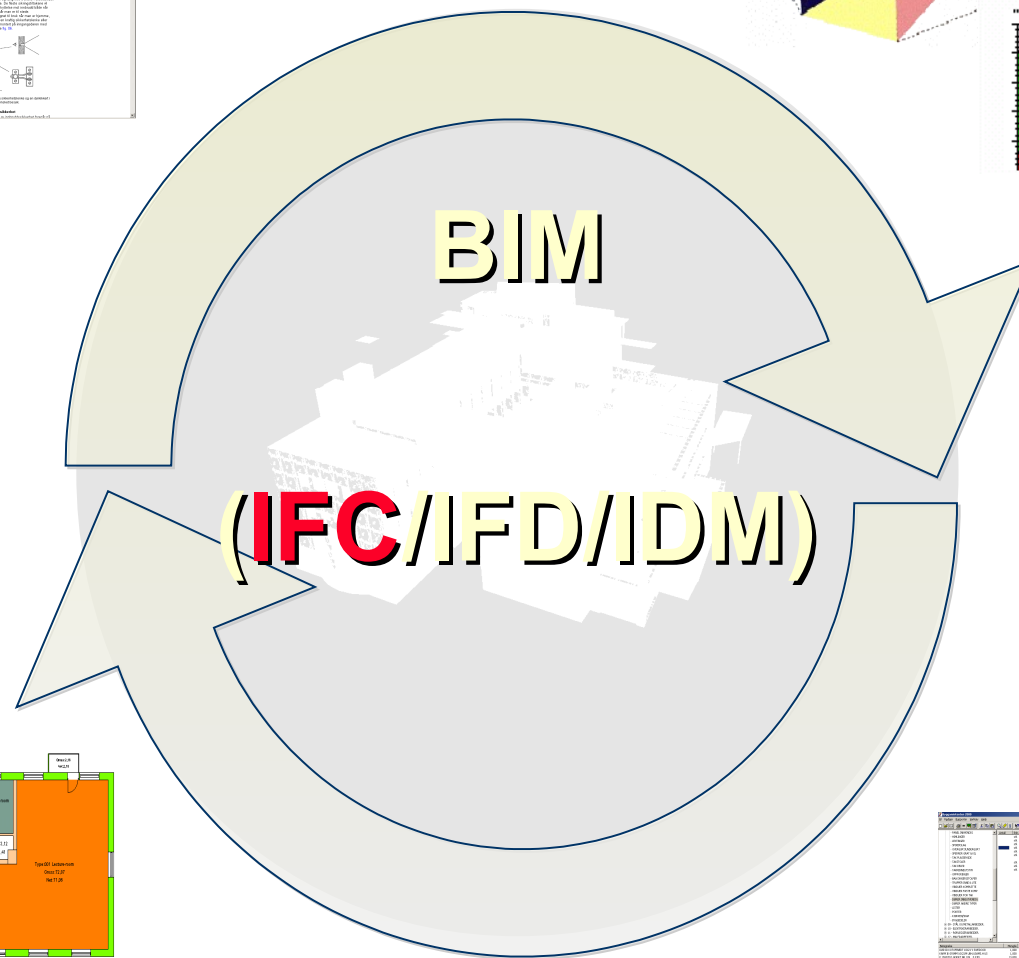
CAD software
 -Drawings, calculations
 -Architect, engineer,...

VRML
 -Visualisation, 3D models

Simulations
 -Comfort
 -Ventilation, heating
 -Life cycle cost
 -Light, sound
 -Insulation
 -Fire, usage
 -Environment
 -Life time predictions

Specifications
 -Specification sheets
 -Classification standards
 -Estimates, accounting

