



Recap of space needs in point 4

Main documents:

- HL-LHC-LSS4 Space Reservation Review, [EDMS 1381203](#), Catherine Magnier, Yvon Muttoni & Paolo Fessia
- New Components at Point 4 Left, [EDMS 1516193](#), Catherine Magnier



Presented by P. Fessia

summary

- ADT upgrade: reserved space, recent review
- Hollow e-lenses: recent review recommended the introduction in baseline. Project studying implication
- BGV: baseline
- Wire scanner: baseline
- New light extraction for existing BSRT: baseline
- New light extraction new BSRT: baseline

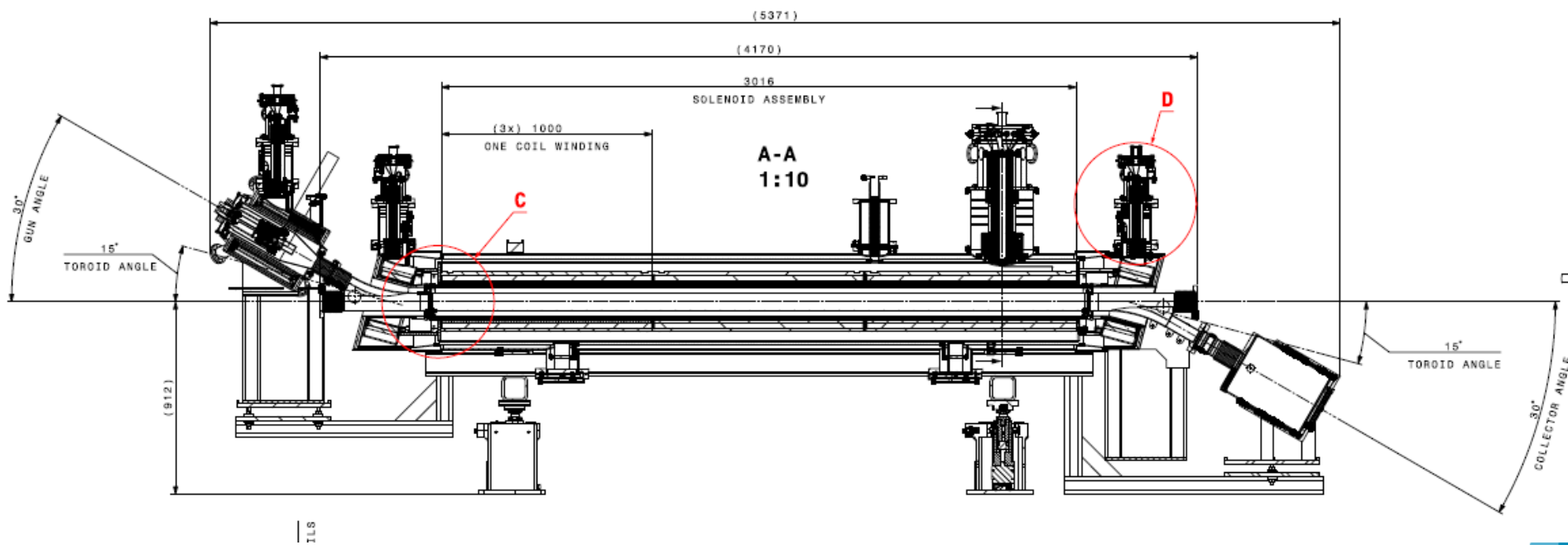
ADT

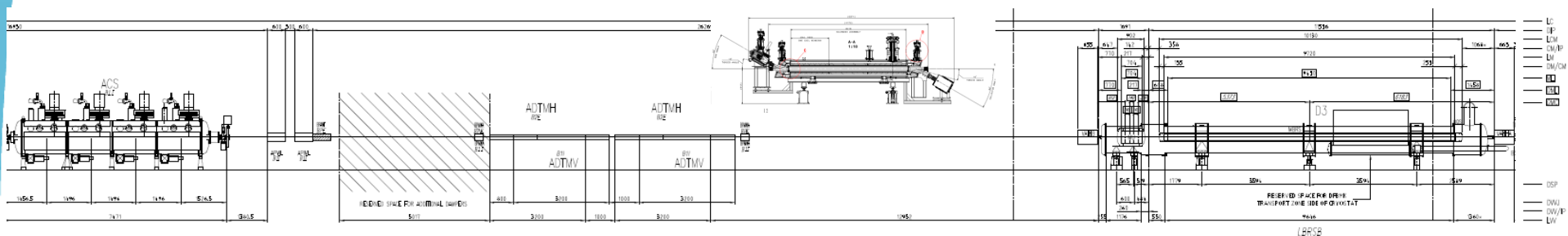
- Installation of a new set of ADT ([EDMS 1363180](#))

Summary : a place is already reserved for this installation. No more data in the specification about size, exact place....

