SERGEY NIVENS/ADOBE

Europe's digital vision

EU Parliament outlines tech trends for next decade, along with an action plan that makes some controversial recommendations

NHS datastore contracts published under privacy group pressure

The government has published the contracts for the controversial NHS datastore ahead of a potential court case that might have forced its hand. At the end of March, NHSX reported it had enlisted Microsoft, Palantir and Google to build a data-store specific to the Covid-19 crisis response. Civil liberties organi-sations have been vocal in their objections to the US companies' involvement in the NHS database.

IBM divests from the facial-recognition market

IBM has said it will no longer sell facial-recognition technology and is calling for a "national dialogue" on whether and how it should be deployed by US law enforcement. IBM CEO Arvind Krishna said that while technology can increase transparency and help police pro-tect communities, it must not be used to promote discrimination or racial injustice.

Ericsson continues UK 5G roll-out, writes down Chinese assets

Ericsson is set to take a hit of SEK 1bn in costs related to asset write-downs of pre-commercial product inventory for the Chinese market. Following the launch of O2's 5G commercial network in the UK in October 2019, the extended partnership with Ericsson includes hardware, software and service upgrades in the west of the UK, bringing greater coverage, voice and data capacity.

Government to fund nine advanced security projects

The government is to provide £10m to fund nine academic cyber security projects selected as the winners of the Digital Security by Design grant competition. Announced as part of the London Tech Week Connects event, £3m of funding will come from the Department for Digital, Culture, Media and Sport's £1.9bn National Cyber Security Strategy.

CHARLES MCQUILLAN/GETTY

Covid-19 coordination is off the mark, Tony Blair tells CogX

Global coordination on Covid-19, which has killed about 400,000 people world-wide so far, is far from where it needs to be, former UK prime minister Tony Blair told CogX last week. "This is a unique sit-uation in its scale and consequences, and in the really difficult decisions it presents governments with around risk – the risks of the disease itself, but also of lockdown, in terms of the economy," he said.

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CogX 2020: Matt Hancock speaks on tech during Covid-19

Speaking at CogX on 10 June, health secretary Matt Hancock said technology companies have been vital in dealing with the pandemic, and praised the UK for testing more people "than almost anywhere in the world".

Cystic fibrosis and Covid-19 patients get help from tech

The NHS has launched a home monitoring trial for cystic fibrosis and coronavirus patients, using spirometers, oximeters and apps to track their condition. Cystic fibrosis patients are classed as at extreme risk from the Covid-19 virus.

Alibaba Cloud in global tech talent recruitment drive

Alibaba Cloud has set its sights on recruiting 5,000 tech workers from across the globe to join the company over the next 10 months in support of its pledged datacentre expansion plans.

Dowden: AI and data science conversion path open and diverse

The government and the Office for Students have opened 2,500 places on artificial intelligence (AI) and data science conversion courses to applicants, with 1,000 scholarships for students from under-represented backgrounds.

Cyber security needs more women role models, says report

Information and cyber security assurance body Crest has high-lighted a number of actions needed to improve gender diversity in cyber security, including more outreach into schools and dedicated career mentoring for women.

Decade-old vulnerability among 129 Patch Tuesday fixes

A decade-old bug in Windows Group Policy Objects – assigned CVE-2020-1317 – is among the vulnerabilities patched by Microsoft on yet another bumper Patch Tuesday, 11 of them rated critical. ■

Honda investigates ransomware attack

Production and sales of Honda cars, motorcycles and other products were suspended at sites around the world while the Japanese automaker attempted to recover its systems following a suspected ransomware attack that compromised access to its IT systems.

BOGGY/ADOBE

> *Worst service since lockdown for third of UK web users.*
> *Bungled British response leads to rise in security risks.*
> *NHS England launches online tools for diabetes.*
> *Data insights will define post-Covid city planning.*

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EU Parliament sets out vision for digital future, from 6G to a regional internet

Research outlines trends for coming decade and action plan with controversial recommendations, writes Angelica Mari

The European Parliament has published research outlining technology trends for the next decade, such as 6G, autonomous transport and personalised healthcare, along with recommendations to enable European countries to be at the forefront of digitisation, including the creation of a regional internet.