Procurement
 -Product databases
 -Price databases



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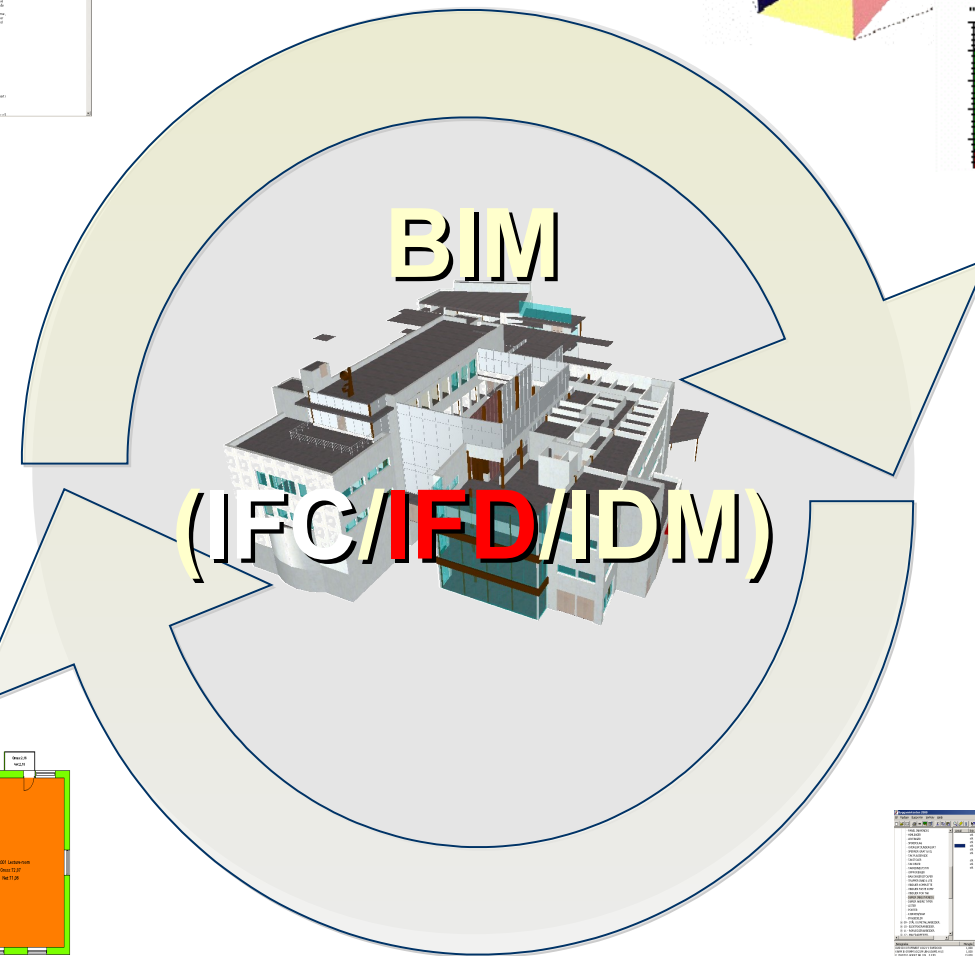
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