



Ireland's Foreign Direct Investment Agency

Information & Communication Technologies - Ireland

Newsletter Q3 2010

IRELAND AS A PREMIER LOCATION FOR SEMICONDUCTOR/MICROELECTRONICS INVESTMENT



Barry O'Leary, CEO of IDA, Deputy Prime Minister, Mary Coughlan and Ed Medlin, Vice President and Senior Counsel of Maxim at the announcement of Maxim's new Business Services Centre.

"Dublin will be a strategically important International centre for Maxim. We are investing in Ireland because the country has a talented and technically qualified workforce, and it has demonstrated a strong commitment to promoting R&D", Tunç Doluca, President and CEO of Maxim. (December 2009)



Irish Prime Minister Brian Cowen and Intel Ireland General Manager Jim O'Hara celebrating in 2009 the 20th anniversary of Intel in Ireland.

Intel - 130 Person R&D Expansion

During 2009, Intel announced a €50 million, 130 person, R&D investment at its Design Centre in Shannon, near Limerick. The research programme involves a hardware project focused on advanced 32nm design and validation activity and a software project addressing power consumption constraints and performance improvement. 300 employees are projected to be employed at the centre.

Global Players Invest in Ireland

Ireland has a long tradition in semiconductors/microelectronics, as evident by the establishment of sizeable operations by Analog Devices in the 1970s and Intel during the 1980s. The sector, which employs over 7,000 people, is an important component of Ireland's Information and Communication Technologies industry, and continues to expand and develop. The past two years were important milestones in that development, with some notable investments from leading International companies. New investments include:

Analog Devices: In June 2010, Analog Devices announced a €23 million R&D investment at its manufacturing division in Limerick, building on a history of R&D at the Limerick site. The research will develop semiconductor process technologies, with some of the research being carried out in conjunction with Ireland's public research institutions, specifically The Tyndall Institute.



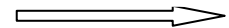
"Our high end manufacturing operations and our highly skilled workforce will continue to maintain their competitive edge as a result of this investment", Dennis Dempsey, VP Manufacturing, Analog Devices

Limerick MP, Peter Power, Dennis Dempsey, VP Manufacturing, Analog Devices, Batt O'Keeffe, Minister for Enterprise, Trade & Innovation, and Denis Molumby, Executive Director, IDA Ireland, pictured at the announcement of Analog Devices' €23 million R&D investment at their Limerick operation.

Texas Instruments: In February 2010, Texas Instruments officially opened its new Irish based Power Design Centre in Cork. This centre focuses on improving energy efficiency in end-equipment designs, especially in AC adapters and high-power-density computing and server systems.



Cork County Mayor Cllr. Derry Canty, Steve Anderson, Senior Vice President of TI's Power Management Business and Billy Kelleher, Minister for Trade and Commerce, at the official opening of Texas Instruments power Design Centre in Cork.



Electronic Engineers - Salaries Lower by up to 15%

Since late 2008, Ireland has become a more competitive location. The cost of hiring new electronic engineering talent has decreased by up to 15%. The cost of hiring other ICT skills, such as localization, testing, QA and technical support has decreased by up to 20%. Similarly, the cost of hiring finance, inside sales, customer support and management personnel has decreased by up to 20%. Software engineering salaries have fallen by up to 10%. Further salary decreases are expected. Bonuses have been greatly reduced and eliminated in many instances. New employee expectations are lower, and employees are more flexible.



New employee expectations are lower and employees are more flexible.

Numbers commencing undergraduate University electronic engineering courses are up 21% since late 2007.

Ireland - Some Key Facts:

- 1st for FDI and Corporate Tax regime (2009 Global Innovation Survey)
- World's number 1 provider of employable graduates (EU Commission study Nov 2009)
- 1st for availability of skilled labour*
- 1st for availability of financial skills*
- 1st for Immigration laws that do not prevent companies from employing foreign labour*
- 1st for Investment incentives*
- 3rd for flexibility & adaptability of people*
- 3rd for being open to new ideas*
- 4th for labour productivity*
- One of Europe's youngest populations: 34% less than 25 years of age
- Highest per capita graduate output in the EU in science and engineering
- Working to double PhD output by 2013
- 2009: Companies investing in Ireland for the first time up 11% on 2008

*IMD World Competitiveness Yearbook 2009

Maxim Integrated Products: In December 2009, Maxim announced the establishment of its International Business Centre in Dublin. This centre will have responsibility for customer/technical support, financial shared services and supply chain management activities. 100 people are to be employed.

