

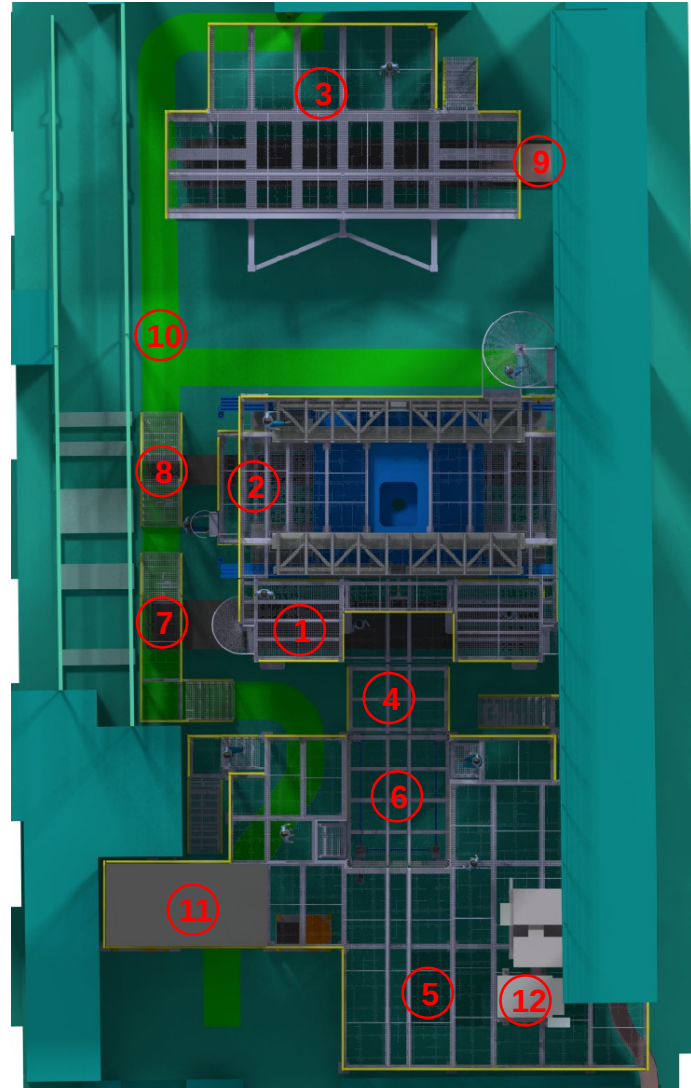
Update of infrastructure and interfaces

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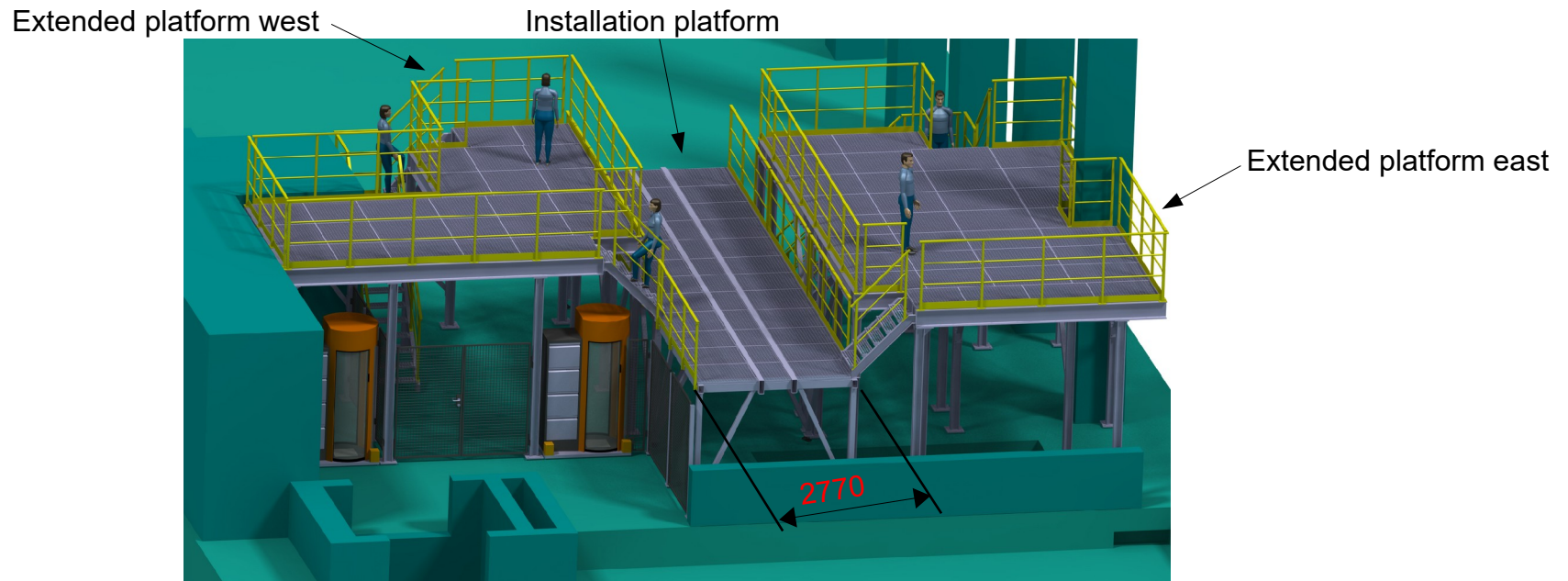
1. Overview of the infrastructure in the maintenance area

- ① Auxiliary platform
- ② Support structure of the solenoid
- ③ Forward platform
- ④ Installation platform
- ⑤ Extended platform
- ⑥ Movable platform of the extended platform
- ⑦ Drag chain of the auxiliary platform
- ⑧ Drag chain of the solenoid
- ⑨ Drag chain of the forward platform
- ⑩ Main escape route
- ⑪ Clean room
- ⑫ Target test station



