

Nordic Civil, Vejle 2017

# Utilizing BIM on the Ringsted – Femern Project

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## **New railway København- Ringsted,**

New 55 km double track 250 km/t

Period: 2013-2018

## **Ringsted Station**

Flyover, new railway bridge 200 km/t

Period: 2016-2019

## **Masned Sundbroen**

E3005 New railway bridge

Period: 2016-2020

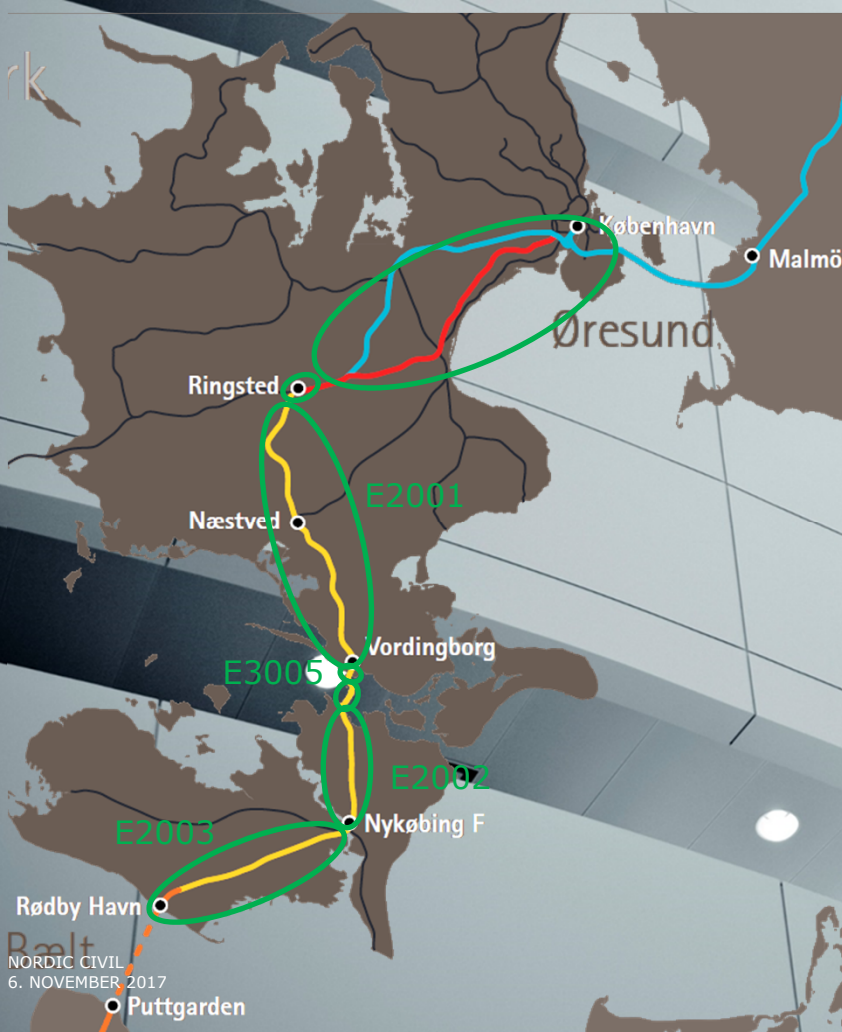
## **New Storstrømsbro**

Period: 2016-2023

## **Ringsted - Femern**

Railway upgrade for 200 km/h

Period: 2016-2021



Reduced travel times 2021/2024

Fastest connection	Today	After 2021 (Railway)	After 2024 (Tunnel)
Næstved – København	0:55	0:36	<b>0:34</b>
Vordingborg – København	1:10	0:48	<b>0:45</b>
Nykøbing Falster – København	1:34	1:03	<b>0:57</b>
Hamburg – København*	4:50	n/a	<b>2:40</b>
Hamburg – København – non-stop*	n/a	n/a	<b>2:31</b>

\*) Travel times to Hamburg assumes that tunnel and land works in Germany has been upgraded as agreed.



The project is split into 11 sections  
(Delivery Packages, DP-01 – DP-11)

All packages is delivered as Pre-Design (PD) and as Detailed Design (DD).

