Agenda

- Short introduction Contelos GmbH
  - Range of services / customers
- BIM
  - The BIM-platform Revit
  - Added value with database linking
  - The information within building products
  - Set of information (SOI)
  - Lifecycle of Revit families
  - Requirement from the market / users

The Contelos GmbH

Founding year	1992
Employees	42
Annual sales	ca. 8 Mio. €
Service countries	Germany, Austria, Switzerland (D A CH)

<u>Our areas of expertise:</u>

- Mechanical engineering
- Building construction / BIM
- Engineering software
- Geographical information software
- Data management
- Software development
- IT-system engineering

CONTELOS
powered by Engineers

AUTODESK
Gold Partner

Range of services

Software consulting & software sales
... based on your business model

Needs Analysis / Potential Analysis (NRW)
... to record individual workflows

Implementation & optimization of work processes
... according to the objectives

Individual trainings
... Basics, Methodology, Admin, Special

Creation of process-relevant data
... templates, components, documents, media

Support for BIM processes
... interface definition, BIM execution plan, BIM consulting

Contract work & project support
... content, models and much more

Areas in which we serve our customers

Implementation of a BIM process with Revit®:

- StilX Architektur
- Ingenieurbüro Rehms (TGA)
- Vahjen Architekten
- RRI
- NCC Deutschland GmbH
- pape architekten
- Volkswagen Financial Service
- SWECO (Wasser- und Abwasserwirtschaft)
- PGSJ – Planungsgruppe Skribbe-Janßen GmbH
- …

Optimization of BIM processes with targeted enhancements:

- ATP
- PORR AG
- Goldbeck
- Wetzel Bauplanung Überwachung
- GTB – Berlin mbH
- Architekturbüro Konrad Wiesenthal
- HENN
- formitas LUK / CARPUS
- HPP Hentrich–Petschnigg & Partner GmbH + Co. KG
- pape architekten
- …

SMART BROWSER
SMART ASSEMBLIES
CUT OPENING
BIM TREE MANAGER

Switch from 2D to component-oriented 3D work:

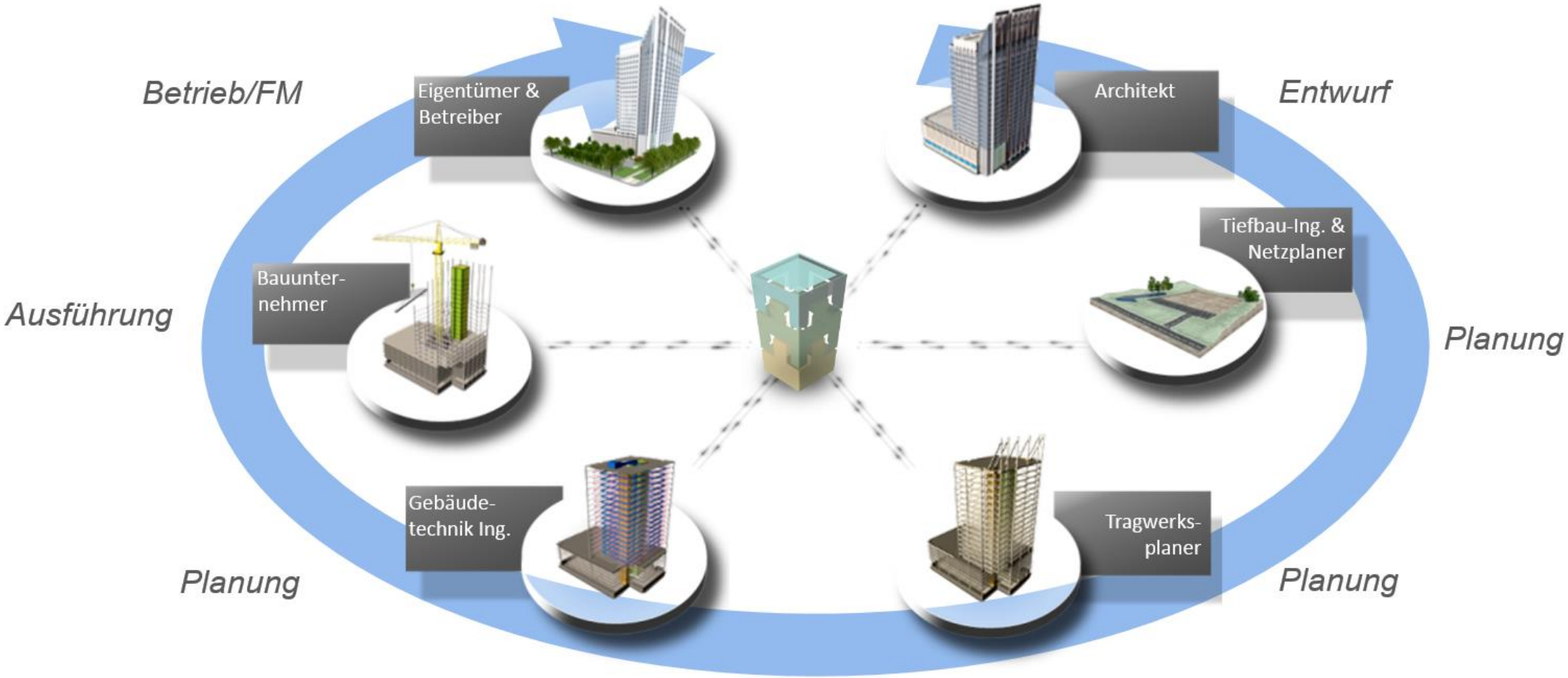
- BKSP
- Wesemann GmbH & Co. KG Laboreinrichtungen
- Ingenieurbüro Beck
- Wöhrmann Architekten
- IFB GmbH
- Markus Bau GmbH
- …

