



# RFPI project schedule update

Wojciech CICHALEWSKI on behalf of DMCS team



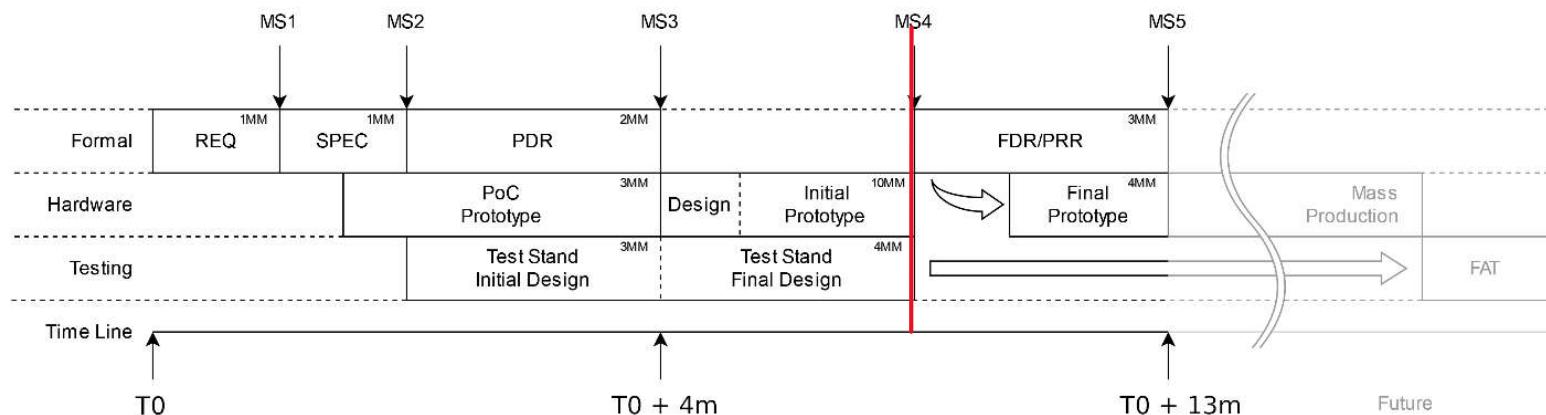


# RFPI system design flow

New design of the RFPI system.

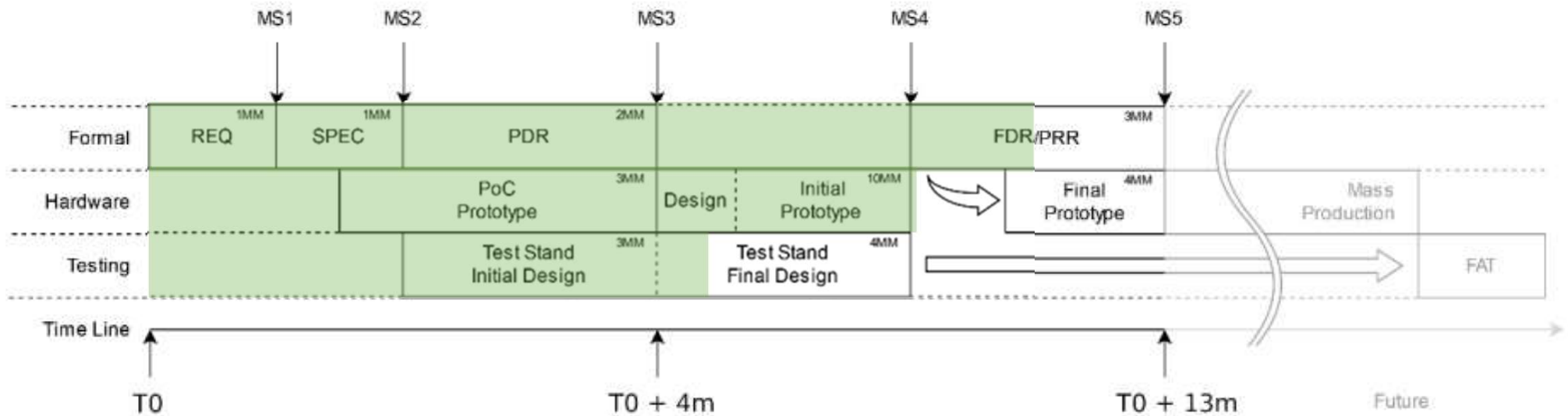
Three system prototypes version before mass production:

- **Proof of Concept prototype,**
- **Initial Prototype – Full Scale Prototype (current version),**
- **Final Prototype,**





