Superconductivity for Sustainable Energy Systems and Particle Accelerators

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The IRIS project for a new research infrastructure for superconductivity in Itay

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n the frame of the Next Generation Europe program, the EU program to boost after-covid recovery, the Italian Minister of Research has funded a project called IRIS (Innovative Research Infrastructure for applied Superconductivity). New laboratories will be built or upgraded in six poles: Milan (hub of the infrastructure), Genoa, Frascati, Naples, Salerno and Lecce, to carry out basic research on magnetism and superconducting materials, test of wires, tapes and large current cables, superconducting magnets construction and advanced instrumentation, power tests of magnets and a special facility for high current-high voltage superconducting lines. The program, which will be built in three years and then in operation for at least 10 years, includes two first demonstrators: one HTS magnets to be operated at 10-20K and a superconducting line of 1 GW (40kA-25 kV) about 140 m long. The demonstrators anticipate the main scope of the IRIS infrastructure: to support the use of superconductivity for improving sustainability by decreasing the energy consumption without compromising performance.

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