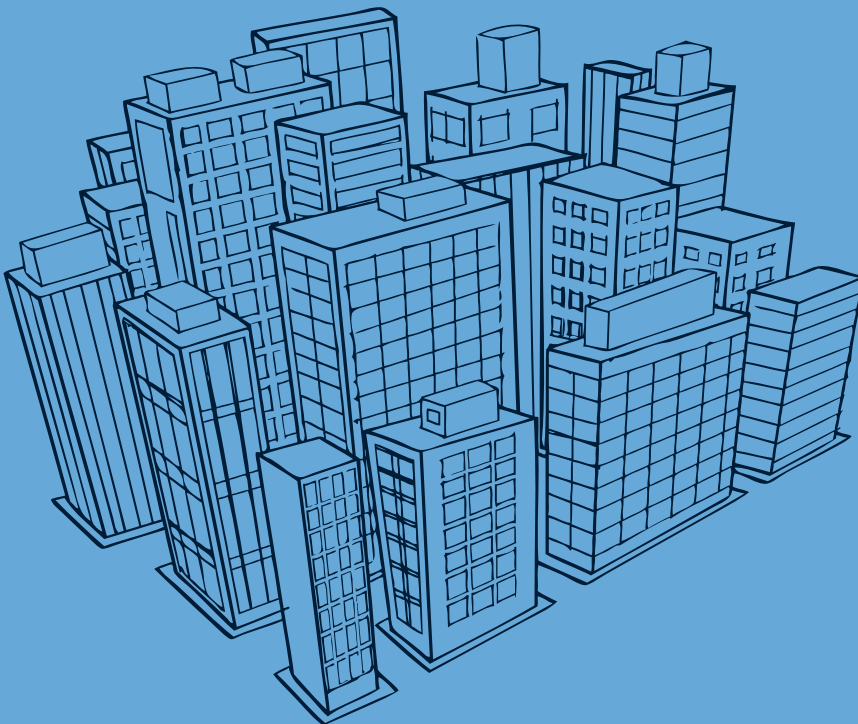




Experis®
ManpowerGroup

Tech Cities Job Watch

Q3 2017



Mobile & Web Development

About Experis and Tech Cities Job Watch



As technology continues to significantly impact all aspects of business, companies in cities across the UK vie for top tech talent, so they can build their ability to innovate and cater to demand.

Yet, as the technology sector has evolved, so have the skills, expectations, and demands of the talent that powers it. As a result, employers are finding it increasingly challenging to attract and secure the skilled individuals their business needs.

By combining the latest market intelligence with Experis insights and expertise, the Tech Cities Job Watch report provides employers with a barometer of the changing workforce dynamics within the technology sector. Five key disciplines are focused on in particular: Big Data, Cloud, IT Security, Mobile and Web Development.

It also puts a spotlight on the emerging opportunities and challenges businesses face in ten UK cities that are rapidly developing reputations as technology cluster hubs - London, Birmingham, Brighton, Bristol, Cambridge, Edinburgh, Glasgow, Leeds, Manchester and Newcastle.

Experis is the largest IT recruitment specialist in Europe. We have been at the forefront of the search for the best in IT talent for over 25 years, placing tens of thousands of candidates.

Experis has the deep industry knowledge to understand the challenges organisations face and the access to highly skilled professionals to help companies seize opportunities.

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Managing Director, Experis Europe
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Foreword



The explosion of the Internet of Things has led organisations to experiment with new digital applications in the pursuit of greater connectivity between devices. Both Mobile and Web Development disciplines have traditionally played an integral role in the innovation of the Internet of Things. Yet, as our latest Tech Cities Job Watch reveals, it appears that we have hit a tipping point, where demand for mobile technology surpasses demand for traditional non-mobile application development.

This quarter we find that Mobile technology skills are now the industry's most wanted. In fact, demand for permanent IT staff with Mobile skills grew by nearly 40% in the past year; and Mobile roles made up 28% of all roles analysed in our report. On the other hand, demand for Web Developers dropped by one-fifth over the last year.