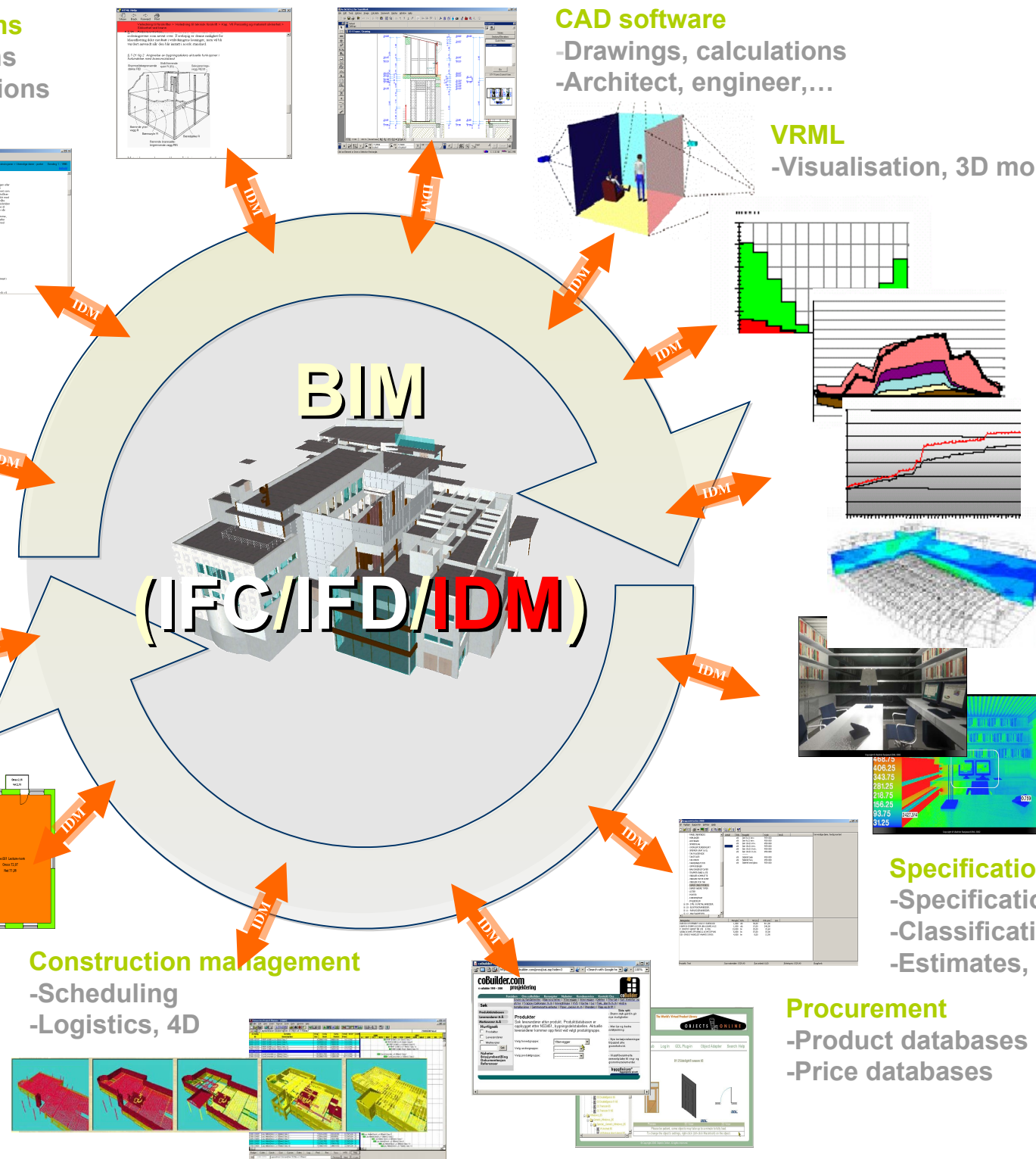
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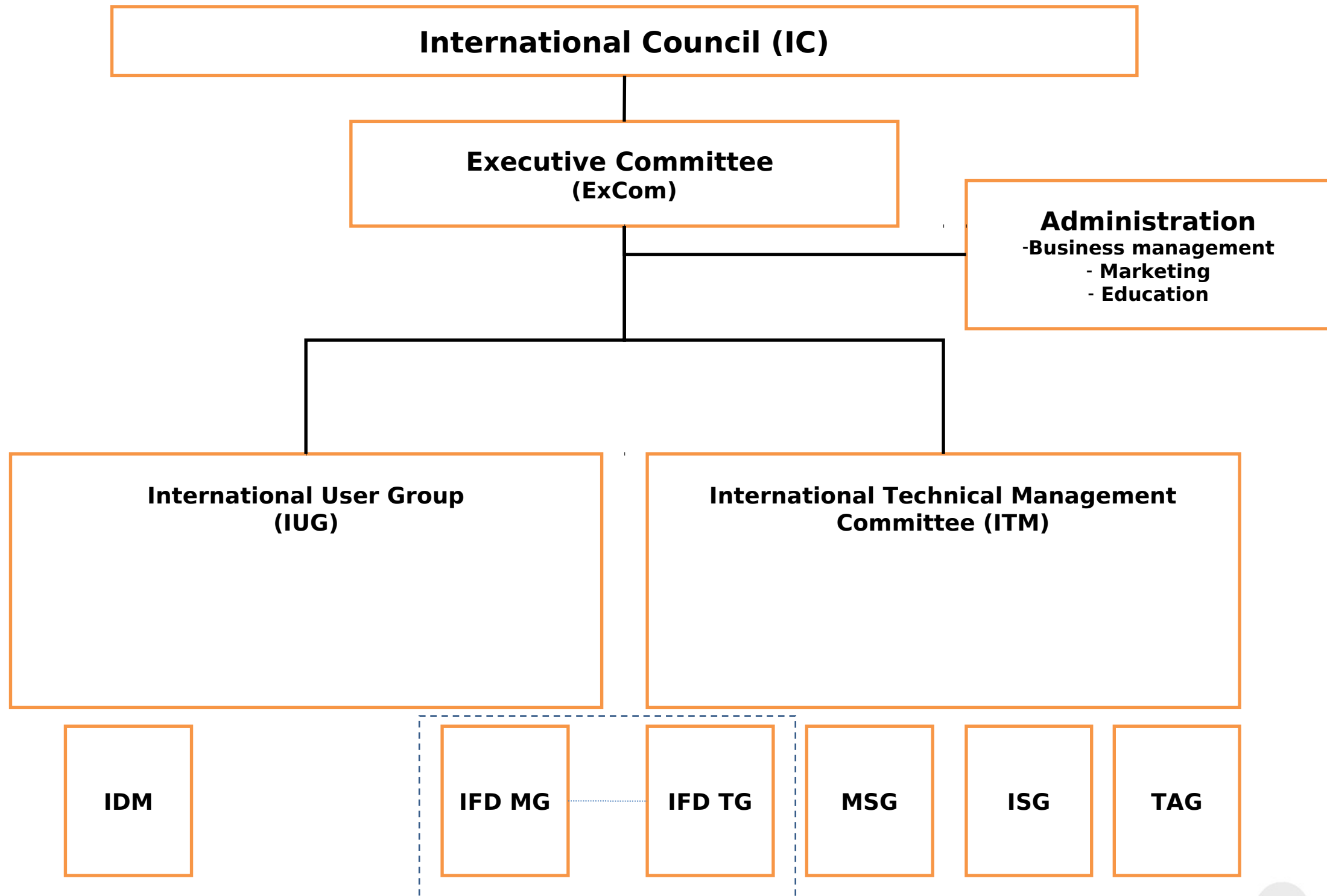
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IFD

