



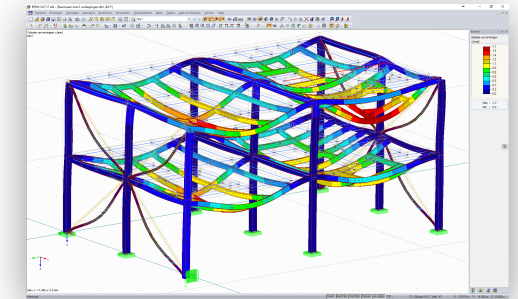
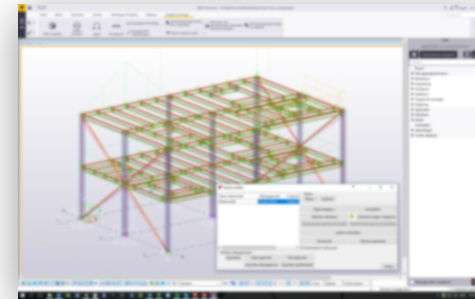
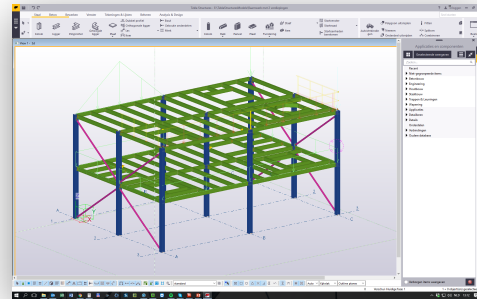
MSc Engineering

Koppeling Tekla en IDEA Connection

Emiel Peltenburg, Register-Constructeur MSc Engineering

**MSc**

# 3D Teken- en Rekenmodellen



Architectuur  
CAD -  
TEKENMODEL

Constructie  
CAD -  
TEKENMODEL

Constructie  
CAD -  
REKENMODEL

3D  
REKENSOFTWARE

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IFC – architectural view

REVIT Architecture  
Allplan Architecture  
ArchiCAD  
Sketch-up

IFC – coördination view

Tekla Structures  
REVIT Structures  
Advance Steel  
Allplan

IFC – analysis view

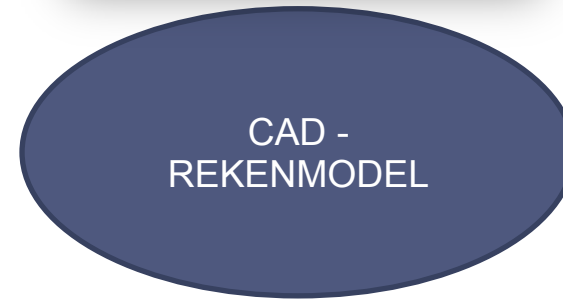
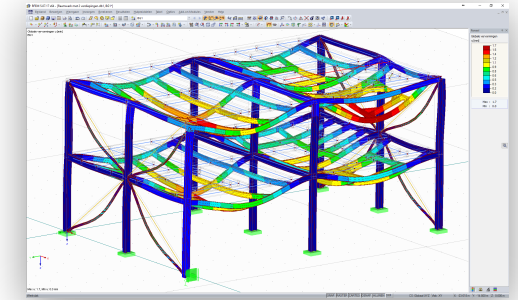
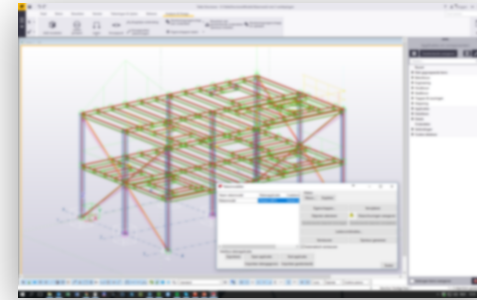
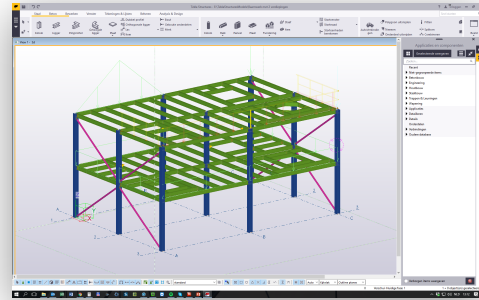
Teka Structures  
REVIT Structures

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IFC – analysis view

RFEM  
Axis VM  
Buildsoft  
Scia Engineer  
IDEA

# CAD en Rekenmodellen



IFC – architectural view  
Tekla Structures  
REVIT Architecture  
REVIT MEP  
Advance Steel  
Allplan  
ArchiCAD

IFC – coördination view  
Tekla Structures  
REVIT Structures  
Advance Steel  
Allplan

