

## ELENA transfer lines installation status

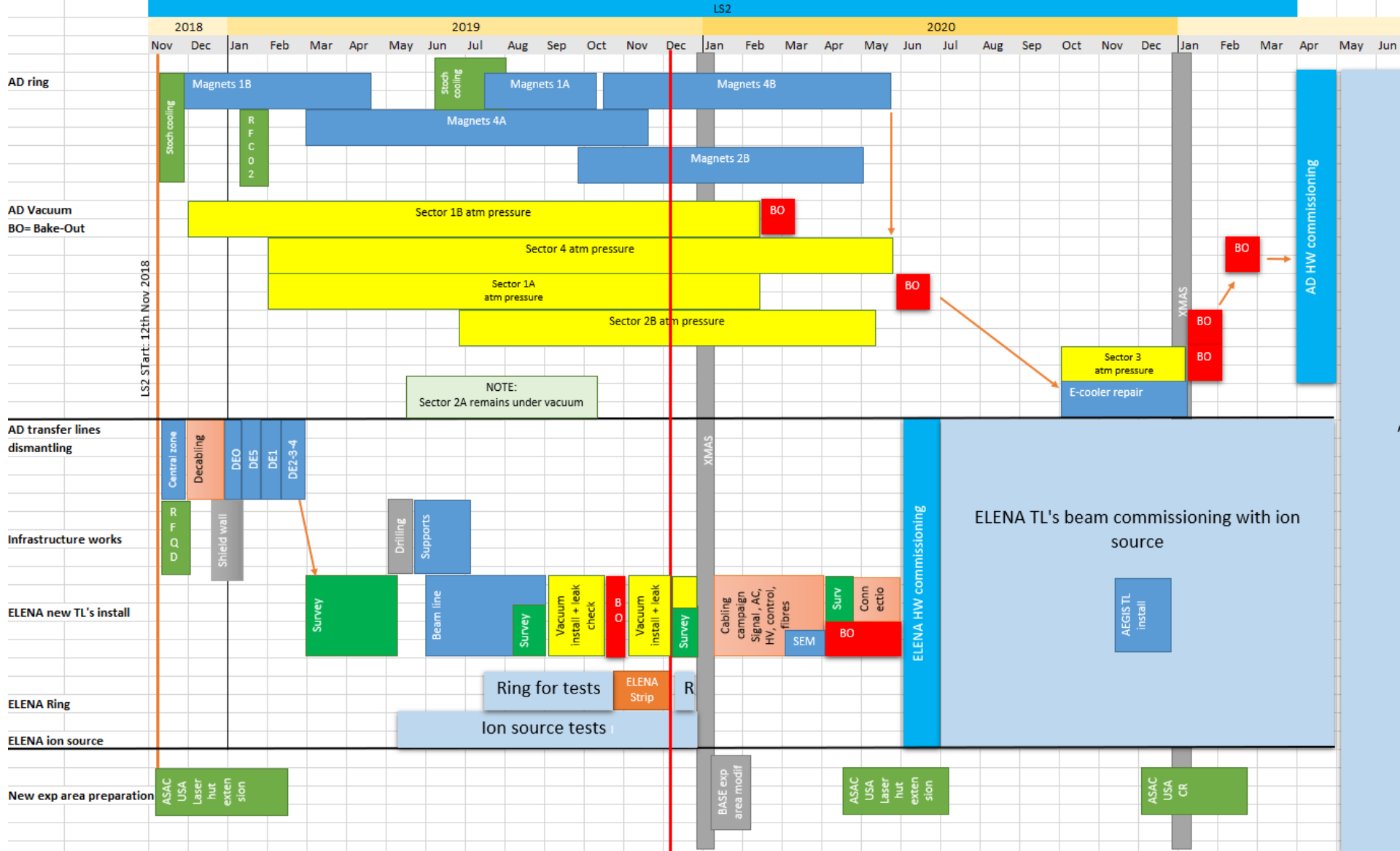
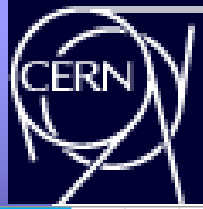


