Press Release

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Oxford Instruments receives order for state-of–the-art high field magnet from Diamond Light Source.

Oxford Instruments has received an order for state-of–the-art high field magnet from Diamond Light Source for ultra high vacuum experiments. This order is for a 14 T split pair superconducting magnet, which will provide a high magnetic and low temperature (<1.5 K) sample environment during experiments when a sample will be exposed to an x-ray beam under ultra high vacuum. It will be used on the new I10 Beamline for Advanced Dichroism Experiments (BLADE) at Diamond Light Source (Oxfordshire, UK) and dedicated to soft x-ray magnetic spectroscopy. To allow fast ramping of the magnetic field, this magnet will be constructed using Oxford Instruments' innovative Nb_3Sn superconducting wire, developed as part of its contract to supply 58 tonnes of wire to the ITER project. It will also be fitted with a recondensing cryostat which considerably decreases the liquid helium consumption of such powerful superconducting magnets while enabling stringent magnet designs. Recondensing technology uses a cryocooler to capture evaporated gas and turn it back into liquid helium. Last year Oxford Instruments supplied the ISIS neutron source, situated on the same site as Diamond, with two high field split pair magnets fitted with these recondensing systems- a 9 T wide-angle and a 14 T at 4.2 K.

The Diamond BLADE magnet will also be of very clean construction as it will work in a ultra high vacuum (UHV) environment, building on capabilities, processes and facilities which Oxford Instruments has developed over the last two years to allow the cleanest construction of magnets and ultra low temperature inserts.

John Burgoyne, Manager of the Magnets Business Group at Oxford Instruments says: "Working with customers at the leading edge of science and technology such as Diamond Light Source, the ISIS neutron source and many other world-leading research institutes and facilities whose requirements constantly drive and challenge our own technology development, continuously enhances our expertise in advanced superconducting magnet systems. In particular we are pleased to be able to build upon our strengths in high field recondensing magnet systems for beamline applications with this order. We are delighted to have this opportunity to work closely with the Diamond team and to be a part of the UK and local economy which both supports and benefits from this world-class science base in the UK".

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Issued for and on behalf of Oxford Instruments NanoScience

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Notes to editors

About Oxford Instruments NanoScience and Oxford Instruments plc.
Internationally recognised as world leaders in superconductivity and ultra low temperature cryogenic environments, Oxford Instruments NanoScience is driving innovation in these fields. The company's leading-edge technologies support research in nanotechnology, solid state and condensed matter physics. Combining outstanding technical expertise, original thinking and a commitment to meeting customers' needs, Oxford Instruments NanoScience enables real advances both in research and commercial applications by providing the high quality technological environments needed to meet demanding experimental requirements. Oxford Instruments NanoScience is part of the Oxford Instruments plc group.

Oxford Instruments aims to pursue responsible development and deeper understanding of our world through science and technology. We provide high technology tools and systems for industrial and research markets, based on our ability to analyse and manipulate matter at the smallest scale. Innovation has been the driving force behind Oxford Instruments' growth and success for over 50 years, and its strategy is to effect the successful commercialisation of these ideas by bringing them to market in a timely and customer-focused fashion.

The first technology business to be spun out from Oxford University over fifty years ago, Oxford Instruments is now a global company with over 1,300 staff worldwide and a listing on the London Stock Exchange (OXIG).

Our objective is to be a leading supplier of next generation tools and systems for research and industry. This involves the combination of core technologies in areas such as low temperature and high magnetic field environments, Nuclear Magnetic Resonance, X-ray electron and optical based metrology, and advanced growth, deposition and etching. Our products, expertise, and ideas address global issues such as energy, environment, terrorism and health and are part of the next generation of telecommunications, energy products, environmental measures, security devices, drug discovery and medical advances.

About Diamond Light Source

- For more information about Diamond, see www.diamond.ac.uk
- Diamond generates extremely intense pin-point beams of synchrotron light of exceptional quality ranging from x-rays, ultra-violet and infrared. For example Diamond's x-rays are around 100 billion times brighter than a standard hospital X-ray machine or 10 billion times brighter than the sun.
- Many of our everyday commodities that we take for granted, from food manufacturing to cosmetics, from revolutionary drugs to surgical tools, from computers to mobile phones, have all been developed or improved using synchrotron light.
- Diamond will bring benefits to:
    - Biology and medicine. For example, the fight against illnesses such as Parkinson's, Alzheimer's, osteoporosis and many cancers will benefit from the new research techniques available at Diamond.

- The physical and chemical sciences. For example, in the near future, engineers will be able to image their structure down to an atomic scale, helping them to understand the way impurities and defects behave and how they can be controlled.
- The Environmental and Earth sciences. For example, Diamond will help researchers to identify organisms that target specific types of contaminant in the environment which can potentially lead to identifying cheap and effective ways for cleaning polluted land.