The study, requested by the European Parliament's Committee on the Internal Market and Consumer Protection (IMCO), was prepared by the Policy Department for Economic, Scientific and Quality of Life Policies of the Directorate General for Internal Policies. It covers new developments in digital services, as well as potential future directions and an action plan.

A key aim of the research is to inspire members of the European Parliament (MEPs) to be "bold and visionary" in decision-making around the Digital Services Act, which should be put forward in late 2020 as the legal framework in the European Union (EU) for digital developments over the next decade, and to reach "thoughtful, ground-breaking and sophisticated decisions".

Short-, medium- and long-term predictions for digital services, as well as a number of rules and standards that web services from non-EU countries would need to comply with, are included in the development study, as well as an action plan for MEPs ahead of the Digital Services Act.

MEGA TRENDS

Three underlying "mega trends" are also set out in the report to illustrate the developments of digital services in the EU – the seamlessness of digital services through human interaction (voice gesture and facial recognition), hyper-individualisation with tailoring of products and services for each consumer, and sustainability.

The overall gist of the report is that organisations will soon be fully digitised and companies in Europe will play an important role in that development process. It sets the scene with an introduction that mentions the accelerated digitisation prompted by the coronavirus pandemic that had emerged at the time of writing.

The authors acknowledge the importance of digital technology in facing the crisis and predict the 2020s and 2030s will be the "two most dynamic decades in human history", and stress

the importance of policymakers understanding new developments and opportunities.

"The European Union needs to develop an appetite for digital leadership if it wants to compete with worldwide developments and to participate proactively rather than reactively," says the report.

Digital services driven by data and artificial intelligence (AI) will soon be deeply entrenched in the lives of all European citizens, and the Digital Services Act should "lay the groundwork to promote the digital leadership of Europe to be in control of unfolding developments", the report says. The study also warns about the need to prevent the misuse of digital tools, and urges the European Parliament to take "a leading stance in the global digitisation".

However, the authors accept that while the ideas are, in a general sense, "benign and positive", not much consideration has been given to the implications of the suggestions made. "We do not look too deeply into the risks and potentially dangerous scenarios, but rather attempt to understand the possible chances and opportunities," they note.

When it comes to timescales for implementing the measures suggested in the report, the authors note that 2020 is very good timing for policymakers, despite the negative effects brought about by the coronavirus pandemic, given "very little scepticism" from the public about the wide use of e-commerce, remote working systems and tools such as contact-tracing apps.

European Parliament's report says the forthcoming Digital Services Act should "lay the groundwork to promote the digital leadership of Europe to be in control of unfolding developments"

INGO BARTUSSEK/ADOBE

"Now, in the aftermath of this pandemic, it's the perfect time to act and to push for the ambitious goal of digitising Europe," the report notes.

SHORT-TERM TRENDS: ROBOTS, 5G AND PAYMENTS

Task-based robots, 5G and seamless payments are the core areas of the predictions made "with a high degree of certainty" for the next two years. The report notes that by 2022, robots will have taken over most manual labour, starting with agricultural robots and leading to automation of more unskilled tasks.

> ## "CASH WILL LOSE ITS SHARE OF USE EVEN MORE IN THE FUTURE, WITH DIGITAL PAYMENT SYSTEMS TAKING OVER"
> ### EUROPEAN PARLIAMENT REPORT

"The investment needed for these robots will certainly be significantly reduced due to easier programming made possible by machine learning, as well as reduced manufacturing costs," the report notes, adding that the next significant step will be general-use robots for a variety of tasks.

The report notes that technologies such as 5G will allow for the industrial internet of things (IIoT) to reach an even more advanced stage of development, enhancing supply chains and enabling more autonomous transportation – one of the trends outlined by the report for the medium term.

