



**High
Luminosity
LHC**

DQW HOM: In-house Production Update

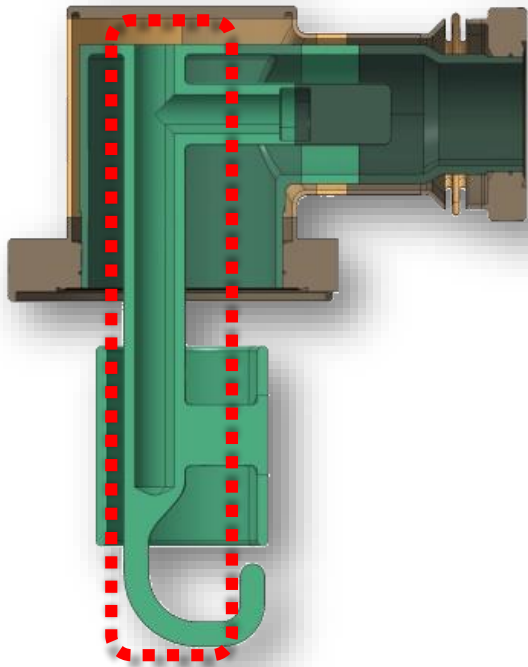
**M. Garlaschè, S. Atieh, P. Freijedo
on behalf of MME**



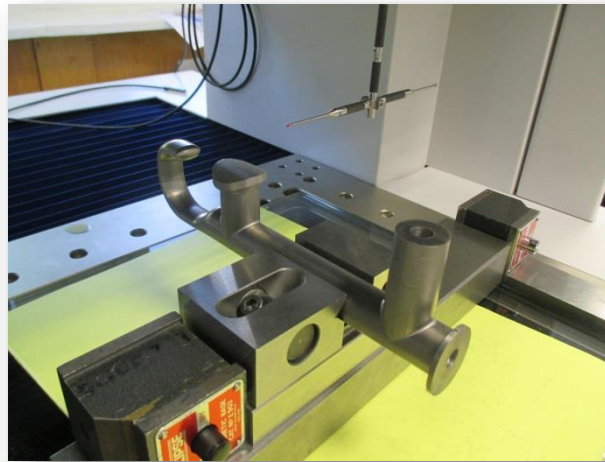
The HiLumi LHC Design Study is included in the High Luminosity LHC project and is partly funded by the European Commission within the Framework Programme 7 Capacities Specific Programme, Grant Agreement 284404.



Prod. Update: Hook



2x pieces currently produced



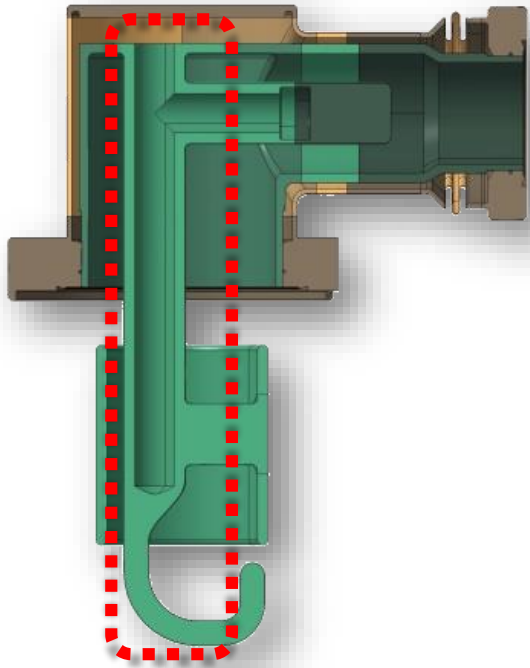
Piece #1 - BCP Qualification

1st BCP_{21um} : results already pretty **consistent** (~15um÷30um) [*]

2nd BCP_{30um} : chem. attack performed, @ metrology

[*] see 'Présentation des résultats de métrologie_D_Pugnat'

