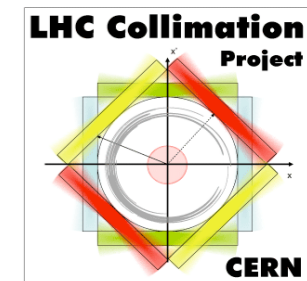




HL-LHC TCC
April 5th, 2018
CERN, Geneva, CH



Collimation activities in LS2

R. Bruce, S. Redaelli for the collimation team



- Eight new low-impedance secondary collimators in IR7 – **HL-LHC**
- Four new primary collimators in IR7 – **cons** (jaw material on **HL-LHC**)
- New dispersion suppressor collimators around IR2/7 (*without and with 11T dipoles*) – **HL-LHC**
- Possibility to adapt/improve crystal collimator assemblies (TCPC) in IR7 – **HL-LHC**
- New passive absorber in IR7 - **cons**

- Drafts of ECRs prepared – EDMS circulation expected soon
- Drafts accessible already on the ColUSM page
- <https://lhc-collimation-upgrade-spec.web.cern.ch/lhc-collimation-upgrade-spec/Documents.php#LS2>

Collimation Engineering Change Requests (ECRs) for LS2: HL-LHC and Consolidation

We collect here the ECR document for the upgrades in LS2, within HL-LHC and Consolidation projects.

This follow the present version of the upgrade master plan: version [21/03/2018](#).

Dispersion suppressor collimators: TCLD collimators around IR2	DOCX: v1	PDF v1	official EDMS link (Doc. xxx)
Dispersion suppressor collimators: TCLD collimators around IR7	DOCX: v1	PDF v1	official EDMS link (Doc. xxx)
First stage of low-impedance upgrade: TCSPM collimators in IR7	DOCX: v1	PDF v1	official EDMS link (Doc. xxx)
Upgrade of crystal collimation tests stand in IR7 (TCPC)	DOCX: v1	PDF v1	official EDMS link (Doc. xxx)
Consolidated primary collimators with BPMs (TCPPM)	DOCX: v1	PDF v1	official EDMS link (Doc. xxx)
Upgraded passive collimation in IR7	DOCX: v1	PDF v1	official EDMS link (Doc. xxx)

Remarks/comments:

- Drafts documents: for reference, refer to EDMS links!

With primary and secondary collimators, 6 new devices per beam:

TCSG.D4L7.B1 / TCSG.D4R7.B2;

TCSG.B4L7.B1 / TCSG.B4R7.B2;

TCSG.E5R7.B1 / TCSG.E5L7.B2;

TCSG.6R7.B1 / TCSG.6L7.B2;