Synopsys: In December 2008, Synopsys announced a 50 person R&D investment for its Irish operation. The investment, which will involve collaboration with University College Cork (UCC), aims to develop hardware and software to support high speeds and increasing bandwidths in computing devices.

"This R&D announcement underpins the level of Synopsys' commitment in Ireland. We look forward to working with UCC and its world-class researchers on a number of exciting projects", Antun Domic, Senior Vice President and General Manager, Implementation Group, Synopsys, Inc.

Qualcomm: In 2008, Qualcomm acquired Irish company Xiam Technologies, a developer of advanced wireless technologies and data solutions.

Skills - Increased Electronic Engineers Availability

Key to the establishment of the aforementioned companies in Ireland has been the availability of high quality electronic engineering skills. Going forward, there is expected to be increased availability, as the numbers commencing electronic engineering courses in universities have increased by 21% since late 2007. This trend is expected to continue. Preliminary University applications for undergraduate engineering (non civil) courses in 2010 are up 36% on 2007.

In the more immediate term, the global downturn has increased the number of engineers available for employment. According to FAS, the National Training and Employment Agency, the number of electronic engineers seeking employment in Q4, 2009 was up about 40% on 2008, albeit from a low base.

EU an Important Source of Engineers

As a member of the EU, Ireland has been readily able to attract high quality engineering talent from EU countries, due to the free movement of labour and Ireland's welcoming approach to foreign talent.

Ireland is regarded by continental Europeans as an attractive place to work in, due to a large base of leading multinationals and the country's English language. These factors, coupled with Ireland's flexible work permit regulations for non EU citizens, has resulted in a multicultural and diverse engineering workforce, with 10% being non Irish. Going forward, Continental Europe will continue to be an important source of supply.

Wafer Fabrication

IDA Ireland has a selection of utility intensive business parks that can accommodate next generation wafer fabrication operations. These parks have been designed to provide the necessary services infrastructure for wafer fabrication.

Parks are located in Galway, Limerick, Waterford, Dundalk, Cork and Dublin (Grange Castle). Significant financial support is available for companies setting up wafer fabrication operations in Galway, Waterford and Dundalk.





The Tyndall Institute is Ireland's largest research institute. It co-hosts the new Microelectronics Competence Centre Ireland (MCCI) and the Applied Nanotechnology Centre.

Over €200 million in capital investment has been made in the Institute, which has over 400 research personnel. It specializes in microelectronics, photonics nanotechnology & Microsystems.



University of Limerick (UL), which co-hosts Ireland's National Microelectronics Competence Centre (MCCI).

Intel, Analog Devices, Dell, Symantec and EMC (RSA Security) have sizeable operations in the Limerick area.



Galway City, where financial support is available for companies setting up wafer fabrication operations.

High spec offices are available in Galway from €8 / sq ft / annum.

25% R&D Tax Credit and Grant Support for R&D

Ireland's 25% R&D tax credit, coupled with strong financial support from IDA Ireland, has been an increasingly important influence in recent R&D investment decisions, with total IDA supported R&D investments up over 35% since 2007.

Ireland's tax benefit and grant support can reduce R&D costs very appreciably, the level of which depends on R&D type, depth of research and level of collaboration with universities/competence centres; collaborative research projects can qualify for higher levels of grant support than individual company research initiatives, in addition to benefiting from research expertise not otherwise available at corporate level.

The tax credit can be availed of through a reduction in the company's Irish corporate tax liability or, in certain circumstances, through a cash refund from the Revenue Authority. Royalties from new patents created are tax exempt, subject to a €5 million ceiling per annum.

Research Support - New Competence Centres in Microelectronics and Nanotechnology

The Irish Government is committed to supporting and developing the semiconductor/microelectronics industry. As part of its strategy to support the industry, the Government in **March 2010** launched two new Competence Centres:

- Microelectronics Competence Centre Ireland (MCCI).
- Applied Nanotechnology Centre.

Both centres, whose research programmes will be determined by corporate members (rather than universities), will undertake leading edge, commercially focused research to support the semiconductor/microelectronics industry. The centres will bring together companies to work together on collaborative research programmes that will benefit all members and the industry.

