



- ▶ In spite of significant progress achieved in terms of growing numbers of students graduating from ICT courses in higher education, there is evidence of persistent shortages in ICT specialists in Ireland including the current vacancy backlog, which is estimated to be about 5,000. Many recruiters face extreme difficulties in attracting ICT talent. Effective action is required to mitigate the situation if Ireland's economy is to prosper in the coming years.
- ▶ Ireland's labour market has recovered from the latest recession, but several groups still face serious challenges in finding employment. Of particular concern is the high share of young individuals not in employment, education or training (NEET). 16.1 % of the 20-34 olds in the Ireland in 2017 were neither in employment nor in education and training ('NEETs'). Female NEETs aged 20-34 are rather economically inactive while their male counterparts tend to be unemployed.
- ▶ Ireland's digital workforce suffers from structural under-representation of women. Meanwhile, the recent inflow of high-skilled people with migrant background from within and outside of the EU has boosted the share of non-natives in the ICT workforce.
- ▶ Ireland's government puts strong emphasis on skills development, with a particular focus on ICT specialist skills. In Ireland, 82% of ICT specialists have an academic degree. This figure is the highest in the EU, for which the average is only 62%.
- ▶ Recent years have seen a renewed emphasis on further education and training, in particular apprenticeships and traineeships. Newly launched apprenticeships in ICT are seen as an important step towards opening up ICT careers to people.

Current developments in the ICT labour market in Ireland

The Irish ICT workforce accounts for about 80,000 workers, or 4.1% of the total workforce – which is above the European average. The number of ICT workers has increased over recent years, with most of the growth coming from the categories “ICT operations” and “user support technicians”. These occupational profiles typically do not require an academic qualification, which contrasts with the widespread perception in Ireland that a career in ICT requires a university degree in computer sciences or a similar subject.

The number of hard-to-fill vacancies is currently estimated to be around 5,000. 35% of all difficult to fill vacancies in October 2016 were for the ICT

sector, primarily for professional roles in software development, followed by engineers, systems/solutions architects; business intelligence; tech support and sales; and digital commerce managers.

There is sizeable demand for ICT skills at entry and medium level. A 2018 study by FIT found that 21% of current vacancies require the exercise of skills at “entry level”, 37% at “competent level”, and 42% at “expert level”. This suggests a sizeable demand for skills for which non-academic, alternative pathways to ICT skills training and jobs should be fully sufficient, in particular if they equip learners with transversal, soft and business skills as well.

Ireland makes heavy use of foreign-born talent for helping address ICT skills shortages. Foreign-born

workers made up 16.4% of the total ICT sector workforce in 2016. Their contribution to employment growth tends to be much larger still. More than two out of three of these workers came from EU countries. More than one in two ICT jobs in the Dublin area are being filled by talent from abroad.

Forecasts indicate that the potential for new jobs is likely to be 30,800 and the ICT skills gap will be 6,800 in 2025, respectively. This presents an opportunity for both employers and policy makers to provide new avenues for ICT education and training.

The share of women working in ICT is low. Only 31% of those working in Ireland's ICT industries were women in 2016, against a figure of 46% across all sectors. Only 21% of all third-level ICT graduates were women in 2016, against 52% across all fields of study.

In 2017, the share of female ICT specialists in Ireland was at 20.8%, 1.3 percentage points less than in 2017. This compares to a European average of 17.2 % female ICT specialists. In some of the other European countries analysed, the share of women in ICT occupations is below the European average (Poland 14.8%, Germany and Spain 16.6% women), in others it is slightly above (UK 17.6% and France 19.6%).¹

The causes for under-representation of women in ICT are complex and often reflected in unconscious bias, for example on the part of young persons (and their parents) at stages when they take decisions about future career options.

Ireland's government has taken important steps to achieve a more inclusive ICT training offer. These include the National Plan for Equity of Access to Higher Education 2015-2019 and the Further Education and Training Strategy 2014-2019, which seeks to "provide more training programmes and supports for those experiencing socioeconomic disadvantage". A key component is modernisation of Ireland's apprenticeship and traineeship systems.

Expectations are high that ICT apprenticeships will appeal to a wider range of young people. The 2016 Action Plan to Expand Apprenticeship and Traineeship in Ireland 2016-2020 has resulted in two ICT apprenticeships, developed in response to

industry demand for software development skills: ICT Associate Professional Network Engineer and ICT Associate Professional Software Developer. More are under development. In Ireland apprenticeships used to be almost exclusively taken by men, there is a strong need to promote these novel programmes to young women and their influencers, including the career guidance system.

Ireland has comprehensive experience in targeting ICT training at groups at risk of exclusion. The country benefits from the significant experience of Fast Track into Information Technology (FIT), a social enterprise, and Skillnet, a national agency dedicated to the promotion and facilitation of workforce learning, in offering ICT training programmes to groups at risk of exclusion from quality employment, such as young people not in employment, education or training (NEET), long-term unemployed and persons with disability.

