

IOT / **BLOCKCHAIN** / EDGE COMPUTING / COGNITIVE COMPUTING / IMMERSIVE EXPERIENCES / QUANTUM COMPUTING



DATA DEEP DIVE

Blockchain

These findings are based on an independent study of 1200 IT influencers from a mix of large and small companies across Europe.

What is the blockchain and how is it really being used at the moment?

» When Satoshi Nakamoto authored the [bitcoin whitepaper](#)¹ in 2008, he, or she, or they (the identity of Nakamoto remains a mystery) probably had no idea how hyped the underlying technology, blockchain would become. It's fair to say that in the global scheme of things, cryptocurrencies are playing second fiddle to the digital ledger system which makes them possible. For the moment at least, blockchain is being touted as a technology that could be used to counter fraud, create a trusted provenance of products to eliminate human error and increase transparency and accountability, as well as provide the basis for improved identity management.

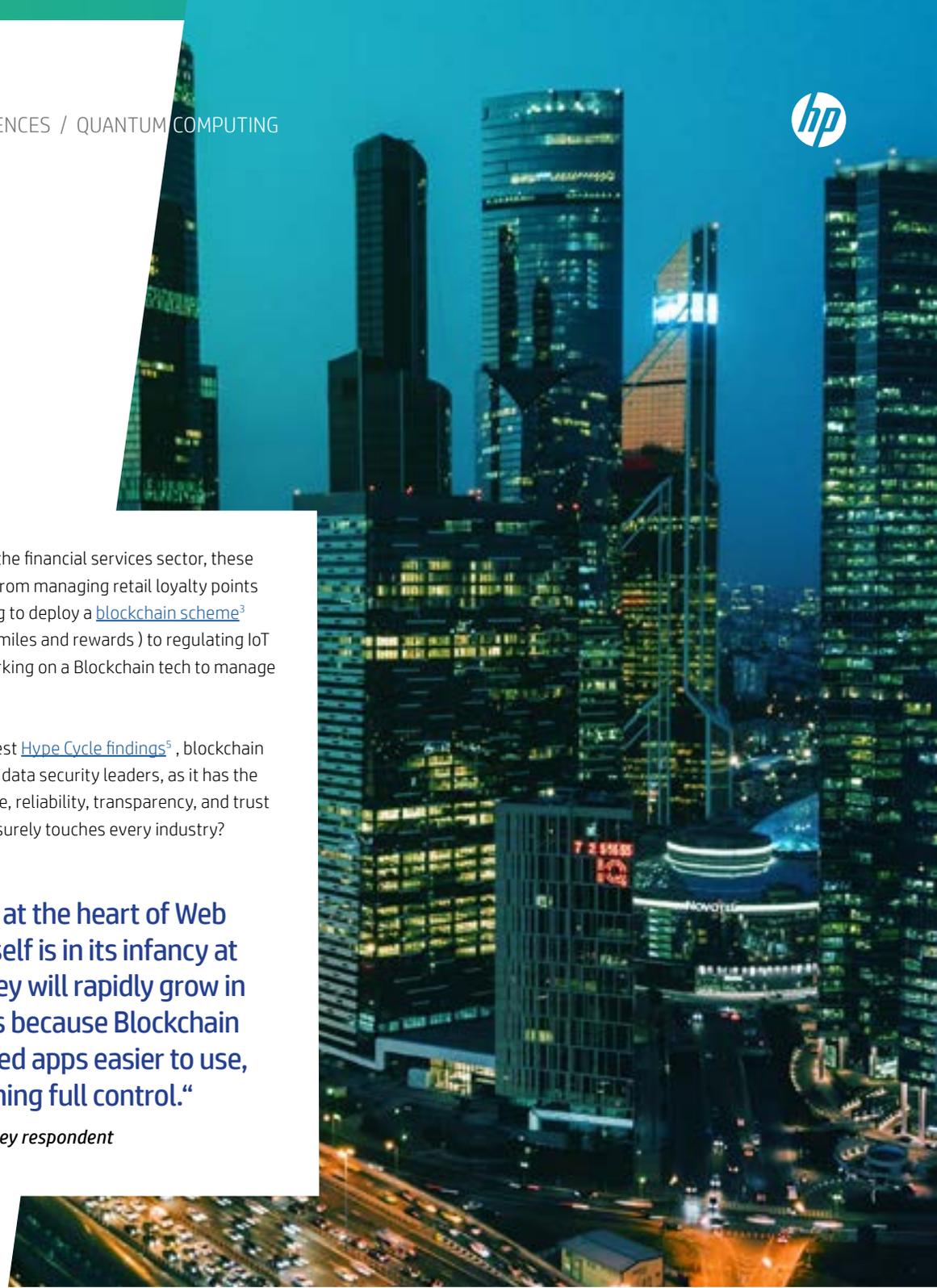
Essentially a massive, decentralised spreadsheet that records transactions chronologically and publicly, the blockchain requires a complicated process of private keys, transaction nodes and miners to securely record transactions. This hasn't prevented a number of businesses developing applications based on the technology. If anything, blockchain is now starting to drive innovation in financial services, supply chains, transport, energy, healthcare provision, software development and the law. As the recent [Deloitte 2018 global blockchain survey](#)² claims, "momentum is shifting from a focus on learning and exploring the potential of the technology to identifying and building practical business applications".

