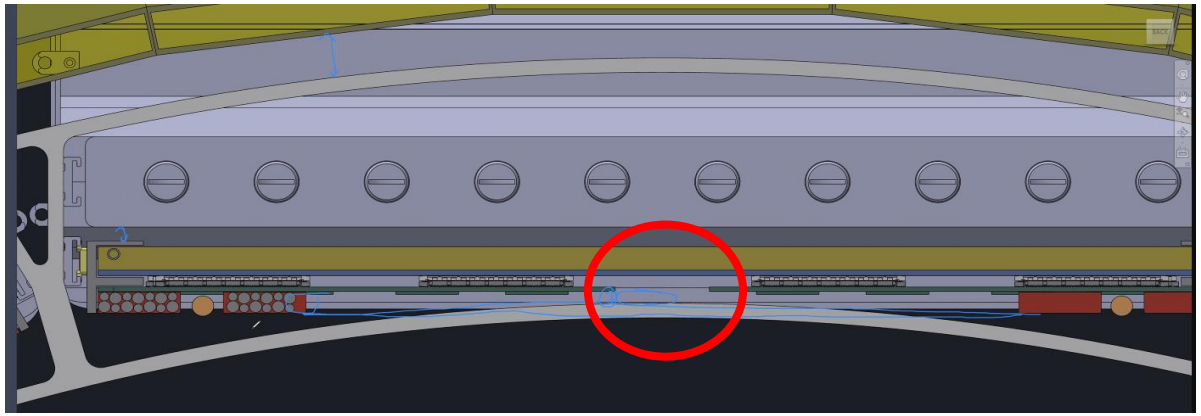
Update on Outer MPGD

Seungjoon Lee

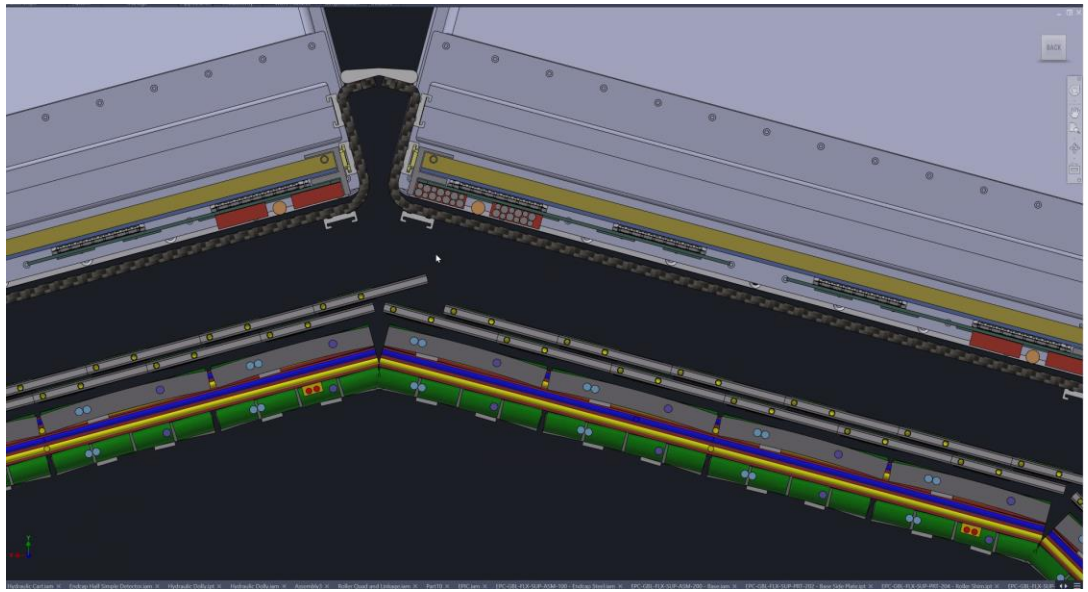
09/22/2025

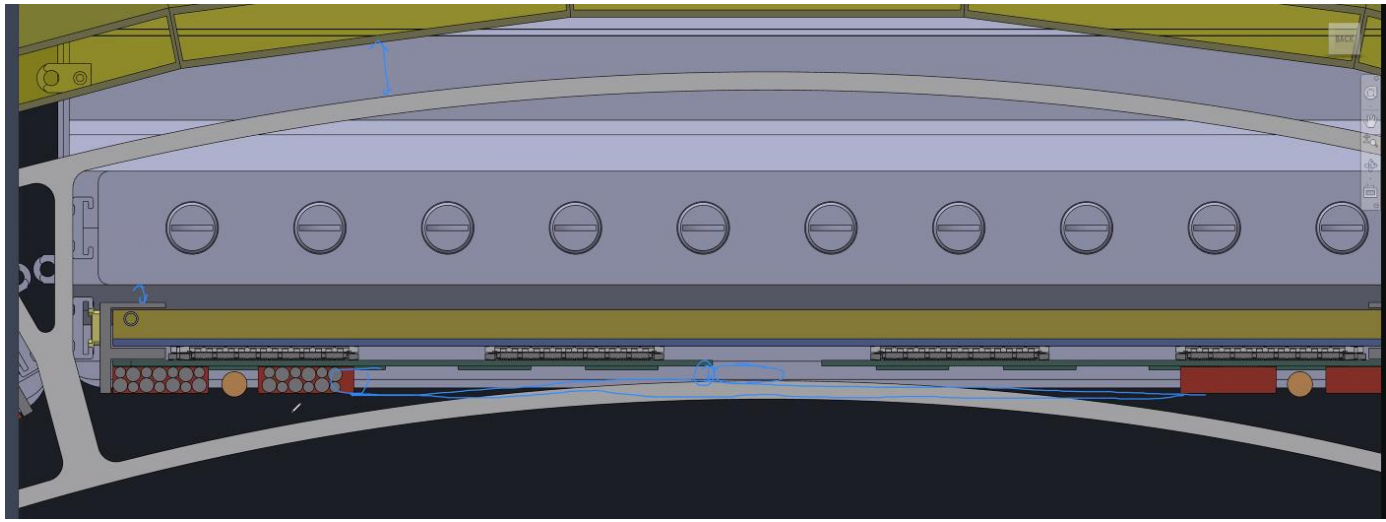
New PCB layout and new envelope

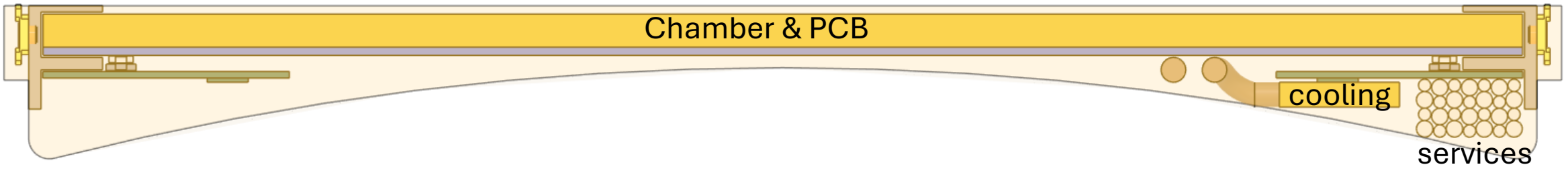


- The new design of GST changes support frame for hpDIRC and BOT.
- To accommodate new support frame, center area of BOT (PCB side) needs to be cleared.
- Then relocate FEBs on service area to the side of BOT with 90 degrees rotation.
- This will extend service area and increase length of BOT module
- This will shift two modules to electron side by 10~15 cm, reducing acceptance angle of BOT on hadron side.

