Interoperability in the construction industry

Johannes Ris, CTO at Byggstyrning
Background

Classification:
- Construction projects tend to always be setup as temporary. With project members from many companies and different stakeholders and project owner all the time.
- Develop a common classification
- Nationbased
- Since 1930 in Sweden
- BSAB
Background
Background
Open model format for interoperability

- **IFC (Industry Foundation Classes)** is an open and standardized data model intended to enable **interoperability** between building information modeling software applications in the AEC/FM industry.
IFC and BuildingSMART

- Started 1994 by software company Autodesk and 12 other companies that form a consortium called ‘International Alliance for Interoperability (IAI)’
  - IAI is now called ‘buildingSMART’ and is developing the IFC-standard.
  - buildingSMART aims to improve the exchange of information between software applications used in the construction industry
Open model format: IFC

- Short timeline
ICF

- 3D-softwares export to IFC-model and automatically classifies/map the objects to IFC-classes.
Properties

**IFC Property Definitions Door:**
- FireRating
- AcousticRating
- SecurityRating
- FireExit
- Material
- ...

**Custom Property Definitions Door:**
- Manufacturer
- ModelNumber
- WarrantyStartDate
- WarrantyGuarantorParts
- WarrantyDurationParts
- ExpectedLife
- ...
Properties information standards and classification standards

- IFC is required in almost all public projects.
- UK, Norway, Finland, Denmark has Nationbased standards
  - NBS
  - Uniclass2015
  - CCS
  - COBie

- Sweden industry standards
  - CoClass
  - BIP
  - TypeCode
Lifecycle

Design/Planning

Geometry + Data

IFC or API, Database. etc

Custom Applications
Facility management systems
Construction Analysis
Estimation Etc...
Sharing - interoperability
How we use it today..

Ditch the paper!
- Estimation
- Planning
- Coordination
- Construction
- As-built check
- Facility management
New mindset

Traditional delivery

Model based delivery

Quantity Take Off
Models - IFC
Technical Documents
Measurement models
Thank you!

Johannes Ris
E: Johannes.Ris@byggstyrning.se
Linkedin: @Johannes-ris