

The Next Economy: Michele Quinn, ISA

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By John Kennedy

Key business leaders in Ireland's technology and science industries look back on 2007 and highlight what's needed for Ireland's emerging knowledge economy in 2008. Michele Quinn (*pictured*) is director of the Irish Software Association (ISA).

What in your opinion have been the key developments of 2007 in terms of industrial and infrastructural progress in Ireland?

The key developments in terms of industrial and infrastructural progress must be assessed on how they affect our transition to a knowledge economy. So, the State's focus this year on driving R&D and innovation in companies is fundamental.

The range of incentives offered for business expenditure in R&D (BERD) is a largely positive move. BERD increased by 17.3pc in 2006 and should increase this year also. The R&D tax credits system seems to be increasing R&D activity in the economy.

Another key development occurred in August this year when the EU approved the expansion and extension of the Business Expansion Scheme (BES) announced in last year's budget. It means that companies can raise €2m through BES and people can now invest up to €150,000 individually. The ISA believes that the scheme can allow more businesses to thrive by increasing the investment levels allowed.

BES should also be more focused on non-asset backed companies, such as early stage software companies, who are eminently placed to create the high-value jobs that our knowledge economy will be built on.

In terms of infrastructural developments that will benefit the knowledge economy, the announcement of a further €10m capital investment in the budget to increase broadband coverage is welcomed. While a relatively meagre amount on its own, it signifies a determination, at last, to get broadband to the remaining 15pc of the country where it is too uneconomical to be provided by private operators.

What issues have not been addressed and you believe should be a priority if we are to create genuine knowledge-based industries as we go into 2008?

To build a knowledge economy, you need well-educated, numerate and literate workers. Unfortunately, our education system is failing to produce enough graduates of sufficient quality to fill knowledge-intensive jobs. This is evidenced by the estimated 7,000 unfilled but potentially well-paid, high-value jobs in the ICT sector. Maths is the lingua franca of the knowledge economy and we're failing to equip our children with this essential skill.

Pupils are not choosing maths because it requires a proscriptive effort to achieve points. As a result, there is a smaller pool of students capable of completing engineering, science or technology courses at third level.

In addition, many maths teachers are not supported and are not enthused about teaching maths. Their lack of enthusiasm is infectious. A recent survey by McKinsey established that class size had little effect on pupil performance. The key success factor was teacher performance, an area most politicians and department officials dare not address. The answer is simple, we have to get innovative in how we support teachers otherwise pupils will continue to be turned off science, engineering, technology and maths (STEM) subjects, effectively strangling the knowledge economy.

We eagerly await the Department of Education and Science's plan to target its allocation of €252m. We recommend that a large proportion be directed towards attracting the best graduates to teach maths. In addition, a suite of incentives, training and support should be made available to those currently teaching maths at the higher level.

More can be done for start-up software companies. These dynamic companies have the potential to become the mainspring of Ireland's knowledge economy because they are entrepreneurial, they take risks and they add to Ireland's innovation pool. If we don't create a critical mass of these companies then our economy will continue to be dependent on sectors where we can't compete globally. Real innovation involves risk and those companies at the vanguard should be encouraged through support from Government.

More needs to be done to support these companies such as:

Increased funding for collaborative projects amongst SMEs such as InterTrade Ireland's Service Delivery Platform and between academia and SMEs as in EI's industry-led networks.

The Department of Finance should provide an R&D support to start-up companies not yet making profits for such activities carried out

In its endeavour to create a knowledge-based economy, where do you think Ireland stands in relation to other nations with a similar agenda?

If you take Silicon Valley as a microcosm of a knowledge economy then there are a few areas where Ireland is lagging. The ingredient that made the Valley was the proximity of smart people, rich people and a high quality of life. On this criterion, Ireland has some distance left to go.

In the Strategy for Science, Technology and Innovation we've committed €8.2bn to R&D until 2013. The ISA is concerned that the vast majority of the money will be allocated to academic research with little or no industry involvement and no focus on commercialisation. In the knowledge economy a large proportion of research must spawn knowledge that can add economic value.

I believe that the knowledge economy will sit on a tripod of stakeholders: academia, MNCs and importantly, the SME or entrepreneur. In simple terms, academia will provide the research; MNCs, a route to market and expertise; and finally the SME, execution and commercialisation. Take away one leg of the tripod and it becomes unstable.

In other words, I believe that our measurement of our progress towards the knowledge economy is crude and volume-based. How much R&D we can carry out. How many PhDs we produce. How many papers our academics publish. This is a futile approach in terms of global competition when you remember that China aims to spend 2pc of GDP, i.e. trillions of dollars on R&D.

More focus on the commercialisation of research means that Government must support those software companies, SMEs and entrepreneurs who can carry this research forward to a point where it adds value and jobs to the economy.

It has been suggested that as we march towards 2020, Ireland will need to field another one million workers. How urgent is this and can this be achieved?

In the ICT sector recently, we have seen the effects of a skills shortage. The innovative energy and ambitions of companies and the sector can be curtailed due to skills shortages. Everything should be done to upskill our graduates to ensure they can compete in our economy which has become much more exposed to the vicissitudes of globalisation.

Equally, we must be prepared to open the door to skilled workers from the EU and outside the EEA. Fortunately, the Department of Enterprise and Employment has recently recognised this need and brought forward Green Card Permits and new legislation for companies bringing in highly skilled workers in those areas where our economy faces shortages.

The ISA and ICT Ireland have worked tirelessly this year with the Department to streamline the process for software companies and had great success in shortening the timeframes involved.

The software sector faces a distinct danger if, due to rising unemployment, the Government restricts immigration of skilled labour. An already gaping skills gap will be further exacerbated. This, coupled with the dramatic drop-off in skilled technology and engineering graduates leaving the education system could stifle growth in this key sector of the economy.

I also believe that we can harness the dynamic intellect of Ireland's Diaspora. The Chinese politburo often spun the brain drain they suffered in the 1960s as simply storing brainpower in other countries for a time when China could effectively use it!

I believe that Ireland can benefit by reaching out to those who have an affinity with Ireland and those returning to these shores.

Communications and PC penetration are central to Ireland's industrial development. Yet league tables suggest we are not at the races. How can these deficits be best addressed?

Quite simply. Through commitment from Government and industry to provide computers to those groups who would benefit most from technology in their lives.

In terms of PC penetration, there has been some improvement recently. To really kickstart it however Government and industry must cooperate more effectively through programmes such as the Home Computing Initiative.

Government must continue to encourage computer usage by providing better services through websites such as Oasis and Basis. Studies such as the One Economy Corporation's Beehive Project, where low income US families reported better community connectivity and educational, financial and job performance through use of the internet, should be replicated here in Ireland.

Industry must provide viable content and support solutions for those initiatives bringing affordable computers into the homes of groups who remain unaffected by the advantages of technology.