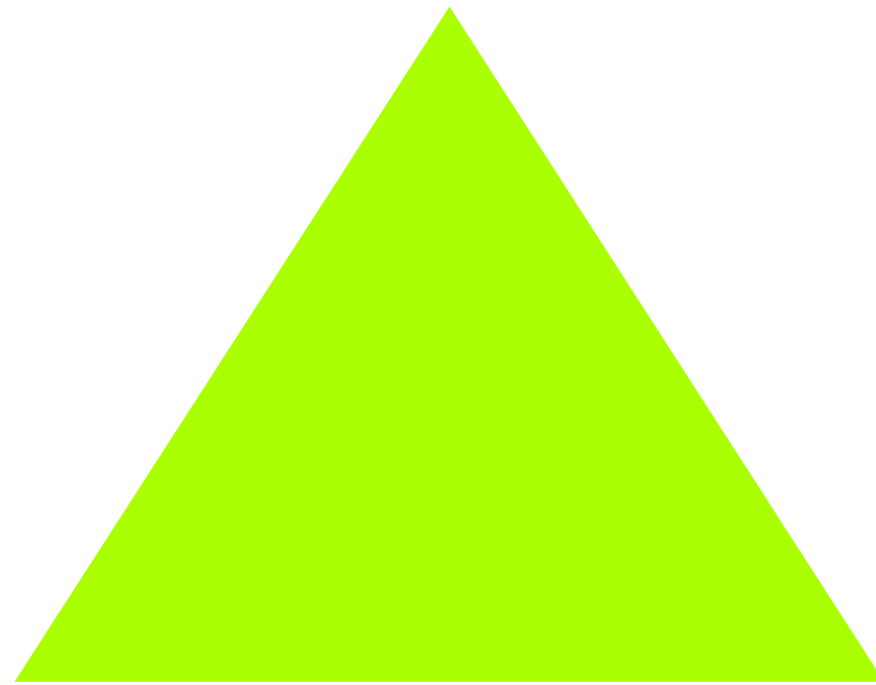
technical



semantic interoperability “is the ability to automatically interpret the information exchanged meaningfully and accurately”



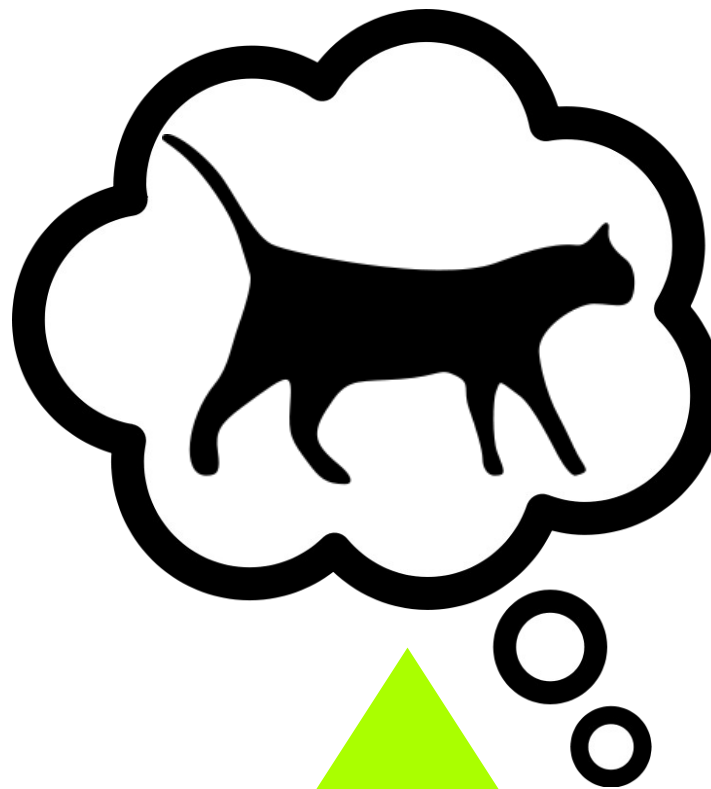
concept



symbol

physical





cat



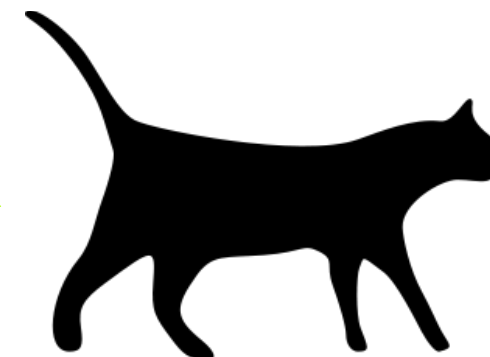
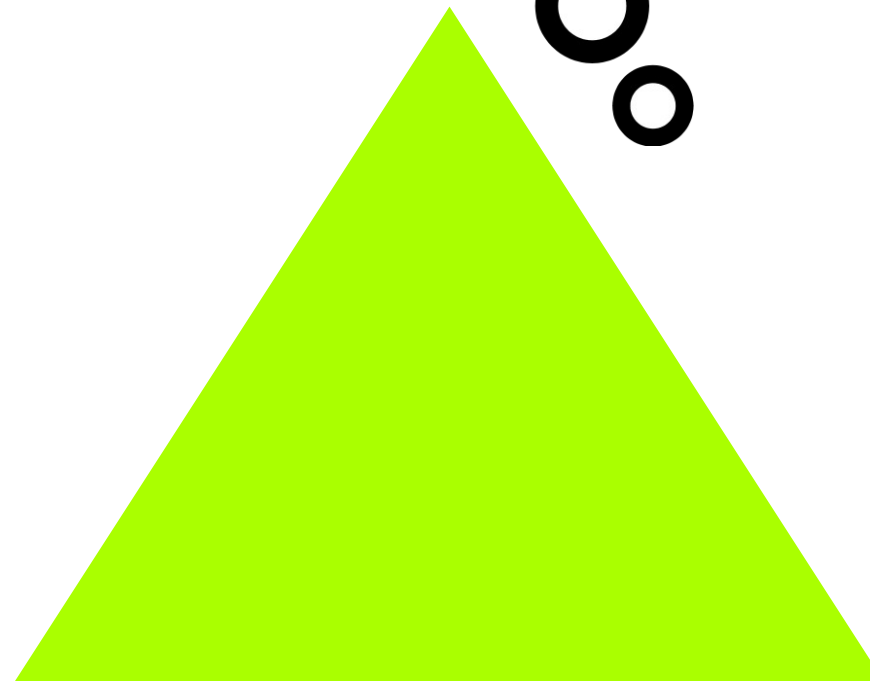
猫、ねこ