Access to infrastructure planning with Revit®:

- SWECO (Wasser- und Abwasserwirtschaft)
- SWECO (Ingenieurbauwerke)
- ERS Ingenieurbüro für Tragwerksplanung GbR
- BUNG Ingenieure AG
- ifs Ing.-Ges. f. Stadthydrologie mbH
- Obermeyer Planen und Beraten
- …

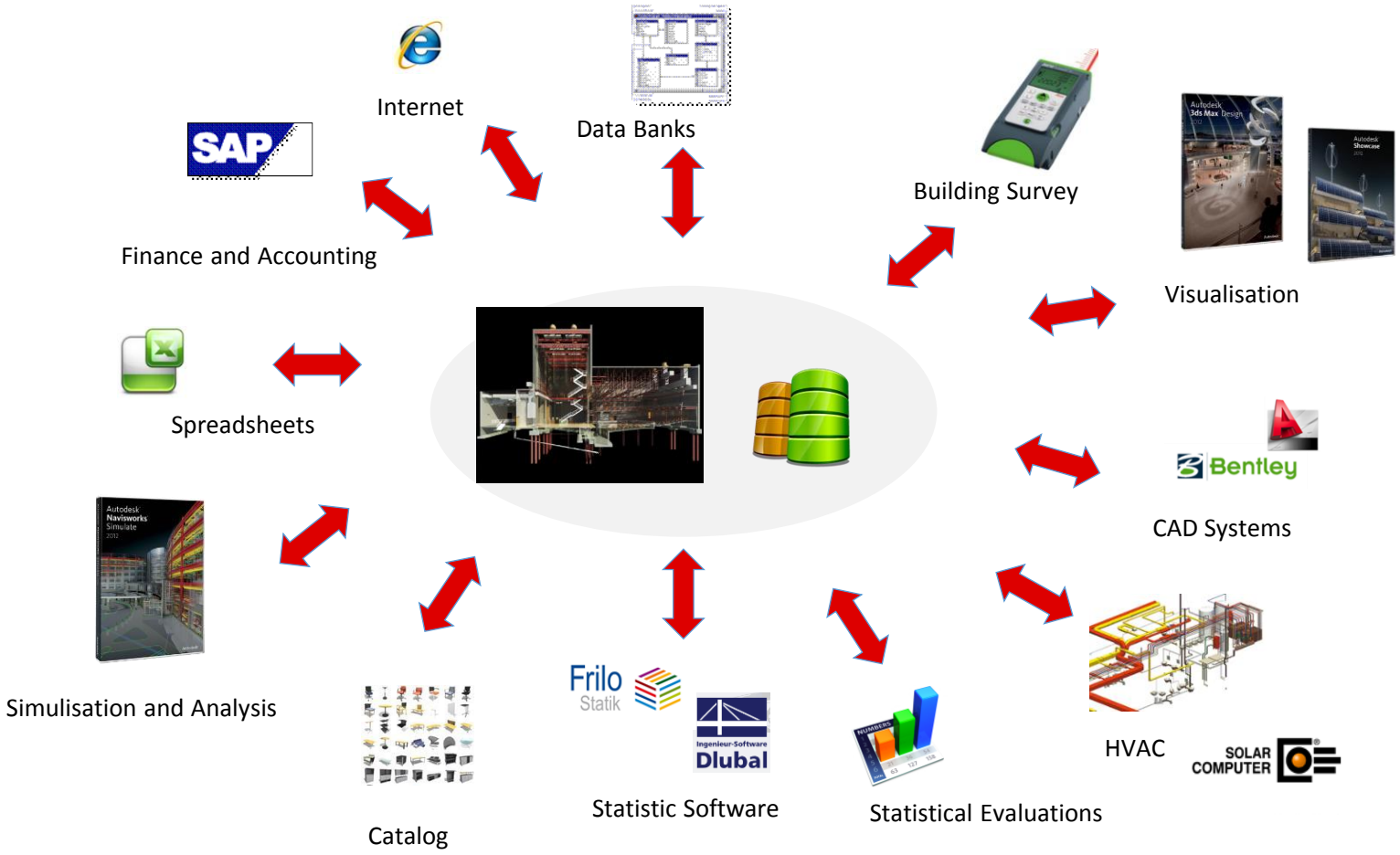
Trained ORGADATA Possibilities of the Revit® family technology for a window / door generator
... and much more.