Each delivery is done in three steps in both PD and DD:

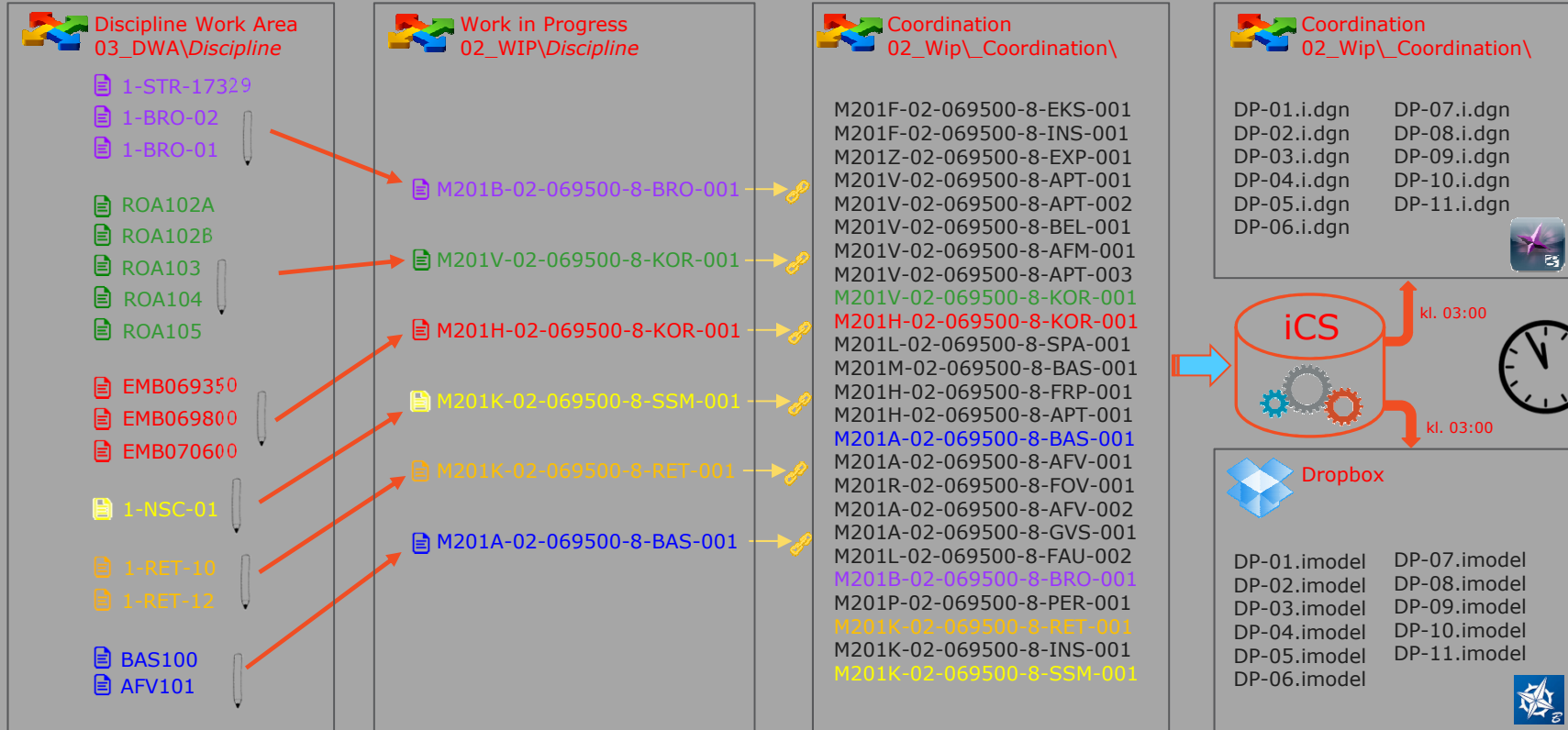
- Submission for internal interface check
- Submission for the contractor (MJE) for commenting
- Submission for the client (Banedanmark)



