



Regional Skills
SOUTH EAST
Partnerships for Skills

ICT SKILLS SURVEY OF COMPANIES IN THE SOUTH EAST

South East Regional Skills Forum
in collaboration with SETU

2023

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Higher Education, Research, Innovation and Science.



**An Roinn Breisoideachais agus Ardoideachais,
Taighde, Nuálaíochta agus Eolaíochta**
Department of Further and Higher Education,
Research, Innovation and Science

1 AIM OF THE STUDY

The aim of the study is to evaluate the Information and Communications Technology (ICT) skills and competencies (defined by 14 categories within ICT) of enterprise across multiple sectors in the South East and to understand how companies maintain and enhance their ICT capabilities.

These insights should assist Higher and Further Education providers to align their ICT programmes with the current and future needs of enterprise across the South East.

The survey was offered to 234 enterprises from the South East Region. These enterprises are representative of the private sector employers in a range of industries and a range of sizes.

1.1 METHODOLOGY

The research methodology used was an online survey with some follow up qualitative interviews with companies offering to be interviewed. These interviews validated the findings and insights provided in the online survey and helped insure that the study was robust and thorough. SurveyGuru (www.surveyguru.com) provided expertise in the survey design, implementation and analysis of the data.

80 enterprises responded to the survey resulting in a response rate of 34% and a margin of error: +/- 8.9%.

The survey aimed to evaluate the ICT skills and competencies of enterprise in the South East (defined by 14 categories within ICT). One of the 14 categories used was 'Human Computer Interaction' - this is now referred to as 'User Experience / User Interaction' (UX/UI).

Individual company data collected has been treated as strictly confidential by the South East Regional Skills Forum and Dr T.J. McDonald of SETU ICT Department in Waterford. This data has not been shared with any other individual, company or organisation. The aggregated data findings are reported in this document.



2 EXECUTIVE SUMMARY

The competitiveness of enterprise in the South East region is underpinned by their Information and Communication Technologies (ICT) capabilities. ICT and digitisation continue to be key drivers to enhance efficiency, foster innovation and improve competitiveness. Assessing the current ICT capabilities of enterprise as well as enquiring about future ICT skills needs provides objective data to assist further and higher education providers respond to current and emerging skills and education needs.

This study was conducted between June and November 2023 and published in February 2024. The study is a mixed methods study comprising an online survey of 80 companies (80 companies responded out of 234 companies giving a response rate of 34%) and 12 of those companies subsequently participated in a detailed semi structured interview.

The current and future skills needs of these 80 companies were evaluated against a framework which identifies 14 'discipline' areas within the broad ICT sector.

2.1 KEY FINDINGS

The key findings of the study are summarised as follows:

1. Respondents were from a range of sectors including: Manufacturing (29%), ICT (26%), Construction (13%), Tourism, Hospitality & Food (13%), Retail & Wholesale (6%), Transport & Storage (5%), Financial & Insurance (4%) and Other Sectors (4%).
2. Respondent companies varied in size with significant representation across, micro, small, medium and large enterprises.
3. The highest levels of skills competencies across all companies was Database Management Systems (55%) followed by Network & System Administration (47%) followed by Cloud Computing & Virtualisation (45%).
4. The lowest levels of skills competencies across all companies was Human Computer Interaction (6%) followed by Artificial Intelligence & Machine Learning (12%) followed by Mobile Applications Development (20%).
5. The levels of skill across all disciplines is broadly in line with the number of staff employed within each discipline.
6. The most difficult to fill vacancies noted were Data Science & Analytics (33%), Programming & Software Development (33%) and DevOps (25%).
7. Companies primarily source new ICT staff from SETU (67%), followed by 'from Other Companies' (56%) followed by 'from Other Irish Universities' (36%).
8. Existing staff pursue upskilling by 'Self Learning' (79%), followed by 'Internal Training from Employer' (52%) followed by Recommendations from Employer' (42%).
9. The most popular mode of training is 'Vendor Accredited Training' (65%) followed by 'Internal Training from Employer' (55%) followed by 'Micro Credentials from Further & Higher Education' (45%).
10. The majority of respondents were engaged with SETU for ICT training (67%) followed by Skillnets (65%) and Education & Training Boards (ETBs) (41%).
11. 66% of respondents were unaware of the existence of any ICT Apprenticeships while only 16% indicated that they intended to recruit an ICT apprentice in the next 12 months.