BIM is an intelligent process based on digital models



The building data model

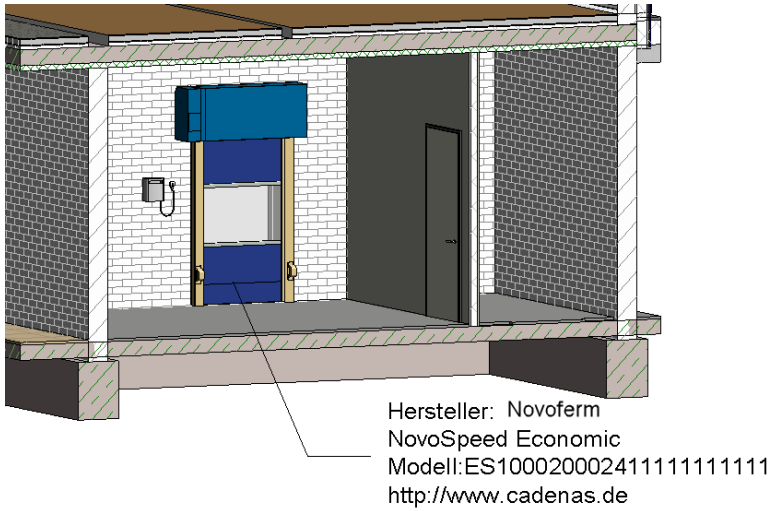
Added value through (database) links



The information in components

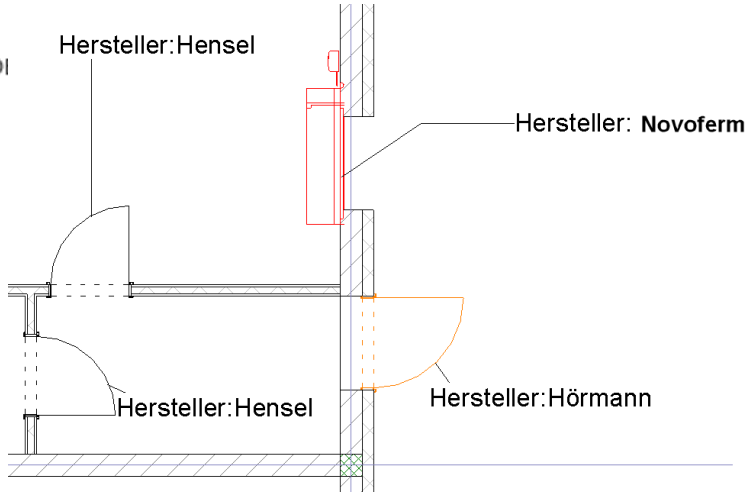
Why do I need BIM content?