IFC – analysis view  
**Teka Structures**  
REVIT Structures

IFC – analysis view  
RFEM  
Axis VM  
Buildsoft  
Scia Engineer  
IDEA

# Verder werken uit CAD programma's, zoals Tekla en Revit

## Rekenmodel in Tekla naar Rekensoftware

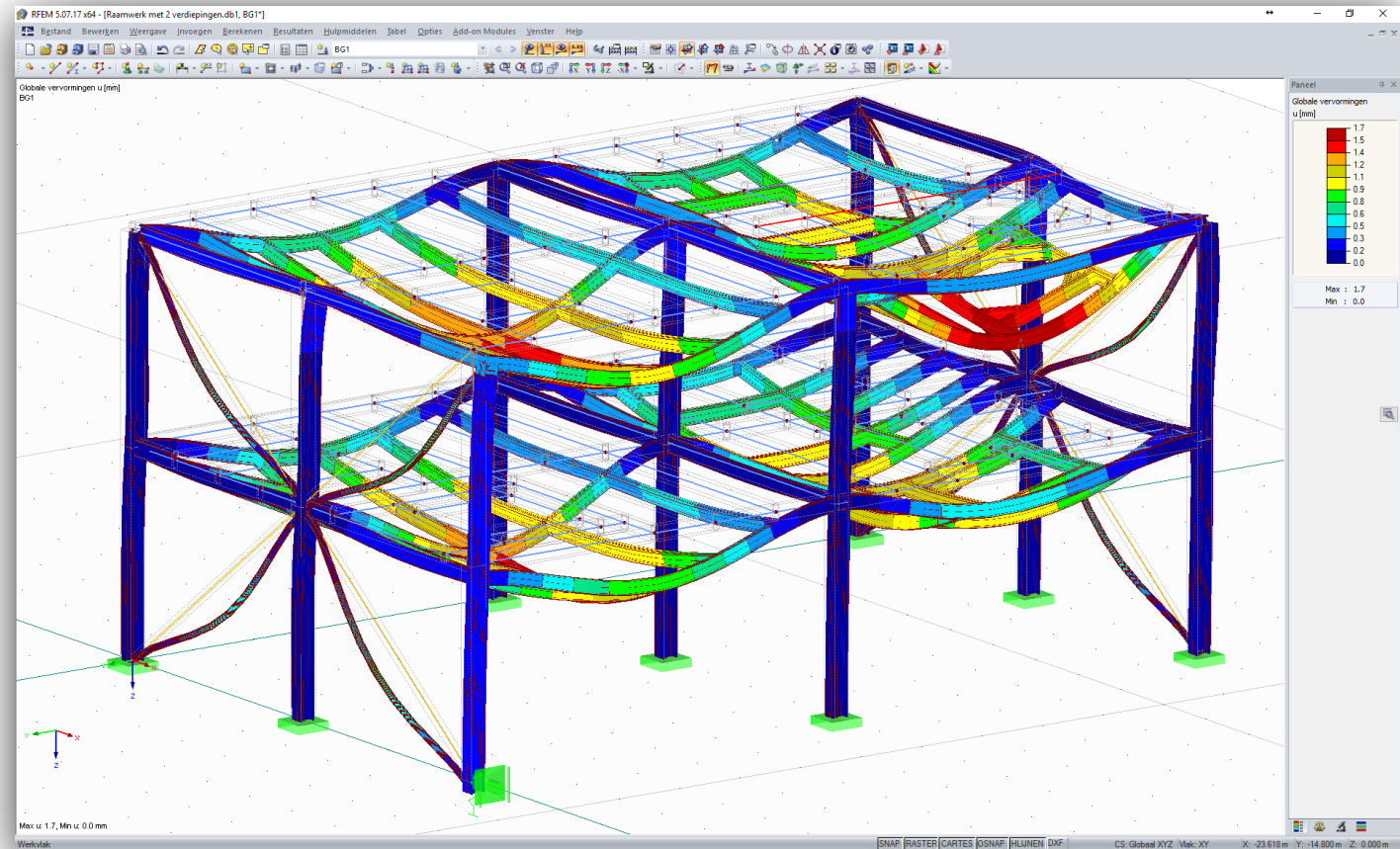
**Knopen, Staven, Scharnieren, Steunpunten, Belastingen, Export naar 3D Rekensoftware (RFEM e.a.).**

## Tekenmodel in Tekla naar Rekensoftware

Selecteren van staven,

Selecteren van platen, bouten en lassen

Directe verbinding met IDEA Connection



# Verder werken uit CAD programma's, zoals Tekla en Revit

## Rekenmodel in Tekla naar Rekensoftware

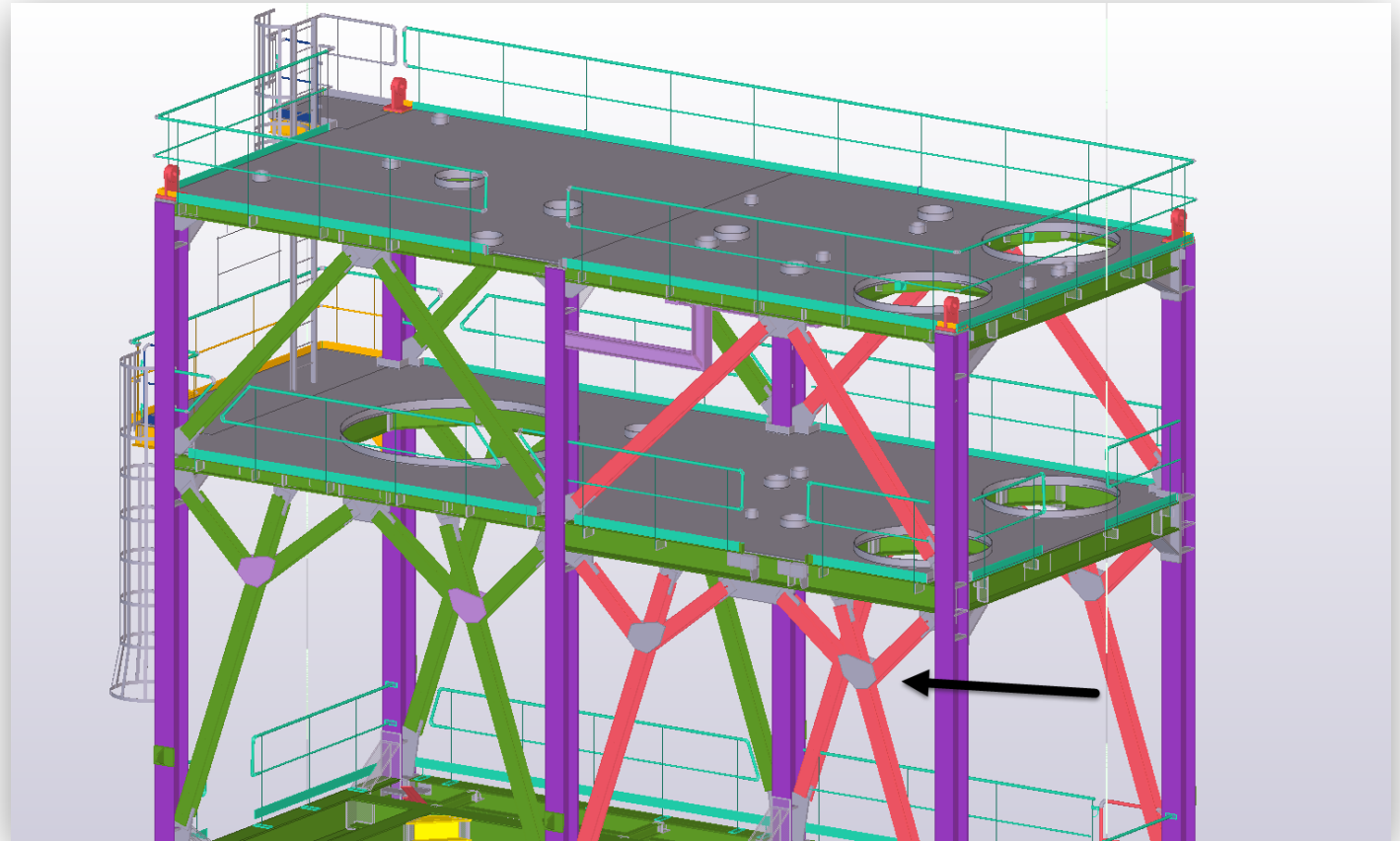
Knopen, Staven, Scharnieren, Steunpunten, Belastingen, Export naar 3D Rekensoftware (RFEM e.a.)

