ČESKÁ AGENTURA PRO STANDARDIZACI

MINISTERSTVO PRŮMYSLU A OBCHODU

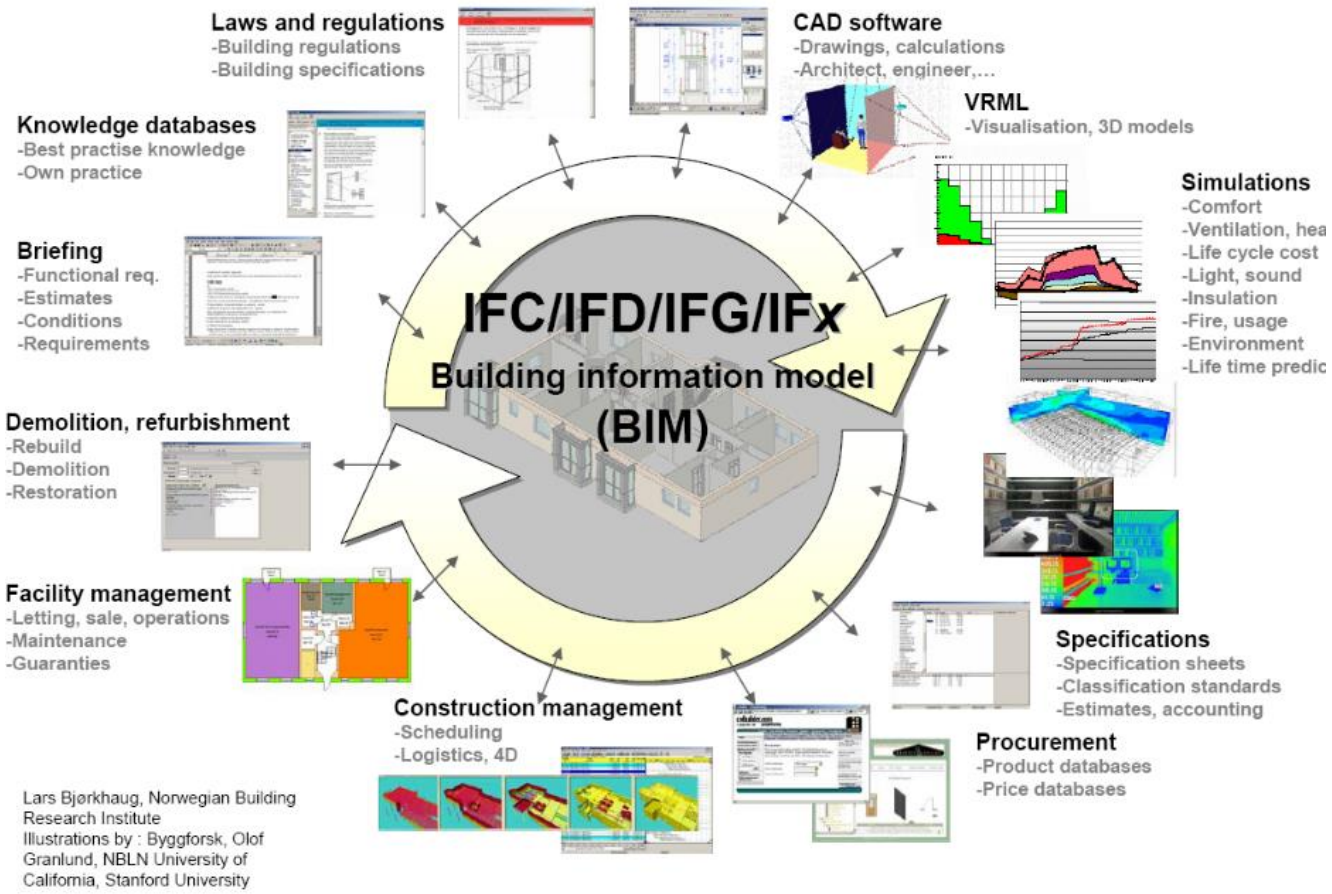
BIM KONCEPCE 2022

Standards as the basis of digitization and their use in the Czech Republic

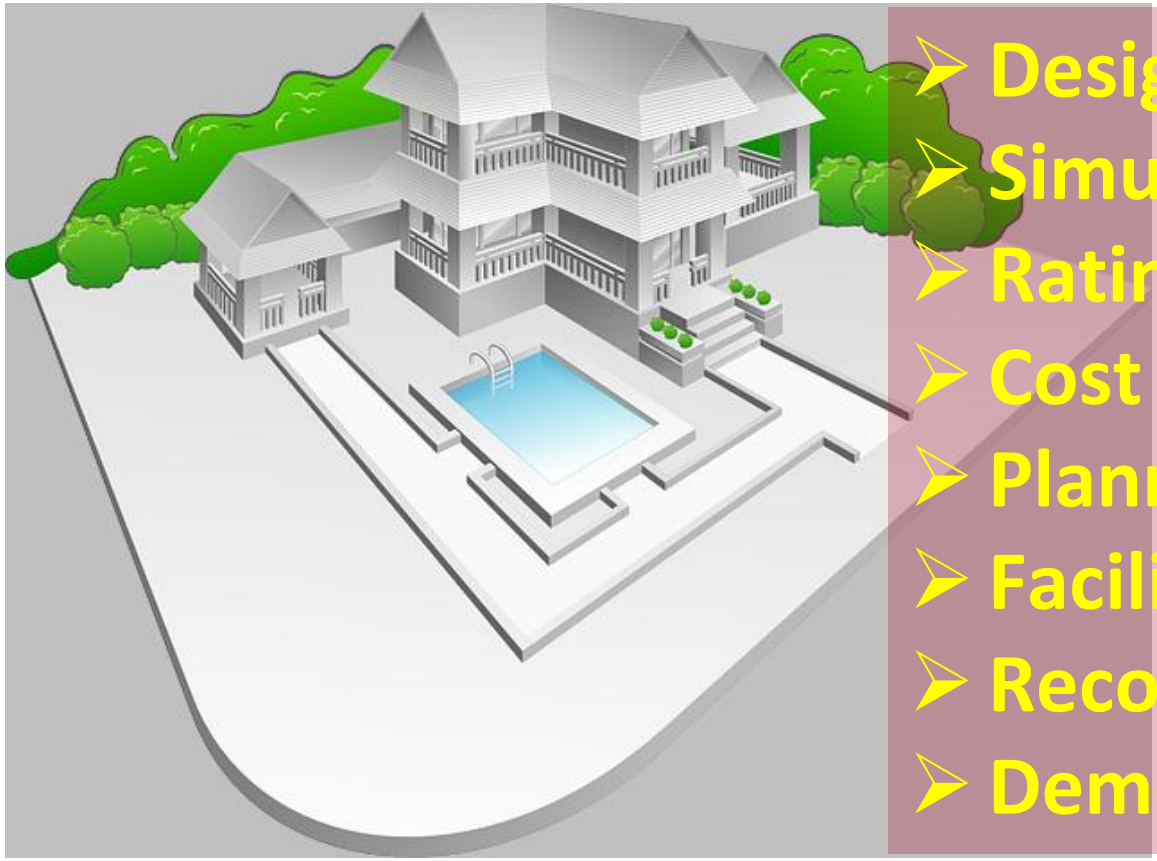
Štěpánka Tomanová | February 2020

Digital Construction & BIM in Greece, 2020

Introduction of BIM

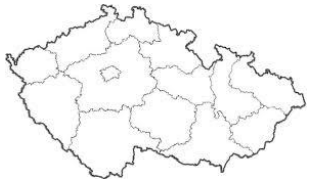


BIM model = digital twin



- Design
- Simulation
- Rating
- Cost estimation
- Planning
- Facility management
- Reconstruction
- Demolition

History lesson…



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BIM KONCEPCE 2022

2011

- Czech BIM Council
- O-membership of ISO/TC59/SC13

2014

- membership of CEN/BT215
- P-membership of ISO/TC59/SC13
- 1st version of the EU funded project
- establishment of CEN/TC442
- Directive 2014/24/EU of the EP and of the Council