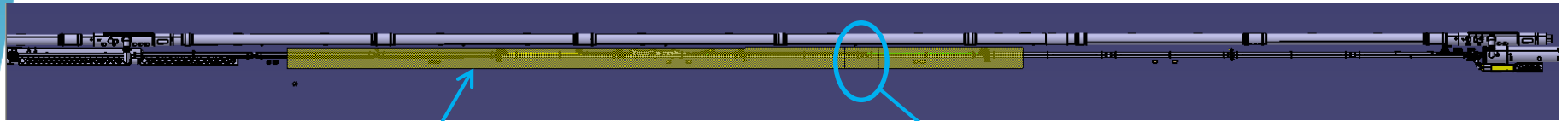
Hollow e-lenses

- Installation of a Hollow E-Lens (HEBC). ([EDMS 1366525](#))

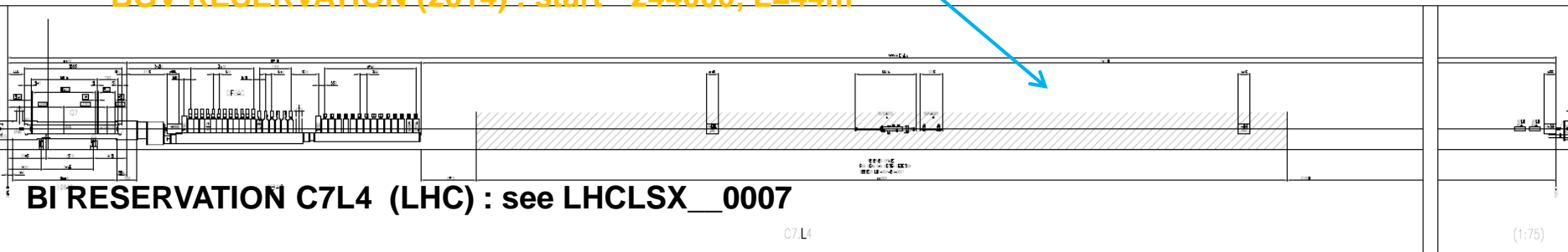




BGV L4



BGV RESERVATION (2014) : start -244000; L=44m

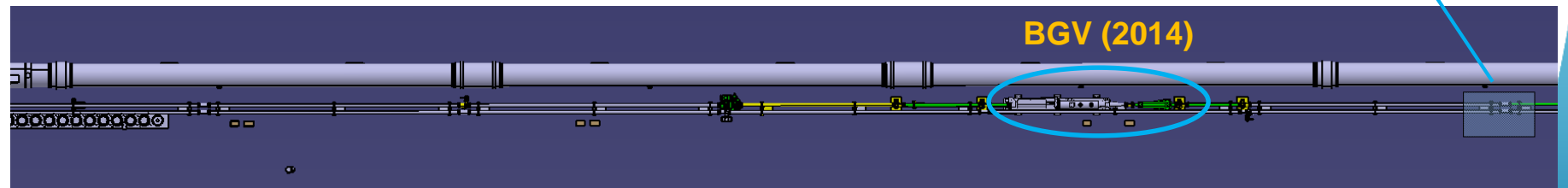


BI RESERVATION C7L4 (LHC) : see LHCLSX__0007

C7L4

(1:75)

