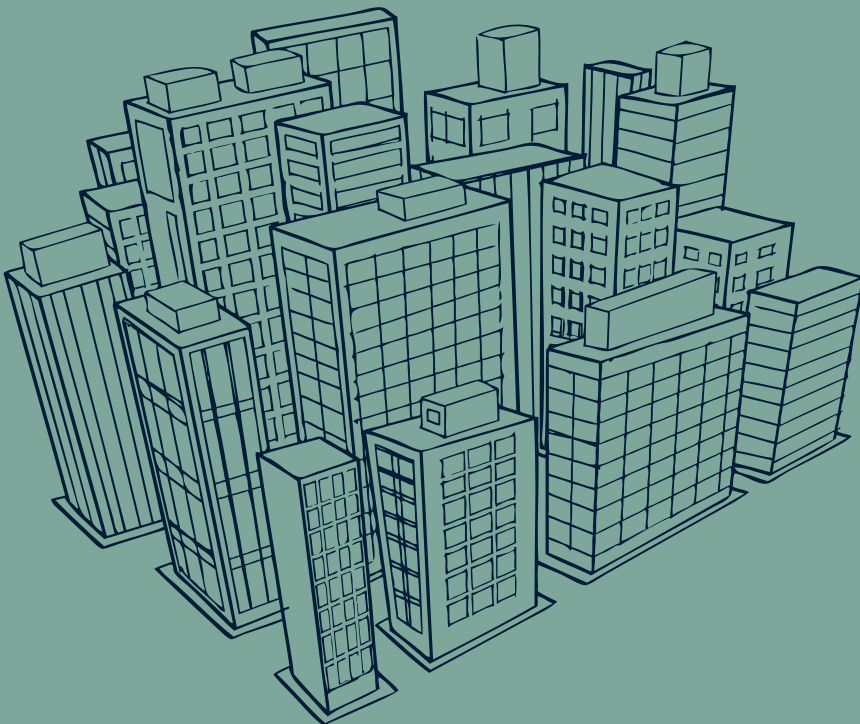




Experis™
ManpowerGroup

Tech Cities Job Watch

Q1 2017



Big Data

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 upon Tyne.

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



Big Data is one of the most powerful tools in an organisation's arsenal. If used correctly, it allows businesses to make more informed, strategic decisions; it can unveil new growth opportunities and threats; it can help them understand their customers in greater depth; and it allows employers to better optimise the performance and productivity of their workforce. With the ability to drive business success in so many ways, it's no wonder that Big Data has become increasingly important in the workplace.

In just over a year's time, the much-discussed General Data Protection Regulation (GDPR) legislation will come into force. In an increasingly data-driven world, it aims to give individuals greater control over how their personal information is used, and ensure their privacy and safety is preserved.

However, the implications of GDPR on businesses are considerable. The legislation will see tougher penalties put in place for data breaches, stacking up to 4% of an organisation's annual global turnover or €20 million (whichever is greater). Penalties of this magnitude have the power to significantly damage businesses, and may even push some into administration. It presents businesses with substantial challenges, from both a Big Data and an IT Security perspective. As a result, the pressure is on for organisations to get their data practices in order to ensure they comply.

With this in mind, many businesses are looking to make a long-term investment in Big Data. They recognise the value it can add to their organisation; but they also appreciate the significant consequences of not getting it right, so they don't want to risk a quick fix. Our latest Tech Cities Job Watch report demonstrates this. Both hiring demand and average salaries for permanent Big Data professionals have climbed steeply this quarter – and they show no sign of slowing any time soon.

Nonetheless, whilst it's important to invest in permanent Big Data professionals, employers shouldn't overlook the value of contractors. The lines between Big Data and IT Security are blurring, creating the need for Big Data professionals to quickly upskill in new areas in order to meet GDPR requirements. Contractors can be used to do just that – training existing Big Data professionals so they are equipped with the required skills to add long-term value to your organisation.

I hope you find this report a useful tool, as we all look to ready our organisations for the upcoming legislative changes. As always, I would really value your feedback on our insights. Please feel free to 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



The demand for Big Data professionals has leapt year-on-year, by 51.7% for both permanent and contract roles, bringing the total number of Big Data opportunities in Q1 2017 to 4,000. The majority of these roles were concentrated in London, Manchester and Cambridge.

With 3,293 roles advertised in Q1 2017, permanent opportunities are also up by 24.6% over Q4 2016. On the contractor side, demand declined by 22% quarter to quarter, dropping from 906 to 707 positions. Approximately one in five advertised Big Data roles were offered on a contract basis in Q1 2017.

