

Analysis of Digital Skills in the South East Midlands

December 2019



Contents

Introduction	3
Executive Summary	4
Digital Skills Definitions	9
SEMLEP - Business Survey 2019	11
SEMLEP - Demand for Digital Skills	13
Digital Literacy	13
Specialist Digital Skills	13
Associated 'Employability Skills'	16
Qualifications and Certification	16
Occupations	18
Recruitment Trends 2016-19	20
The Location of Demand	22
Specialist Digital Business Growth in the SEMLEP Area	23
Employment Growth for Occupations Utilising Digital Skills	24
Salaries for Occupations using Digital Skills	26
The Impact of Digital Technologies including Automation	26
Talent pipeline - Basic Digital and Digital Literacy Skills Education Provision in the SEMLEP Area	28
Talent pipeline - Specialist Digital Skills Education Provision in the SEMLEP Area	30
National Picture - Demand for Digital Skills	34
National Digital Skills Demands by Sector	36
Digital Skills Demands by Business Size	38
National Projections	39
Sources of Information	40
Appendix 1 - SEMLEP College (ICT Practitioners) and University Education Provision	41

Introduction

The largest influence on the skills agenda is the increasing need and application for digital skills.

Most occupations already require some level of digital knowledge, be it word processing, spreadsheets, use of business software or more advanced applications.

With the increasing use of artificial Intelligence, big data, machine learning, mechatronics and automation along with the introduction of 5G and the Internet of Things, the demand for digital skills will increase. As a disruptive technology, the skill needs will change rapidly, and educators will need to be able to adapt to change and new ways of delivery.

The importance of this challenge and its contribution to the local and national economies, has been captured in the [SEMLEP Local Industrial Strategy](#).

The ambition within the Oxford-Cambridge Arc is “To put employers at the heart of innovative skills provision and to become the Oxford-Cambridge Arc’s core provider of digital skills, attracting and training the next generation to lead the global digital revolution”.

SEMLEP and its partners holds the desire to become a centre for excellence through “focus on the development of digital and STEM skills, including working with government and local partners to develop ambitions for the UK’s first STEM skills-focused university in Milton Keynes. This project will complement the new Institute of Technology at Bletchley, supported by up to £28m from the Department for Education, who will work closely with Milton Keynes College to deliver the project”.

This report has been compiled using data analysis, surveys and with contributions with employers and aims to act as a prompt for wider discussion to define both current and short/medium-term digital skills needs.

This report is to help inform stakeholders for training provision, investment and promote the development of partnerships in the South East Midlands and across the Oxford-Cambridge Arc.

Paul Thompson
Employer and Skills Manager
South East Midlands Local Enterprise Partnership

“Within 2 decades 90% of jobs will require some digital proficiency”
Industrial Strategy 2017

Executive Summary

What are 'Digital Skills'?

From consultation with businesses and review of data and reports the definition of digital skills has been defined by SEMLEP as:

- Basic Digital Skills - the first steps for getting online through to basic online activities (emails, searching for information, banking, etc.)
- Digital Literacy - used in both life and work. Main content is around the use of spreadsheets, word processing and presentation software, along with personal and business data protection.
- Specialist Digital Skills - relate to specific digital jobs and are at a higher level than general digital skills and include the subgroups of:
 - Programming
 - Development and Information Technology Operations (DevOps)
 - Hardware/Infrastructure support
 - Data analysis
 - Digital design
 - Customer Relationship Management (CRM)
 - Digital marketing
 - Manufacturing
 - Cyber security
- For all sectors, digital skills need to be supported with core competencies, attitudes and behaviours

The Demand for Basic Digital Skills and Digital Literacy

The evidence from job postings and consultation with employers shows that:

- Both Basic Digital Skills and Digital Literacy should be viewed as core competencies, i.e. needed by everyone, equally as important as communication, teamworking, problem solving, resilience, etc.
- Young people should experience and be able to apply Microsoft Excel, Word, Outlook and PowerPoint at school, ready to use it at work.
- Some of the biggest barriers for people developing Basic Digital Skills and Digital Literacy are confidence, the use of technical language, access to broadband and IT equipment and English as a second language
- Areas of focus – Kettering, Luton, Milton Keynes, Northampton, South Northamptonshire

The Demand for Specialist Digital Skills

- There are priority skills required for each of the Specialist Digital Skill groups:
 - Programming - SQL, Microsoft C#, JavaScript, Java, .NET, C++, ASP.NET, Python
 - Computer/Network Support - SQL Server, LINUX, Active Server Pages (ASP), VMware, Windows Server, Microsoft Azure, Microsoft Exchange, UNIX
 - Data Analysis - Microsoft Access, SAS, Tableau, Apache Hadoop
 - Digital Design - Adobe Photoshop, Adobe InDesign, Adobe Acrobat, Adobe Illustrator, Adobe Creative Suite, User Interface (UI/UX) Design
 - Data Marketing - LinkedIn, Facebook, Google Analytics, Google Adwords
 - CRM - Salesforce, SAP CRM
 - Manufacturing Technology - AutoCAD, SolidWorks, Computer-Aided Design (CAD), Automation Tools
 - Cyber security - programming languages
- There are other skills that demand is growing rapidly:
 - DevOps - Kubernetes, Spring Boot, Docker Software
 - Hardware/Infrastructure Support - Threat Intelligence, Chief Infrastructure Automation
 - Data Analysis - Deep Learning, Pandas, Pipeline (Computing)
 - Digital Design - Videography, Adobe Premiere, Video Editing
 - Data Marketing - Adobe Analytics, Salesforce Marketing, HubSpot
 - CRM - Salesforce
 - Manufacturing Technology - CANape, Mastercam, Civil 3D, STEP7 PLC
 - Cyber security - integration with Computer/Network Support roles

“Production roles such as machinists are becoming digitised and show increased importance of digital skills. CNC and Programmable Logic Control (PLC) are used to program manufacturing machines and automated industrial processes. Machinists are increasingly expected to understand how to program machines as well as operate them. G-code machine programming languages is expected to grow by 60% over the next 5 years.” “No Longer Optional: Employer Demand for Digital Skills”, March 2019, Burning Glass and DCMS

“Cyber security skills are valuable to job seekers and in woefully short supply in the market cloud. Security infrastructure is the third highest paying skills in the market at over £87,000 per year. This is evidence of the undersupply of cyber security skills with the best estimates suggesting a shortfall of 2.93 million cyber security professionals globally in 2018.” “No Longer Optional: Employer Demand for Digital Skills”, March 2019, Burning Glass and DCMS

The Demand for Specialist Digital Skill Qualifications

- 75% of the job postings asking for digital skills do not specify qualifications
- Most of the qualifications requested by employers are at level 6 (Degree) and have remained at the same proportion of qualifications required for 4 years at 78-80%
- There is a gap in level 4 and 5 qualifications, over the last 2 years there has been a shift from level 3 to level 4 qualifications
- There are low levels of certification being requested by employers.

Occupations and Sectors

- The need for digital skills cuts across all business and industry sectors
- Employment levels for occupations demanding digital skills are increasing
- Digital focused business numbers have increased in the area over the last 5 years
- Most occupations calling for digital skills are for 'Digital Specialists' with 36% of job posting being in this category.
- Other occupation categories seeking significant numbers of people with digital skills include:
 - Engineering/Manufacturing/Technical (11%).
 - Business Analysts/Specialists (11%)
 - Administration/Secretarial/Legal (9%)
 - Business Management (9%)
 - Financial Control (9%)
- All business sizes are seeking people with digital skills with demand for both Basic Digital/Digital Literacy and Specialist Digital skills rising with employer size
- The introduction of automation and digital technology could potentially result in changes in occupations for close to 200,000 people over a transitional period.

"10 to 35% of all UK jobs could be replaced or altered over the next two decades due to AI" Institute for Public Policy Research

- The sectors most likely to see the largest changes first are:
 - Manufacturing
 - Wholesale and retail
 - Transportation and storage
 - Administrative and support services
- The areas with a high number of employees in these sectors/occupations are Milton Keynes, Northampton, Luton, Central Bedfordshire and Bedford
- As a percentage of current workforce, the areas are Corby, Wellingborough, Daventry, East Northamptonshire and Luton

Recruitment

- Job postings for digital skills related occupations have declined in the last 3 years in line with the overall vacancy demand, remaining at 21-23% of the total.
- Customer service occupations and bookkeepers, payroll managers and wages clerks show a healthy demand.
- Digital skills related occupations showing positive trends are in sectors such as:
 - Education
 - Public administration and defence; compulsory social security
 - Financial service activities, except insurance and pension funding
 - Other personal service activities
- Through the application of digital tools, tasks once conducted by people at higher skills levels are now being transferred to lower skilled occupations

Location

There are clusters of businesses seeking people with digital skills and most job postings calling for digital skills are based in:

- Milton Keynes (32%)
- Northampton (15%)
- Luton (10%)
- Bedford (10%)
- North Northamptonshire – Kettering, Corby, Wellingborough, Rushden (8%)

Conclusions

- There are few jobs that do not require basic digital skills and digital literacy
- Digital skills are driving changes in the job market
- Specialist digital skills are used across all sectors
- Digital skills contribute and add to a person's resilience in the Labour market
- Job seekers need core competencies, attitudes and behaviours as well as digital skills for success in the economy both digital and non-digital
- Digital skills policy needs to be driven locally to reflect employer needs
- Digital skills will continue to change, provision and development of the talent pipeline need to accommodate this dynamism

“Developing the digital skills of workers in small and medium-sized enterprises may be a strategy to increase growth of these entrepreneurial firms. However, this bottom-up approach might not be enough. One could argue that the head of the company also needs to provide digital leadership to take full advantage of the benefits that come with digitalisation.” “No Longer Optional: Employer Demand for Digital

Skills”, March 2019, Burning Glass and DCMS

Actions

As part of the delivery of the SEMLEP Local Industrial Strategy and the wider Oxford-Cambridge Arc activity, we aim to stimulate and inform actions to develop a talent Pipeline;

Pre 16 Education through Careers and Enterprise Company Activity

- Prescribe and/or encourage the development of relevant, inspirational activity for use in schools, both primary and secondary phases of education, to ensure a diverse talent pipeline into digital
- Seek the applied use of technology across curriculum within schools aimed at developing digital literacy more akin to a working environment

Further and Higher Education Partners

- Promote the development of closer working relationships between digital businesses and further/higher education establishments
- Support education stakeholders through improved understanding of specialist, high level digital skills needed for current and future business practices and technologies
- Provide support for institutions such as MK:U and an Institute of Technology at Bletchley Park with strong links to businesses
- Promote increased provision and access to support for the development of managerial skills and awareness in adopting digital and managing disruptive technologies

Adult Education Budget Holders and Independent Training Providers

- Help inform adult learning budget holders in terms of meeting local digital skills requirements for basic skills, digital literacy, up-skilling and re-skilling for specialist digital skills. This includes the promotion of lifelong learning.
- Encourage more flexibility in types of provision other than conventional pathways for the development of all levels of digital skills for those entering and in work
- Support innovative methods of delivery and accessibility for the development digital skills in individuals including the use of Ed-Tech

Businesses through the SEMLEP Growth Hub and Network Partners

- Promote reviews of recruitment pathways in SME;
 - Tackling unconscious bias regarding qualification levels, gender, ethnic background and disability
 - The use of apprenticeships, T-Levels and relationships with educators
- Encourage retention of the workforce in SME through investment in training, up-skilling and re-skilling
- Promotion of provision available to support skills development and business growth

Digital Skills Definitions

An Essential Digital Skills Framework has been published by the DfE at <https://www.gov.uk/government/publications/essential-digital-skills-framework>

However, from consultation with businesses and educators a more locally relevant definition for digital skills in the South East Midlands has been derived and aligned with the 'Growing People' Skills Strategy..

Basic Digital Skills (Core Competence)

First steps getting online (e.g. how to use a laptop or a smartphone) through to basic online activities such as sending emails, searching for information online, online transactions such as filling in forms, using public services, banking, and applying for work. This includes awareness of internet safety.

In order to build these skills, many people need to overcome barriers linked to access to digital resources such as equipment, power and maintenance; information, guidance, motivation, confidence and trust.

Digital Literacy (Core Competence)

Digital skills for both life and work. This includes digital skills learnt at school as part of the curriculum, applied in the classroom and some common business productivity software.

Main content is around the use of spreadsheets, word processing and presentation software, along with personal and business data protection. This can also include [Enterprise Resource Planning \(ERP\)](#) and project management software.

The development of skills for digital literacy can be through traditional education pathways, courses, workplace training and/or peer coaching. Adult Education is another pathway.

Evidence of attainment can be through qualifications or digital badges.

Typical software: Microsoft Office (Excel, Word, PowerPoint, Outlook), SAP, Oracle E-Business Suite.

Specialist Digital Skills (Technical/Vocational Skills)

Relate to specific digital jobs and are generally higher level than general digital skills.

They could include:

- Programming - Software development through use of programming languages such as Java, SQL, C# and Python.

- Development and Information Technology Operations (DevOps) - A set of practices that automates the processes between software development and infrastructure teams, in order that software can be built, tested and released faster and more reliably.
- Hardware/Infrastructure support – set up, maintenance and management of systems and networks.
- Data analysis – includes use of [Big Data](#) and [data science](#) with tools such as R or Stata.
- Digital design – features disciplines including graphic design, online advertising and digital production.
- Customer Relationship Management (CRM) – software using data aimed at improving the interaction with customers/clients. Commonly used software includes Salesforce and Microsoft Dynamics.
- Digital marketing – use of social media platforms and analytical tools such as Google Analytics
- Manufacturing technology – Computer-Aided Design (CAD) and Computer Numerical Control (CNC) programming software used in design, production and machining.
- Cyber security – Software, processes and systems for the protection of internet-connected systems (hardware, software, data) from attack. Comprises specialised programming and computer/network support and not shown as a separate skill set in this document.

For young people, a pathway to this level might include initially learning specialist digital skills at school, college or university. An introduction could include out of school activities such as coding clubs.

For adults this might include specialist programmes of further or higher education in colleges or universities, specialist work-based training for specific roles, or courses that allow them to re-skill or up-skill for new careers in technical areas of all industries including traditional sectors.

Typical education levels are 4 to 8.

SEMLEP - Business Survey 2019 Data

From the SEMLEP Business Survey in December 2019, over 1,600 businesses were asked to identify challenges and opportunities for skills.

In summary the responses to relevant questions regarding those that responded to having 'hard-to-fill vacancies' (18% of those surveyed) and linked to digital skills were:

Which specific occupations have you found it hard to fill?

