

The Machine for FLASH2020+

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Accelerator Division Strategy

We rely on three key pillars: today's machines, tomorrow's machines and the people to invent, build and run them

- **Keeping our machines at the forefront**
 - FLASH2020+ Project
 - PETRA IV Project
 - Maximize machine availability: QA Program launched
 - XFEL: maximize current ops and ensure a path for future upgrades
- **Develop technology/directions for future machines**
 - Superconducting RF technology: structures, injectors
 - Plasma accelerators and laser technology (jointly with Photon Science)
 - Machine learning technology (across DESY)
 - Ultrafast electron diffraction
 - Medical applications
- **Develop the next generation scientists, engineers and technicians**



**Conceptual Design Reports
(CDRs)**

FLASH2020+ project in a nutshell

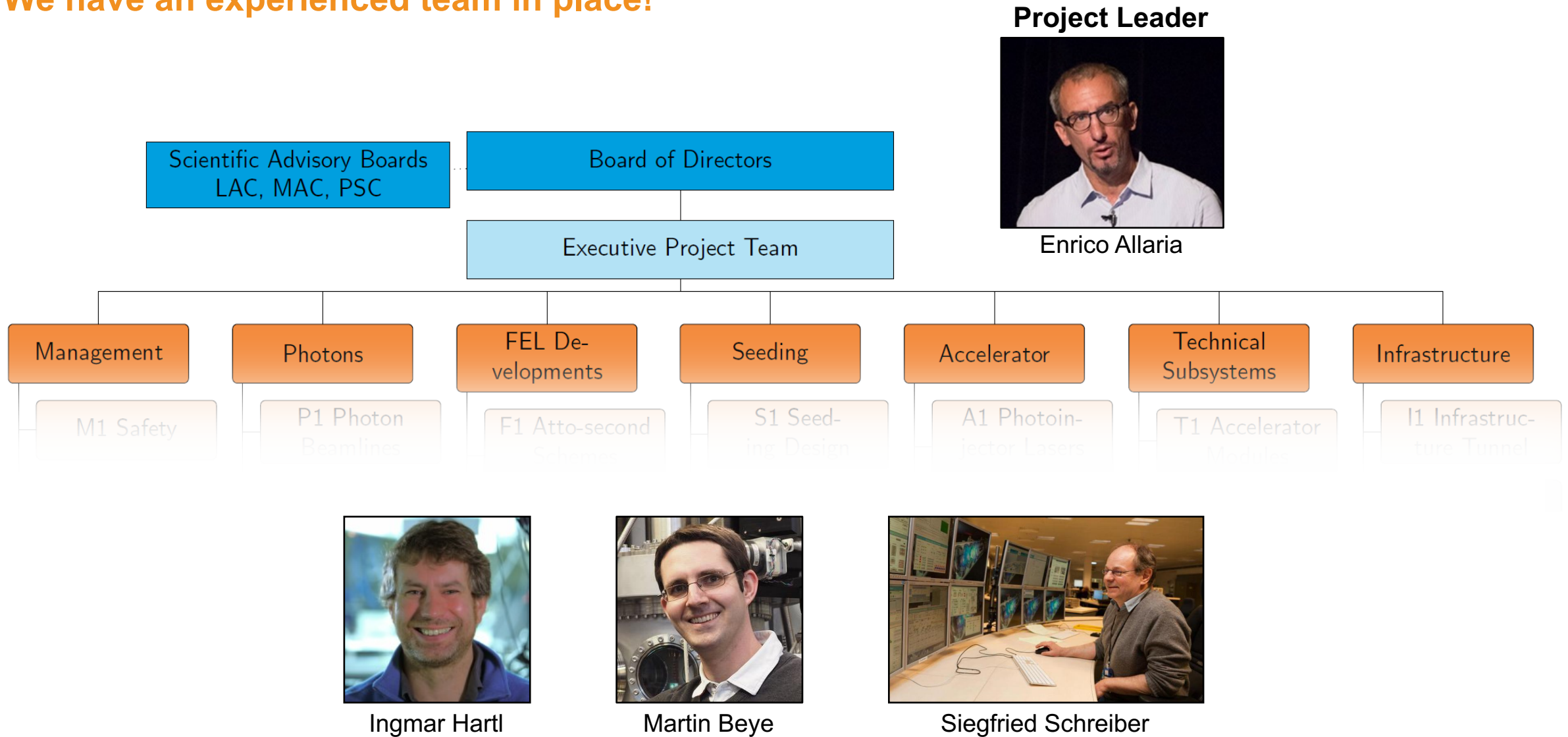
A concept to secure a bright future for the next decade