While the increased demand for Big Data professionals has pushed salaries to £67,399 – 4% higher than they were in Q1 2016 – contractor day rates have fallen by 1.3% year-on-year to £528 in Q1 2017.

Key Takeaways



**Increase
in demand
for Big Data
professionals**



**Increase
in salaries
for Big Data
professionals**

However, the average day rate across all five tech disciplines has increased by 2.1% between Q1 2016 and Q1 2017, and permanent salaries have seen above inflation growth of 4.8%, now standing at £52,428.

Employer demand for permanent professionals across all five disciplines has increased by 21.5% year-on-year, far outpacing the still significant 9.7% increase in demand for contract professionals during the same period.

This quarter's results imply a growing preference for permanent tech talent over contract, both within the Big Data discipline and across the five areas together. Growing demand for permanent professionals demonstrates the long-term commitment businesses are making to strengthen their tech capabilities. However, the accompanying salary growth signals that this shift brings further challenges – employers face increasing competition to attract, secure and retain the best people on a permanent basis.



Salary Watch

Permanent salaries

Average permanent salaries across the ten Tech Cities saw growth of 4.82% to £52,428, compared to the same period in 2016, and all disciplines experienced year-on-year growth.

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

City	Big Data	Cloud	IT Security	Mobile	Web Dev	City Average
Birmingham	£44,311	£49,169	£48,491	£35,120	£32,902	£38,660
Brighton	£35,545	£47,865	£38,923	£38,680	£34,782	£37,561
Bristol	£48,038	£46,032	£50,244	£39,277	£40,379	£43,006
Cambridge	£48,930	£44,612	£49,863	£45,381	£40,242	£44,504
Edinburgh	£69,406	£52,834	£55,602	£49,186	£35,788	£45,443
Glasgow	£56,875	£49,120	£50,627	£41,107	£36,568	£41,929
Leeds	£52,281	£49,576	£45,789	£42,359	£34,798	£40,946
London	£70,606	£62,074	£62,998	£57,410	£46,801	£58,172
Manchester	£53,545	£45,246	£47,445	£42,014	£36,151	£41,022
Newcastle upon Tyne	^	£77,352	£52,717	£32,208	£30,007	£36,290
Average	£67,399	£58,359	£58,725	£52,369	£41,578	£52,428

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

Big Data

The Big Data discipline saw an above inflation year-on-year increase of 4.03% across the ten Tech Cities, with an average salary of £67,399. Not only was this the highest average salary offered out of the five tech disciplines this quarter, but it was also 62% higher than the lowest average permanent salary, which was recorded for Web Development (£41,578). However, Big Data has experienced a decline of 2.03% since Q4 2016.

Looking across the Tech Cities, London, Edinburgh and Glasgow were the locations offering the highest permanent Big Data salaries. With year-on-year growth of 6.02%, the Capital offered an average salary of £70,606. Interestingly, Edinburgh saw the largest annual growth of 27.41% across all Tech Cities.

In contrast, Glasgow's average Big Data salary declined by 14.38%, year-on-year. However, it is the third highest paying city for Big Data skills, having experienced the largest quarterly increase in salary since Q4 2016, at 23.14%.



Contract rates

Across the ten Tech Cities, the average day rate grew year-on-year by 2.09% to £440. Interestingly, the only disciplines which experienced an increase on Q1 2016 were Cloud (3.79%) and Web Development (0.91%).

Average contractor day rates

City	Big Data	Cloud	IT Security	Mobile	Web Dev	City Average
Birmingham	£450	£487	£516	£359	£323	£400
Brighton	^	^	^	£213	£211	£212
Bristol	£259	£347	£253	£348	£255	£305
Cambridge	£479	^	£324	£293	£322	£329
Edinburgh	^	£462	£460	£351	£365	£393
Glasgow	£475	£371	£396	£353	£275	£315
Leeds	^	£499	£405	£389	£363	£399
London	£537	£504	£481	£416	£348	£462
Manchester	£414	£437	£420	£367	£274	£359
Newcastle upon Tyne	^	£453	£386	£456	£242	£412
Average	£528	£493	£471	£401	£332	£440

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

Big Data

Similar to this quarter's permanent salaries, Big Data professionals commanded the highest average day rates of £528. This was not only the highest average rate offered compared to all other disciplines, but was also 59% higher than the lowest average day rate, which was recorded for Web Development (£332).