- Information Technology and Telecommunication -12% (6th highest)

Have you found any skills difficult to obtain when recruiting staff in the last 12 months?

- Digital skills – 6% (5th highest after technical/practical, job specific, communication and general employability)

Do you have gaps in your existing workforce?

- Digital skills – 5% (highest along with technical/practical skills)

Why do you think there are skills gaps amongst your existing workforce?

- Lack of appropriate training or courses – 25%
- Existing staff not seeking up-skilling – 18%
- Insufficient budget to provide training courses – 12%
- Staff not judged not capable of progression – 7%
- Not prepared/able to release staff during work hours – 6%

Which digital skills have you found difficult to obtain?

- Digital marketing (including social media) – 31%
- Digital design – 19%
- Programming/coding – 16%
- Computer-Aided Design (CAD) – 15%
- Microsoft Office (Excel, Word, PowerPoint) – 11%
- Computer Network Support – 8%
- Proficiency in a specific software program – 7%
- Other – 30%

What actions have you taken to increase skills?

- Offering in-house training and development – 19%
- Outsourcing training and development/working with independent training providers – 10%
- Not doing anything – 6%
- Engaging with colleges – 3%
- Investing in apprenticeships – 3%
- Engaging with schools – 2%
- Engaging with universities – 1%
- No skills gaps – 66%

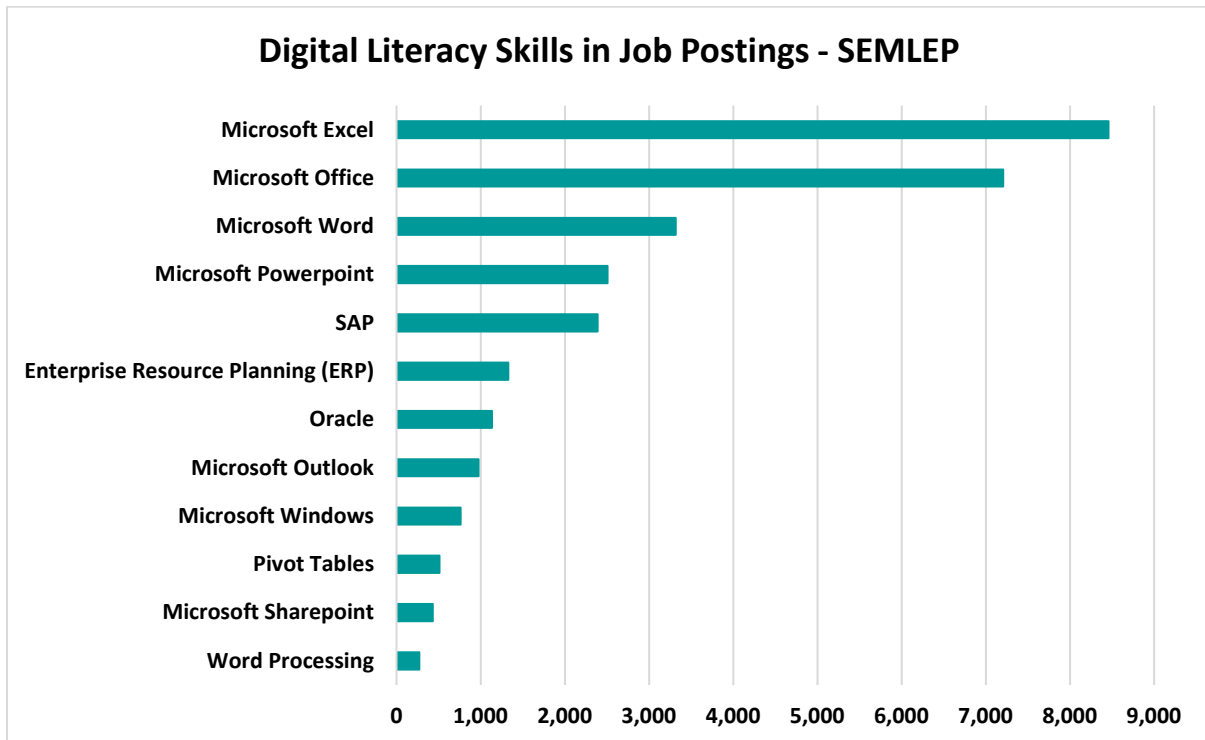
Summary:

- Digital skills are difficult to obtain when recruiting
- There are high level of skills gaps for digital skills in the existing workforce
- The main specialist digital skills difficult to obtain are for digital marketing (including social media), digital design including CAD, programming/coding, and computer network support
- Digital literacy skills required are primarily Microsoft Office (Excel, Word, PowerPoint)
- Barriers to training are cited as include lack of appropriate training or courses existing staff not seeking up-skilling, insufficient budget to provide training courses, staff not judged not capable of progression and employers not being prepared/able to release staff during work hours
- In-house training and development and outsourcing training and development/working with independent training providers are preferred methods of training
- There are low rates of engagement with schools, colleges and universities

SEMLEP - Demand for Digital Skills

Digital Literacy

From Labour Insight Jobs (Burning Glass Technologies), Skills in Greatest Demand for 1/8/18 to 31/7/19 from 36,000 job postings.



Microsoft Office and Microsoft Excel are the most in demand digital literacy skills.

Anecdotally, employers report that young people lack experience of using MS Outlook, their preferred personal communications being through messaging apps and social networks.

Specialist Digital Skills

The most in demand skills for specialist digital skills are:

Programming

1. SQL
2. Microsoft C#
3. JavaScript
4. Java
5. .NET
6. C++
7. ASP.NET
8. Python

Hardware/Infrastructure Support

1. SQL Server
2. LINUX
3. Active Server Pages (ASP)
4. VMware
5. Windows Server
6. Microsoft Azure
7. Microsoft Exchange
8. UNIX

Data Analysis

1. Microsoft Access
2. SAS
3. Tableau
4. Apache Hadoop

Digital Design

1. Adobe Photoshop
2. Adobe InDesign
3. Adobe Acrobat
4. Adobe Illustrator
5. Adobe Creative Suite
6. User Interface (UI/UX) Design

Data Marketing

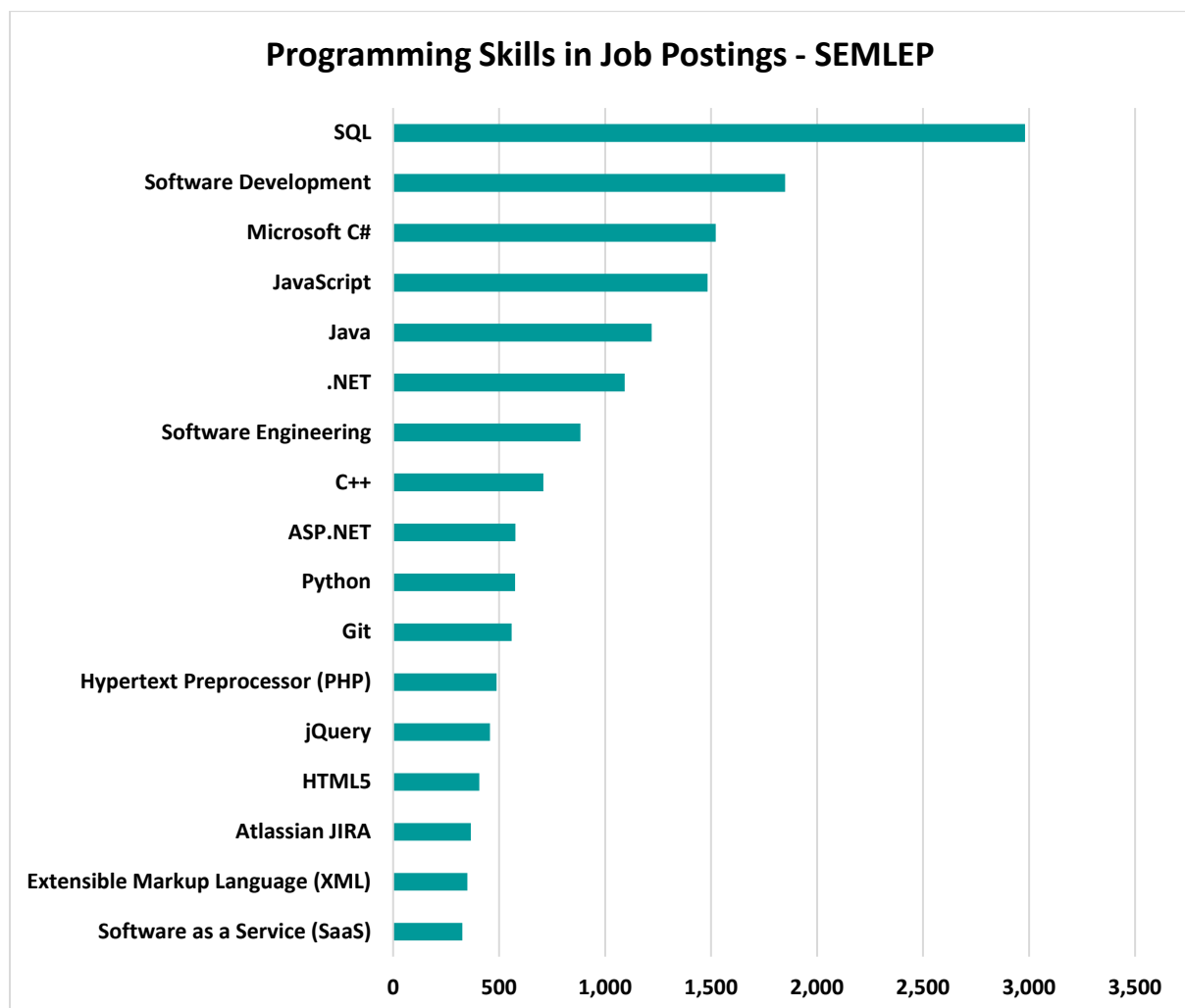
1. LinkedIn
2. Facebook
3. Google Analytics
4. Google Adwords

CRM

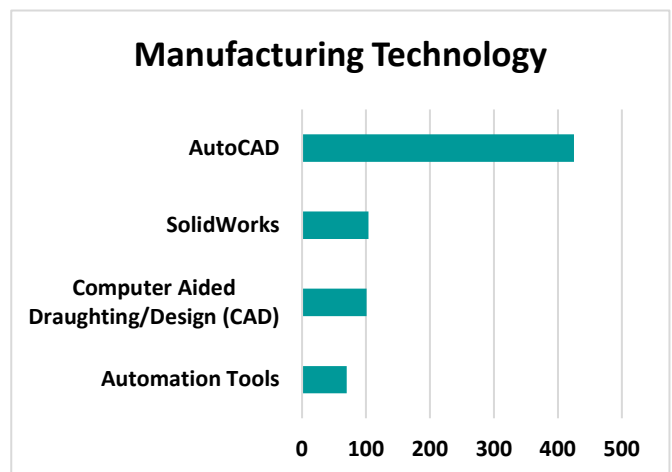
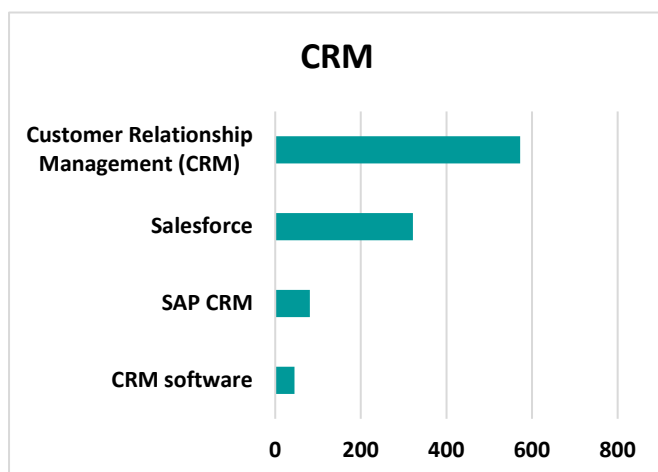
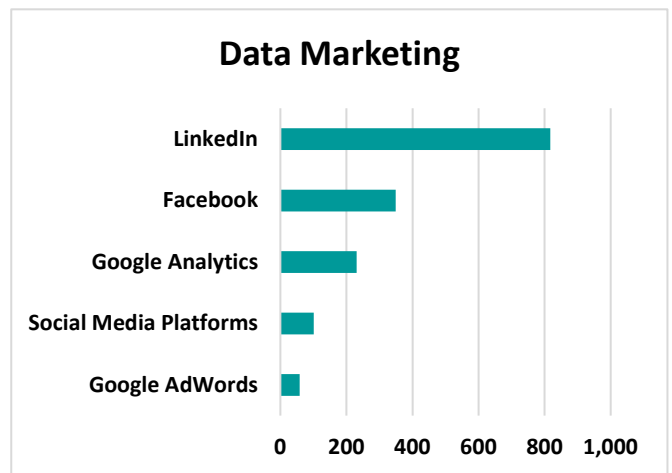
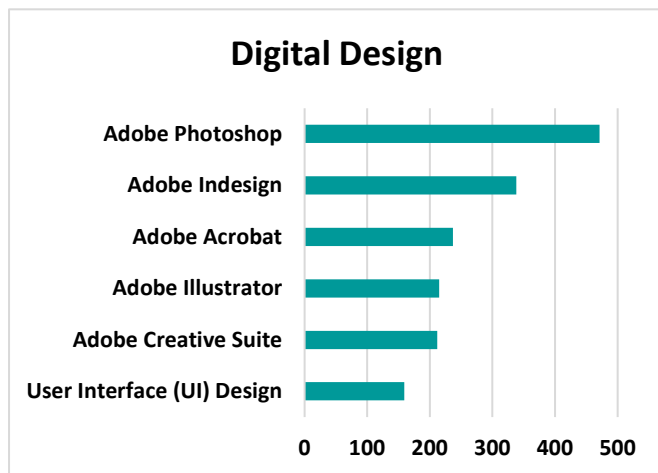
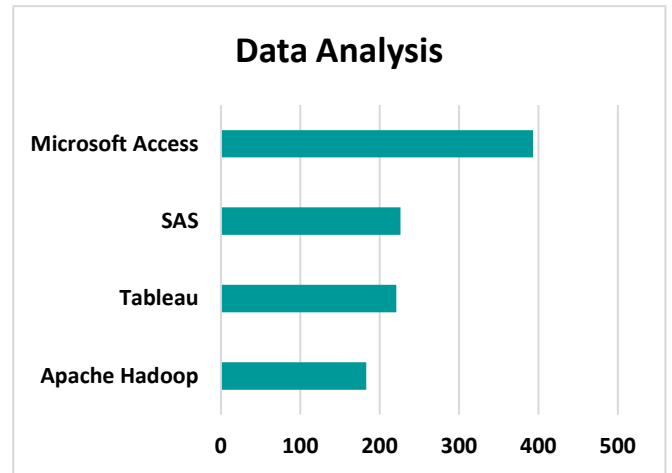
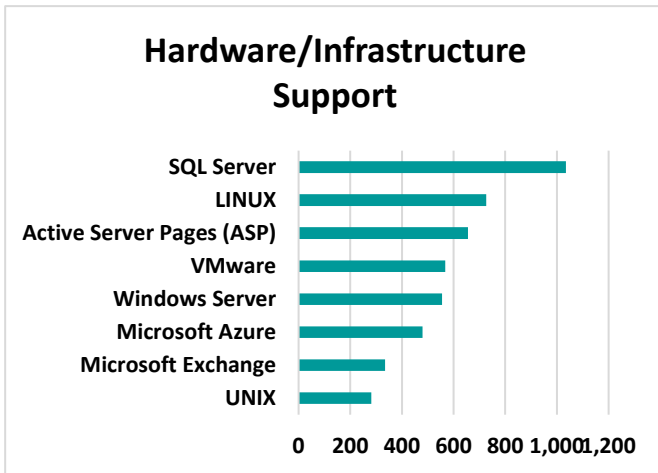
1. Salesforce
2. SAP CRM

