

**High
Luminosity
LHC**

Conceptual Specifications validation review: Shielded non-shield beam screens, Layouts in LSS 1 and 5

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**7th HL-LHC Technical Committee
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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.



HL-LHC shielded beam screen

EDMS 1361079

- Mask the cold mass, provide pumping
- Low SEY needed (2 beams) : a-C coating
- Heat load, operating temperature
- COLDEX demonstration
- Prototype :
 - aperture
 - installation

HL-LHC (non shielded) beam screen

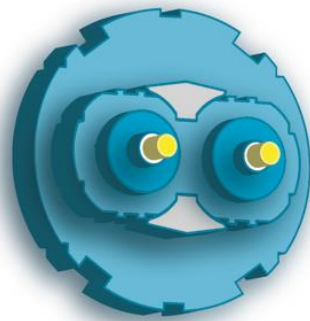
EDMS 1361096

- Provide pumping
- Heat load, operating temperature 5-20 K
- COLDEX demonstration
- Prototype
- Re-use of standard LHC interfaces

HL-LHC LSS 1 & 5 vacuum layout

EDMS 1361093

- Ensure vacuum performances
- Vacuum sectorisation & instrumentation
- Interface to other systems: variants minimisation
- “quick flange” type connection in hot radiation areas
- Re-use of standard LHC interfaces



High Luminosity LHC



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