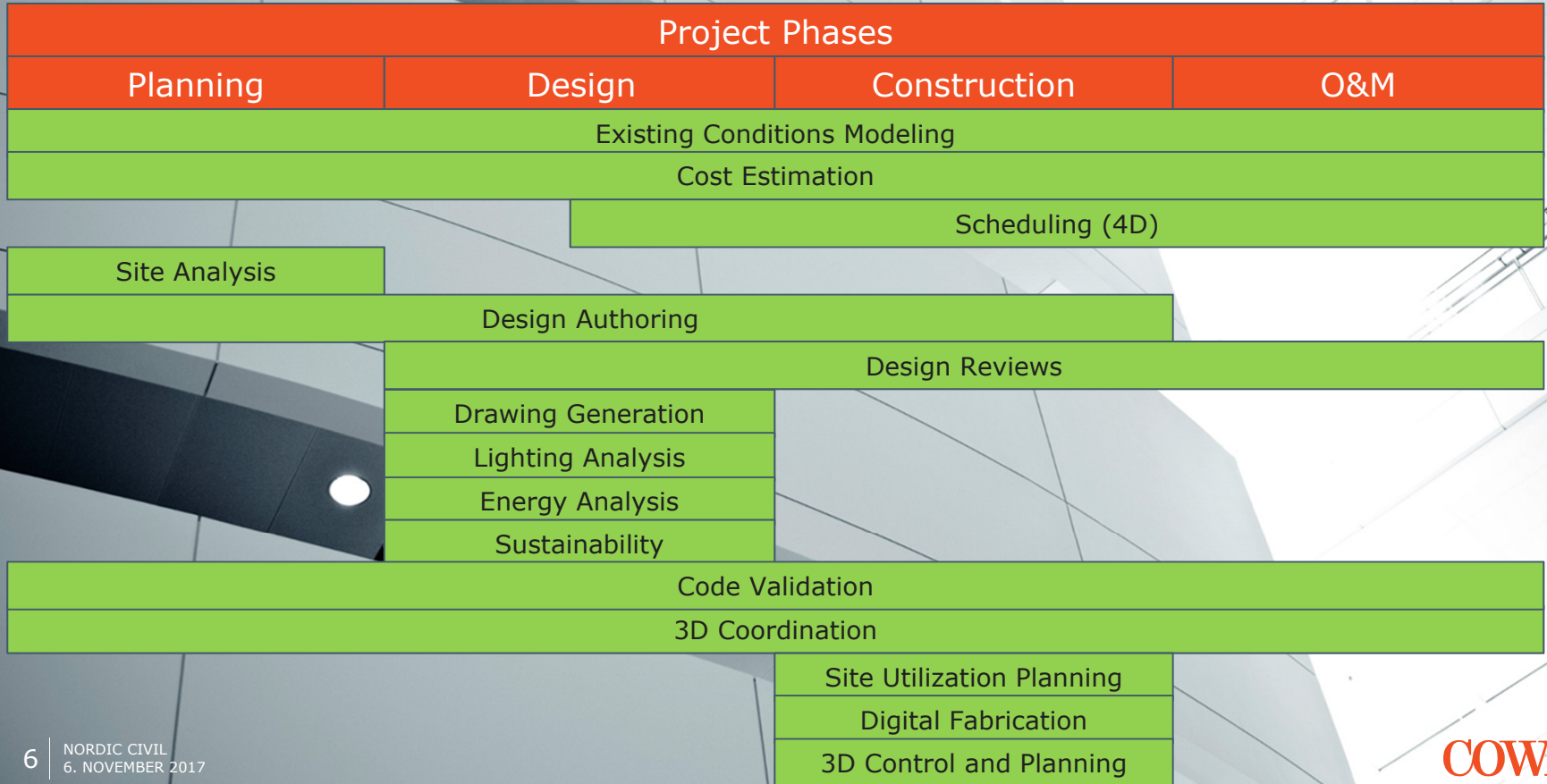
A total of 66 submissions during the design period of 12-18 months!

**Everything** is designed in 3D

# iModel workflow with ProjectWise (DP-02 example)



BIM uses on E2001 & E2002





How we work differently now

Design Review with '**Bentley Navigator**' with mark-ups and action lists

3D Coordination (clash detection) with '**Bentley Navigator**' and automatic check form

Making the graphics usable for 3D coordination with '**COWI RoadTools 3D**' and 3D Warehouse