**PRESS RELEASE** **14 July 2004**

# Launch of the ICSTI Statement on Nanotechnology

# "The Science of Small Things"

---

The Irish Council for Science, Technology and Innovation (ICSTI), today (Wednesday 14th July), launched its Statement on Nanotechnology. The Statement assesses Ireland's current capabilities in the field of nanotechnology, maps out specific areas of opportunity for the Irish economy and presents a sustainable vision and strategy for the promotion, development and commercialisation of nanotechnology in Ireland.

**What is Nanotechnology?**

Nanotechnology is technology on the nanometre scale; a nanometre is one billionth of a metre. To give an idea of scale, a single human hair is around 80,000 nanometres in diameter. Nanotechnology is a highly interdisciplinary activity, drawing on the basic, analytical techniques and experimental approaches of physics, chemistry, electronics, materials science and molecular biology.

Nanotechnology is a collective term for a set of tools and techniques that permit the atoms and molecules that comprise all matter to be imaged and manipulated. Using these tools and techniques it is possible to control the fundamental structure and behaviour of matter at the level of atoms and molecules. Materials exhibit novel properties at the nanometre scale and may be assembled and organised to yield nanomaterials and devices with new or improved properties.

Using these tools and techniques it is possible to control the fundamental structure and behaviour of matter at the level of atoms and molecules. Materials exhibit novel properties at the nanometre scale and may be assembled and organised to yield nanomaterials and devices with new or improved properties.

Speaking at the launch, Dr Edward M. Walsh, Chairman, ICSTI said "Nanotechnology is emerging worldwide as a key enabling technology that will impact significantly on the majority of sectors comprising the Irish economy.

Nanomaterials and devices present enterprises with opportunities to enhance their competitiveness by developing new and improved products and processes and in improving the performance or reducing the cost of existing products and processes."

"Small and large industries, both indigenous and overseas, have identified nanotechnology opportunities and are now seeking to exploit them. It is estimated that the potential value of nanotechnology enabled products and processes exported by Irish enterprises will exceed €13 billion by 2010, which is more than 10% of the value of current exports. As a small, open, knowledge-based economy, Ireland must ensure that it develops a leading research capability in the field in order to fully exploit this substantial 'Nanotechnology Opportunity'," he continued.

"Due to the significant investment in nanotechnology research in Ireland we are now well placed to take this leading position but we must ensure that the technology is embedded in Irish Industry. Public funding for nanotechnology also needs to be coordinated by the funding agencies to optimise the benefit to building excellence in Irish research", concluded Dr. Walsh.

The Statement highlights that nanotechnology already impacts or has the potential to impact on a range of industrial sectors in Ireland including:

- information and communications technologies (electronics & photonics);
- healthcare (pharmaceuticals and medical devices);
- agriculture and food;
- polymers and plastics; and
- the construction sector.

**Recommendations**:

- The Statement commends the work by Enterprise Ireland in supporting high potential start-ups and in encouraging the use of nanotechnology to improve the performance and reduce the cost of products and processes marketed by established indigenous companies.

- The Statement recommends that Ireland be promoted as a location with strong nanotechnology competence internationally to attract leading researchers and leading companies in the nanotechnology area.

- It emphasises that opportunities exist for companies of all sizes, Irish-owned and multi-national, within a range of sectors and in particular, recommends that Nanotechnology Research Clusters are established to serve the nanotechnology needs of the ICT and Healthcare sectors.

- Public funding for nanotechnology also needs to be coordinated by the funding agencies to optimise the opportunity to build excellence in Irish research.

- The statement advocates that regulatory agencies work together to update existing regulatory frameworks to ensure public confidence in the use of nanomaterials.

- The ICSTI Statement also calls for the establishment of a nanotechnology forum to ensure coherence in the national system to pursue the strategy outlined to maximise the nanotechnology opportunity for Ireland.