2. Current changes to the infrastructure

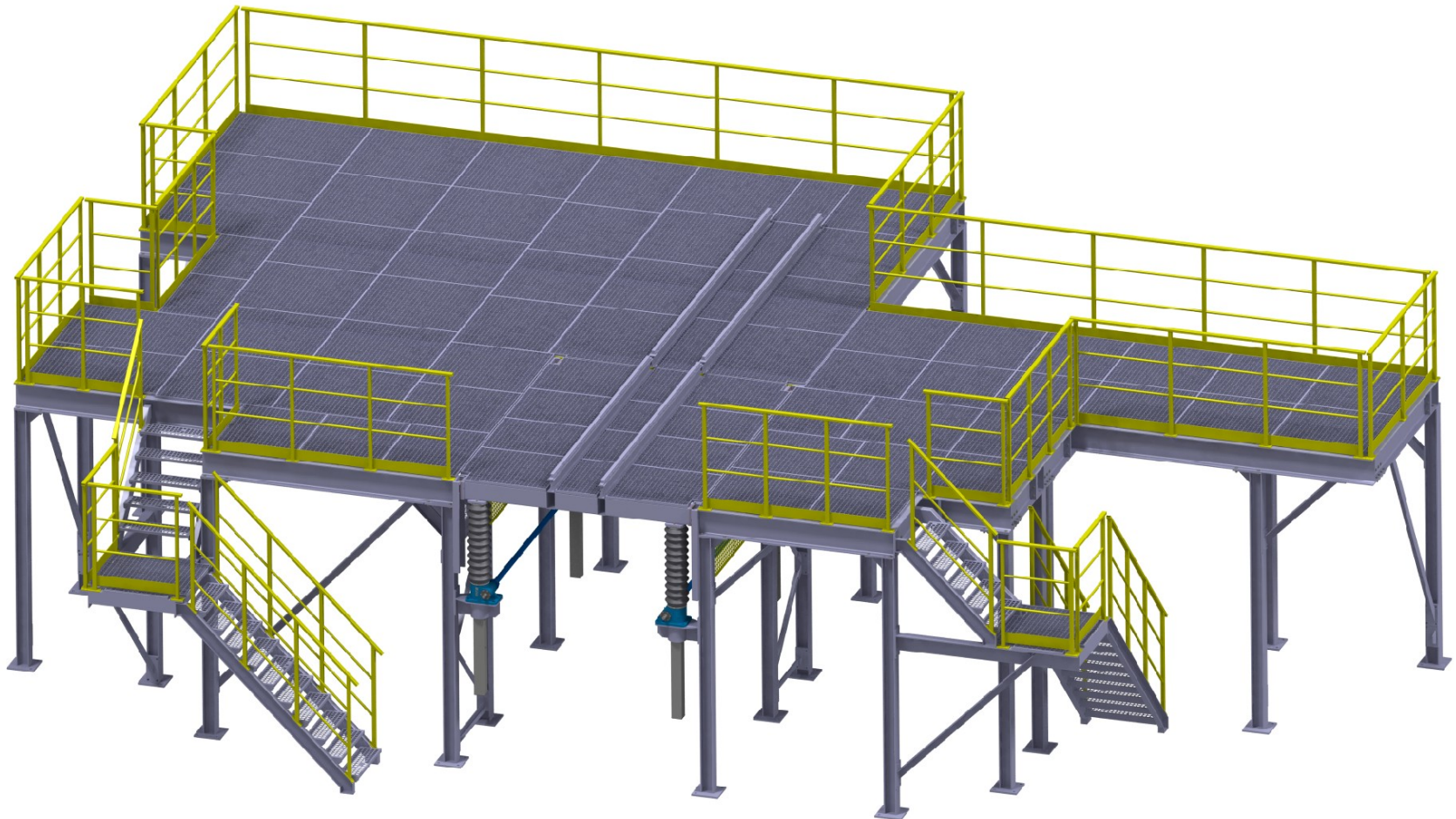
- Regarding to the first design of the extended platforms, there was the request for more space on the installation platform beside the BE-EMC and the inner detectors(see picture below).



- For that we decided to develop a concept with a movable platform, which allows to make the main mounting and assembling work on the level of the extended platforms and lower it up just for integrating the detectors in the target spectrometer.

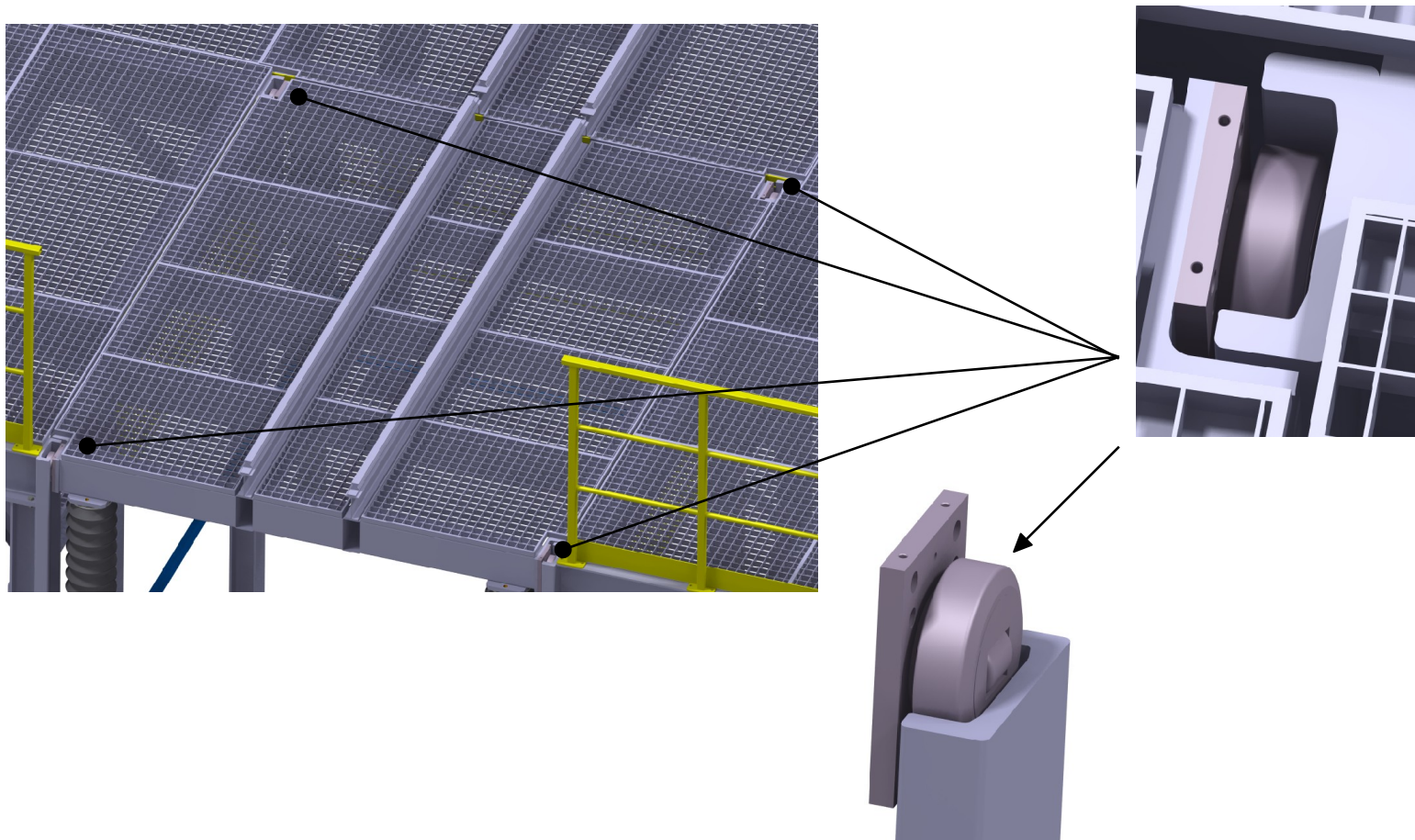
2. Current changes to the infrastructure

Design of the extended platform: Instead of two extended platforms on the east and the west side, we will have one common platform with a usable surface of about 90 m².