3 SURVEY DETAILS

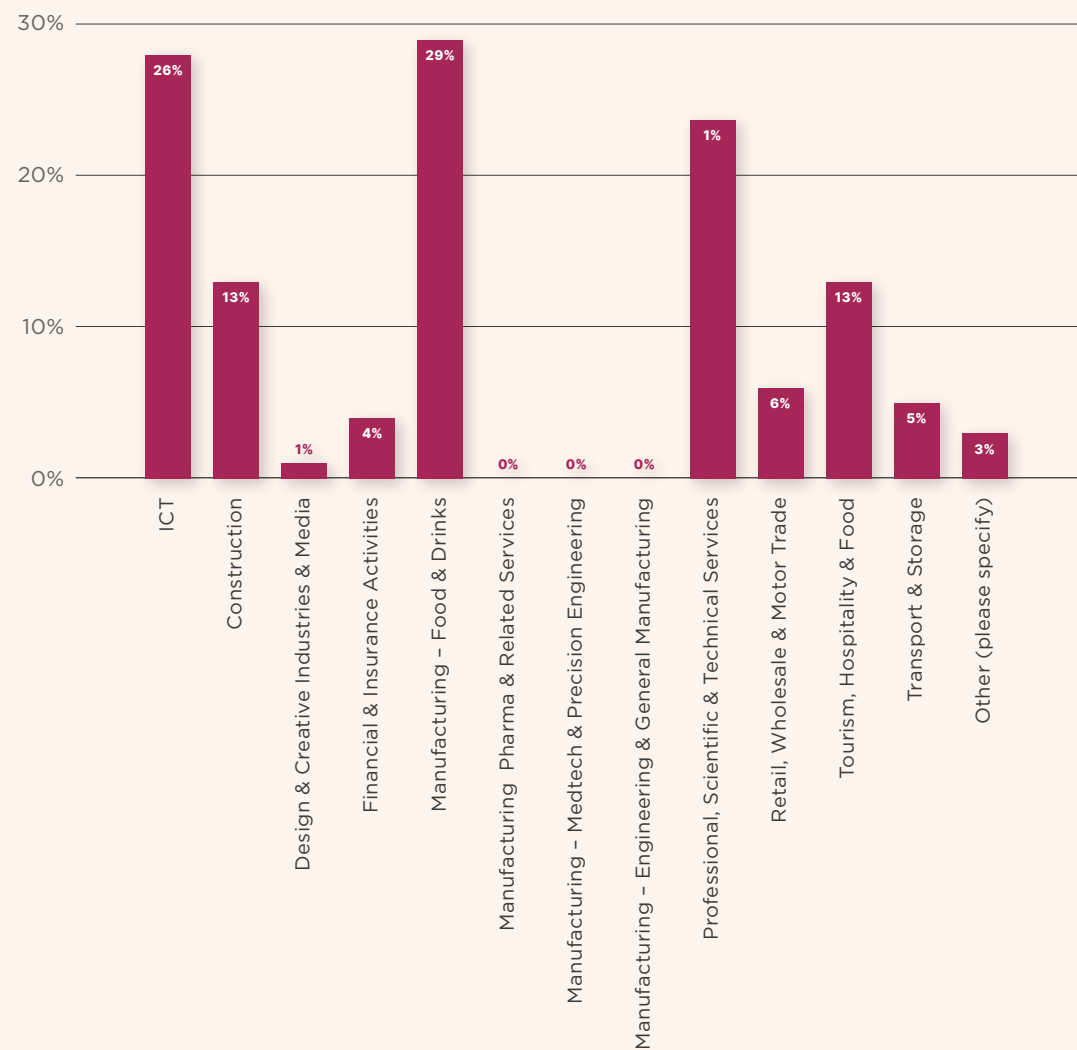
3.1 PROFILE OF RESPONDENTS

80 companies from across the South East responded to the survey.

Respondents were from a range of sectors.

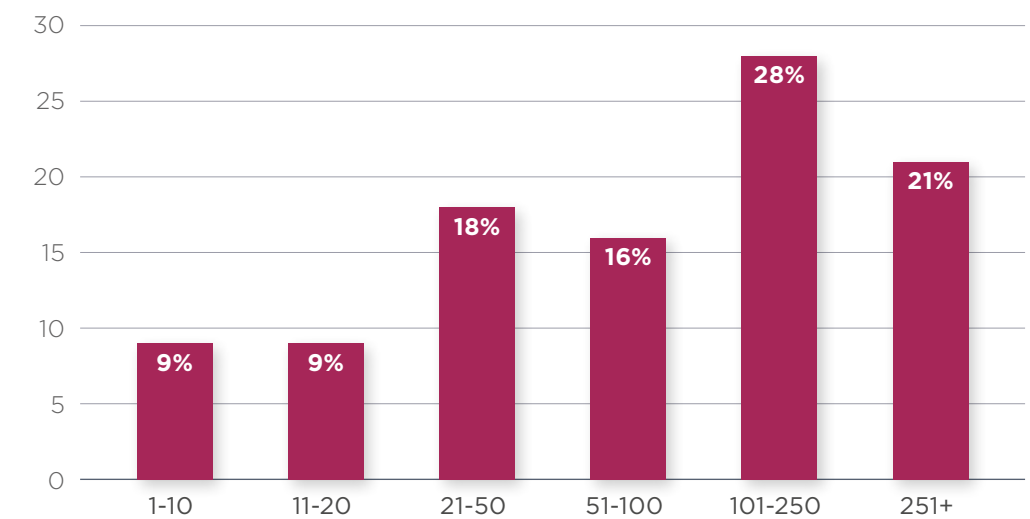
The largest sector was Manufacturing (29%) followed by ICT (26%), Construction (13%), Tourism, Hospitality & Food (13%), Retail & Wholesale (6%), Transport & Storage (5%), Financial & Insurance (4%) and Other Sectors (4%).

What is the principal activity of your company in the South East?



Respondent companies varied in size with significant representation across, micro, small, medium and large enterprises.

How many employees do you have in the South East?



3.2 CURRENT SKILLS & COMPETENCIES

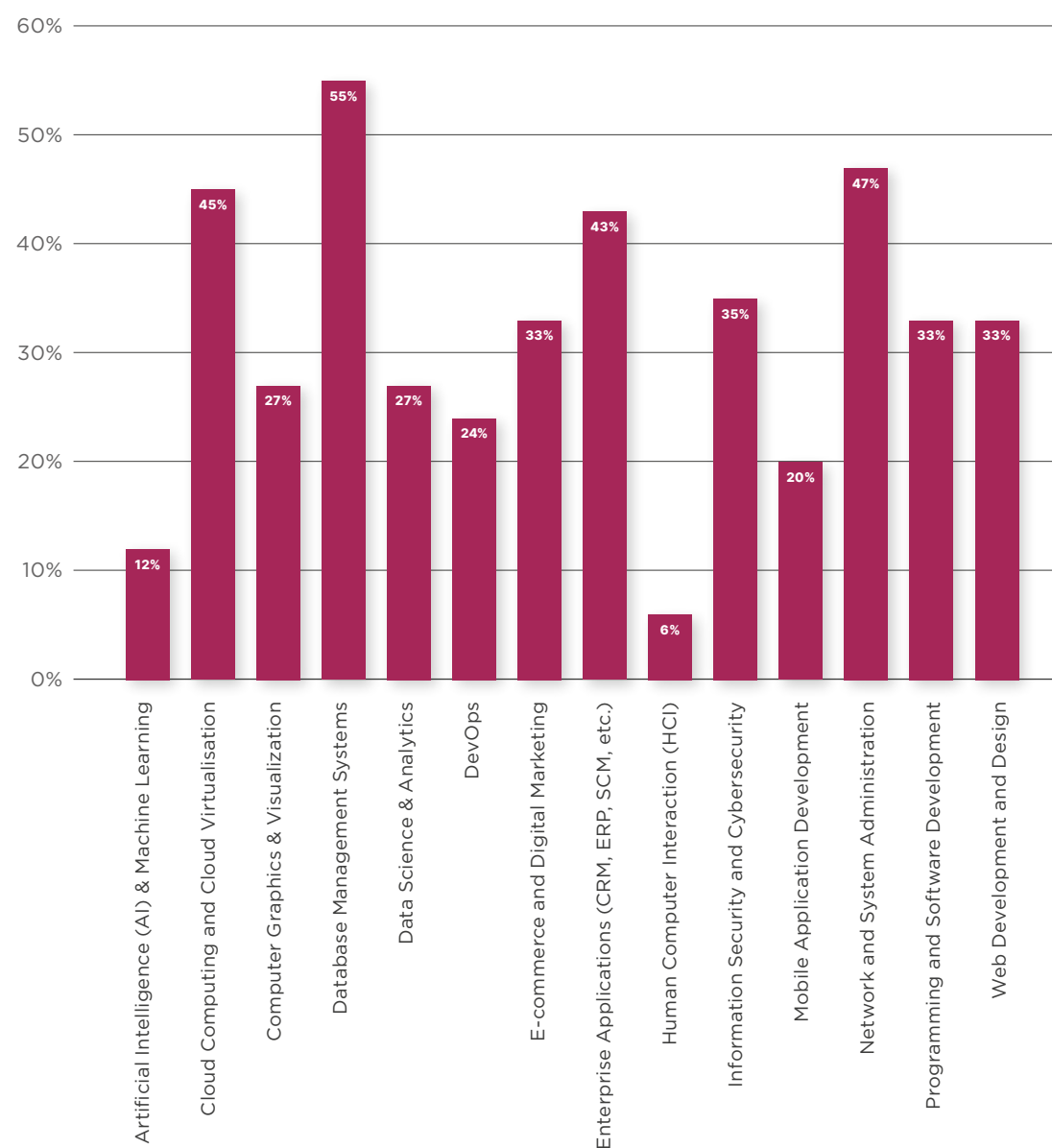
The highest levels of skills competencies across all companies was Database Management Systems (55%) followed by Network & System Administration (47%) followed by Cloud Computing & Virtualisation (45%).