- The „I“ in BIM
- Data / plan(ning) security
- Technical level
  - „Smart“ labels
  - Representation of components acc. Specific information
  - Handover to public tenders / static planning
- Avoiding double entries



IFC
Speichert eine IFC-Datei.

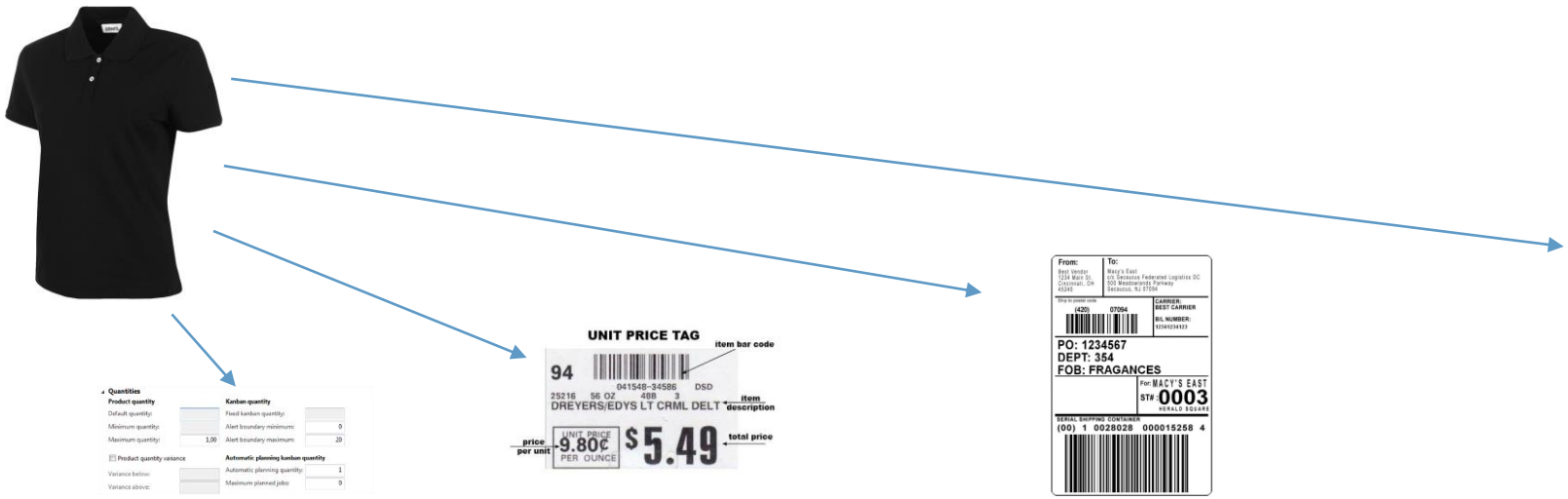
ODBC-Datenbank
Speichert Modelldaten in einer ODI Datenbank.



<Türliste Projekt Marx>					
A	B	C	D	E	F
Nr.	Geschoss	Typ	Hersteller	Modell	URL
00 EG OK FFB					
T1.6	00 EG OK FFB	es100020002411111111	Cadenas	ES1000200024111	http://www.cadenas.de
18	00 EG OK FFB	0.885 x 2.135m	Hensel		
19	00 EG OK FFB	1.135 x 2.135m			