## Tekenmodel in Tekla naar Rekensoftware

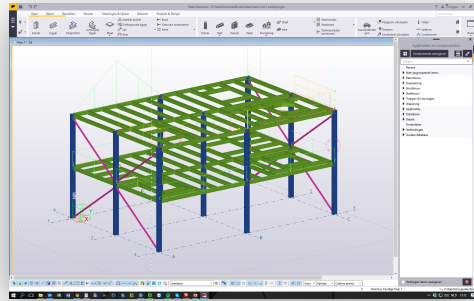
Selecteren van staven,

Selecteren van platen, bouten en lassen

Directe verbinding met IDEA Connection



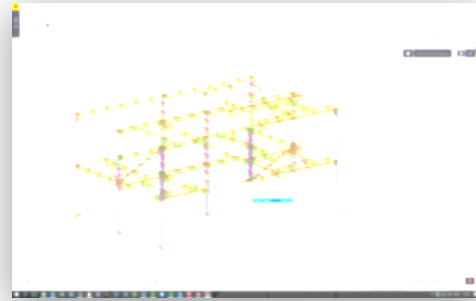
# CAD en Rekenmodellen



CAD -  
TEKENMODEL

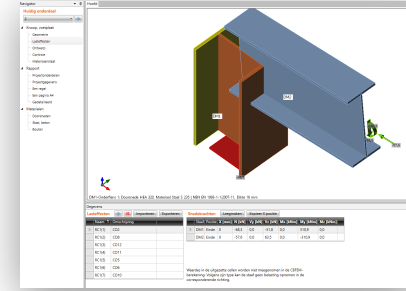
IFC – coördination  
view

**Tekla Structures**  
REVIT Structures  
Advance Steel



REKENMODEL

IFC – analysis view  
Teka Structures  
REVIT Structures



DETAIL  
REKENSOFTWARE

IFC – analysis view  
RFEM  
Axis VM  
Buildsoft  
**IDEA Connection**



# Verder werken uit CAD programma's, zoals Tekla en Revit

## Rekenmodel in Tekla

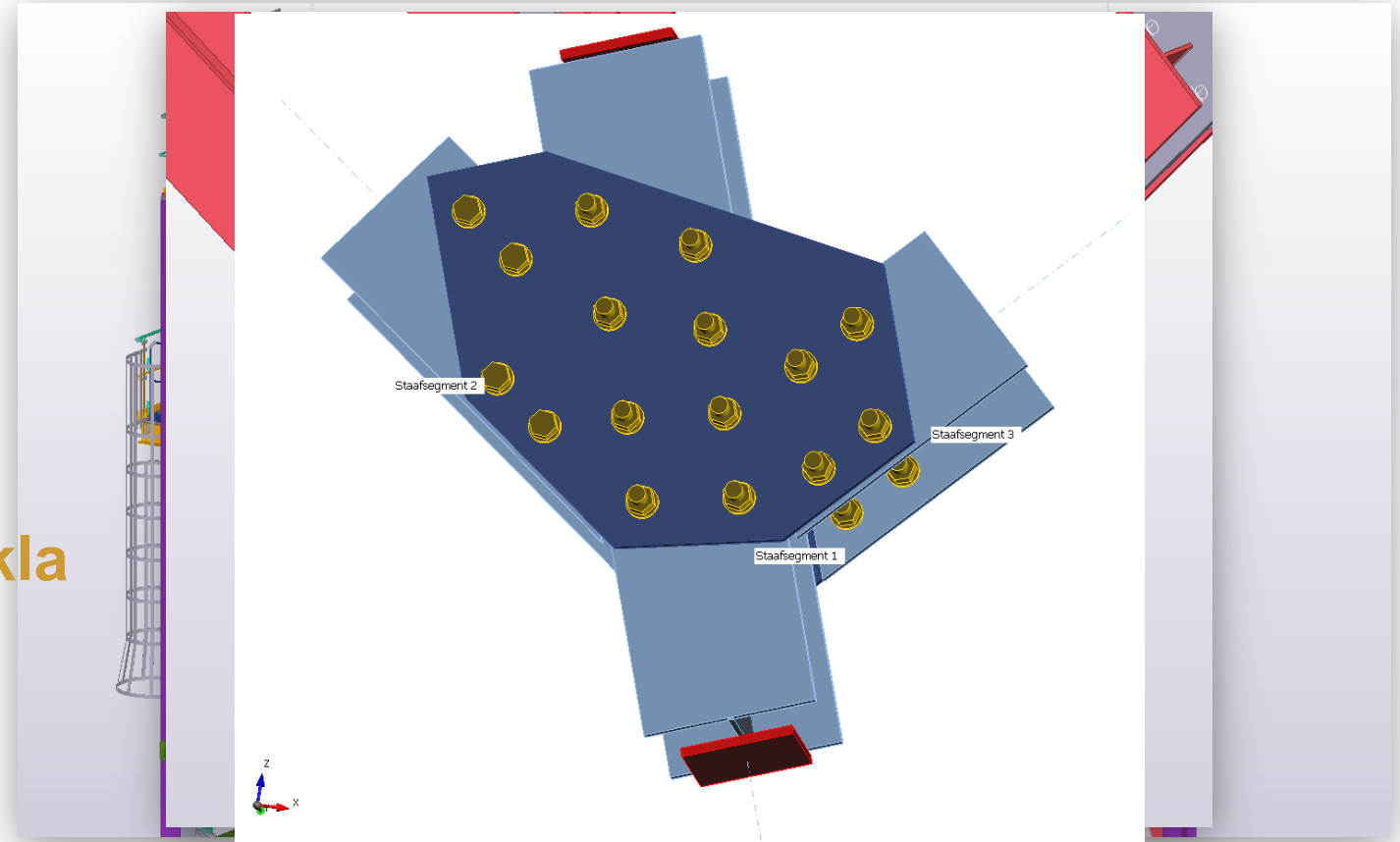
Knopen, Staven, Scharnieren, Steunpunten, Belastingen, Export naar 3D Rekensoftware, zoals RFEM.

