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Towards the development of advanced opto-electronic components for ET: The ETICO2 laboratories

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The Italian Einstein Telescope Infrastructure Consortium (ETIC) is an initiative led by the INFN with the aim of establishing a nationwide network of laboratories dedicated to advancing technologies and components crucial for the future Einstein Telescope gravitational wave Interferometer, alongside comprehensive characterization efforts for the Sos-Enattos site in Sardinia, Italy.
This abstract introduces the blueprint for ETiCo2 laboratories, planned to be established at the INFN-CA and the University of Cagliari Physics department. These state-of-the-art facilities will be dedicated to the development, fabrication, and characterization of new opto-electronic devices essential for monitoring and controlling the future ET Interferometer. Additionally, the laboratories will undertake the design, manufacture, and testing of dielectric materials and multi-layer coatings, with a focus on structural, morphological, and thermo-optical properties crucial for enhancing mirror functionalities.

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