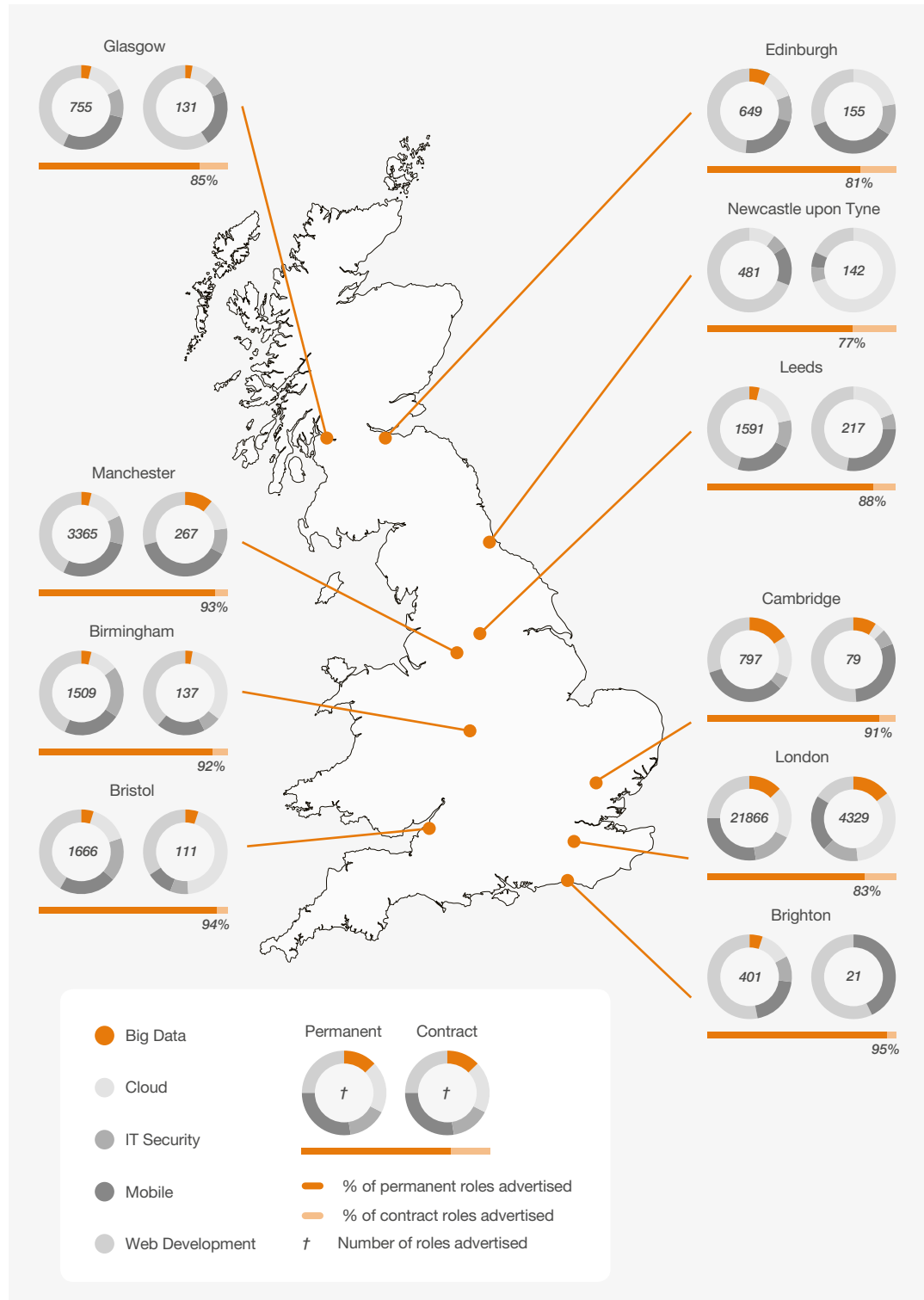
However, unlike the growth seen in permanent salaries, Big Data day rates have actually decreased by 1.31%, from £535 in Q1 2016 to £528 in Q1 2017. They have also fallen by 3.65% against the last quarter.

Unsurprisingly, London offered the highest day rate of £537, regaining its status as the highest paying city for Big Data skills. However, average day rates in London have fallen in comparison to both last year and last quarter, (0.56% and 3.24% respectively). Following London, the top paying cities were Cambridge (£479) and Glasgow (£475).



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).