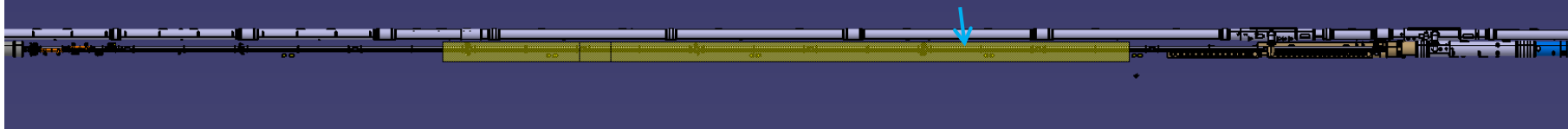
BGV : start -223415; L=4731mm



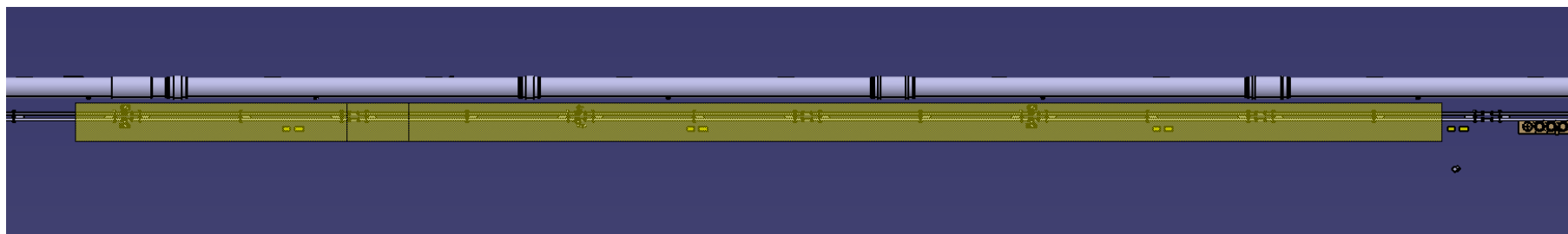
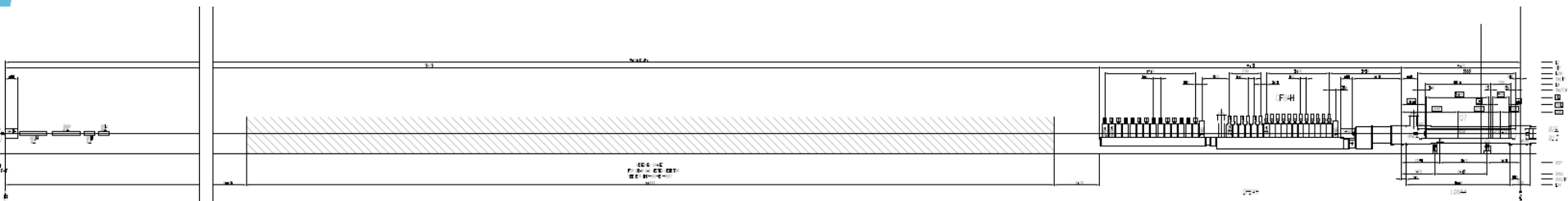
BGV (2014)

BGV R4

BGV RESERVATION (2014) : start 200000; L=44m



BI RESERVATION CRL4 (LHC) : see LHCLSX_0008



Wirescanner (EDMS 1371094)

- To be installed left and right of IP4
 - 2 horizontal and 2 vertical scanners for Beam 1 located next to the existing scanners in 5R4
 - 2 horizontal and 2 vertical scanners for Beam 2 located next to the existing scanners in 5L4

Table 1: Equipment parameters

Characteristics	Units	Value
Aperture	mm	Adapted to standard 80mm warm vacuum chamber
Total Length	mm	500

