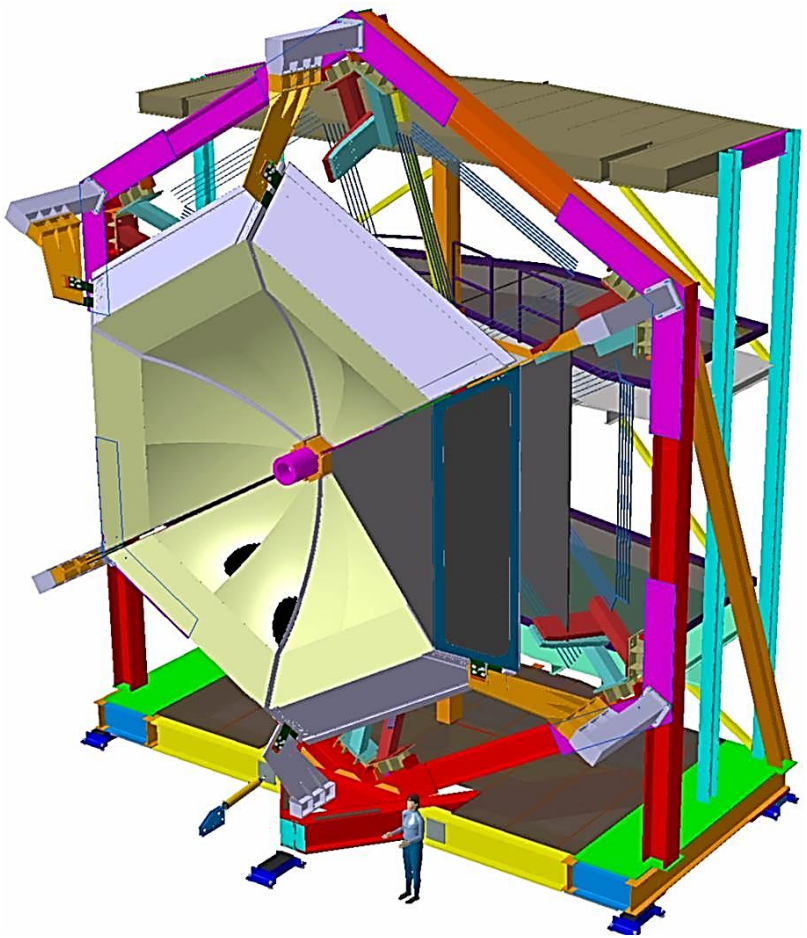


RICH MECHANICAL STATUS REPORT

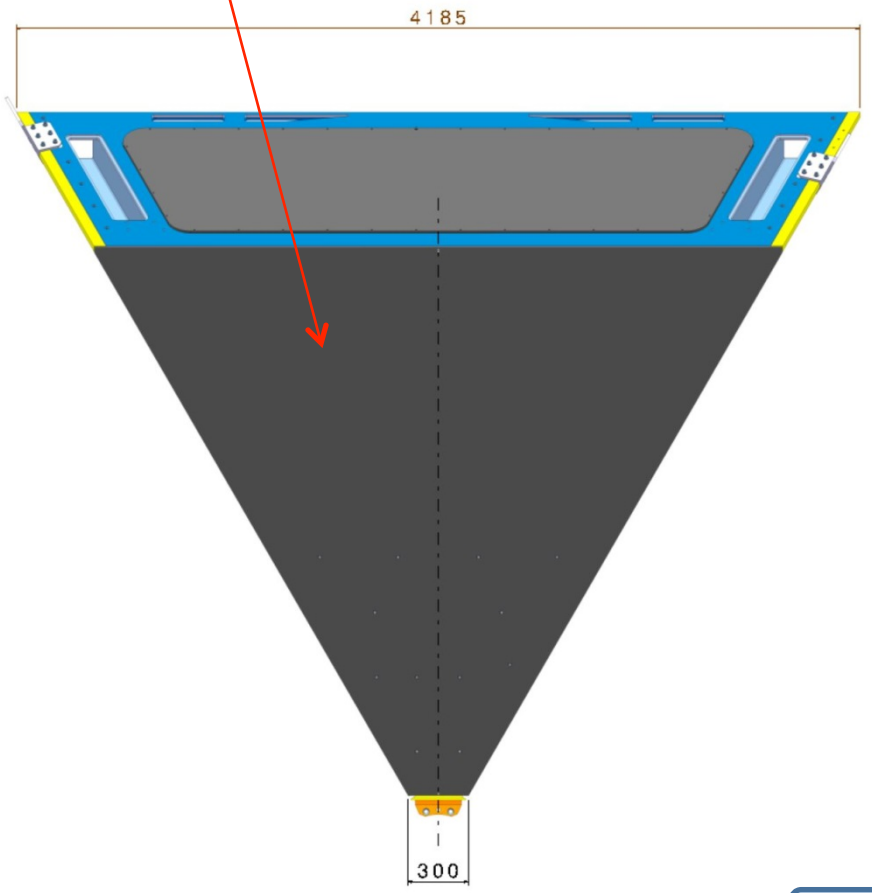
RICH MODULE OVERVIEW

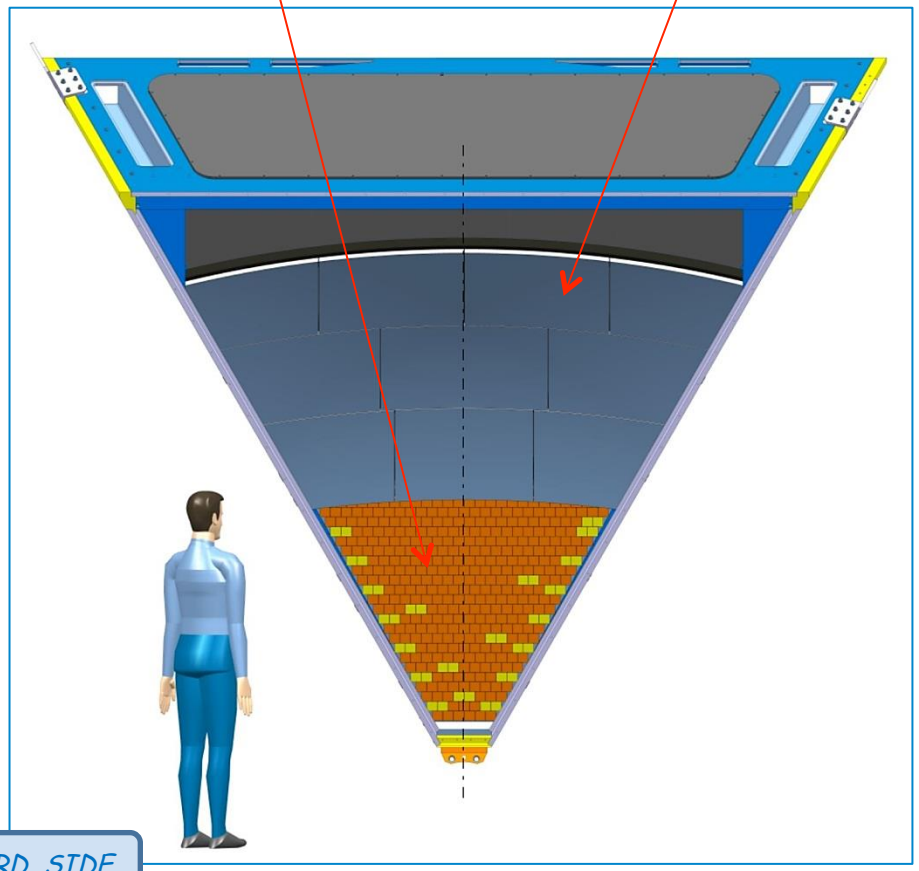
(PICTURES OF THE LATEST REVIEW)

FORWARD PANEL
(RADIATOR PLUS PLANAR MIRRORS)

SPHERICAL MIRROR
(LATEST VERSION : 10 SUBMIRRORS
TO REDUCE THE MANDREL COST)