ANTIMATTER  
FACTORY

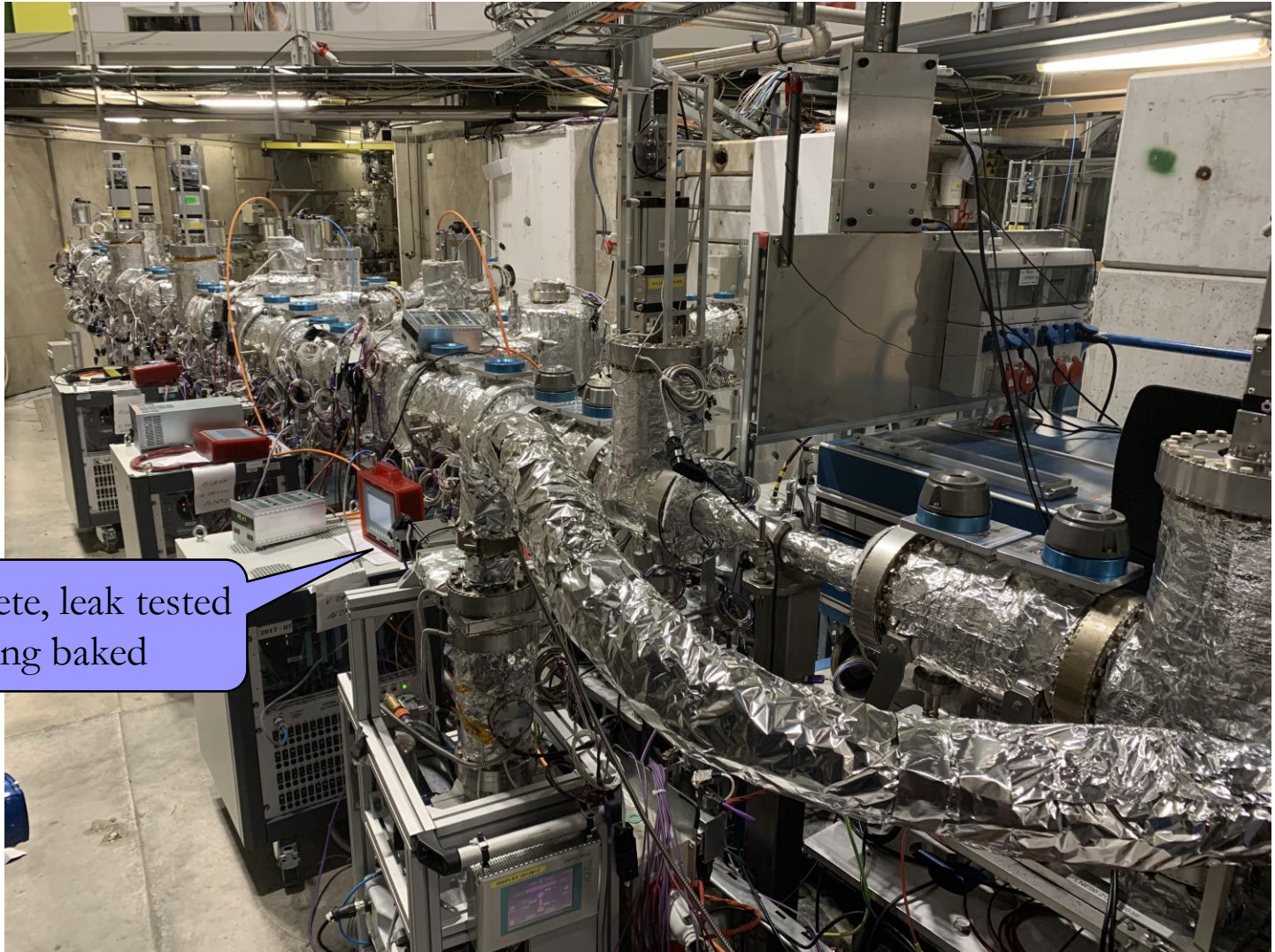




# LS2 simplified schedule

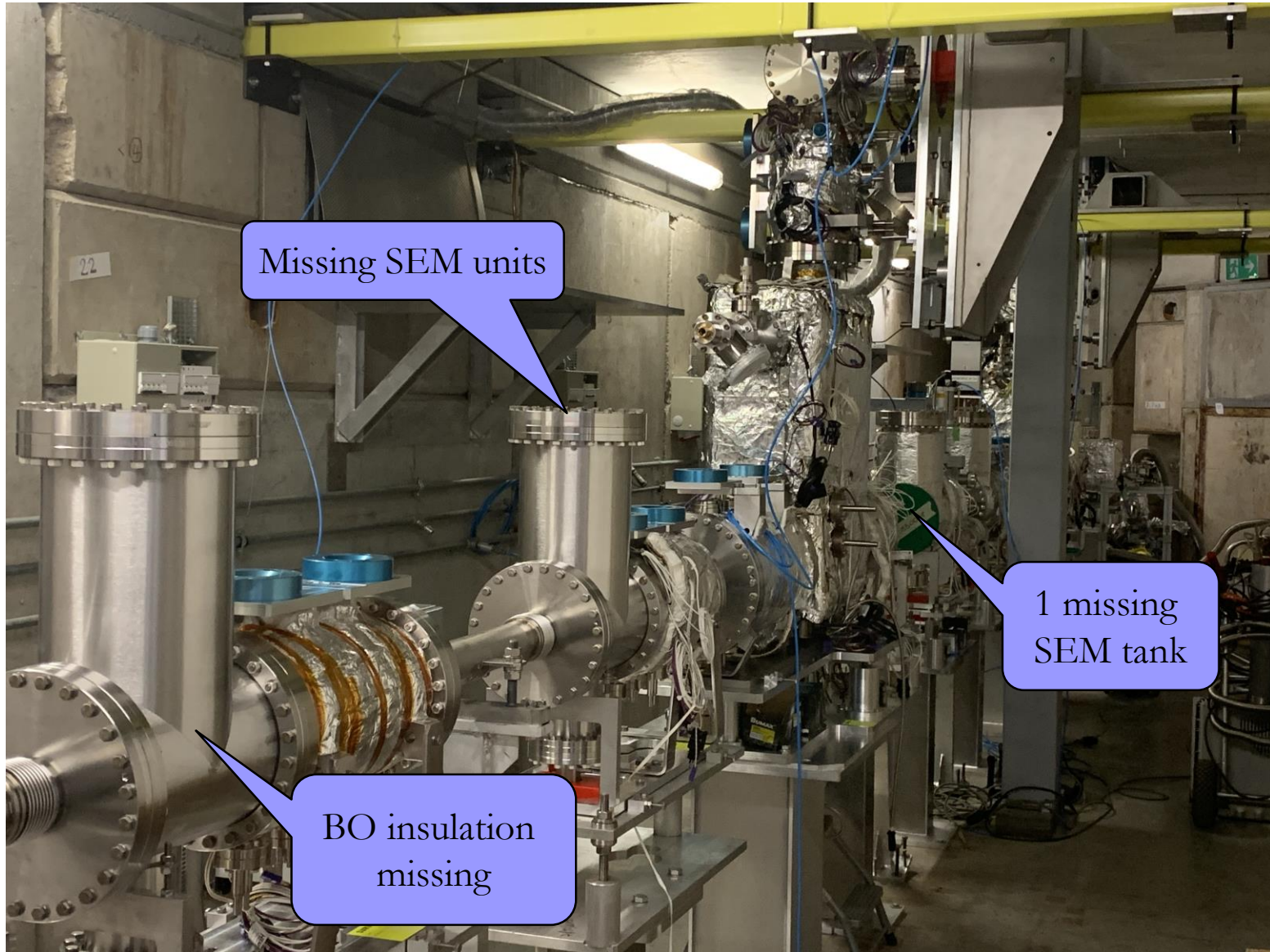


- Transfer lines installation well advanced
- 6 out of 7 vacuum sectors leak checked, under vacuum
- About **10 weeks behind baseline schedule**
- Causes of delays are 3 fold:
  - Availability of surveyors (shared with other SBA's)
  - Late ECR on SEM's in ATRAP vertical lines
  - Availability of SEM's units
- **Impact** on start of commissioning (June -> July 2020)
  - Increased co-activity (cables connection + bake-out)
  - Work packages advanced in time (cables trays, bake-out preparation)