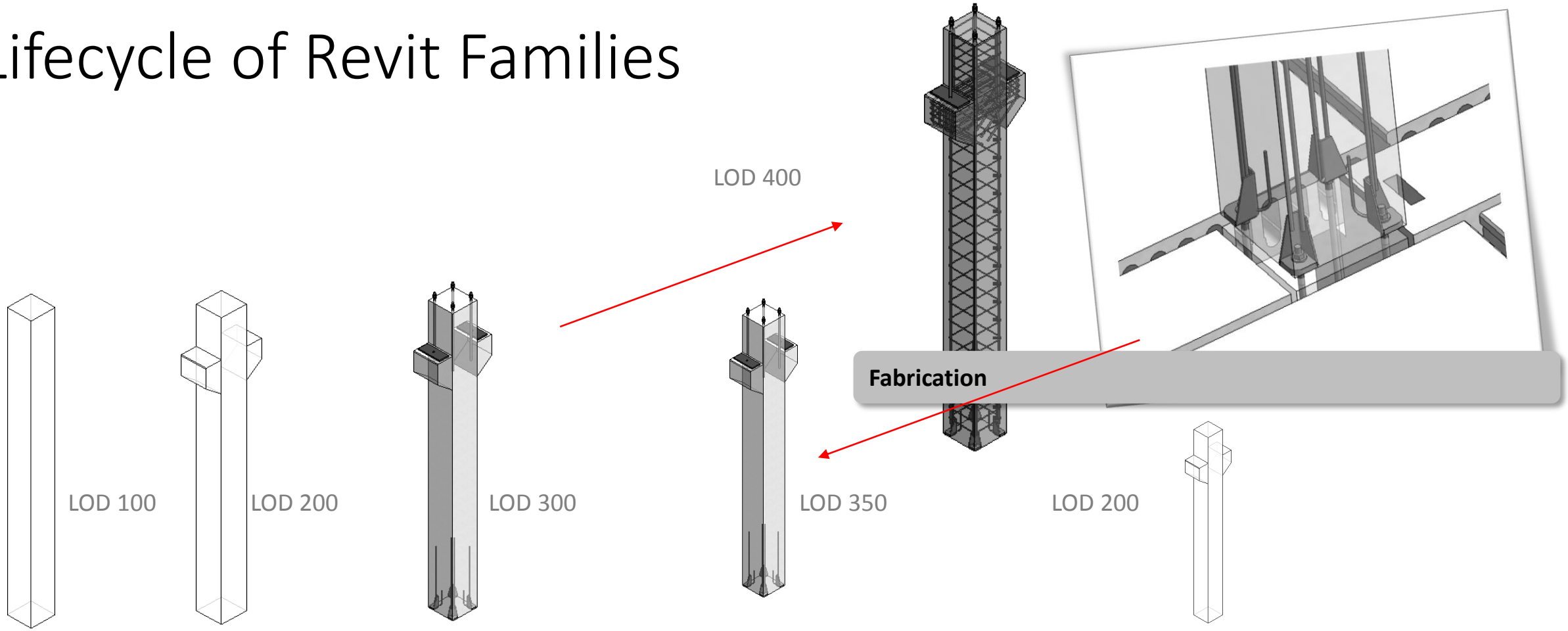
Set of Information (SOI)

Each information recipient requires different information, and a particular set of it, at different stages



Design → **Pre-Construction** → **Construction** → **Operation**

Lifecycle of Revit Families



3D modeling | **3D Model in use** | **3D model in operation**

Design → **Pre-Construction** → **Construction** → **Operation**

Requirements from the market / users

Experiences of the Revit User Meeting in June 2016

„Picture perfect“-families are:

- Simple + consistent in exchange
- Don´t cause instabilities
- Include material definition
- Offer:
  - Connectors (HVAC)
  - Relevant, specific information (strength class, fire resistance class)

Problem-families

- Level of Detail
- Performance problems (file size)
- Not adapted to plan of work phase = possible exchange for exactly these reasons with a less detailed product of the competitor
- Component handling during placement / exchange

[RUG] D-A-CH Revit User Group Deutschland Österreich Schweiz

Content considerations on the example of a mounting rail

- When does the planner display a washer on the plan?
- When would a simple geometric representation suffice?
- When would a more detailed model be necessary?
- What are the relevant information for the tender?