

Status of

AIM

Alternative Installation Method for the VXD

9th Belle II VXD Workshop, Valencia (Spain), 15.01.2016



MAX-PLANCK-GESELLSCHAFT



Max-Planck-Institut für Physik
(Werner-Heisenberg-Institut)



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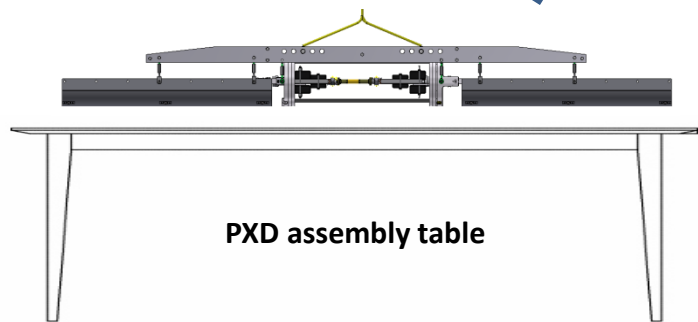
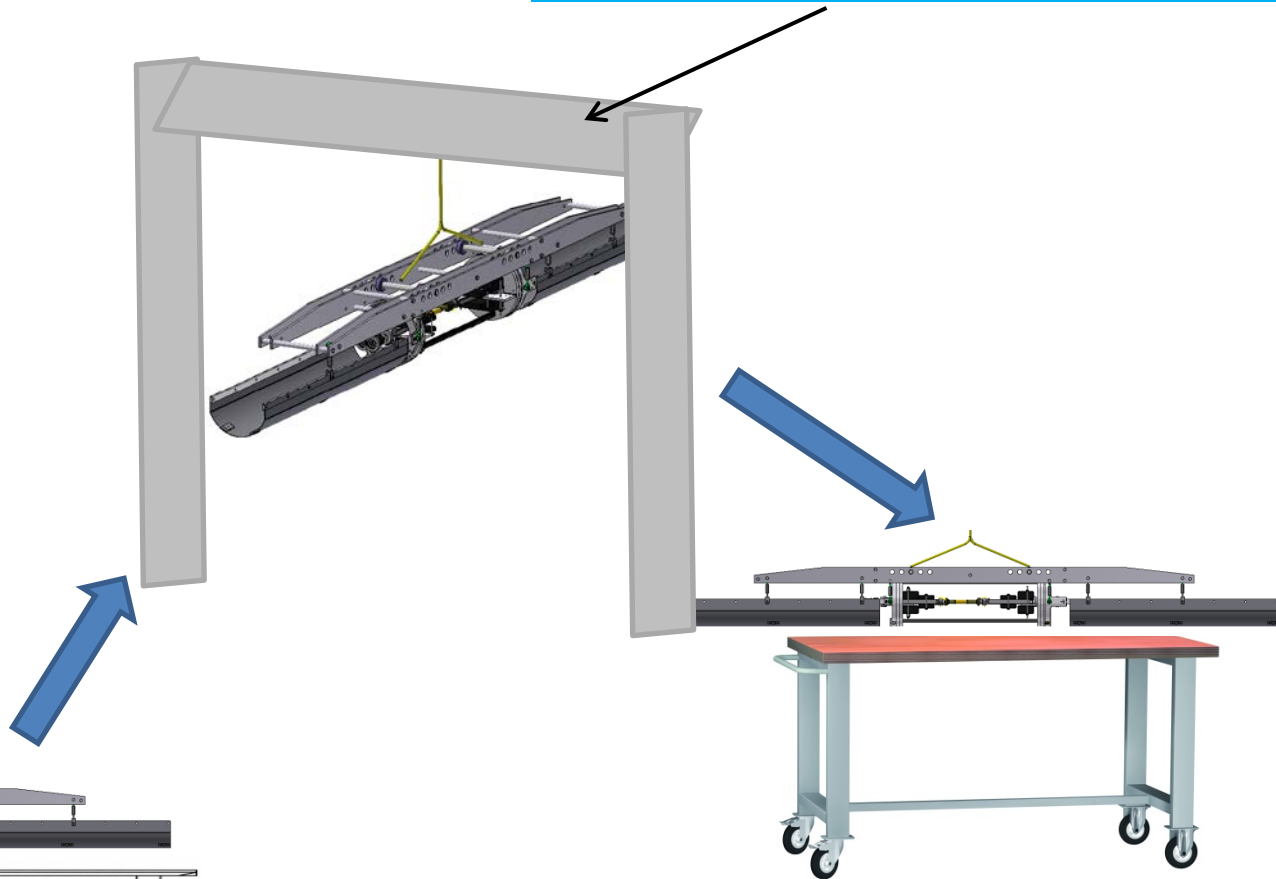
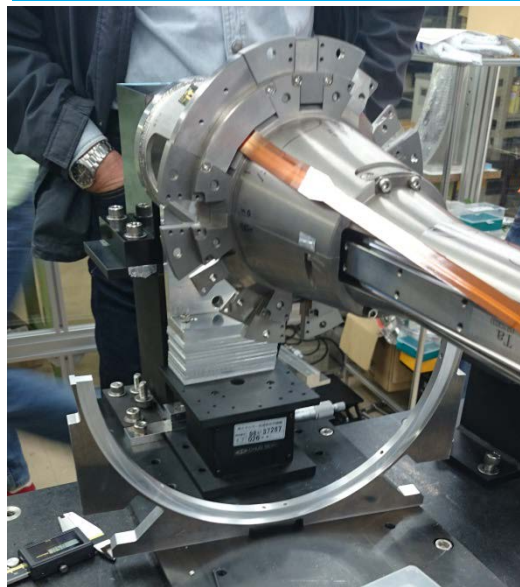
Overview