As demand for skills increases, it's usually expected that solid salary growth will occur too. It's the classic supply versus demand relationship. However, that's not the case here. Demand for Mobile skills may have soared, but this has only created modest pay growth over the last year, which fails to keep pace with inflation.

There are several potential reasons why this dichotomy may have occurred. One explanation could be that businesses recognise they need to evolve their mobile services, but are unable to significantly increase their monetary investment in this area at present. Other critical issues are likely to be taking priority – such as improving data and IT security infrastructures ahead of the General Data Protection Regulation (GDPR) coming into force.

Another possible explanation for the slow pay growth that Mobile professionals have experienced could be the recent emergence of Citizen Developers. These are employees who work outside of the IT function and have no formal development experience, but who use new, easy-to-use software platforms to develop user interfaces. This can reduce organisations' dependence on specialist mobile developers, and may have had a knock-on effect on the premiums Mobile specialists can command.

Whatever the reason for these labour market dynamics, one thing is clear: the Internet of Things is driving immense change. Certain specialisms are becoming obsolete; while new skill requirements are emerging every year. And, as employers, we have a responsibility to ensure our business – and, most importantly, our workforce – is ready for whatever lies ahead.

I hope you find this report to be a useful tool. As always, I would really value your perspective on our insights. Do reach out to either myself or one of our team if you'd like to discuss your own experiences in sourcing talent across the UK's Tech Cities.

Best wishes,

Geoff Smith

Managing Director, Experis Europe



Executive Summary

Together, Mobile and Web Development opportunities for both permanent and contract roles across the ten Tech Cities reached 24,051. However, where the number of Mobile roles advertised grew when compared to the previous year (by 39% for permanent and 26% for contract), Web Development roles fell by 8% for permanent and 22% for contract. Mobile now tops the five tech disciplines for combined permanent and contract opportunities, representing 28% of all roles analysed in this report.

Key Takeaways



Mobile roles advertised grew by **39% for permanent and 26% for contract**



Web Development roles fell by **8% for permanent and 22% for contract.**

Permanent opportunities in both Mobile and Web Development continue to be concentrated in London, though steady demand is also reported in both Manchester and Bristol. Similarly, these cities offer the most Web Development contract roles.

However, in terms of salaries, Mobile and Web Development roles attract the lowest salaries and day rates. This is despite accounting for almost 50% of all contract and permanent roles advertised across the five disciplines and Tech Cities in Q3 2017.

This quarter Mobile opportunities offer the more modest annual pay increases, but the highest values of the two. The average salary offered in Mobile grew by only 1% year-on-year to £53,364, where contract day rates are up by 2% in the same period to £421, both failing to keep pace with inflation. For Web Development, the average salary is up by 2%, while day rates have increased by 9% year-on-year, at £42,674 and £352 respectively.

In fact, Web Development outperforms all four of the other disciplines for year-on-year pay growth. As with Mobile, permanent salaries grew by just 1% in Big Data and Cloud, and fell 3% in IT Security. For day rates, year-on-year growth was 6% for IT Security, 0% for Big Data and -2% for Cloud. This is despite a significant increase in demand for the five disciplines combined.

Together, these trends tell a story about a tech labour market undergoing change. Ordinarily, in a skills-short market, you would expect strong demand growth to be accompanied by robust pay growth, but that is not the case here. Something is restraining permanent salaries and day rates.

Looking specifically at Mobile, the rise of Citizen Developers – individuals with no formal development experience – is one way that organisations are navigating skills shortages. By making use of non-IT staff, organisations are reducing their dependence on specialist mobile developers, with a knock-on effect on the premiums such specialists can command.



Salary Watch

Permanent salaries

Across all five disciplines and the ten Tech Cities, average permanent salaries stand at £54,149, the same as Q3 2016. Each discipline experienced year-on-year pay growth apart from IT Security, which declined by 3%. However, all disciplines have experienced an increase in salaries since Q3 2015, rising on average by 13% collectively.