Manufacturing Technology

1. AutoCAD
2. SolidWorks
3. Computer-Aided Design (CAD)
4. Automation Tools



Skills in demand in job postings by specialist digital groups



Associated ‘Employability Skills’

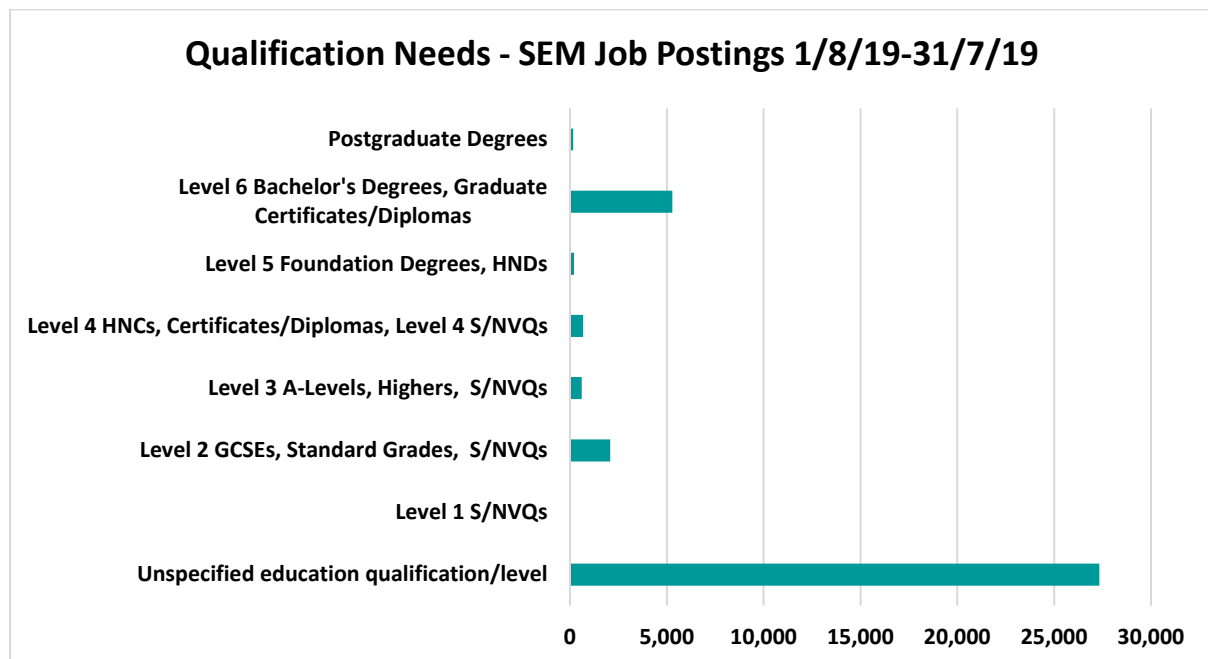
Alongside the digital skills sought by businesses are other employability skills including core competencies, attitudes and behaviours.

The following employability skills are most requested (percentage of job postings):

• Communication Skills	39%
• Organisational Skills	16%
• Problem Solving/Troubleshooting	16%
• Detail-Orientated	16%
• Teamwork/Collaboration	14%
• Planning	14%
• Writing/Written Communication	12%
• Time Management/Meeting Deadlines	12%
• Creativity	10%
• English	9%
• Building Effective Relationships	7%
• Research	5%
• Leadership	5%
• People Management	5%
• Multi-Tasking	4%
• Presentation Skills	4%

Qualifications and Certification

Both the demand for qualifications and certification in the digital labour market are low compared with the more traditional sectors.



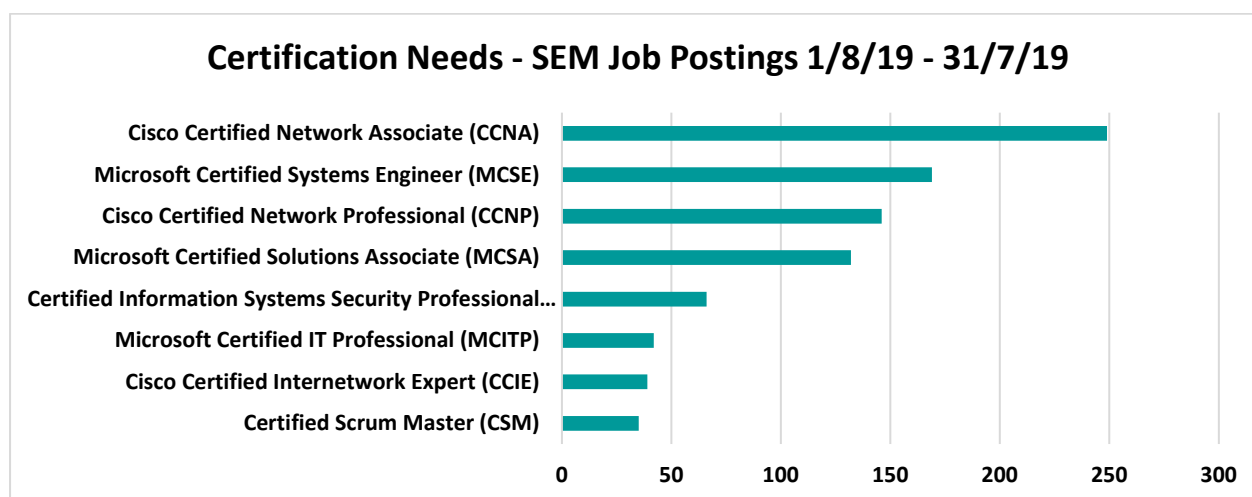
Summary:

- 75% of the digital related job postings did not specify qualifications
- The highest number of qualifications were at level 6 (Degree), 15%
- There is a gap in demand for level 4 and 5 qualifications

Where qualifications are requested there has been a small shift from Level 3 to Level 4 qualifications over the last 2 years. All other levels have remained static.

Year	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7
2016	3%	8%	4%	3%	80%	2%
2017	3%	12%	4%	2%	78%	1%
2018	4%	6%	7%	3%	79%	1%
2019 (YTD 12 mths)	4%	5%	8%	2%	79%	2%

Some certification is specified in job postings, however over 75% do not request certification of any type.



Summary:

- Few jobs postings request evidence of certification
- The disruptive nature of the sector, the pace of development and need is challenging the need for traditional qualifications and certification.

Occupations

Most occupations calling for digital skills are for 'Digital Specialists' with 36% of job posting being in this category.

Digital Specialist Top 20 Occupations	No. Job Postings
Software Developer / Engineer	2,952
Computer Support Specialist	1,651
Project Manager	1,100
Web Developer	820
Data / Data Mining Analyst	790
Computer Systems Engineer / Architect	664
Systems Analyst	421
IT Project Manager	418
Database Administrator	310
Information Security Engineer / Analyst	309
Software QA Engineer / Tester	278
Network Engineer / Architect	214
Network / Systems Administrator	208
Computer Programmer	198
Network / Systems Support Specialist	165
Business Intelligence Analyst	163
Graphic Designer / Desktop Publisher	139
Database Architect	121
Data Warehousing Specialist	119
UI/UX Designer	102

Other occupation categories seeking large numbers of people with digital skills include Engineering/Manufacturing/Technical (11%).

Engineering/Manufacturing/Technical Top 10 Occupations	No. Job Postings
Electrical Engineer	328
Mechanical Engineer	272
Civil Engineer	260
Utilities Technician	250
Validation Engineer	178
Product Development Engineer	161
Automotive Service Technician / Mechanic	155
Electronics Engineer	147
Maintenance Technician	128
Industrial Engineer	123

Business Analysts/Specialists (11%)

Business Analysts/Specialists Top 10 Occupations	No. Job Postings
Buyer / Purchasing Agent	412
Human Resources / Labour Relations Specialist	409
Business / Management Analyst	383
Scheduler / Operations Coordinator	292
Logistics / Supply Chain Analyst	229
Recruiter	183
Training and Development Specialist	127
Marketing Coordinator / Assistant	95
Estimator	89
Transportation Planner / Analyst	89

Administration/Secretarial/Legal (9%)

Administration/Secretarial/Legal Top 3 Occupations	No. Job Postings
Office / Administrative Assistant	2,297
Senior Administrator	241
Executive Assistant	199

Business Management (9%)

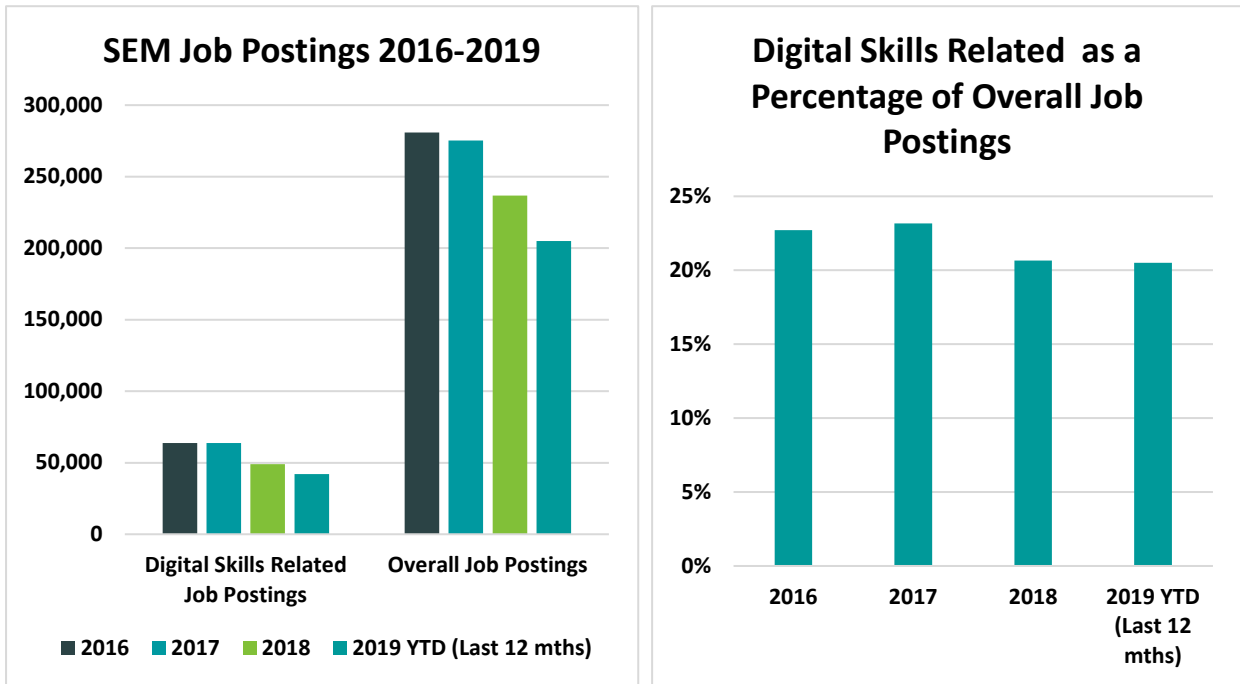
Business Management Top 5 Occupations	No. Job Postings
Financial Manager	348
Sales Manager	314
Marketing Manager	235
Procurement Manager	224
Operations Manager	190

Financial Control (9%)

Financial Control Top 5 Occupations	No. Job Postings
Bookkeeper / Accounting Clerk	802
Account Manager / Representative	598
Accountant	517
Credit Analyst / Authoriser	250
Financial Analyst	228

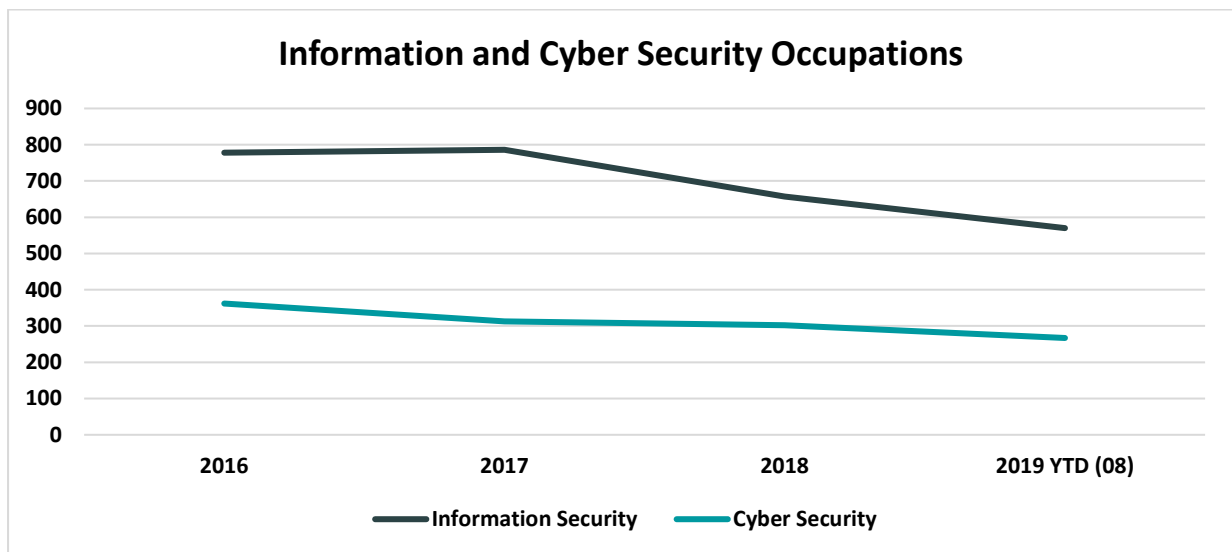
Recruitment Trends 2016-19

Job postings for digital skills related occupations have declined in the last 3 years at a slower rate than the overall vacancy demand, remaining at 21-23% of the total.



