News from Upgrade Meeting

PCIe40 firmware and software

Second production release of central firmware and software:

- From "Amsterdam" to "Bologna" (see Readout System Meeting: https://indico.cern.ch/event/780509/)
  - → SOL40SCA v2 is now default
    - o Allows to compile SOL40 fw with 48 links
  - → New output data format based on EDMS #2100937
    - o Sub-detectors are now working on their final output format
    - o Reviews are being organized in conjunction with RTA for data format review

Scaling up our development systems

*bids are open for the "C" release
(***"J" is already reserved…)

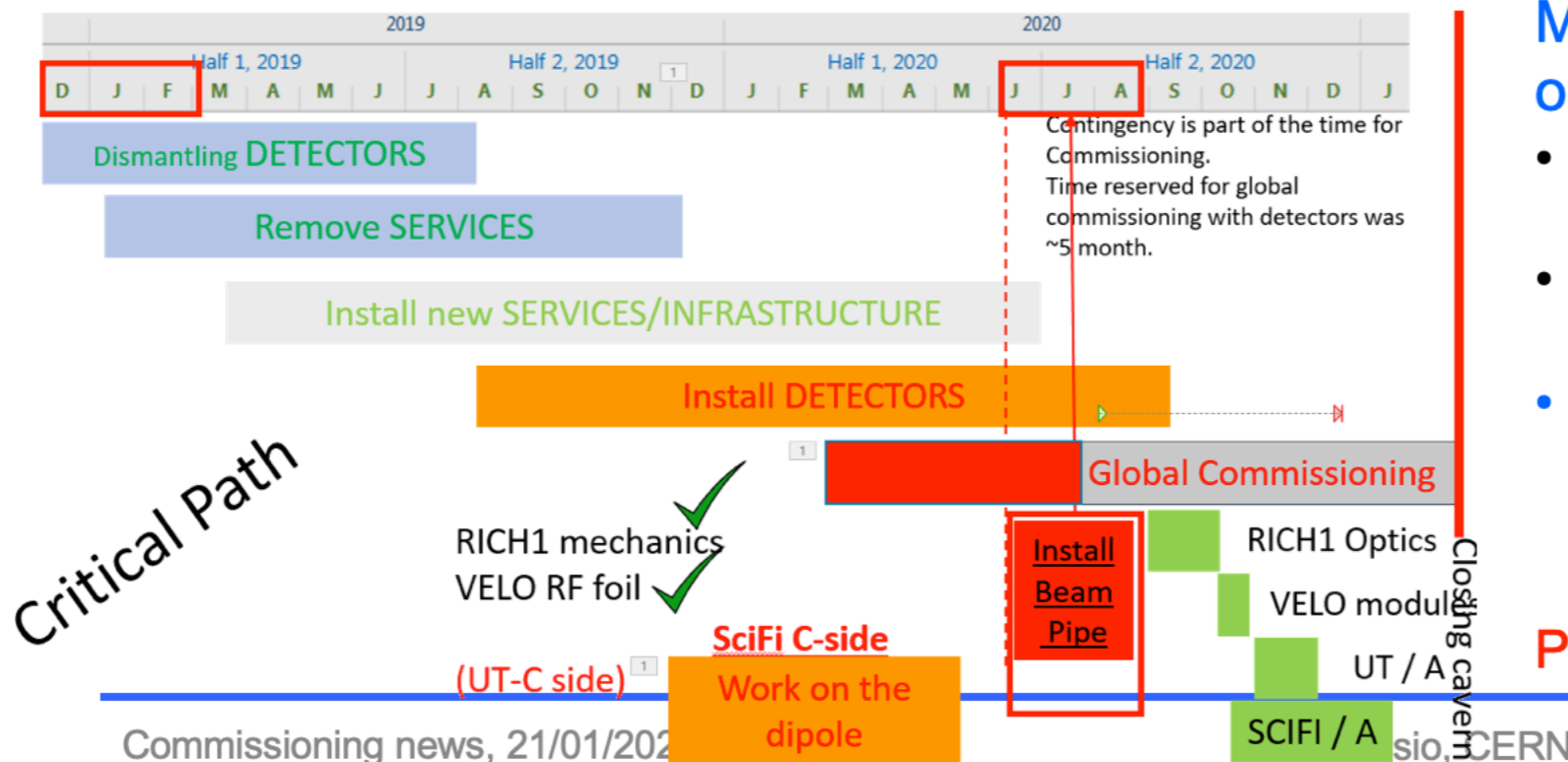Move to this version as soon as possible!

LHCb commissioning in 2020

*soon for sale
fund Upgrade

KEEP CALM AND **COMMISSION LHCB**

Main message: commissioning will be tight but not to worry!

