

# Innovation

## The Key to Business Growth

### Collaboration and co-operation through innovation networks

Corporations today are pursuing a globally-distributed, network approach to innovation. Current university programs and company R&D activities reach across borders in search of collaborative partnerships. Companies can most easily reap the rewards of innovation through a global ecosystem in which firms, universities, and governments work together.

### Ireland's innovation landscape

Ireland's innovation landscape thrives on the importance of human connections. Irish business policy brings together - in a unique, no-nonsense and highly pragmatic way - a wide range of national institutions to help create leading edge research programs.

Government, funding agencies, regulatory authorities, academia and industry are constantly working as a national team, creating a fast-growing, dynamic research environment.

The result of this high-level connectivity is that Ireland has become one of the new global centers for science- and innovation-based R&D. Ireland is empowering some of the world's biggest companies to research, develop and commercialize world-class products, processes and services.

Long-established partnerships with global corporations have been at the core of Ireland's success in attracting leading edge R&D activities. Despite Ireland's small size geographically, its energetic, knowledge-based economy wins a disproportionate amount of Europe's R&D centers.

In 2006 Ireland's inward investment agency, IDA Ireland, supported 54 R&D investment projects. The past year has seen R&D announcements by many prominent global corporations. The names speak for themselves: CISCO, GlaxoSmithKline, PepsiCo, Intel, IBM, Bristol-Myers Squibb. These corporations are actively supported by renowned global research organizations located in Ireland, such as Georgia Tech Research Institute and Bell Labs.



### Joining forces for innovation

Ireland is the surprise leader in a ranking of how far 26 industrialized countries benefit from a trend towards 'innovation networks' – partnerships between companies or countries which are thought to be more effective than keeping research and development to oneself.

Countries placed towards the right of the chart are deemed to be strong on strategy, with those towards the top considered to have a strong current offering. Countries not falling into the three bands ('contenders', 'strong performers' or 'leaders') are judged to be 'risky bets'. The size of the dot indicating each country's position denotes its presence in the world market.

The study, carried out by the US research consultancy Forrester, identifies 'transformers' – countries that are effective at taking developments from other nations or companies and turning them into commercial products.



SOURCE: FORRESTER RESEARCH INC 2006



### An integrated, collaborative strategy

The Irish Government pursues a carefully planned, integrated R&D strategy encompassing all of the key elements necessary to achieve world-class R&D. Its \$5 billion Strategy for Science, Technology and Innovation will double the number of Ph.D. graduates and attract future generations of well-educated young people into research careers in knowledge-driven companies. It will substantially extend the physical infrastructure to support them. And, for the first time ever, eight government departments will co-ordinate all activity in relation to science, technology and innovation.

IDA Ireland is one of the main players behind the new wave of national, collaborative R&D activity. It works closely with Science Foundation Ireland (SFI), the agency which consolidates links between industrial and academic research and funds such research. IDA Ireland and SFI have developed a range of new initiatives to encourage pooled projects and attract world-class scientists to carry out research in Ireland.

This inclusive way of bringing together industry and academia has led to a boom in research projects. More than 10,000 researchers are working on cutting edge R&D projects in Ireland. Many of them have relocated from the US, Canada, Japan, the UK, Switzerland and Belgium.

Ireland's Centers for Science, Engineering & Technology ("CSETs") link scientists and engineers in partnerships across academia and industry. One such CSET is CRANN, the Centre for Research on Adaptive Nanostructures & Nanodevices. CRANN's mission is to advance the frontiers of nanoscience. It provides the physical and intellectual environment for world-class fundamental research, and has partners in Irish and overseas universities.



**Ireland's young workforce has shown a particular flair for collecting, interpreting and disseminating research information.**

**"We couldn't be more delighted with the output of our Irish operation. The Irish Government understands the factors affecting business better than virtually any other country."**

**Microsoft CEO, Steve Ballmer.**





**“The Government’s approach to science, technology and innovation will enable us to take the policy decisions which are necessary to see Ireland realize its full potential as a knowledge economy.”**

**Irish Prime Minister, Bertie Ahern.**

### Tax and intellectual property

Ireland’s intellectual property laws provide companies with generous incentives to innovate. The Irish tax system offers huge support to turn brilliant ideas into the finished article. A highly competitive corporate tax rate of 12.5% is a major incentive. No tax is paid on earnings from intellectual property where the underlying R&D work was carried out in Ireland.

Ireland recently introduced a new R&D Tax Credit, designed to encourage companies to undertake new and/or additional R&D activity in Ireland. It covers wages, related overheads, plant/machinery, and buildings. Stamp duty on intellectual property rights has been abolished.

### People skills

The IMD World Competitiveness Yearbook 2006 rates Ireland’s education system as one of the world’s best in meeting the needs of a competitive economy. It also ranks the Irish workforce as one of the most flexible, adaptable and motivated.

Ireland’s young workforce has shown a particular flair for collecting, interpreting and disseminating research information. Major investment in education has provided a skilled, well-educated workforce; Ireland has more than twice the US/European per capita average in science and engineering graduates.

### A track record of success

Ireland’s success in innovation spans a wide range of businesses and sectors. For example, some of the most exciting Irish-based product development has been in medical technologies. Over half of all the medical technologies companies based in Ireland have dedicated R&D centers.

**Boston Scientific** researched and developed the world’s first ever drug-coated stent using researchers in Ireland. **Bristol-Myers Squibb’s** Swords Laboratories is the launch site for several new healthcare treatments used to treat hypertension, cancer and HIV/AIDS.

**GlaxoSmithKline’s** latest Irish R&D project involves groundbreaking research into gastrointestinal diseases, in collaboration with the Alimentary Pharmabiotic Centre in University College Cork.

Recently **Microsoft** marked its 20th Irish anniversary by opening a new R&D center,

creating 100 new jobs. The centre is working on a wide range of projects, including Digital Video Broadcasting (DVB) and SmartCard security technology.

**Intel**, a significant supporter of education and training in Ireland, is engaged in several research collaborations with leading Irish universities, including Trinity College Dublin, University College Cork and Dublin City University. Intel’s Irish operation is the global headquarters for the company’s Innovation Centres.

**Analog Devices’** long established R&D operation is heavily integrated into its Irish operation. Its 335-strong team has sole responsibility for the global design, manufacture and supply of value added high voltage, mixed signal CMOS products.

### An exciting future of world-class innovation

**Lucent Technologies’ Bell Labs**, one of the world’s most eminent research institutions, has established its Center for Telecommunications Value-Chain-Driven Research in partnership with Trinity College Dublin. It will undertake research aimed at realizing the next generation of telecommunications networks.

**Georgia Tech Research Institute’s** new Irish operation will be a critical component of Ireland’s innovation infrastructure. It plans to build up a portfolio of research programs and collaborations with industry which at full operation will employ 50 highly qualified researchers.

**Wyeth** is establishing a bio-therapeutic drug discovery and development research facility at University College Dublin. It will utilize new technologies to discover the next generation of therapeutic biopharmaceuticals for the treatment of a wide variety of diseases.

At an academic level, just one illustration of the integration in R&D activity in Ireland is Dublin City University’s Biomedical Diagnostics Institute. It is carrying out cutting-edge research programs focused on the development of next-generation biomedical diagnostic devices.

Ireland’s success is based on a culture of co-operation and collaboration to win complex, high value, sophisticated investments. The country’s strong business philosophy of inclusiveness, informality and teamwork are the foundations on which Ireland is fast becoming an important player in the development of global innovation networks.