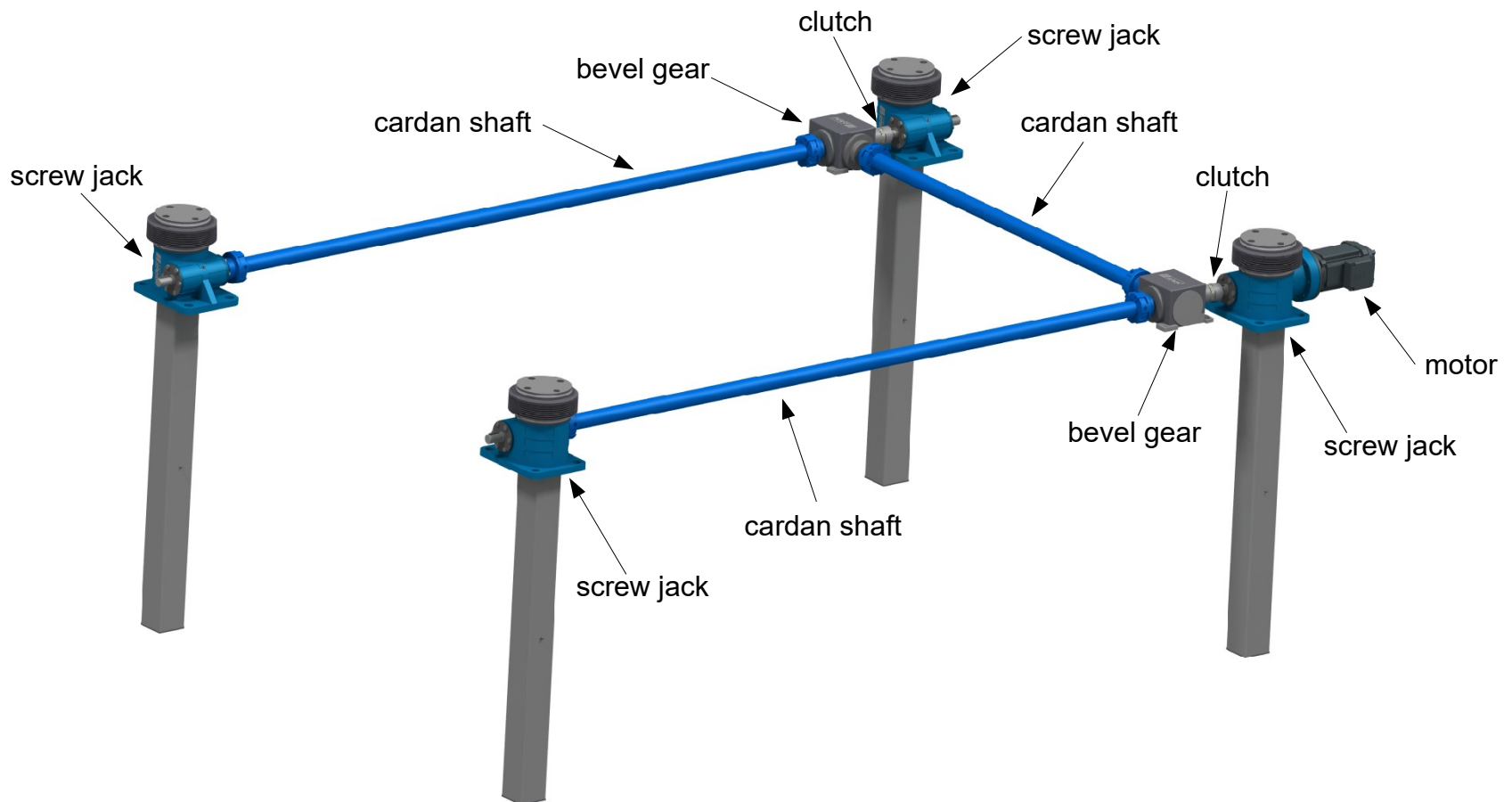
2. Current changes to the infrastructure

Movable platform: The movable part is connected to the main platform with roller guides. The guides for the rollers are integrated in the support beams of the main platform.



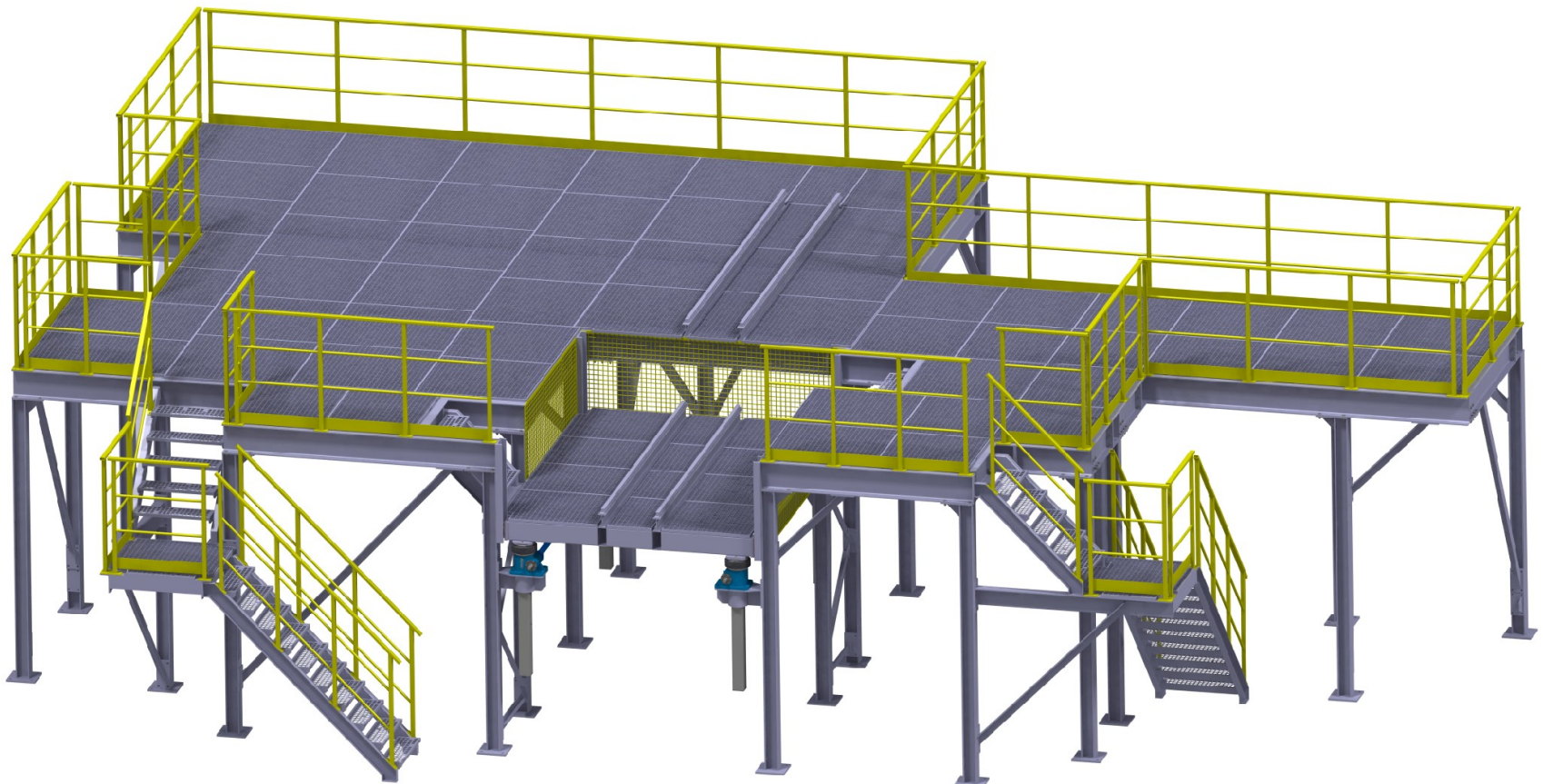
2. Current changes to the infrastructure

Movable platform: The movement itself works via four screw jacks with worm gears. One is driven by a motor and transmits the drive to the others via bevel gear and cardan shafts.