Seamless payments is another area the report sees as a trend that will build momentum in the short term, as it enables a more fluent way of commerce for consumers, especially in regard to digital services. "Cash will lose its share of use even more in the future, with digital payment systems taking over," says the study. It adds that digital state-run or private currencies will grow and become widely accepted in the next two years.

The report also cites the benefit of reducing the shadow economy in EU states with the increase in cashless payments. "Each year, trillions of euros flow in the shadow market unregulated and untaxed, leading to long-term deficits," it says.

"Traceability of electronic payments is much better than with cash, leading to more information on the flow of money. This information can be used to reduce tax evasion and make regulation easier, in turn reducing the shadow economy."

MEDIUM-TERM PREDICTIONS: DATA-DRIVEN HEALTHCARE, DIGITAL WORKFORCE AND SUSTAINABLE SUPPLY CHAIN

Between 2022 and 2025, a major trend outlined in the report will be data-driven healthcare and a move towards individualised health services, which rely more on prevention with a more active role of the patient in their health outcomes, rather than treatment.

However, the success of individualised healthcare will be linked to treating people as individuals when they become a patient, says the report. "An integral element to this concept is

regarding healthcare as a holistic service that promotes a satisfying patient experience – both online and offline, and everything in between," it adds.
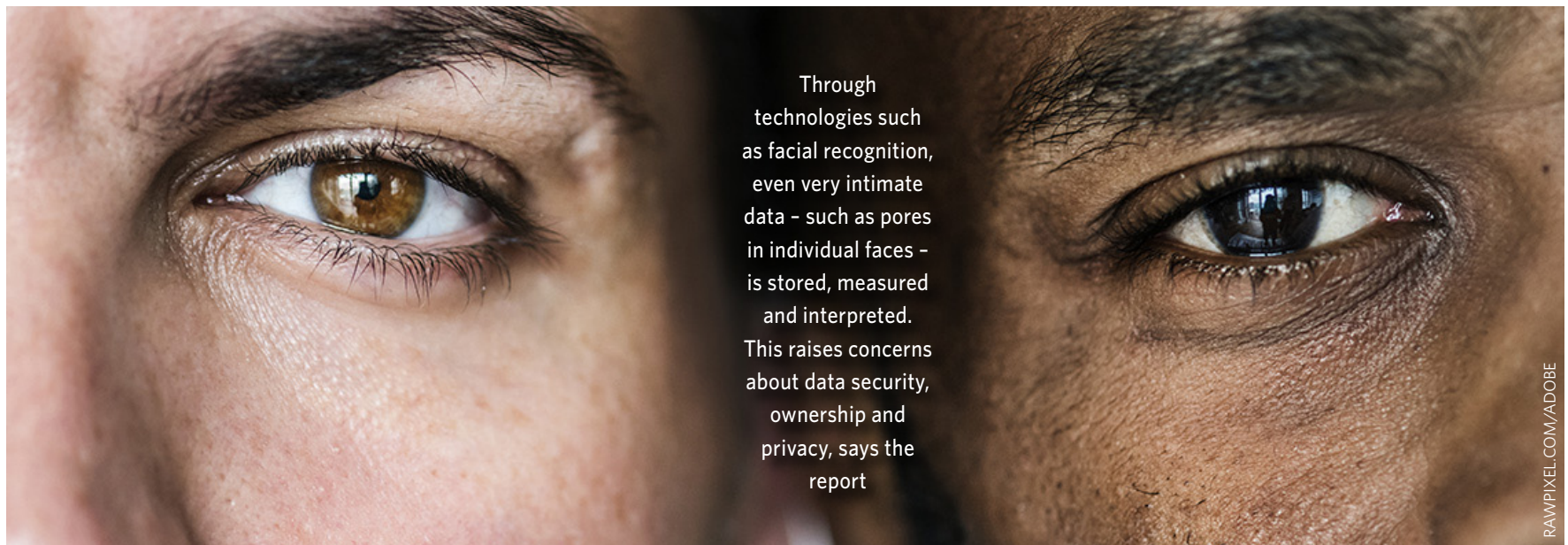
According to the report, within that timeframe, commerce will also be seamless, building on the short-term trend of frictionless payments. It notes that online and offline shopping experiences will be merged more effectively, but raises questions over the large amounts of data required to enable that vision, through technologies such as facial recognition.

