

Planned BI renovation of PS East Area

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BI Technical board 30 March 2017

Outline

- Roadmap of the East Area Renovation project
 - Why? What? When?
- Implication of BI
- Summary

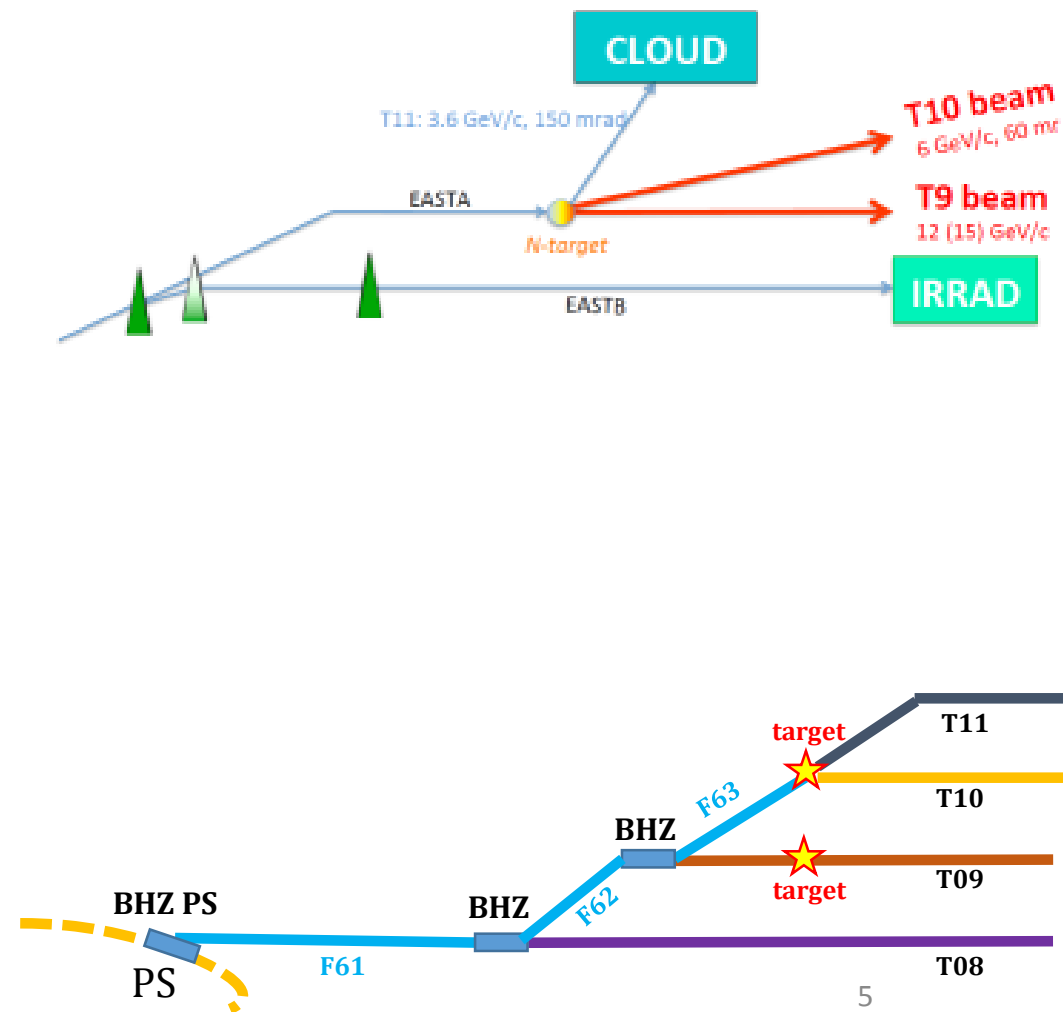
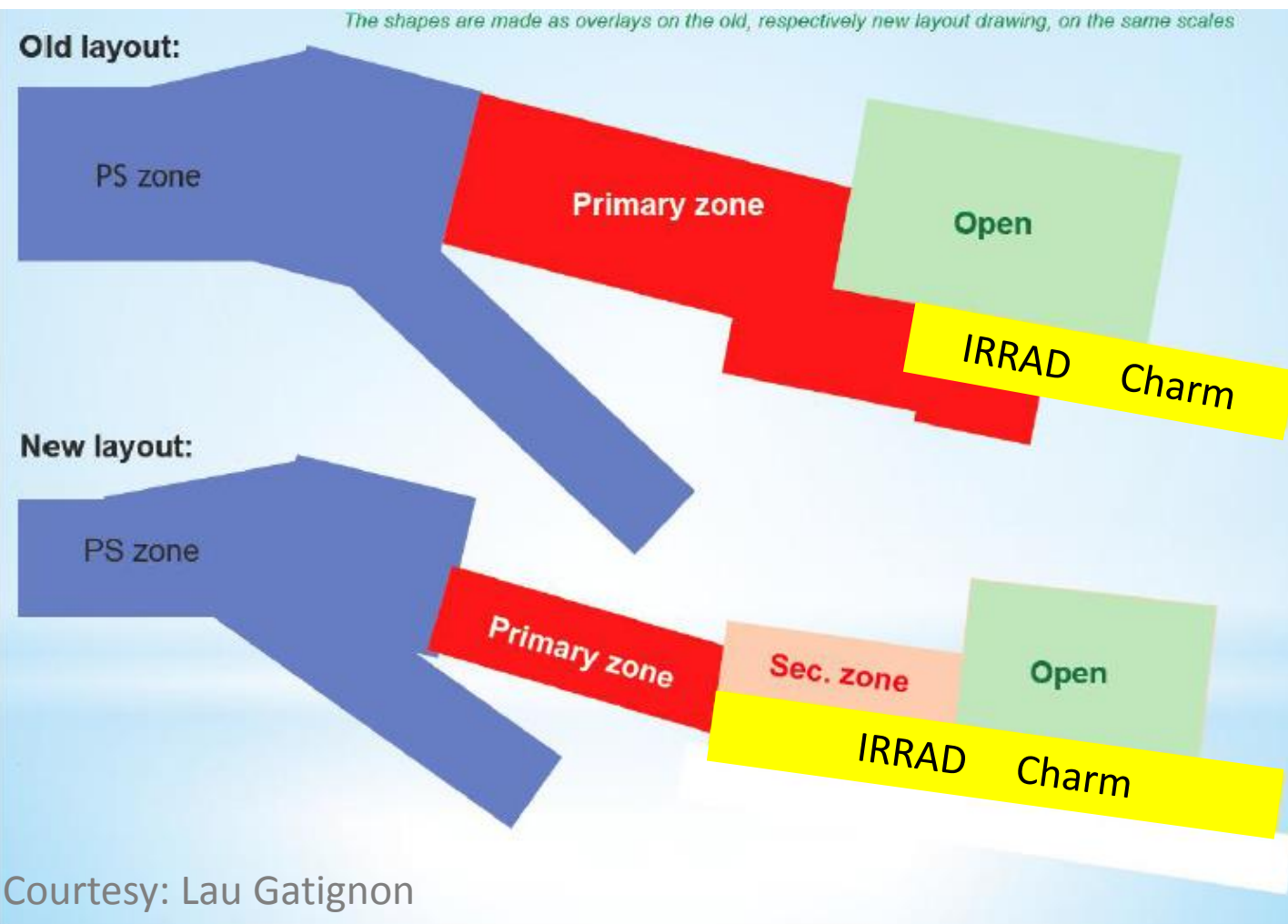
Motivations of the EA renovation programme