- Agreed at last B2GM: **Handling of the VXD** in B1
- From the assembly-table -> balcony: **Situation@B1**
- Built by MPP: **Crane tool**
- Built by KEK: **Transport trolley**
- Updated design: **Cable trays**
- To be completed: the design of the **VXD Dummy**

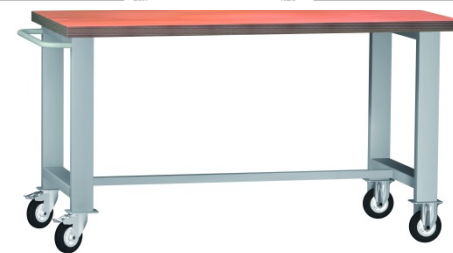
Handling of the VXD in B1

Before putting on the cable trays
half-rings will be mounted
the VXD will be lifted up with jacks

Lifting bridge above the table will be supplied by KEK



PXD assembly table



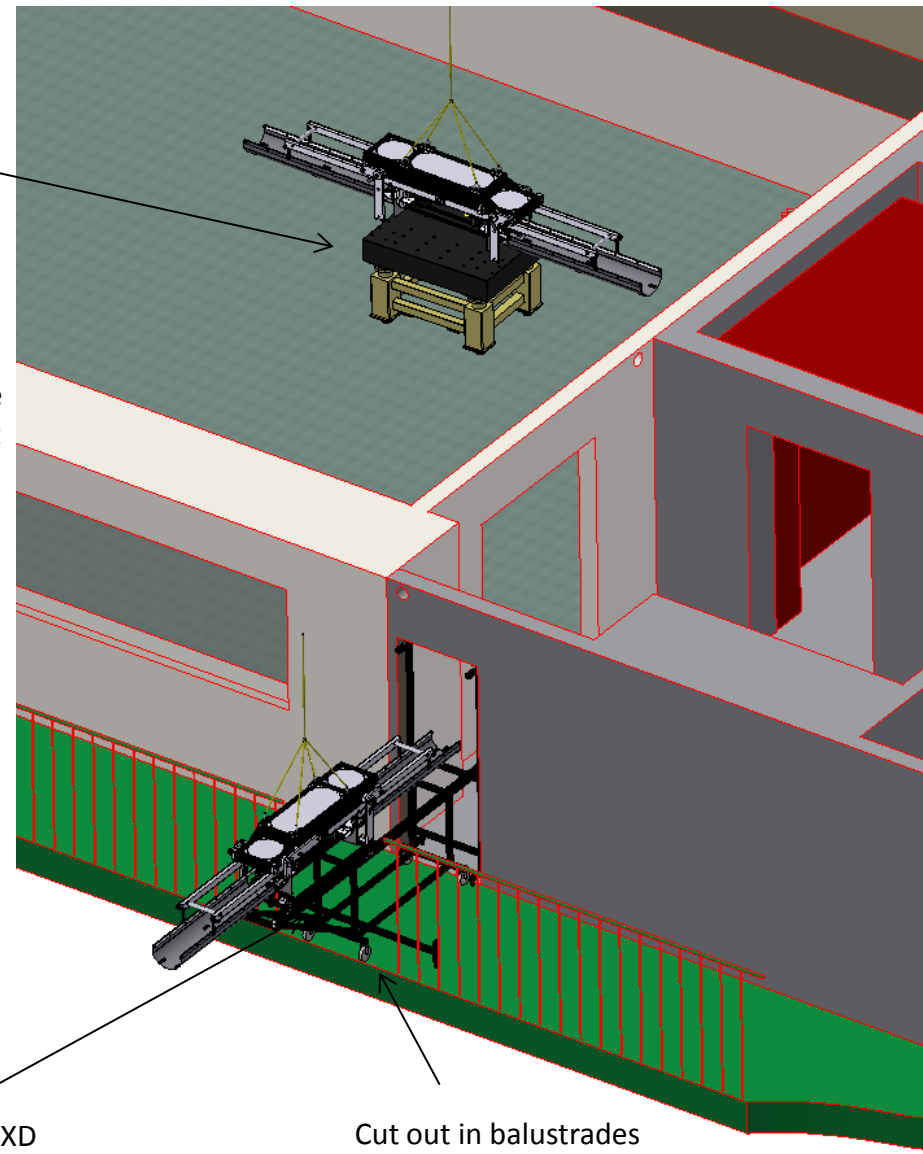
Trolley

B1 room -> B1 balcony

Situation @ B1

PXD assembly table
with
Crane tool + VXD

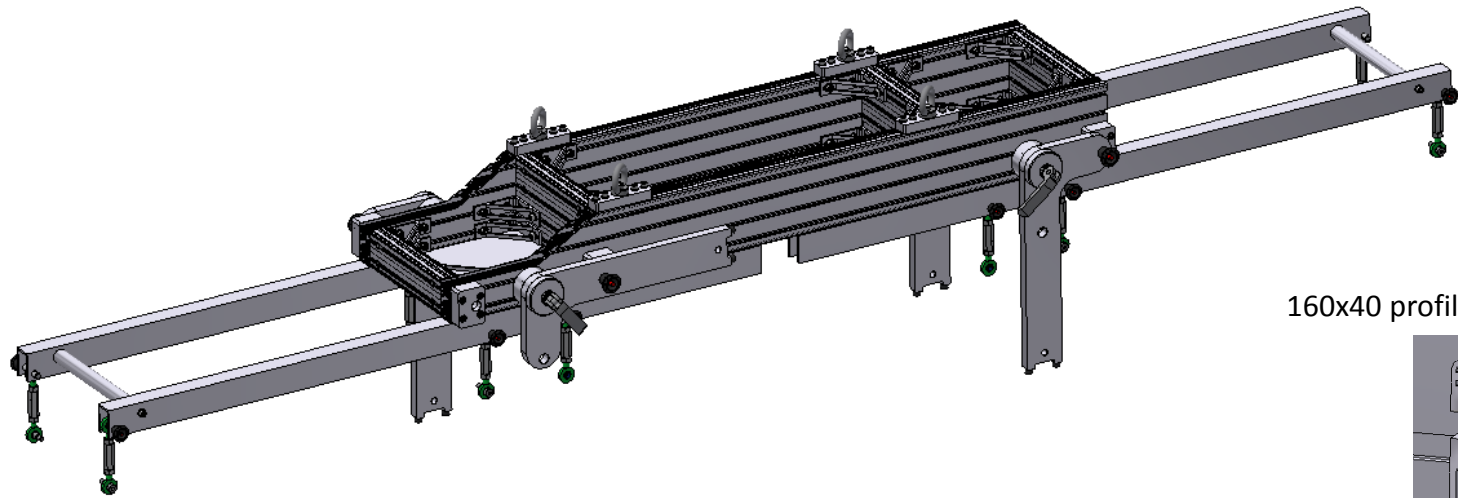
Remark: Need a bar on
the table, where we can
put the crane tool on the
right height. Will figure it
out on 23rd B2GM



Trolley
with
Crane tool + VXD

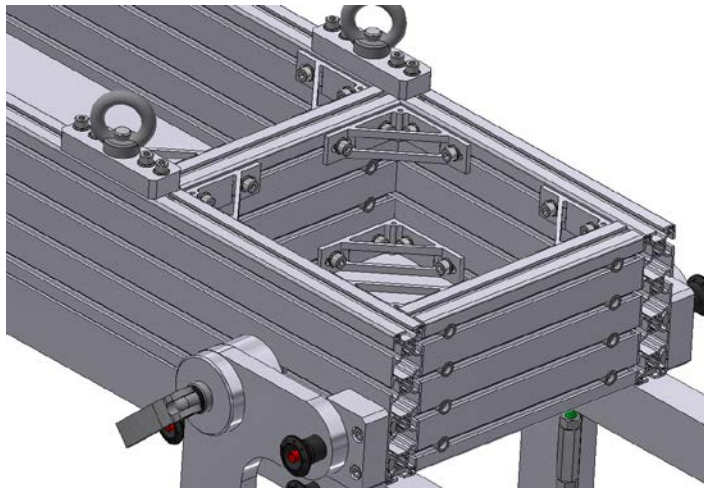
Cut out in balustrades

Crane tool – design features

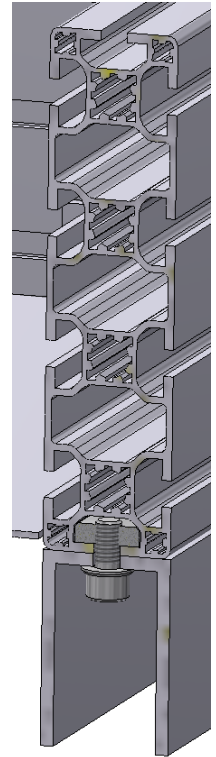
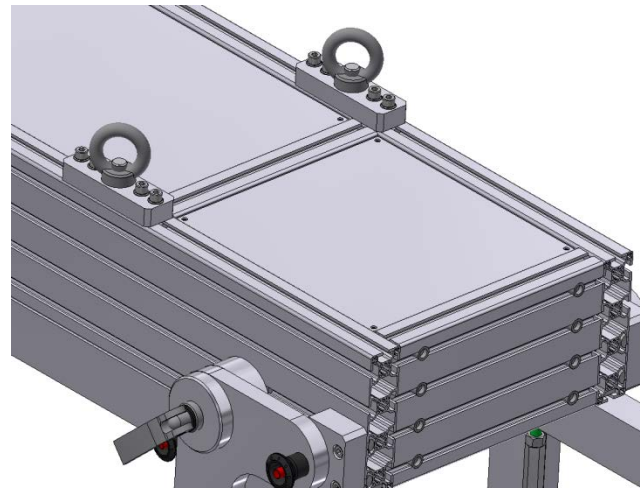