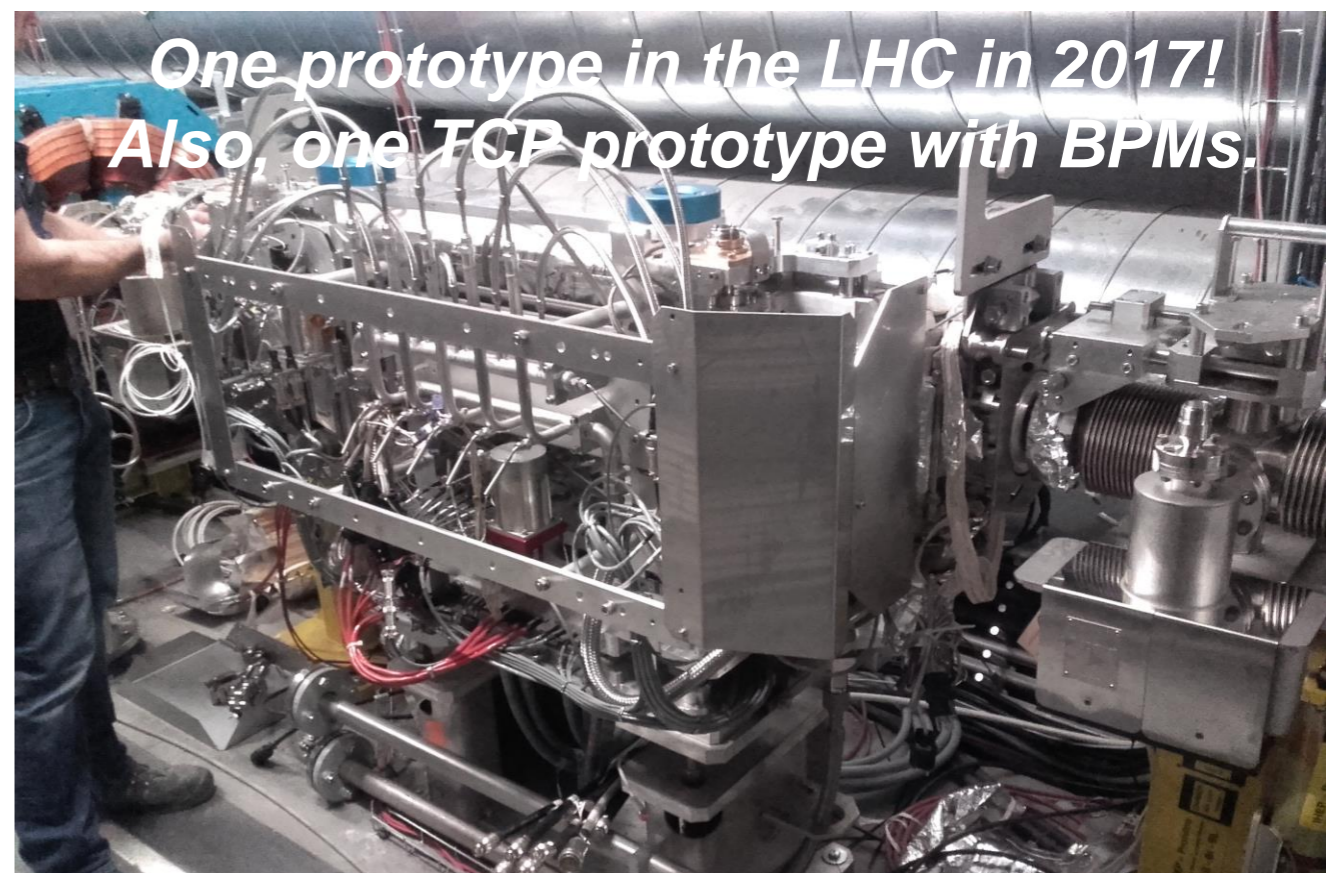
TCP.C6L7.B1 / TCP.C6R7.B2;