- The **science** case
- An **energy upgrade** of the accelerator
- New **flexible undulators** with variable gaps and polarization for FLASH1
- **Seeding at FLASH1** with **high repetition rate** (goal 1 MHz)
- **Shorter pulses** and **variable polarization** at **FLASH2** for novel lasing concepts
- **Highly synchronized pump-probe lasers** across the whole optical spectrum and beyond



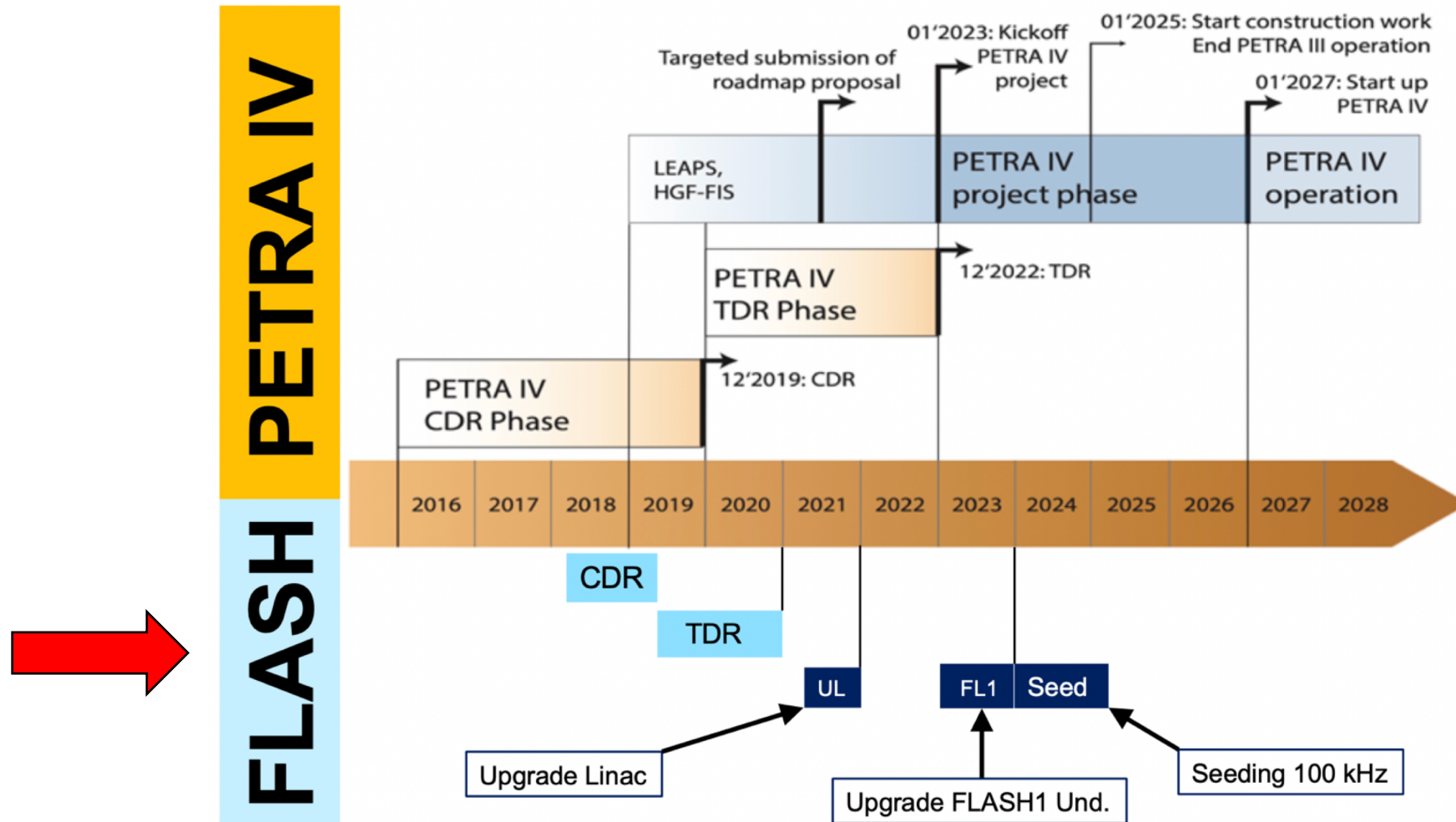
FLASH2020+ Project Structure is developing rapidly

We have an experienced team in place!



FLASH2020+ will provide new capabilities at DESY for world-leading science and we want to do build it with urgency!

Build it now, before the other big project ramps up 😊



Temporal overlaps:

- Upgrade of the FLASH linac – PETRA IV TDR
→ different personnel groups
- Upgrade FLASH1 undulators – PETRA IV project prep.-phase
→ partial overlap, needs careful analysis
- FLASH 100 kHz seeding – PETRA IV project prep.-phase
→ different personnel

Thank you & best of luck!

