

*NFFA within the Italian NRRP and beyond: Advancing Research and Service Infrastructures for Nanoscience, Quantum Materials and Deep-Tech Innovation.*

NFFA is a European distributed RI for nanoscience and nanotechnology, serving over 3000 users since 2016. On that basis, eleven leading Italian Institutes/Departments belonging to four public partner institutions, were upgraded under NRRP to create NFFA-DI, the first Italian RI with advanced digitalization to perform frontier research on matter and innovation, open to external users since September 2024. It offers integrated access to the key tools for nanoscience, spanning from lithography to growth, characterization, and theory/simulations with facilities for upscaling to intermediate TRL. The development of FAIR-by-design pipelines ensuring FAIRness of data, metadata and procedures throughout the whole access workflow is at the core of the digital infrastructure. NFFA-DI is now focusing on novel technical and digital services tailored for deep-tech research.