Average permanent salaries for the key five disciplines across the ten Tech Cities

City	Big Data	Cloud	IT Security	Mobile	Web Dev	Average (City)
Birmingham	£56,121	£45,763	£52,804	£40,367	£34,738	£41,679
Brighton	^	£42,851	£40,050	£44,474	£40,621	£41,882
Bristol	£50,157	£49,664	£49,820	£41,083	£35,213	£42,529
Cambridge	£47,634	£44,852	£45,099	£42,490	£50,812	£45,549
Edinburgh	£59,282	£44,936	£43,972	£47,591	£33,781	£44,243
Glasgow	£53,235	£45,644	£43,438	£40,106	£41,251	£43,436
Leeds	£55,772	£46,300	£42,770	£45,541	£36,449	£42,184
London	£71,917	£63,844	£59,395	£59,440	£47,824	£60,075
Manchester	£49,418	£49,228	£49,761	£39,696	£36,894	£42,030
Newcastle upon Tyne	£60,179	£42,008	£46,173	£37,262	£34,133	£39,144
Average (Skill)	£67,260	£59,404	£55,942	£53,364	£42,674	£54,149

* Shading to indicate the top three cities, salary-wise for each discipline ^ indicates no data available

Mobile & Web Development

Mobile and Web Development were the two disciplines with the lowest average salaries offered this quarter. Average permanent salaries for Mobile professionals only grew by 1% year-on-year (from £52,791), whereas over a two-year period growth was 10% (from £48,551) to £53,364.

Permanent salaries for Web Development had a similar modest rise of 2% year-on-year (from £41,795) and 6% over two years (from £40,168), offering £42,674 this quarter.

The city advertising the highest growth in Web Development salaries year-on-year and over the past two years was Cambridge, at 41% and 36% respectively. Whereas for Mobile, Edinburgh saw the biggest growth of 28% and 35% for the same period.



Contract rates

Average day rates across all five disciplines and the ten Tech Cities, saw both year-on-year (Q3 2016) and two year growth (Q3 2015) of 5% and 11% respectively, now at £456. Looking across the five disciplines, day rates for Big Data remained static while Cloud was the only discipline that saw a decline of 2% year-on-year, and IT Security experienced a growth of 6%.

Average contractor day rates

City	Big Data	Cloud	IT Security	Mobile	Web Dev	City Average
Birmingham	£549	£363	£474	£366	£308	£380
Brighton	^	^	^	^	£303	£302
Bristol	£495	£333	£612	£347	£307	£345
Cambridge	£448	^	^	£360	£362	£322
Edinburgh	^	£481	£403	£383	£335	£402
Glasgow	^	£436	^	£272	£339	£329
Leeds	£492	£451	£459	£338	£324	£401
London	£542	£500	£495	£444	£376	£479
Manchester	£522	£413	£384	£336	£328	£391
Newcastle upon Tyne	£527	£374	£384	£286	^	£395
Average	£539	£478	£489	£421	£352	£456

* Shading to indicate the top three cities, salary-wise for each discipline ^ indicates no data available

Mobile & Web Development

Mirroring the permanent market, Mobile and Web Development were both the lowest paying of the five disciplines, offering £421 and £352 respectively this quarter.