The lowest levels of skills competencies across all companies was Human

Computer Interaction (6%) followed by Artificial Intelligence & Machine Learning (12%) followed by Mobile Applications Development (20%).

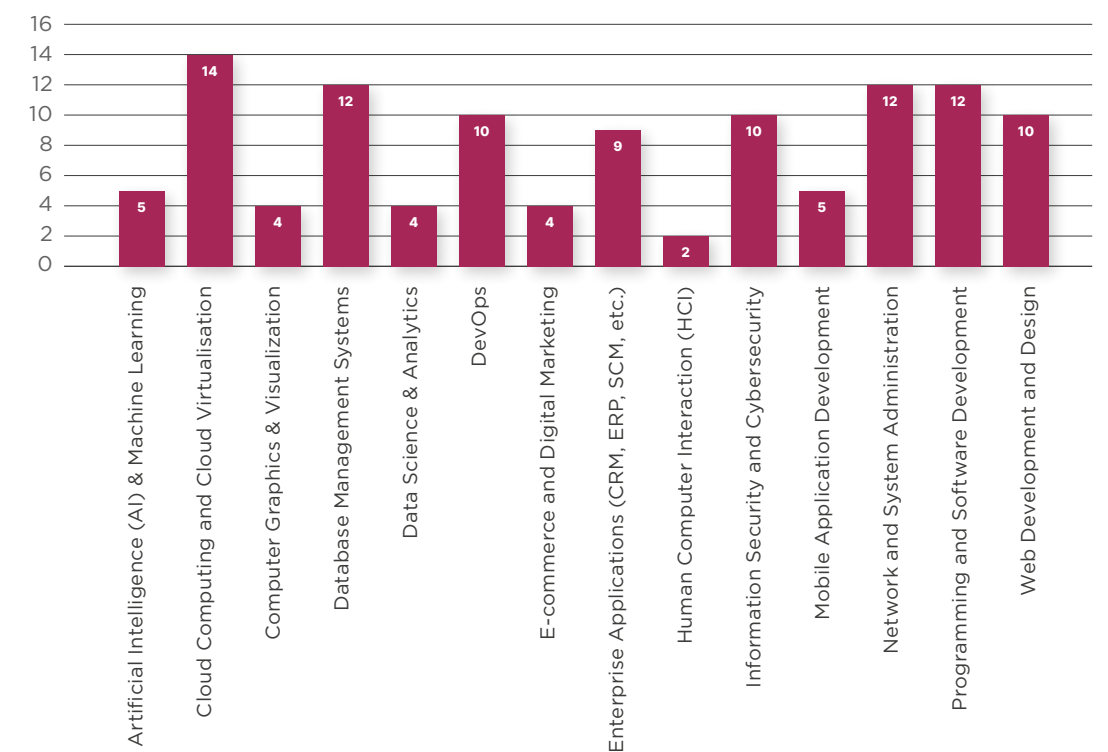
The levels of skill across all disciplines is broadly in line with the number of staff employed within each discipline.

Please indicate the categories where your company has skills/competencies.



However, when the ICT company responses are selected, the following are their reported competencies.