"Even very intimate data – like the allocation of pores in individual faces – is stored, measured and interpreted," says the report. "This raises concerns about data security, ownership and privacy. Does the information about my pores belong to me or the company that measured them? Consumers and businesses alike demand further clarification on how to apply data regulations."

The EU Parliament research also expects working relations to be even more transformed in the medium term, and a digital culture will be imperative in organisations as well as continuous learning to ensure relevance at work – and all of that supported by artificial intelligence.

Companies are expected to focus on the environment just as much as economy, the study notes, which will put emphasis on

Through technologies such as facial recognition, even very intimate data – such as pores in individual faces – is stored, measured and interpreted. This raises concerns about data security, ownership and privacy, says the report

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sustainable supply chains. The research cites 3D printing as a potential solution for challenges presented by traditional supply chain methods, which would enable decentralised production and reduced stocks, while stimulating local production.

Long-term predictions: 6G, autonomy and DNA

The report from the European Parliament anticipates the emergence of 6G as one of the main trends for 2030, which is expected to enable even more connectivity and autonomy in production and transportation.

Even though 5G has not yet reached the general public, the cellular system of the sixth generation is already being researched in countries such as China and Japan as well as Germany and Finland, the report notes. It adds that the new mobile services, which could be "somewhere between 10 and 8,000 times faster than 5G", will be able to process the steadily growing amount of data and provide high-speed data flow.

When it comes to potential applications for 6G, the researchers mention that the new network would fit the needs for dealing with growing masses of data and would bring benefits to e-commerce, with players better able to serve customers with more information on their preferences, as well as ability of governments to offer services and accelerate research.

"The increased speed and capacity of streaming through 6G can broaden the access to European diversity, providing intelligence, scientific research and knowledge of different European institutions, companies and citizens in an efficient and affordable manner," says the report.

The study also considers "the connection of services or devices to the brain being of particular interest", with possibilities such as managing those by "transmitting the large amount of data stream from our brains to other recipients".

The authors cite potential challenges to make that happen, such as chip design, computer architecture and energy use, and the cost of high-performance chips. "The amount of data transmitted requires a great deal of energy, which will lead to extreme temperatures," says the report. "Computer chips these days could not cope with the amount of data."

> ### Report says 6G mobile services – which could be up to 8,000 times faster than 5G – will be more able to process the growing amount of data and provide high-speed data flow

Other trends to emerge in 10 years' time include passenger autonomous vehicles and shipments being transported without delivery drivers. "New solutions, apart from regular cars and vehicles, can also extend into air space," says the report, making personalised, fast and secure transportation and logistics possible.

❯ *European regulation shakes up online payments security.*

The researchers also anticipate the full personalisation of products, which will even rely on the use of DNA to achieve a better fit to satisfy consumers. This will be achieved through technologies such as advanced data analytics and AI, as well as voice activation and augmented reality.

Such approaches will enable companies from sectors such as financial services, nutrition and cosmetics to tailor their offerings, says the report. "DNA testing and personalisation enable more engaged experiences beyond what traditional methods can do [in hyper-individualisation]."

Creating a European internet

The final chapter of the study outlines a short action plan and recommendations, with advice divided into three areas. The first presents a brief proposal for the creation of a regional internet and cloud.

According to the authors, this "could secure a reliable, trustworthy digital ecosystem in Europe" and foster a regional ecosystem based on data and innovation, and would drive competition and set standards, similar to what has happened in China in the past 20 years. "The foundations of such a European cloud are democratic values, transparency, competition and data protection," they note.

Foreign web services could become part of this envisioned digital ecosystem, but would need to comply with the rules and standards of the EU, the report says, listing examples such as democratic values, data protection, data accessibility, transparency and user-friendliness.