## Export naar IDEA Connection vanuit Tekla

Selecteren van staven,

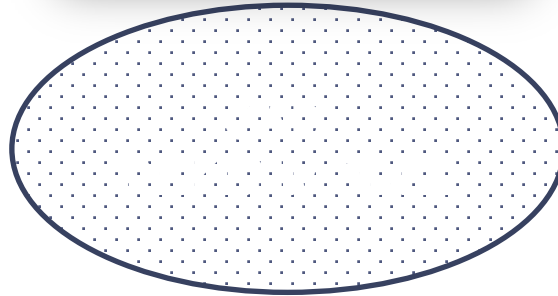
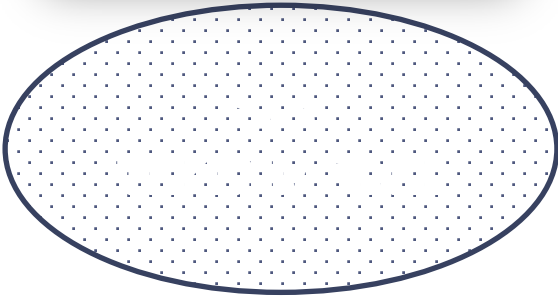
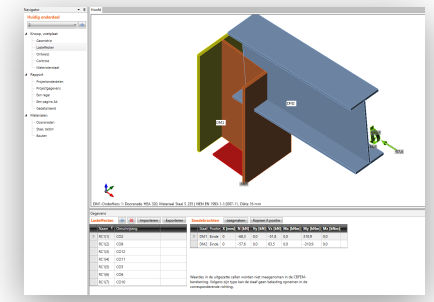
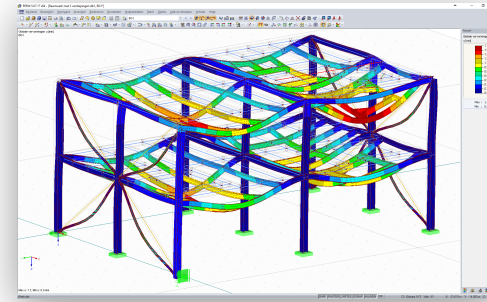
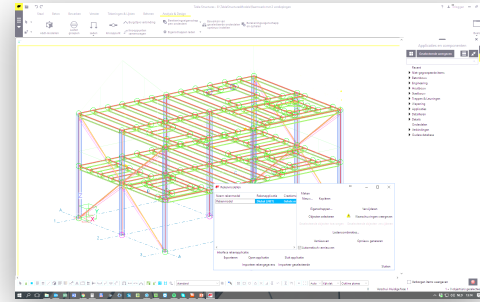
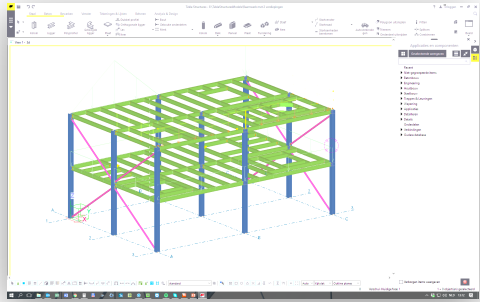
Selecteren van platen, bouten en lassen

Directe verbinding met IDEA Connection



Geen snedekrachten vanuit Tekla

# CAD en Rekenmodellen



IFC – coördination view  
Tekla Structures  
REVIT Structures  
Advance Steel

IFC – analysis view  
Tekla Structures  
REVIT Structures

IFC – analysis view  
**RFEM**  
Axis VM  
Buildsoft  
IDEA

IFC – analysis view  
RFEM  
Axis VM  
Buildsoft  
Scia Engineer  
**IDEA Connection**

**Geen verbindingdelen vanuit Tekla**



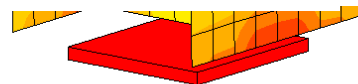
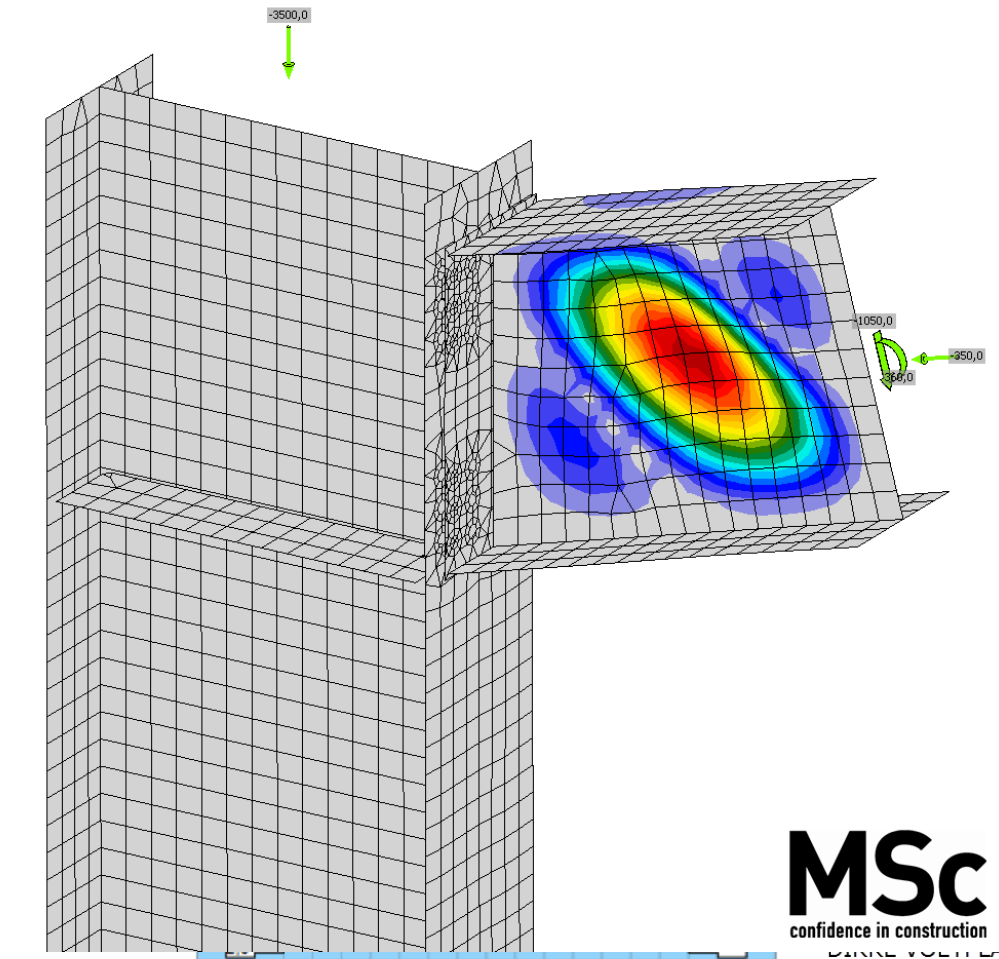
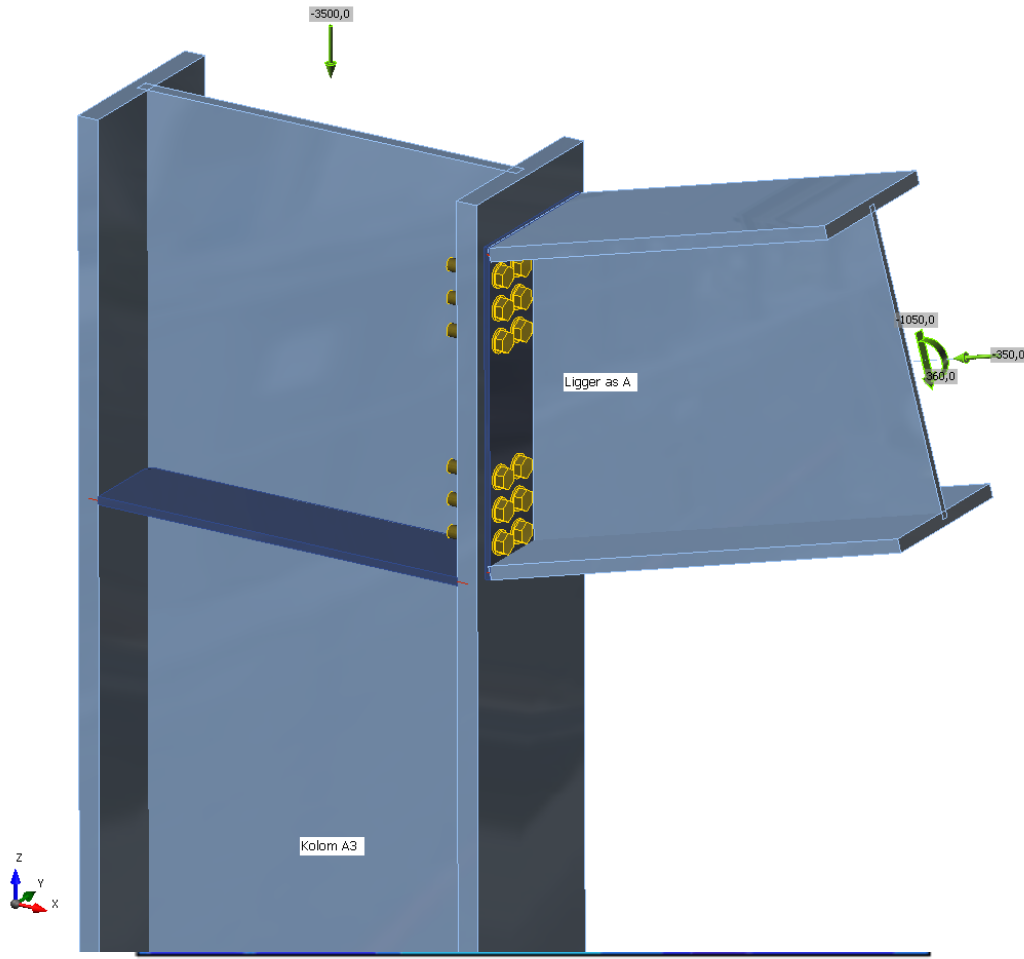
# Waarom IDEA Connection?