2015

- Ministry of Industry and Trade follows activities in BIM

2016

- establishment of EU BIM Task Group
- establishment of mirror committee

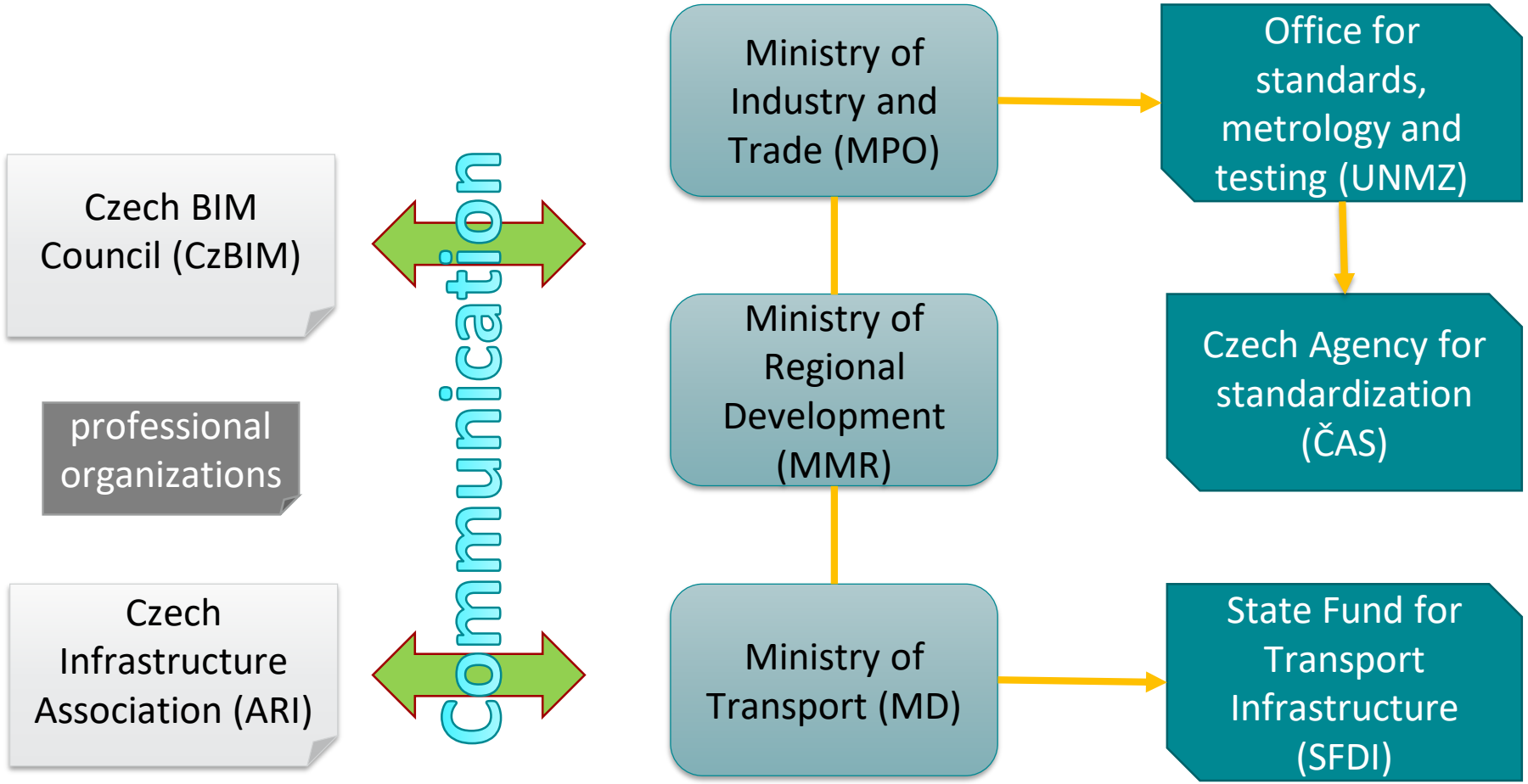
2017

- concept of implementation BIM in Czechia (government resultion)