As well as a raft of activity in the financial services sector, these applications currently range from managing retail loyalty points (Singapore Airlines is planning to deploy a [blockchain scheme](#)³ for registering frequent flyer miles and rewards) to regulating IoT networks (Cisco has been working on a Blockchain tech to manage [IoT security](#)⁴).

As Gartner suggests in its latest [Hype Cycle findings](#)⁵, blockchain could be "a game changer for data security leaders, as it has the potential to increase resilience, reliability, transparency, and trust in centralised systems." This surely touches every industry?

“Blockchain is at the heart of Web 3.0, which in itself is in its infancy at present, and they will rapidly grow in tandem. This is because Blockchain makes distributed apps easier to use, while retaining full control.”

– survey respondent





What impact will this technology have on the workplace in five years' time?

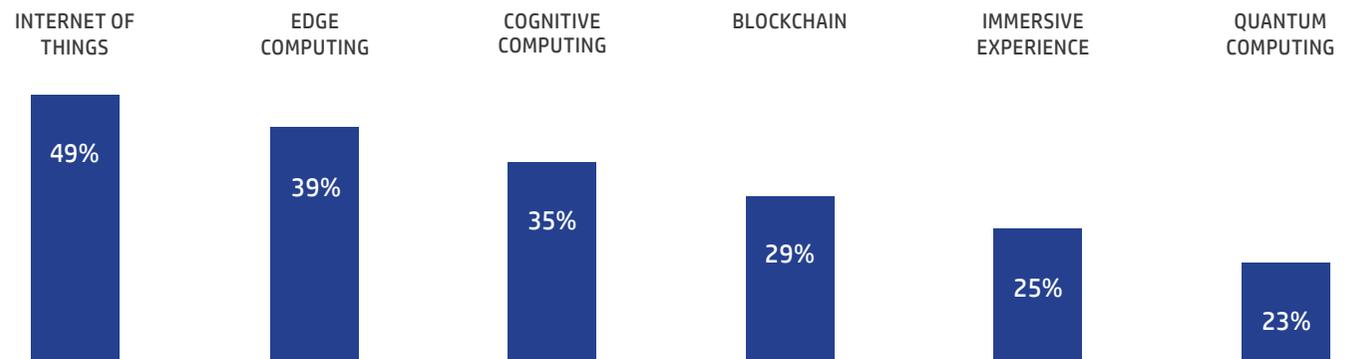
» Blockchain is indicative of how technologists are currently considering the future of how businesses operate. Digital ecosystems and platform-based processes are going to dominate. Data-driven automation is at the heart of current thinking but this also raises the spectre of security and accountability. Is blockchain providing a possible panacea here? There are signs of progress but much of the action has been in fits and starts, which is probably behind why so few people (29%) in our survey thought that blockchain will have the biggest impact on business in the next five years, especially in comparison to other trends such as cognitive computing.

Clearly there is reticence when it comes to predicting the impact of such a fledgling technology and rightly so, and yet, there are still those that believe it will have at least some impact, over half in fact. This puts it on a par with immersive experiences, another technology area that is slowly gaining a foothold in industry but mainly through innovative early adopters, primarily in manufacturing.

For blockchain, the market is still very fragmented but there is a somewhat surprising, at least on the surface, finding from the survey in that the Benelux region is the most enthusiastic about the future of blockchain – 74% believe it will have some impact within five years.

When you dive deeper, this is not such a leap. Benelux has a high concentration of interested parties buoyed by the recent formation of the [EU Blockchain Observatory and Forum](#)⁶ and a [number of companies](#)⁷, such as B-Hive, the Luxembourg House of Financial Technology and the Dutch Blockchain Coalition, which have recently taken a collaborative approach to accelerating development. Blockchain, for the moment at least, is front and centre in the region. If it continues to do so will remain to be seen.