Zeer goed inzicht in het gedrag van de verbinding

Stijfheidsdiagram My -  $\phi_y$ , LE1

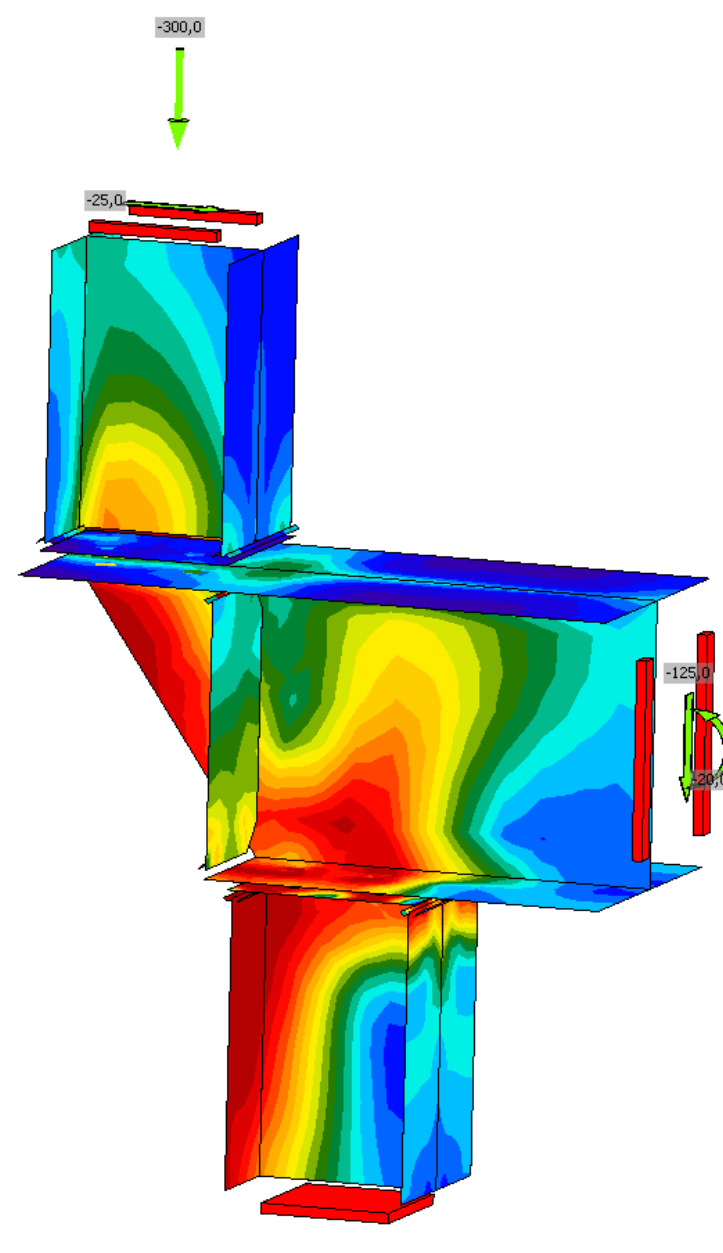
# MSc

- Sj
- Sj,R
- Sj,P
- Sj,ini



# Waarom IDEA Connection?

Snel varianten onderzoeken



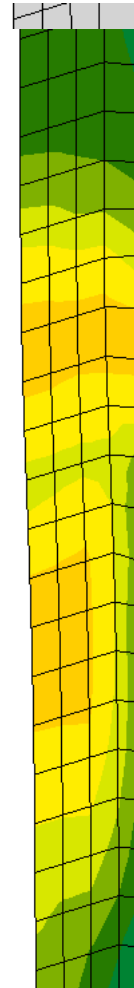
# Waarom IDEA Connection?