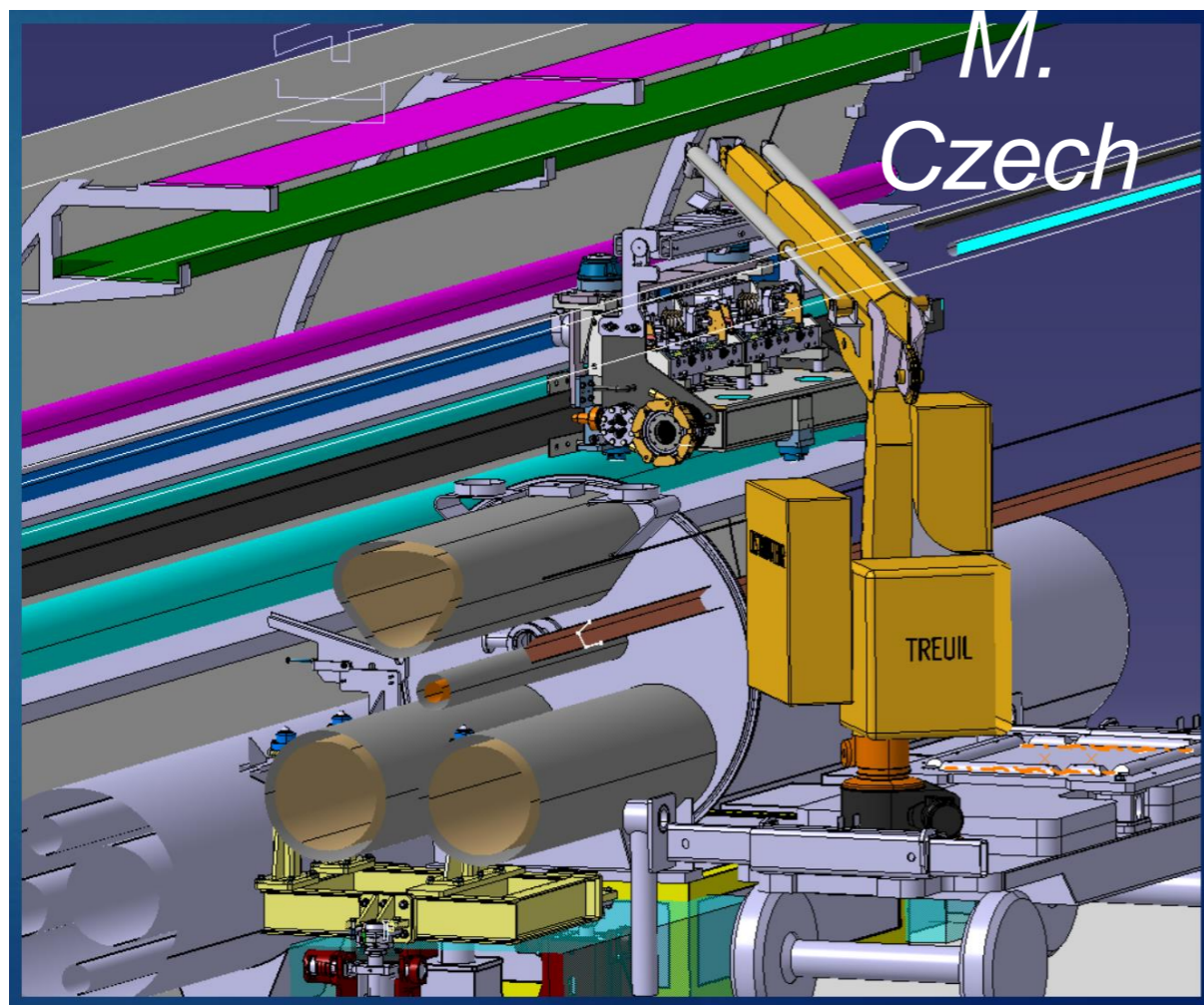
TCP.D6L7.B1 / TCP.D6R7.B2.

HL-LHC