The MCCI will focus on circuit design of microchips. Based in the Tyndall Institute (www.tyndall.ie) in Cork, and co-hosted by the University of Limerick, initial research themes will centre on high speed serial communications, smart circuitry in the nanometer era and power management techniques integrated at system level.

The Applied Nanotechnology centre, whose founding members include Intel and Analog Devices, will focus on advancing contemporary nanotechnology principles. It will be based at the Tyndall Institute, and co-hosted by Trinity College Dublin.

Corporate research programmes can be financially supported by IDA Ireland. The competence centres are open for new membership and are inviting companies to submit their own research proposals.

Semiconductor Companies in Ireland Include:

Intel	Analog Devices	Texas Instruments
Qualcomm	Infineon Technologies	On Semiconductor
Synopsys	Cadence Design Systems	Cypress Semiconductor
Microsemi	Maxim Integrated Products	LAM Research
Xilinx	Altera	Actel

Intel, Analog Devices and Microsemi have manufacturing operations in Ireland. Companies involved in R&D include Intel, Analog Devices, Texas Instruments, Qualcomm, On Semiconductor, Xilinx and Synopsys. Maxim Integrated Products, Xilinx and Altera have Business Service Centres.



Full planning permission for a major wafer fabrication operation is available at Grange Castle, Dublin.

Why Ireland

High quality electronic and software engineering skills, in increasing supply, at competitive and decreasing cost, coupled with strong financial support, through IDA Ireland grants and R&D tax credits, are the primary reasons why semiconductor / microelectronics companies invest in Ireland.

Strong IP protection and collaborative research opportunities, in a pro business, low corporate tax environment are also important influencing factors.

For further information on investing in Ireland, please contact:

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Ireland - A leader in Software Engineering

With embedded software now a more significant feature of semiconductors, Ireland is well placed to support semiconductor companies in their software engineering activities. 9 of the world's top 10 software companies have major operations in Ireland, including Microsoft, IBM, Oracle, SAP and HP.

Ireland continues to win large software development investments, with companies such as IBM, HP, EMC, SAP Business Objects and Sophis all commencing new software development projects over the last two years.

The availability of engineers will increase going forward with student numbers undertaking undergraduate software and computer courses up 32% since late 2007.

Company Profiles

Intel Ireland, which employs over 4,500 people, is the largest Intel operation outside of the US. The operation was established in 1989 in Kildare and consists of two wafer fabrication facilities. Pentium microprocessors are manufactured on 300 mm wafers, using 65 and 90 nanometre process technology.

In 2003, Intel established an IT Innovation centre, which develops cutting edge technologies in peer-to-peer networks, digital health, mobility solutions, green IT, educational deployment systems (including wireless and satellite) and e-learning platforms and architectures. In 2007, Intel set up a €30 million Technology Research for Independent Living (TRIL) centre, which is a collaborative research initiative with universities DCU (Dublin City University), UCD (University College Dublin) and NUI Galway.

Intel also has 150 person Design Centre in Shannon, near Limerick, which designs advanced microprocessors for use in embedded computing, communications and storage.

Analog Devices established in Limerick in 1977. The centre is involved in manufacturing, distribution, sales/marketing, treasury and R&D. It employs over 1,000 people, of whom 400 are involved in R&D, primarily analog, digital/ASIC and system design, test engineering and semiconductor process technology. Over 80 new products are developed annually. The Limerick operation has global responsibility for high voltage mixed signal CMOS products.

New IP Legislation to enhance Ireland's attractiveness as a Business Services Location

Ireland's 12.5% corporate tax rate, coupled with extensive double taxation agreements (48 countries) and a favourable holding company environment, have contributed (with skills availability, etc) to companies setting up business service centres that also serve as International/EMEA headquarters.

Ireland's attractiveness as a location for such centres has recently been enhanced with new legislation providing for tax relief (capital allowances) for the acquisition of intangible assets and Intellectual Property (IP). This relief will significantly reduce the cost of transferring IP to Ireland. No stamp duty is payable on IP transfers to Ireland.

Ireland is regarded as having a modern and sophisticated legal framework for protecting IP. Ireland's corporate tax system is recognized internationally as being fully transparent, while the OECD agrees that the 12.5% rate meets its international standards.