Envelope changes



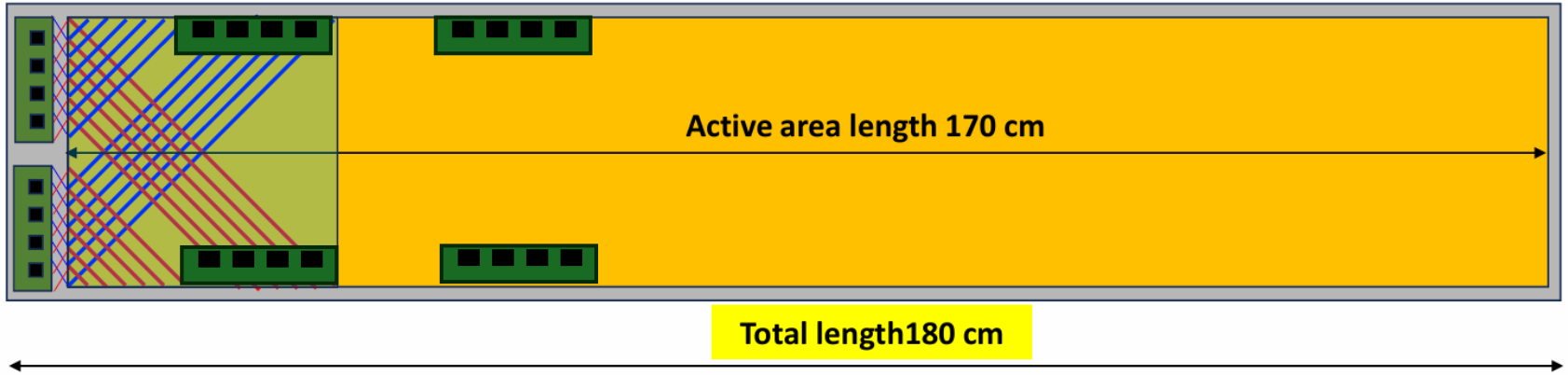




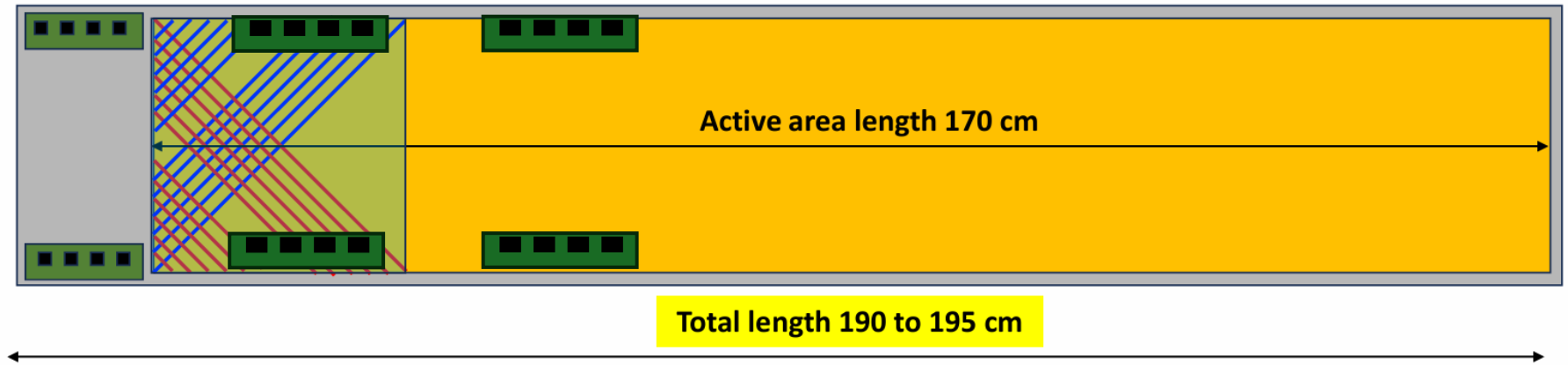
New envelope

PCB layout change

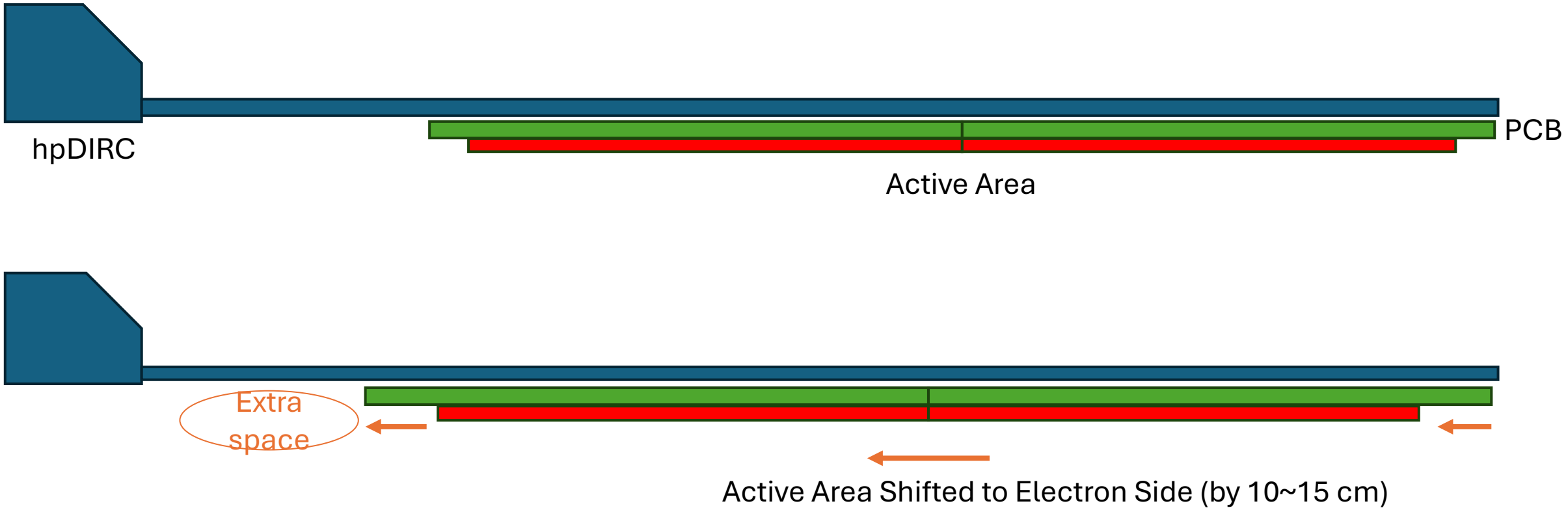
µRWELL-BOT U/V strip layout **current** Design ➔ minimize the total length / active area length ratio



