ICT to drive Economic Recovery and Sustainable Growth – Will Europe get it?

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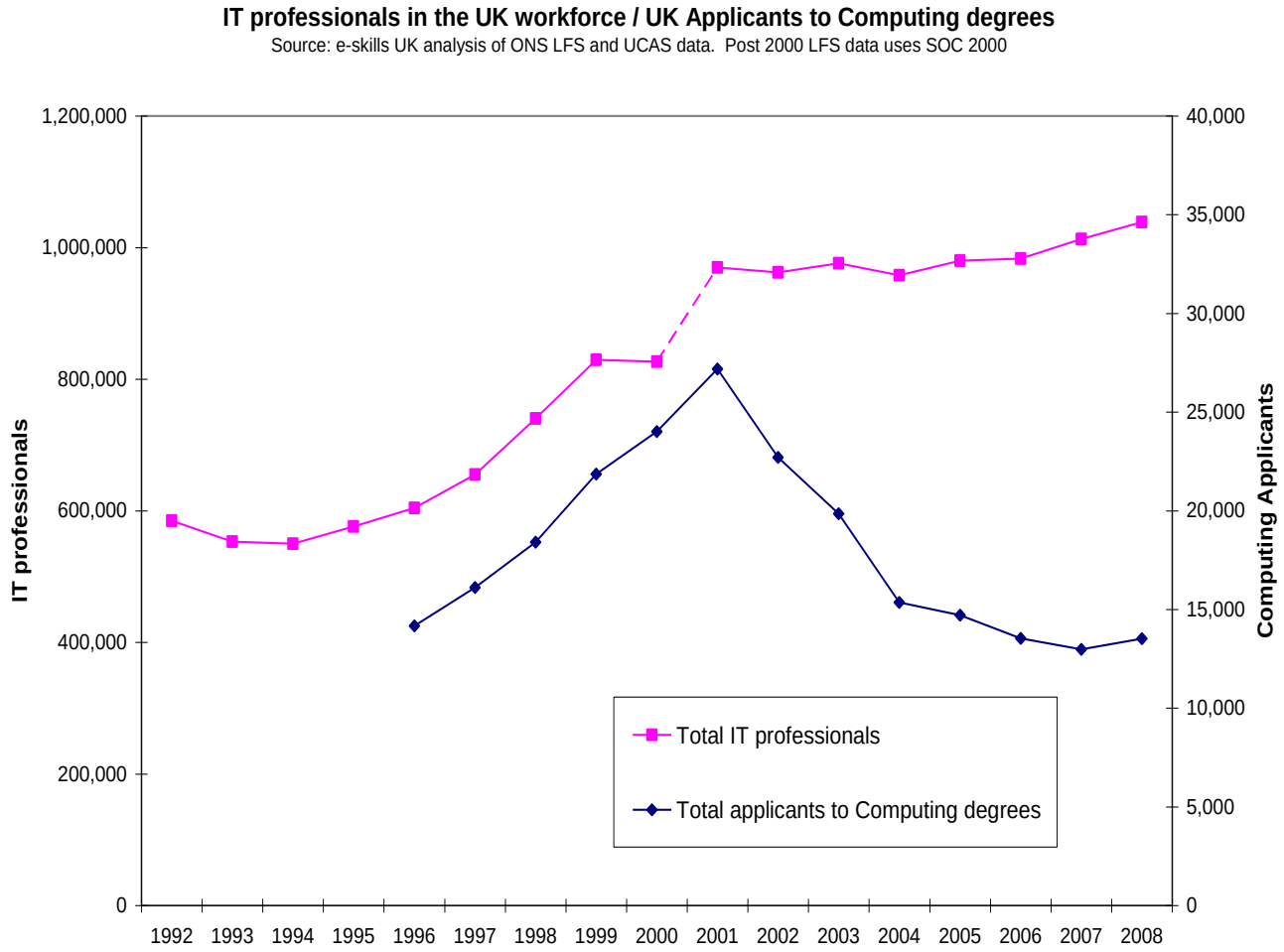
- **Overview of talk**
  - What Digital Skills do the workforce need?
  - Growth of IT Sector
  - Personnel Shortages / Skills Gaps
  - Supply of Digital Professionals
  - Lifelong Learning Issues
  - Europe – SWOT Analysis
  - Competitors
  - Possible Solutions

- **What Digital Skills do the workforce need?**
  - **Computer Literacy** – The need to develop computer awareness within the community is now significantly less (move from *digital immigrants* to *digital natives*). Support still required for older adults, alongside general literacy and numeracy support.
  - **Digital Work Skills** – people who use a computer for standard work applications - ECDL territory. Good training available for CPD in this area.
  - **Digital Economy Skills** – manage projects, specify services and software, some areas of technical support. Good training available for CPD in this area.
  - **Digital Professional Skills** – range from developing software to supporting applications, research, innovation – biggest gap, Universities key to the supply and continued development of these professionals.

- **Growth of IT Sector**
  - **Worldwide growth in the IT sector will create 5.8 million new jobs and 75,000** new businesses in the next four years (Microsoft forecast).
  - The world's top **52 IT spending countries will spend $1.4 trillion** (£850bn) by the end of this year, IDC research.
  - This growth **will generate €265bn in taxes this year in Europe.**
  - 2008 estimated that UK employment of IT professionals will increase at a rate of **2.6% per annum** between 2006 and 2016 (e-skills UK).

