

# CONSULTA

## Experts in Magnetics & Cryogenics

**We specialise in the creation of unique and controlled environments at low temperature and high magnetic field; from concept to production**



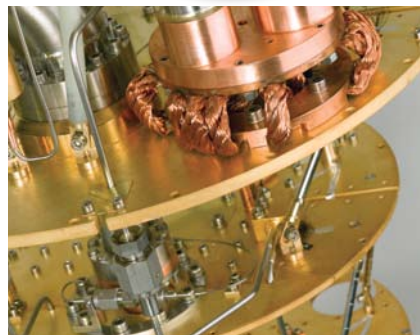
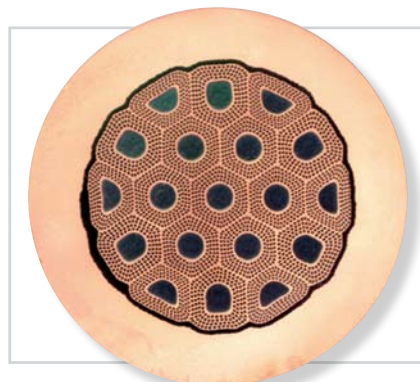
### Leading the field in Superconductivity

Oxford Instruments has an unrivalled track record in the development of superconducting wires and magnet technology. Since building the first commercial superconducting magnet in 1959, it has pioneered MRI, NMR, ICR and accelerator magnet technologies. Oxford Instruments' wide range of compact research systems from standard solenoids up to 22 T, split pair and vector rotate configurations can be found at prestigious institutes across the globe.

**Oxford Instruments offers consultation and partnership on Cryogen-free, design tools for HTS applications and improved wires. It is a leading supplier of Nb<sub>3</sub>Sn wire to the ITER fusion energy project and its experience and understanding of superconductor materials is being applied to fusion and accelerator technology and new HTS applications. New developments include all aspects of design optimisation and manufacturing process robustness.**

### Innovating Cryogen-free Instrumentation

From the world's first commercial dilution refrigerator to the 2010 Queen's Award for Enterprise Innovation for **Triton™ 200**, a cryogen-free dilution refrigerator with an integrated high-field superconducting magnet, Oxford Instruments has gained considerable experience in the design and manufacture of the most complex cryogenic systems. Our expertise includes high frequency wiring and low noise environments for applications such as quantum computing and low temperature Ultra-High-Vacuum.



**OXFORD  
INSTRUMENTS**

*The Business of Science®*



# Architects of low temperature and high magnetic field environments

Oxford Instruments  
NanoScience

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## Magnet Engineering

- Coil Design
- Quench Analysis & Protection
- Process Optimisation
- Impregnation & Jointing
- HTS Inserts
- Active Shielding

## Low Temperature Design

- Optical/Spectroscopy Cryostats
- Dilution Refrigerators
- QIP Instrumentation
- High Frequency Wiring
- Low Vibration & UHV Systems
- Mechanical Coolers
- Recondensing Systems
- Thermal Shielding

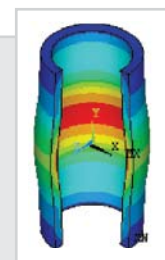
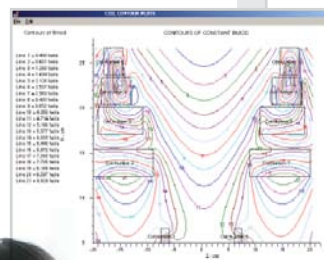
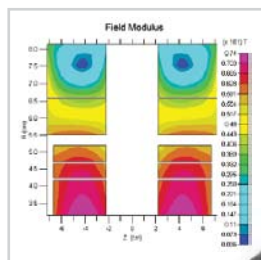
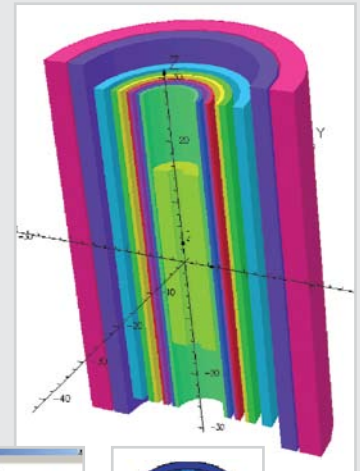
## Manufacturing Know-how

- Fabrication of Composites & Coils
- Nb<sub>3</sub>Sn Process Optimisation
- HTS Materials
- Characterisation & Test Facilities

## Specialist Tools

Dedicated codes validated against 50 years of design and manufacturing experience

- Thermo-electro-mechanical Profiling
- Quench & Eddy Current Analysis
- Design Limits & Safe Energy Dissipation
- Force, Stress & Strain Analysis
- Extensive Material Properties Database
- Cost & Performance Optimisation
- Mechanical Design & Production Drawings



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visit [www.oxford-instruments.com/consultancy](http://www.oxford-instruments.com/consultancy) for more information

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