Complete, leak tested  
Bing baked

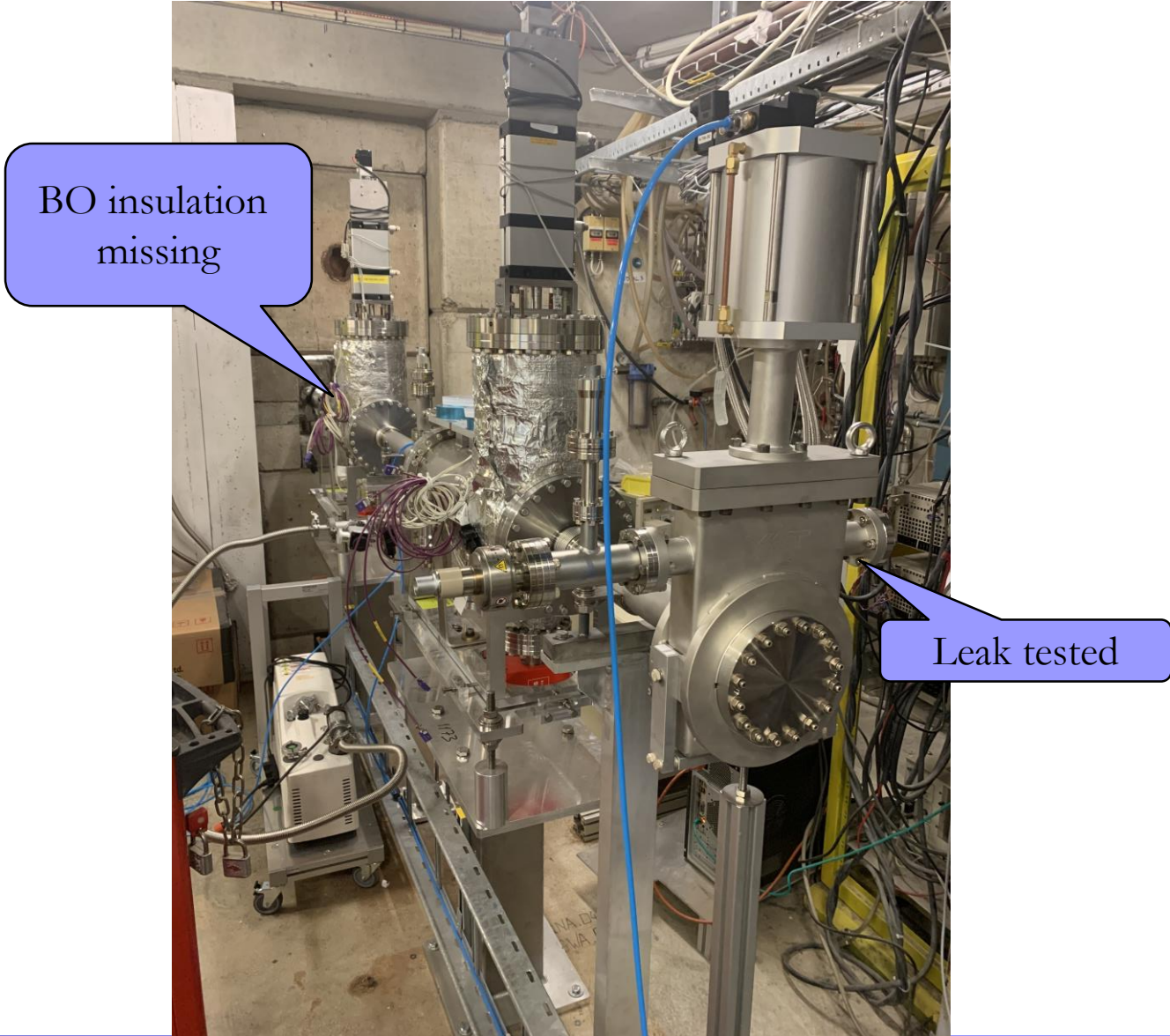




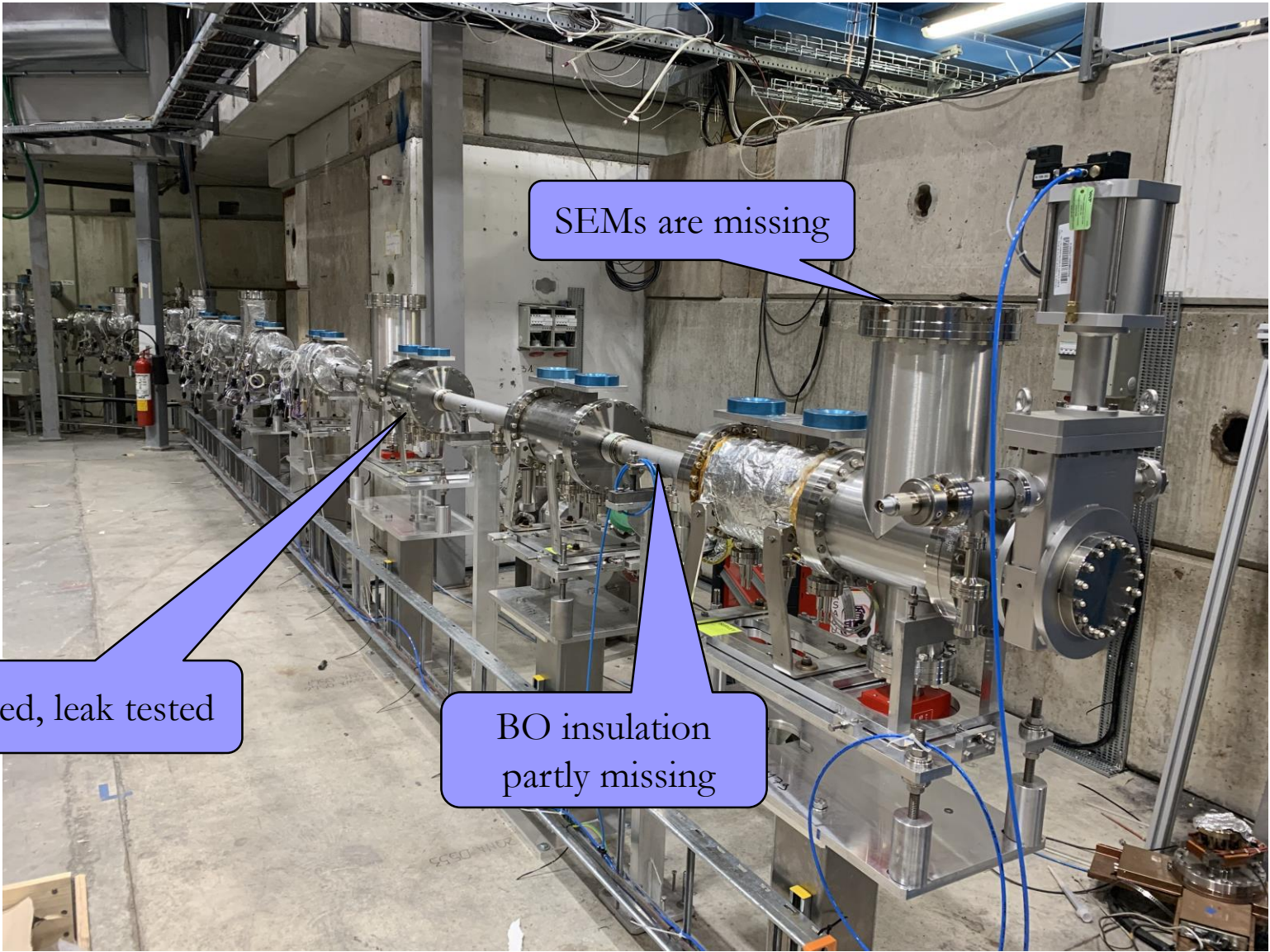
Missing SEM units

1 missing SEM tank

BO insulation missing





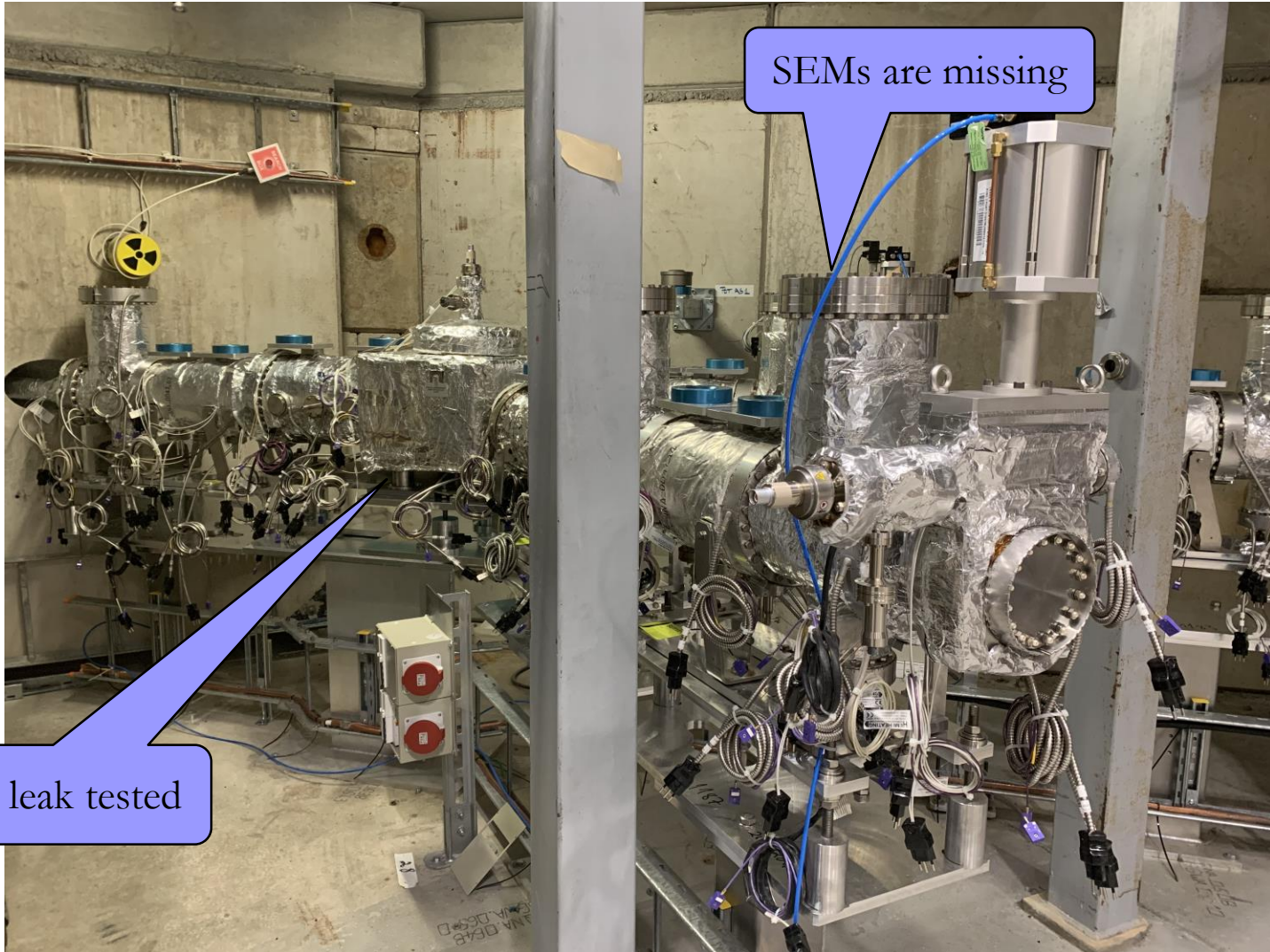


SEMs are missing

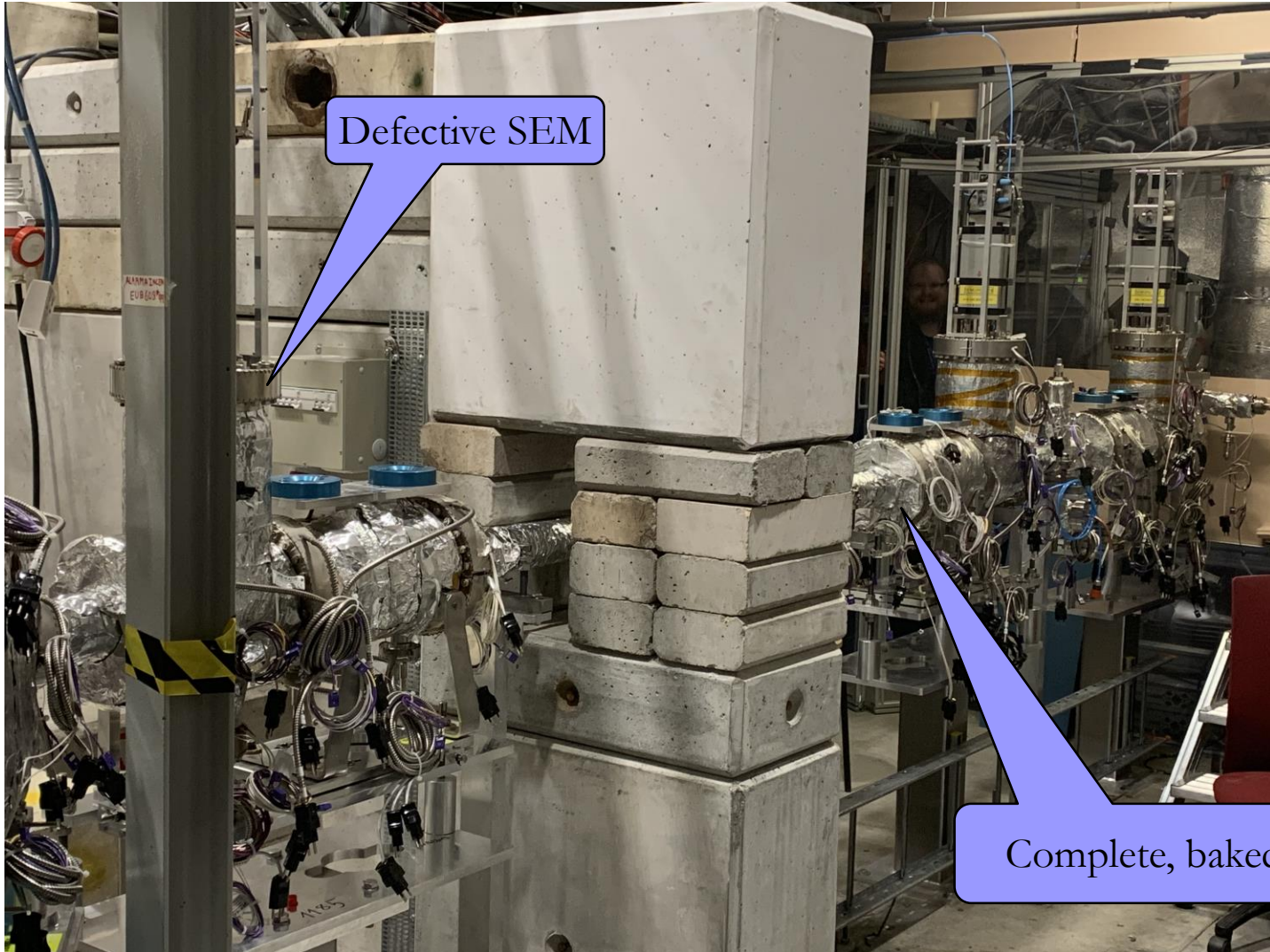
Aligned, leak tested

BO insulation partly missing