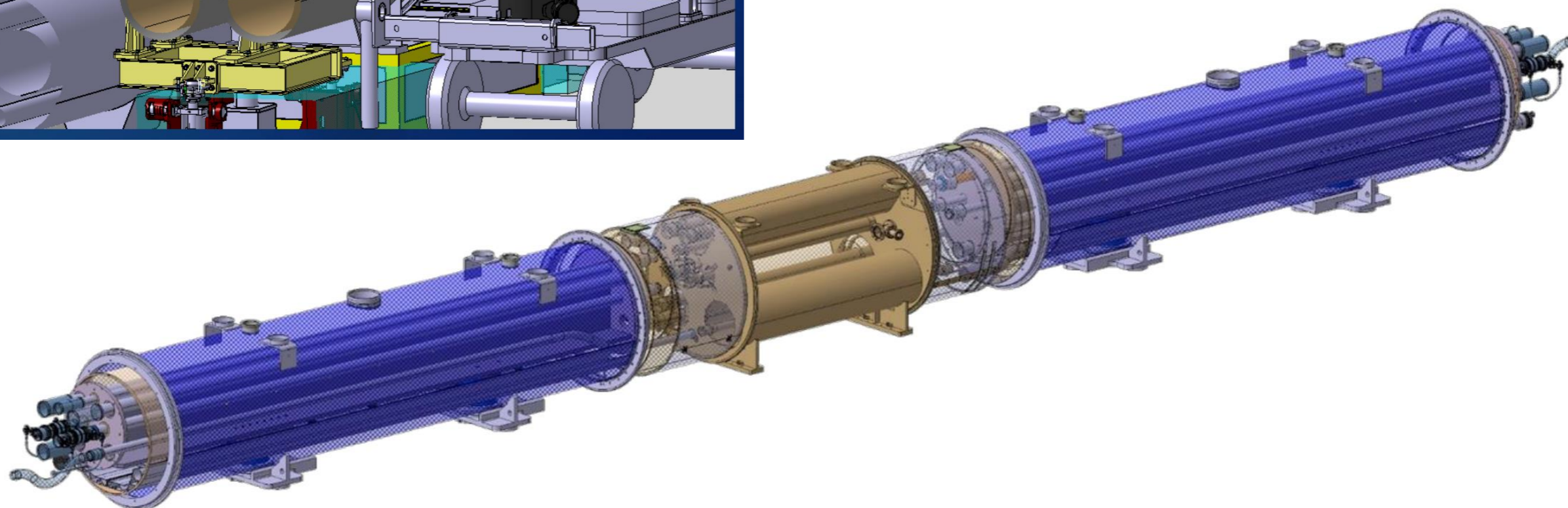
Cons (material from HL-LHC)

