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ITN in Europe: a coordinated effort for ILC technology development

Monday 22 September 2025 14:30 (3 hours)

The ILC Technology Network (ITN) in Europe, in close collaboration with KEK and key institutions including CEA, CERN, INFN, is actively driving the development of advanced superconducting radiofrequency (SRF) technologies to support the realization of the International Linear Collider (ILC). The ITN-EU initiative focuses on developing and validating cost-effective, high-performance cavity production processes, transitioning from single-cell R&D to the industrialization of 9-cell cavities. Activities include optimizing surface treatment protocols, rigorous quality control of niobium materials, harmonization with Japanese High Pressure Gas Safety (HPGS) regulations, and preparing technical specifications for cavity jacketing and testing. As part of this program, Europe will contribute fully qualified SRF cavities to a globally designed ILC-type cryomodule for testing at KEK. The collaboration fosters knowledge exchange across laboratories and industry, supports advanced diagnostics development, and benefits from wider initiatives such as the Marie Skłodowska-Curie EAJADE network. These collective efforts not only support ILC realization but also reinforce Europe's strategic capabilities in SRF technology for future accelerators.

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Yes

Footnotes

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