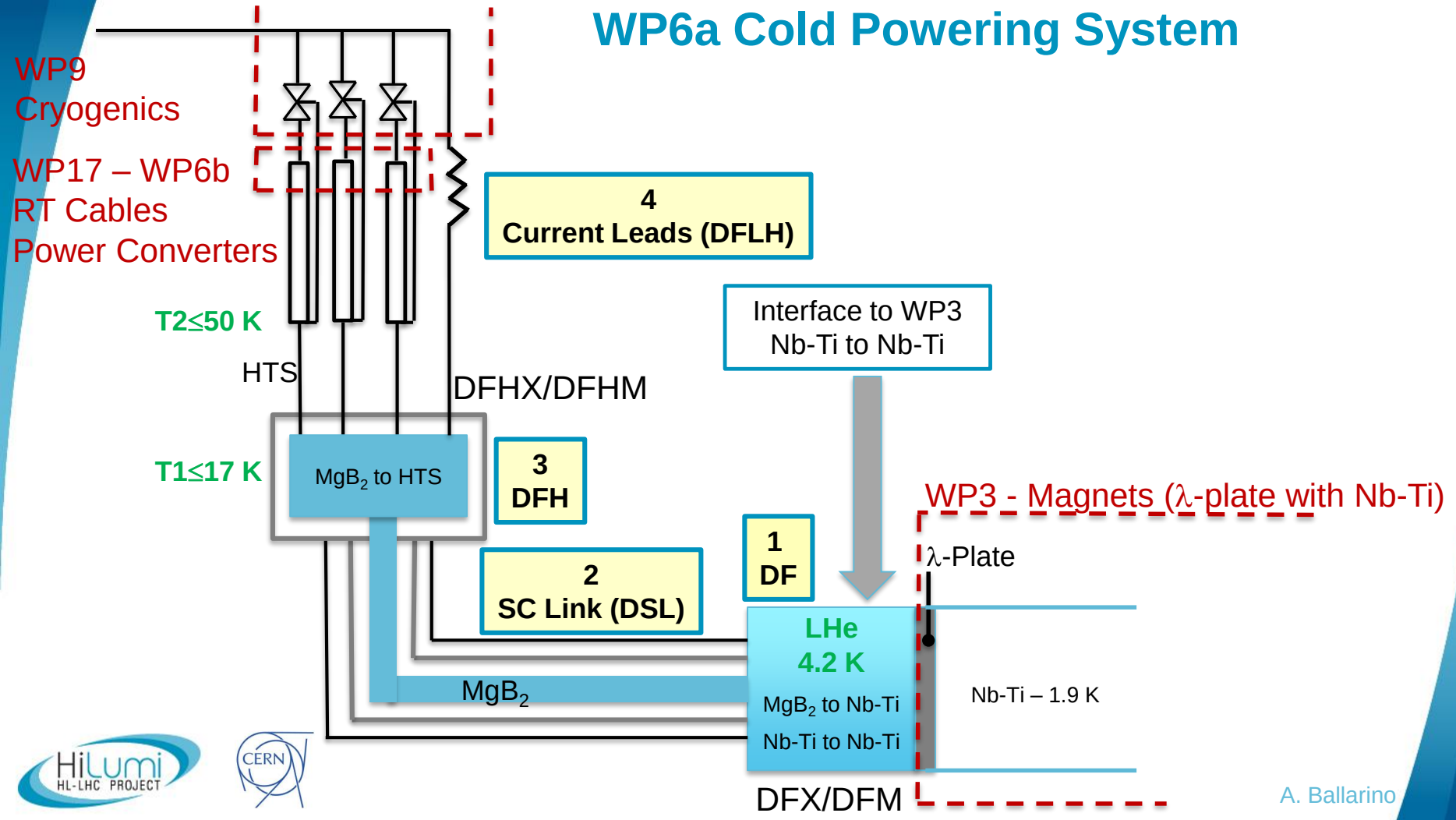
DFM in WP6a

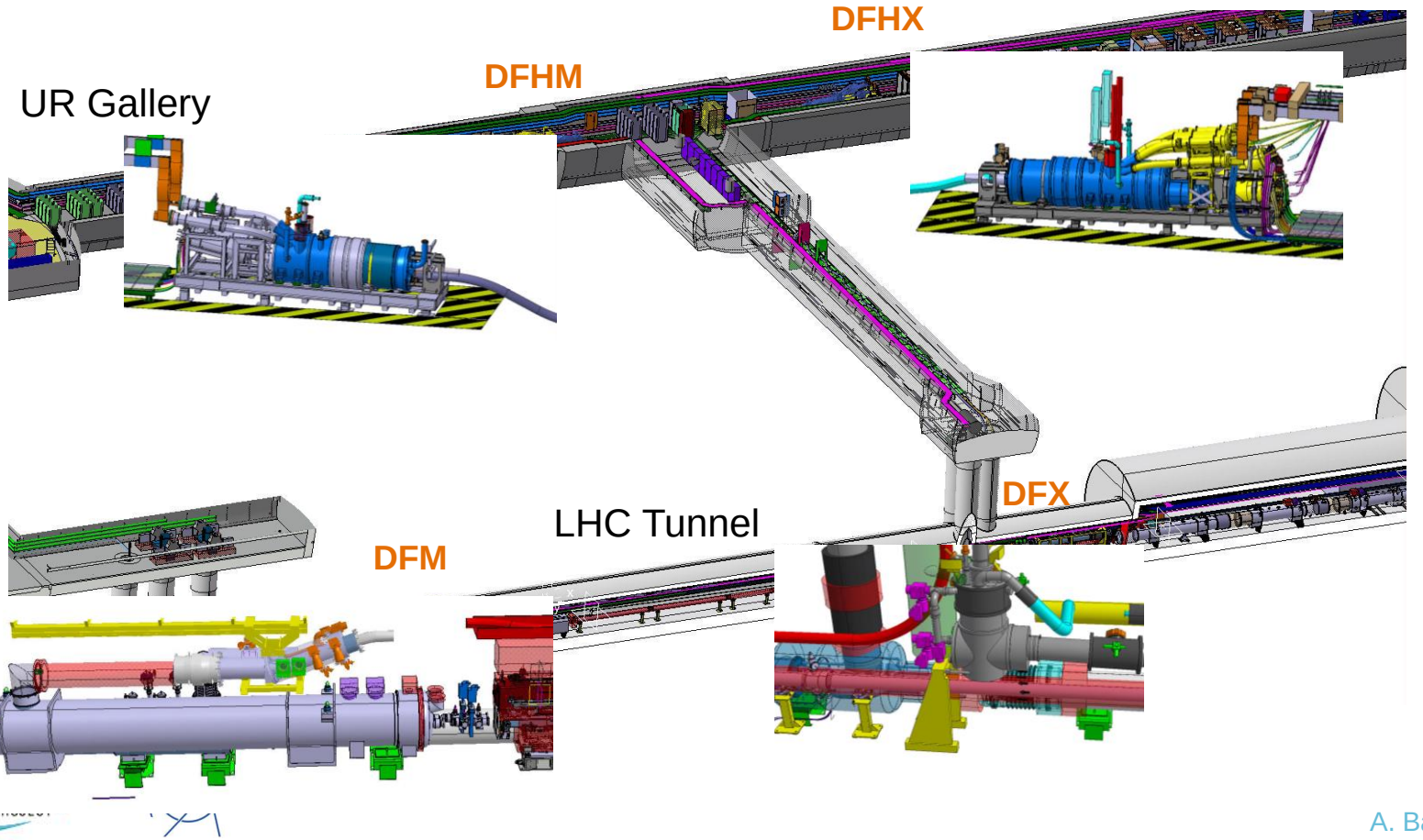
A. Ballarino

DFM Detailed Design Review, CERN, 18/12/2022

WP6a Cold Powering System



WP6a configuration in the LHC underground



DFM for the Matching Sections

Matching Sections

Rating (kA)	N_{leads}	N_{cables}
13	2	2
0.6	8	8

D2 and its correctors

Triplets

Rating (kA)	N_{leads}	N_{Cables}
18	4	4
7	-	3
2	12+3*	12

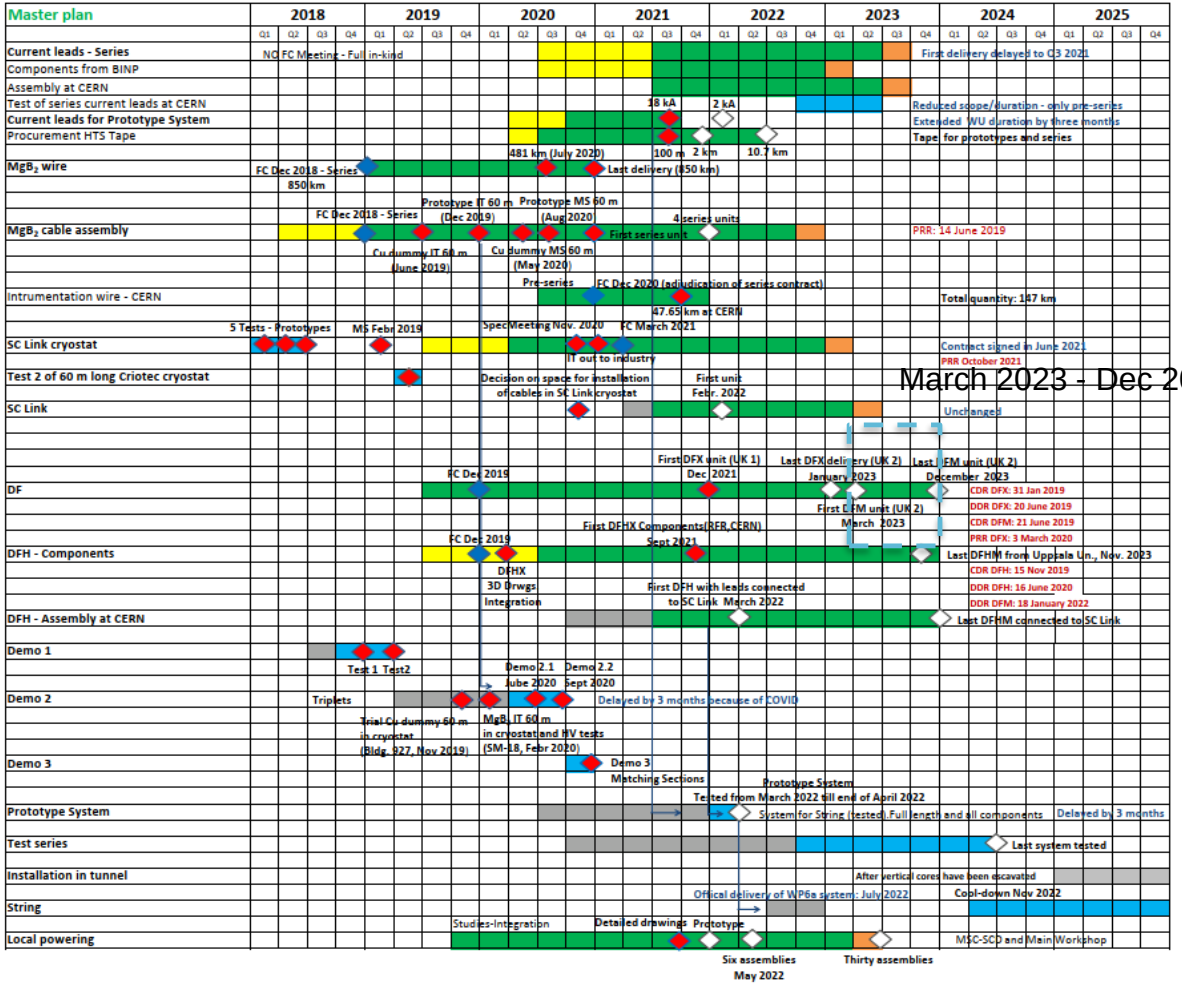
The DFMs are part of the Cold Powering Systems that power the Matching Sections

Production of DFMs

- Construction of five **DFM cryo-modules**, via **UK 2 Collaboration Agreement**, by **Southampton University** (**SOTON**). Detailed design done by CERN
- **Five** cryo-modules: **one pre-series** unit (also spare for HL-LHC) and **four series units**
- No DFM test in nominal cryo/electrical conditions in the WP6a baseline. But recent studies for the test bench dedicated to the series tests (series DFH+SC Links to be tested in SM-18, Cluster F2) consider the DFM as potential cryostat for the SC Link termination in LHe
- The cryostats are **installed in the LHC tunnel** – where the Nb-Ti cables of the SC Link are connected to the Nb-Ti cables passing through the λ plate
- Availability: at the installation in the tunnel (+ 1 unit for the series test)

DFM in WP6a Master Schedule

Presented at Cost&Schedule Review 2021



March 2023 - Dec 2023

Thanks for your attention !