katt, pusekatt, pus



chat, chatte



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IFD is for **identification of** information

Can you spot the **beam**?

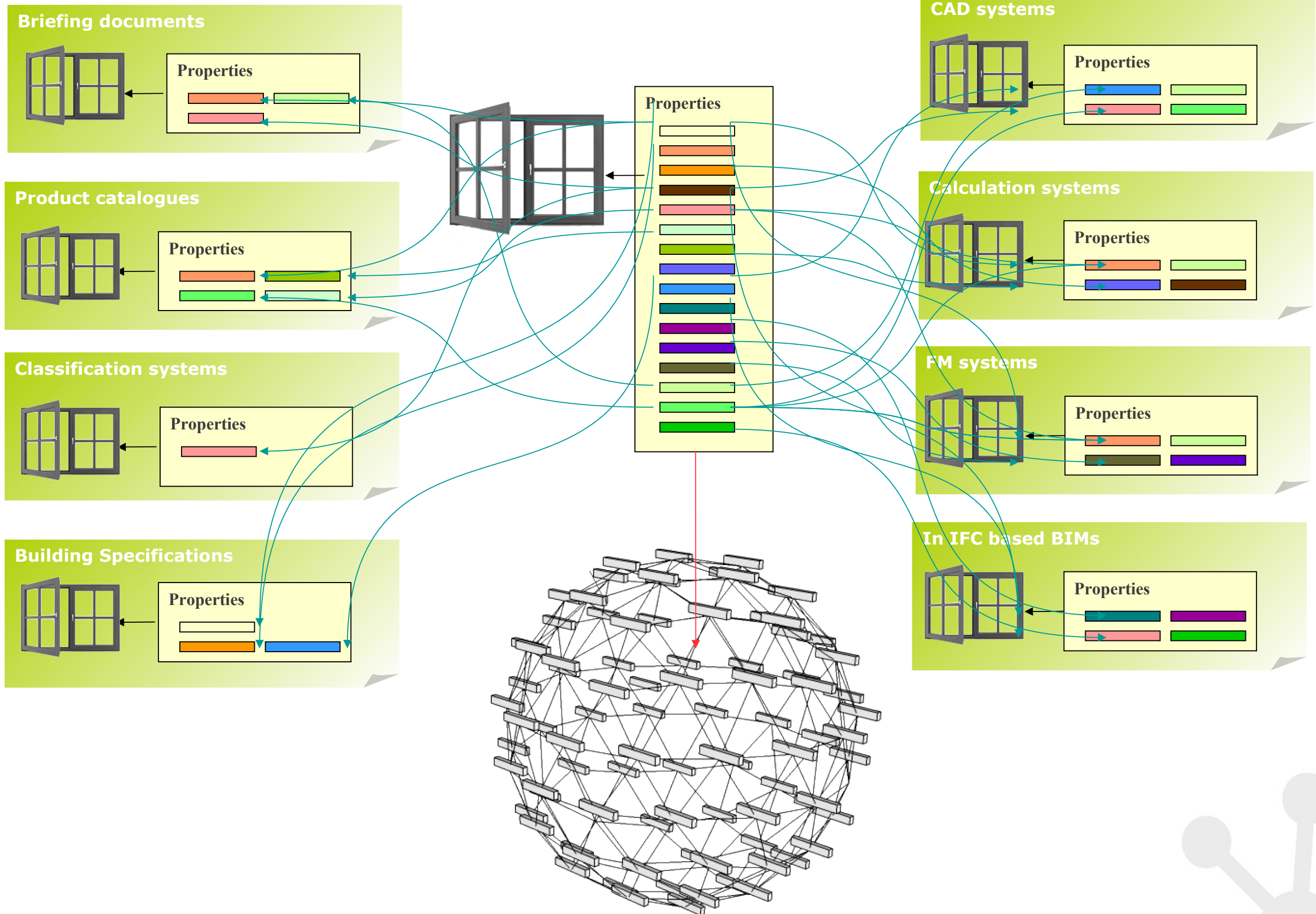




IFD is about Mapping or Interconnecting information





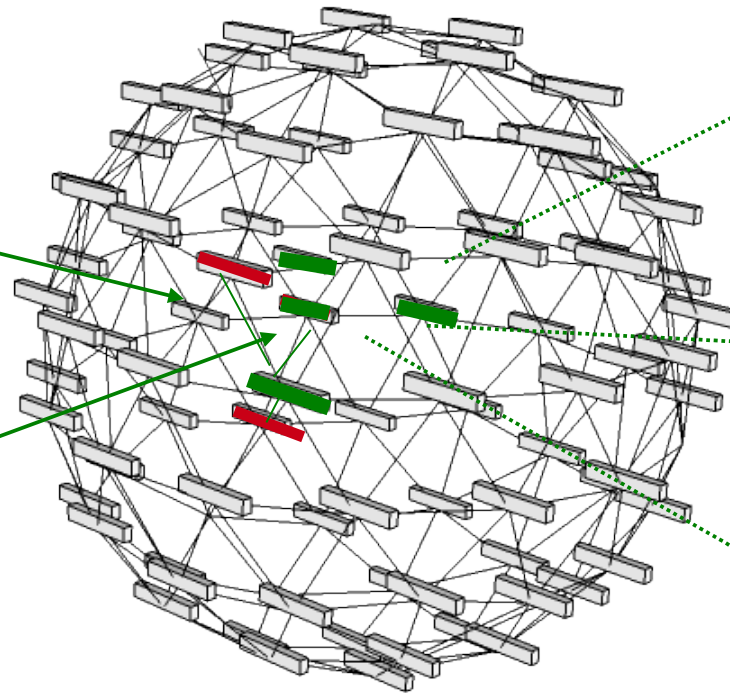
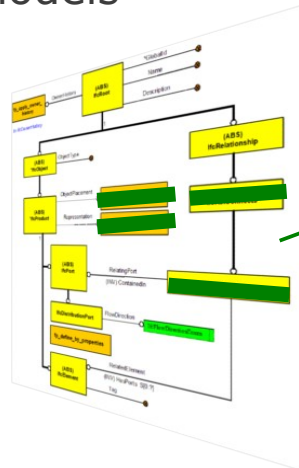