## Snel varianten onderzoeken

Opsomming Berekening Platen Bouten Lassen Knik

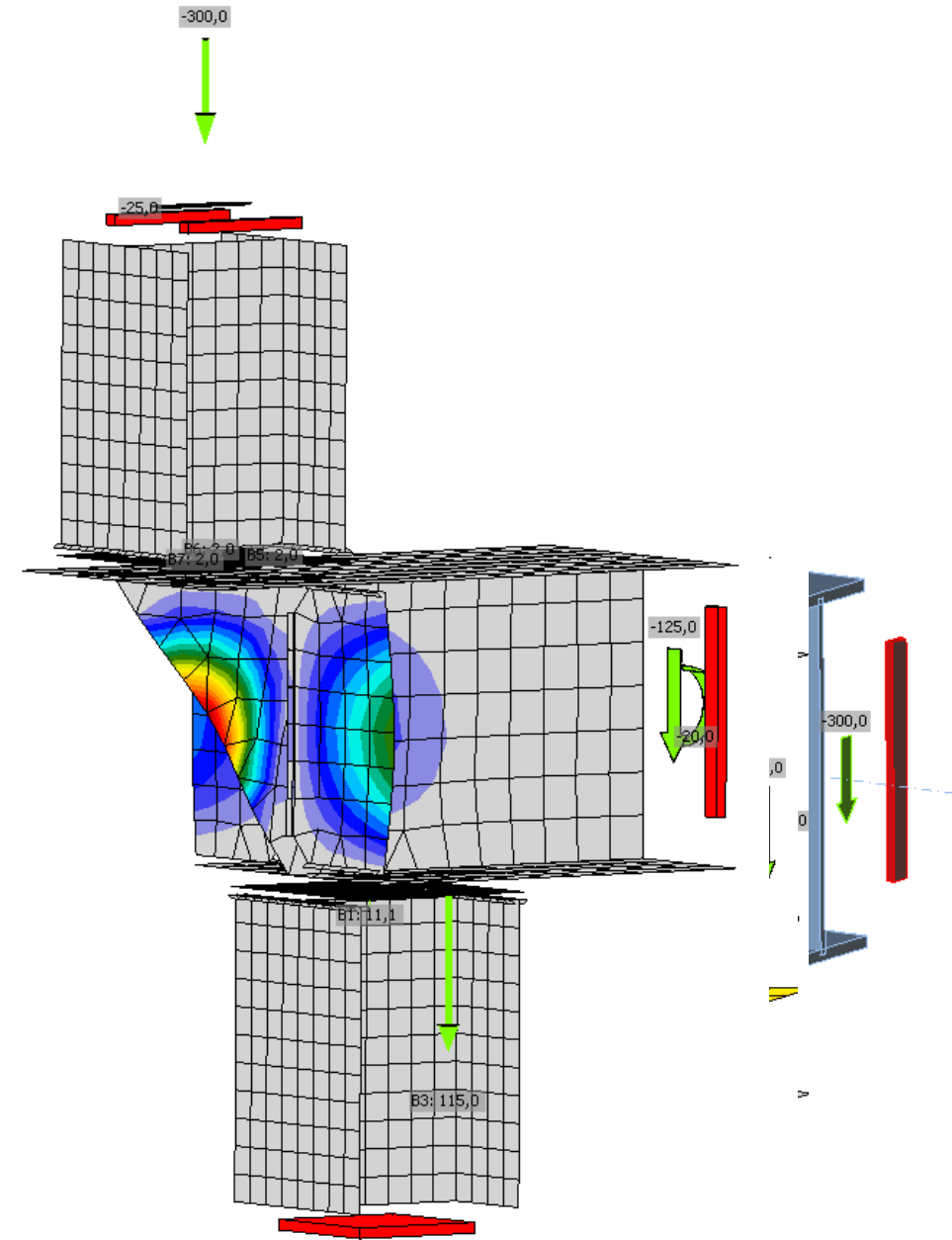
**Lokale knik van de knoop**

Belastingen	Vorm	Factor
> LE1	1	11,34
	2	11,89
	3	16,64



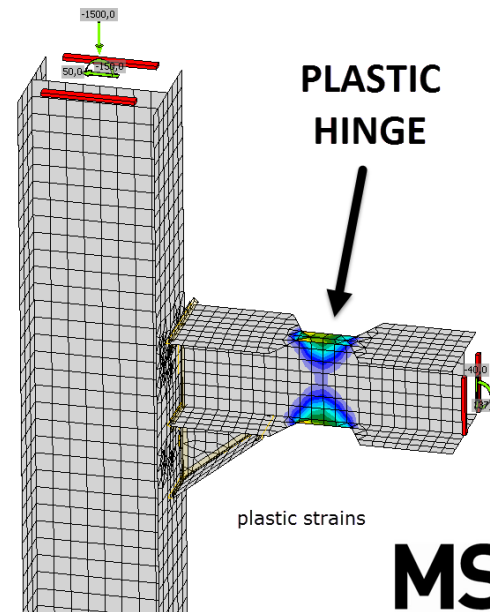
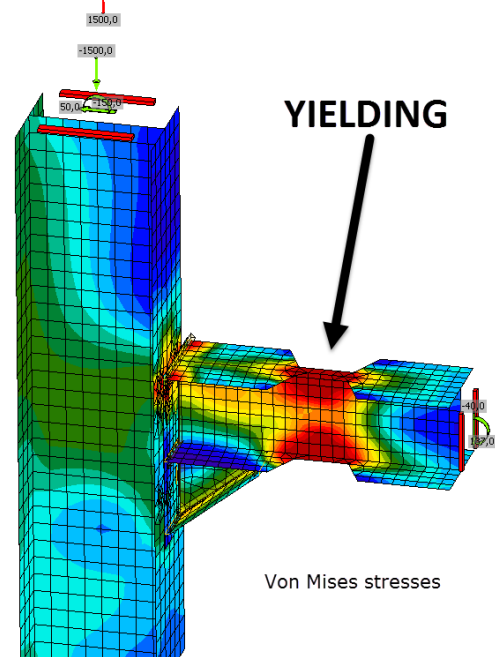
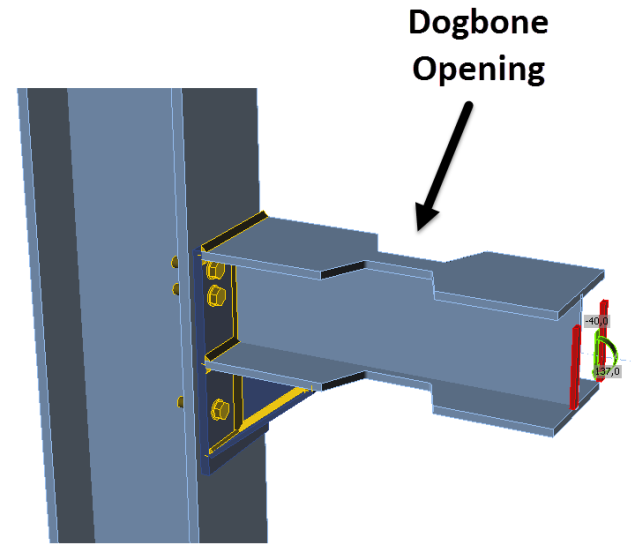
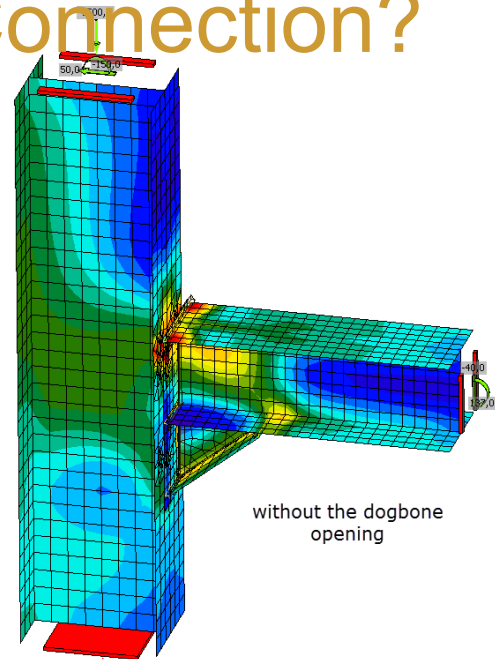
**Lokale knik van de knoop**