2018

- BIM departement in Czech agency of standardization

Main involved organisations



Implementation of BIM

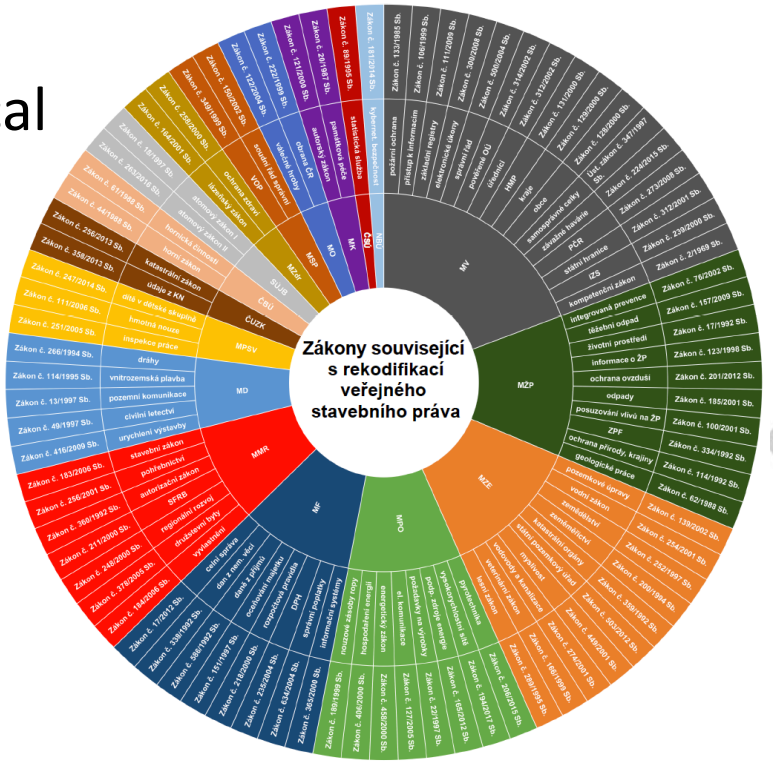
What is the date 2022 in Czechia?

over-limit public contracts (5 350 000 € = 137 366 600 Kč):

- (3D) BIM model with non-graphical information
- BIM protocol including BEP (BIM Execution plan)
- use of CDE (common data enviroment)

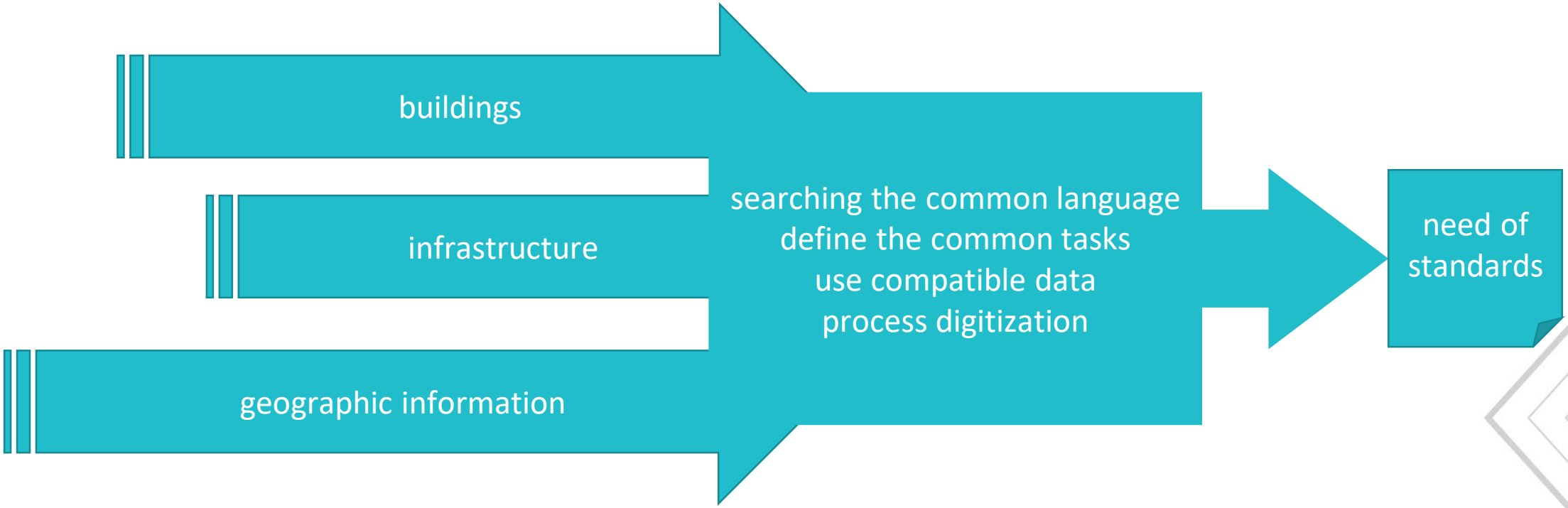
Activities to cover the needs

- Concept of implementation BIM in Czech republic
- GeoInfoStrategie => project of digital technical maps = data on infrastructure in cities
- Technical standardization