160x40 profile and U-profile

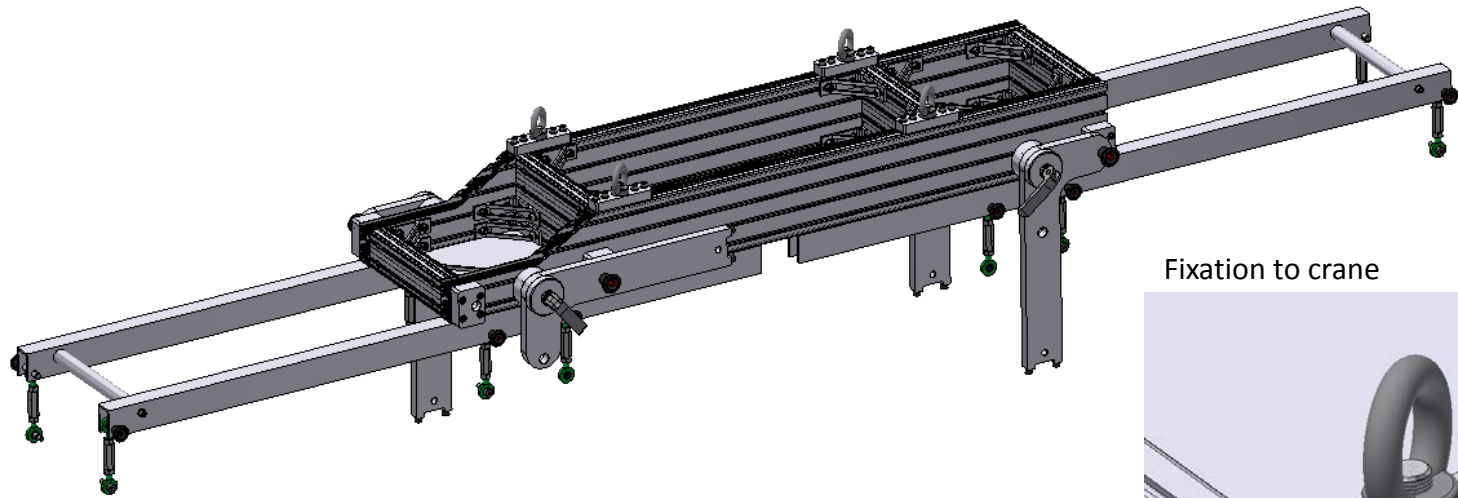
160x40 Al-profiles supported with angles



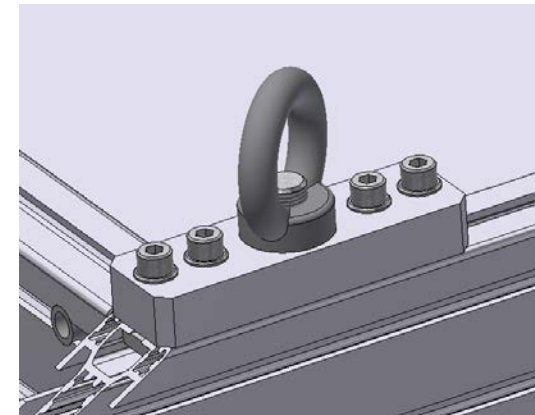
Al-sheet metal to close the body (and bit more stiffness)