ELECTRONIC PANEL

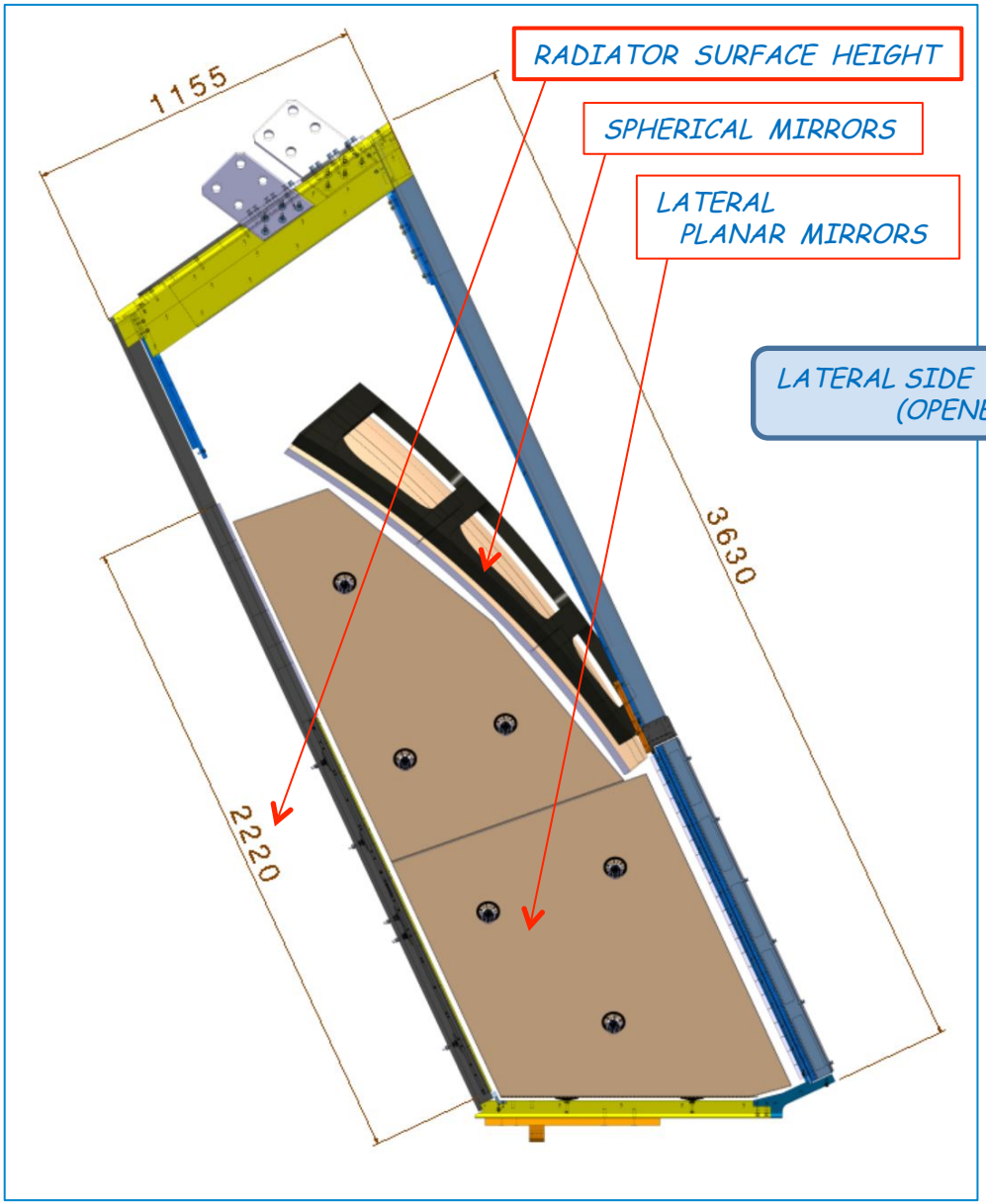


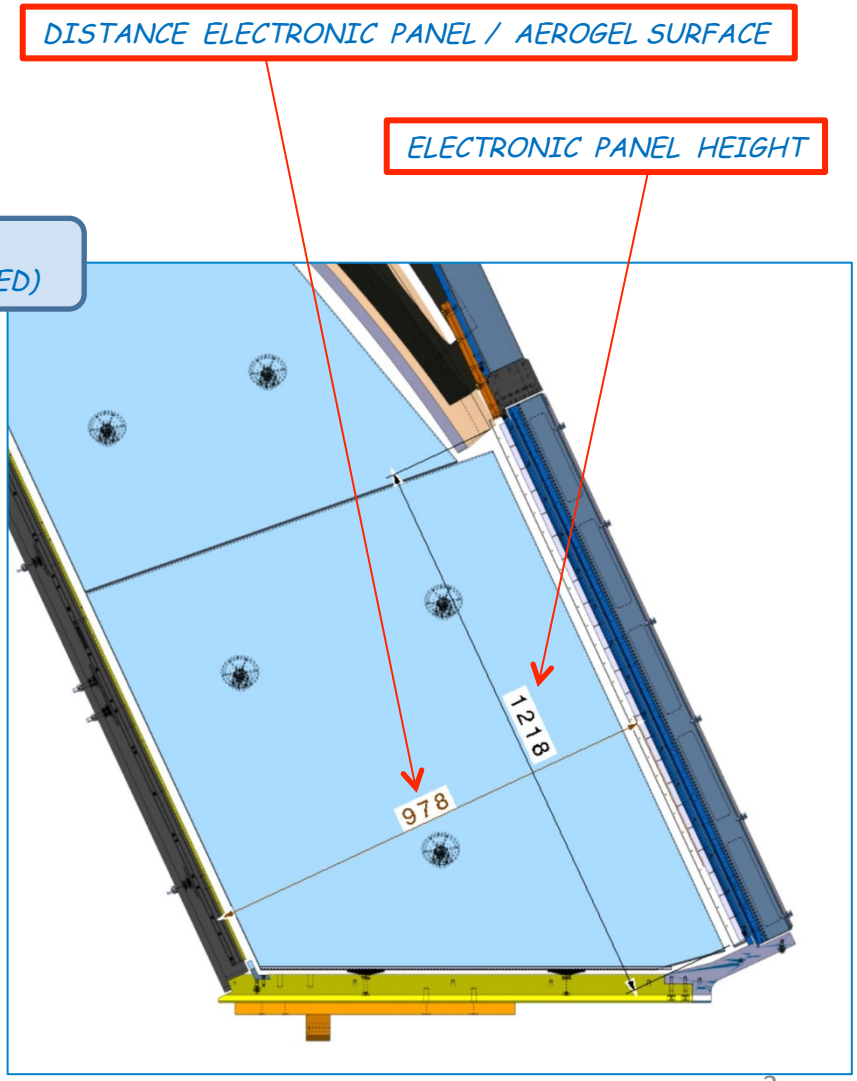


FORWARD SIDE

RICH MODULE OVERVIEW

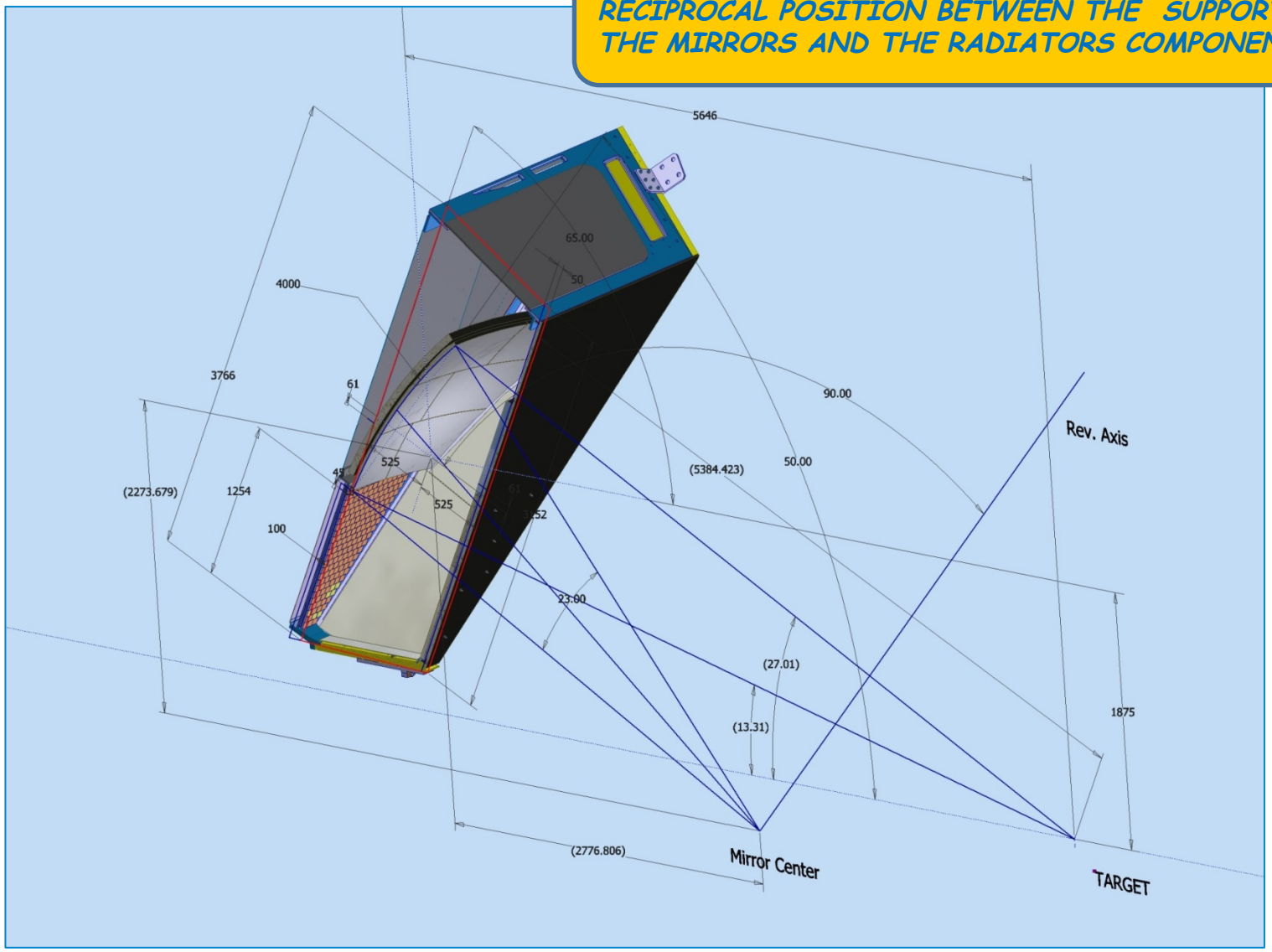
(PICTURES OF THE LATEST REVIEW)





SPHERICAL MIRROR POSITION INSIDE THE RICH

IT HAS BEEN UPDATED THE INTEGRATION AND THE RECIPROCAL POSITION BETWEEN THE SUPPORT BOX , THE MIRRORS AND THE RADIATORS COMPONENT.