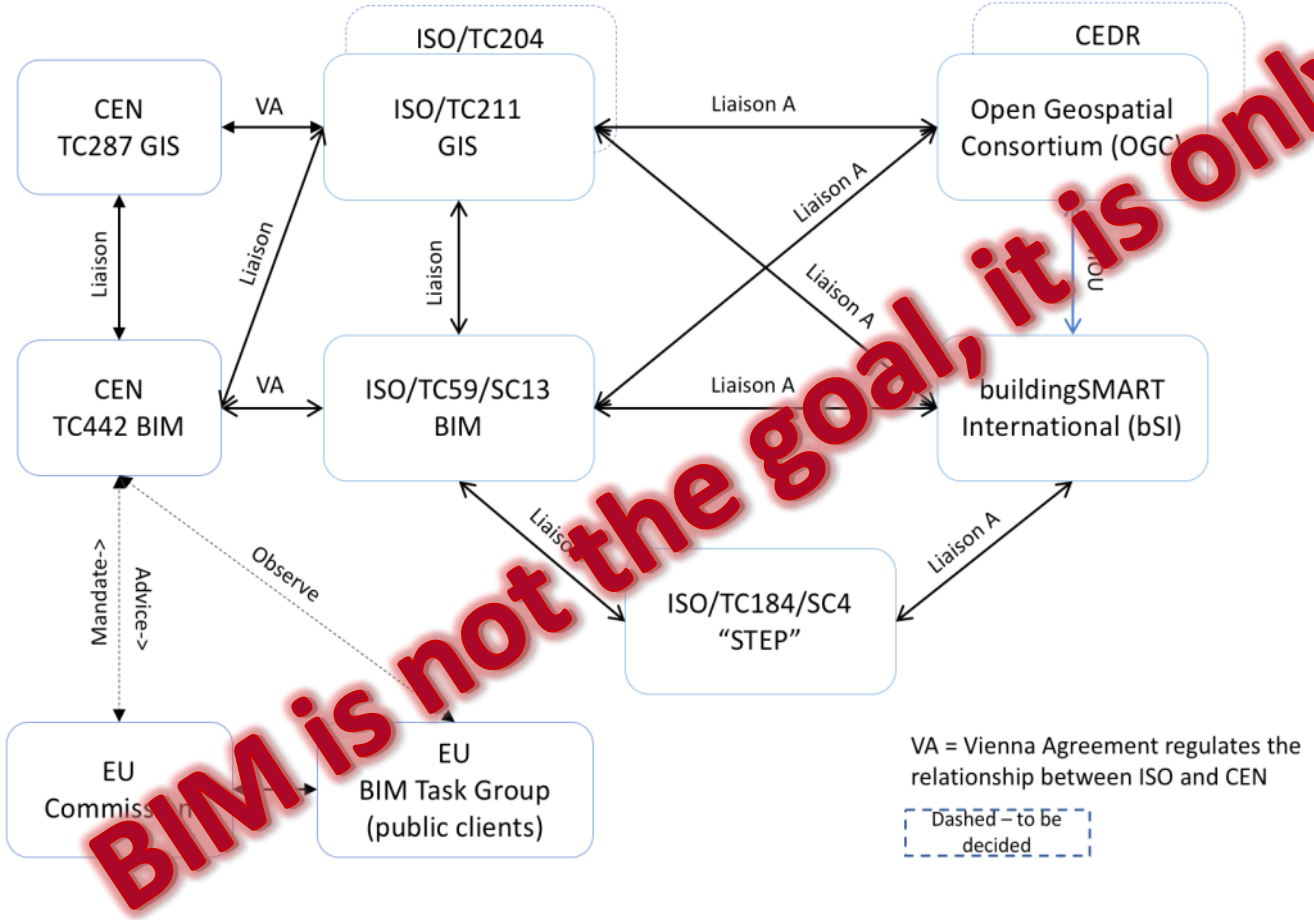


- digitální ; Česko = implementation plan for digitization including building permits

Current development



Important relations in international BIM standardisation



BIM is not the goal, it is only tool...