Which technology trends will have the most impact on the workplace over the next five years?*



*Based on the percentage of professionals who rated the impact of each of these technologies as 5 or 6 out of 6



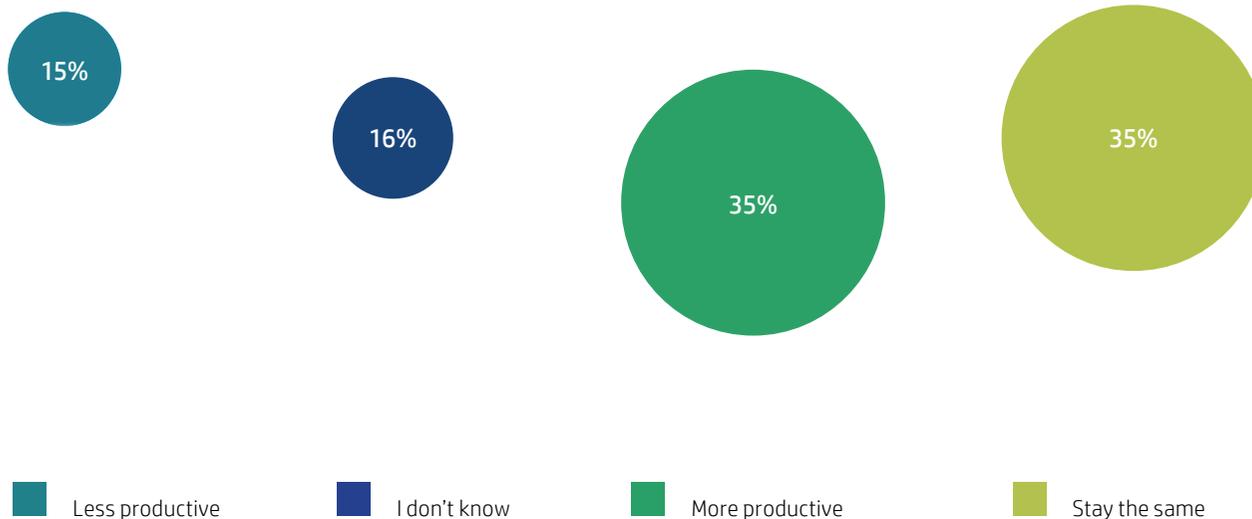
Will blockchain make us more productive?

» Opinion on blockchain’s ability to improve productivity is pretty much split with 35% of respondents saying it won’t make a difference and 35% saying it will improve productivity. A stoic 15% believe it will actually reduce productivity, perhaps a symptom of the skills challenges of new technologies and digital transformation as a whole.

Predicting productivity improvements though is a challenge given the relative immaturity of any blockchain-driven solutions. Many of these solutions however, are focussed on verification and accountability, targeting labour-intensive processes. Interestingly, PwC recently extended this idea into suggesting how blockchain could help human resources and impact the [word of work](#)[®]. By securely automating routine tasks, it believes blockchain will improve productivity.

Of all the regions surveyed, Italy was most in agreement with this idea, with 44% expecting a rise in productivity. In contrast, the UK was more sceptical, with 40% saying productivity would remain the same. Interestingly, half of IT leaders across all sectors agree with Italy, perhaps an indication that IT people actually understand the sophistication of Blockchain and can see through the confusing hype. Technically speaking, blockchain is clearly injecting plenty of zest into IT research and development.

What impact will blockchain have on workplace productivity?



“Blockchain will automate so many processes allowing time and resource to focus on numerous other actions.”

– *survey respondent*



What is holding the technology back?

» Like the majority of emerging technologies, blockchain is suffering from its own hype. Expectation versus reality is a common problem but blockchain is also a complicated technology to understand fully. It also underpins cryptocurrencies, which have a mixed image at best. Perception, at least at board level, is fundamental to how emerging technologies are viewed and blockchain for all its potential, suffers from the ups and downs of Bitcoin and Ethereum and connections to hackers, the Dark Web and illegal crypto miners.

Unsurprisingly then, 32% of technology leaders believe senior management is holding it back, although in France, a lack of understanding and employees' behaviour towards the tech were the main reasons according to 27% of respondents.