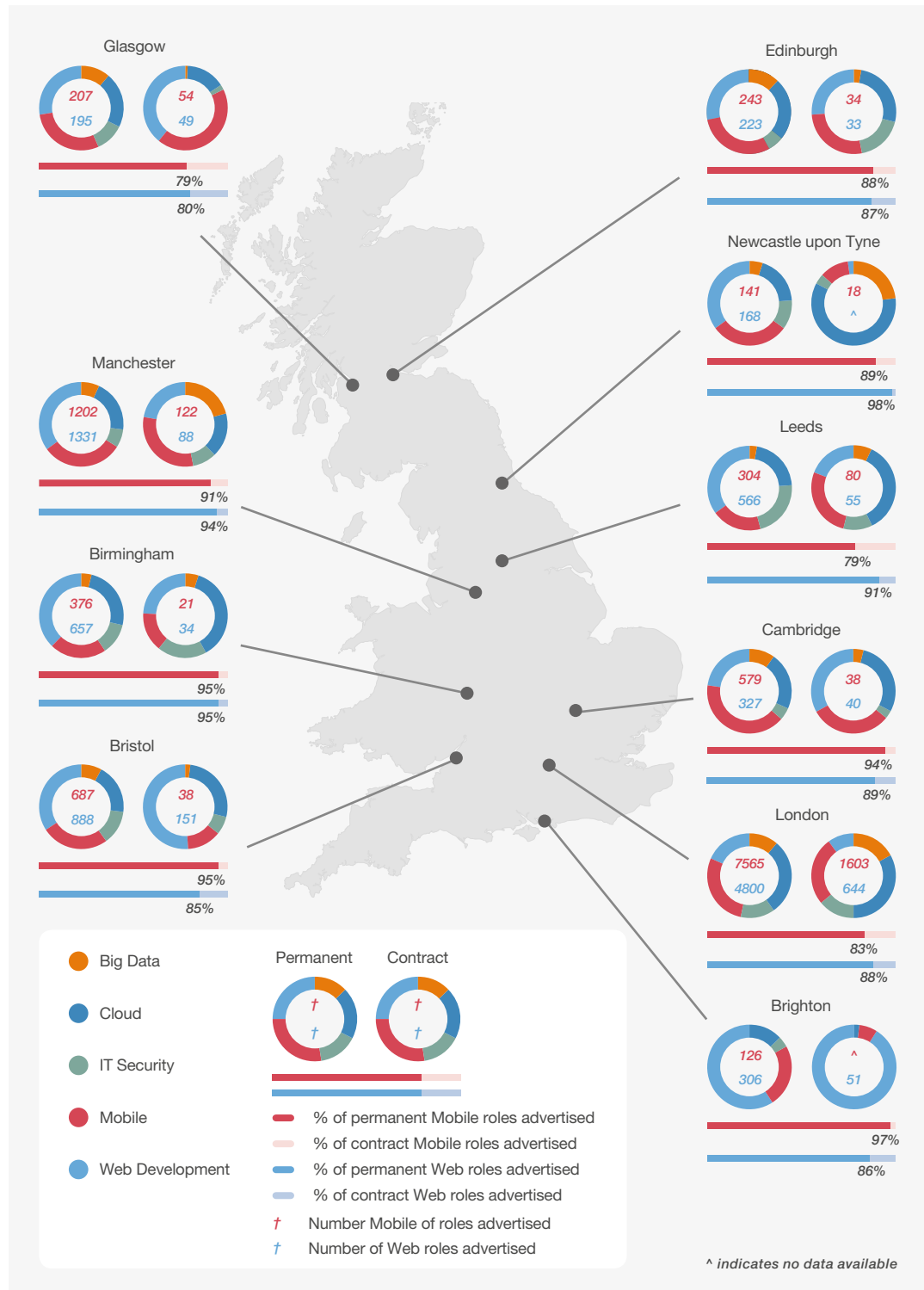
Barely keeping up with inflation, the average day rate for the Mobile discipline saw an equally modest rise of 2% year-on-year, as per the permanent market. However, when compared with Q3 2015, day rates have grown by 4%.

On the other hand, day rates for Web Development skills grew by 9% and 6% year-on-year and over two years respectively.



Employer Demand

A national comparison of permanent versus contract roles for employer demand (for the five key technology disciplines, across the UK's ten Tech City hubs).





Permanent

Across all five disciplines and the ten Tech Cities, the total number of permanent roles advertised this quarter was 40,588. Since Q3 2016, demand has increased by 39%, while it increased by 37% since Q3 2015.

Mobile & Web Development

Demand for permanent IT staff with Mobile skills has also increased by 39% in the past year, now totalling 11,430 job roles advertised.