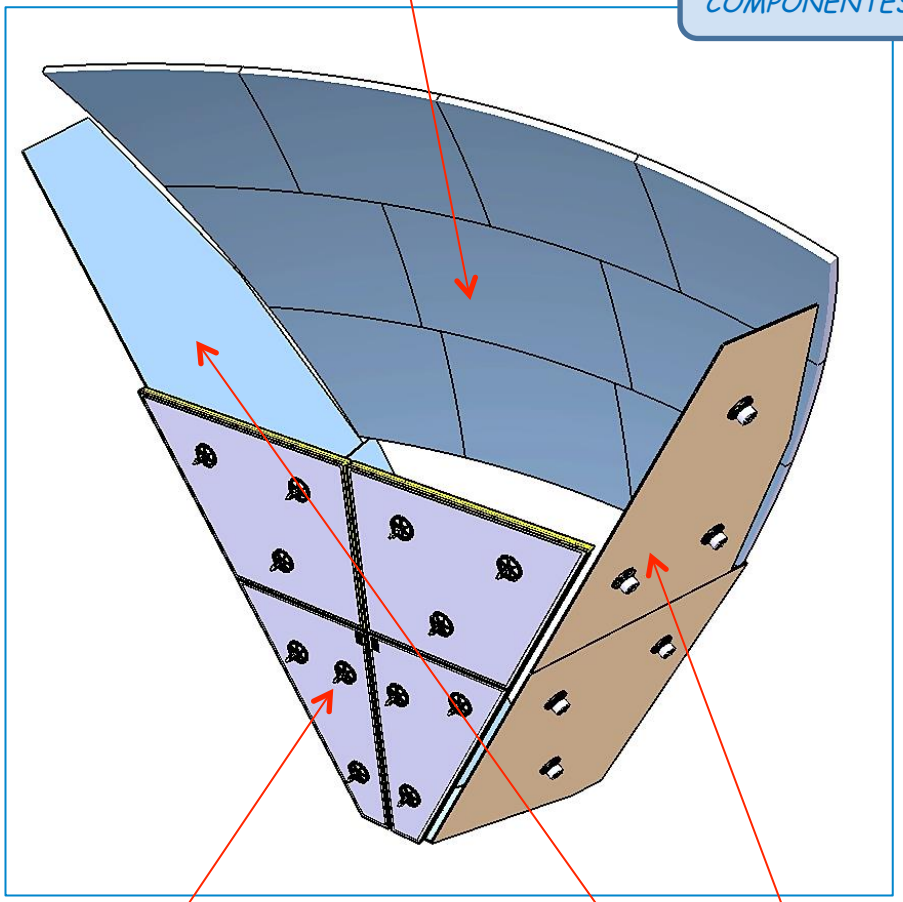
RICH MODULE OVERVIEW

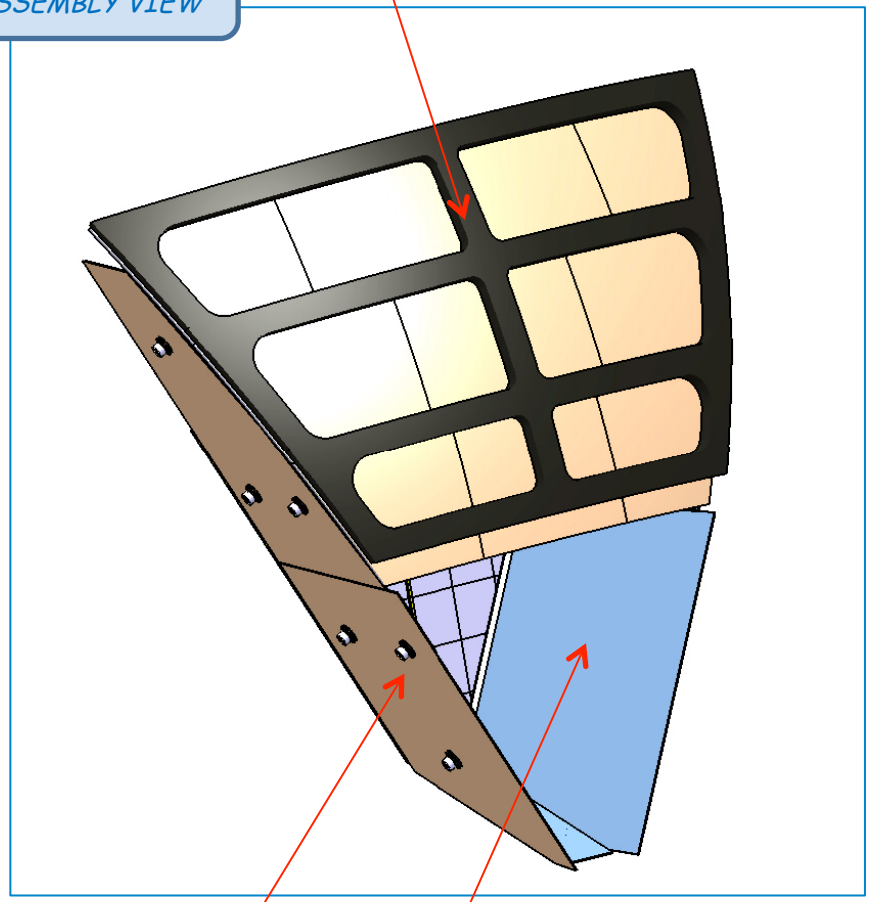
(PICTURES OF THE LATEST REVIEW)

SPHERICAL MIRROR

SPHERICAL MIRROR SUPPORT FRAME

MIRRORS AND RADIATOR COMPONENTES ASSEMBLY VIEW





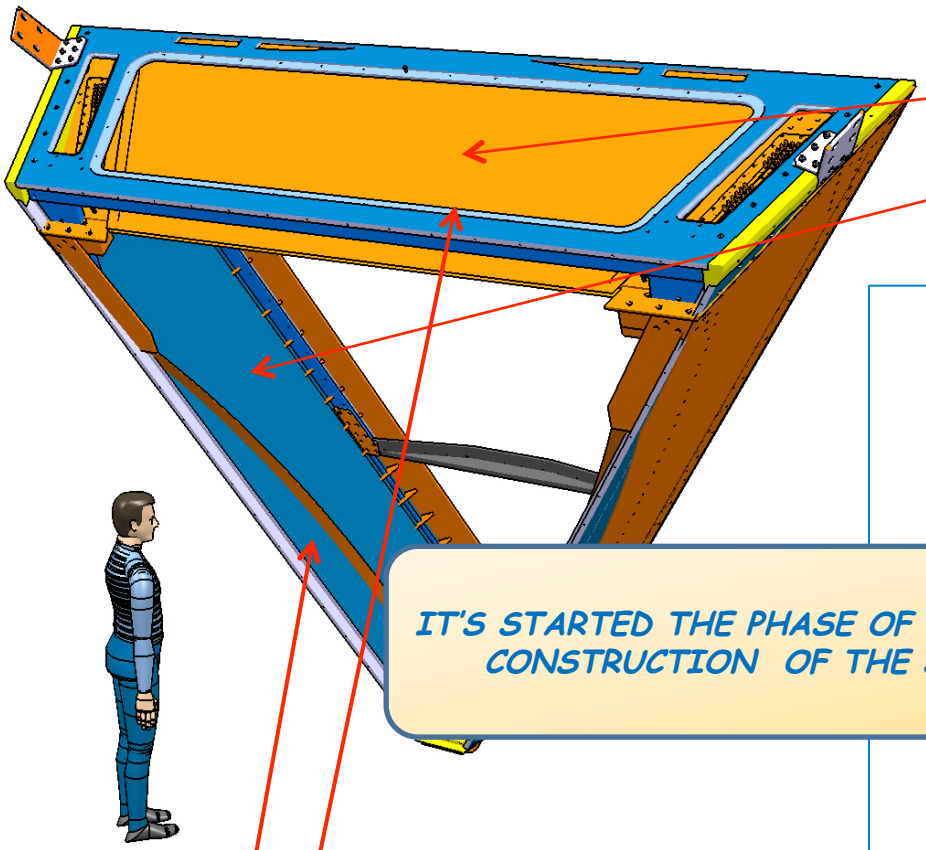
FORWARD PLANAR MIRRORS AND AEROGEL

LATERAL PLANAR MIRRORS

LATERAL PLANAR MIRRORS

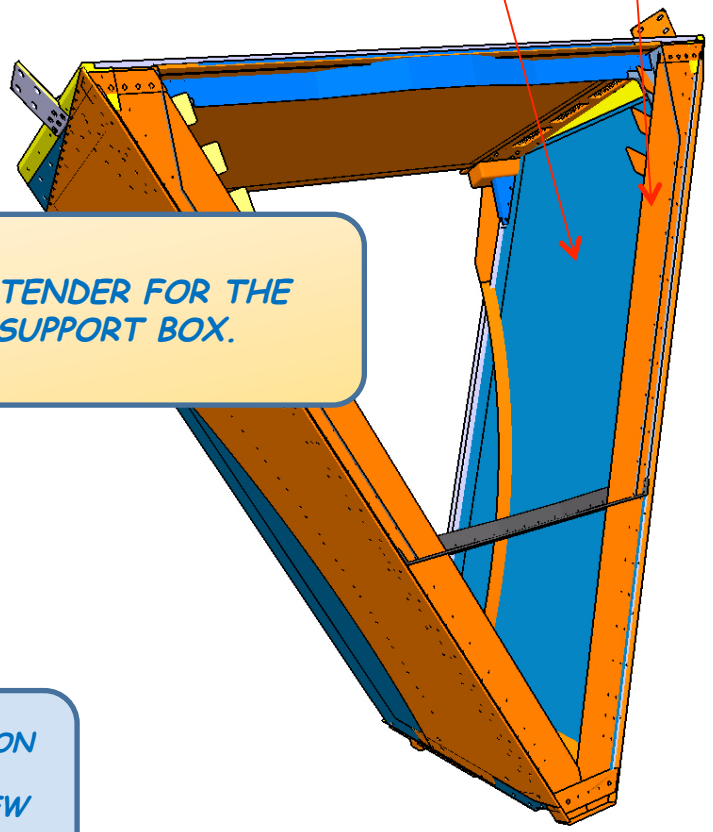
THE "LTCC" MODULE AND THE "RICH" MODULE IN OVERLAPPING VIEW

(PICTURES OF THE LATEST REVIEW)



LTCC MODULE (IN ORANGE)

RICH MODULE (IN BLUE)