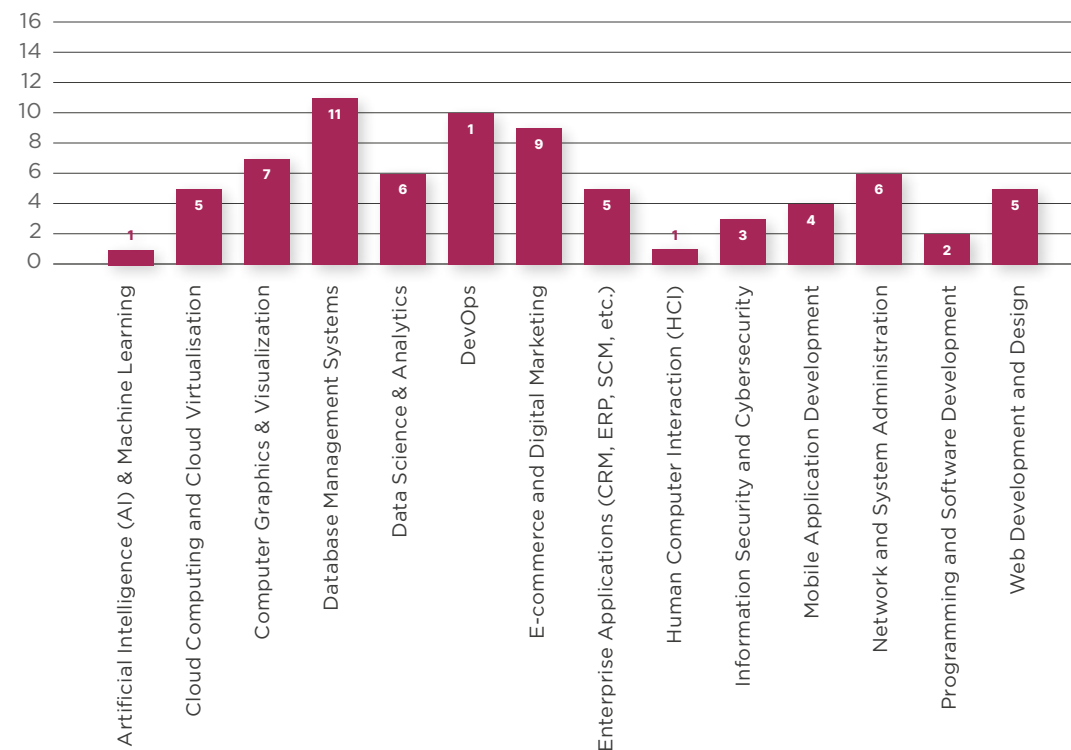
ICT Sector Competency Profile



The highest levels of skills competencies across the ICT sector was Cloud Computing & Virtualisation followed by Database Management Systems and Network & System Administration and Programming and Software Development.

The lowest levels of skills competencies across all companies was Human Computer Interaction followed by Computer Graphics & Visualisation, Data Science & Analytics and E-Commerce & Digital Marketing.

All Other Sectors Competency Profile



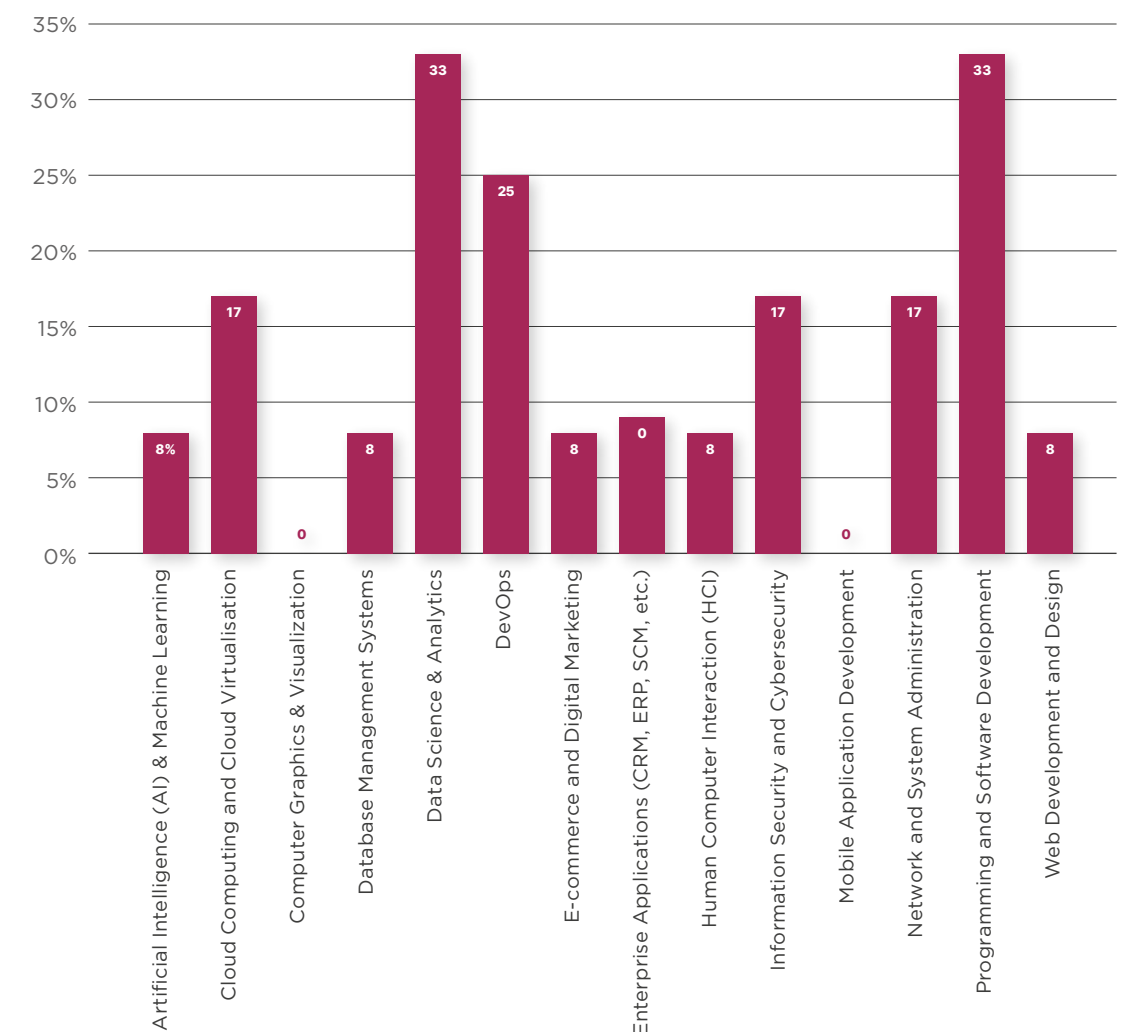
The categories with the highest levels of expertise were Database Management Systems, Network & System Administration, Cloud Computing & Visualisation and Enterprise Applications, closely followed by E-Commerce & Digital Marketing and Information Security & Cybersecurity. All of these have relatively high levels of expertise across the sectors with a high percentage in either the good or excellent levels of skills and expertise. At the other end of the charts, the more challenging categories were AI and HCI and Mobile Application Development.

When these levels of skills and competencies are investigated further, we see some real insights emerging with 55% of respondents rating their level of expertise in AI as being poor or very poor, which is stark considering the emergence of it in recent months. In addition, nearly half of respondents rated their expertise in HCI as either poor or very poor, which again is alarming considering the importance of UX / UI in software development. Mobile Application Development is another category where there seems to be a deficiency in skills and expertise, as nearly half of respondents (45%) rated their expertise as being either poor or very poor.