- **Personnel Shortages / Skills Gaps**
  - "We see the **recession as a blip** in what will otherwise be a an upward trajectory in terms of numbers of IT roles.' Intellect (Trade Association for the Technology Sector).
  - Predicted **gap of 60,000 UK Digital Professionals in the UK** by 2016.
  - There is a **genuine skills shortage**, but not at the entry level as many of these jobs have been offshored, " Intellect.
  - Over **10% of new UK computer science graduates are unemployed.**
  - **Skills gaps exist** amongst those working as IT professionals, in particular technical skills (especially amongst IT managers) and business skills.

Gap between the needs of the industry for degree-qualified personnel and the number of graduates, numbers now lower than in the mid-90s - while industrial need continues to grow steadily.



Supply of Digital Professionals

- School
  - Primary – generally working well, pupils enthused. Rose Report (April 2009) places ICT alongside literacy, numeracy and personal development.
  - Secondary
    - GCSE (UK exams at 16) – **fall of 33% in only three years** from 109,601 in 2006, to 73,519.
    - A level Computing (UK exams at 18) - **2001-2009 the total fell by 57%** (10,913 down to 5,610).

    Why?
    - Unexciting curriculum, nerdy image, male dominated, lack of qualified teachers, careers advisors don't understand computing, general steer by Schools away from STEM subjects helps improve league table position etc.

- **Lifelong Learning Issues**
  - CPD; Upskilling; Reskilling

  Can be:

  - Patchy supply – gaps in some specialist areas e.g. Games, Security, next generation technologies
  - Reliant on individual to track down relevant courses
  - Expensive
  - Not delivered in right mode e.g. blended learning

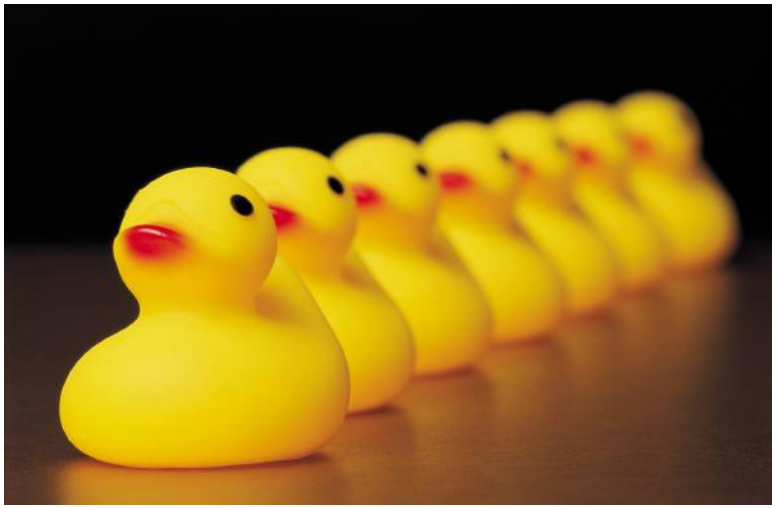
  Need to develop academic-industry-government partnerships, such as **National Skills Academies** (UK) to try and address this.

- **Europe SWOT Analysis**
  - Strengths / Opportunities
    - **Lead in high technology industries** - particularly micro and nano technologies, optical and mobile broadband communications, security and countermeasures, and creative technologies.
    - **Software development in applications and services is of high quality**.
    - **World leading universities and research base**.
  - Threats/ Weaknesses
    - **High cost base.**
    - **Offshoring of entry-level jobs** disguises shortage of personnel, reducing supply of technically capable, experienced staff to higher level positions. **Offshoring is killing off own workforce!**
    - **No IP protection** for applications produced using existing technologies – better in the US.

- **Competitors**
  - **USA/Canada/Australia**: have all suffered **the same decline** experienced in EU over the last **7** years, and are therefore competing for the same pool of available talent to support their development of high-level technical capability and services.
  - **Eastern Europe/Accession countries**: still have **strong base of students** taking STEM programmes, economic migration will provide short-term support for EU industry, **but this is declining rapidly**.
  - **India/China**: have **benefited significantly from offshoring** of hardware manufacture and software support/low level development activity. Now **seeking offshoring of higher level activities**, alongside development of local high-quality service sector for nascent digital economy.
  - **Far East/Africa**: now **developing offshoring** capability for hardware and software services, at very low cost.
  - **Europe is training the competition** - **Postgraduate programmes in technical subjects at EU Universities are predominantly populated by international students.**

- **Possible Solutions**

  - **Develop appropriate interventionist models**, such as supported internship/graduate development programmes, to address inequities created by free-market approach.
  - **Targeted financial support**, investment, tax-breaks and policy direction are needed to maintain and develop lead in high-tech global marketplace.
  - **Legislate for far greater IP-based protection** of data and software outputs.
  - **Support for partnership approaches (government-industry-academia)** to develop next generation technologies, and ensure dissemination and training in those technologies is widely available throughout the workforce



Questions????

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