At least 66% of the permanent Mobile roles were based in London (7,565), with the remaining 3,865 positions spread across the other Tech Cities. Outside of the Capital, Manchester, Bristol and Cambridge had the highest demand for Mobile roles.

There was a reduction in the number of permanent positions advertised in Web Development; dropping by 7% since Q3 2015 and by 8% since Q3 2016. As a result, this quarter there were 9,461 permanent Web Development roles advertised.

Similar to the Mobile discipline, 51% of the positions advertised were based in London (4,800) and the rest across the other cities (4,661). Manchester, Bristol and Birmingham had the highest number of Web Development permanent roles advertised.



Topping the rankings for the first time, **the combined number of permanent and contract Mobile roles for IT professionals made up 28% of all those advertised in the UK, across the five disciplines.**



Contract

The total number of contract roles advertised across the ten Tech Cities and all five disciplines this quarter was 7,938. Similar to the permanent market, the number of contract roles advertised increased by 22% since Q3 2016 and 36% since Q3 2015.

Mobile & Web Development

Mirroring the permanent market, demand for Mobile contract roles increased both year-on-year and since Q3 2015, by 26% and 3% respectively, with a total of 2,012 roles advertised this quarter.

Around 80% of roles (1,603) were advertised in London, whereas the remaining 409 roles (20%) were advertised across the other cities. Outside of London, the top cities advertising for Mobile skills were Manchester, Leeds and Glasgow.

In contrast, Web Development contract roles also saw a year-on-year and two year decline of 22% and 26% respectively, falling to 1,148 roles advertised this quarter. With 504 roles advertised outside the Capital (44%), London remained the top city demanding Web Development skills, with 644 roles advertised (56%). Outside of London, demand was strongest in Bristol, Manchester and Leeds.

“We’re seeing demand for Web Development roles slowing down because it’s no longer such a strong growth area. As a result, the vacancies we’re seeing are more likely to be created by employees moving from existing roles, rather than newly created positions. In contrast, with the rapid growth of mobile consumption, we’re expecting the need for mobile app development skills to continue growing.”

Joe Stevens, SMB Team Lead, Experis UK & Ireland

Insights

The shift in online development



Introduction

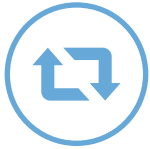
Over recent years, the drive for technology has become increasingly mobile, with a growing need to consume services when and where it suits us. Thanks to mobile devices, this is increasingly possible.

As this quarter's Tech Cities Job Watch data reveals, we may have hit a tipping point where our need for mobility is so great, that demand for mobile apps is surpassing our need for traditional desktop or non-mobile application development.

In this section, we will explore this shift, along with the drivers behind whether to develop mobile apps or mobile-responsive websites. We will look beyond the smartphone, given the rise of Artificial Intelligence and the Internet of Things. Finally, we will speculate on what the Tech Cities Job Watch data is telling us and the implications for talent management.



The drive for technology has become increasingly mobile, with a growing need to consume services when and where it suits us.



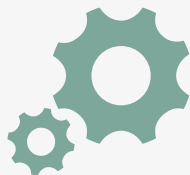
The shift from computers to smartphones

Consumers are increasingly choosing not to be tethered to their desks by the services they use in both their personal and professional lives. Mobile technology enables us to get more done in previously unproductive pockets of time. We can learn a new language on the train to work; manage our financial affairs in the café whilst waiting for a friend; check our heart rates as we ascend a challenging incline on our morning run; and much more.

Whilst smartphones have limited screen real estate, manufacturers continue to find innovative ways to stretch the boundaries. But we cannot design with one device in mind – we also have to consider the available screen sizes of other devices, such as fitness trackers and even smart shopping trolleys. This requires specialist design skills, aka ergonomics, in order to create a positive user experience. With the limited screen size of mobile devices, it has changed from viewing the internet through a window, to something that is more like a letterbox. Often, older websites do not present very well on smartphones. This leads to a poor user experience, which can be costly, as increasingly fickle users give up and take their money elsewhere.