# Project Timeline (according to SoW)



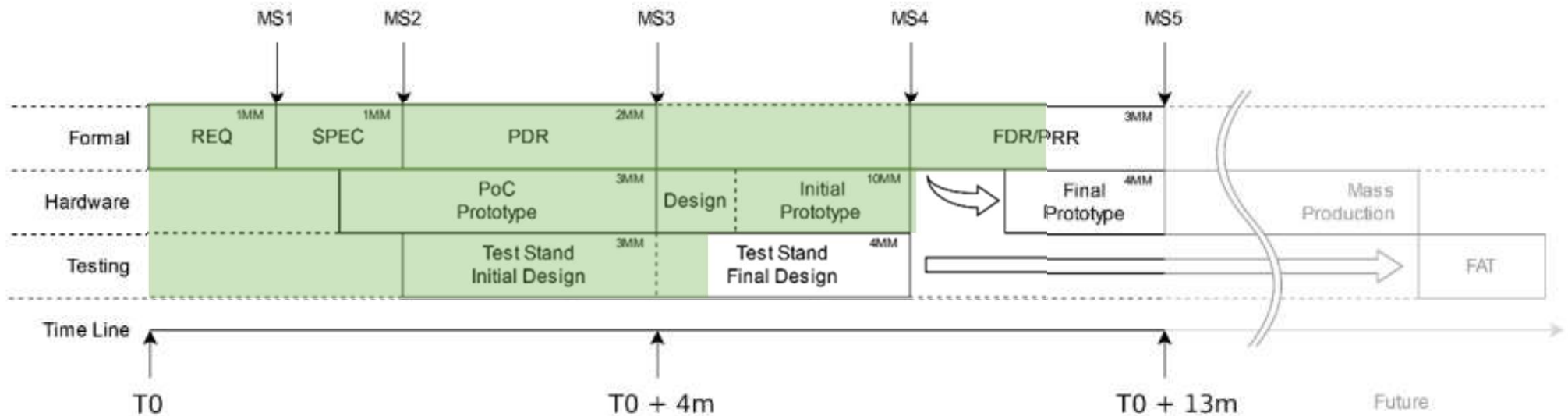
Initial Timeline (as of March 2022):

- T0** – **May 2022** – Beginning of the project
- T0 + 4m** – **Dec 2022** – PDR @DMCS
- T0 + 9m** – **May 2023** – FDR @Fermilab
- T0 + 13m** – **June 2023** – Initially planned project end





# Project Timeline – update as of Nov 2023.



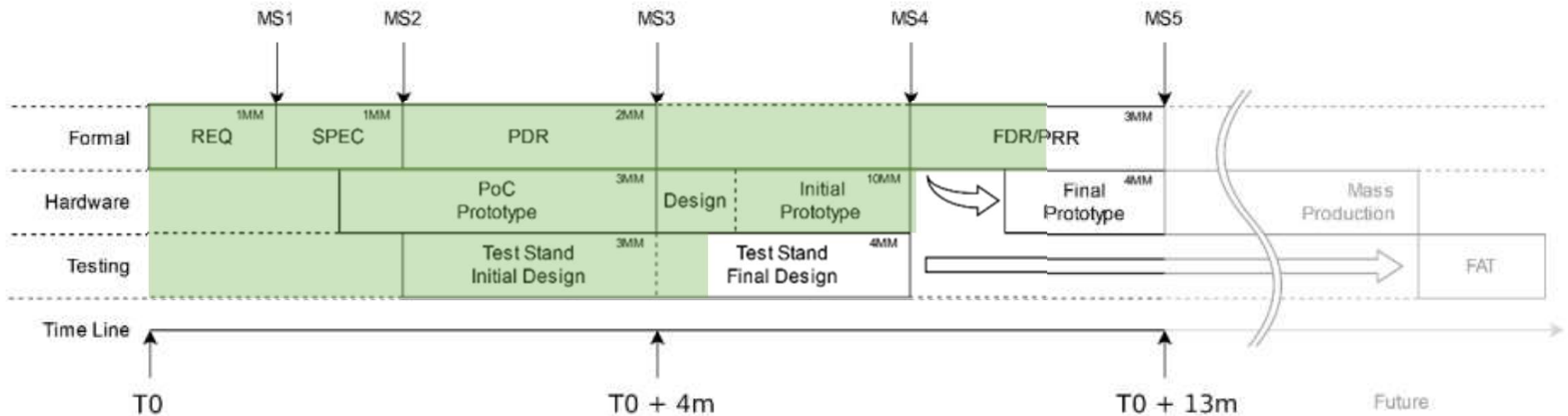
## Actual Timeline (as of November 2023):

- T0** – **May 2022** – Beginning of the project
- T0 + 4m** – **Dec 2022** – PDR @DMCS
- T0 + 9m** – **Feb 2024** – Initial (full-scale) Prototype ready,
- T0 + 10m** – **March/April 2024** – FDR (together with LLRF),
- T0 + 13m** – **August 2024** – PRR and Final prototype (current scope).





# Project Timeline – update as of now 2024.



## Actual Timeline (as of June 2024):

- T0** – May 2022 – Beginning of the project
- T0 + 4m** – Dec 2022 – PDR @DMCS
- T0 + 9m** – Jun 2024 – Initial (full-scale) Prototype ready,
- T0 + 10m** – Jun 2024 – FDR (NOW),
- T0 + 13m** – Dec 2024 – PRR and Final prototype (current scope).





## RFPI project timeline and plans and risks

- **Current scope** including final prototype and test stand – to be completed **by the end of 2024**,
- **Final call** for any **potential adjustments/changes in the design** and/or **specification** (like channels types, channels quantities, etc),  
- relatively low cost/risk at this stage!
- **Arrangements and discussions concerning mass production** and installation has to start now and **finish September 2024** to provide **smooth transition** from prototype to final deployment,
- **Coupler bias HV Power Supply** is related to the rest of the project – needs to start ASAP and be synchronized with other subprojects (prototyping, production/installation).



## The Full Scale Prototype – evaluation @CMTF

- The RFPI FSP installed @CMTF
- Still missing some FW/SW components to provide full integration with controls,
- HW wise – completed!
- Ready for remote updates with missing parts,
- Test programme:
  - Box installation with all required connections to single resonator (first) and four cavities setup (later),
  - Connections verification – channels order, signal correctness etc,
  - Input and Outputs Verification with artificial/forced signals,
  - Connection to the real system,
  - Operation with RF powered cavity,
  - Long term study....





Thank You