3.4 RECRUITMENT

The categories of competency that employers found most difficult to fill were Data Science and Analytics (33%) and Programming and Software Development (33%) and DevOps (25%).

Please indicate the categories where you have a vacancy unfilled for more than 3 months.



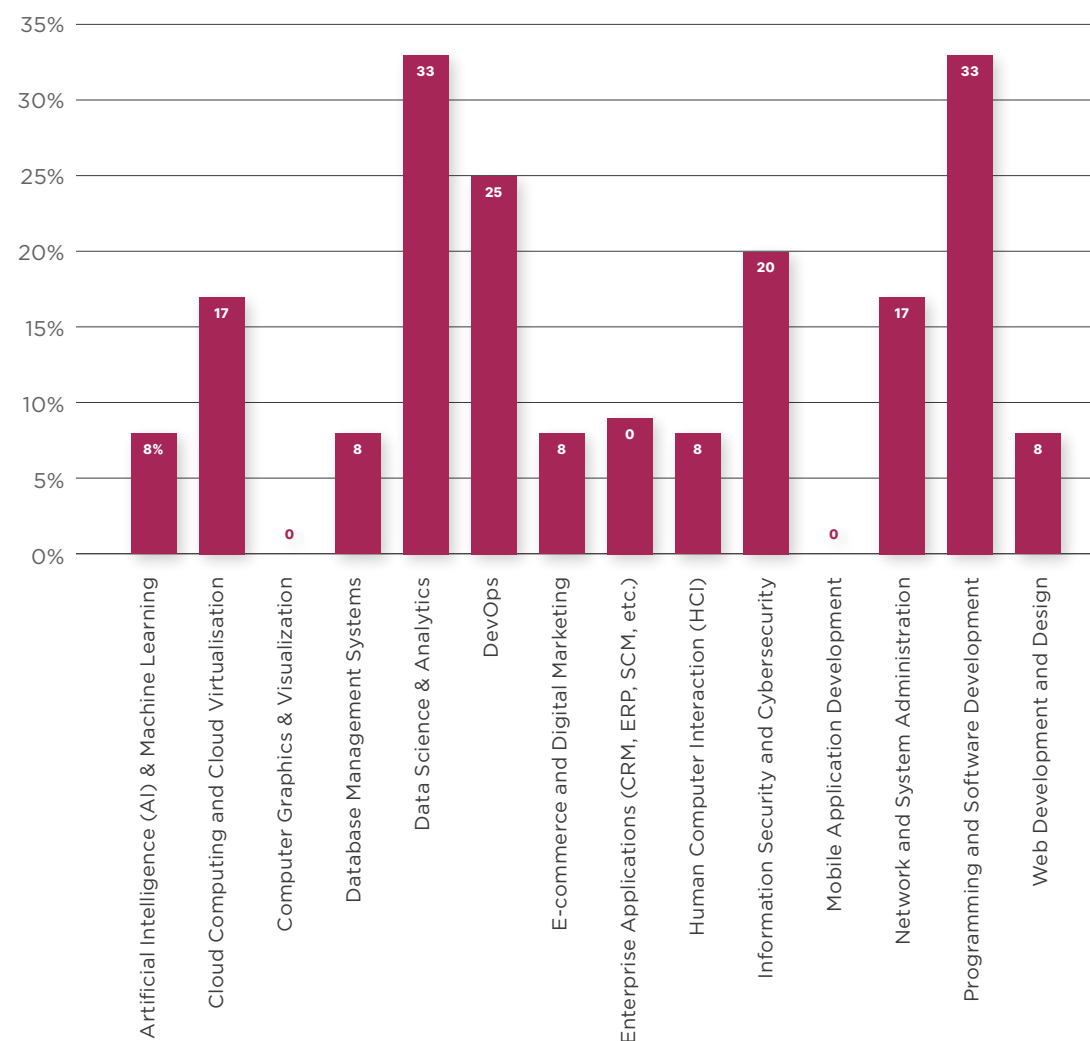
The skills/competencies being sought by all employers (28 provided data) in the 'near to medium term' include:

Database Management Systems, Programming & Software Development, Enterprise Applications, Information Security & Cybersecurity and DevOps. Artificial Intelligence & Machine Learning also featured.

Focusing on ICT Companies only, the 15 ICT companies that provided data on their recruitment intentions in the 'near to medium term' revealed that the priority competencies they intend to

recruit for are: Programming & Software Development, Enterprise Applications and Information Security & Cybersecurity and Artificial Intelligence & Machine Learning.

Recruitment intentions of ICT companies in near to medium term.



Other Skills and Competencies sought by employers other than the 14 categories investigated include:

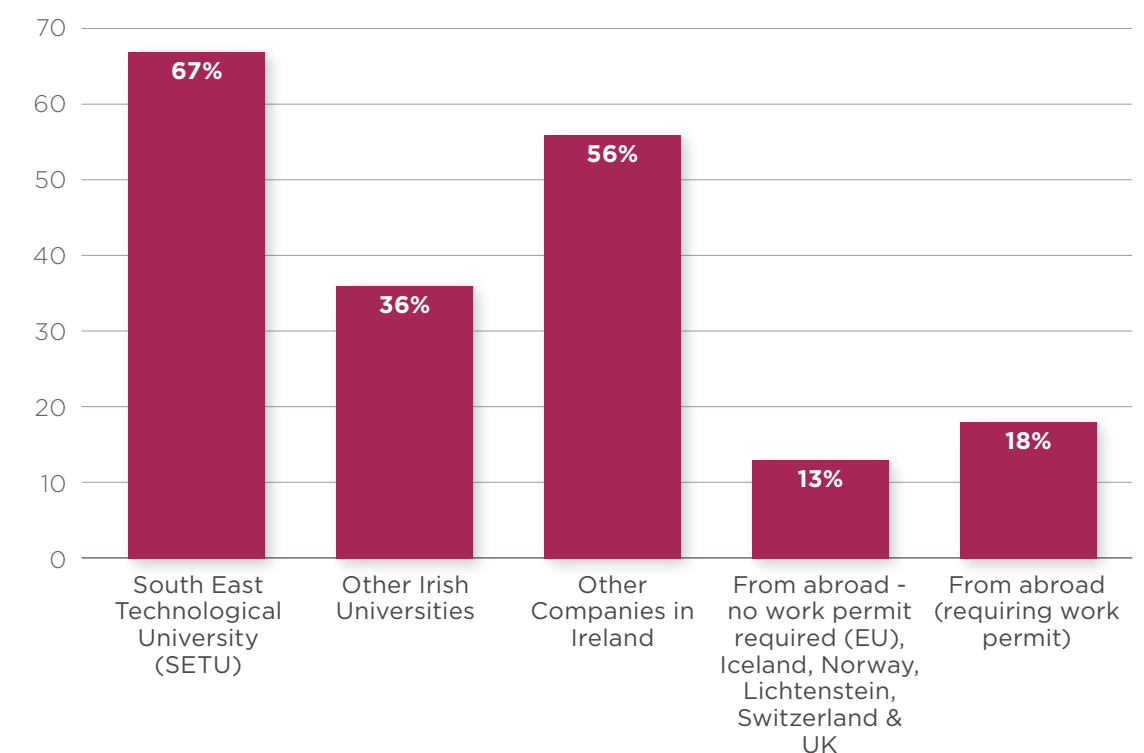
- Automation & Digitalisation (5 responses)
- Microsoft Suite (2 responses)
- Digital Marketing & Design (1 response)
- Engineering GIS Arc GIS, AutoCAD (1 response).

