

MISSIONE 4
ISTRUZIONE
RICERCA

NANO FOUNDRIES AND FINE ANALYSIS DIGITAL INFRASTRUCTURE



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e della Ricerca



Italiadomani
PIANO NAZIONALE
DI RIPRESA E RESILIENZA

Panel di riferimento: **PSE**

Titolo della Proposta: **Nano Foundries and Fine Analysis Digital Infrastructure**

Codice della proposta: **IR0000015**

Tipologia: **(i) - Empowering**

Proponente: **CNR**

Infrastruttura di Ricerca: **NFFA - Nano Foundries and Fine Analysis**

Importo totale: **33.999.999,96€**

Di cui al Sud: **13.305.845,69€ (39,13%)**

Abstract

NFFA-DI is the NFFA upgrade proposal for realizing a Full-Spectrum Research Infrastructure for nanoscience and nanotechnology, capable of enhancing the Italian research competitiveness on the fundamental interactions of multiatomic matter to explore the origins of materials behaviour at all relevant dimensional and temporal scales, to describe, understand and design material solutions for engineering innovation. The rationale of NFFA-DI is to integrate nanofactory laboratories, i.e. facilities for atomically controlled growth, structural characterization of nano-objects and nano-structured materials, including upscaling the most promising systems to the level of intermediate TRL developments, and the experimental facilities for the fine analysis of matter using synchrotron and FEL radiation (at Elettra and FERMI), therefore raising the quality, reproducibility and overall competitiveness of Italian research in nanoscience, and full integration within the European RI ESFRI landscape. NFFA-DI creates a unique environment for basic nanoscience and advanced technologies, bridging the gap between fundamental research on quantum matter and functional micro-systems for the digital transformation. The upgrade will enable frontier research projects by users, enhancing the scientific competences and productivity of all nodes, along with the continuous upgrade of the RI. Mission oriented research at EC level and NRRP Centres and Partnerships will also exploit access to NFFA-DI. The combined digital access to a wide portfolio of services through a Single-Entry Point and Catalogue of state-of-the-art experimental and computational resources and FAIR-data services covers the whole value chain from material discovery to industrial technology transfer. It will become a reference RI in Europe, with huge potential for the acceleration of the digital transformation of research and society. Co-location with synergic NPRR initiatives will enhance the overall impact.

Elenco partecipanti alla Proposta:

- Area Science Park - Trieste
- Consiglio Nazionale delle Ricerche
- Politecnico di Milano
- Università degli Studi di Milano La Statale