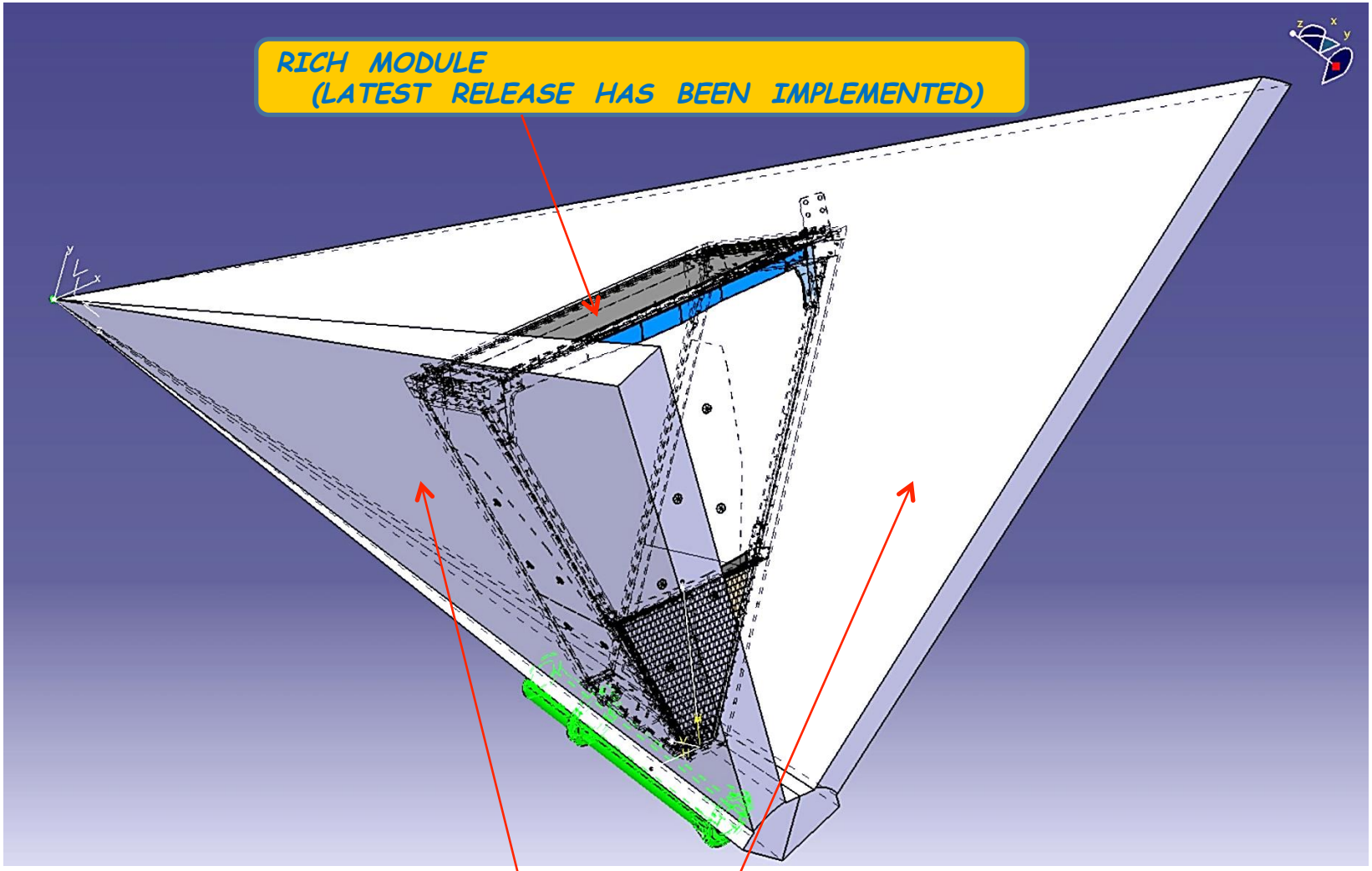


IT'S STARTED THE PHASE OF TENDER FOR THE CONSTRUCTION OF THE SUPPORT BOX.

IN TWO ZONES THE "RICH" MODULE IS BIGGER THAN THE "LTCC".

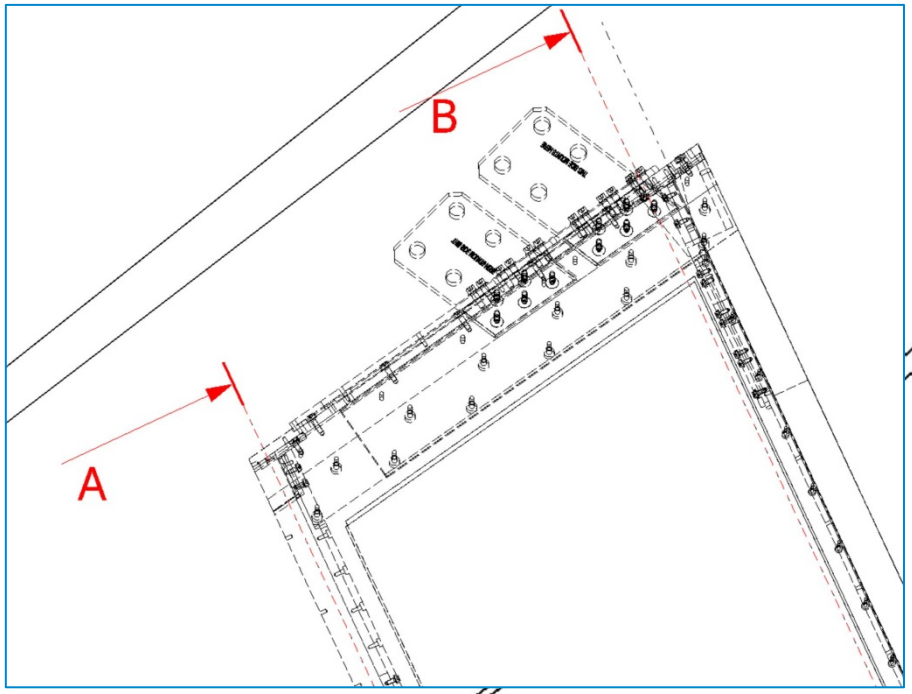
THE VERIFICATION OF THE GEOMETRY AND THE POSITION OF THE RICH MODULE INSIDE THE CLAS 12 APPARATUS, HAD A POSITIVE CHECK DURING THE MECHANICAL REVIEW (JUNE 2014).

RICH POSITION INSIDE TORUS COILS SHADOW



RICH POSITION INSIDE TORUS COILS SHADOW

SECTIONS HAVE BEEN MADE IN CORRISPONDENCE OF:
- THE FORWARD SIDE OF THE RICH:
- THE BACKWARD SIDE OF THE RICH.



SIDE VIEW

RICH POSITION INSIDE TORUS COILS SHADOW

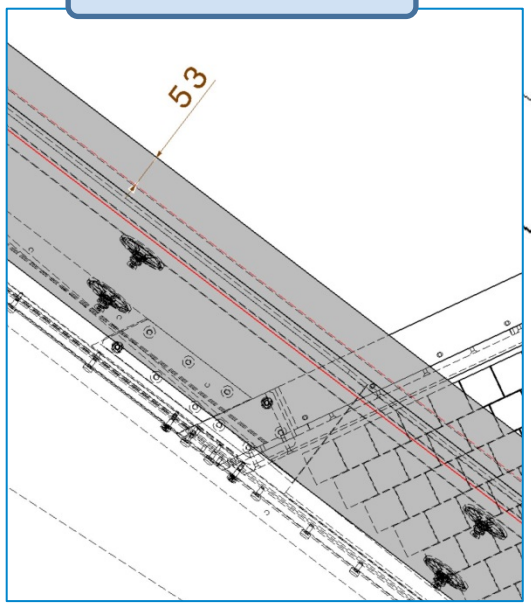
SECTION "A-A"

TORUS SHADOW (IN GREY)

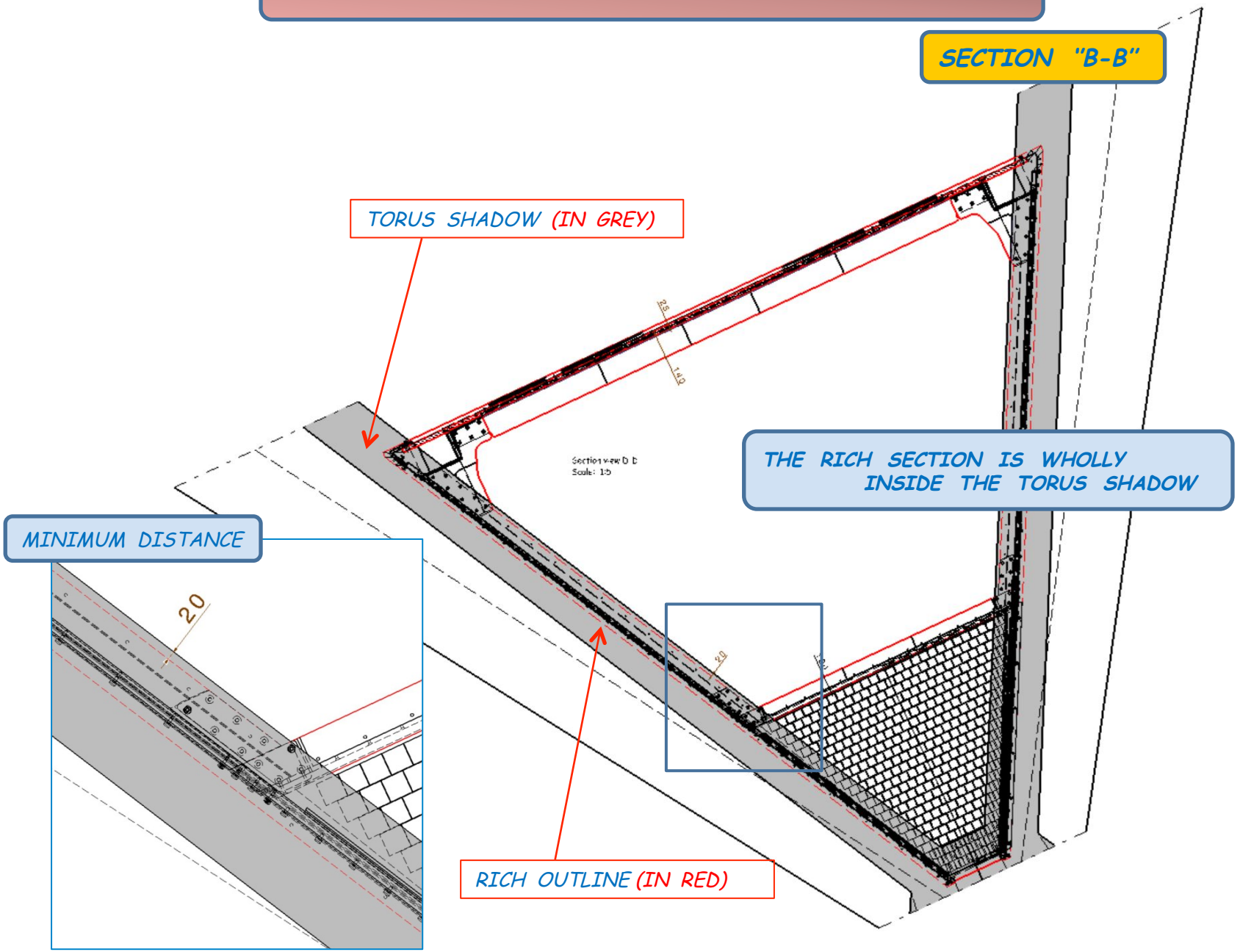
THE RICH SECTION IS WHOLLY INSIDE THE TORUS SHADOW