One of the big decisions organisations have to make when assessing their web and mobile platforms is whether to create a mobile-responsive website or a mobile application. But before this, organisations must finally accept that their current website, with all its bells and whistles, has reached the end of the road, given the likelihood that most visitors will arrive via their mobile device. In essence, all websites that are more than a few years old have to be redeveloped. This is no doubt one of the biggest drivers of increasing demand for mobile developers.

Instead of choosing between developing a mobile application or a mobile-responsive website, many organisations often decide to create both – thus, to some extent, doubling the demand in Mobile skills. When deciding which option to go for, it's worth bearing in mind that applications tend to work best for specific requirements, where the functionality is highly cohesive, such as music streaming or learning a language. On the other hand, websites tend to be more general, as they are often the first port of call for potential customers. At this stage, it is unlikely that an organisation will have an application and not a website.



Instead of choosing between developing a mobile application or a mobile-responsive website, **many organisations often decide to create both - thus, to some extent, doubling the demand in Mobile skills.**



Beyond smartphones

It's not just smartphones that require mobile developers – there are plenty of other types of devices out there that require these skills. Fitness trackers are an obvious example. An upturn in personal wellness coupled with intelligent sensors is enabling us to wear our own 'vital signs' dashboard. Such devices have minimal or no screen real estate and so a Bluetooth-connected smartphone becomes the user interface. This will increasingly be the case, as wearables become embeddables. Pacemakers are not a new concept, but those that receive software upgrades via the internet are the future. The rapid progress of the Internet of Things will make incorporating sensors into clothing, and even ourselves, increasingly affordable. These developments will require mobile developers to turn the data they capture into user insights.

Voice-activated virtual assistants that enable us to order food and books are, in many respects, the pre-cursors of robotic butlers. Mobile developers will need to develop voice-activated interfaces that give rise to actual mobility in the device – for example 'take these cupcakes across the road to our new neighbours'.



It's not just smartphones that require mobile developers – **there are plenty of other types of devices out there that require these skills.**



What is the data telling us?

Looking in more detail at the Tech Cities Job Watch data, we see that demand for mobile developers is on the rise, up 39% for permanent and 26% for contractor roles. In contrast, the salaries grew just 1% and 2% respectively. To highlight the extent of the growth in demand, Mobile now tops the list of most wanted technology skills, in comparison to the other technology disciplines in this report.

It is not obvious what is driving this split between demand and salaries. One theory is that the demand is being partially met by growth and increasing diversity in supply. The emergence of the Citizen Developer (people with no formal development experience) is enabling those on the user side to take a more active role in mobile development. Emerging tools are displacing the underlying technical complexities and thus enabling users to support the development of the user interface without needing technical expertise.



The emergence of the Citizen Developer is enabling those **on the user side to take a more active role in mobile development.**

Another theory is that the development lifecycles for mobile applications is much shorter and so a developer can meet the needs of more clients across a given period than would be true for website development. However, this argument only holds water in the freelance market.

Keep in mind that the rise of the Citizen Developer can be seen as either an extension of the IT department into the user community, or a modern-day version of 'covert IT'. The key point to take away is that the use of such people needs to be handled with care, to ensure mobile applications are developed to an 'enterprise' standard. The Citizen Developer might be considered one permanent solution to the problem. Organisations can recruit people who are business oriented, for example, business analysts, who are interested in getting hands-on technology experience; or simply bring in existing employees from other departments who are looking to upskill.



The rise of Artificial Intelligence

We are entering an era where users expect personalisation, whether that is in the adverts they receive, the workout they do next or the songs they should consider listening to. Artificial Intelligence, of which machine learning is a subset, has a role to play in creating this next level of user experience. Geodata, camera data and other information captured by the mobile device can also serve to enrich the experience.