In technical terms, the report says creating a European internet in the Digital Services Act would require top-level infrastructure, a high-speed 5G or a 6G data network, and a regional firewall.

"Setting up such a network would promote many European companies and therefore boost business and drive innovation," says the report, adding: "Like the Chinese firewall, this European internet would block off services that condone or support unlawful conduct from third-party countries."

The second area of the action plan is about evolving digital government, which would entail funding European startups, which would use their expertise to create "the most digital and advanced government in the world". This would be created alongside an already suggested Digital Europe Programme, with a proposed €9.2bn of funding from 2021 to 2027.

"The EU government and all the governments of the member states should lead by example and become the most modern digital government," says the report. "Including and incentivising the private sector, especially innovative startups, could speed up the development of e-government systems in the EU."

A communications programme is presented as the third recommendation. This would be a "visionary and exciting" programme, aimed at ensuring the regulations are in place, but also "encouraging boldness and showing a willingness to change".

Quantum computing and increasing use of AI will have an impact on all sectors of digital services, the report points out, adding that the communications plan should deliver regular legislative updates of the Digital Services Act and also "educate and inspire" European citizens about these developments. ∎

Major technology companies 'negligent' on forced labour practices, says report

Most of the world's largest information technology companies continue to leave supply chain workers at serious risk of forced labour, according to a report that highlights the sector's inaction. Sebastian Klovig Skelton reports

The majority of technology companies remain "negligent in their efforts to address forced labour", lacking the essential processes and tools needed to tackle, let alone eliminate, abuses in their supply chains, according to analysis of the ICT sector's international employment practices.

In its third benchmark report, KnowTheChain (KTC), an organisation attempting to drive awareness and corporate action on the issue, assessed the world's largest tech firms' efforts to combat forced labour in their supply chains, scoring each out of 100.

According to the International Labour Organisation (ILO), forced labour can be understood as "all work or service which is exacted from any person under the threat of a penalty and for which the person has not offered himself or herself voluntarily".

In the case of technology companies, the report noted a number of poor practices that increase the risk of forced labour taking place. These include firms not conducting human rights impact assessments on their supply chains, the absence of a supplier code of conduct, and a lack of grievance mechanisms for workers.

It also noted that the Covid-19 coronavirus pandemic is exacerbating the issue of forced labour, with increases in "excessive overtime, poor and hazardous working and living conditions, wage withholding, and the abuse of workers who lack alternative livelihood options – all indicators of forced labour".

Of the 49 firms evaluated, more than three-quarters (76%) scored below 50, with the average score being 30 out of 100.

LACKING PROCESSES

On top of this, although 36 firms have policies prohibiting recruitment fees for workers, none of them has set out a comprehensive process to prevent these fees from being charged to workers in the first place, and only 13 could prove workers had been reimbursed for any costs they did incur.

This is despite the ILO clarifying in 2019 that workers should not be charged recruitment fees or related costs, a practice that particularly affects migrant workers, according to Felicitas Weber, project director at KTC and author of the report.

"No company has a detailed process that starts with identifying what channels migrant workers come through when they go to work at a factory in their supply chain, how are they recruited, which recruitment agencies they use, what fees are paid, and then there's undertaking in depth monitoring on whether and what charges have been paid, checks of worker visas, recruitment relationships, contracts, and so on," said Weber.

"It's obviously a great start to have this policy in place because I think the policy itself is a big signal already, but to the workers, policy without implementation really doesn't make any difference."

Top of the benchmark ratings is Hewlett Packard Enterprise with 70/100, closely followed by HP (69), Samsung (69), Intel (68), Apple (68), Dell (63) and Microsoft (59). Those scoring below 50 include Walmart (46), Nokia (45), Amazon (43) and Sony (36), with some of the lowest scorers being Nintendo (23), Panasonic (13) and Broadcom (10), with Xiaomi Corp scoring zero.

FAILURE TO PROTECT WORKERS' RIGHTS

Every company benchmarked, even those at the top, failed to show how they protected the rights of workers and unions.