Mapping – internal vs external

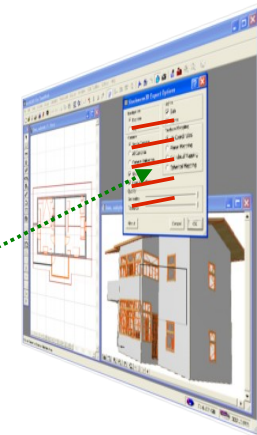
classifications



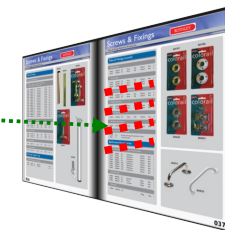
models



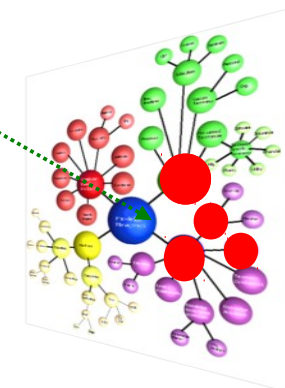
software



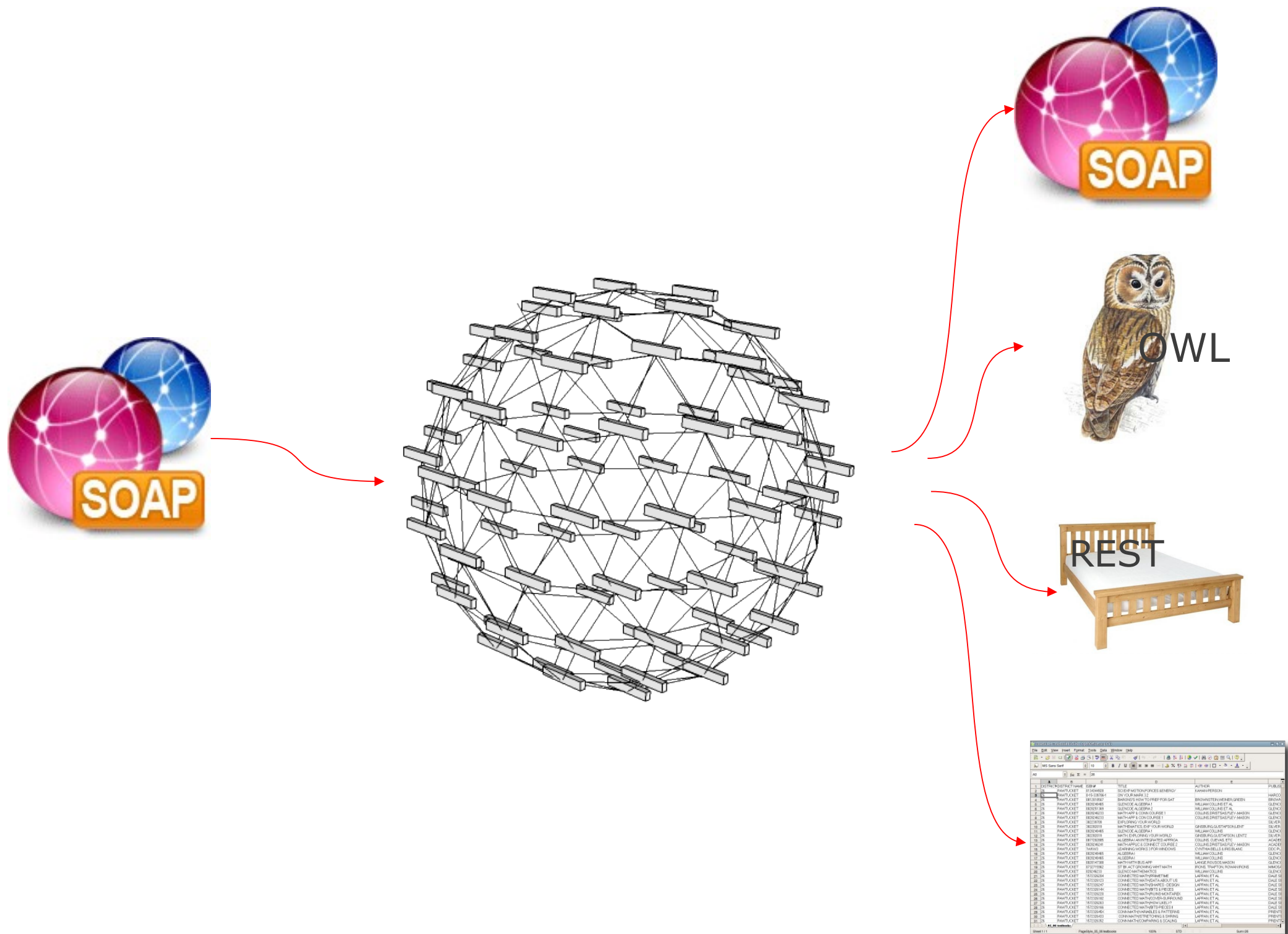
products



knowledge



How to interact with IFD ?



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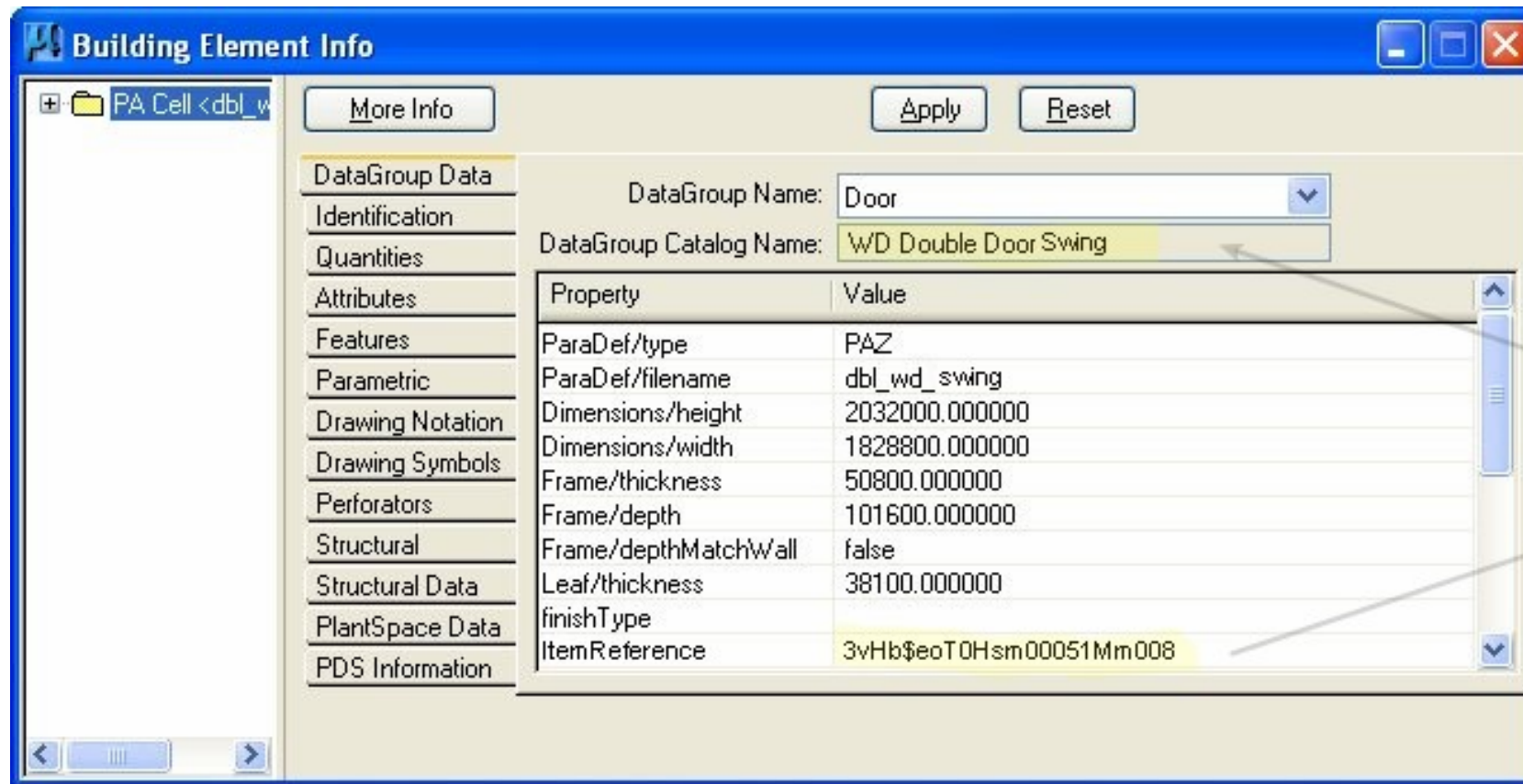