Talent implications

While Citizen Developers may relieve some pressure in respect of acquiring Mobile talent today, there are no guarantees for the future. The Internet of Things is forecast to exponentially grow the number of smart devices in the market. Everything from house bricks to under the skin embedded debit cards will cause the demand for mobile developers to soar.

Given that Mobile is not a passing fad, and if anything is likely to grow, you might be best playing the long game and securing great people on a permanent basis. On this basis, 'growing your own' talent is one option. Your people know your business and that is a valuable part of the overall Mobile skills mix. Contractors can offer both deep technical knowledge and the opportunity to upskill your people by being part of the team.



Conclusion

It's clear that the future is Mobile – and not just smartphones. Business disruption, the Internet of Things and Artificial Intelligence will all positively impact the demand for Mobile skills. You can either wait for the market to pressure your organisation into action, or you can get ahead of the storm and take a proactive approach to growing your own Mobile talent.



It's clear that the future is Mobile – and not just smart phones. **Business disruption, Internet of Things and Artificial Intelligence will all positively impact the demand for Mobile skills.**



Methodology

The statistics referenced in this report were obtained via an entity extractor provided by Innovantage, which scans and logs IT job postings across over 180 global job boards and in excess of half a million employer websites.

This information was then put through a normalisation process, where the data was matched to defined regions and types. Where roles were unsortable due to vague or foreign language job titles, they have been omitted.

This data was further sorted into disciplines, job types, sectors, and other categories to provide a detailed analysis of the current recruitment market. Please note, information was excluded in the report where the sample data was too small or where information for the regions was unavailable.

Experis drew upon its years of IT talent industry experience to compile the detailed analysis of the recruitment market found in this report.

Special thanks to Ade McCormack, for his contribution to the 'Insights' section of this report.

Ade McCormack is a digital strategist and near futurist. He is a former technologist, FT opinion columnist, and CIO 100 judge, and has lectured at MIT Sloan on digital leadership. More of his strategic insights can be found via his blogs at www.ademccormack.com.



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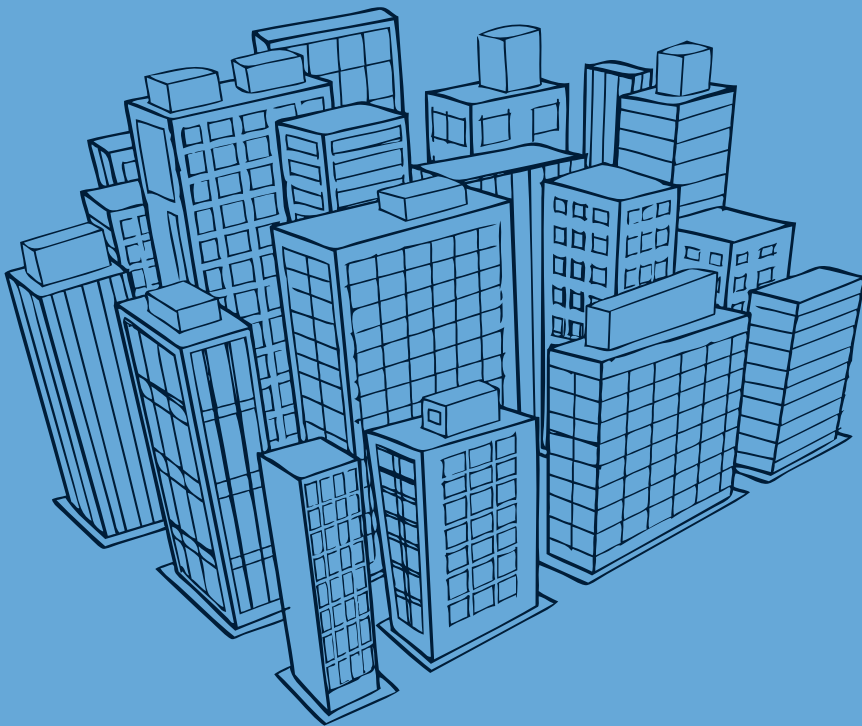
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