The top 15 occupations have all declined with only customer service occupations and bookkeepers, payroll managers and wages clerks remaining at the same level of demand throughout.

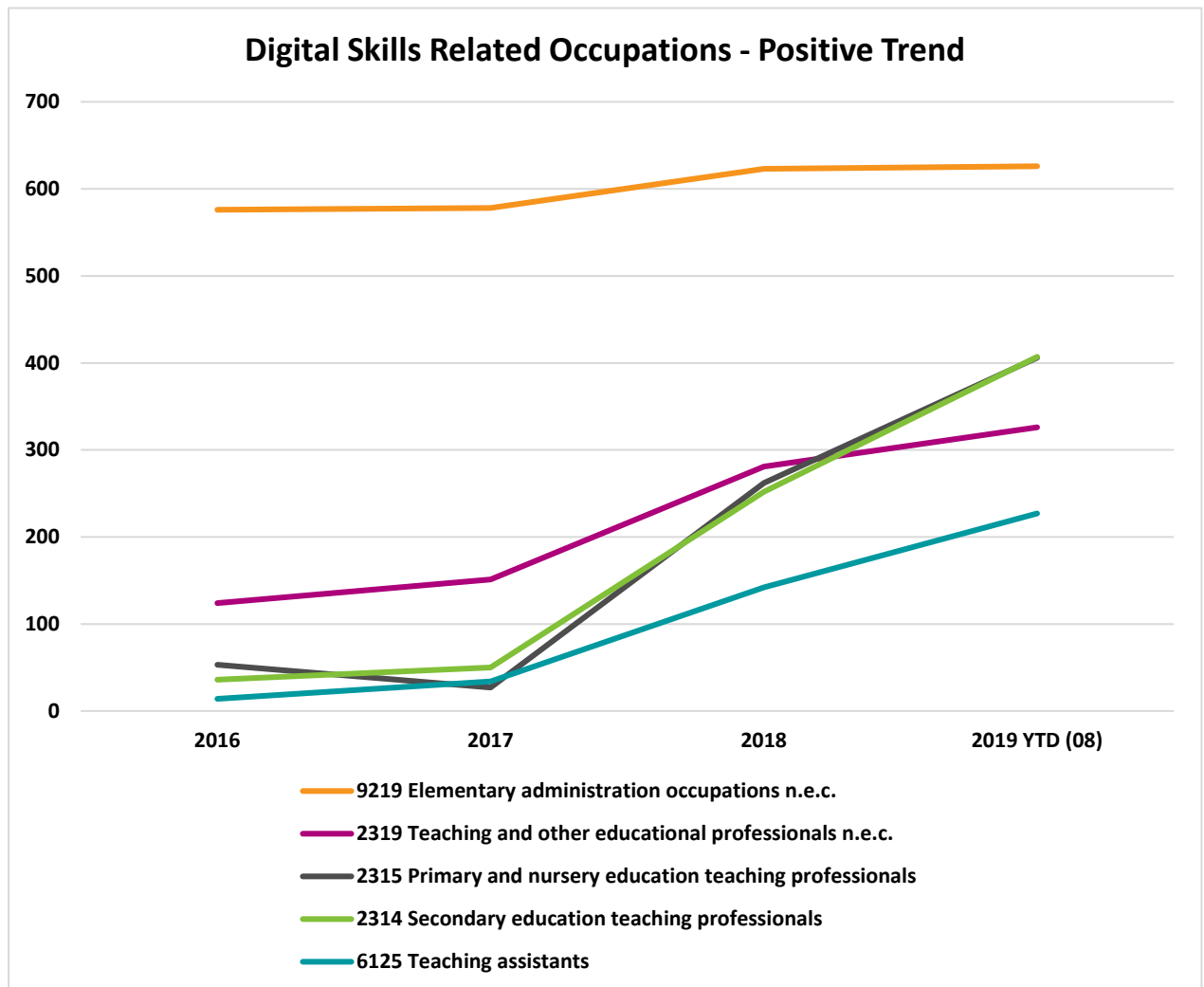
Despite the prominence of information security within the press and the introduction of GDPR, the number of related job postings has fallen in line with the Digital Skills job postings except for Cyber Security positions which have reduced but at a slower rate.



Digital skills related occupations showing positive job postings trends are in education at both primary and secondary levels.

An increase can also be seen in elementary administration occupations. From consultation with employers this change has occurred:

- Through the impact of the application of digital tools for tasks once conducted by people at higher skills levels through simplifying processes.
- The introduction of more digitally based processes and systems throughout the business requiring lower skill levels

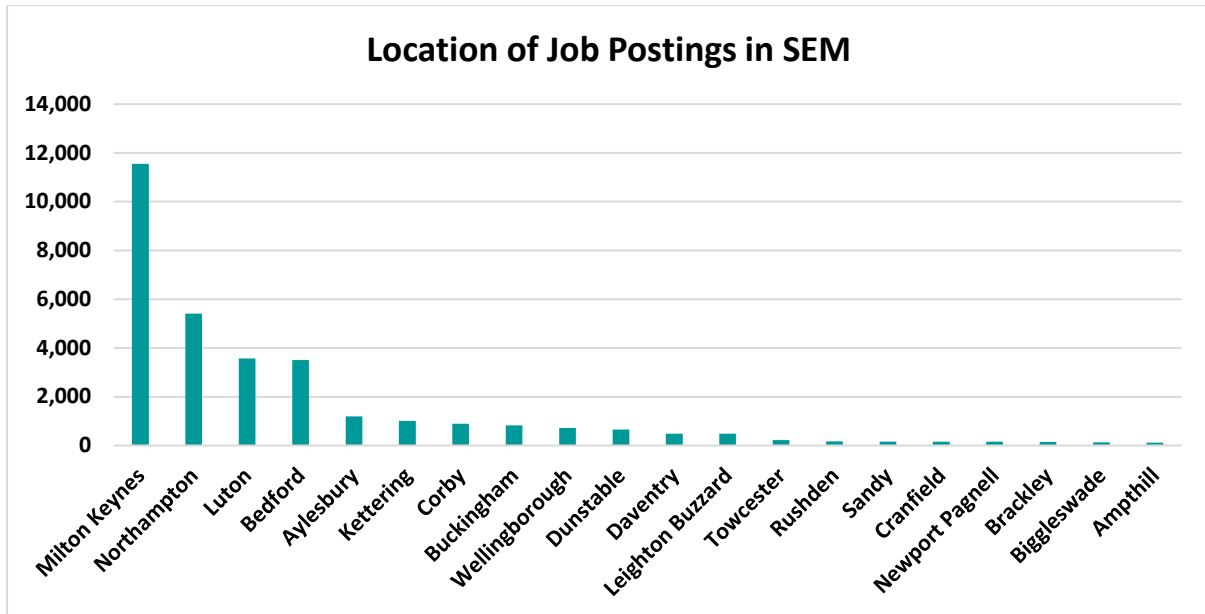


These positive trends are reflected in the sectors with positive trends for job postings requiring digital skills which include:

- Education
- Public administration and defence; compulsory social security
- Financial service activities, except insurance and pension funding
- Other personal service activities

The Location of Demand

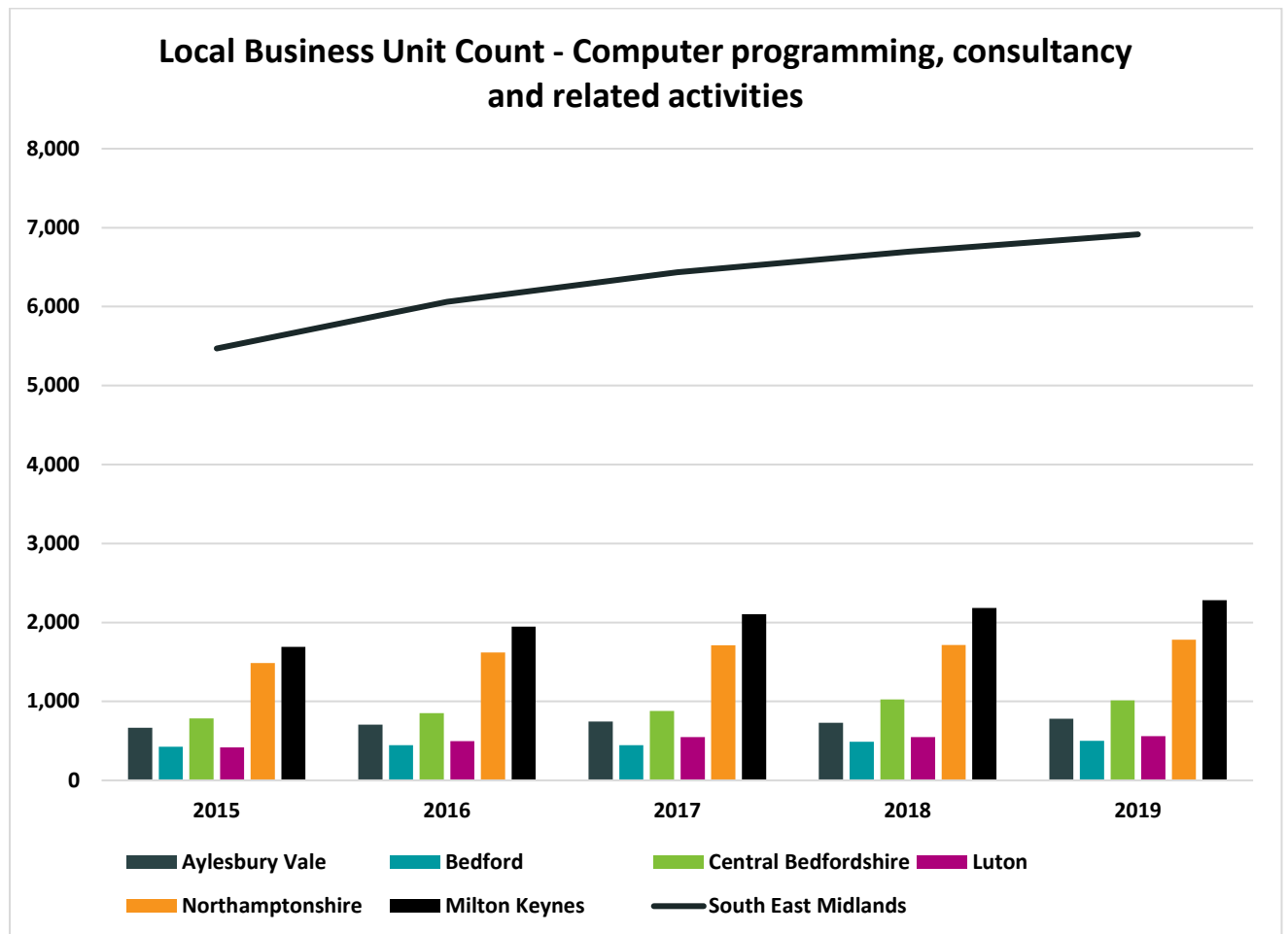
There are clusters of businesses seeking people with digital skills.



Most digital skill related job postings within the SEMLEP area are based in:

- Milton Keynes - 28% of all job postings in Milton Keynes
- Northampton - 18% of all job postings in Northampton
- Luton - 20% of all job postings in Luton
- Bedford - 22% of all job postings in Bedford
- Aylesbury - 14% of all job postings in Aylesbury
- North Northamptonshire – Kettering, Corby, Wellingborough, Rushden - 16%

Specialist Digital Business Growth in the SEMLEP Area



The numbers of computer programming, consultancy and related activities businesses have grown from 5470 units in 2015 to 6915 in 2019.

The largest growth has been in Milton Keynes with both Northamptonshire and Central Bedfordshire also experiencing substantial increases. All areas within the South East Midlands have seen growth.

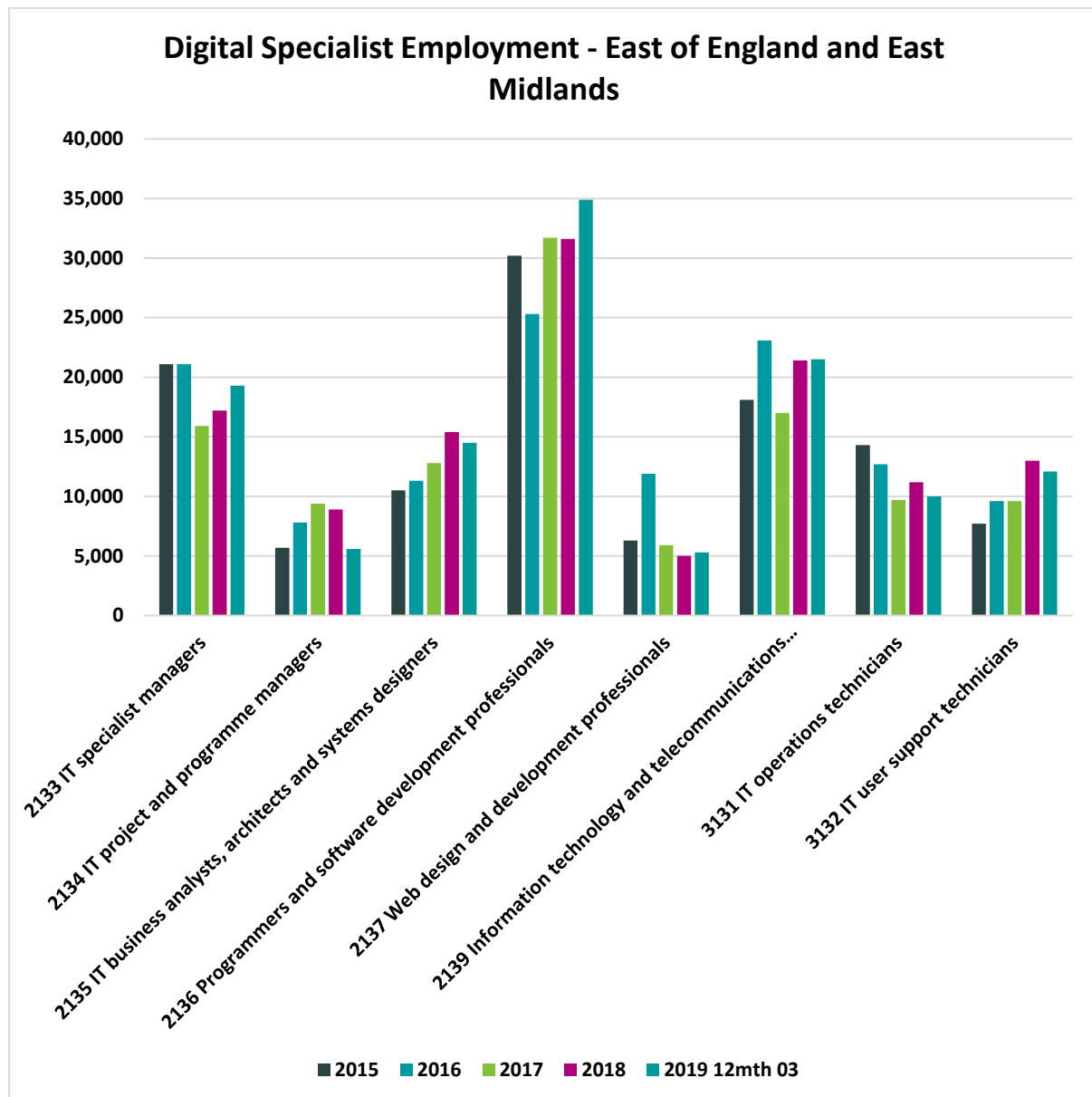
Business sizes are predominately Micro (0-9 employees) at 96% and this size of business has provided most of the growth in numbers (98%).

