Australian Government | Ansto

ANSTO at a glance

The Australian Nuclear Science and Technology Organisation (ANSTO) is one of Australia's largest public research organisations. It manages much of Australia's large science infrastructure, runs businesses, supports industry and provides trusted advice to government

Landmark Infrastructure

ANSTO manages the OPAL nuclear research reactor and its associated neutron beam instruments, the Australian Synchrotron and its experimental stations, the Centre for Accelerator Science and cyclotrons. ANSTO's extensive merit-based user access programs allow both Australian and international researchers to access those facilities.

Recently, the OPAL research reactor celebrated its eighth year of operation. OPAL is now widely regarded as one of the most performance-efficient multipurpose research reactors in the world. This results, in part, from ANSTO's strong nuclear safety and security culture.

ANSTO accommodates about 1800 visiting scientists every year.

Research and development

ANSTO employs more than 500 scientists, engineers and technicians, and each year hosts about 1800 visiting researchers from around the globe. These specialists use nuclear tools and technology to address both research and industrial issues across the whole range of human endeavour.

ANSTO's research spans many fields including: new materials, environmental and life science, and nuclear fuel cycle processes.

Recent research achievements include the development of a rare earths separation processes to help meet the global demand for these much sought-after elements; a neutron scattering study that is improving the structural integrity of turbine blades used in power stations; contributing to the development of nuclear fuel materials that are safer to use, as part of a major international collaboration; using nuclear techniques to trace the source of fine particle pollution; developing enhanced methods of detecting undeclared radioactive materials at borders; and undertaking research that is helping to explain the role marine and coastal ecosystems play in storing carbon.

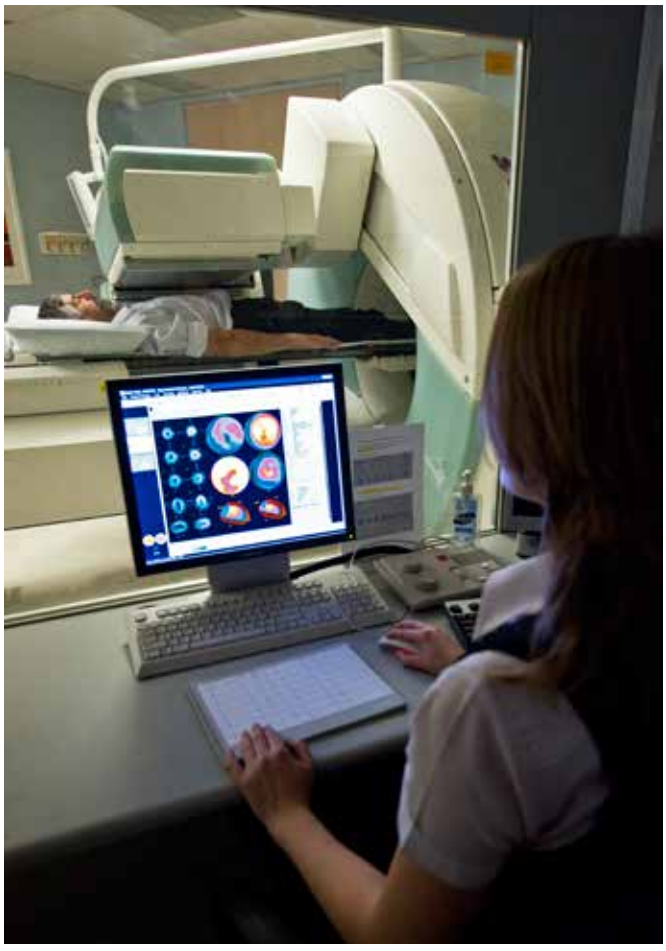
ANSTO business activities

A world leading producer of nuclear medicine

ANSTO is central to the world's nuclear medicine manufacturing capabilities. Each week ANSTO delivers approximately 10,000 patient doses of potentially lifesaving nuclear medicines to hospitals and medical practices across Australia and around the world. These nuclear medicines are used to diagnose a wide range of illnesses including cardiac conditions, cancers and skeletal injuries. It is estimated that one in two Australians will benefit from the nuclear medicines which originate at ANSTO.

ANSTO is currently constructing a new manufacturing plant that will position Australia as a global leader in the high-end manufacturing of nuclear medicine. The new plant will enable Australia to increase its production of Molybdenum-99 to about 20% of global needs by 2016.

In alignment with the nuclear security and non-proliferation precept of minimising the civilian use of highly enriched uranium (HEU), ANSTO produces Molybdenum-99 from low enriched uranium (LEU) targets in an LEU-fuelled reactor.



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ANSTO Minerals

ANSTO Minerals has a 20-year track record in providing specialist consultancy services to the mining and minerals processing industries (especially uranium and Rare Earth Element based companies).

ANSTO Silicon

ANSTO Silicon irradiation conducts neutron transmutation doping (NTD) of silicon for manufacturers of silicon chips used for semiconductors in advanced electronic devices, such as the safety control systems of high-speed trains. Clients include major electronics companies in Europe and Asia.

Providing advice to government

Australian Government

ANSTO provides learned and trusted advice to the Australian Government on matters relating to nuclear science, technology and engineering. Its advice is based on its nuclear science and technology programs and its leadership and participation in international policy and technical forums such as the International Atomic Energy Agency (IAEA), the OECD Nuclear Energy Agency, the Global Initiative to Combat Nuclear Terrorism, the Forum for Nuclear Cooperation in Asia (FNCA) and the Nuclear Industry Summit series.

International leadership

IAEA
International Atomic Energy Agency

ANSTO's nuclear science and technology capabilities provide the technical basis for Australia's designated seat on the IAEA Board of Governors. Senior ANSTO staff serve on high-level IAEA standing advisory groups in areas such as nuclear applications, nuclear security and nuclear liability. Virtually every week, ANSTO staff participate in IAEA meetings on topics ranging from environmental research to human health. ANSTO represents Australia in the IAEA Regional Cooperative Agreement for the Asia-Pacific and the Forum for Nuclear Cooperation in Asia, thus contributing substantially to Australia's fulfilment of its obligations under the NPT to cooperate on the peaceful uses of nuclear technology.