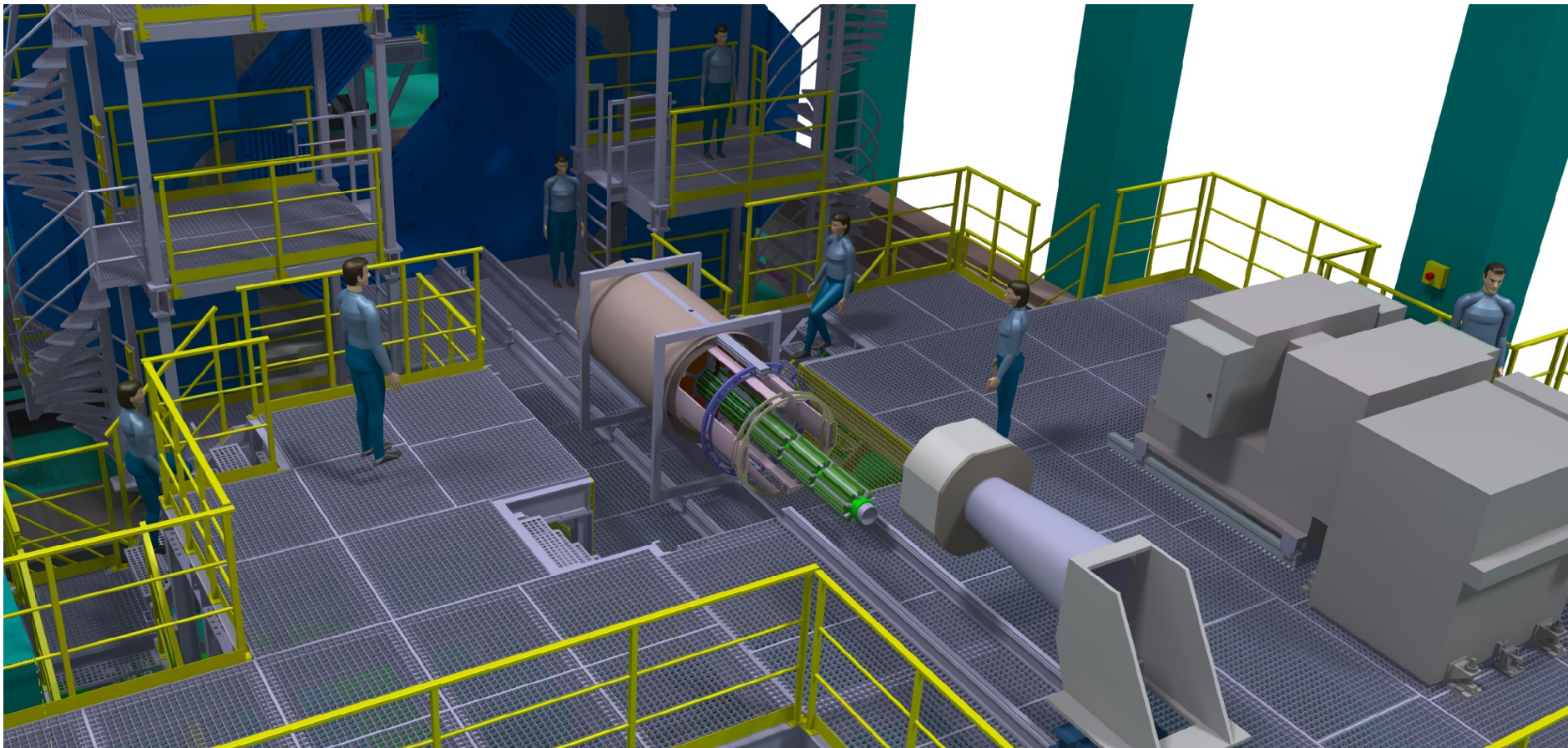
2. Current changes to the infrastructure

Movable platform: When the screw jacks are retracted, the movable platform is at the level of the installation platform and the auxiliary platform.



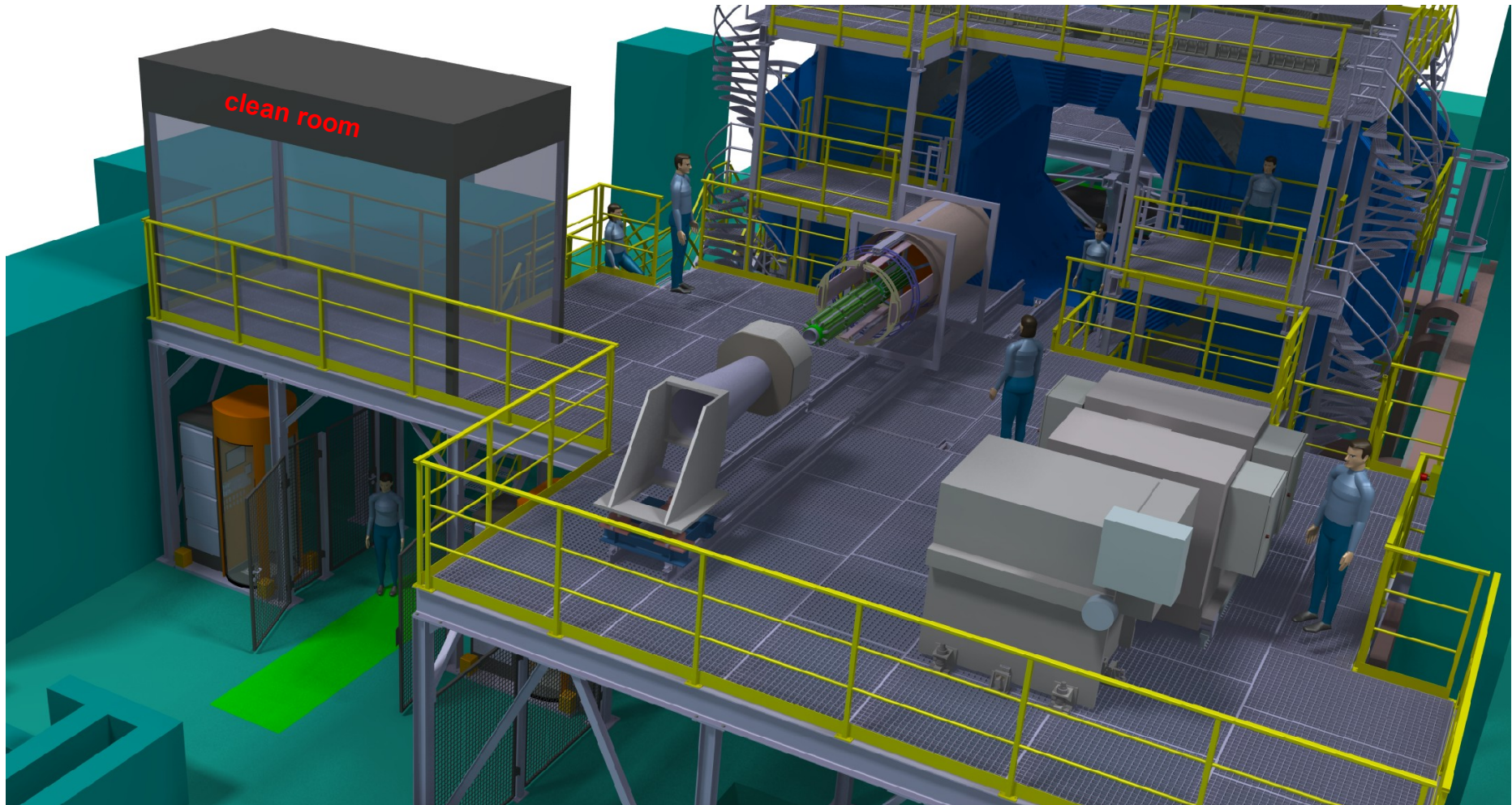
2. Current changes to the infrastructure

Movable platform: The following slides shows the movable platform in the lower position while integrating the inner detectors.