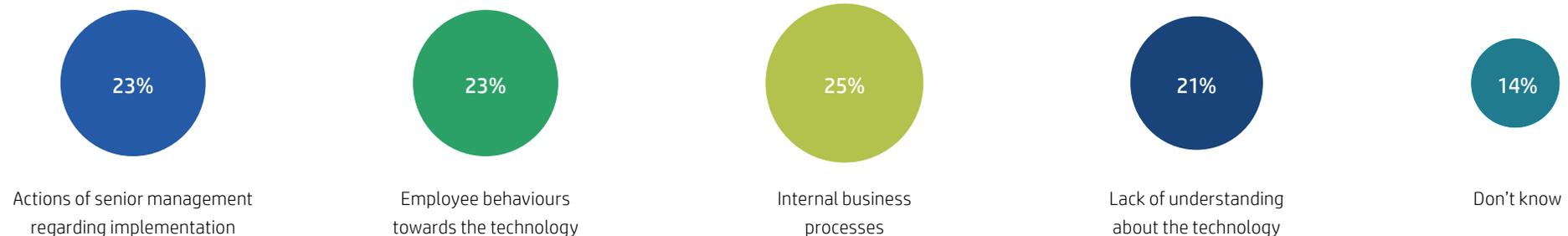
Certainly, a lack of technological knowledge is understandable. It also makes sense that internal business processes are not in a position to cope. Blockchain will change processes, particularly around accounting and product tracking.

Respondents were therefore justified in their thinking. There is a relatively even mix of reasons why blockchain is being held back and each one influences the other. It's indicative of a technology that will impact not just a department or two but the way in which a whole organisation thinks and goes about its daily business.

“There is no real practical application for blockchain and it is pretty complex to implement. Basically, the technology is not yet ready for prime time.”

– survey respondent

Which factor is most likely to prevent blockchain from being incorporated in the workplace?





What conclusions can we draw?

» “Blockchain is an answer looking for a question,” says Howard Roberts, Technologist at HP. He adds that this does not mean blockchain is not going to make it as a technology. It will take time to evolve into specialist applications and to build trust.

“It has a lot of potential in supply chain provenance,” adds Roberts, “to verify components and ensure there are no counterfeit parts. I could certainly see us using this with our supply chain.”

Roberts also sees a significant use of the technology in managing transactions for leased products, such as Device as a Service, but also in tracking how devices are used within those services. It’s a potential residual benefit although Roberts points to the currency exchanges and payment platforms as key applications.

Interestingly, [Alibaba’s cloud arm](#)⁹ has recently launched blockchain-as-a-service , lowering the barrier to entry for enterprises interested in working with the technology.

“There are clear uses for the technology but it will take time,” concludes Roberts.



Appendix

» This research was conducted by Spiceworks on behalf of HP. The 1200 respondents came from job titles ranging from helpdesk to CEO, in companies ranging from under 50 employees to over 5000 employees, from UK, France, Germany, Italy, Spain, Nordics, Benelux. The full breakdown can be found below.

Breakdown of respondents by company size

| Company size | Dataset |
|--------------|---------|
| <500 | 588 |
| 500+ | 612 |

Breakdown of respondents by country

| Country | Dataset |
|---------|---------|
| UK | 200 |
| France | 200 |
| Germany | 200 |
| Italy | 200 |
| Spain | 200 |
| Nordics | 100 |
| Benelux | 100 |

Breakdown of respondents by job title

| Job Title | Dataset |
|---------------------|-----------|
| Owner/CEO/President | 120 (10%) |
| VP IT/CIO | 108 (9%) |
| IT Director | 204 (17%) |
| IT Manager | 300 (25%) |
| Network Architect | 24 (2%) |
| Network Admin | 192 (16%) |
| Help Desk | 72 (6%) |
| Tech Consultant | 108 (9%) |
| Other | 72 (6%) |

Links:

1. <https://bitcoin.org/bitcoin.pdf>
2. <https://www2.deloitte.com/global/en/pages/energy-and-resources/articles/gx-innovation-blockchain-survey.html>
3. https://www.singaporeair.com/en_UK/sg/media-centre/press-release/article/?q=en_UK/2018/January-March/nc0518-180205
4. <https://blogs.cisco.com/retail/blockchain-in-retail-cisco-iot-alliance>
5. <https://www.gartner.com/smarterwithgartner/5-trends-emerge-in-gartner-hype-cycle-for-emerging-technologies-2018/>
6. <https://www.eublockchainforum.eu/>
7. <http://www.itone.lu/actualites/blockchain-benelux-organisations-strengthen-their-collaboration>
8. <https://www.pwc.co.uk/issues/futuretax/how-blockchain-can-impact-hr-and-the-world-of-work.html>
9. <https://www.information-age.com/alibaba-cloud-blockchain-as-a-service-123475873/>