Optical hutches/light extraction

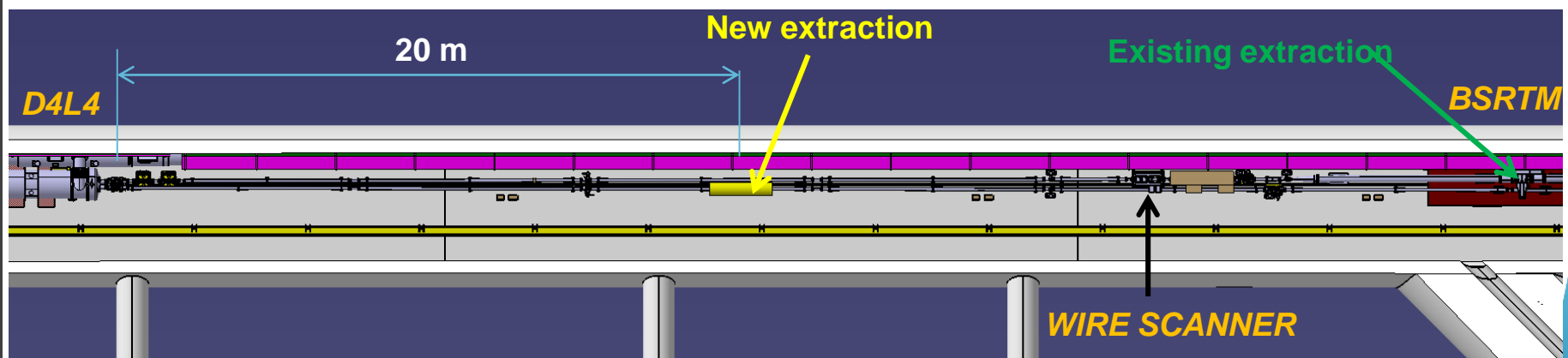
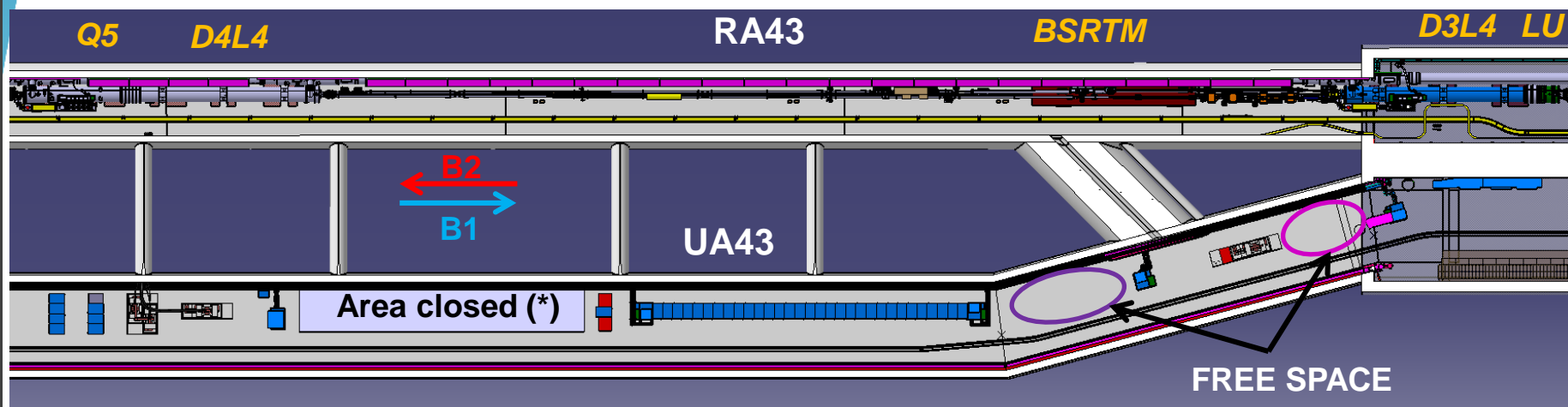
- Construction of an optical light path and optical hatch for the existing synchrotron light monitors in LSS4 ([EDMS 1371100](#))

Summary : from existing BSRTM to UA43. The optical path requires a reservation of 200mm diameter and must be as short as possible. Optical hatch in UA43, (10m², [2.5mx4m])

- Construction of a new optical light extraction system for synchrotron light diagnostics in LSS4 with associated optical path and optical hatch ([EDMS 1371099](#))