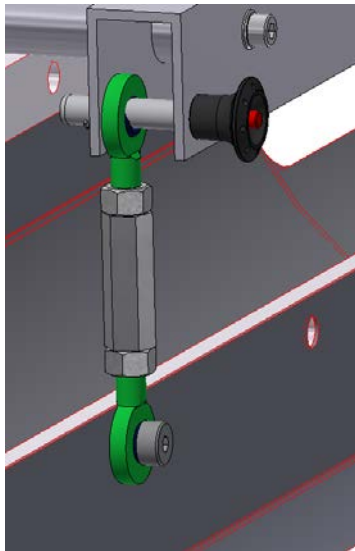
Crane tool – design features



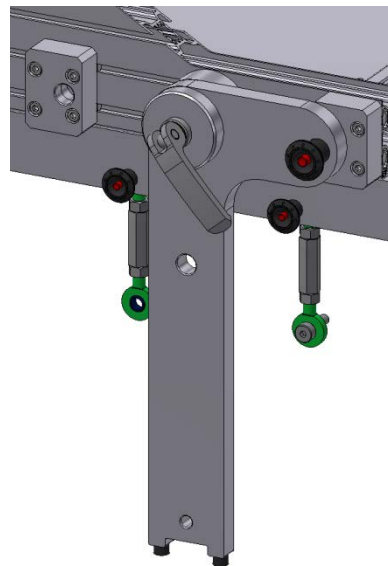
Fixation to crane



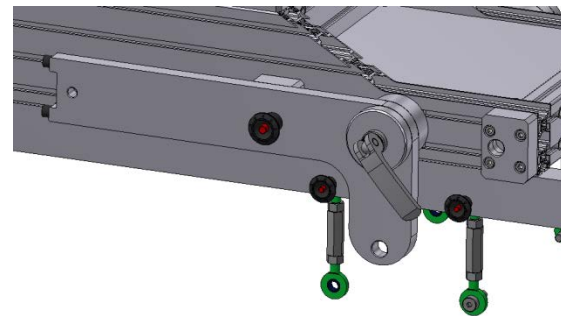
Fixation of cable trays



Support leg (open)

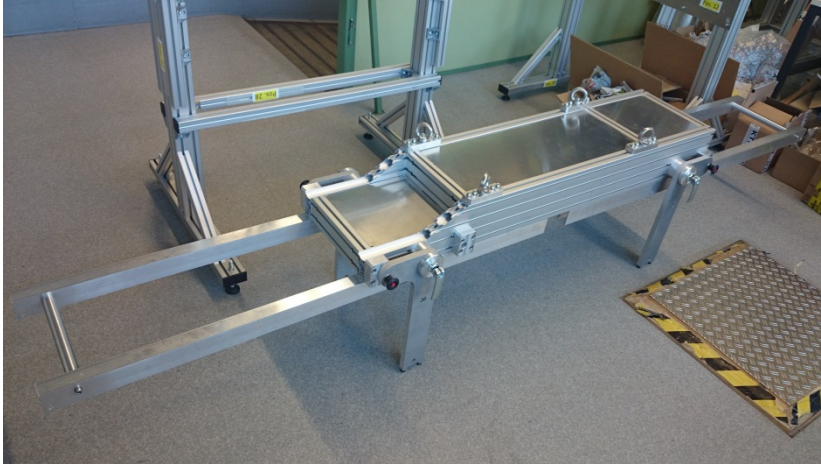


Support leg (closed)



Crane tool - pictures

Fully assembled crane tool



Support leg (open)