Both numbers of Small (10-49) and Medium (50-249) size businesses have increased in Milton Keynes and Northamptonshire.

Employment Growth for Occupations Utilising Digital Skills

Data from the East of England and East Midlands (Standard Occupation Codes) shows increases in Digital Specialist employment for:

- Specialist managers
- Business analysts, architects and systems designers
- Programmers and software development professionals
- User support technicians

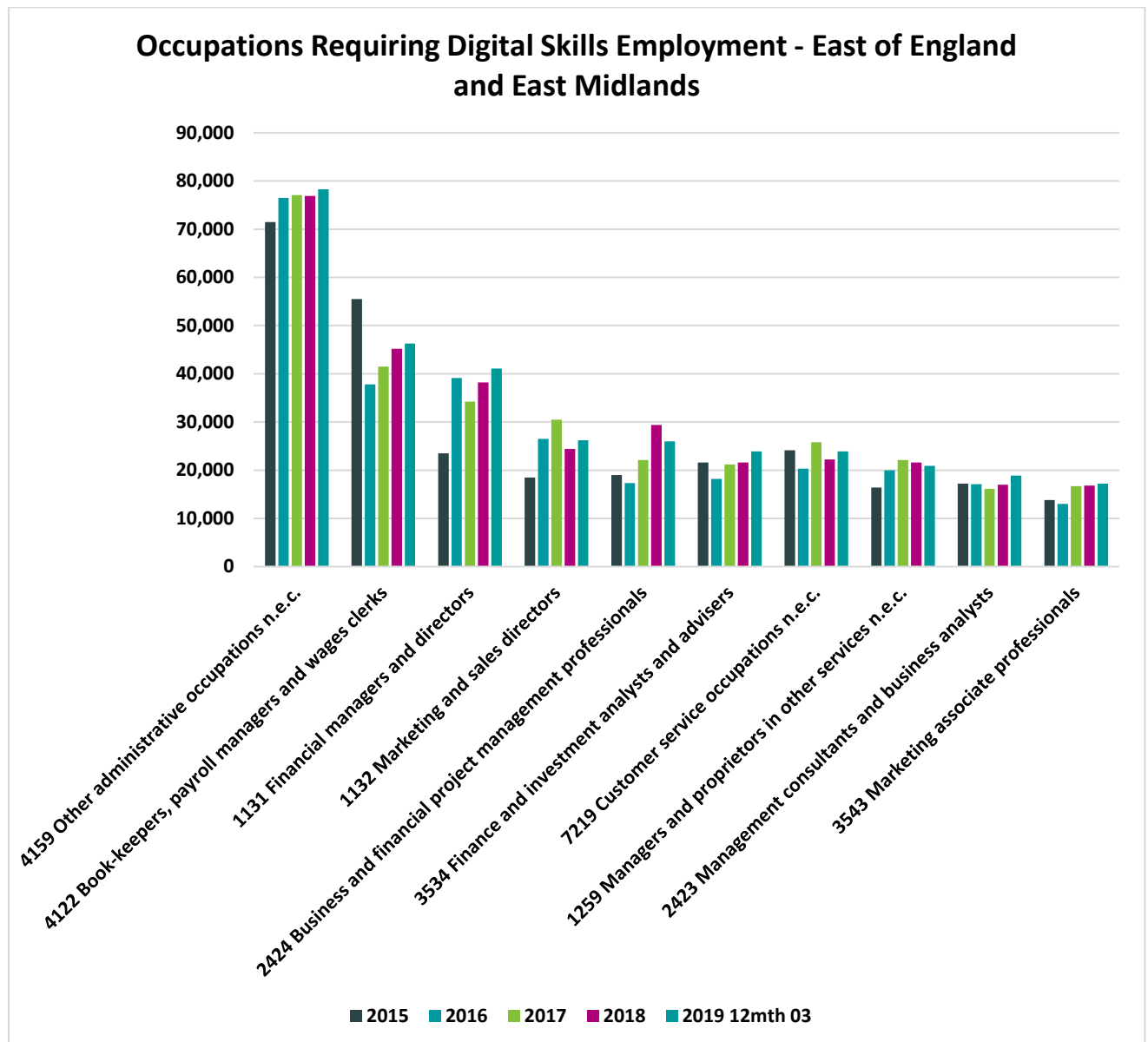


Web design and development professionals have reduced as more simple to use, cloud based software has become available and the increased use of social media and networks.

11% are self-employed.

The employment levels for other occupation categories seeking people with digital skills show increases in employment for:

- Administrative occupations
- Bookkeepers, payroll managers and wages clerks
- Financial managers and directors
- Finance and investment analysts and advisers
- Customer service occupations
- Management consultants and business analysts
- Marketing associate professionals



Salaries for Occupations using Digital Skills

From Labour Insight and reviewing the last 12 months of job postings, salary levels for occupations requiring digital skills are generally above national averages for the high-volume occupations.

Source	Burning Glass	ONS, 2017
Occupation Title	Mean Advertised Salary	Mean Salary (UK-wide)
Programmers and software development professionals	£51,694	£43,834
IT business analysts, architects and systems designers	£54,725	£49,421
Other administrative occupations n.e.c.	£21,468	£17,453
IT user support technicians	£28,287	£29,638
Management consultants and business analysts	£45,876	£46,240
Sales related occupations n.e.c.	£29,590	£20,301
Customer service occupations n.e.c.	£21,149	£17,029
Web design and development professionals	£42,874	£31,740
Bookkeepers, payroll managers and wages clerks	£23,922	£21,640
IT operations technicians	£43,352	£31,357

From consultation with businesses, it is felt that some salary levels are impacted by those being paid in London and some individuals resident in the area will not be primarily office based, working from home being the norm.

The Impact of Digital Technologies including Automation

Identified as one of the 'Grand Challenges' by government, the adoption of AI, automated systems and technology is already and will continue to impact on occupations, productivity and types of employment in sectors.

Examples within the SEMLEP area include robotics and mechatronics (Advanced Manufacturing/High Performance Technology), intelligent mobility (High Performance Technology), Big Data, automation and process control (Logistics), robotic process automation and chatbots (Retail, Business Administration and Financial Services) and digital creative media (Creative and Cultural). Fields such as cyber security and data analytics are applicable to all sectors.

Sectors initially identified as having jobs most influenced by AI and automation, based on the predicted percentages of jobs at risk by PwC are;

- Manufacturing (46.4%) – 43,400
- Wholesale and retail (44%) – 73,900
- Transportation and storage (56.4%) – 42,000
- Business administrative and support services (37.4%) – 40,600

It should be noted that these calculations do not consider the level of automation already having been applied, especially in new facilities.

The area's most likely to see the biggest influence in numbers are the larger conurbations such as Milton Keynes, Northampton, Luton and Bedford together with parts of Central Bedfordshire.

As a percentage of current workforce, the areas are Corby, Wellingborough, Daventry, East Northamptonshire and Luton. The remaining areas all have significant people within the sectors listed above.

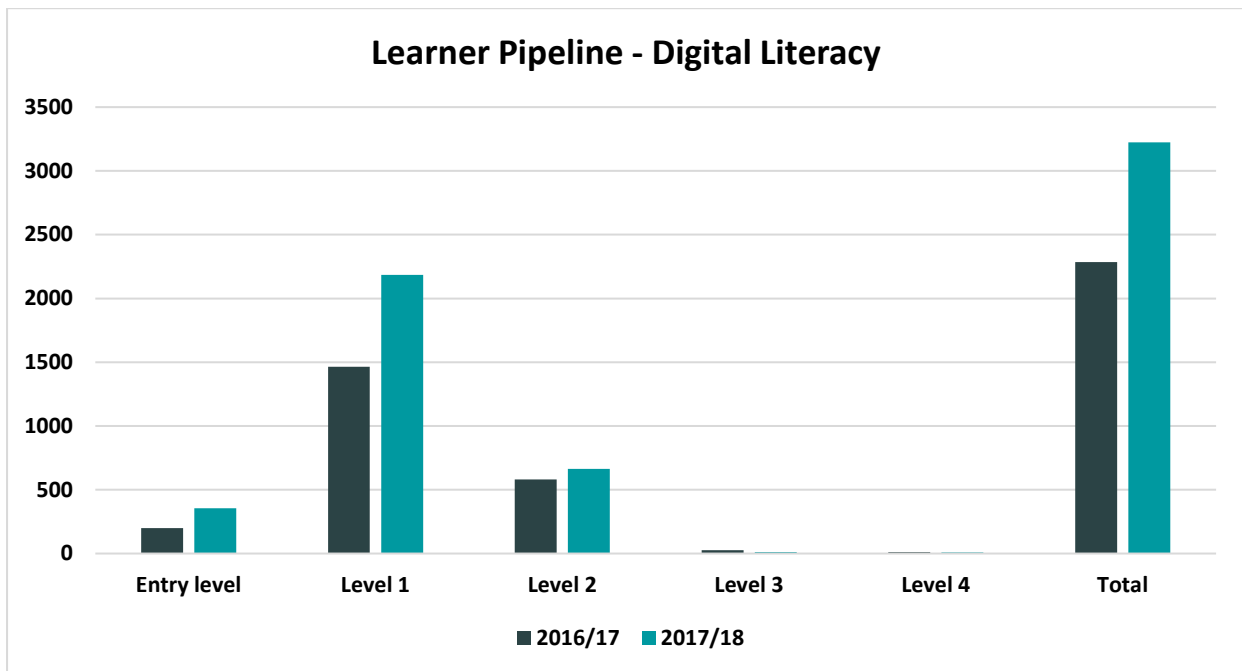
From the data shown previously, the main demand for roles with digital skills are those with higher level specialist skills and more elementary occupations requiring digital literacy.

This would seem to indicate a hollowing out of the mid-level occupations with the adoption of automation, digital processes and systems.

Talent pipeline - Basic Digital and Digital Literacy Skills Education Provision in the SEMLEP Area

Data from the DfE DataCube shows 3,224 ESFA funded learners of all ages participated in qualifications relating to basic digital and digital literacy skills in 2017/18 (ICT Users).

Learner numbers increased from 2016/17 to 2017/18 by 940 (41%) primarily at level 1.



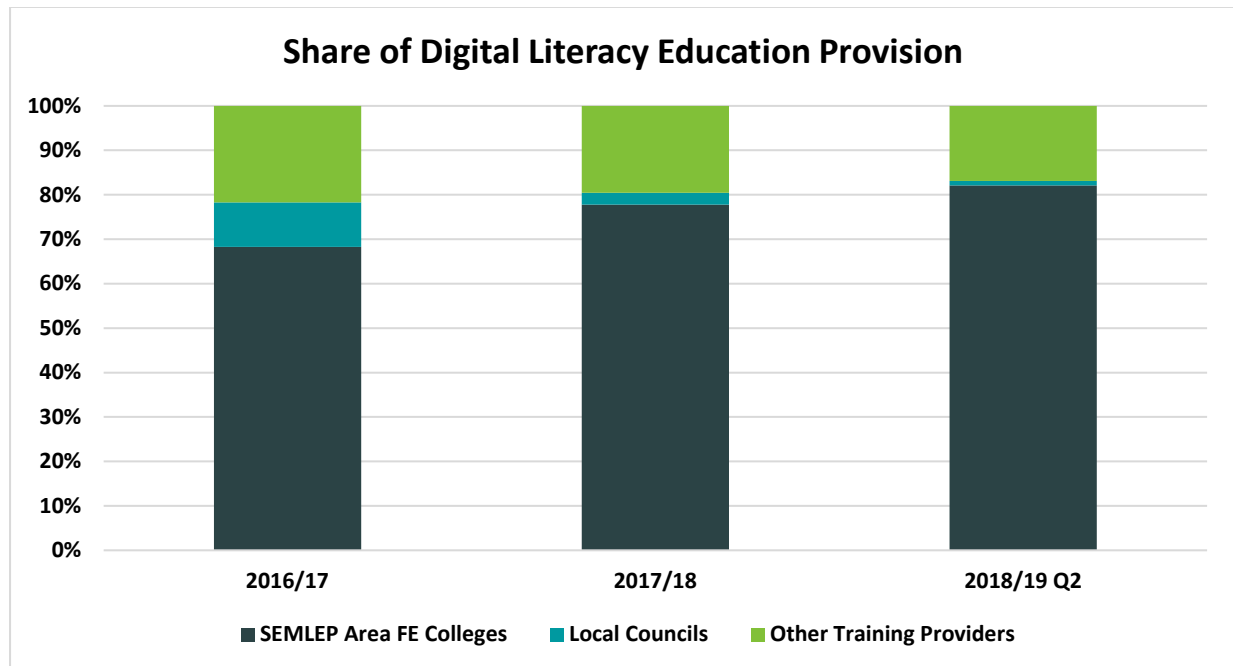
ESFA funded education provision for 2017/18 comprises:

Qualification Level	Further Education and Training	Apprenticeships
Entry level	356	
Level 1	2184	
Level 2	653	11
Level 3	7	5
Level 4		8
Total	3200	24

Local Further Education College and Council provision contributed 81% of the total provision in the SEMLEP area, FE Colleges 78%, Councils 3%.