Ireland has well-developed structures for channelling jobseekers and career changers to the ICT sector. The country quite successfully manages to create an ICT workforce not solely relying on IT graduates from universities but also training individuals graduating from other subjects to become ICT specialists and find a job in IT as 'lateral entries'. There is evidence that most current female ICT specialists (75%) in Ireland had not set out for a career in ICT, and only 39% have a degree in computer science. This indicates that non-traditional paths into the ICT profession can be of particular relevance for women, and possibly also other groups of persons currently underrepresented in the ICT workforce. Here, Ireland benefits from established structures for upskilling and conversion training that allow persons who do not have an ICT degree to enter the ICT workforce, such as the ICT Skills Conversion programme and Springboard. An evaluation of Springboard+ 2011-2016 showed that 80% of Springboard+ participants 2011-2015 are no longer on the live register; employment rates 3-6 months after graduation have increased from 37% in 2011 to 61% in 2014, and that 'ICT Conversion Graduates' has the highest employment rates 3-6 months after graduation at 73% in 2014.²

¹ Eurostat: ICT specialists in employment, July 2018: https://ec.europa.eu/eurostat/statistics-explained/index.php/ICT_specialists_in_employment#ICT_specialists_by_sex

² Department of Education and Skills: 04 June, 2018 - Government launch Springboard+ 2018: <https://www.education.ie/en/Press-Events/Press-Releases/2018-press-releases/PR18-06-04.html>

Key Recommendations

Continue the Higher Education Access Route (HEAR) to support school leavers from socio-economically disadvantaged backgrounds

- The HEAR scheme should clearly identify the alternative pathways to higher education for their target groups. This is important, given that not all students with disabilities and students from socio-economically disadvantaged backgrounds who apply to the schemes make the transition to higher education through the schemes.
- HEAR should provide a maximum large degree of flexibility in the transition to higher education, and advocate transparency and accessibility in pathways for young adults to access higher education.
- Evaluation reports revealed that further investigation of the impact of a reduced points offer on the nature of the course accepted is needed to ascertain what impact a reduced points offer has on chosen area of study.

Promote non-academic training pathways

- Much effort is required to promote alternative pathways to ICT careers in the country, especially in terms of more effective career guidance.
- The role of career guidance must be to improve the attractiveness of apprenticeships and other non-academic ICT training by reducing the stereotypes and prejudices among young people and their main influencers such as parents and teachers.

Promote apprenticeship system towards women and ICT education requirements

- Ireland's apprenticeship system needs active promotion towards women and full diversity. Moreover changes are necessary to better adapt to the requirements of ICT education.
- The recent announcement of the Irish Government (February 2019) formally announcing their adoption of the FIT ICT Apprenticeships as a new talent pipeline for government departments (the Civil Service) appears to be a good step in this direction. There also seems to be a demand for apprenticeships since applications for the government apprenticeships had more than 1000 applicants for 40 places. It is recommended that future application rounds more intensively address the issue of inclusiveness and diversity thereby making diversity an integral part of the apprenticeship reform in Ireland.

Improve the capacity of SMEs and training providers to engage in inclusive ICT training

- Most SMEs find it difficult to divert resources to offering work placements, traineeships or apprenticeships. Barriers are even bigger when offering work placements for persons from groups currently underrepresented in the ICT workforce, many of whom need special support in one way or another.
- SMEs, as well as professional training providers, would benefit from effective, hands-on support to deal with any hurdles that might keep them from offering ICT training to members of minority groups to whom they had little exposure so far. Equalities help lines should be established to support SMEs and training providers in their equality policy.

Leverage the power and creativity of existing communities of engaged citizens

- Ireland has a very strong community of engaged citizens who are working, in particular, to promote equality of chances for women in ICT training and the digital workforce. Many activities are led by women working in ICT who are keen to reach out to girls and young women at a time when they make career choices.
- The experience made by these engaged groups of people should be used to promote other groups currently underrepresented in the ICT workforce and give them a stronger voice as well. For this purpose, innovative models may need to be developed, such as shared mentorship schemes and online mentoring including mentors from private and public sector companies which allow workers to take limited paid

time off for doing a mentorship job.

- Government funding could help increase the reach of NGOs that provide effective, short-term ICT training such as coding clubs to groups currently underrepresented in the ICT workforce.

Use mentorship, especially for supporting young women considering a career in ICT

- Our analysis of existing inclusive ICT training programmes suggests that the mentorship model is particularly well suited to encourage girls and women to consider ICT careers for two reasons: first, because female role models have been found to play a key role in young women's attitude to working in the digital sectors; second, because it tends to be comparatively easy to recruit volunteer mentors among women working in the digital sectors.

Trainings that offer participants strong flexibility are of particular importance for attracting women

- The contribution of ICT training to address the lack of inclusiveness of Ireland's labour market needs to be strengthened
- There are doubts whether the numbers of persons participating in existing trainings are big enough to tackle the overall size of the challenge in terms of, on the one hand, shortage of ICT specialists and, lack of employment opportunities for at-risk groups on the other. Macro-level data on Ireland shows that the country still performs poorly when it comes to the very high rate of NEET youth as well as low employment among people with disability. While valuable work has been done in the area, ways must be found to widen and upscale the reach of ICT training programmes to help contribute to addressing these challenges.

Need for strong connection between employers and guidance counsellors

- Guidance counsellors advise students and young people so that they can make informed choices about their future in relation to employment, education and training. Guidance and counselling in Ireland is made up of three separate yet interlinked areas. These are: Personal and Social Guidance and Counselling, Educational Guidance and Counselling and Vocational Guidance and Counselling.
- In order to improve the chances of students for training followed by a professional career in industry close links not only to relevant agencies and institutions but also employers need to be established to keep up to date with the labour market needs, motivate employers for diversity and thereby create training and apprenticeship opportunities and improve the chances for diversity and inclusiveness in the labour market. At the same time career guidance should see its role also improving the attractiveness of apprenticeships and other non-academic ICT training towards their target groups.

Further information

For further details about our survey results and methodology, you can request access to our full report, forthcoming in 2018. For questions and queries, please contact:

Werner B. Korte: Werner.Korte@empirica.com;

Daniel Schmidtman: Daniel.Schmidtman@empirica.com

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