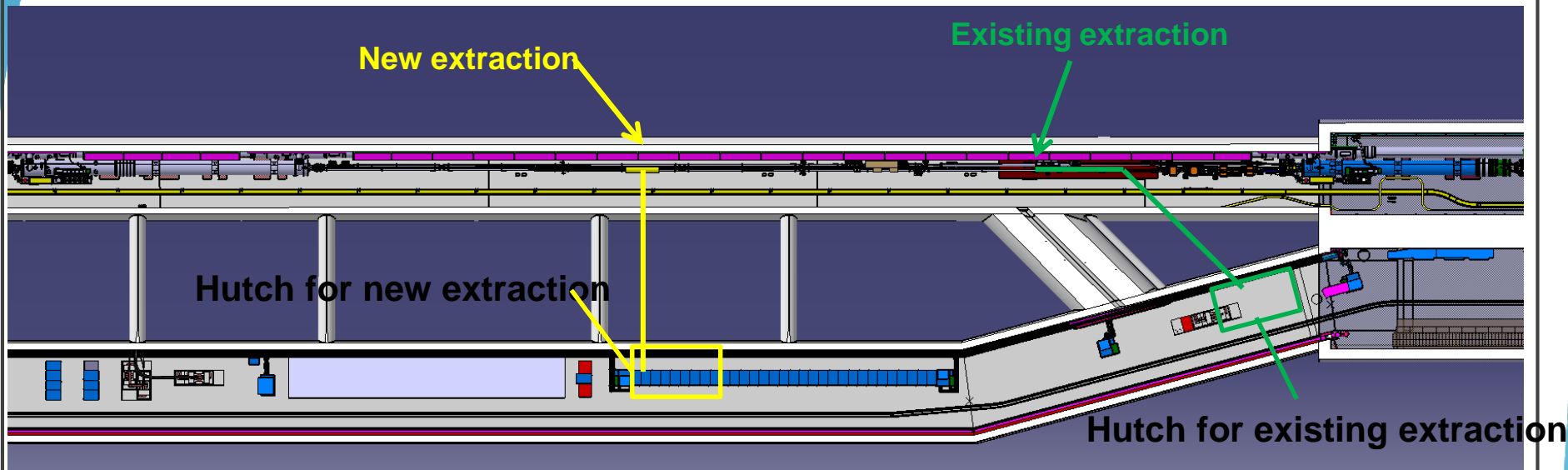
Summary : between D4&D3, extraction with an in vacuum mirror located at 20m from D4 toward D3 , optical path from RA43 to UA43 will be at least 100mm diameter as short as possible, optical hatch in UA43 (10m², [2.5mx4m])

Concerned area



Area closed (*): space reserved for LHC commissioning . A part can be recover

Examples of routings : the shortest



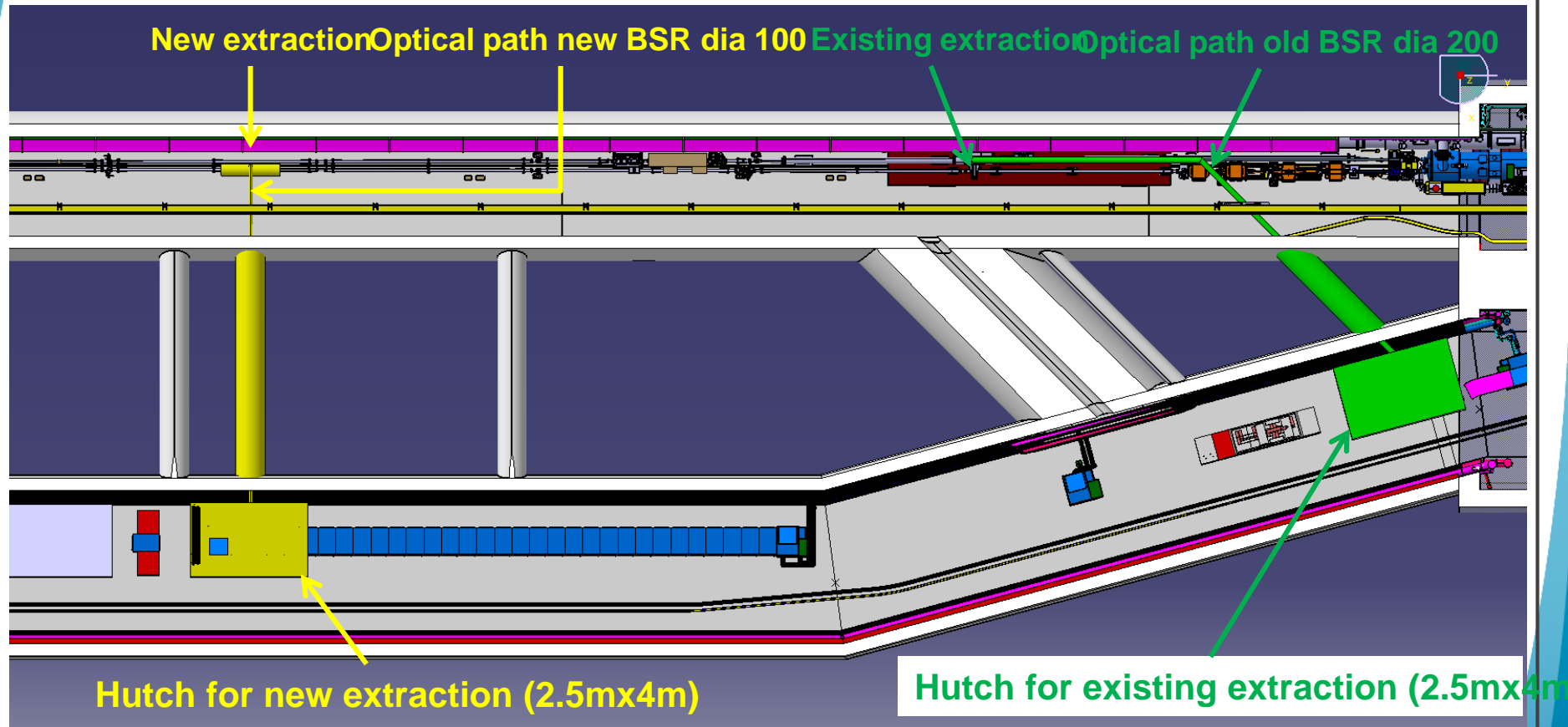
For the new extraction :