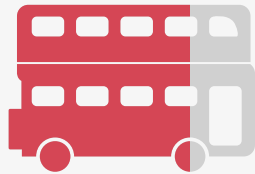


Permanent

This quarter, there were 33,080 permanent roles advertised across all five disciplines in our ten cities. This represents a 21% increase compared to Q1 2016 and a 21.5% increase on the previous quarter.

Big Data

Within the Big Data discipline, demand for permanent professionals grew by 51.82% compared to Q1 2016 and by 24.64% since last quarter, with a total of 3,293 roles advertised in Q1 2017. This year-on-year increase in demand also contributed to a 4.03% rise in permanent salaries, suggesting a stronger permanent market, compared to average contractor salaries.



With **83% of the roles advertised situated in London (2,734)**, the Capital remained the city with the highest demand for permanent Big Data professionals.

With 83% of the roles advertised situated in London (2,734), the Capital remained the city with the highest demand for permanent Big Data professionals. London also saw strong quarterly and annual increases in demand, at 24.05% and 43.82% respectively.

Manchester, Cambridge and Bristol saw the highest number of permanent roles for Big Data professionals advertised outside of London.



Contract

Contract roles experienced growth of 2.55% and 9.67%, across all ten cities and five disciplines, when compared to Q4 2016 and Q1 2016 respectively.

Big Data

Interestingly, demand for Big Data contractors has increased by 51.07% from Q1 2016, mirroring what we have seen in the permanent market. However, where permanent salaries increased on the back of the steep rise in demand, contracting day rates have decreased by 1.31% from £535 in Q1 2016 to £528 in Q1 2017.



Employer demand for permanent and contractor Big Data professionals combined saw **a significant rise of 51.69% since Q1 2016.**

Compared to the previous quarter, the number of Big Data contractor positions decreased, with demand declining by 21.96%, dropping from 906 to 707 positions.

Out of all Big Data contract roles advertised this quarter, almost 93% were placed in London (656).

Insights

Big Data. Big Insights.



A brief history of Big Data

For as long as organisations have existed, so too has their need to manage their data. Initially slow to progress, data management took a massive leap forward in the seventies with the arrival of relational databases that allowed data to be stored electronically and retrieved with relative ease. However, problems emerged when different areas within organisations developed their own databases. This created islands of data held in different formats on different technology platforms.

In the nineties, data warehousing was developed as a response to this issue, providing a single and coherent view of the organisation's data. But as we entered the high volume world of video, and the high frequency world of social media, the traditional relational database technologies could not cope. Thus, the concept of Big Data emerged, with the ability to handle very large and unstructured datasets.



As a response to the high volume world of video and the high frequency world of social media, **the concept of Big Data emerged**, with the ability to handle very large and unstructured datasets.



Why is this important?

Today, we live in an increasingly volatile and uncertain world. Threats and opportunities are emerging in unexpected forms. Organisations with the greatest understanding of what is happening both internally and externally will be best placed to identify such occurrences, allowing them to adapt to the changing environment ahead of their competitors. Big Data, alongside sensor technologies (think Internet of Things) and analytics tools, is key to this.



Big Data is one of the most **powerful tools** in an organisation's arsenal.

But businesses must keep in mind that it is the insight gleaned from the data that makes Big Data valuable. In that respect, it is a misnomer. Big Insight would be a more accurate name. And big doesn't necessarily mean better. Organisations need to be judicious in respect of the 'data hosepipes' they direct into their infrastructure. Too much data can have an obscuring impact on the insights.

Alongside all of this, organisations must be cognisant of the emerging General Data Protection Regulation, due to come into effect in May 2018. Big Data techniques that pull in data from disparate sources may inadvertently build a profile of an individual that puts your business in breach of the regulation, creating data protection and IT Security challenges.



Data capital

Big Data provides an opportunity to create a new asset for the organisation. Financial capital, intellectual capital and brand capital are already understood to be sources of value generation. Perhaps data capital should now be added to the list since the careful use of an organisation's data can help in the growth of these established assets. In the same way that organisations need an individual or function to manage their financial assets, they will need a data asset manager to ensure the organisation is sweating full value from its data capital.



Talent analytics

One area where we expect to see great strides in the near future is in talent engagement analytics. Today organisations appraise workers, often annually, on their performance. In the future it is likely that this will become a real-time activity, which will also focus on metrics beyond workplace performance.

With the arrival of wearable technologies and monitoring software, HR functions will be able to monitor the extent to which, for example, employees engage with each other. In this instance, a lack of engagement might be indicative of an emerging problem.