- Must move in parallel with production + assemblies
  → Start commissioning as sub-detectors get installed
  → Even more so, no divergence from central tools (even stricter rule)!
- Limited online resource until full detector is in place
  → Full ECS/TFC network, limited resources in FARM

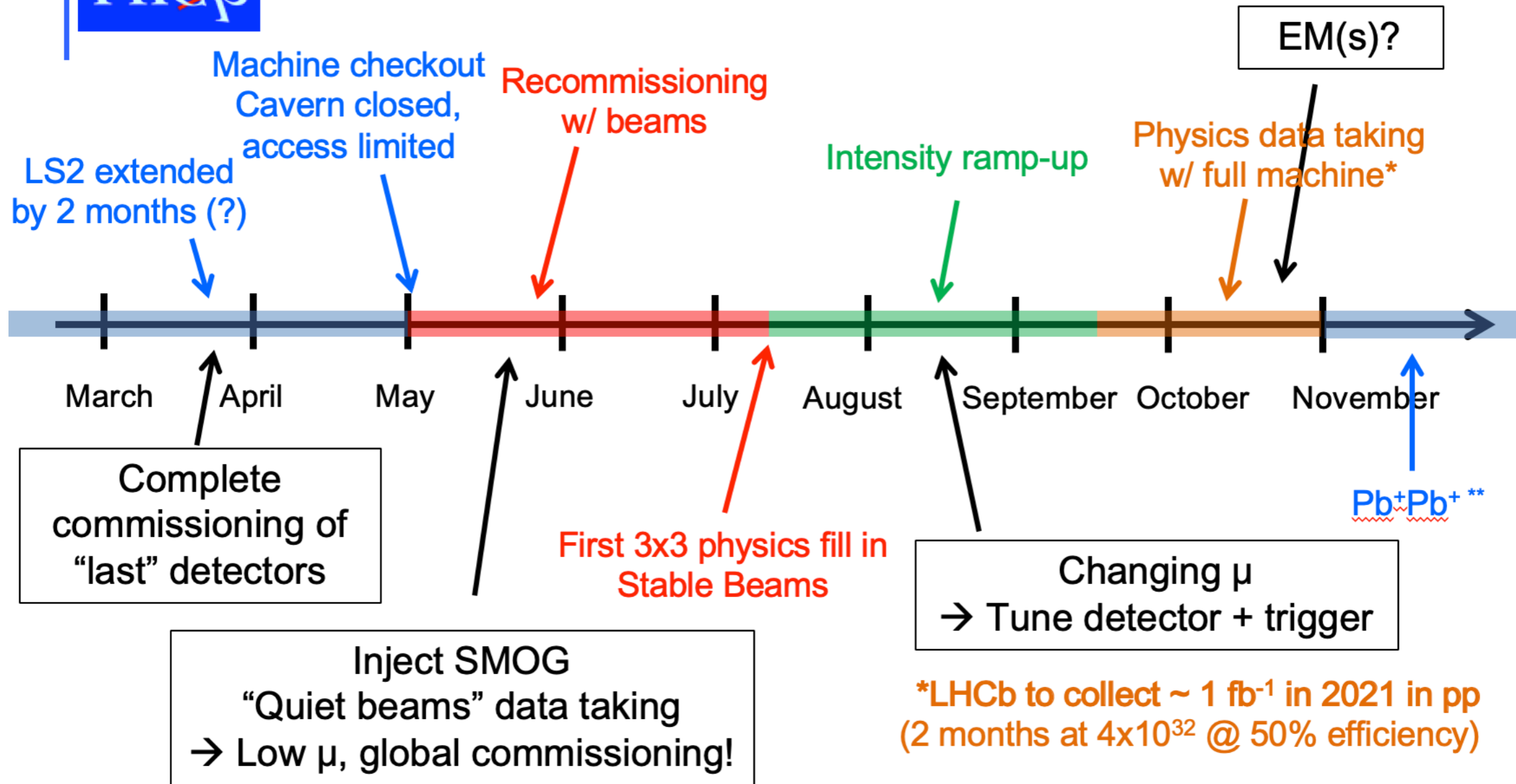From TB, last Tuesday → *move installation of beam pipe to June*

Contingency is part of the time for Commissioning.
Time reserved for global commissioning with detectors was ~5 month.

Critical Path

Dismantling DETECTORS
Remove SERVICES
Install new SERVICES/INFRASTRUCTURE
Install DETECTORS
Global Commissioning

RICH1 mechanics ✓
VELO RF foil ✓

Install Beam Pipe

RICH1 Optics
VELO modul
UT / A
SCIFI / A

SciFi C-side
(UT-C side)
Work on the dipole

Closing cavern

Must profit from detailed organization with TC team
- Allow for services for already installed sub-detectors
- If not possible, organize specific periods/dates
- Regular commissioning and installation meetings to coordinate w/ sub-detectors.

Please follow developments!!

LHCb commissioning in 2021

EM(s)?

Machine checkout
Cavern closed,
access limited

Recommissioning
w/ beams

Intensity ramp-up

Physics data taking
w/ full machine*

LS2 extended
by 2 months (?)

March April May June July August September October November

Complete
commissioning of
"last" detectors

First 3x3 physics fill in
Stable Beams

Pb⁺Pb⁺ **

Changing μ
→ Tune detector + trigger

Inject SMOG
"Quiet beams" data taking
→ Low μ, global commissioning!

*LHCb to collect ~ 1 fb^{-1} in 2021 in pp
(2 months at 4x10^{32} @ 50% efficiency)

**if momentum slip stacking* is done in PbPb, then bunch separation is 50 ns
→ we will have to fight hard to get collisions from the others…

*https://cerncourier.com/a/injecting-new-life-into-the-lhc/