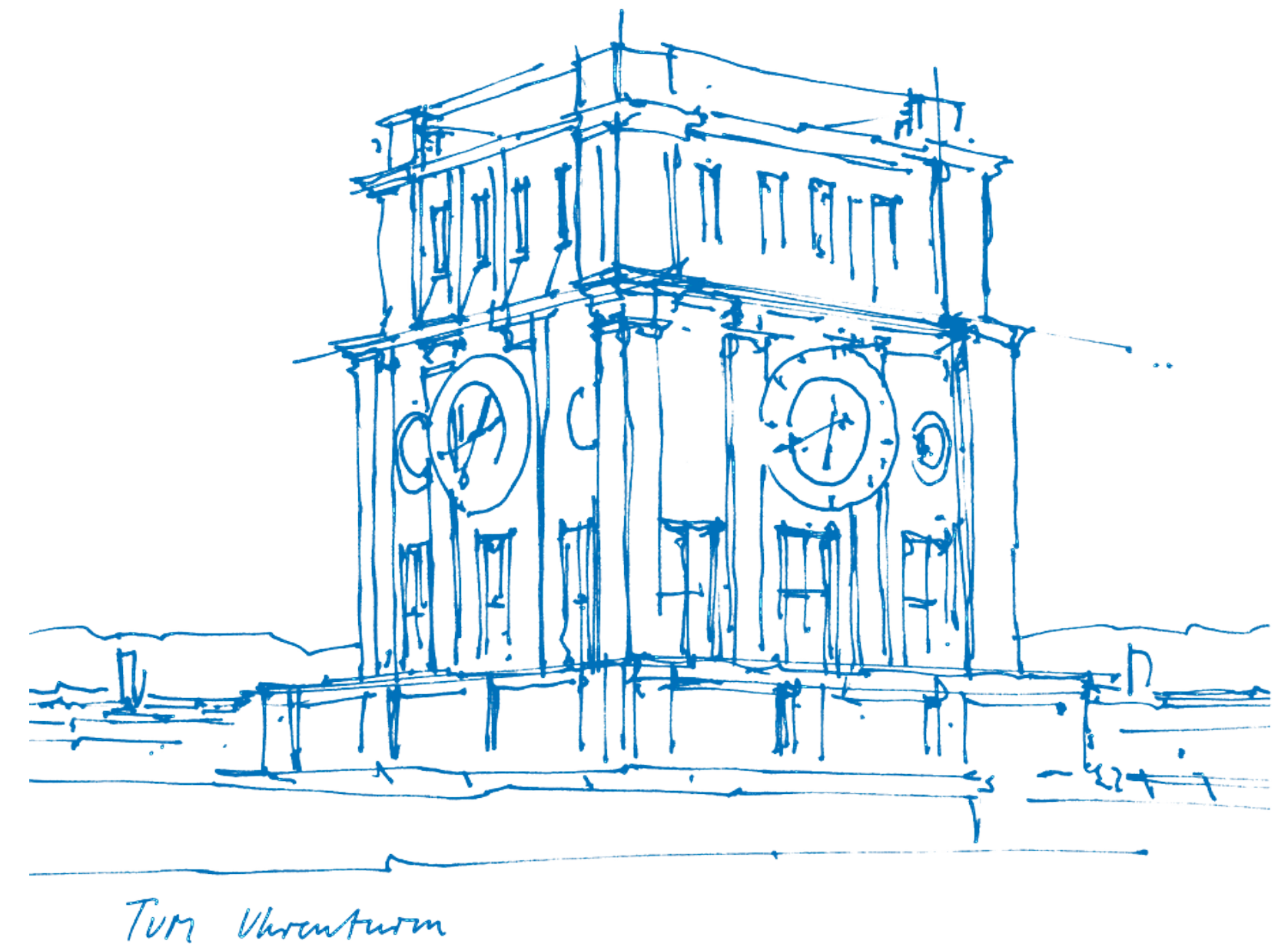


# Planning COMPASS Silicons for 2022 Run

**Christian Dreisbach**

Technical University of Munich  
Physics Department

COMPASS/AMBER Joint Technical Board  
February 8<sup>th</sup> 2022





# Planning COMPASS Silicon for 2022 Run

## Reinstallation of Silicon at Beam Position

Partially installation of system present — all equipment already collected.

