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# VELO General Infrastructure

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**Upgrade Infrastructure Workshop**

CERN, 20.02.2015

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# Topics

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- Deinstallation/Dismantling
- Installation Prerequisites
- Installation
- Detector Safety

**Time ordered.**

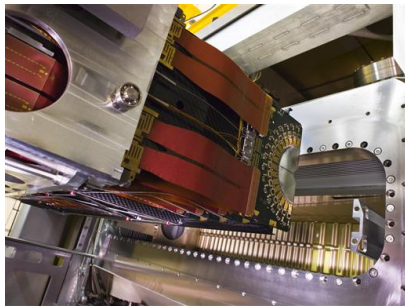
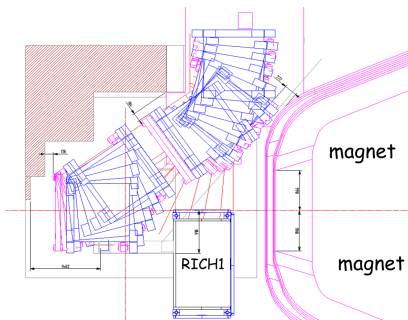
# Topics'

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- Installation
- Installation Prerequisites
- Detector Safety
- Deinstallation/Dismantling

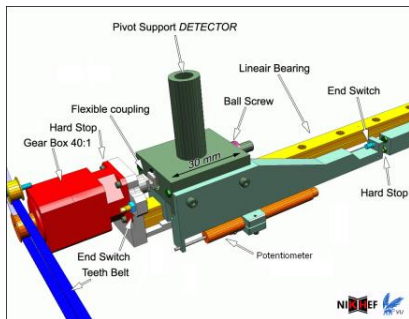
**Presentation order.**

# Installation



- Get it there.
- Install it
- Connect cables & test.

# Prerequisites – Motion System

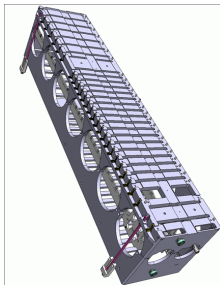


## To be replaced:

- flexible coupling.
- teeth belt.
- lubricant in gear box.
- stepper CPU (custom).
- PLC (commercial).

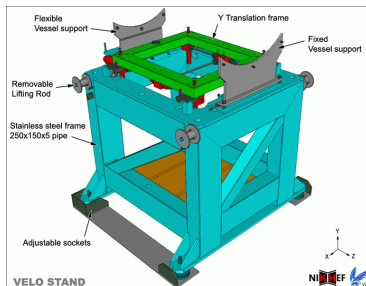
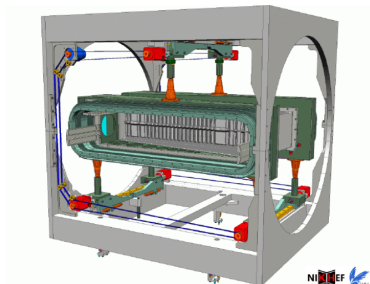
**Only possible after removal of the VELO.**

# Prerequisites – Survey



**Internal...**

# Prerequisites – Survey



... and finally wrt. beampipe & cavern.

# Prerequisites – Reception Tests

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VELO2 Assembly at CERN

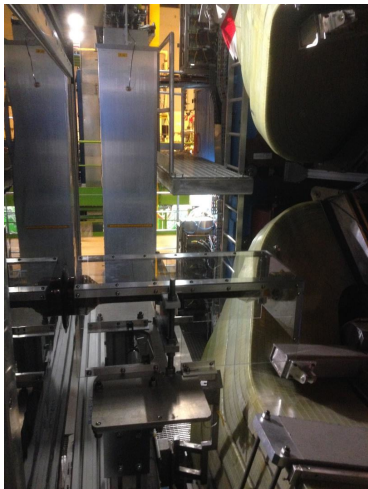
- Upgrade VELO will ***arrive assembled***.
- Need to fully test it at reception.
- Requires DAQ, Cooling, Vacuum.
- Module metrology in the same area.

**Ideally on the surface at P8.**



# Detector Safety

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- Add feature to vacuum system to allow for balancing to atmospheric pressure in the cavern when under Ne?
- Build a roof over the VELO?

# Deinstallation/Dismantling

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- The mechanics are simpler than installation.
- But there are RP concerns.
- What is the risk of small, possibly airborne, activated bits?

**Need to collaborate closely with RP.**

# Summary

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- Need to decide on additional safety features.
- The schedule is tight.
- Many details need to be worked out.

**What could possibly go wrong?**