



Advanced cabling and jacketing process for superconducting Cable-In-Conduit Conductors (CICCs)

ICAS (Innovation and Consulting on Applied Superconductivity S.r.l.) has developed an advanced cabling and jacketing process for superconducting Cable-In-Conduit Conductors (CICCs), thanks to its collaboration with Fusion for Energy (F4E) for the ITER and JT-60SA projects.

The technology

Through its collaboration with F4E on the ITER and JT-60SA projects, ICAS has successfully developed a cutting-edge process for cabling and jacketing superconducting Cable-In-Conduit Conductors (CICCs). This cutting-edge technology involves:

- **Precision Cabling:** Ensuring low tension to maintain the integrity of superconducting wires.
- **Advanced Welding Techniques:** Achieving seamless stainless-steel connections under strict quality assurance (QA) requirements.

These processes have enabled ICAS to deliver superconducting cables that meet the most demanding performance and safety standards in fusion environments.

Advantages and Potential Applications

- **Proven Reliability:** Validated in ITER, meeting the highest performance and QA standards.
- **Scalable Production:** Industry-ready facilities designed for large-scale manufacturing.
- **Custom Solutions:** Ability to adapt the technology to meet diverse client requirements.

Applicable in many industries: (Big Sciences, Energy Infrastructure, Medical Imaging, etc.)

Collaboration opportunities

ICAS is open to collaborating with organizations across various industries to implement and adapt its superconducting technology to different needs, also regarding applications as HTS cables and magnets, large size Rutherford cables, Mineral Insulated cables, Aluminum conductors for detectors, Gritt-blasting of copper and aluminum conductors, etc.

Fusion for Energy Technology Transfer
Programme

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