3.3 SOURCING STAFF

Companies primarily source new ICT staff from SETU (67%), followed by 'from Other Companies' (56%) followed by 'from Other

Irish Universities' (36%). These responses were from 45 participating companies across multiple sectors.

Where do new ITC staff typically come from?

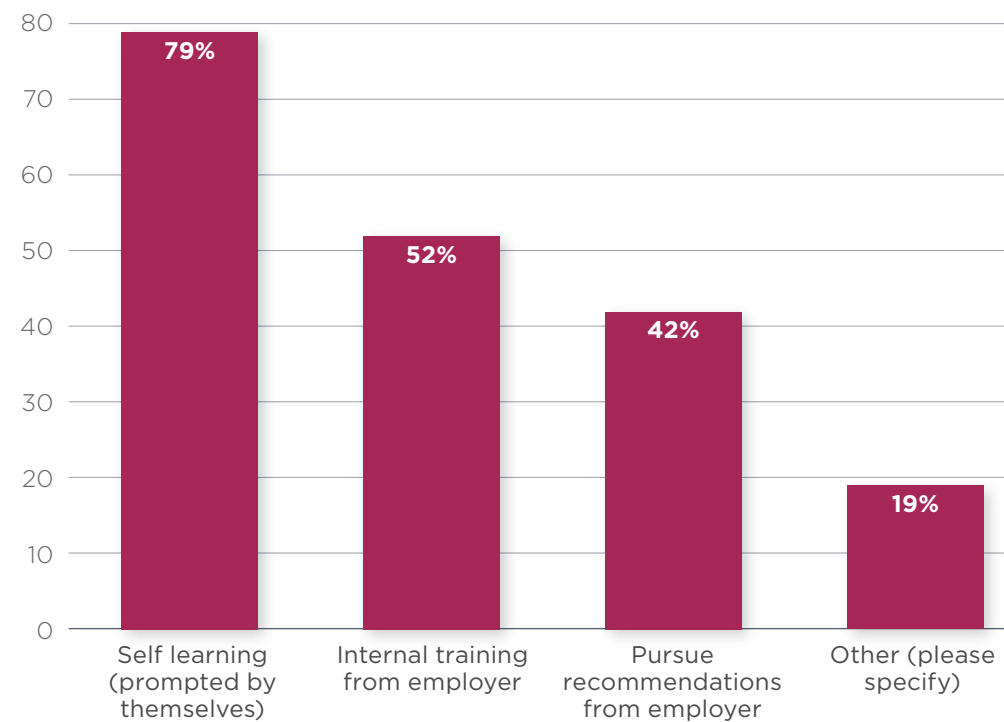


3.5 UPSKILLING STAFF – TYPES AND MODES OF LEARNING

Companies were asked ‘How do your existing staff currently enhance their ICT skills?’ – 52 companies across multiple sectors responded to this question. The most popular route to upskilling cited was by ‘Self Learning’ (79%), followed

by ‘Internal Training from Employer’ (52%) followed by Recommendations from Employer’ (42%). Many companies responded indicating multiple routes to upskilling staff.

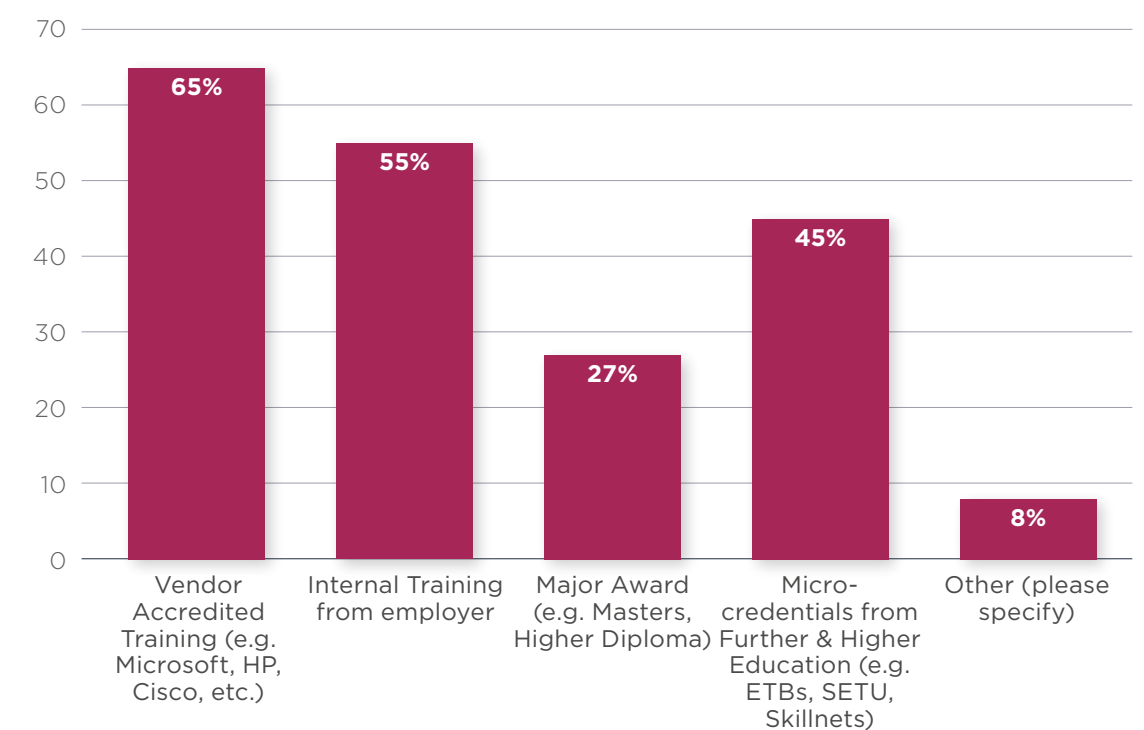
How do your existing staff currently enhance their ICT skills?