- **Among the oldest exp. areas at CERN:** infrastructure & equip date from early 1960's.
- **Increasingly popular:** 553 users served over the last three years.
- **Unique** low and mid energy facility worldwide.
- **Beam lines:** 63 magnets of 22 different types, many without operational spares!
- **Several breakdowns of critical elements:** access & repair require PS beam stop, or EA physics downtime for months, costly in dose.
- **Infrastructure issues:** asbestos, cables with halogen, unreliable cranes, wooden user barracks, no ventilation in primary zone leading to ozone-induced oxidation of equipment, etc...

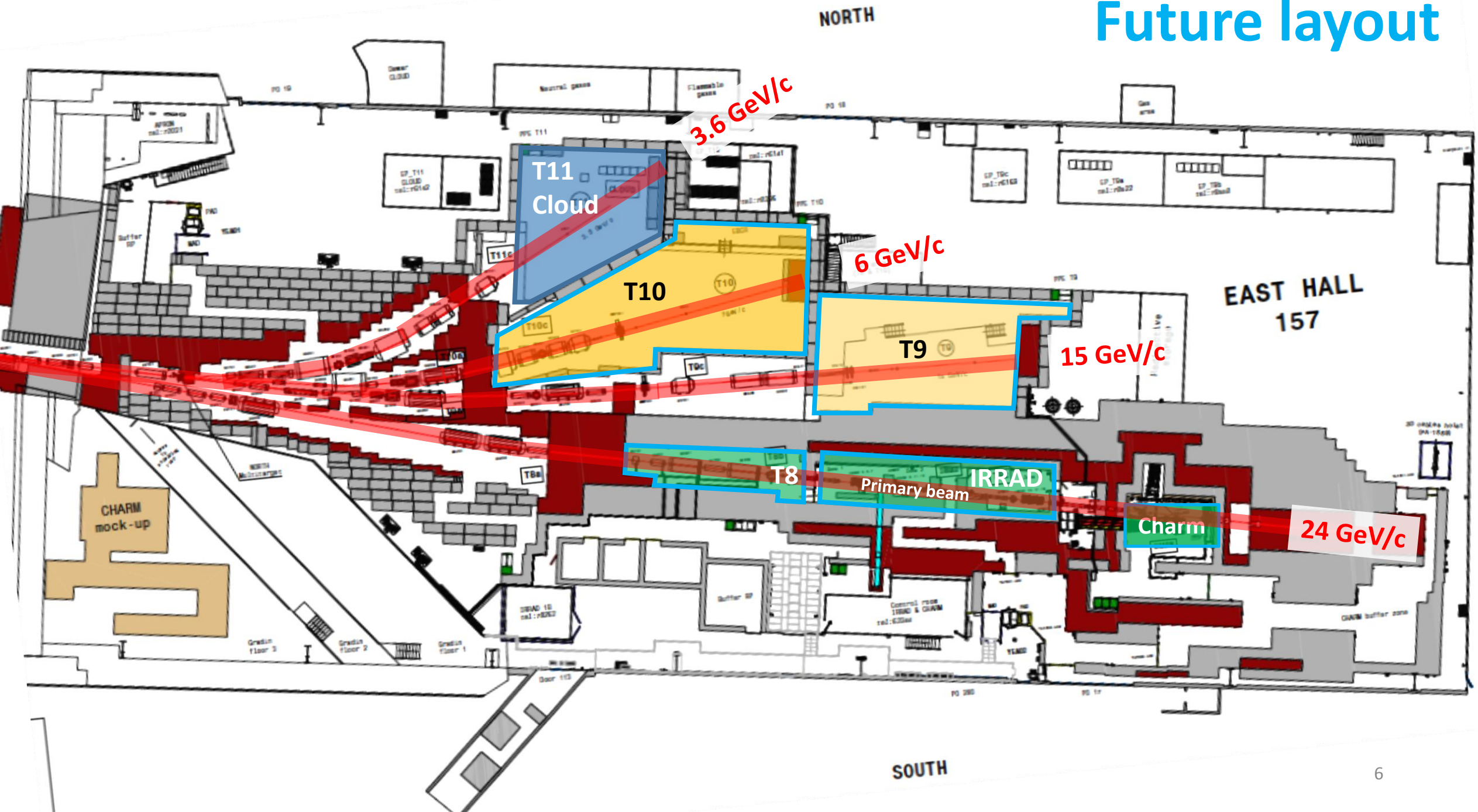
What will change ?

- **Four beam lines:** primary beams for T8, secondary beams for T9, T10 & T11
- **Secondary beam energy** up to 15 GeV/c (overlap with NA energy range).
- **Magnets:** 61 laminated for pulsed operation, 15 reliable types, with spares, cables.
- **Upgrade to NA standards:** new absorbers and converters, collimators, VSC, BI.
- **Consolidate stoppers**
- **Modular power converters:** 60 with energy recovery, 0.6 GW.h/year (now 11 !!)
- **Improved layout:** primary zone reduced to target areas + ventilation, shielding, access to element and MTTR, dose to personnel.
- **Infrastructure:** power supply + cables, CV, insulation, roof cladding, user barracks, remove EBCR ...
- **Timeline** for decision making process: see appendix