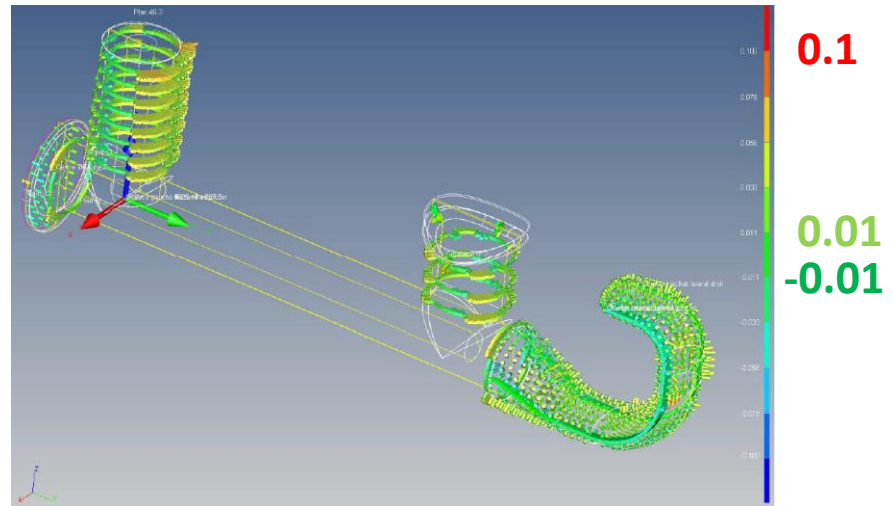
Prod. Update: Hook



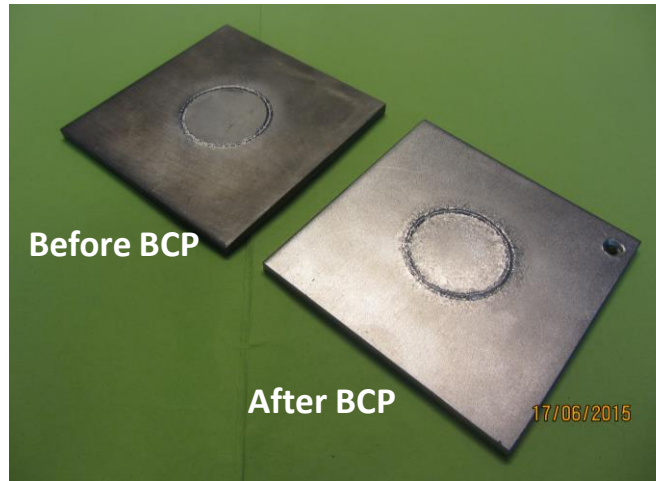
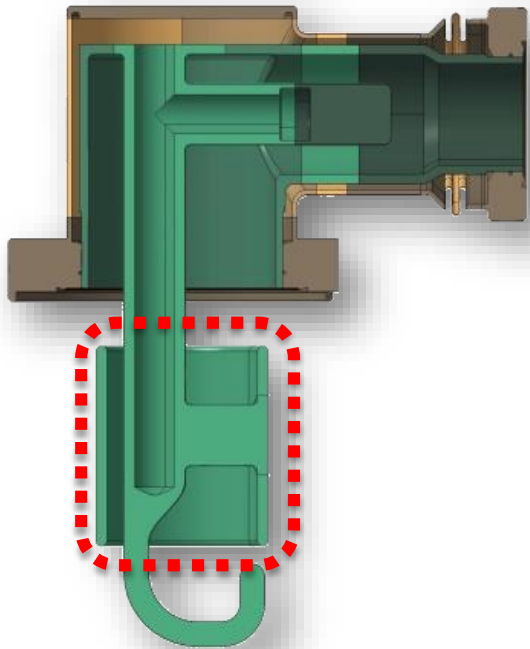
2x pieces currently produced