The preferred modes of training, as reported by 49 companies were as follows: The most popular mode of training is ‘Vendor Accredited Training’ (65%) followed by ‘Internal Training

from Employer’ (55%) followed by ‘Micro Credentials from Further & Higher Education’ (45%). Many companies responded indicating the use of multiple modes of learning.

What are the modes of training utilised?

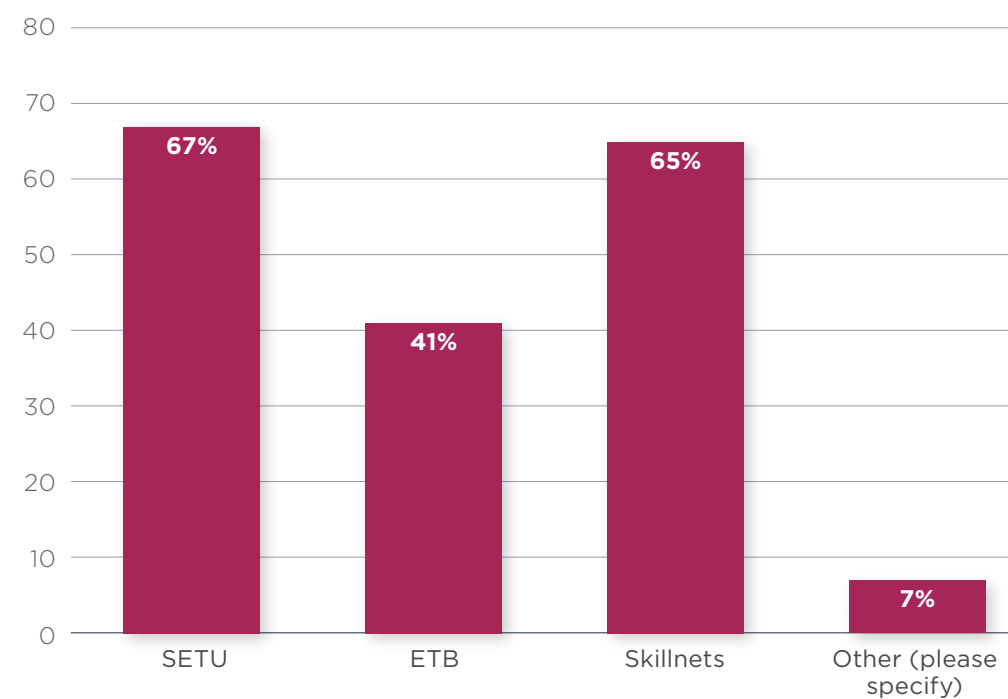


3.6 CHOICE OF EDUCATION & TRAINING PROVIDER

The majority of respondents were engaged with SETU for ICT training (67%) followed by Skillnets (65%) and Education

& Training Boards (ETBs) (41%). Many companies responded indicating they avail of a number of providers.

What education providers are you currently engaged with? Such engagement would include topics such as student placements, guest lecturers, student projects, etc.



3.7 ICT APPRENTICESHIPS

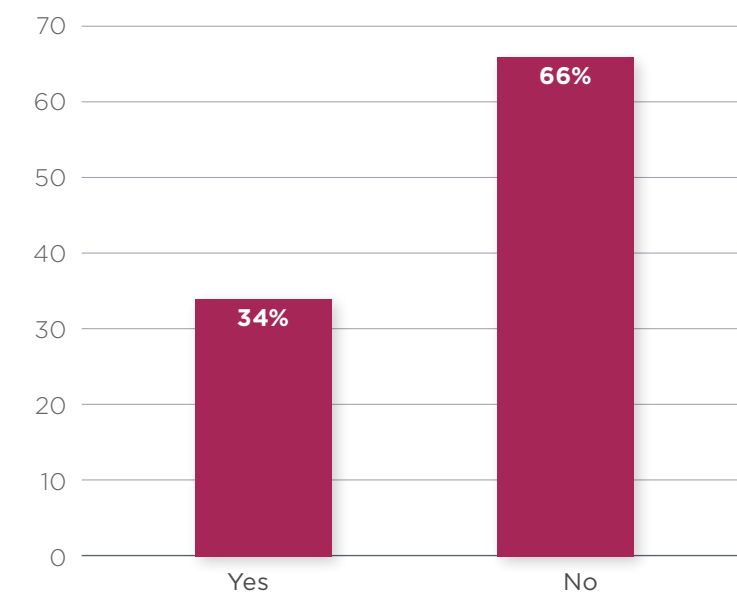
Since the expansion of apprenticeships commenced in 2017 there has been six new ICT apprenticeships launched as follows:

- Nov 2017 - ICT Associate Professional Software Developer Level 6 2 years (FIT & ETBs)
- Nov 2017 - ICT Associate Professional Network Engineer Level 6 2 years (FIT and ETBs)
- June 2019 – Telecomms & Data Network Technician Level 6 2 years (Industry & TU Dublin)

- August 2019 - CGI Technical Artist Level 8 2 years (Screen Skills Ireland and TU Dublin)
- July 2021 – Cybersecurity Practitioner Level 8 3 years (Industry and University of Limerick)
- March 2022 – Cybersecurity Associate Level 6 2 years (FIT and ETBs).

Companies were asked 'As far as you are aware, are there ICT apprenticeships available?'. Of the 56 respondents to this question 66% were unaware of the availability of ICT apprenticeships.