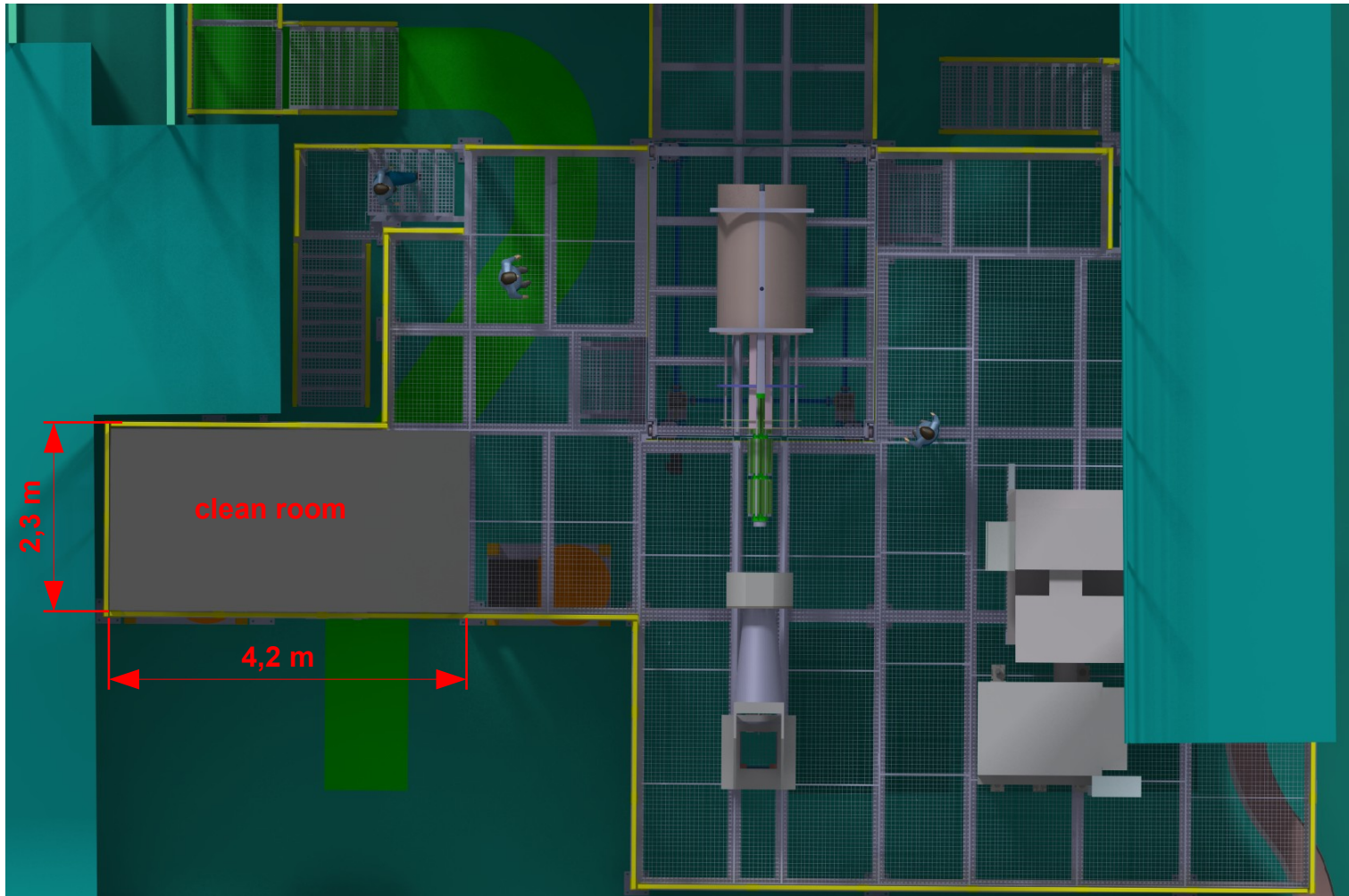
3. Position and dimensions of the clean room

Clean room: The position of the clean room is on the west side of the extended platform.



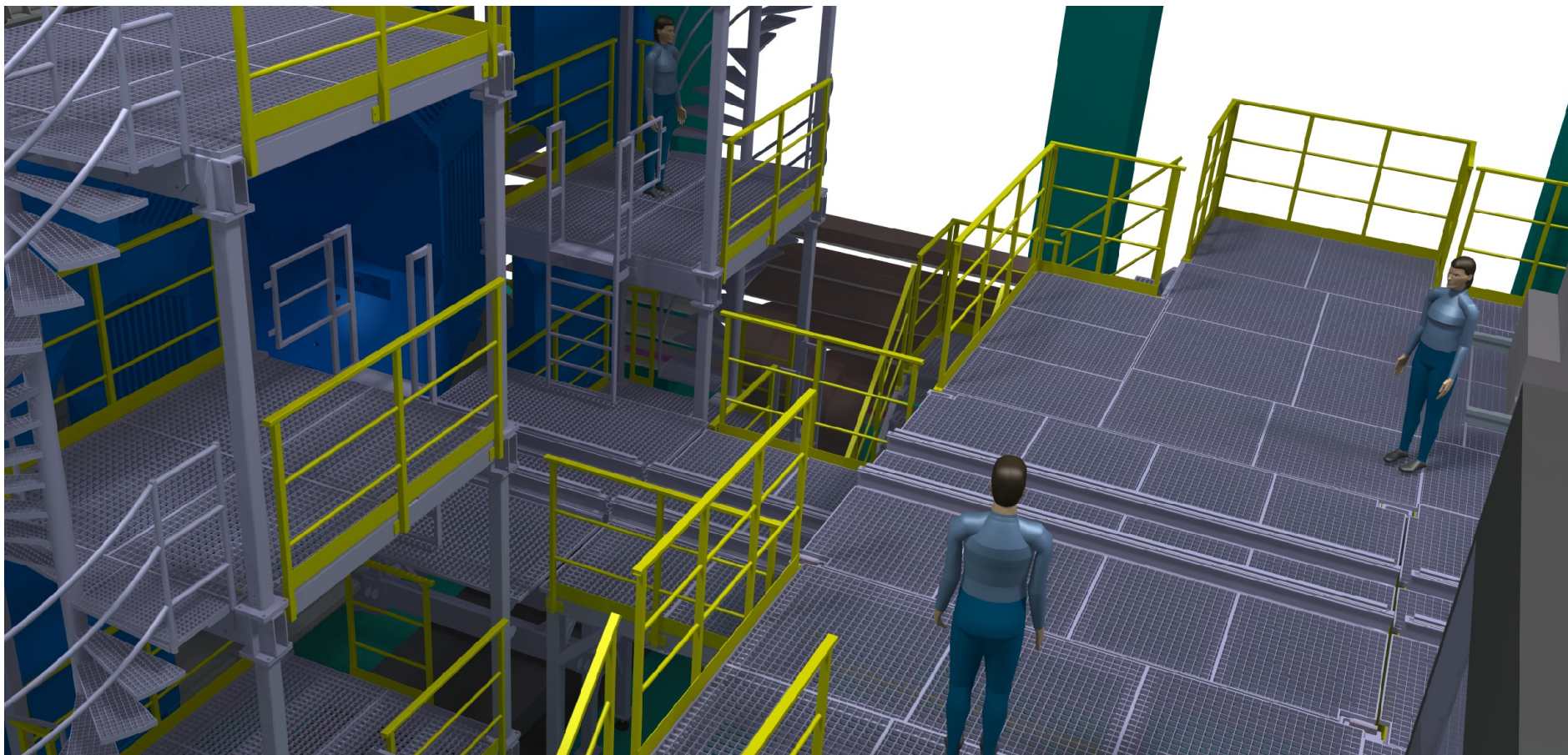
3. Position and dimensions of the clean room

Clean room: The current dimensions of the clean room are 4,2 m x 2,3 m.