RICH OUTLINE (IN RED)

MINIMUM DISTANCE

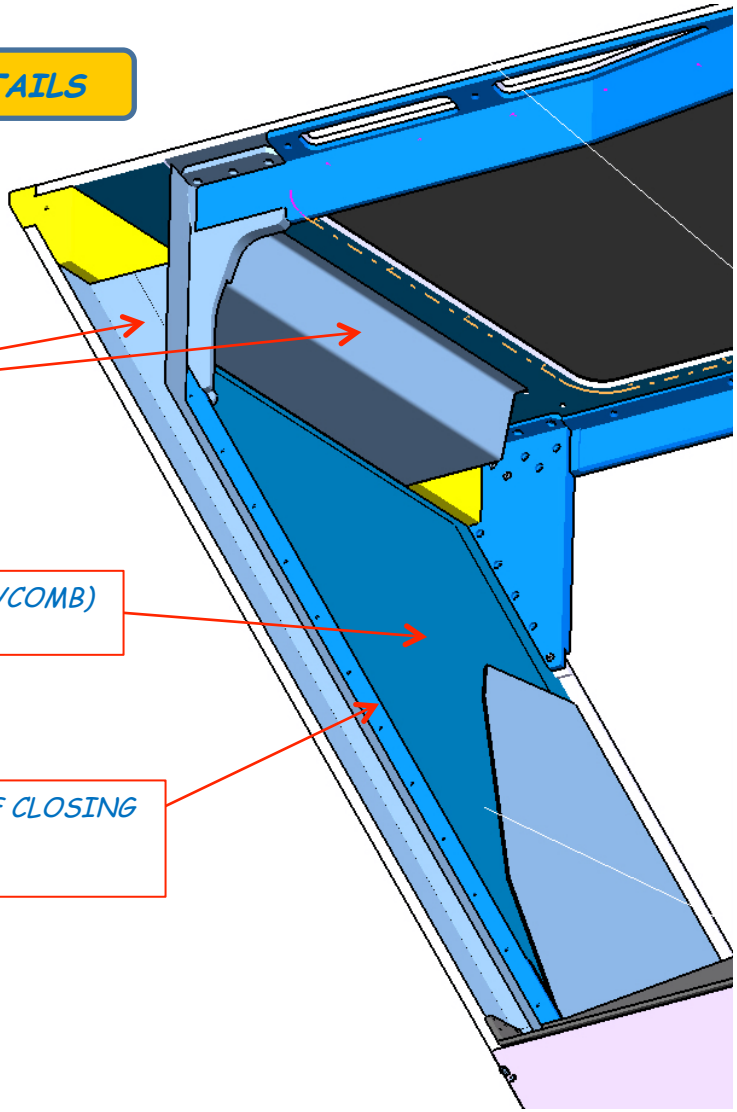


RICH POSITION INSIDE TORUS COILS SHADOW



RICH POSITION INSIDE TORUS COILS SHADOW

COMPONENTS DETAILS

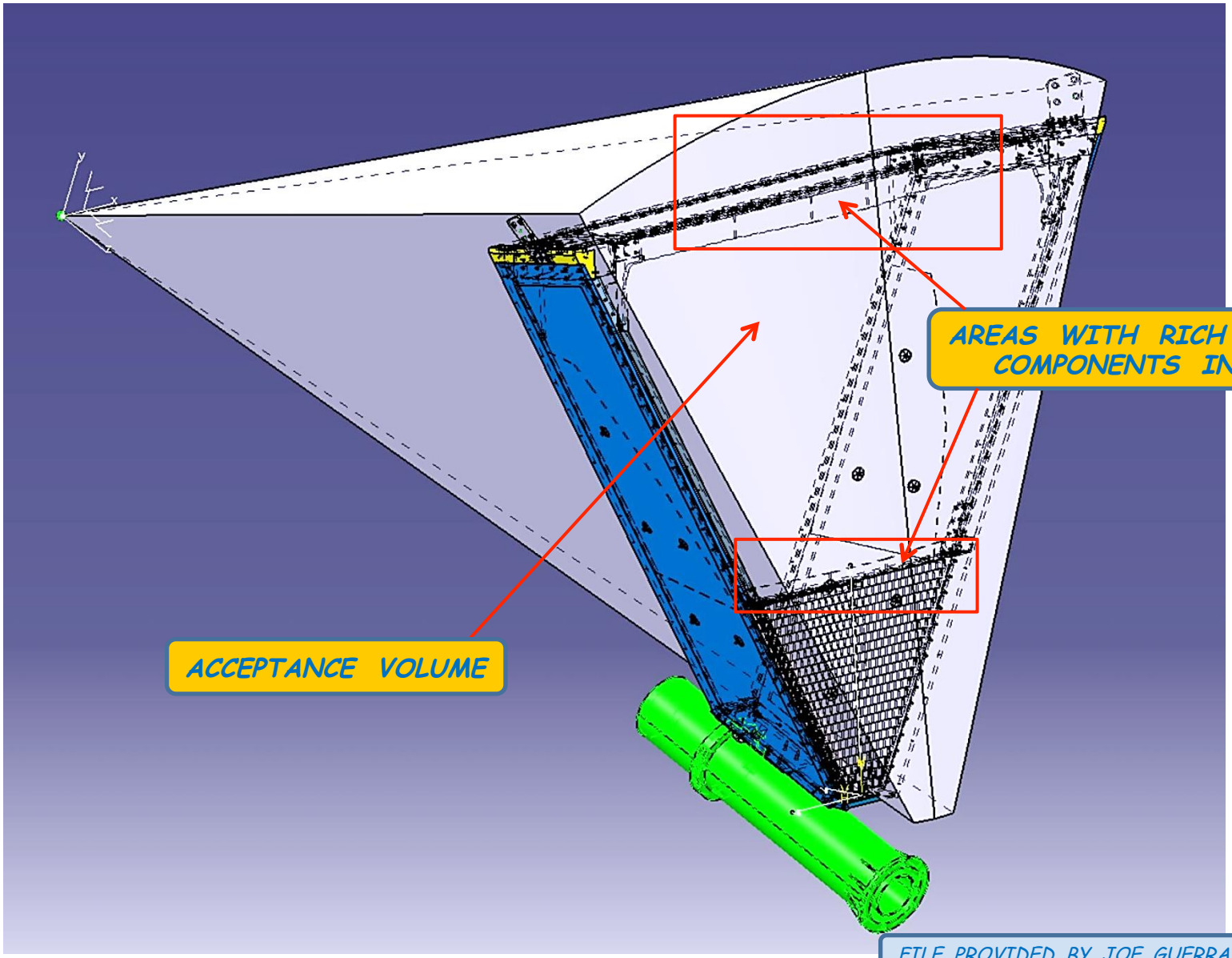


CABLES PATHWAY (ALUMINUM)
Tickness: 2mm

LATERAL SHEET (ALUMINUM HONEYCOMB)
Tickness: 25mm

FRAME FOR POSITIONING OF CLOSING PANEL (ALUMINUM)
Tickness: 12mm

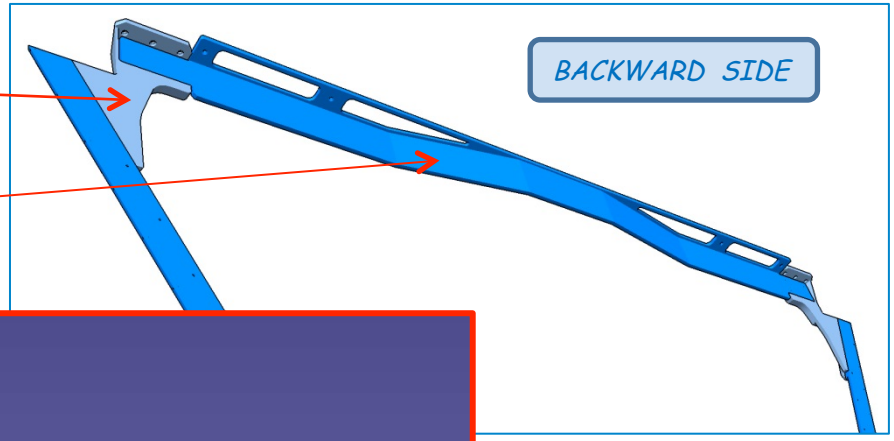
RICH POSITION INSIDE ACCEPTANCE AREA

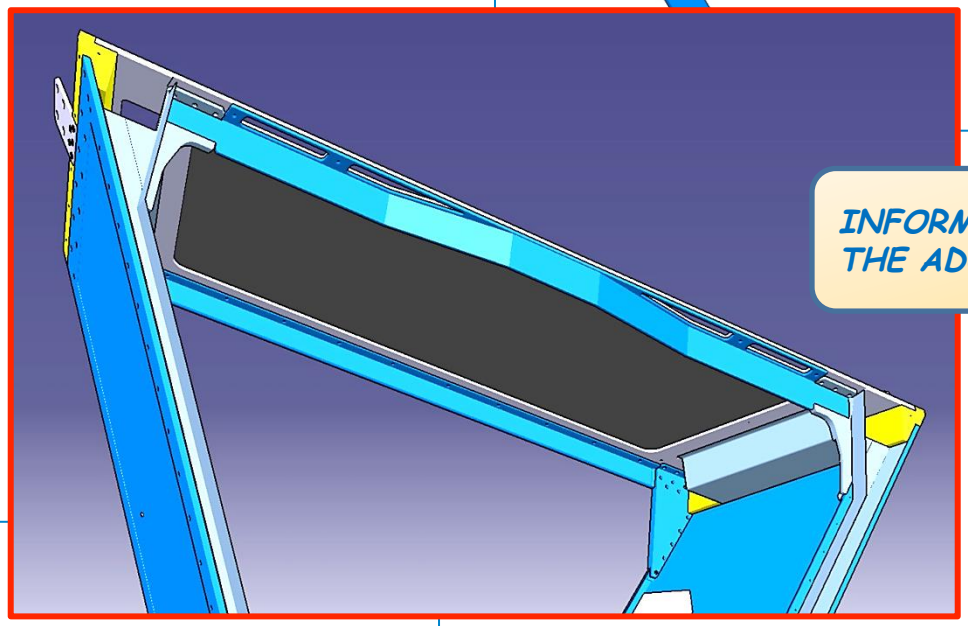


RICH POSITION INSIDE ACCEPTANCE AREA