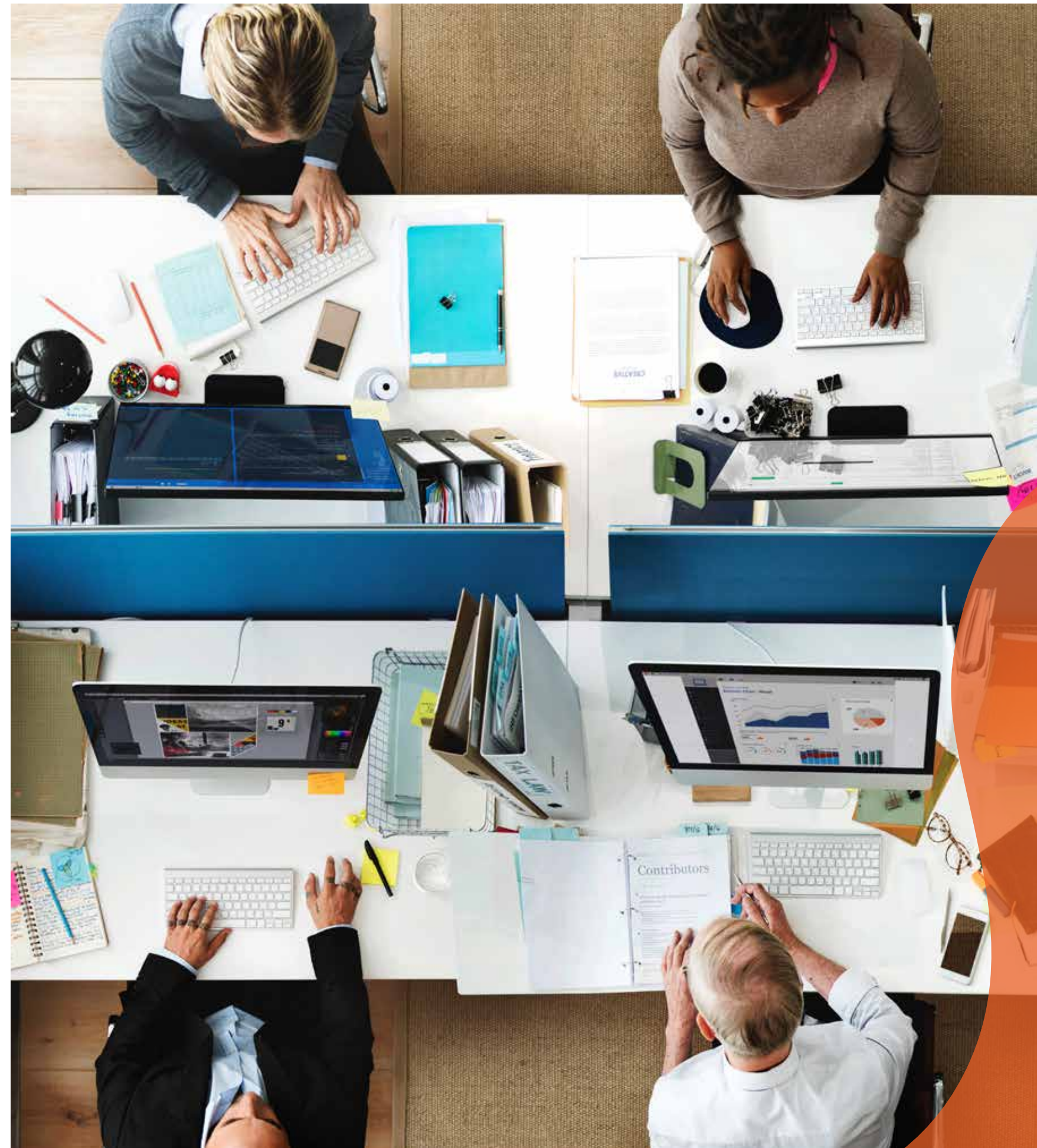
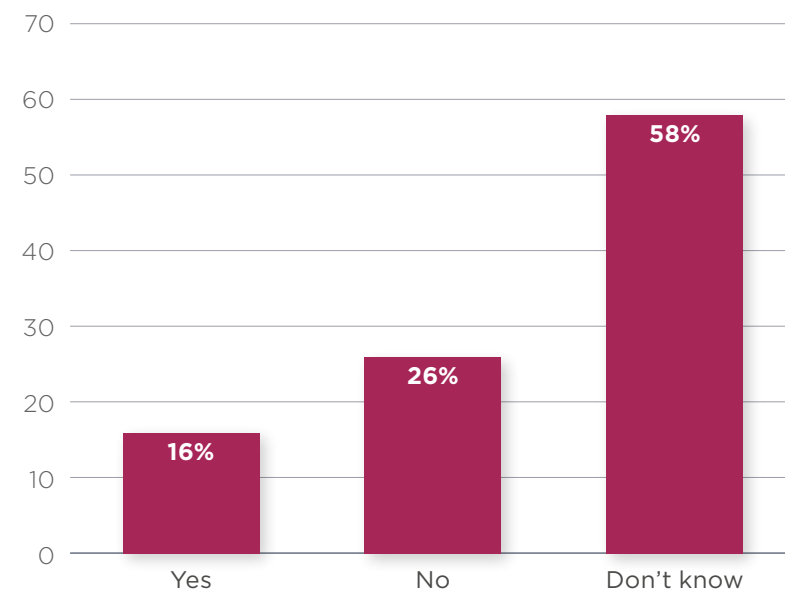
As far as you are aware, are there ICT apprenticeships available?



Those that were aware of the availability of ICT apprenticeships were asked 'Do you intend recruiting any ICT apprentices in the next 12 months?'

Of the nineteen respondents, only 16% indicated that they did intend to recruit an ICT apprenticeship in the coming 12 months. 58% responded that they didn't know if they would recruit an apprentice.

Do you intend recruiting any ICT apprentices in the next 12 months?



4 CONCLUSION

The study confirmed that there is a strong ICT skills set across all sectors of enterprise in the South East.

Opportunities have been identified to increase the skills base in emerging technologies such as UX/UI, Artificial Intelligence & Machine Learning, Mobile Applications Development and Data analytics.

The market for ICT skills remains strong with significant challenges to fill vacancies in Data Science & Analytics, Programming & Software Development and DevOps in particular.

Employers rely strongly on South East Technological University (SETU) for their talent pipeline and staff upskilling. There is also significant engagement with Skillnets and the Education & Training Boards.

There is a low level of awareness of ICT apprenticeships in the South East.





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