The share of learner trends are:

- SEMLEP based FE Colleges is increasing, 2016/17 68%, 2017/18 78% and 2018/19 Q2 82%.
- Local Councils is decreasing, 2016/17 10%, 2017/18 3% and 2018/19 Q2 1%.
- Other training providers is decreasing, 2016/17 22%, 2017/18 20% and 2018/19 Q2 17%.



From teaching staff and senior leadership teams in schools;

- The introducing of Computer Science has reduced the amount of teaching on digital literacy
- What is taught, is not applied in lessons, i.e. use of Microsoft Excel and Word
- There are concerns over the digital capability of some teaching staff
- There is a lack of suitable digital hardware which stifles its use by students

Summary:

- Healthy growth in digital literacy education provision in local FE Colleges
- Need for a review of the contribution of Adult Education Budget through local councils for digital literacy
- There is a need to include the application of digital literacy within the development of young people in pre 16 education

Talent Pipeline - Specialist Digital Skills Education Provision in the SEMLEP Area

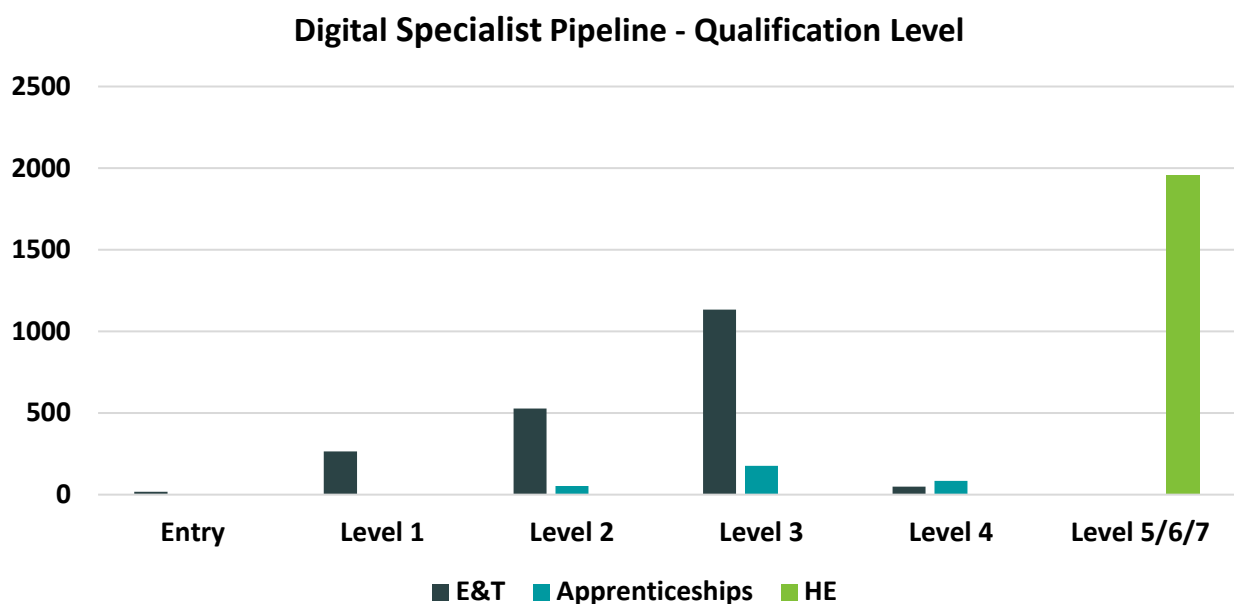
Data from the DfE DataCube and HESA shows 4,250 learners of all ages participated in qualifications relating to specialist digital skills in 2017/18 (ICT Practitioners).

The top 8 occupations for 10/2018 – 09/2019 relating to specialist digital skills, accounts for 10,000 job postings were:

Occupation	Number of Job Postings
Software Developer / Engineer	3407
Computer Support Specialist	1824
Data / Data Mining Analyst	1562
Web Developer	882
Computer Systems Engineer / Architect	847
IT Project Manager	758
Systems Analyst	517
Information Security Engineer / Analyst	476

The job postings for the top 8 indicate a preference by employers for Level 6 (degree) qualifications, ideally with some previous experience of work.

Current education provision is predominately in further education (levels 0-5 46%) and higher education (level 6 46%), apprenticeships (8%) making up the remainder.



Education Levels are defined as:

- 0 - Entry
- 1 - Entry
- 2 - GCSE, Awards, Diploma, Certificates
- 3 - A-Level, AS-Level, Diplomas, Certificates, Advanced Apprenticeship
- 4 - HNC, HND, Foundation Degree, Higher Apprenticeship
- 5 - HND, Foundation Degree, Higher Apprenticeship
- 6 - Degree, Degree Apprenticeship
- 7 - Post graduate degree

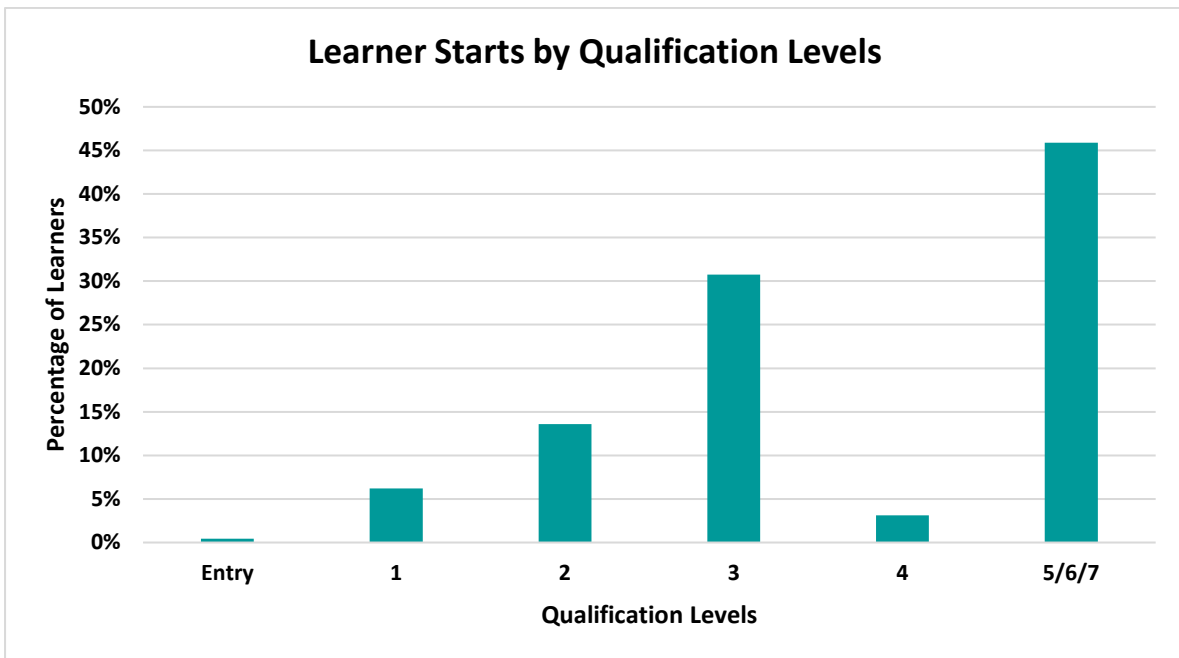
The Institute for Apprenticeships (IfA) have produced Occupational Maps for a framework of 15 routes to skilled employment. The Occupational Maps were developed to articulate a common framework across all technical education including apprenticeships and college-based courses.

The maps document all the skilled occupations that can be achieved through an apprenticeship or forthcoming T Level qualification. Occupations are grouped together to show linkages between them and possible routes for progression.

The Occupational Maps appear to show some mismatches between recommended pathways and those currently being provided and requested by employers.

Occupation	Typical Employer Level Request	IfA Occupational Map
Software Developer / Engineer	6	4/5/6
Computer Support Specialist	2/3/4/5/6	3
Data / Data Mining Analyst	6	4/5/6
Web Developer	6	3/4
Computer Systems Engineer / Architect	6	4/5/6
IT Project Manager	6	6
Systems Analyst	6	4/5/6
Information Security Engineer / Analyst	3/4/6	4/5/6

This is reflected in the differences in the percentages of occupation job postings versus percentage of learners against qualification levels as shown in the following graphs.



Higher numbers of learners at level 3 provision is a step on the pathway to level 4, 5 and 6 and not a main entry point into work.

There are few requests by employers for level 4 and 5 and little provision is delivered at these levels despite this being shown by IfA as main occupational pathways.

The Learner Pipeline

ESFA funded education provision for 2017/18 comprises:

Qualification Level	Further Education and Training	Apprenticeships	Higher Education
Entry	18		
1	264		
2	527	52	
3	1133	177	
4	48	85	
5/6/7			1955

The total number of learners to job postings provides a ratio of 0.66 for all job occupation postings in the SEMLEP area.

The Specialist Digital learners to job postings the ratio is 0.41 within the SEMLEP area.

This would appear to indicate;

- Insufficient numbers of learners at levels 3, 4, 5, 6
- An Insufficient talent pipeline from secondary education

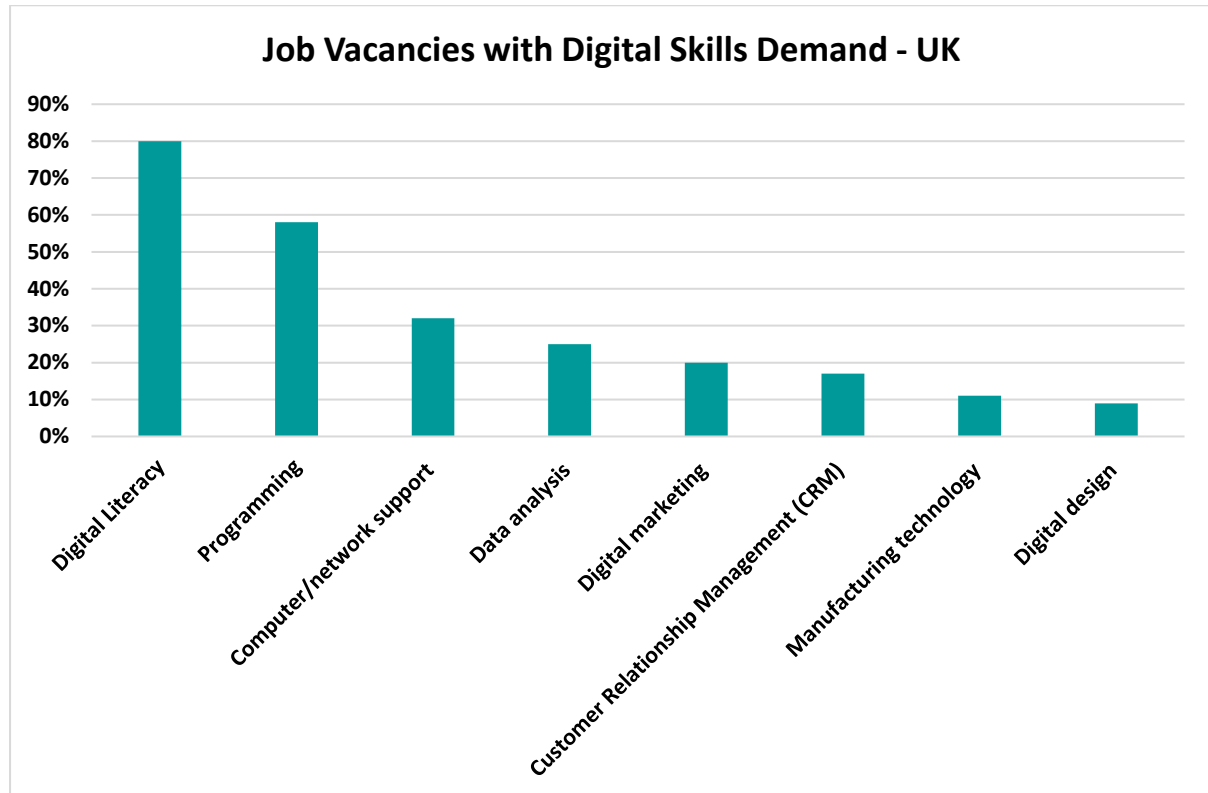
A full list of local College (ICT Practitioners) and University education provision is listed in appendix 1.

Summary:

- More focus and relevant provision with employer engagement needs to be in place in pre age 16 schools to promote specialist digital skills
- Further investigation required regarding employer needs and disparity with IfA Occupational Map.

