

FCC Synergy's with Industry and the Impact on the Future Superconducting Magnet Technologies

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CERN's Future Circular Collider (FCC) will result in a big push in the state of the art of High-Field Superconducting magnets. The performance of superconducting materials such as Nb₃Sn will be developed to yield higher performance at lower costs, construction materials and techniques will be advanced. Industry on the other hand, is experiencing a renewed interest in the field of industrial superconductivity for which FCC should contribute with the development of materials and technologies.

Considering the social impact of the investment that is foreseen as part of the FCC project, a Working Group on Future Superconducting Magnet Technology (FuSuMaTech) was set up by CERN and CEA. The working group will explore the large spectrum of possible synergies with industry, and will propose a set of relevant practical R&D projects to be conducted jointly between the National labs, universities and industry to be implemented before the end of the decade.

FuSuMaTech aims to establish a strong and sustainable R&D set of networks that will strengthen the field of superconductivity and associated industrial applications.

This paper summarizes the first year report, presents initial R&D axis, and the roadmap foreseen to germinate the proposed collaborative developments.

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