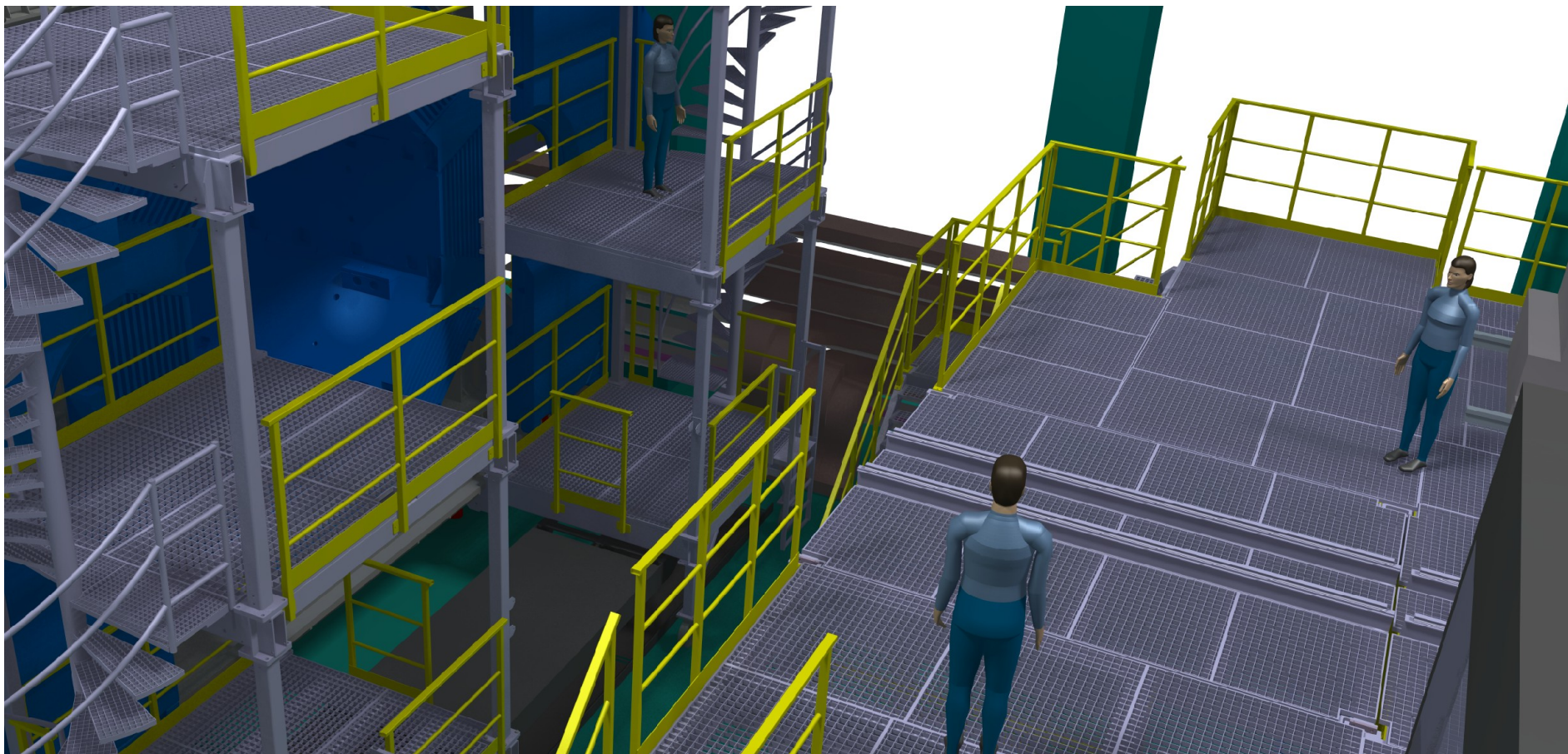
4. Compatibility between the new platforms and the Barrel EMC mounting procedure

Barrel EMC mounting: Before the Barrel EMC mounting device can be installed, the installation platform and the middle part of the auxiliary platform has to be dismantled.