- New core to drill
- Moving some [racks](#) and find a appropriate place for them
- Modifications of the racks cooling
- Path crossing the transport area

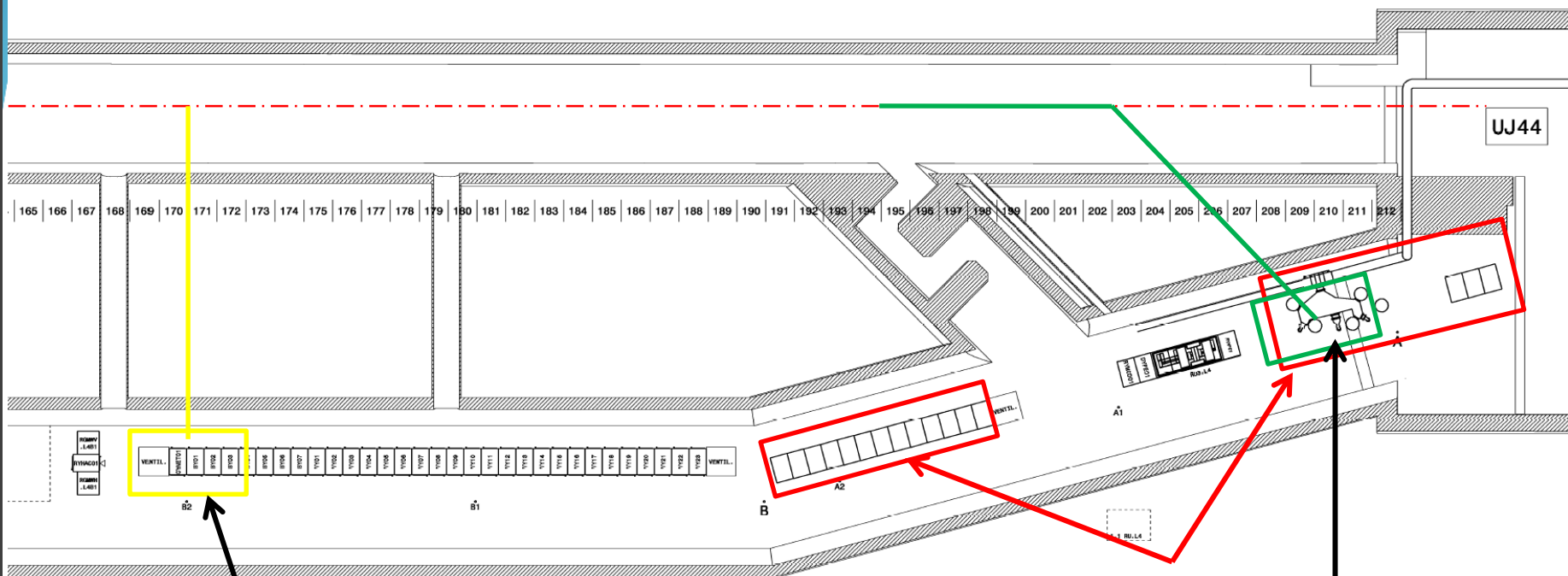
For the existing extraction :