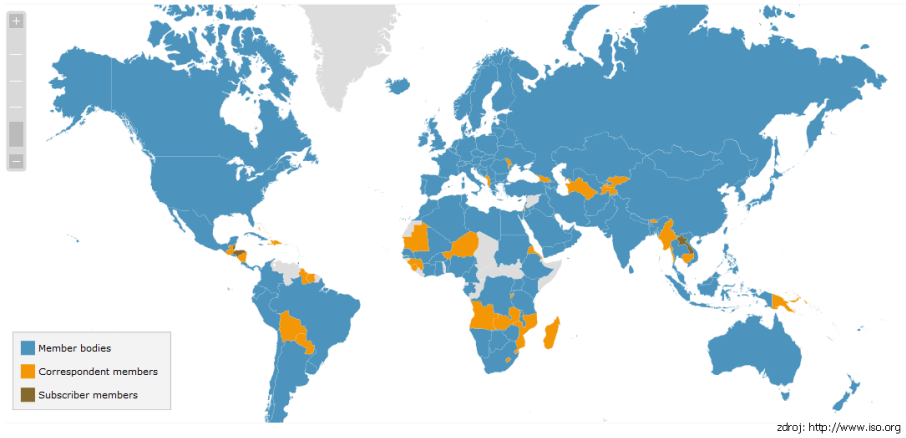
CEN/TC442 Business Plan

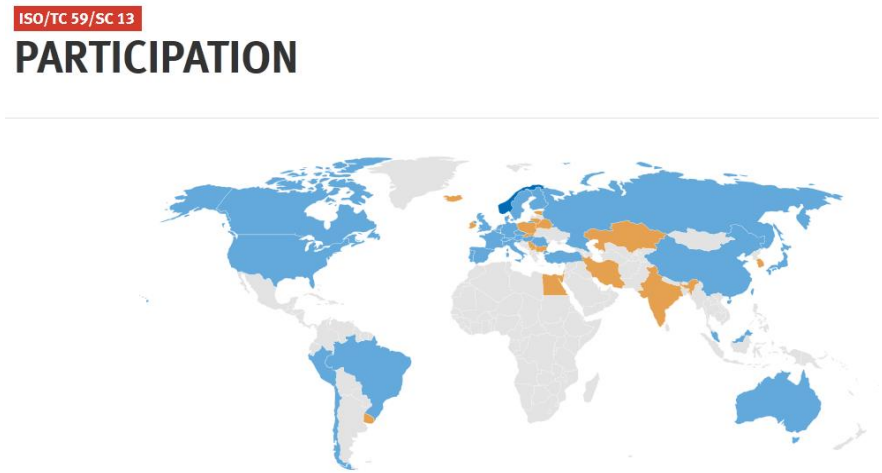
Why to use standards ?

To ensure:

- quality,
- safety and efficiency,
- better communication,
- understanding.

Digitization needs standardization for repetitive processes!





Base groups of standards for BIM

HOW to save the data - Data Model Standards [IFC] – (ISO 16739:…) – data schema, file format

WHAT we need to know - Data Dictionary Standards [IFD] – (ISO 12006…) – „dictionary“

WHICH data and **WHEN** - Process Definition Standards [IDM, MVD] – (ISO 29481…) - information filter

