



High temperature superconducting (HTS)

Industrial Research and our partners are developing HTS technologies for the scientific, medical, industrial and power industries.

HTS products are lighter, take up less space, are more efficient and harness environmentally friendly materials.

Globally HTS is expected to be a multi-billion dollar industry in the next 10 years.

Industrial Research is a science innovation company based in Wellington, New Zealand. Our world-leading HTS programme supports technology development in a wide range of international companies including HTS-110 Limited, a spin-off company from Industrial Research which designs and builds a range of magnet systems for scientific and industrial applications. We are keen to talk to people about investing in this technology.

Technologies under development

- ▶ HTS wire
- ▶ Low AC loss cable
- ▶ AC magnets
- ▶ Cryogenic refrigeration

HTS wire

HTS wire offers electricity networks the benefits of increased power stability, efficiency and reliability. We are improving the current carrying performance of second generation (2G) wire.

Low AC loss cable and magnets

We are developing an HTS conductor and magnets which will be used in AC applications such as transformers, induction heaters and ion implanters for the semi-conductor industry.

Cryogenic refrigeration

We are developing a low-cost cooling technology specifically for HTS applications.

Cryogenic cooling is essential to the operation of HTS devices. As HTS wire costs are reduced, the cost of cooling is becoming a significant factor in the bid for widespread HTS uptake. It also has several potential applications outside of HTS devices, including gas liquefaction, biological sample storage and food preservation.

Services

- ▶ Wire customization
Quality control and qualification of HTS wire for specific applications.
- ▶ HTS tape insulation
We have developed an insulation process which can coat HTS wire with insulation from 10-50 microns and meet the special requirements of superconducting wire. We can insulate long lengths of tape for customers anywhere in the world.

For all enquiries please contact the Industry Engagement team on 0508 CALL IRL (0508 225 5475). If calling from overseas phone +64 4 931 3000 or visit the *Contact Us* page on our website.

www.irl.cri.nz

Industrial Research Limited, 69 Gracefield Road, PO Box 31-310, Lower Hutt 5040, New Zealand