- New core to drill
- Impossible to have a direct view from BSRTM to UA because of the chicane
- Place available in UA (to be verified on site)
- Path crossing the transport area

- New cores for the shortest distance



Schematisation

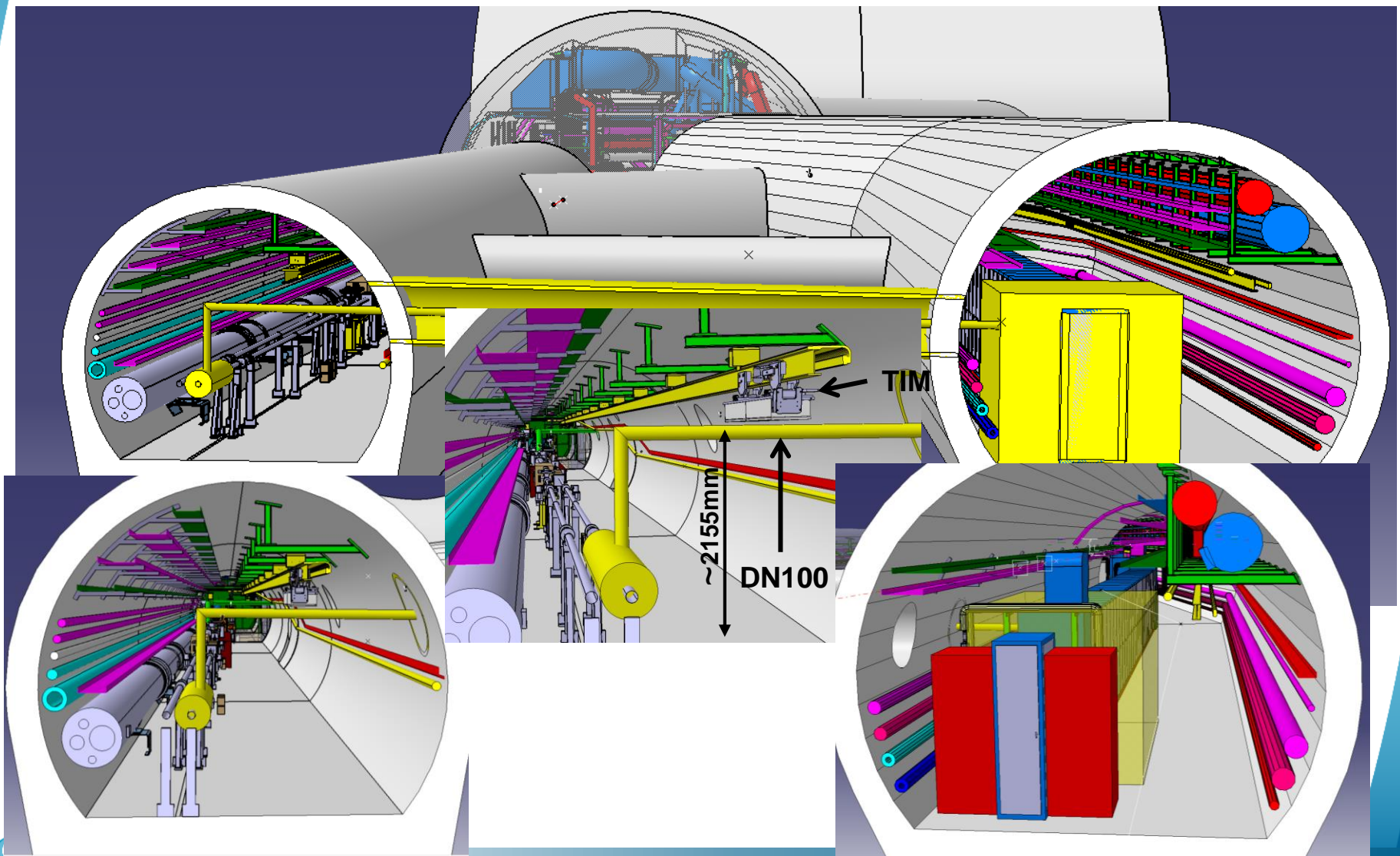


Hutch for new extraction

NOT INSTALLED STUFF
Relative to ex ACN

Hutch for existing extraction

■ Cross sections for new BSR with new core – shortest way



■ Cross sections for existing BSR with new core – shortest way