Belastingen	Vorm	Factor
LE1	1	8,23
>	2	10,62
	3	12,43
	4	13,17
	5	14,30
	6	14,41



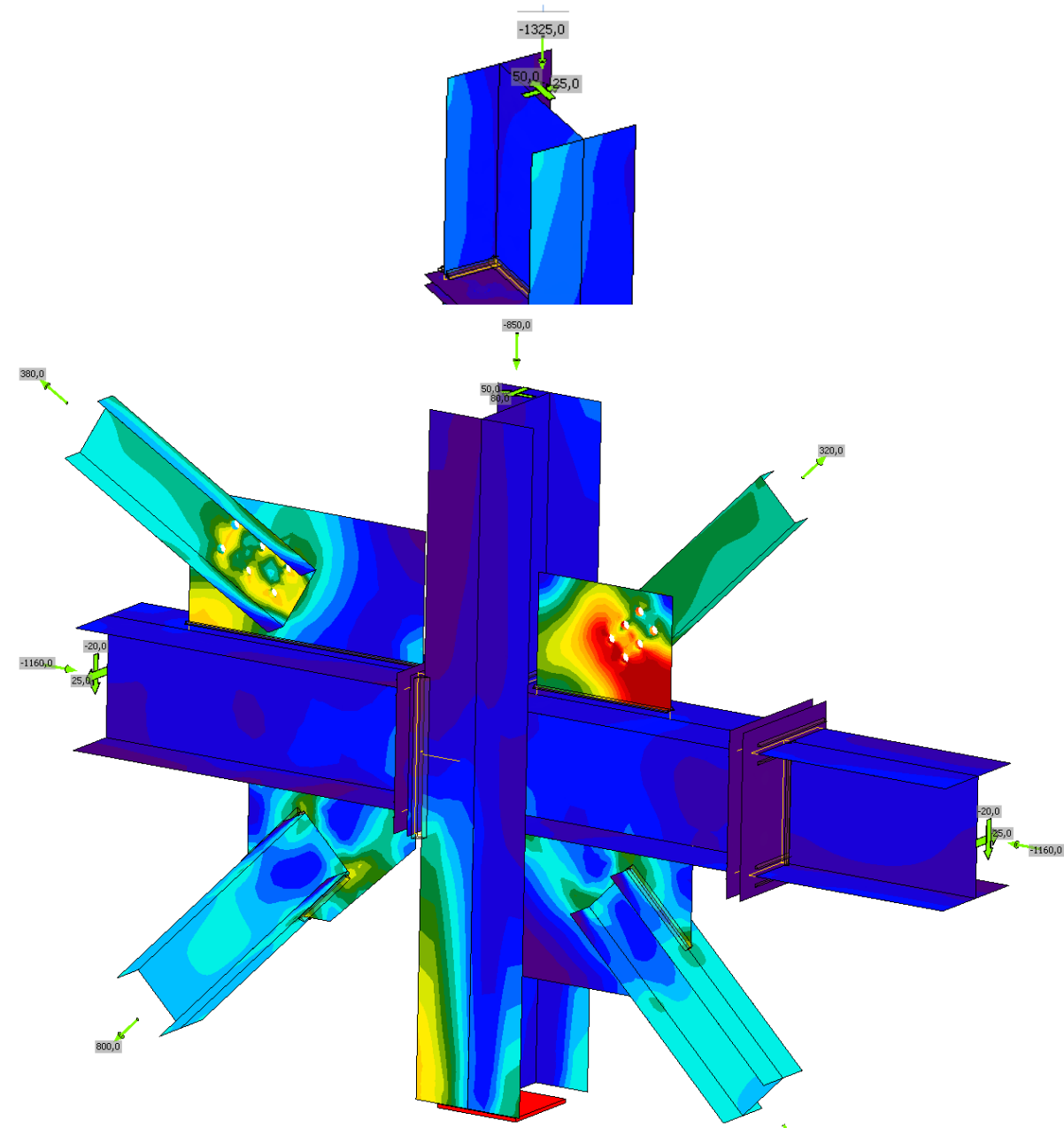
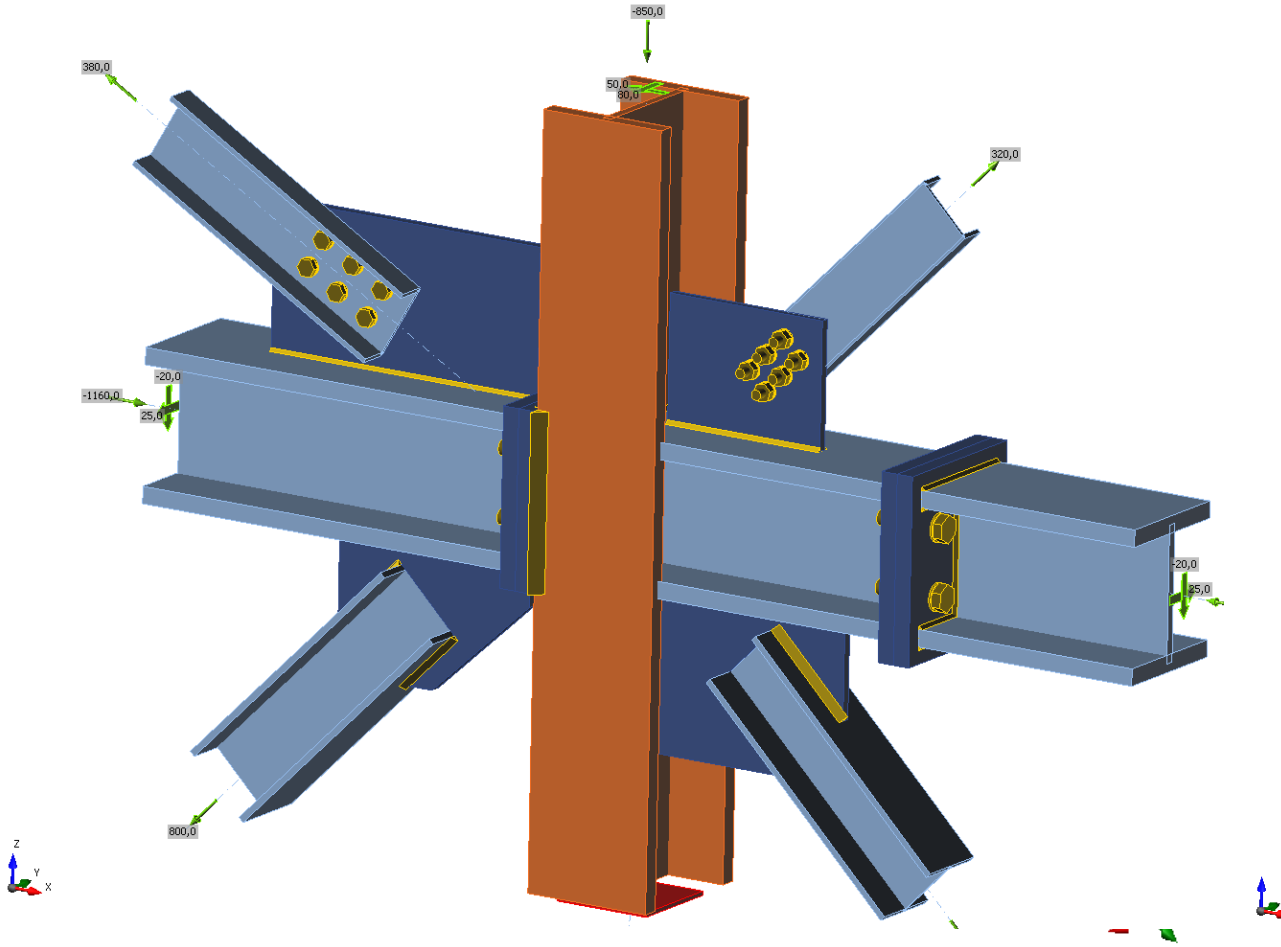
# Waarom IDEA Connection?

