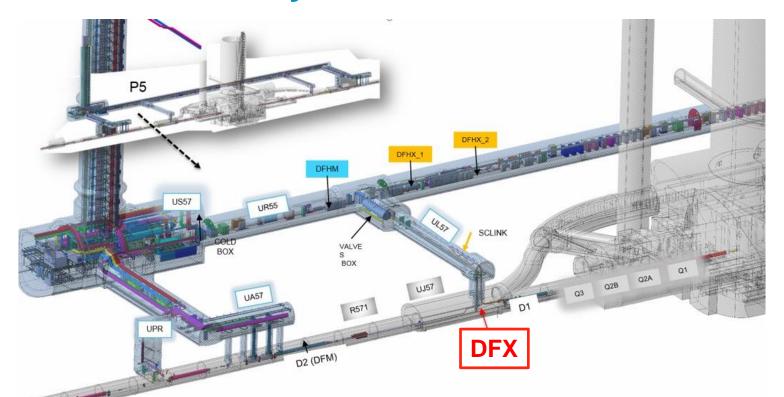


## DFX in WP6a, Master Plan

A. Ballarino



# **DFX Cryomodule in WP6a**

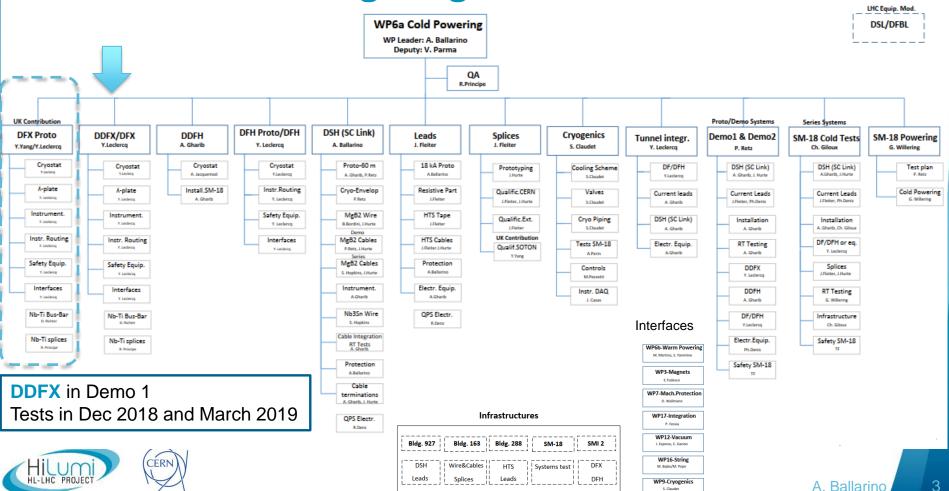


Interface between **SC Link** and **Diodes Cold Module** of the **HL-LHC Inner Triplets** 