µRWELL-BOT U/V strip layout **alternative** Design ➔ increase the total length / active area length ratio



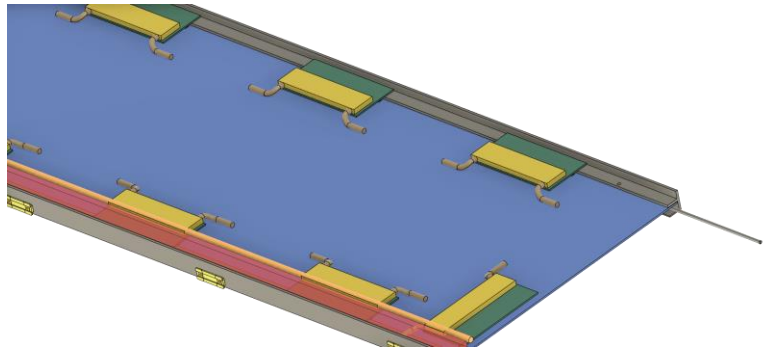
New MPGD detector coverage



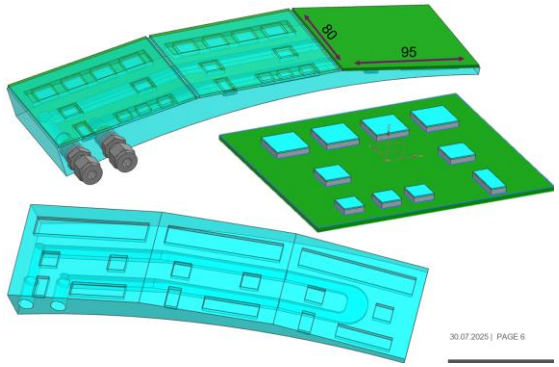
Any issue with installation or removal for service?

MPGD Cooling Meeting

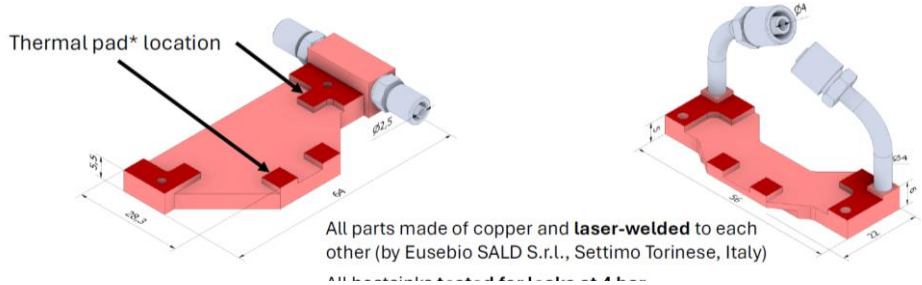
- MPGD group had a meeting for cooling (outer, inner, endcap)
- All three subsystem will use water cooling with cooling block
- Simple thermal simulation (inner MPGD) shows that it is feasible to cool all components of FEB (SALSA ASIC, LDO,…)
- We will have more meetings to discuss details. (material, temperature,)



Outer MPGD



Inner MPGD



Endcap MPGD