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IFD is for localization of information

- Same thing – many names



- In IFD the concepts are identified by their GUID. Names, synonyms, abbreviations and lexemes are only for communication purpose.

IFD's role with regards to IFC

- Allow for a theoretical "100%" **standardization** of the stored and exchanged data
- Offer a mechanism to **dynamically** extend IFC when more "hooks to hang information on" is needed
- Offer **multi lingual** capabilities to software using IFC
- Create **links/mappings** between the IFC model and surrounding knowledge and information
- Overcome some of IFC current limitations...



product
library



product template library



CATENA



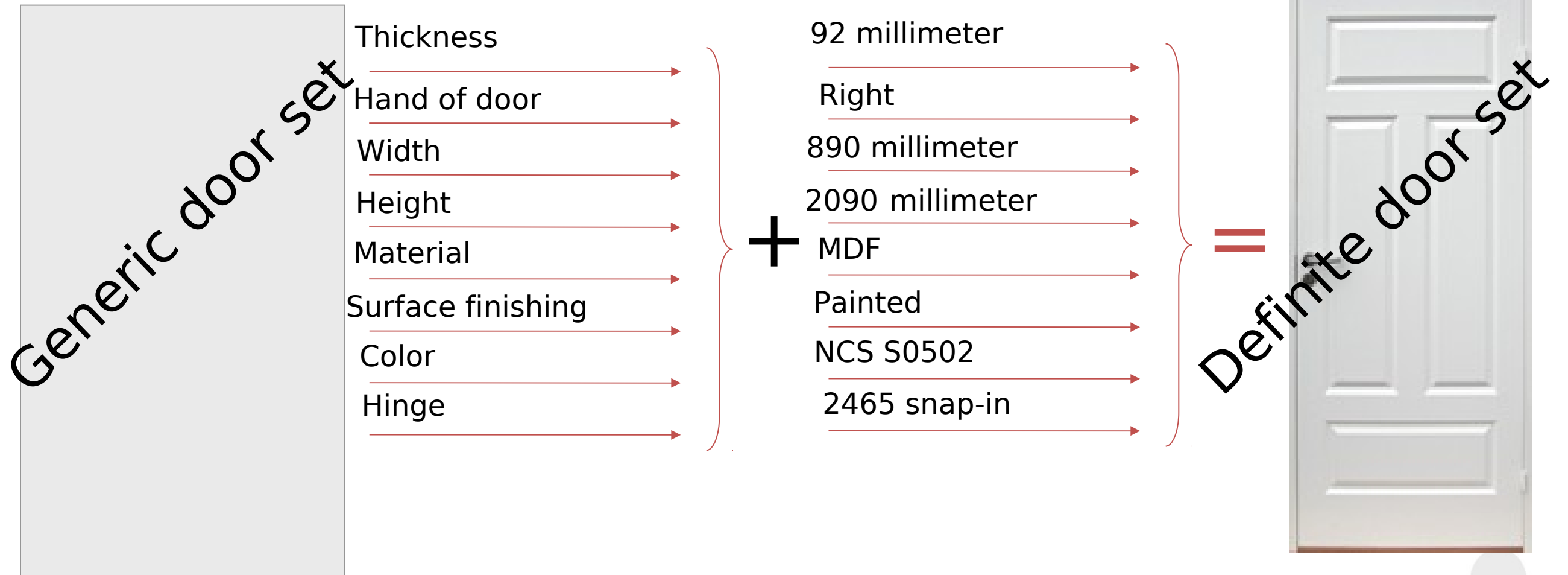
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Dictionary

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IFD Library

Product



IFD organizational



IFD Library Group

- Operates **under** building**SMART** International
- IFD Library Management Group (IFD MG)
 - Reports to the International User Group
 - Members: Canada, USA, Netherlands and Norway
- IFD Library Technical Group (IFD TG)
 - Reports to the International Technical Management
 - Members: Canada, USA, Netherlands and Norway
 - Open meetings





thank you

havard.bell@catenda.no

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