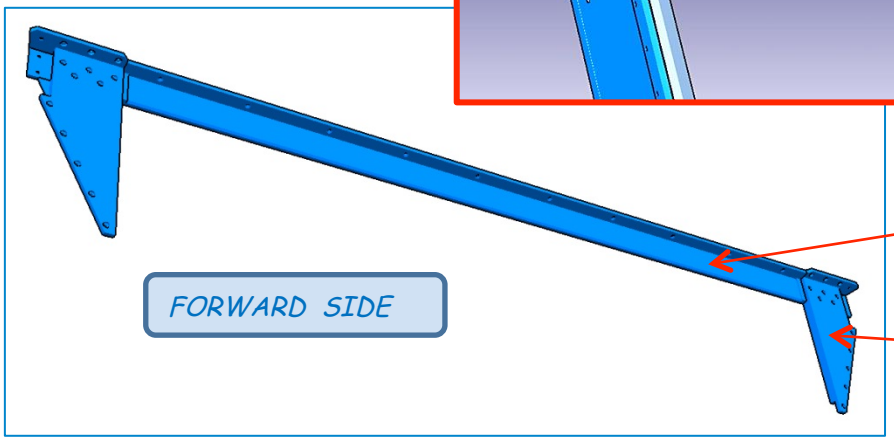
STIFFENING RIBS (ALUMINUM)
Tickness: 20mm

CONNECTION PLATE **(COMPOSITE MATERIAL)**
Tickness: 15mm





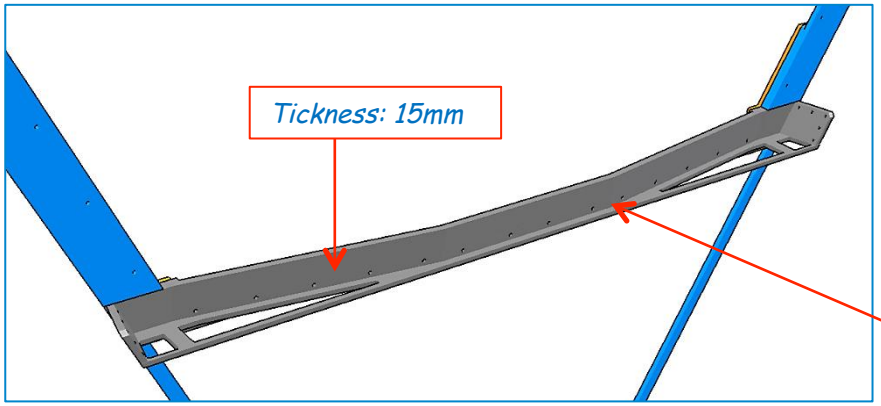
INFORMATIONS ABOUT THE ADOPTED MATERIALS



CONNECTION PLATE **(COMPOSITE MATERIAL)**
Tickness: 15mm

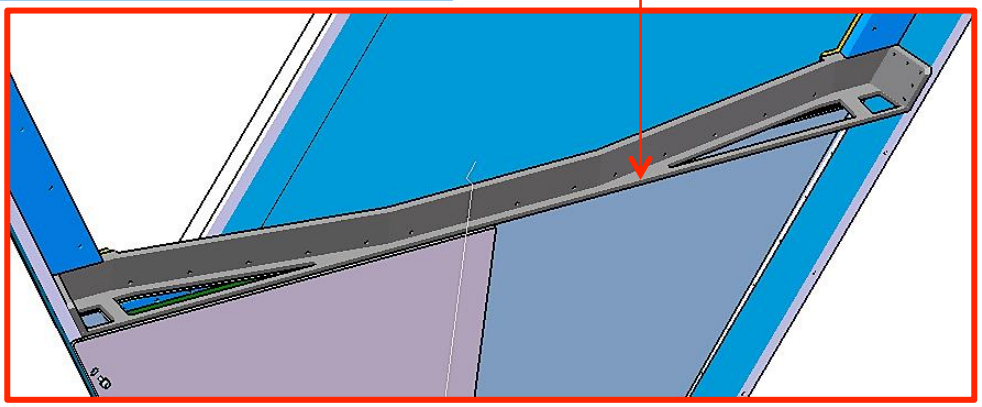
STIFFENES RIBS (ALUMINUM)
Tickness: 35mm

RICH POSITION INSIDE ACCEPTANCE AREA

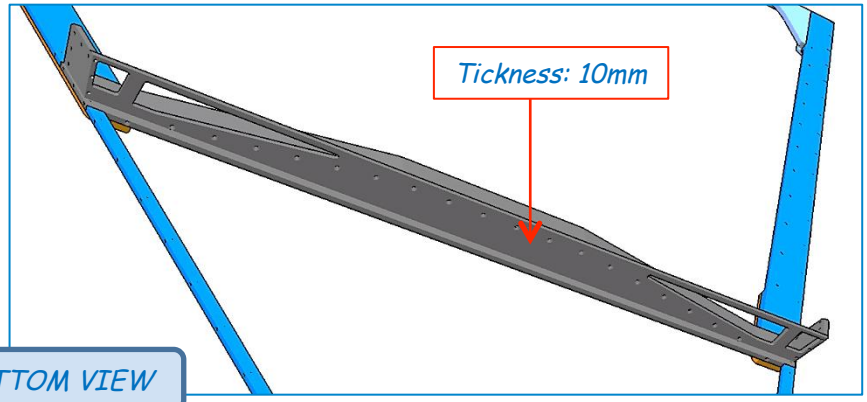


TOP VIEW

STIFFENING RIBS **(COMPOSITE MATERIAL)**
(It also provide the "ELECTRONIC PANEL" positioning)