New names: TCSPM and TCPPM.



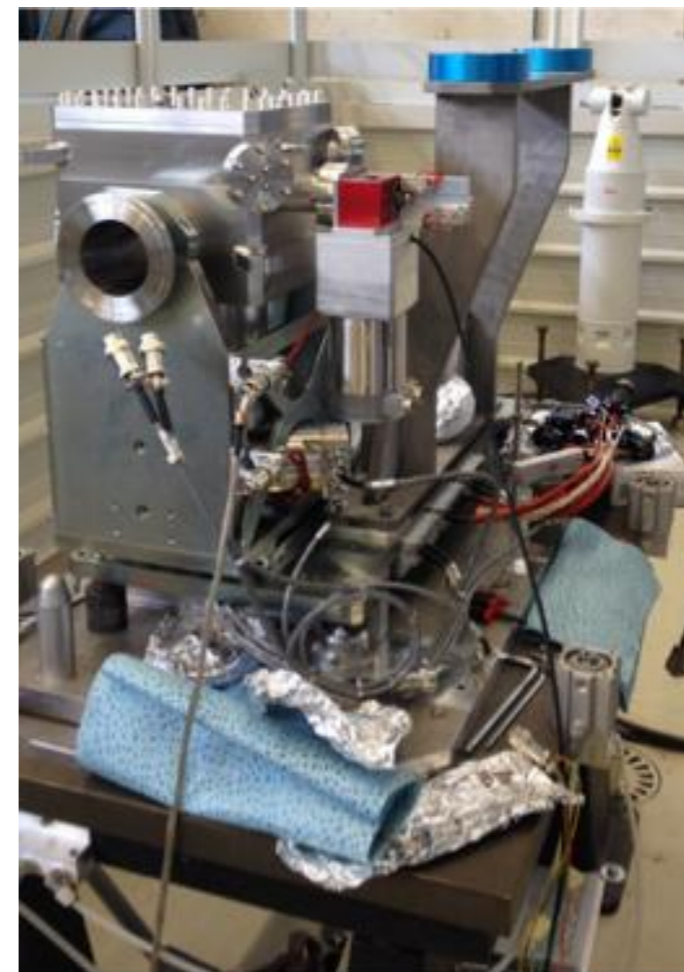
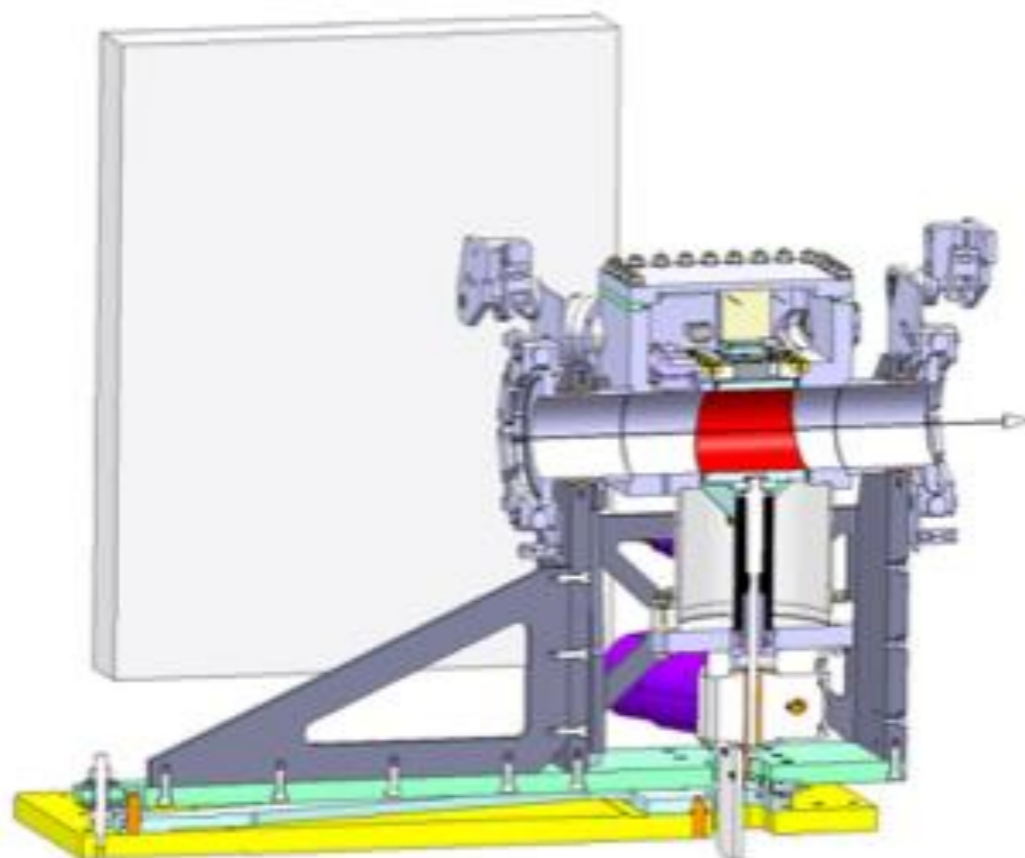