National Picture – The Demand for Digital Skills

From data shown in “No Longer Optional: Employer Demand for Digital Skills”, March 2019, Burning Glass and DCMS and applying the SEMLEP definitions, the percentage of job vacancies demanding digital skills in the UK shows:



Summary:

- Highest requirement for Digital Literacy
- Specialist Digital Skills most in demand currently are programming, computer/network support, data analysis, digital marketing

Skills required for digital professionals, nationally (Emsi, Focus on demand for STEM jobs and & skills in Britain, 2018)

IT Professionals

1. Management
2. JavaScript (Programming Language)
3. Agile Software Development
4. Testing
5. SQL (Programming Language)
6. Information Security
7. Server (Computer Science)
8. C# (Programming Language)
9. Cascading Style Sheets (CSS)
10. Java (Programming Language)

IT Technicians

1. Management
2. Server (Computer Science)
3. Administration
4. Information Technology
5. Communications
6. Microsoft Windows
7. Technical Support
8. Networking
9. Information Security
10. Maintenance

Very hard to fill skills required for digital professionals, nationally (based on length of filling vacancy)

IT Professionals

1. JavaScript (Programming Language)
2. SQL (Programming Language)
3. C# (Programming Language)
4. Cascading Style Sheets (CSS)
5. HyperText Markup Language (HTML)
6. Software Development
7. PHP (Scripting Language)
8. JQuery
9. C (Programming Language)
10. Websites

IT Technicians

1. Server (Computer Science)
2. Communications
3. Networking
4. Information Security
5. Maintenance
6. Help Desk
7. Troubleshooting (Problem Solving)
8. Data/Record Logging
9. CompTIA A+ Certification
10. CompTIA Network+ Certification

The national fastest growing digital skills demand from Burning Glass, UK 2018, are:

Digital Literacy

- NetSuite
- Microsoft Office 365

Specialist Digital Skills

Programming/DevOps

- Kubernetes
- Spring Boot
- Docker Software

Computer/network support

- Cyber Security
- Threat Intelligence
- Chief Infrastructure Automation

Data analysis

- Deep Learning
- Pandas
- Pipeline (Computing)

Digital design

- Videography
- Adobe Premiere
- Video Editing

Data marketing

- Adobe Analytics
- Salesforce Marketing
- HubSpot

CRM

- Salesforce

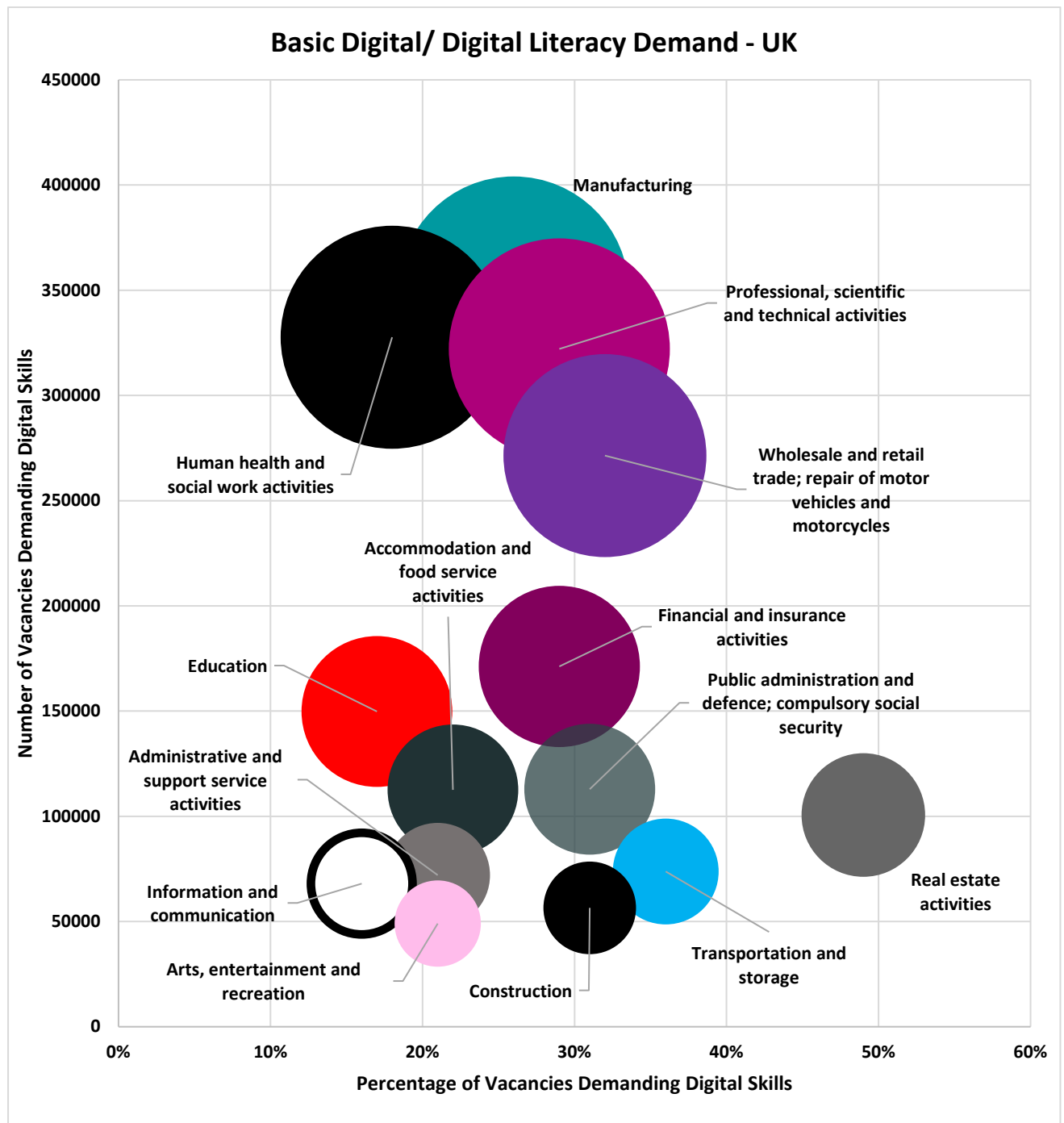
Manufacturing technology

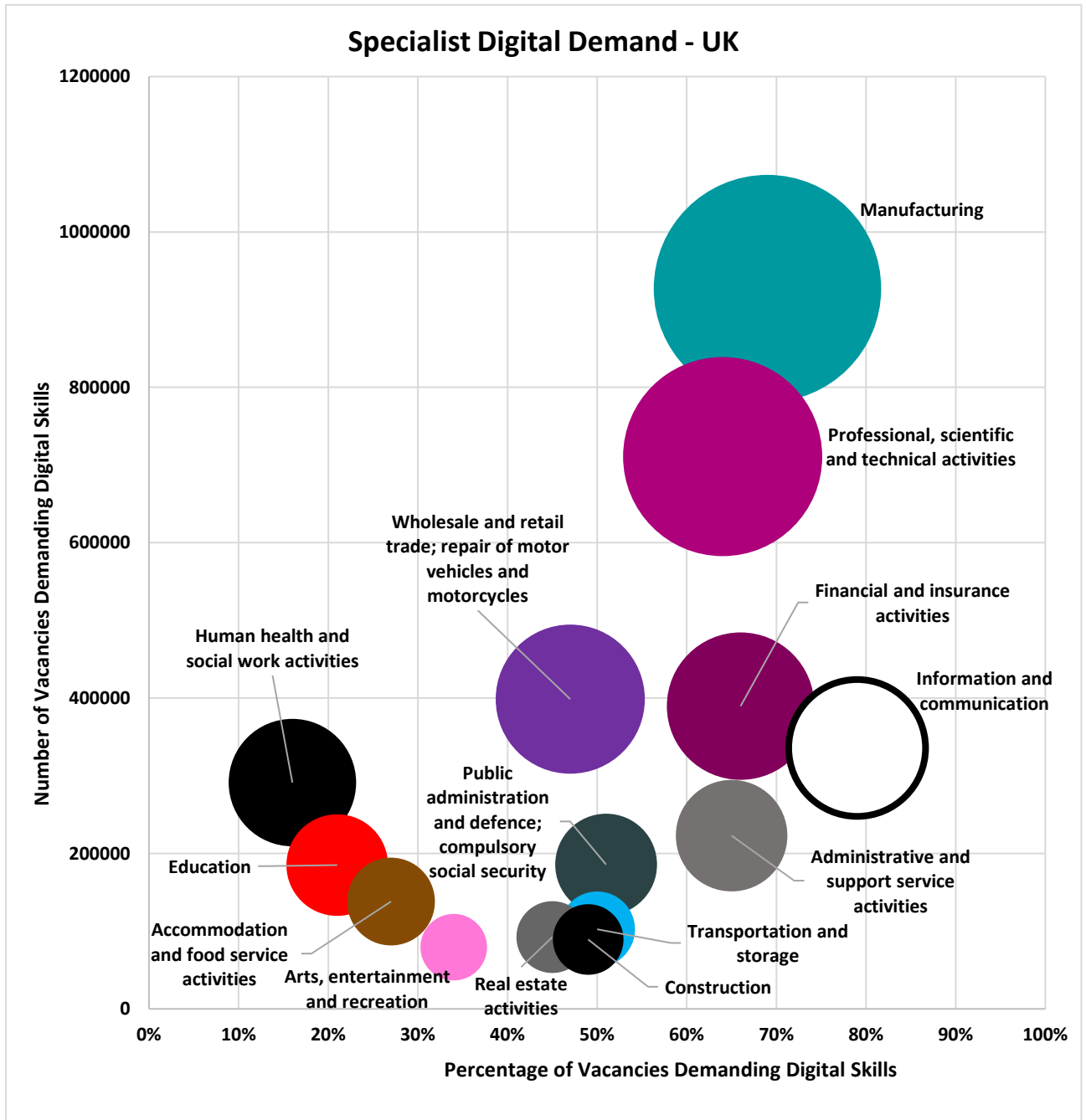
- CANape
- Mastercam
- Civil 3D
- STEP7 PLC

National Digital Skills Demands by Sector

From data shown in “No Longer Optional: Employer Demand for Digital Skills”, March 2019, Burning Glass and DCMS and applying the SEMLEP definitions, the demand for digital skill can be mapped.

The two graphs below show number of vacancies and percentage of total vacancies in the UK demanding digital skills at different levels. The larger the circle the bigger the demand and the further to the right, the higher the percentage of total vacancies requiring digital skills.





Summary:

Basic Digital/ Digital Literacy

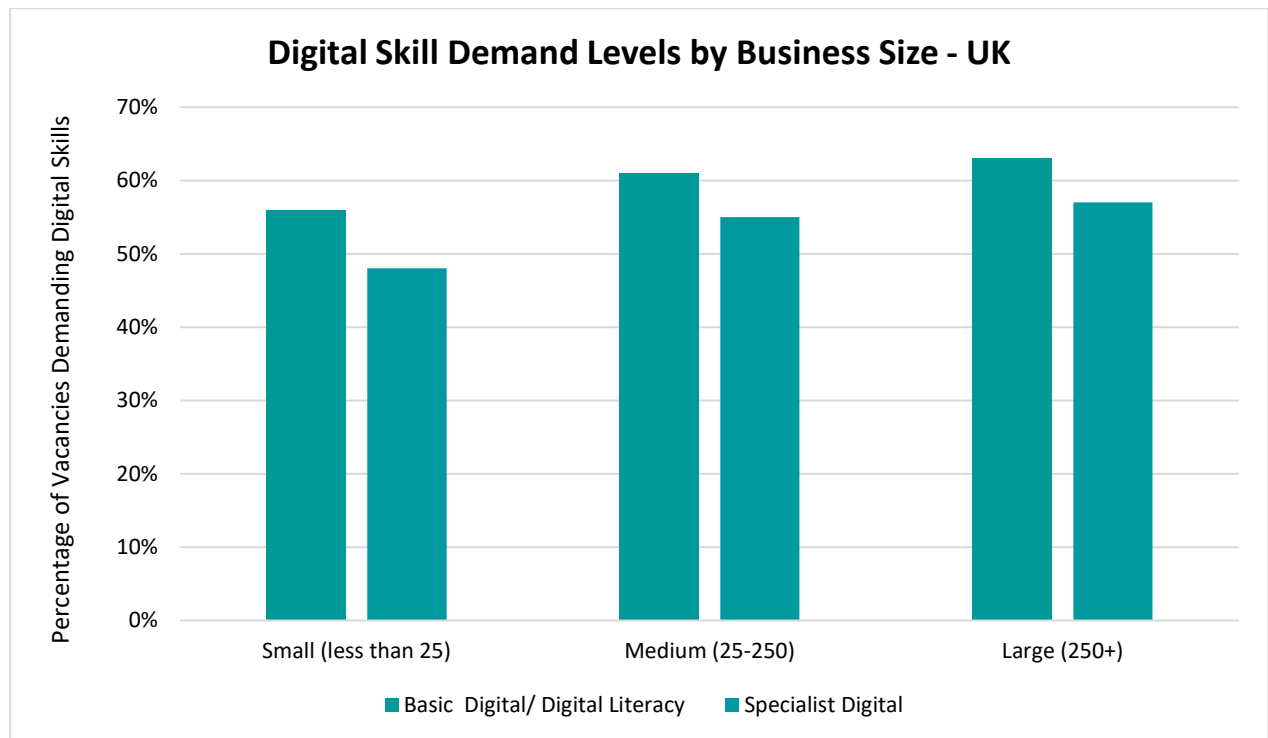
- High number demand in manufacturing, professional, scientific and technical activities, human health and social work activities, wholesale and retail trade
- High percentage of vacancies requiring digital skills real estate activities, agriculture, forestry and fishing, wholesale and retail trade; repair of motor vehicles and motorcycles, transportation and storage; public administration and defence; compulsory social security, construction

Specialist Digital

- High number demand in manufacturing, professional, scientific and technical activities, wholesale and retail trade; repair of motor vehicles and motorcycles, financial and insurance activities
- High percentage of vacancies requiring specialist digital skills information and communication, manufacturing, professional, scientific and technical activities, financial and insurance activities, administrative and support service activities

Digital Skills Demands by Business Size

From data shown in “No Longer Optional: Employer Demand for Digital Skills”, March 2019, Burning Glass and DCMS and applying the SEMLEP definitions, the demand for digital skill by business size in the UK can be mapped.



Size based on number of job adverts per annum

Summary:

- Demand for both Basic Digital/Digital Literacy and Specialist Digital skills rise with employer size.