## Aardbevingen



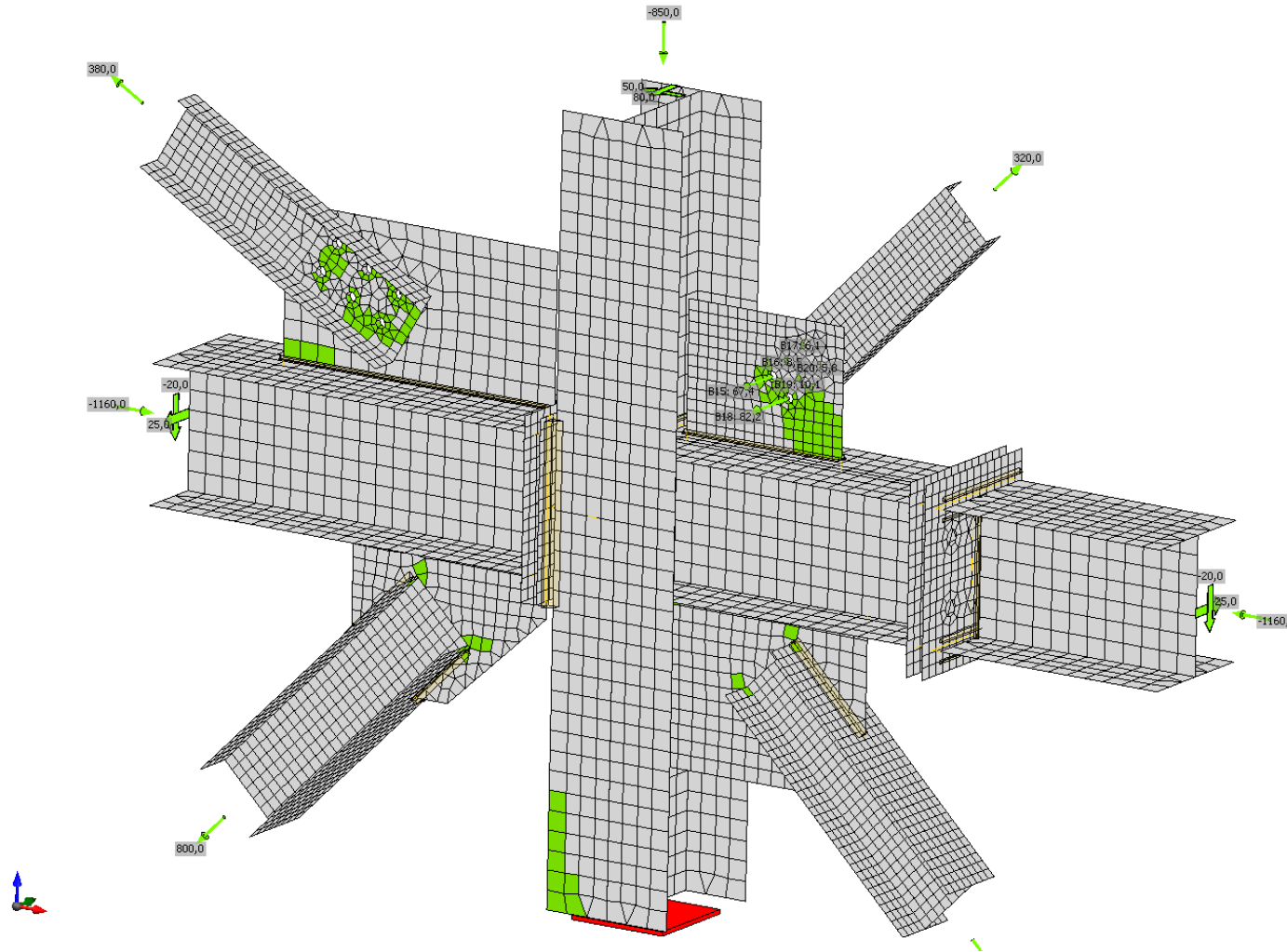
# Waarom IDEA Connection?

## Complexe verbindingen



# Validatie?

(Hoofd)constructeurs zijn bekend met EEM



# Validatie?

## Bouwen met Staal – publicatie van prof. Wald



**MSc**  
confidence in construction