New devices!
 DS-IP2: in connection cryostat.
 DS-IP7: Replace MBB.8.
 These are warm collimators.
 Vacuum sectorized.

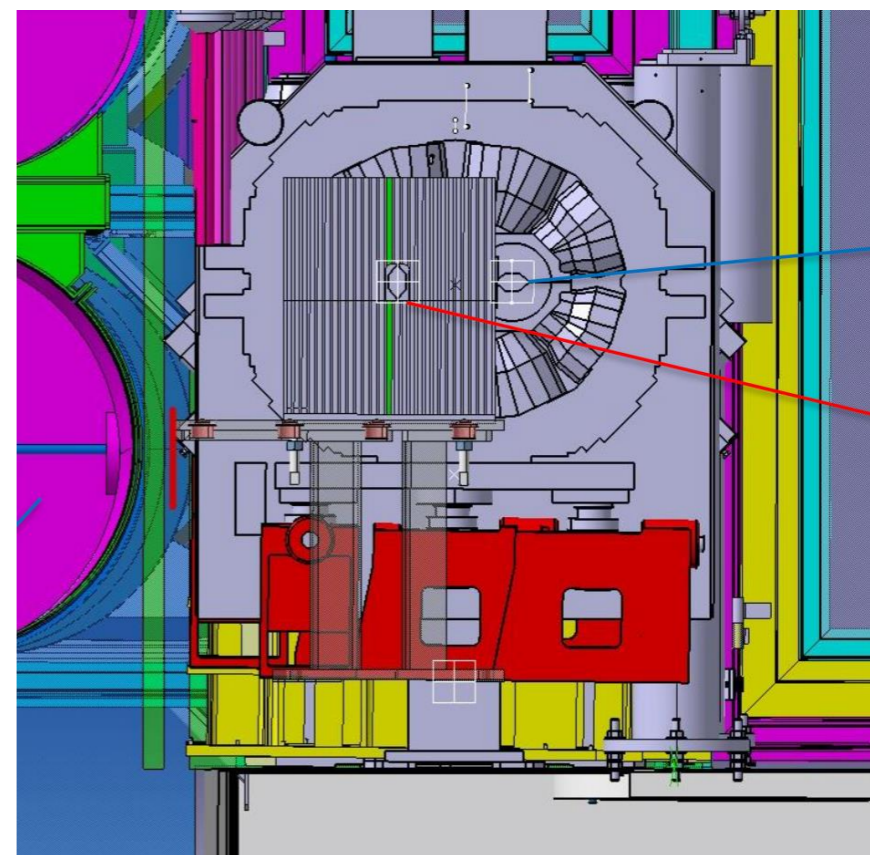
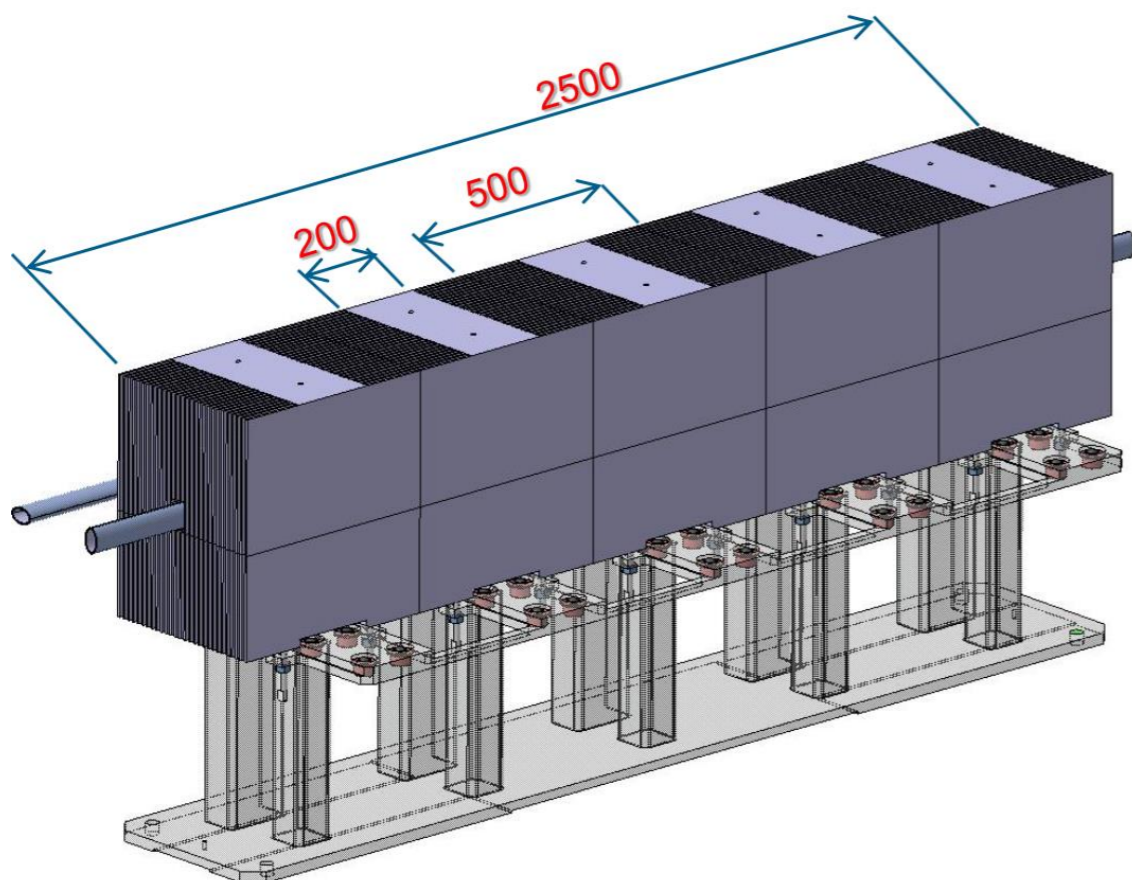


Crystal assembly in IR7

HL-LHC



Four TCPCs already in the LHC (installed in LS1 and EYETS2016).
 LS2: possible replacement of all of them. Assuming same design for the moment.



Required to ensure MQW protection versus radiation doses with the new layout with 5 instead of 6 MQW modules.

“Simple” object, out of vacuum.

- Reviewed the planned collimation activities for LS2
- Several important upgrades are planned both for the HL-LHC and the Consolidation projects
- ECR drafts prepared, soon on EDMS