National Projections

Job numbers (Emsi, Focus on demand for STEM jobs and & skills in Britain, 2018)

	Job Numbers 2013-17	Projected job numbers 2018-2026
IT professionals	38,100 (+3.9%)	237,100 (+34.9%)
IT technicians	8,200 (3.1%)	27,800 (+13.2%)

Projected job growth across occupations 2018-2023

Programmers and software development professionals	4.1%
Information technology and telecommunications directors	3.9%
Information technology and telecommunications professionals	3.7%
IT business analysts, architects and systems designers	3.4%
IT engineers	3.4%
IT project and programme managers	3.1%
Web design and development professionals	3.0%
IT specialist managers	2.7%
IT operations technicians	2.7%
IT user support technicians	2.6%

Median wages (hourly)

All jobs in Britain	£12.50
IT professionals	£22.83
IT technicians	£14.82

By occupation:

Programmers and software development professionals	£21.40
Information technology and telecommunications directors	£34.17
Information technology and telecommunications professionals	£19.50
IT business analysts, architects and systems designers	£23.33
IT engineers	£14.82
IT project and programme managers	£25.93
Web design and development professionals	£15.16
IT specialist managers	£24.41
IT operations technicians	£14.80
IT user support technicians	£14.47

Sources of Information

The research for Digital Skills in the SEMLEP area has been based on a range of data indicators and reports:

- SEMLEP Business Survey 2019
- Labour Insight Jobs (Burning Glass Technologies), Skills in Greatest Demand for 1/8/18 to 31/7/19
- Labour Insight Jobs (Burning Glass Technologies), Job Postings 2016 to August 2019
- Inter Departmental Business Register (IDBR) 2018
- Annual population survey – regional, ONS, Nomis, October 2019
- UK Business Counts - local units by industry and employment size band, ONS, Nomis, October 2019
- A Skills Mismatch Analysis of the Fifteen Technical Pathways, September 2017, Centre for Progressive Capitalism
- UK Economic Outlook, March 2017, PwC
- “No Longer Optional: Employer Demand for Digital Skills”, March 2019, Burning Glass and DCMS
- Emsi, Focus on demand for STEM jobs and & skills in Britain, 2018
- DfE DataCube
- Higher Education Statistics Agency (HESA), Data and analysis, students

We would also like acknowledge the assistance of local employers and education partners in compiling this report in particular:

- The Open University
- Cranfield University
- University of Northampton
- Milton Keynes College
- Bedford College
- Digital Northampton
- Business Data Group Ltd
- IRIS IoT Solutions
- Northamptonshire County Council
- Central Bedfordshire Council

Appendix 1 – SEMLEP College (ICT Practitioners) and University Education Provision

Establishment	Level	Description
Bedford College	3	Computing Access to Higher Education Advanced (Level 3)
Bedford College	4	Computing (Network Engineering/Security/Applications Development) BTEC HND
Bedford College	4	Computing BTEC HNC
Bedford College	2	Information and Creative Technology Intermediate (Level 2)
Bedford College	3	Computing (Software Development or Networking & Systems Support) Advanced (Level 3)
Bedford College		Basic PC Maintenance & Networking (CompTIA Strata exam optional)
Bedford College		CISCO Academy CCNA Part 1: Introduction to Networks
Bedford College		CISCO Academy CCNA Part 2: Routing & Switching Essentials
Bedford College		CISCO Academy CCNA Part 3: Scaling Networks
Bedford College		CISCO Academy CCNA Part 4: Connecting Networks
Bedford College	2	IT Essentials CISCO Level 2 (CompTIA A+ exam optional)
Bedford College		CompTIA Security+
Bedford College		Database Design and Database Programming with SQL using Oracle
Bedford College	3	Infrastructure Technician Advanced Apprenticeship Level 3
Bedford College		Introduction to Server side Web Development
Bedford College		Introduction to Web Development
Bedford College	2	IT User Skills OCR Level 2 Certificate
Bedford College	1	ITQ Level 1 Certificate
Bedford College	2	ITQ Level 2 Extended Certificate
Bedford College	3	Software Development Technician Level 3 Apprenticeship
Bedford College	Entry	Microsoft Excel: Advanced
Bedford College	Entry	Microsoft Excel: Intermediate
Bedford College	Entry	Microsoft Excel: An Introduction
Bedford College	Entry	Microsoft Excel: PivotTables and Dashboards

Bedford College		Responsive Web Design
Bedford College	4	Software Developer Higher Apprenticeship Level 4
Bedford College	4	Unified Communications Trouble Shooter Higher Apprenticeship Level 4
Milton Keynes College		Digital Technologies Intermediate
Milton Keynes College	3	Digital Technologies Advanced
Milton Keynes College		CISCO Network Essentials
Milton Keynes College		CISCO IT Essentials
Milton Keynes College		CISCO Scaling Networks
Milton Keynes College		CISCO Connecting Networks
Milton Keynes College		CISCO Introduction to Networking
Milton Keynes College		CISCO Routing & Switching Essentials
Milton Keynes College	4	Computing HNC
Milton Keynes College		CIM Foundation Award in Digital Essentials
Milton Keynes College		Access to Higher Education Diploma (Computer Science)
Milton Keynes College	3	Infrastructure Technician
Milton Keynes College	3	Digital Marketer
Milton Keynes College	4	Network Engineer
Milton Keynes College	4	Software Developer
Aylesbury College	1	Diploma in IT
Aylesbury College	2	Diploma in IT
Aylesbury College	3	Extended Diploma in IT
Aylesbury College	Entry	Microsoft Office: Excel Essentials
Aylesbury College	Entry	Microsoft Office: Skills for Work
Aylesbury College	2	CISCO CCENT
Aylesbury College	2	CISCO CCNA
Barnfield College	2	Computing
Central Bedfordshire College	1	INFORMATION TECHNOLOGY BTEC INTRODUCTORY LEVEL 1 DIPLOMA EDEXCEL
Central Bedfordshire College	2	ICT SYSTEMS SUPPORT LEVEL 2 DIPLOMA C&G

Central Bedfordshire College	2	INFORMATION AND CREATIVE TECHNOLOGY LEVEL 2 BTEC EXTENDED CERTIFICATE EDEXCEL
Central Bedfordshire College	3	COMPUTING BTEC LEVEL 3 NATIONAL EXTENDED CERTIFICATE EDEXCEL
Central Bedfordshire College	3	COMPUTING FOUNDATION BTEC LEVEL 3 DIPLOMA EDEXCEL
Central Bedfordshire College	3	IT BTEC LEVEL 3 DIPLOMA (120) EDEXCEL
Central Bedfordshire College	3	IT BTEC LEVEL 3 EXTENDED DIPLOMA (YR 2 TOP UP)
Tresham College	3	Computer Science
Tresham College	2	Information and Creative Technology
Tresham College	4/5	Computing BTEC HNC/HND
Tresham College		Gain advanced knowledge of Microsoft Excel
Tresham College		Gain confidence with Microsoft Excel
Tresham College		FREE computer training for adults in Kettering and Corby
Northampton College	Entry	Award in Online Basics
Northampton College	1	Award in Using ICT
Northampton College	1	Information Technology
Northampton College	1	ITQ Award IT User
Northampton College	1	ITQ Certificate IT User
Northampton College	2	Computer Networking and System Support
Northampton College	2	ITQ Award IT User
Northampton College	2	Software Development
Northampton College	2	Software Development and Coding
Northampton College	3	Digital and Cyber Technologies
Northampton College	3	Networking and Emerging Digital Technologies
Luton Sixth Form College	3	BTEC Diploma
Luton Sixth Form College	3	BTEC Subsidiary Diploma
Luton Sixth Form College	2	BTEC Award and Certificate
University of Bedfordshire	6	Business Information Systems, Bachelor of Science (with Honours) - BSc (Hons)
University of Bedfordshire	6	Business Information Systems with Foundation Year, Bachelor of Science (with Honours) - BSc (Hons)
University of Bedfordshire	6	Business Information Systems with Professional Practice Year, Bachelor of Science (with Honours) - BSc (Hons)

University of Bedfordshire	6	Computer Animation and Visual Effects, Bachelor of Science (with Honours) - BSc (Hons)
University of Bedfordshire	6	Computer Games Development, Bachelor of Science (with Honours) - BSc (Hons)
University of Bedfordshire	6	Computer Games Development with Foundation Year, Bachelor of Science (with Honours) - BSc (Hons)
University of Bedfordshire	6	Computer Games Development with Professional Practice Year, Bachelor of Science (with Honours) - BSc (Hons)
University of Bedfordshire	6	Computer Networking, Bachelor of Science (with Honours) - BSc (Hons)
University of Bedfordshire	6	Computer Networking with Foundation Year, Bachelor of Science (with Honours) - BSc (Hons)
University of Bedfordshire	6	Computer Networking with Professional Practice Year, Bachelor of Science (with Honours) - BSc (Hons)
University of Bedfordshire	6	Computer Science, Bachelor of Science (with Honours) - BSc (Hons)
University of Bedfordshire	6	Computer Science with Foundation Year, Bachelor of Science (with Honours) - BSc (Hons)
University of Bedfordshire	6	Computer Science with Professional Practice Year, Bachelor of Science (with Honours) - BSc (Hons)
University of Bedfordshire	6	Computer Systems Engineering, Bachelor of Engineering (with Honours) - BEng (Hon)
University of Bedfordshire	6	Computer Systems Engineering with Foundation Year, Bachelor of Engineering (with Honours) - BEng (Hon)
University of Bedfordshire	6	Computer Systems Engineering with Professional Practice Year, Bachelor of Engineering (with Honours) - BEng (Hon)
University of Bedfordshire	6	Cybersecurity, Bachelor of Science (with Honours) - BSc (Hons)
University of Bedfordshire	6	Cybersecurity with Foundation Year, Bachelor of Science (with Honours) - BSc (Hons)
University of Bedfordshire	6	Cybersecurity with Professional Practice Year, Bachelor of Science (with Honours) - BSc (Hons)
University of Bedfordshire	6	Information Technology, Bachelor of Science (with Honours) - BSc (Hons)
University of Bedfordshire	6	Information Technology with Foundation Year, Bachelor of Science (with Honours) - BSc (Hons)
University of Bedfordshire	6	Information Technology with Professional Practice Year, Bachelor of Science (with Honours) - BSc (Hons)
University of Bedfordshire	6	Software Engineering, Bachelor of Science (with Honours) - BSc (Hons)
University of Bedfordshire	6	Software Engineering with Foundation Year, Bachelor of Science (with Honours) - BSc (Hons)
University of Bedfordshire	6	Software Engineering with Professional Practice Year, Bachelor of Science (with Honours) - BSc (Hons)
University of Bedfordshire	6	Telecommunications and Network Engineering with Foundation Year, Bachelor of Engineering (with Honours) - BEng (Hon)
University of Bedfordshire	6	Telecommunications and Network Engineering with Professional Practice Year, Bachelor of Engineering (with Honours) - BEng (Hon)
University of Buckingham	6	Business and Management (with integrated Foundation), Bachelor of Science (with Honours) - BSc (Hons)
University of Buckingham	6	Business and Management with Applied Computing (2-year degree), Bachelor of Science (with Honours) - BSc (Hons)
University of Buckingham	6	Computing (2-year degree), Bachelor of Science (with Honours) - BSc (Hons)
University of Buckingham	6	Computing (3-year degree), Bachelor of Science (with Honours) - BSc (Hons)

University of Buckingham	6	Computing (with integrated Foundation), Bachelor of Science (with Honours) - BSc (Hons)
University of Buckingham	6	Computing with Accounting and Finance (2-year degree), Bachelor of Science (with Honours) - BSc (Hons)
University of Buckingham	6	Computing with Accounting and Finance (with integrated Foundation), Bachelor of Science (with Honours) - BSc (Hons)
University of Buckingham	6	Computing with Business & Management (2-year degree), Bachelor of Science (with Honours) - BSc (Hons)
University of Buckingham	6	Computing with Business and Management (with integrated Foundation), Bachelor of Science (with Honours) - BSc (Hons)
University of Buckingham	6	Computing with Economics (2-year degree), Bachelor of Science (with Honours) - BSc (Hons)
University of Buckingham	6	Economics with Applied Computing (2-year degree), Bachelor of Science (with Honours) - BSc (Hons)
University of Buckingham	6	International Relations with Applied Computing (2-year degree), Bachelor of Arts (with Honours) - BA (Hons)
University of Buckingham	6	Politics with Applied Computing (2-year degree), Bachelor of Arts (with Honours) - BA (Hons)
University of Buckingham	6	Psychology with Applied Computing (2-year degree), Bachelor of Science (with Honours) - BSc (Hons)
Buckinghamshire New University	6	Business Management and Information Technology, Bachelor of Science (with Honours) - BSc (Hons)
Buckinghamshire New University	6	Business Management and Information Technology with Foundation Year, Bachelor of Science (with Honours) - BSc (Hons)
Buckinghamshire New University	6	Computing, Bachelor of Science (with Honours) - BSc (Hons)
Buckinghamshire New University	6	Computing (with Foundation Year), Bachelor of Science (with Honours) - BSc (Hons)
Buckinghamshire New University	6	Computing and Web Development with Foundation Year, Bachelor of Science (with Honours) - BSc (Hons)
Buckinghamshire New University	6	Cyber Security, Bachelor of Science (with Honours) - BSc (Hons)
Buckinghamshire New University	5	Cyber Security, Foundation Degree in Science - FdSc
Buckinghamshire New University	6	Cyber Security with Foundation Year, Bachelor of Science (with Honours) - BSc (Hons)
Buckinghamshire New University	6	Games Development, Bachelor of Science (with Honours) - BSc (Hons)
Buckinghamshire New University	6	Games Development with Foundation Year, Bachelor of Science (with Honours) - BSc (Hons)
Buckinghamshire New University	6	Independent Games Production with Foundation Year, Bachelor of Science (with Honours) - BSc (Hons)
Buckinghamshire New University	6	Software Engineering, Bachelor of Science (with Honours) - BSc (Hons)
Buckinghamshire New University	6	Software Engineering with Foundation Year, Bachelor of Science (with Honours) - BSc (Hons)
University of Northampton	6	Business Computing (Systems), Bachelor of Science (with Honours) - BSc (Hons)
University of Northampton	5	Business Computing (Systems), Higher National Diploma - HND
University of Northampton	5	Computing, Higher National Diploma - HND
University of Northampton	6	Computing, Bachelor of Science (with Honours) - BSc (Hons)
University of Northampton	5	Computing (Computer Networks Engineering), Higher National Diploma - HND

University of Northampton	6	Computing (Computer Networks Engineering), Bachelor of Engineering (with Honours) - BEng (Hon)
University of Northampton	6	Computing (Computer Systems Engineering), Bachelor of Engineering (with Honours) - BEng (Hon)
University of Northampton	5	Computing (Computer Systems Engineering), Higher National Diploma - HND
University of Northampton	6	Computing (Mobile Application Development), Bachelor of Science (with Honours) - BSc (Hons)
University of Northampton	5	Computing (Mobile Application Development), Higher National Diploma - HND
University of Northampton	6	Computing (Software Engineering), Bachelor of Science (with Honours) - BSc (Hons)
University of Northampton	5	Computing (Software Engineering), Higher National Diploma - HND
University of Northampton	5	Computing (Virtual Reality & Industrial Simulation), Higher National Diploma - HND
University of Northampton	6	Computing (Virtual Reality & Industrial Simulation), Bachelor of Science (with Honours) - BSc (Hons)
University of Northampton	6	Computing (Web Technology & Security), Bachelor of Science (with Honours) - BSc (Hons)
University of Northampton	5	Computing (Web Technology & Security), Higher National Diploma - HND
University of Northampton	6	Games Art, Bachelor of Arts (with Honours) - BA (Hons)
University of Northampton	6	Games Design, Bachelor of Arts (with Honours) - BA (Hons)
University of Northampton	5	Games Design, Higher National Diploma - HND
University of Northampton	6	Games Design (top-up), Bachelor of Arts (with Honours) - BA (Hons)
University of Northampton	5	Games Programming, Higher National Diploma - HND
University of Northampton	6	Games Programming, Bachelor of Science (with Honours) - BSc (Hons)