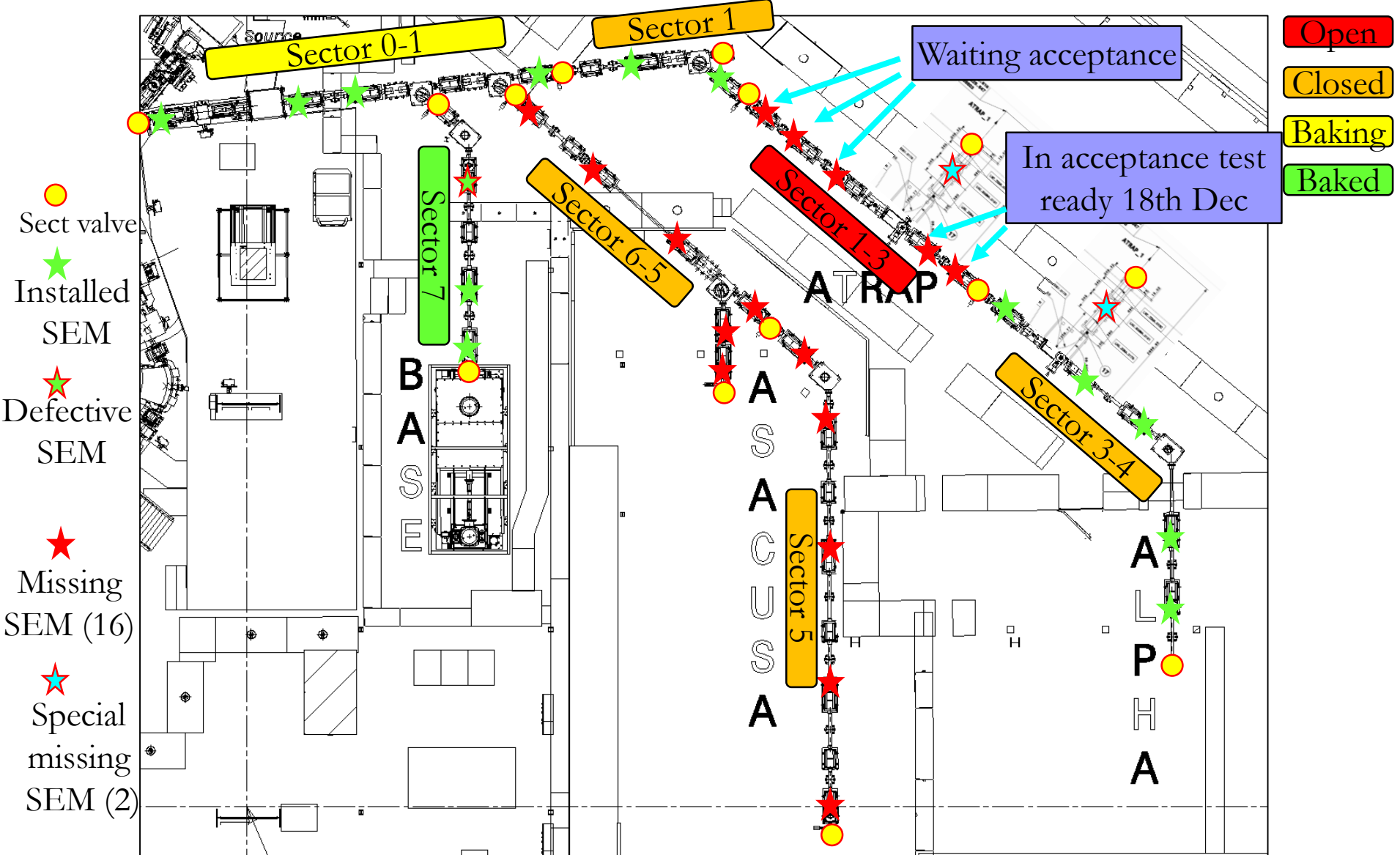






- SEM availability: known and anticipated (blank flanges, delayed BO...)
- SEM failure during acceptance tests: 1 vac sector not closed yet
- SEM failure after BO: to be analyzed yet
- Stability after alignment due to vacuum forces: smoothing operations delayed
- Bad alignment of some experiments wrt theoretical position (ALPHA): need to adjust TL optics elements position





## SEM's (beam position and profile monitors)

- SEM monitors HW late delivery: to date 18 units not installed
- **Critical** for closing vacuum **December 2019**
- **Recovery plan:** Delay bake-out of TL's till April 2020 **providing TE-VSC can be available**, start TL's commissioning in July 2020

- 4 units tested in ELENA beam, **only 1 «fully» functional with provisional data acquisition electronics**
- **Critical** for TL's commissioning with H<sup>-</sup> as of **July 2020**
- **Recovery plan:** can operate with «dead» channels ? Extract already installed monitors for repair ?



- ELENA transfer lines installation virtually complete
- SEM grids missing causing 1 vac sector (out of 7) to remain open → will be closed week 51
- Cabling campaign about to start in January till end of march 2020
- Commissioning with ELENA ion source delayed to July 2020 → leaves hopefully enough time to debug until pbars arrive mid april 2021