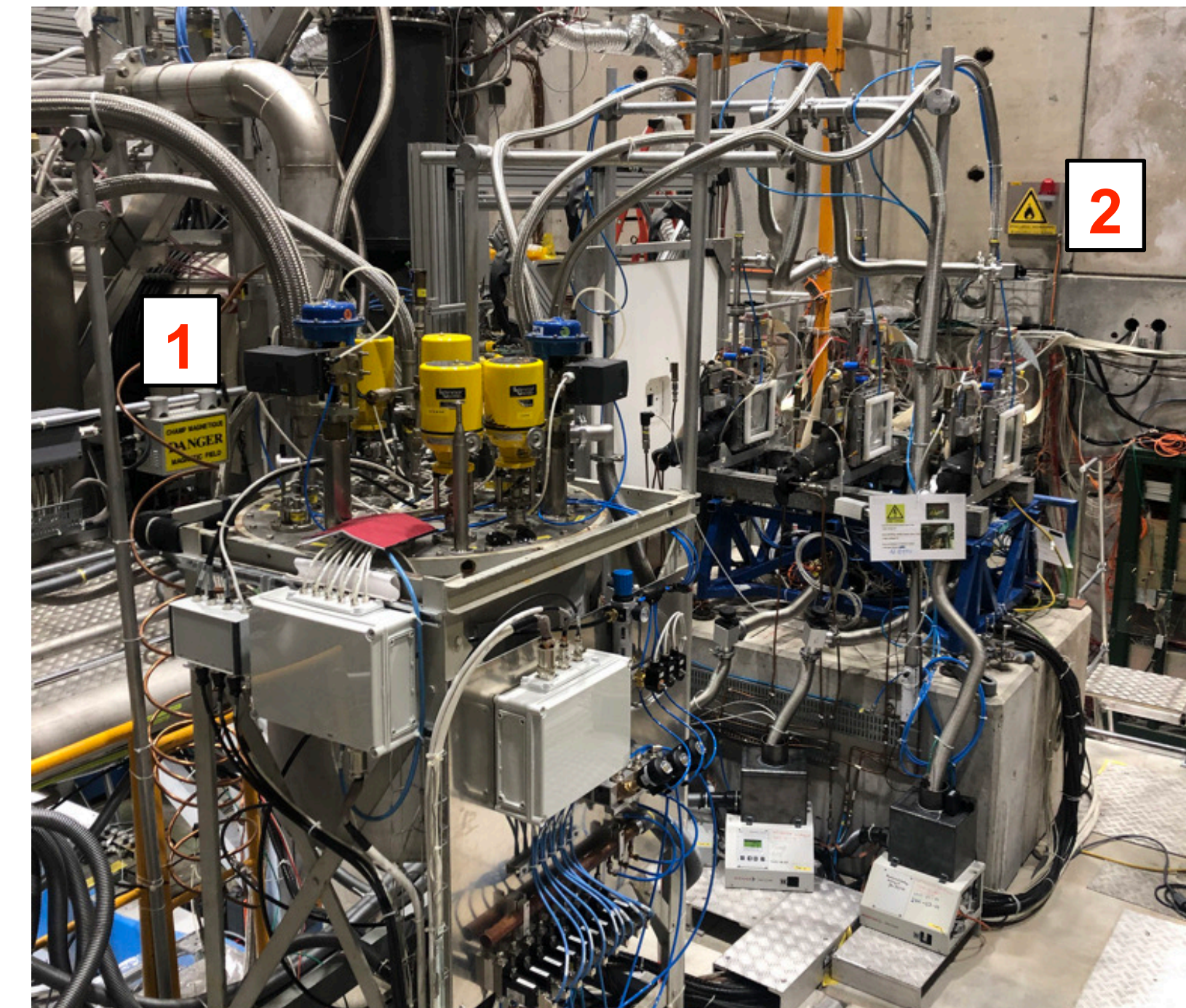
### Required steps:

1. Reinstallation of cooling system cables ( 2 day )
  - General cable/equipment clean up
  - Connection test with PLC - MUSCARD control
  - Valve box vacuum pumping
2. Reinstallation of concrete platform required ( 7 days )
  - Positioning of optical bench + stations — first Survey (?)
  - Installation of scaffolding as support for nitrogen circuit
  - Installation of vacuum equipment and test
  - Installation of transfer lines to stations
  - Full survey of stations
  - Connecting full nitrogen circuit (exhausted pipes)
  - Filling of valve box

Limited access: Installation of FI02 after full survey?



Cables for PLC



Setup in 2021



# Planning COMPASS Silicon for 2022 Run

## Reinstallation of Silicon at Beam Position

Partially installation of system present — all equipment already collected.