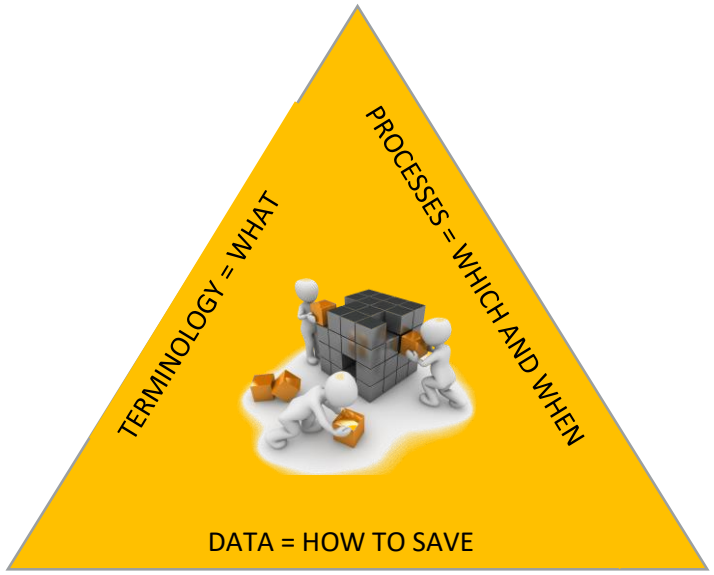
ISO/TC59/SC13 standards are based on buildingSMART projects

CEN/TC442 (EN standards) <–> ISO

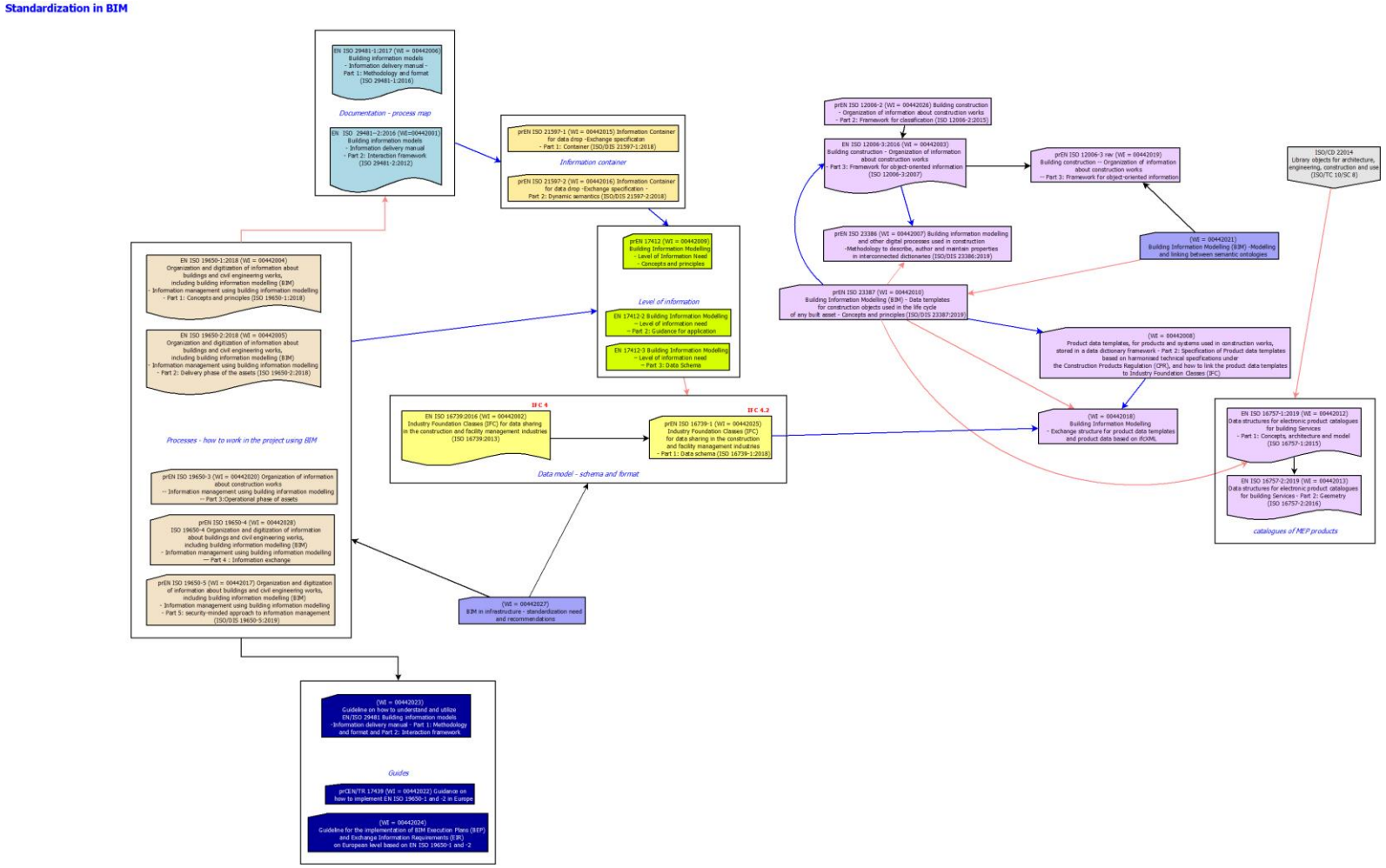
What we need ?