"All companies in our assessments scored zero when it came to ensuring that workers in their supply chains can organise, meaning that none of these companies are working with global or local unions to support freedom of association, none are working to train suppliers on the topic, and none are ensuring that union members don't get harassed," said Weber.

When asked why this was the case, Weber told Computer Weekly: "Companies want to keep costs low, which means paying

HUNTERBLISS/ADOBE

Tech companies have been urged to ensure ethical practices in their supply chain

suppliers less. In the short term, it may not be particularly profitable for companies and suppliers to address the power imbalances that exist between themselves and workers.

"I think freedom of association could prevent the worst abuses, but certainly unions and organised workers would likely also call for, for example, wages that are higher than just minimum wage, better working conditions or shorter hours."

Weber added that when KTC engages with companies and industry associations in other sectors, there is generally a much stronger acknowledgement that workers are part of the solution.

WORKER VOICE VITAL

According to Weber, worker voice is so important because it helps drive solutions from below and ensures the change is meaningful for those on the ground, rather than it simply being good public relations for the companies involved.

However, IT companies and their supply chains are also locked into a state of institutional inertia in which drastic action seems impossible, she said.

"What we're hearing from companies is 'well, we can't really do anything because our supply chains are so complicated', or 'how could we possibly do anything about it', or, particularly in this sector, we've heard from companies that say 'our first-tier suppliers just don't tell us who they are sourcing from, so they don't tell us what can I do about it'," said Weber.

"These are the sourcing decisions that the companies made, but that doesn't mean it's the right decision or that other ways of working aren't possible."

Although Weber noted there has been some progress on KTC's previous two IT benchmark reports from 2016 and 2018, for example, from HP and Intel on issues such as recruitment fees and supplier management, she said that "overall, we are disappointed that we're not seeing stronger movement".

To instigate the change needed, Weber said companies must be pressured into changing their behaviours through a range of activities, including industry initiatives, investor action and new legislation. "Given that it's such a systemic issue, I think we need action from every single actor," she said.

"It is quite an odd predicament that forced labour is prohibited by laws all over the world, yet there isn't any particular legal implication at the moment. There's some reporting legislation, but even if you don't report under the UK Modern Slavery Act, for example, not much is going to happen to you."

INDUSTRY INITIATIVES

Giving examples of what different actors can do, Weber said industry initiatives such as the Responsible Business Alliance can play a major role by strengthening membership requirements to ensure companies publicly report on their performance, policymakers can push for mandatory human rights due diligence legislation, as is being done in Europe, and investors can simply threaten to divest from unethical companies.

She added that, although it was slowly starting to change, companies in the tech sector rely too much on auditing as a solution, despite the obvious limitation that this only provides a snapshot in time as opposed to continuous oversight of a situation. ∎

> *UN report names tech companies that could be involved in violating human rights.*

TANTRUMS AHEAD AS GDPR ENTERS ITS TERRIBLE TWOS?

Two years since the General Data Protection Regulation was introduced, data protection lawyer Tim Hickman discusses the regulation's teething troubles and assesses how best to maintain optimum compliance.
Alex Scroxton reports

HOME

On 25 May 2020, the European Union (EU) General Data Protection Regulation (GDPR) entered its so-called "terrible twos" and, in principle, you might say the regulation has been a wild success.

Established as a core principle of the Digital Single Market, and with widespread recognition among EU citizens, it allows individuals to take back control of their personal data and simplifies the regulatory environment for businesses working within the EU.

Or does it? Tim Hickman, a partner at London law firm White & Case LLP and one of the UK and Ireland's foremost experts on data protection law, says that with the regulation having reached its second birthday, there are still a lot of kinks to iron out.

"European commissioner [Vivianne] Reding, as she then was, was very keen on this idea that if you provide Digital Single Market services in Europe, you should face one consistent set of data protection regulations in all member states, and businesses broadly welcomed that idea," says Hickman. "They weren't super keen on some of the concepts in the GDPR, but they were very keen on this idea that we would have one law rather than 28. But that hasn't really happened and there are three reasons why.