Big Data can be used to avert problems before they become disruptive and costly to the business. If these tools are used to improve performance for the benefit of the individual as well as the organisation, talented employees will likely consent to such scrutiny – viewing it in a similar way to athletes sharing data with their coaches.



Big Data will help to **appraise workers in real time and prevent problems from arising**, which could avoid disruption and increased costs for businesses.



Big Data talent

The successful implementation of Big Data requires an array of skills, both old and new. Traditional database development and administration skills will be needed to help with integrating legacy datasets into the model. Those skilled in handling very large and 'high transaction rate' data feeds will also be required, given the scale and range of data in question. In addition, analytics tool builders will be essential for generating the reports that are needed for both day to day operations, as well as regulatory compliance.



Organisations should **provide their workforce with regular development opportunities** to ensure their employees are equipped with the necessary skills to **add long-term value** to the organisation.

Further to this, as artificial intelligence plays an increasing role in areas such as pattern matching and early signal detection, businesses may also need specialists in this domain. Humans will also continue to have a role to play in interpreting the data, and so there will be continued demand for data scientists.

Organisations should provide their workforce with regular development opportunities to ensure their employees are equipped with the necessary skills to support these shifting requirements in the long-term.



Recommendations

Take action

1. **Ensure your disparate data sources are integrated** to provide an accurate picture of your internal and market reality. Missing or inaccurate data will lead to poor decision making.
2. **Don't scrimp on your analytics tools.** The better the tools, the better the insight.
3. **Ensure you have the best people involved** in this capital generating aspect of your business. Data becomes valuable when it is turned into insights, but the real value for an organisation is when it is turned into knowledge – so it's worth investing in the right people.
4. **The best people to support the development of your workforce may be contractors.** Consider bringing them in to upskill your permanent staff with the capability needed to take charge of this critical aspect of your business.
5. **Make business decisions based on accurate data** and not the gut feelings of a few senior decision makers.



Conclusion

Big Data presents a major opportunity to raise your organisation's performance, and is a key element to being a successful business in the digital age. Think of your data as an oil field on which your organisation sits. Ensure you have the best drilling equipment, along with the best people to extract and refine this precious commodity.



Big Data presents a major opportunity to raise your organisation's **performance, and is a key element of being a successful business** in the digital age.

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. Instances where data was minimal or for regions where information was unavailable were not included.

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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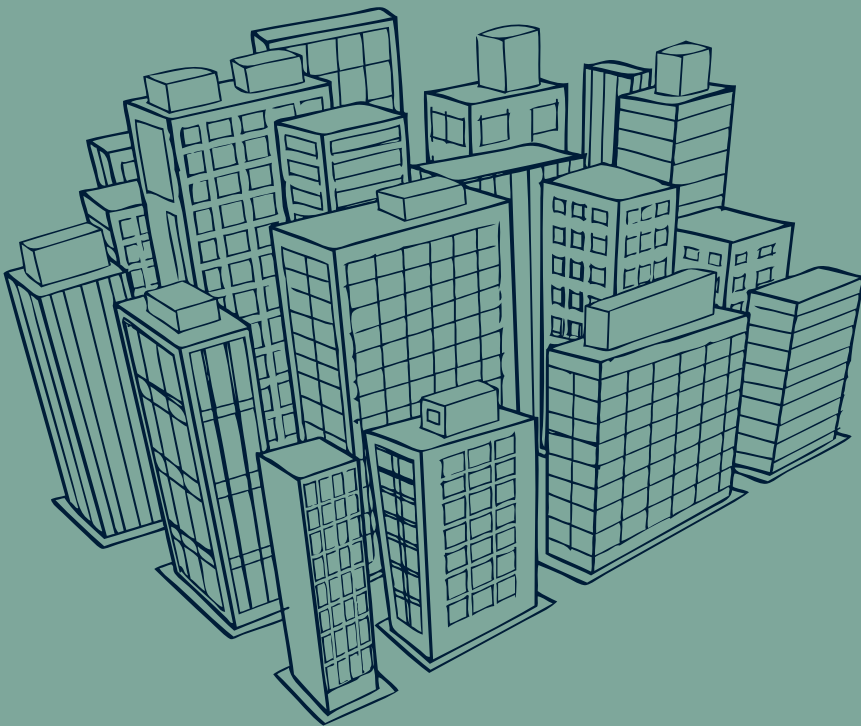
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