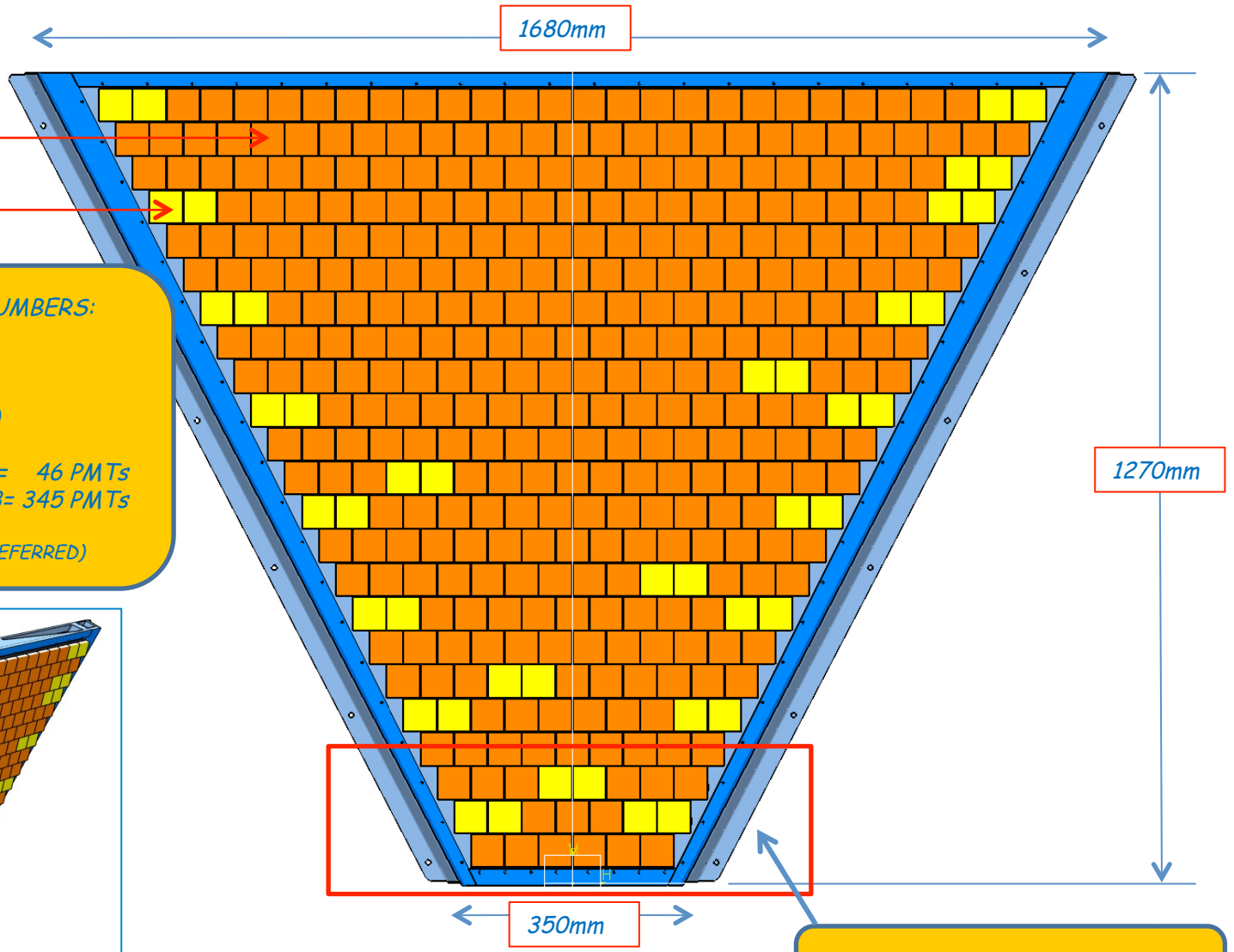


INFORMATIONS ABOUT THE ADOPTED MATERIALS



BOTTOM VIEW

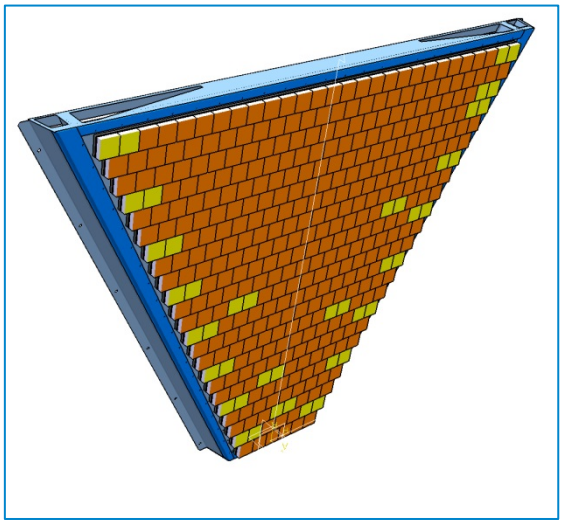
ELECTRONIC PANEL PROTOTYPE UNDER REALIZATION IN LNF WORKSHOP



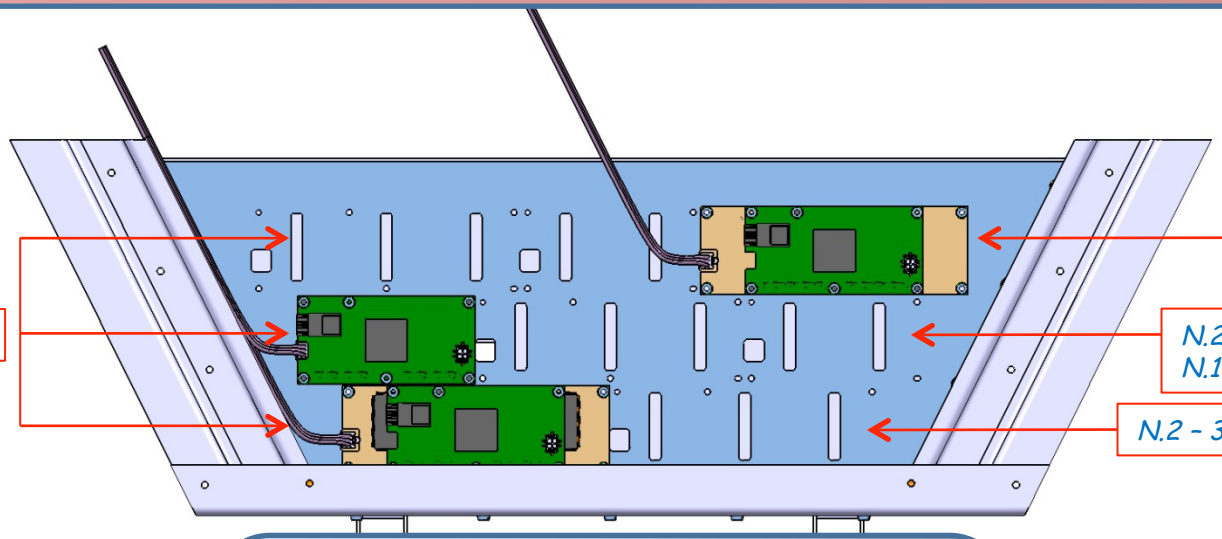
PMTs TRACKER MAIN NUMBERS:
- **391 PMTs**
- 23 LAYERS
  (1° LAYER > 6 PMTs)
  (23° LAYER > 28 PMTs)

- 2 PMTs TILES: 23 > 23x2= 46 PMTs
- 3 PMTs TILES: 115 > 115x3= 345 PMTs

(-3 PMTs TILES HAVE BEEN PREFERRED)



ELECTRONIC PANEL PROTOTYPE UNDER REALIZATION IN LNF WORKSHOP



N.3 PMTs ROWS

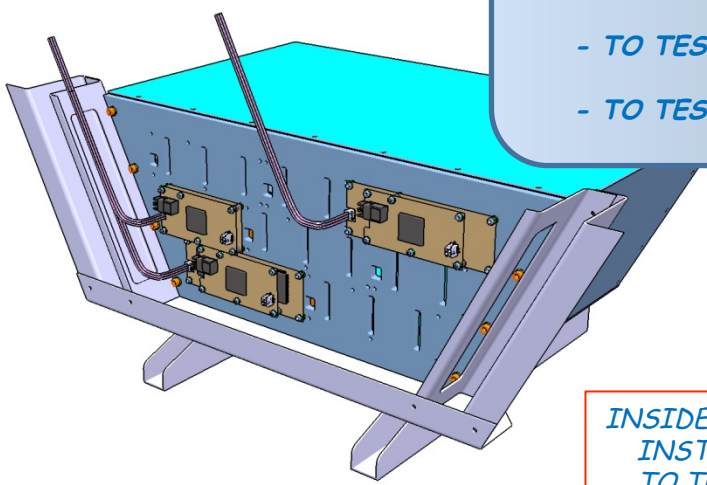
N.2 – 3 PMTs TILES
N.1 – 3 PMTs TILES

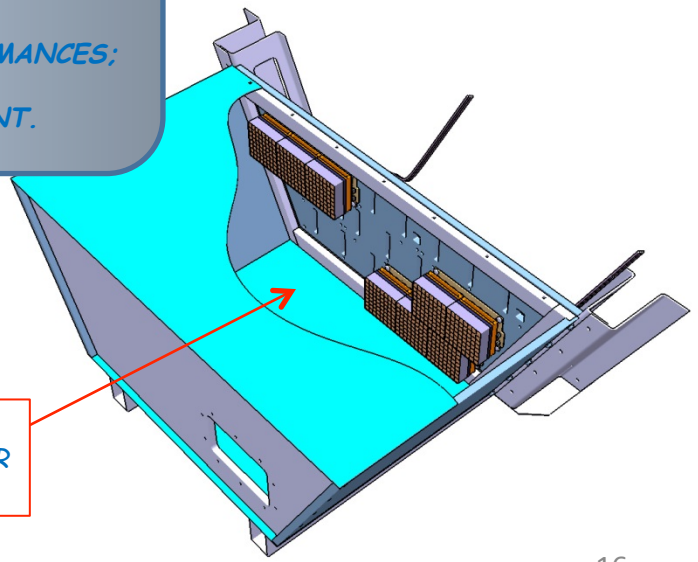
N.2 – 2 PMTs TILES
N.1 – 3 PMTs TILES

N.2 – 3 PMTs TILES

THE AIM IS:

- TO TEST THE MECHANICAL COUPLING BETWEEN THE COMPONENTS;
- TO TEST THE LIGHT-TIGHT PERFORMANCES;
- TO TEST THE CABLING MANAGEMENT.