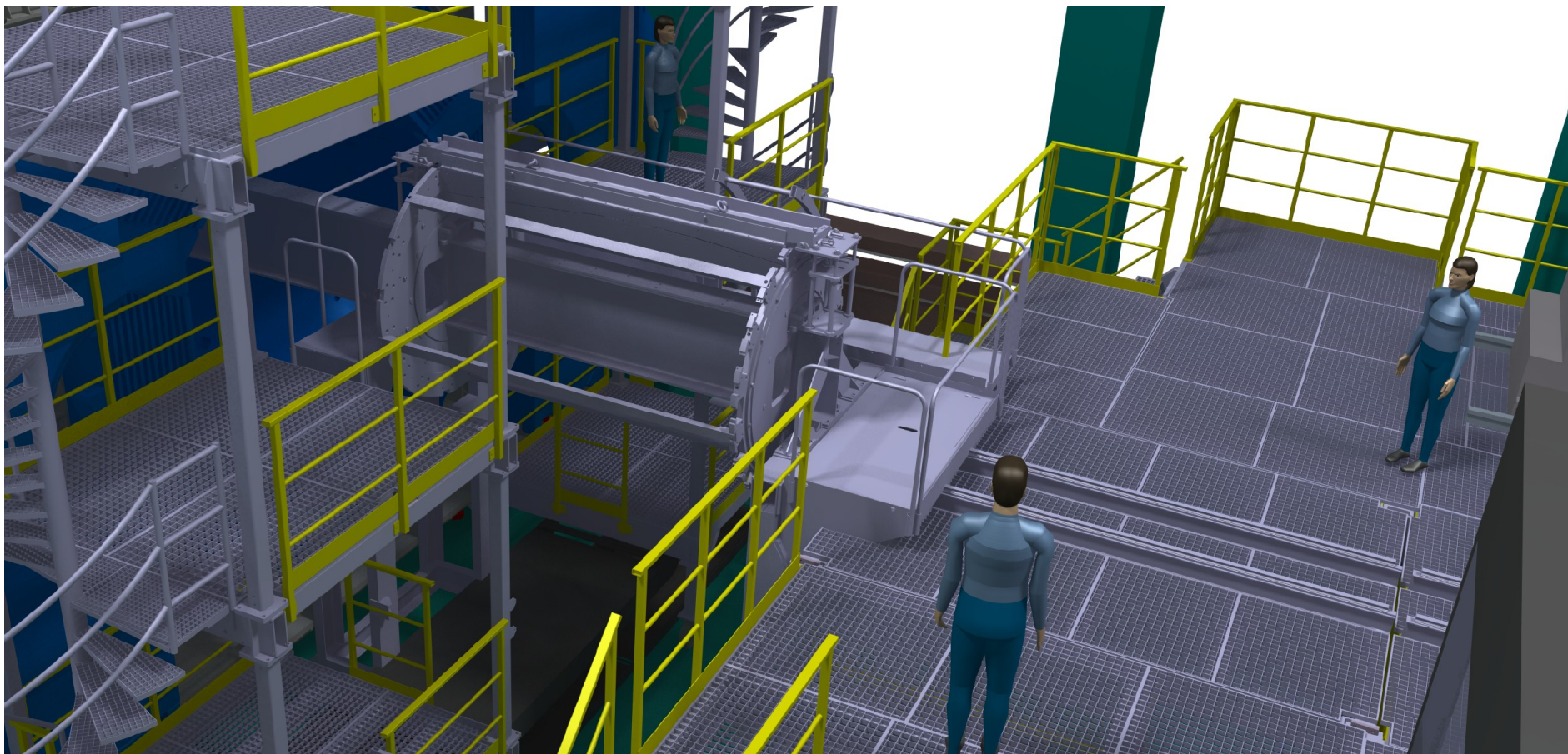
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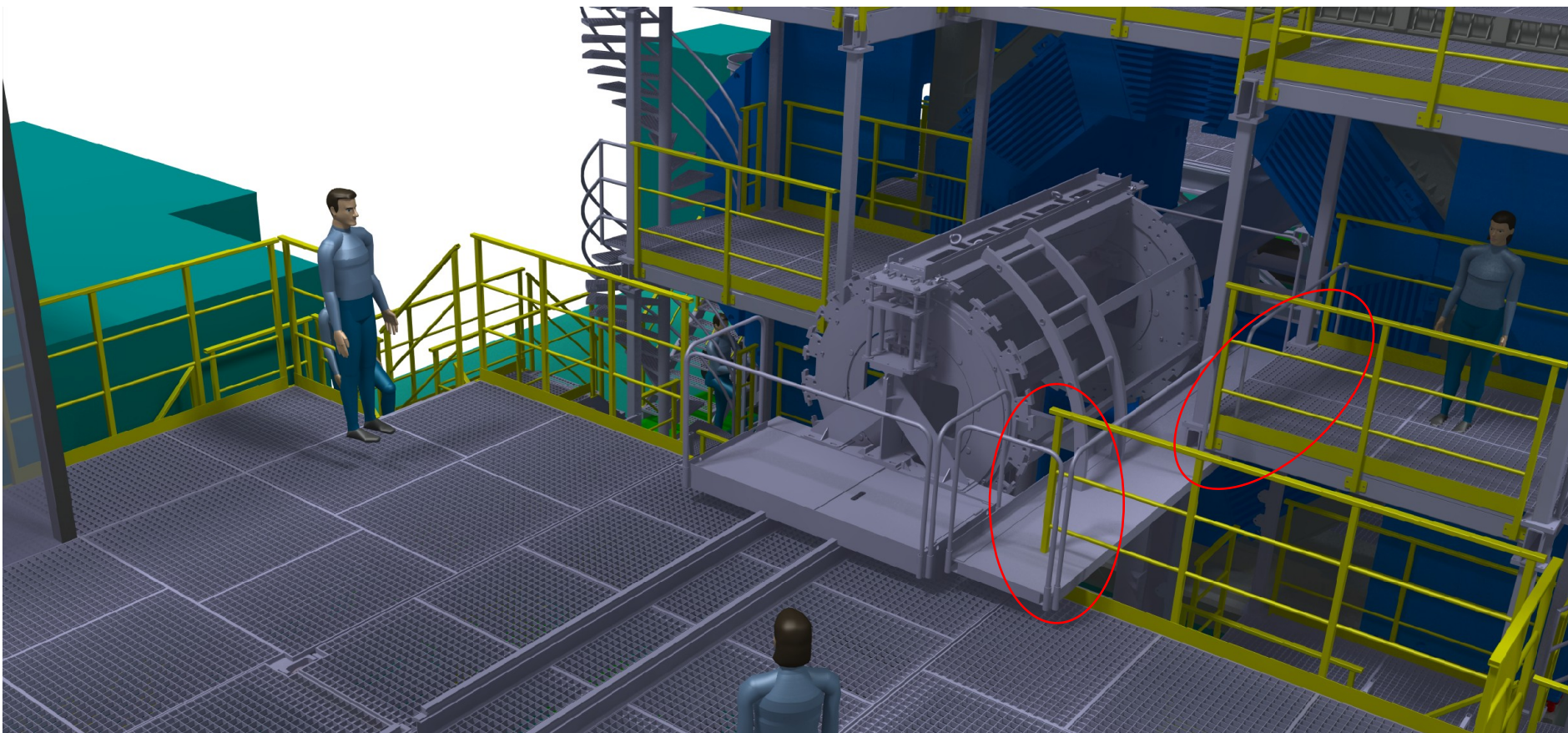
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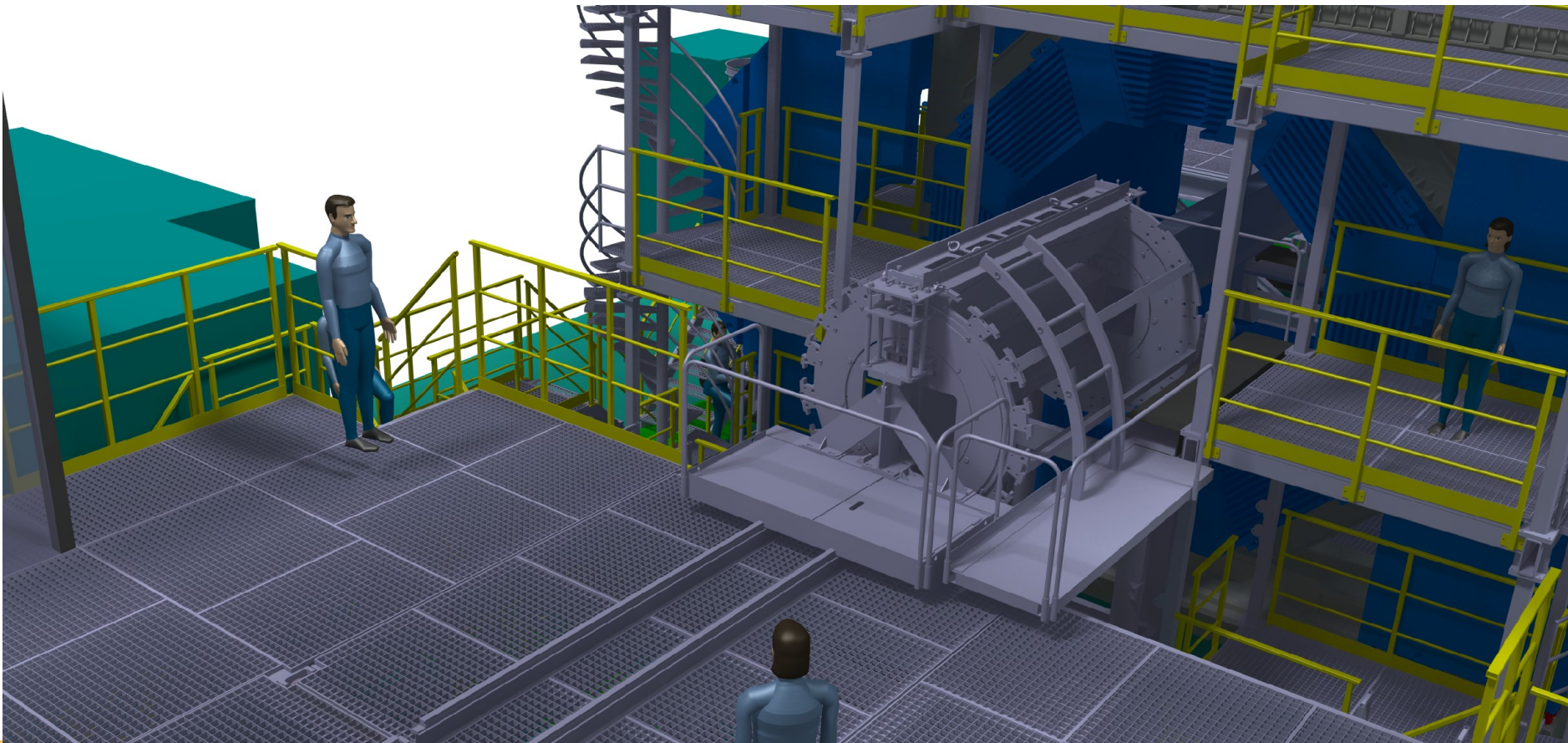
4. Compatibility between the new platforms and the Barrel EMC mounting procedure

Barrel EMC mounting: In the current model, there are some little collisions, shown below. But we can also see, that it would be possible to enter the mounting device by the extended platform in a smooth way.