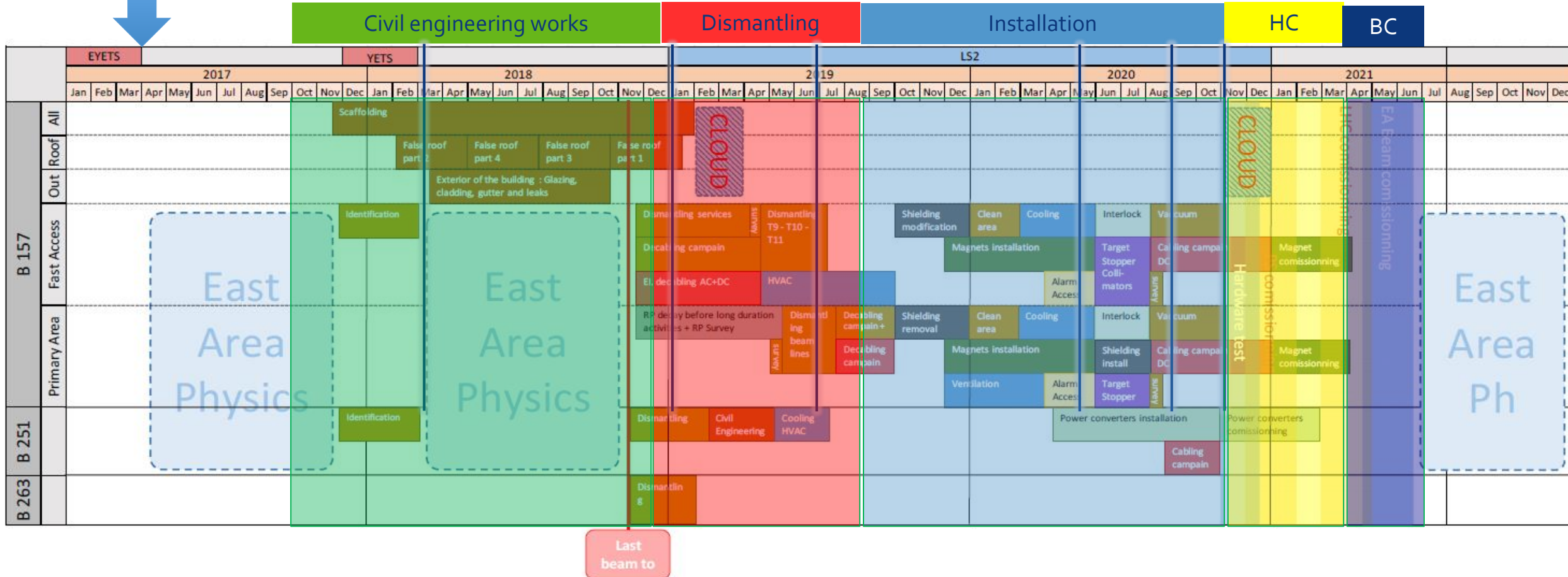
Present and future layout



Future layout



Master schedule



Impact for BI (1): activity number in PLAN #11259

- Upgrade of T9 and T10 lines

- Four Cherenkov counters (1 pair per line) : upgrade aqn chain to NA standards – **cost-free for the aqn chain** for already in the pipeline.
- Four obsolete sets {XSCI+XDWC} : proposal to replace them by 4 scintillator fiber detectors ⇒ **150kCHF**

- Cabling: EN-EA has a central budget for cables (tbc)

- move our racks from EBCR (decommissioned) to APRON ⇒ **40kCHF**
- Cherenkov ⇒ **30kCHF**
- Telescopes ⇒ **10kCHF**
- Exp. scaler ⇒ **20kCHF**

Total = 100 kCHF

Impact for BI (2): Recommendations and Proposals

- BLMs required along the primary lines
 - *20kCHF for 2020* but unknown quantity and positions*
 - Recommended from CSR (Dec. 2016)
- Two Telescopes
 - one per target ⇒ **cost-free for aqn chain and monitors**
- One extra BTV
 - to have one per target ⇒ **40kCHF**
- No upgrade request for T11 line (CLOUD)
 - One pair of Scintillator fiber detectors ?

Summary

- BI activities in PLAN are partially set
- BI Budget : 210 kCHF identified, but...
 - =0.87% of 24MCHF for the EA renovation project
 - Cabling cost: confirm that EN-EA will pay for that
 - Scintillator fiber detectors in T9 / T10: get green light for their installation
 - BLMs: finalize official figures !
- Planning
 - PS will be closed from Aug. 2020, but EA installation goes on till Oct. 2020
 - Should not be an issue for BI
 - Procurement can start once budget and WUs are defined

Appendix1: Timeline for decision making process

- 2012: East Area Day <https://indico.cern.ch/event/167761/>
- 2015: LS2 days <https://indico.cern.ch/event/436424/>
- 2016: Chamonix <http://indico.cern.ch/event/448109/>
- 2016: East Area project meetings <https://indico.cern.ch/event/557781/>
- 2016: LS2 days <https://indico.cern.ch/event/564604/>
- IEFCs...