INSIDE THE BOX:
INSTRUMENTED PHOMULTIPLAYER
TO TEST THE LIGHT-TIGHT

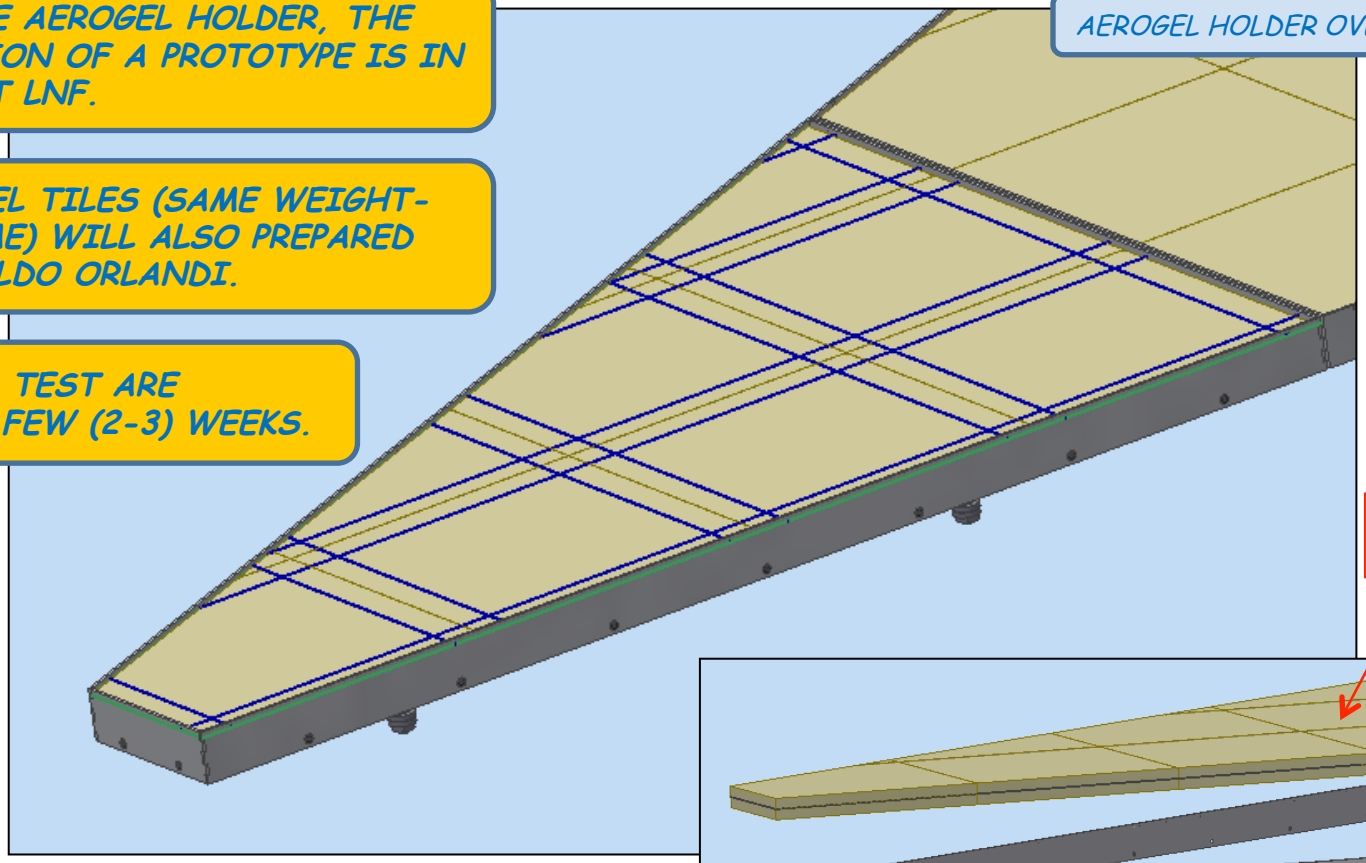
AEROGEL HOLDER PROTOTYPE UNDER REALIZATION IN LNF WORKSHOP

TO TEST THE AEROGEL HOLDER, THE CONSTRUCTION OF A PROTOTYPE IS IN PROGRESS AT LNF.

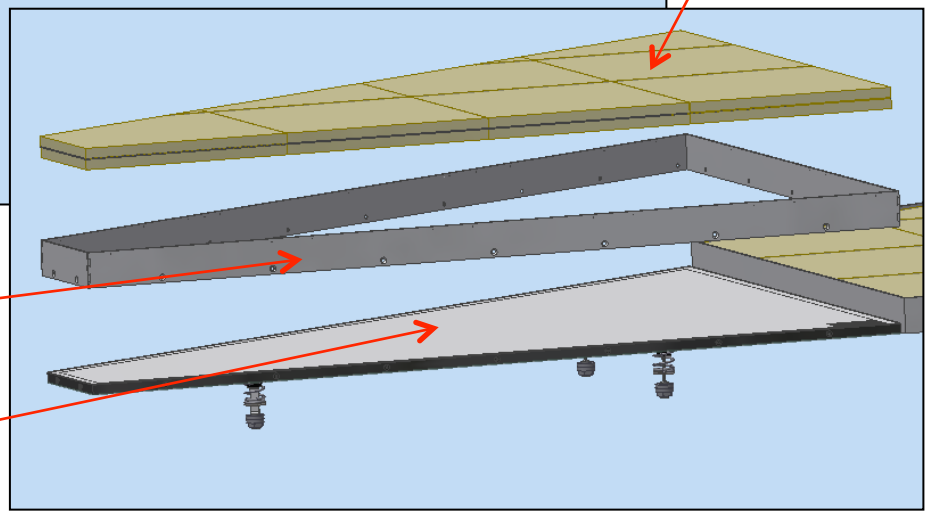
FAKE AEROGEL TILES (SAME WEIGHT-SAME VOLUME) WILL ALSO PREPARED AT LNF BY ALDO ORLANDI.

MECHANICAL TEST ARE PLANNED IN FEW (2-3) WEEKS.

AEROGEL HOLDER OVERVIEW



FAKE AEROGEL TILES

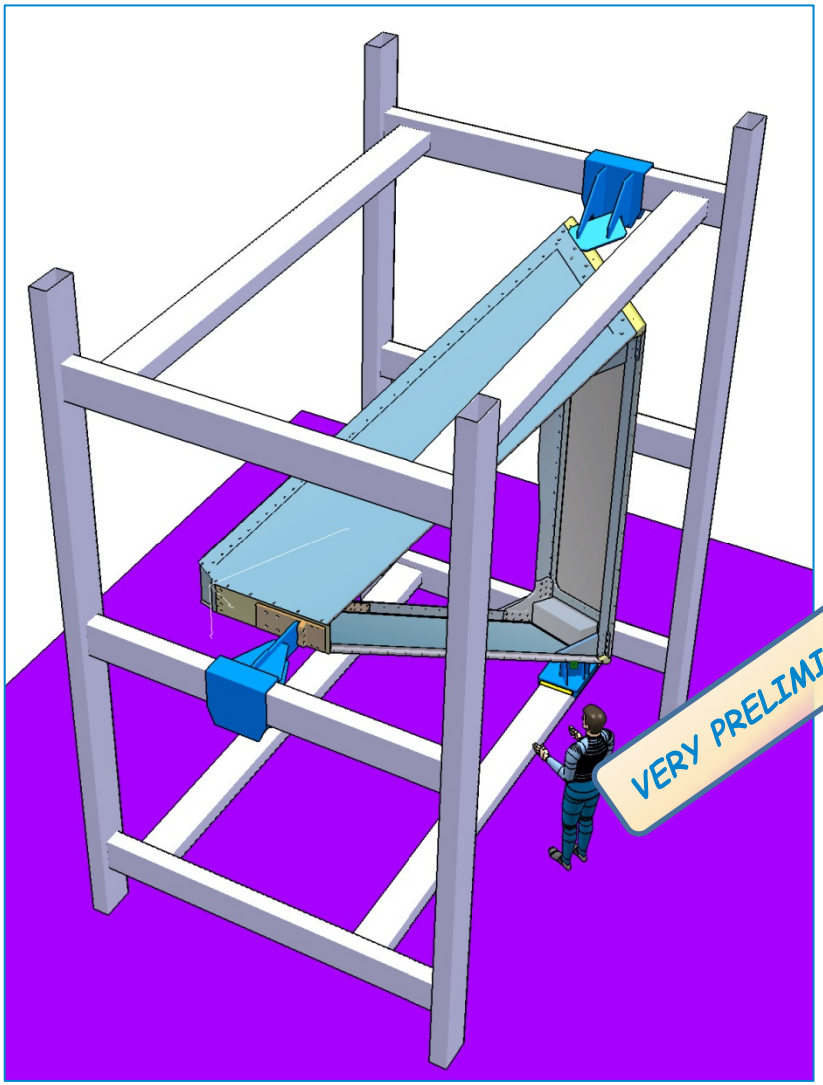


THE HOLDER MANUFACTORING IS IN PROGRESS AT LNF WORKSHOP.

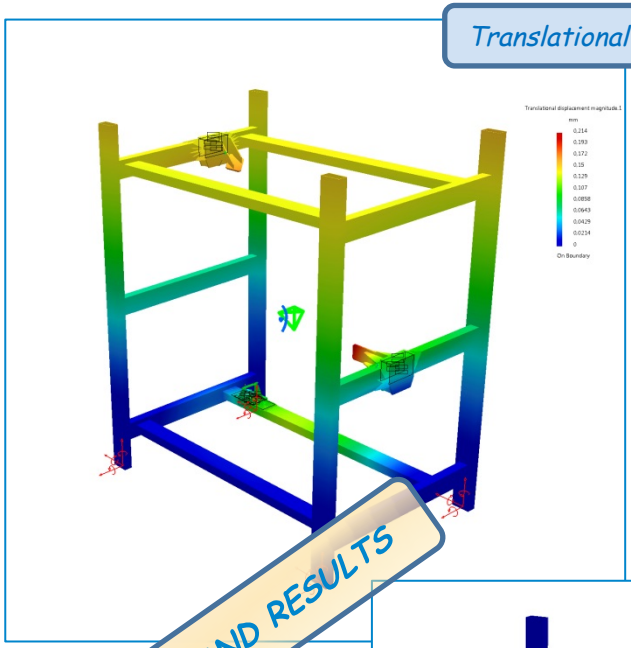
THE GLASS MIRROR WAS PRODUCED BY "MEDIA LARIO".

RICH ASSEMBLING STRUCTURE

IT'S JUST STARTED THE DESIGN OF THE "RICH ASSEMBLING STRUCTURE"

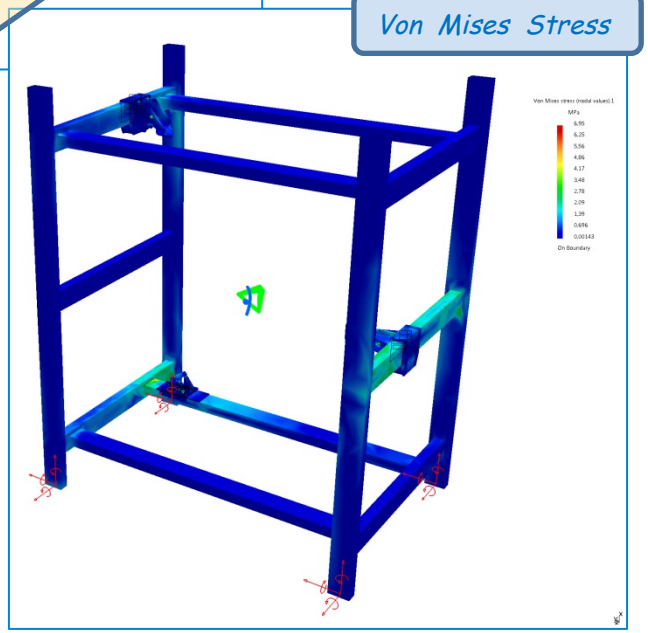


Translational displacement magnitude



VERY PRELIMINARY DESIGN AND RESULTS

Von Mises Stress



BACK UP SLIDES