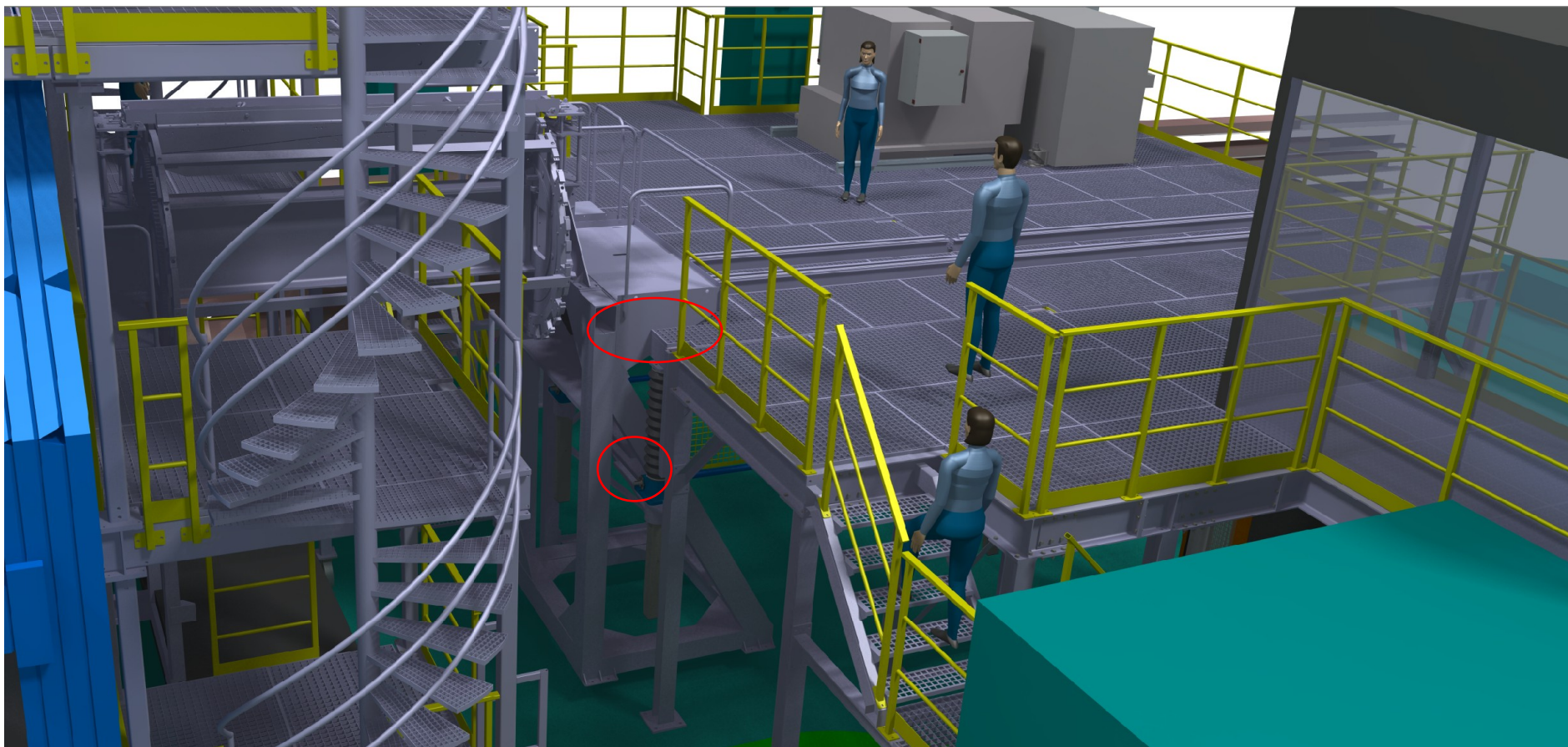
4. Compatibility between the new platforms and the Barrel EMC mounting procedure

Barrel EMC mounting: The collision with the railing could be solved by dismantling it temporarily, or by changing the side walk on the mounting device. For the collision with auxiliary platform we could integrate a step, so that the second level on the aux platform has the same high as the side walk.



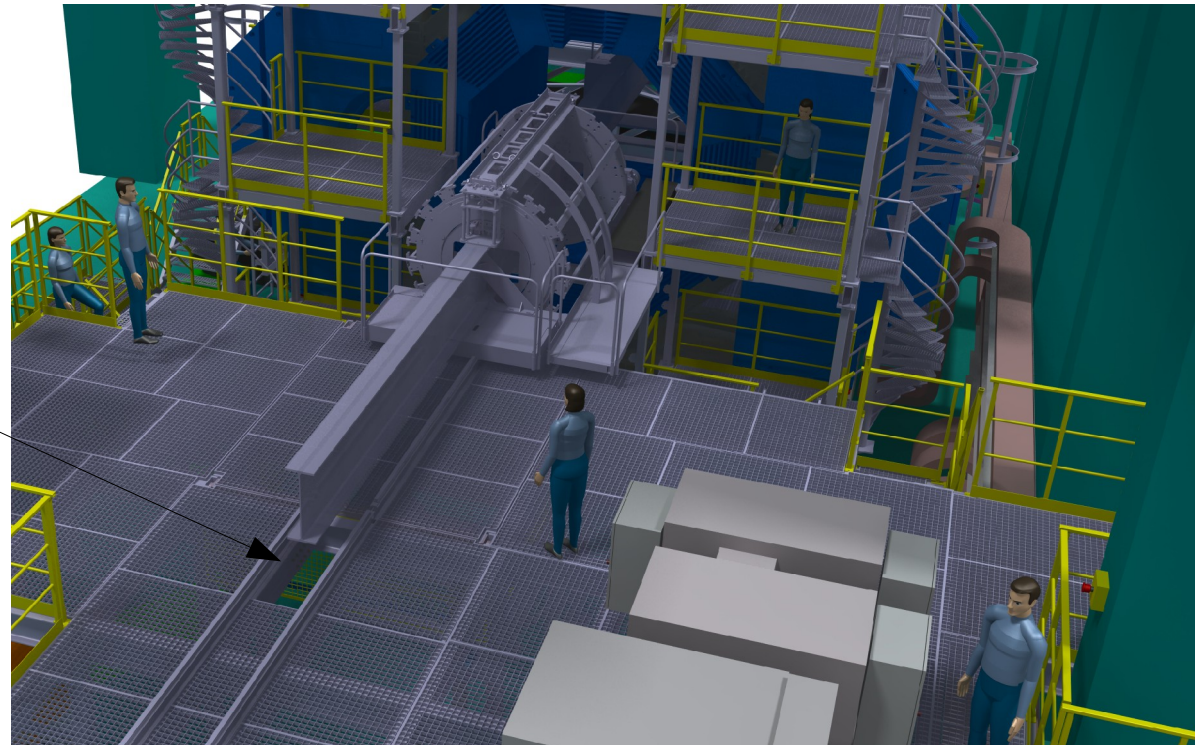
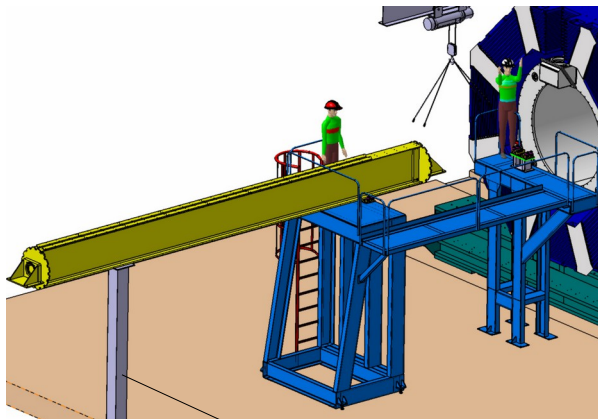
4. Compatibility between the new platforms and the Barrel EMC mounting procedure

Barrel EMC mounting: Additional collisions could be terminated by little changes of the support of the mounting device



4. Compatibility between the new platforms and the Barrel EMC mounting procedure

Barrel EMC mounting: For the case, that an additional beam is necessary, gratings on the movable and the extended platform can be removed rather quickly. So there should be enough space for such a beam.



4. Compatibility between the new platforms and the Barrel EMC mounting procedure



Conclusion:

- In principal, the location of the platforms should cause us not so many problems regarding to the Barrel EMC mounting procedure.
- The dismantling of the middle part of the auxiliary platform and the installation platform should not spend to much time.
- Of course, all the possible solution which are described in this presentation, are first considerations to start somewhere. Final changes has to be clarified together with the corresponding colleagues.

Thank you for your attention, stay healthy.