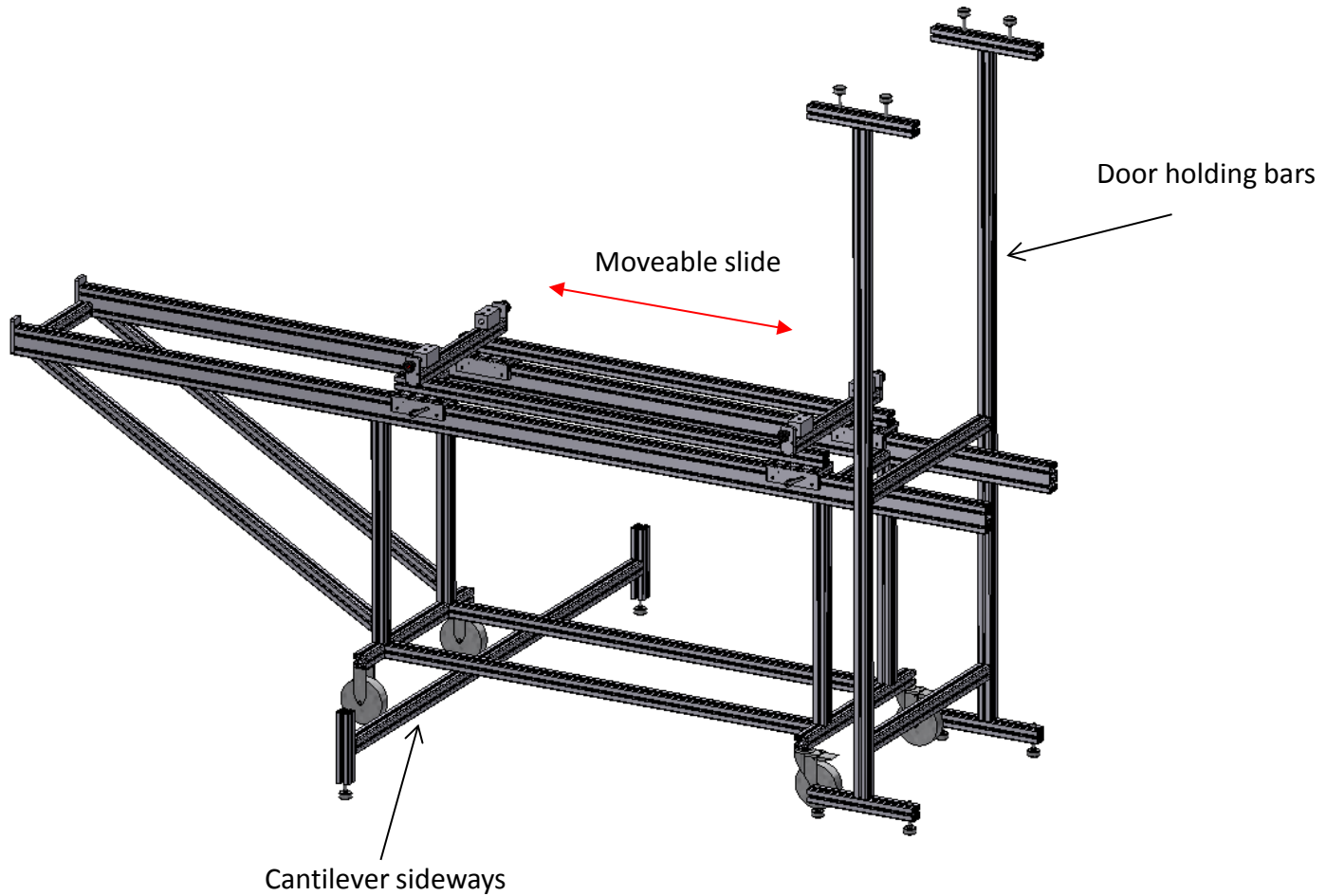
Fixation to crane



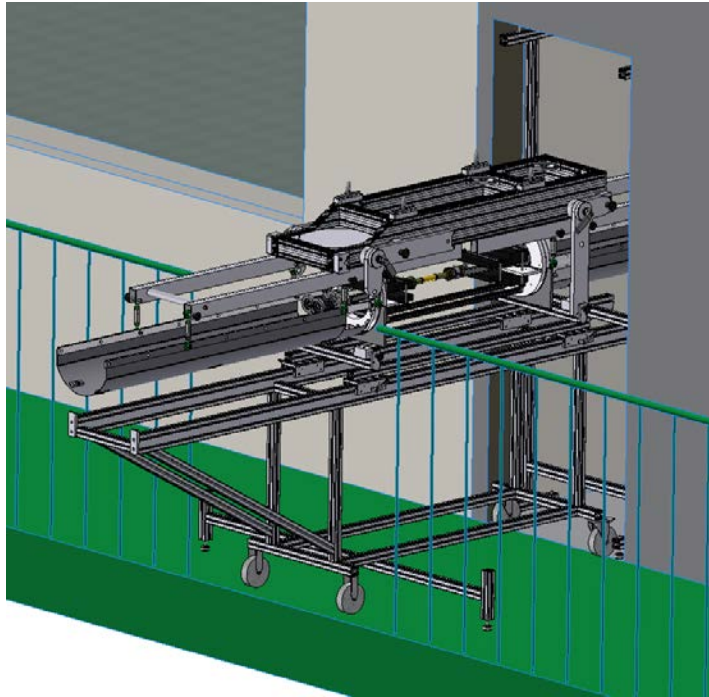
Fixation of cable trays



Transport trolley – design features



Transport trolley on the balcony

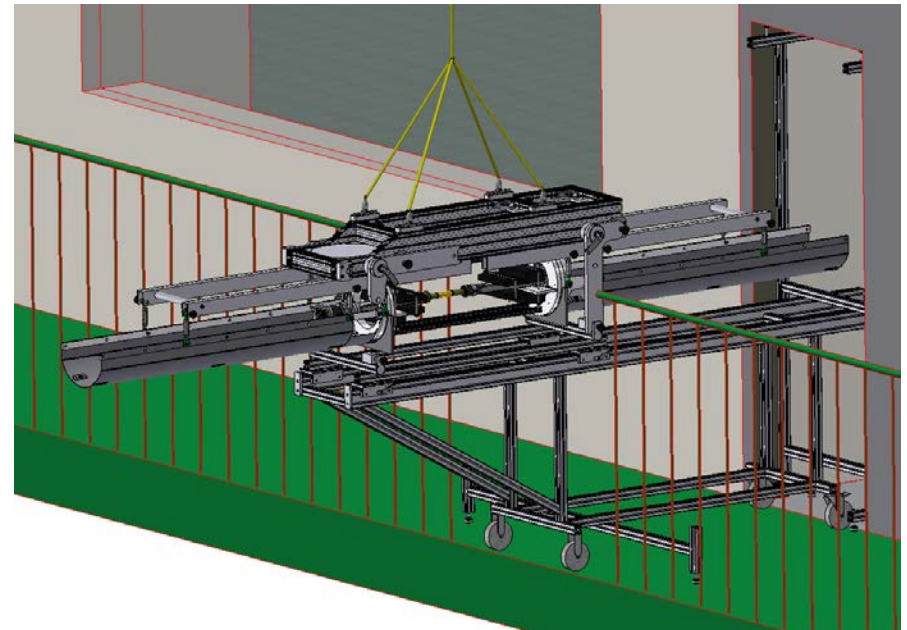


Retracted position:

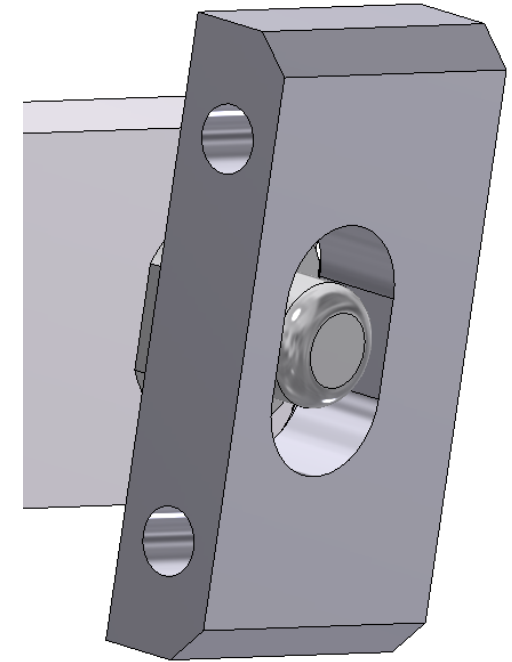
- Trolley **will be mounted** on door and balustrades
- Crane **can NOT reach** the crane tool

Extended position:

- Trolley is **fixed** on door and balustrades
- Crane **can reach** the crane tool