Piece #2 – Manufacturing Qualification

- Tooling improvement steadily ongoing
- Metrology: **all green** 😊 (see EDMS 1507831)

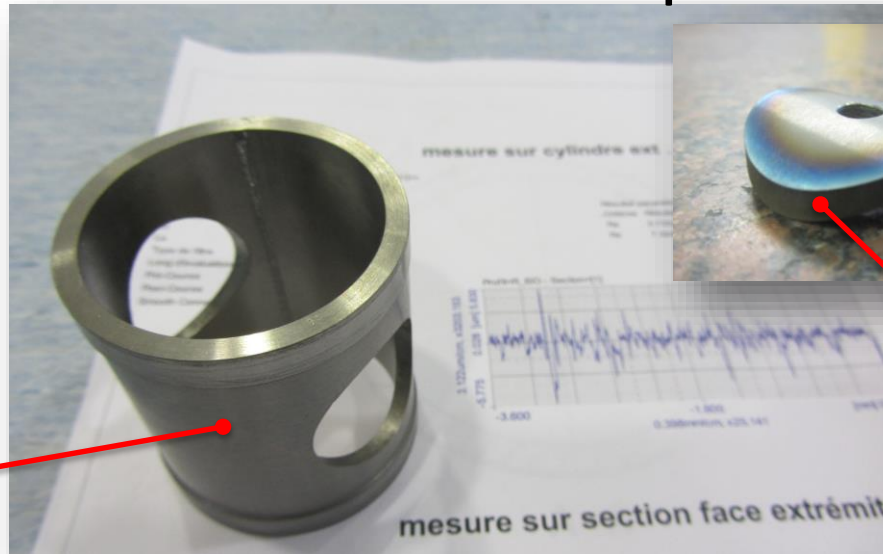


Prod. Update: Collar



Flat welding trials:
needed for setting
weld parameters

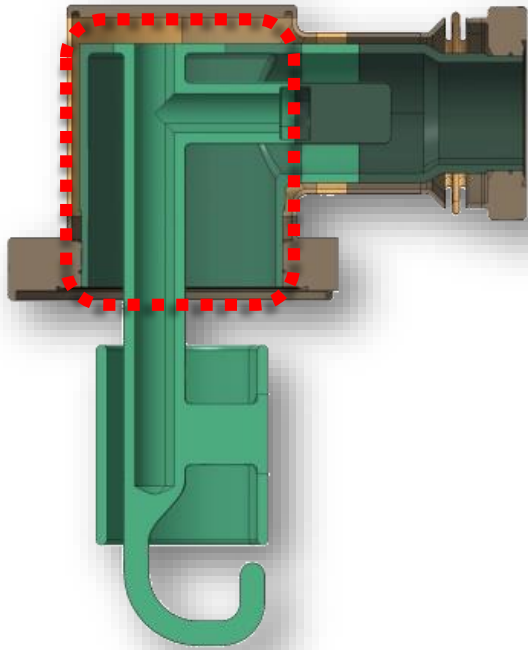
Equal-Geo welding trials:



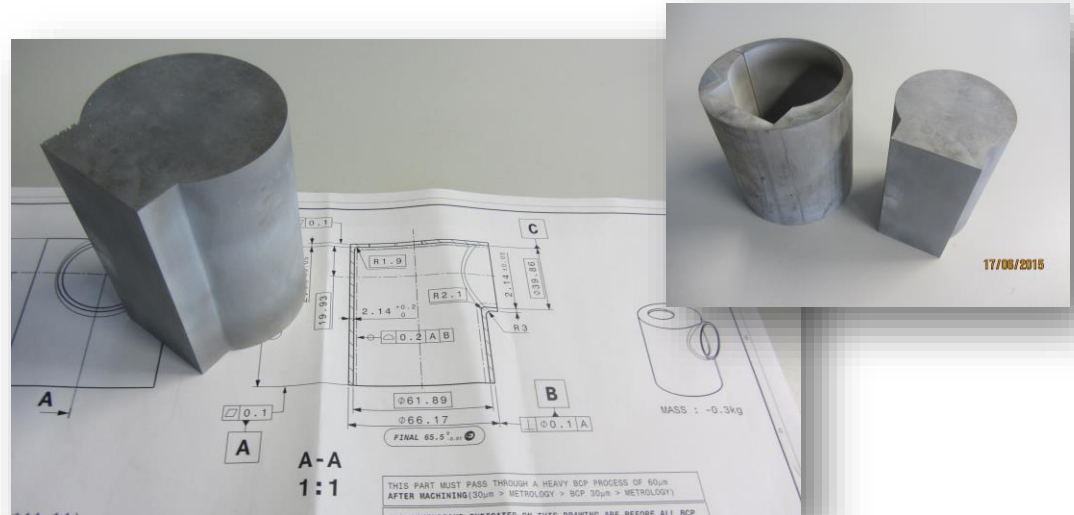
Roughness After
turning: Ra 0.6

Different
thickness

Prod. Update: Cap

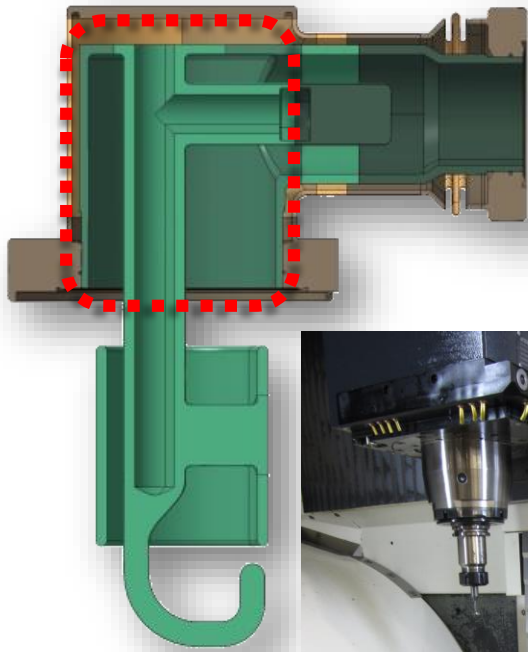


Qualifying machining strategy for Cap:

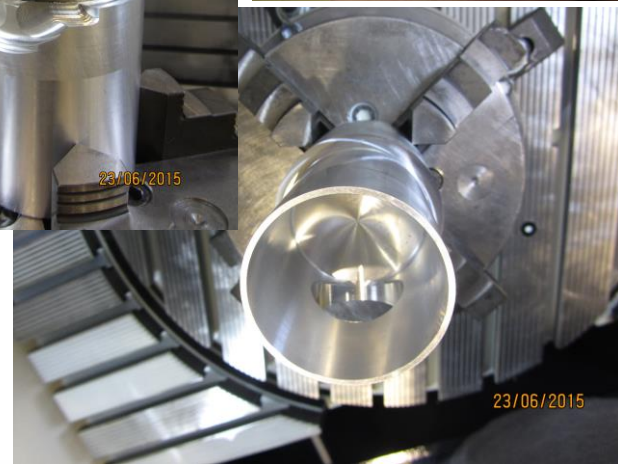
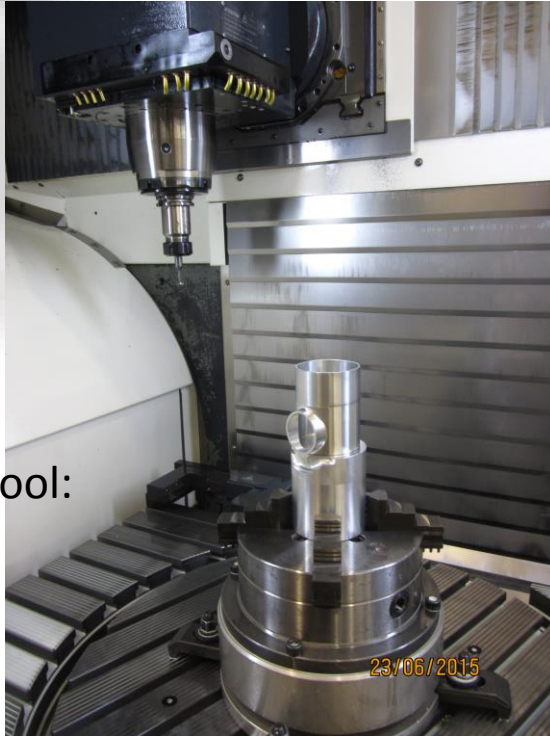
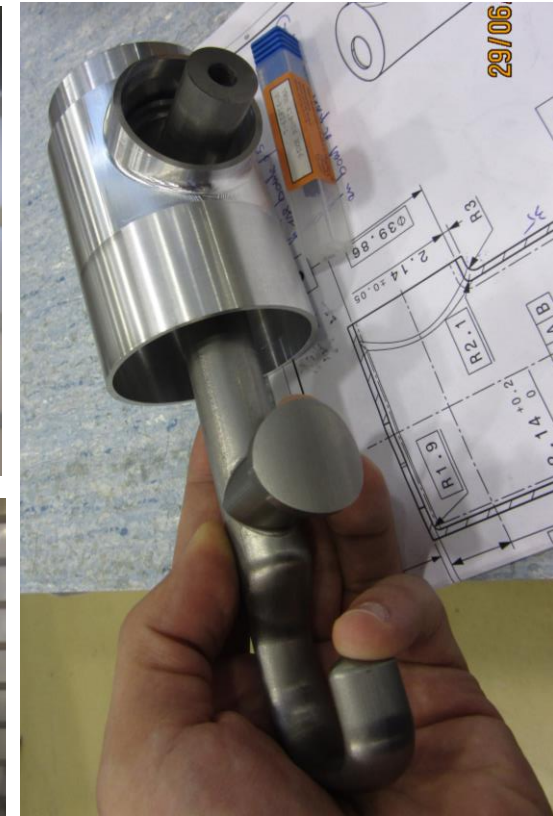


- Aluminium proto (*pas de gaspillage* while waiting for Nb!)
- Specific milling tool designed

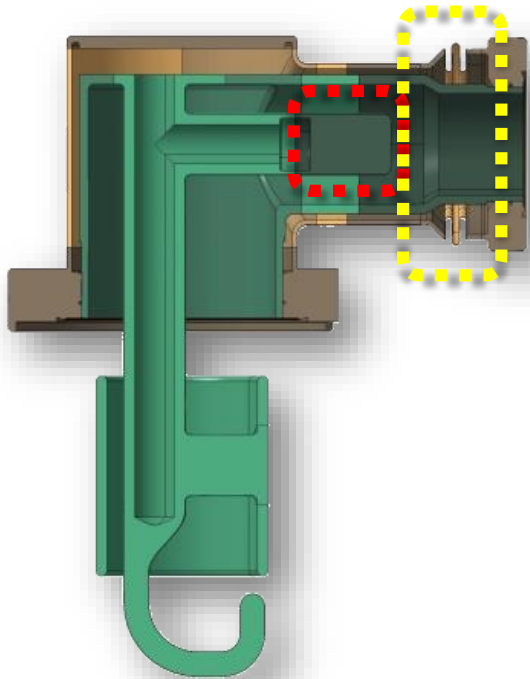
Prod. Update: Cap



Machining via
custom-made tool:
procedure
qualification



Prod. Update: 'Nose', Bellow & Turning qualification



BELLOW

- **Subcontracted** manufacturing. Complete batch (12x) expected middle September, working for early delivery

- **Manufacturing** of 'nose' + **qualification** of turning Nb on our machines
- Material obtained from scrap of Hook