### **Organogram WP6a**



**Changes from Conceptual Design Review** LHC Equip. Mod WP6a Cold Powering DSL/DFBL WP Leader: A. Ballarino Deputy: V. Parma QA R.Principe **UK Contribution** Proto/Demo Systems Series Systems DFH Proto/DFH DSH (SC Link) DFX Proto DDFX/DFX DDFH Leads Splices Cryogenics Demo1 & Demo2 SM-18 Powering Tunnel integr. SM-18 Cold Tests Y.Leclerca A. Gharib Y. Leclerca A. Ballarino I. Fleiter I. Fleiter Y.Yang/Y.Leclercq S. Claudet Y. Leclercq P. Retz Ch. Giloux G. Willering Cryostat Proto-60 m 18 kA Proto Cryostat Cryostat Cryostat DSH (SC Link) Prototyping Cooling Scheme DF/DFH DSH (SC Link) Test plan A.Ballarino A.Gharib, J.Hurte A. Jacquemod Y.Leclercp A. Gharib, P.Retz A. Gharib, J. Hurte Y.Leclerco Λ-plate Install.SM-18 Instr Routine Λ-plate Cryo-Envelop Resistive Part Qualific.CERN Cold Powering Valves Current leads Current Leads Current Leads A. Gharib Y. Leclerco LEleite J.Fleiter, Ph.Denis S.Claudet A. Gharib J.Fleiter, Ph.Denis Instrument. Safety Equip MgB2 Wire HTS Tape Instrument. Qualific.Ext. Cryo Piping DSH (SC Link) Installation Installation Y. Leclerco B.Bordini, I.Hurte 1.Fleiter 5.Claudet A. Gharib, Ch. Giloui A. Gharib A. Gharib Instr. Routing **UK Contribution** MgB2 Cables HTS Cables Instr. Routing Interfaces Tests SM-18 Electr. Equip. RT Testing DF/DFH or eq. J.Fleiter J.Hurte Qualif.SOTON Y. Leclerca Y. Leclerop A.Gharib A. Gharib A.Perin Y.Yang Safety Equip. MgB2 Cables Protection Safety Equip. Splices Controls DDFX S. Hopkins, J.Hurte A.Ballarino J.Fleiter, J.Hurte Y. Leclerco M.Pezzett Interfaces Instrument Electr. Equip. Interfaces Instr. DAQ DDFH RT Testing A.Gharib A.Gharib J. Cause A. Gharib G. Willering Nb3Sn Wire QPS Electr. Nb-Ti Bus-Bar Nb-Ti Bus-Bar DF/DFH Infrastructure P.Denr Interfaces Y.Leclerop Ch. Giloux Cable Integration Nb-Ti splices Electr.Equip. Nb-Ti splices Safety SM-18 RT Tests WP6b-Warm Powering M. Martino, S. Yammine Protection Safety SM-18 A.Ballarino WP3-Magnets  $\lambda$ -plate in DCM (moved to WP3) Cable WP7-Mach.Protection terminations ECR in preparation D. Wollmann A. Gharib, J. Hurte Infrastructures WP17-Integration QPS Electr. P. Fessia R.Denz WP12-Vacuum Bldg. 927 Bldg. 163 Bldg. 288 J. Espinos, C. Garion WP16-String DSH Wire&Cables ii M. Bajko/M. Pojer Systems test i Leads Splices WP9-Cryogenics A. Ballarino S. Claudet

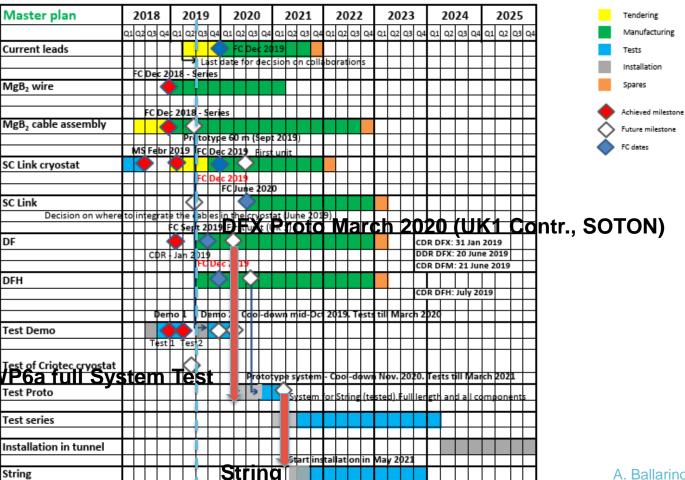
### **Prototype DFX**

- Construction of one DFX prototype, via UK1 contribution to HL-LHC, by Southampton University (SOTON). Design carried out by SOTON, with regular exchanges with CERN (direct coordination by Y. Yang, SOTON, and since CDR V. Parma, CERN).
- Delivery of prototype to CERN in March 2020 (UK1 deliverable)
- This DFX prototype is also a spare unit for HL-LHC





#### **WP6a Master Plan**









# Thanks for your attention!



A. Ballarino