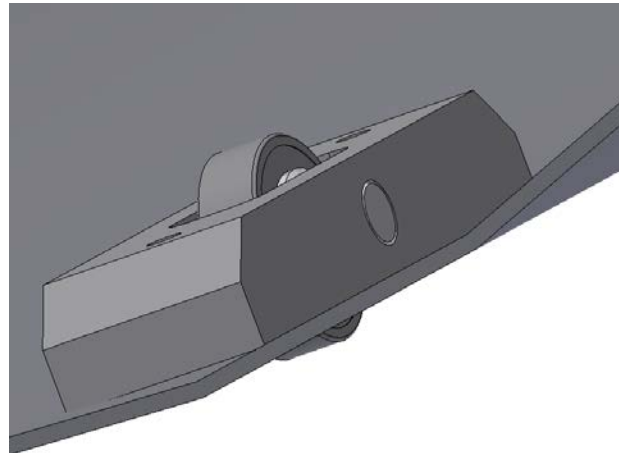


Cable trays



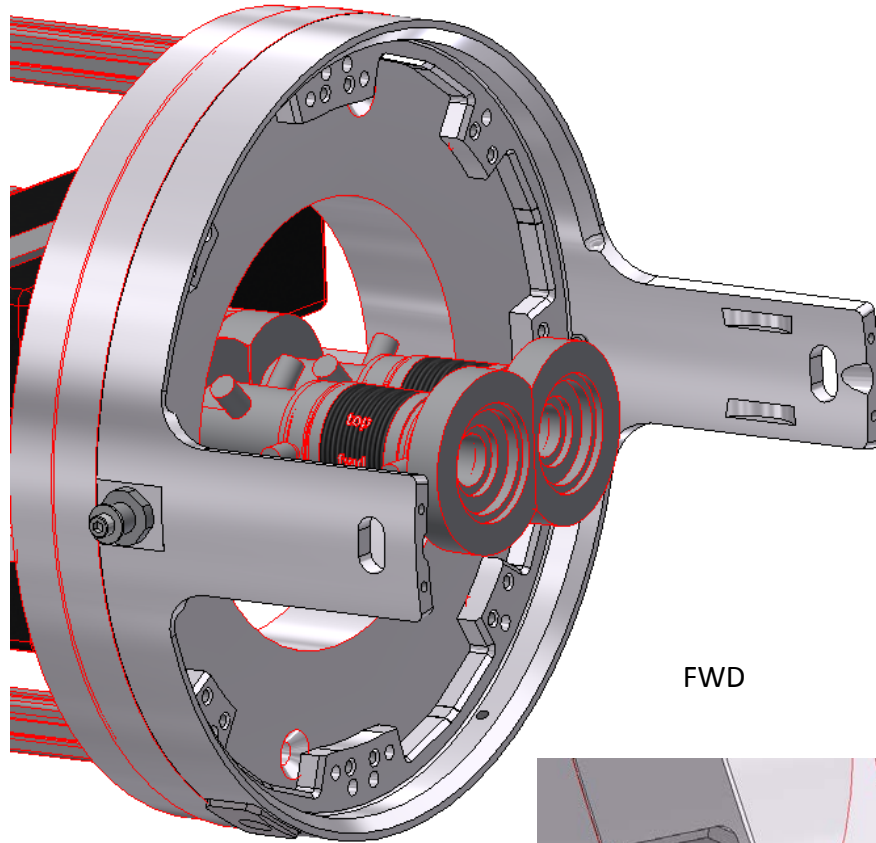
Bearings instead of PTFE-gliding parts

$\mu_{\text{rolling friction}} = 0,001$
 $\mu_{\text{glide friction}} = 0,1$

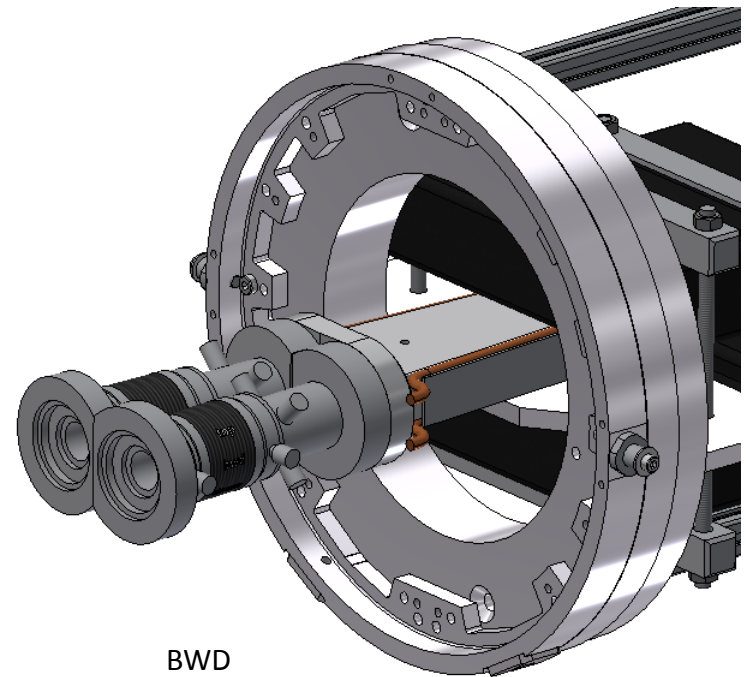


Connection to VXD-installation-ring on BWD-side

VXD-Installation-Ring



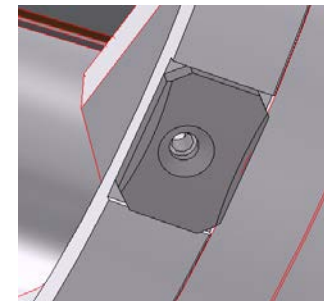
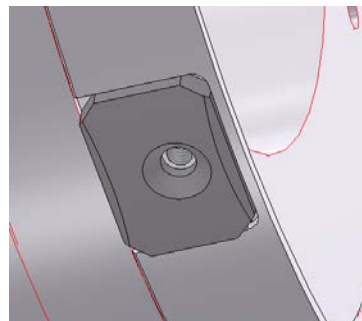
FWD



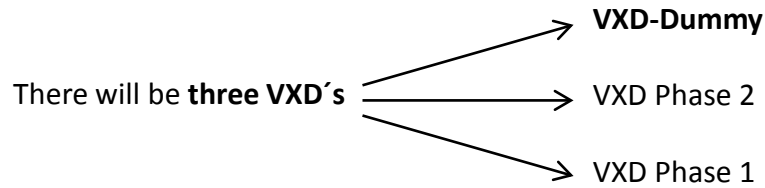
BWD

Changes on VXD-Installation-Rings:

- Extra threads
- Ring width 25mm
- Glide parts



VXD-Dummy



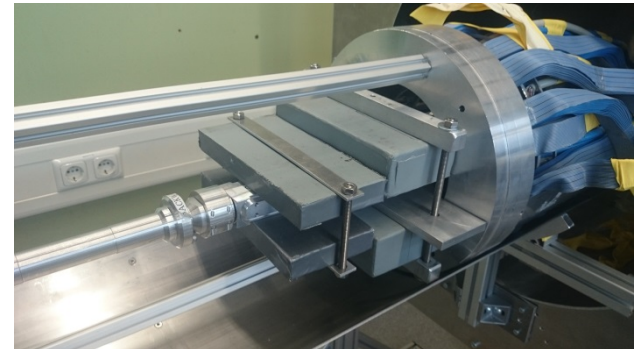
Parts for the VXD-Dummy:

- „real“-parts:

VXD-installation-rings
brackets with bushes
glide pads
connection-pins
bellows? -> for testing the RVC-connection !

- „mock-up“-parts:

beampipe
covers
cables and pipes



Summary

- The **TRANSPORT**
 - The **TRANSPORT-PLAN** on B1:
 - assembly table -> balcony
 - The **TRANSPORT-TOOLS**:
 - Crane tool
 - Transport trolley
- **VXD Dummy**:
 - Defined the parts

Next

- MANUFACTURING:
 - **VXD-Installation-Ring**
 - **Pin** and **bracket** connection between VXD/CDC
 - **cable tray** / VXD connection
- DESIGN: Complete the design of the **VXD-Dummy**
- TEST: The installation-equipment first will be **tested at the mockup** @ MPI in Munich
- INSTALL: **First installation** of the equipment after the B2GM Oct. 2016

Thank you for your attention!

Do you have any questions?



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