- For the stakeholders
  - General rules and guidance
  - Agreed terminology
  - Content of models standards
  - Classification system (building, infrastructure)
  - Libraries from manufacturers

- Defined requirements from
  - Admistration/government
  - Investors/owners
  - Construction companies
  - Facility managers



Standardization in BIM



Frequently asked questions

- Software tools
  - Available functions
  - Model portability (native vs. open formats)
  - BIM and responsibility settings
  - Access to libraries (general vs. product focus)
  - Support, licences, updates and localisation
  - System/hardware requirements
- Communication with manufactures
- Using models for e-permission, e-procurement

Barriers for BIM

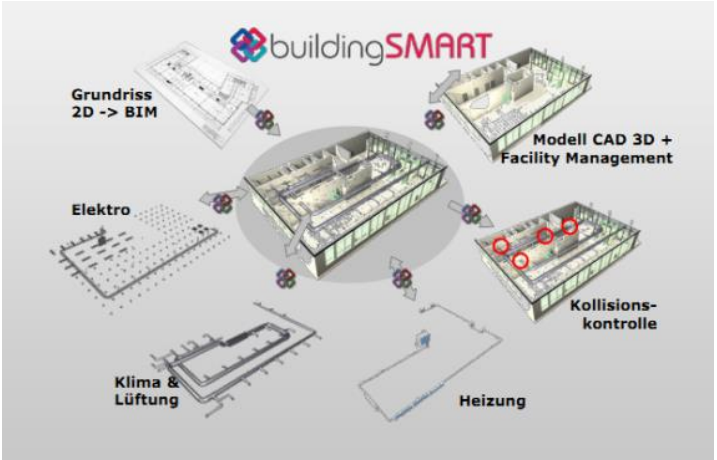
- Missing common rules, templates of documents, contracts
- Not agreed level of information in different stages
- Need of 2D documentation
- Selection criteria for procurements (bill of quantities vs. performance and features)
- Not agreed copyright for models and libraries
- Fragmentation of the responsibility for the development in the construction industry

- Reluctance to change
- Refusing to cooperate and communicate
- Frequent changes - lack of project concept
- Contract fragmentation (Design-Bid-Build)
- Lack of time for the design

80/20

Use of BIM and IFC today

- Communication between designers
  - Building model
  - Source of information for MEP, structural engineers
  - Advantages:
    - Different applications
    - Correct building structure (storeys)
    - More information in one source
    - Focus on the design
    - Clash detection, simulation
- Communication designer – construction company
- Communication designer – investor/owner
- Construction planning
  - chosen tasks



BIM enable the digitization of construction industry

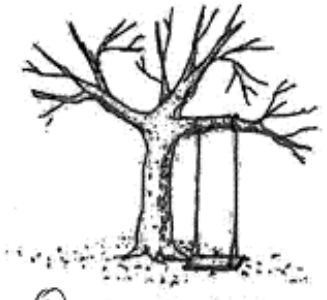
- Digitization is a chance to change the processes,
- without standardization the digitization does not work,
- we need a collaboration,
- digitization needs the analysis the current processes.

Communication and understanding…

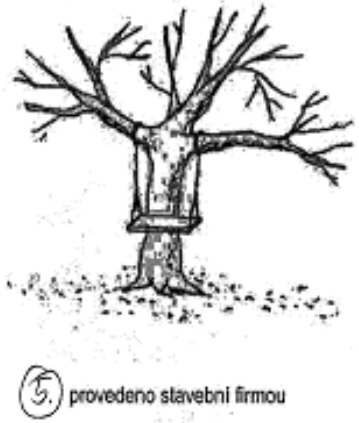
investor wish

architect

structural engineer



permission



construction company

completion

Zdroj: mimibazar.cz/vtipy

Thank you…

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