### Required steps:

#### 3. Readout installation ( 2 days )

- Installation of repeater cards and ADCs + cables + GeSiCas
- Setting up LV supplies for ADCs and APVs + HV

#### 4. Test of cryogenics: ( 2 days )

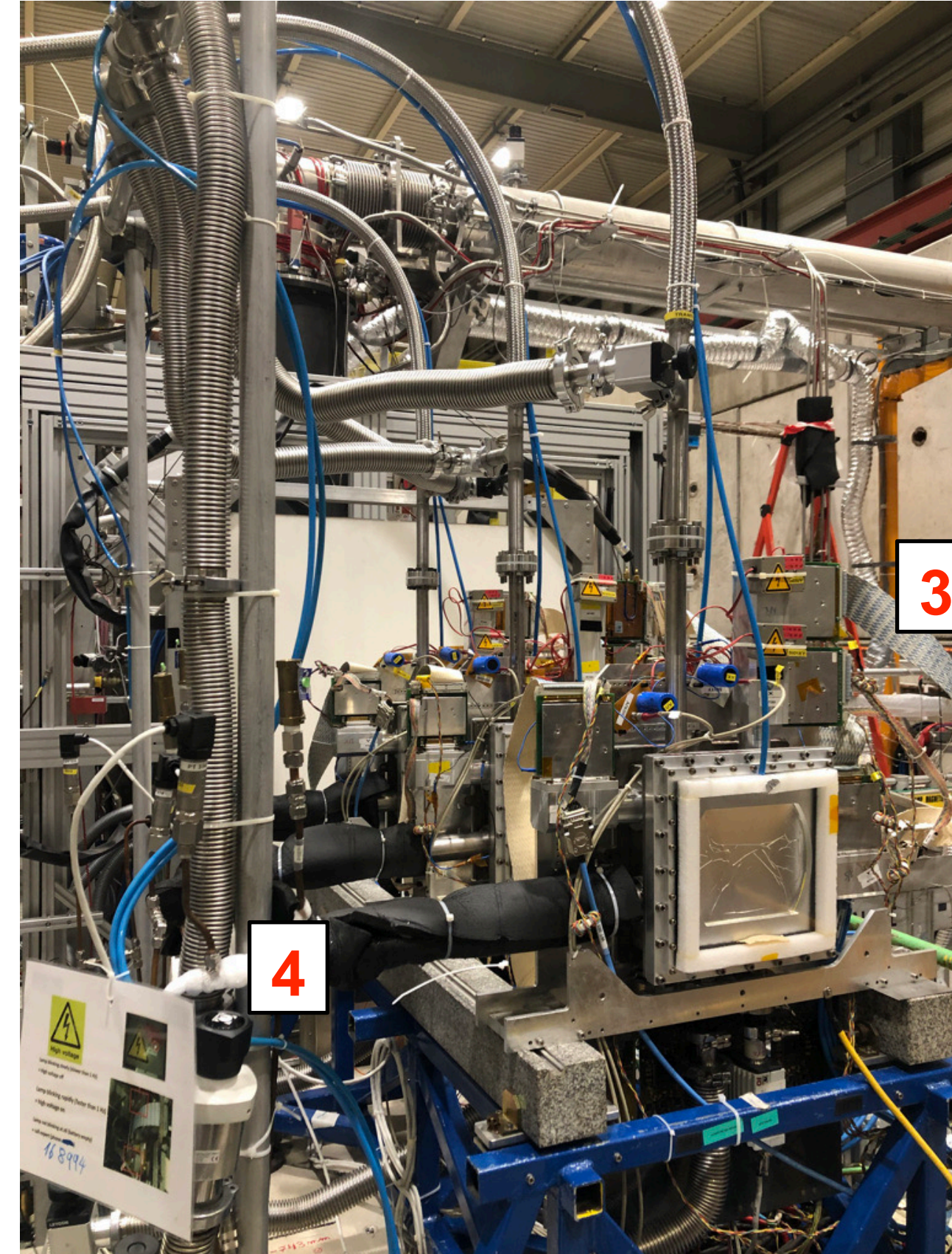
- Test of all connected sensors / flows / pressures etc.
- Filling of valve box
- Cooling of stations and vacuum / stability test

#### 5. Readout test: ( 1 day )

- HV test
- Test of frontend (ADCs - Repeater Card - DAQ settings)

#### 6. For data taking

- HV scan, pedestals and timing  
(after alignment and BT commissioning; with beam)



Setup in 2021

About 14 days until ready for beam:  
Start end of March / beginning of April



# Planning COMPASS Silicon for 2022 Run

## Further To Do's and Ideas

- Some ADC LV issue — Deutronic PSU at maximum  
→ Additional DC/DC converter as support (Igor)
- Idea (also Igor): Usage acceleration measurement devices for stations
  - Cross-check for alignment / test for AMBER
  - Example:
    - Measurement:  $\pm 25.4$  mm / s with freq. range 3-1500 Hz
    - Output: 4 ... 20 mA process current
    - around 250 - 500 CHF / piece
- Nitrogen supply: parallel operation of helium liquefier and silicons
  - Inlet pressure too low for silicon valve box to refill



Inlet pressure on gallery — distribution box