"The first is that it was unrealistic to begin with. The GDPR, like any EU law, can only govern the things that are within the EU's legislative competence. With things like national security, freedom of expression and national employment law, the EU can't make rules, but data protection touches all those things.

"Second, even in the areas that are within the EU's legislative competence, you have certain carve-outs for things that are reserved for member states," he says.

"Then the core of this is that where the EU does have the power to make rules, you still have a problem that not everything can be politically agreed," adds Hickman. "What always happens is that there is a lot of horse-trading and the last resort option is always to say, 'We'll have this general principle, but the question of how each member state is going to implement that will be left to national parliaments'.

"Nearly half of the substantive provisions of the General Data Protection Regulation are based on that principle, which is problematic because it means that, in many instances, member states have decided how the provisions work. For example, what is a child under GDPR? Is it someone under 13, or 16? What defines consent given by a child? Germany has a double opt-in standard, but in France, both parent and child must give consent, and if the parent says yes but the child says no, then you don't have consent."

Hickman adds: "I query how that works when I speak to my three-year-old about what we're going to have for dessert. So there are lots of national gaps and that's how we ended up in the situation where businesses are concerned that they were sold the idea of this new law that came with massive fines, but in exchange, they were getting one rule that would allow them to operate uniformly across the European Union. It's

now becoming abundantly clear that that's not actually what is happening."

VAGARIES AND ODDITIES

Hickman says there is much discontent among large businesses as to how GDPR compliance works, and to this end, White & Case has produced its own implementation guide.

"The uptake has been great," he says. "Huge businesses are very interested in something that can package together for them the answer to the question of what they need to do in Germany, and why that's different to France or Spain, and so on."

The problem businesses have is that they face different GDPR compliance requirements in each member state – and that gets expensive.

Hickman believes the problem is the vagaries and oddities of national laws that may have gone unnoticed before, but can no longer be ignored. "For example, do I need to appoint a data protection officer [DPO]?" he says. "The DPO was an offshoot of German law, originally. Prior to harmonisation, German law had this concept of a DPO that's now been exported. But when the Germans saw the EU text on this, they decided it wasn't strict enough and so they implemented their own law. Now, if you are operating in Germany and you have more than 20 employees processing data

> ## "WHERE THE EU DOES HAVE THE POWER TO MAKE RULES, YOU HAVE THE PROBLEM THAT NOT EVERYTHING CAN BE POLITICALLY AGREED"
> ### TIM HICKMAN, WHITE & CASE LLP

with computers, you must have a DPO. But in the rest of the EU, you don't need one unless you fall within the tests set out in the GDPR, which are much more high-level than the German tests and don't relate to the number of individuals, per se."

This is a challenge for several reasons. For example, a DPO is a protected class of employee – because they exist to challenge their employer on cyber security and this may rub people up the wrong way, you can't fire them if you don't like what they say. So far, so logical, but this condition of employment law may make the role attractive to someone who is temperamentally unfit to be a DPO.

"You can outsource the job, but if you do, again you can't get rid of that person just because you don't like their advice and, of course, the problem is: how do you prove that you're getting rid of them for gross negligence or for something they did that was wrong?" says Hickman. "Were they to commit theft, you could get rid of them fairly easily, but anything short of a criminal offence, you're going to get into an argument about whether or not you're firing them just because you don't like what they did."

Outsourcing brings other problems. Because there was no market outside of Germany for DPOs up until recently, there are few outsourcers with appropriate experience, or the time or motivation to discharge the role adequately on behalf of multiple clients.

The DPO problem is just one example of where the GDPR becomes vague the minute you cross one of the EU's internal borders – and there are others. Take dead people, for example. The GDPR explicitly states that it relates to the personal data of the living, but because member states were able to make their own rules here, some have conditions that state, for example, that if

You may need a data protection officer to comply with the GDPR in some countries, but as a protected class of employee you can't fire them if you don't like their advice
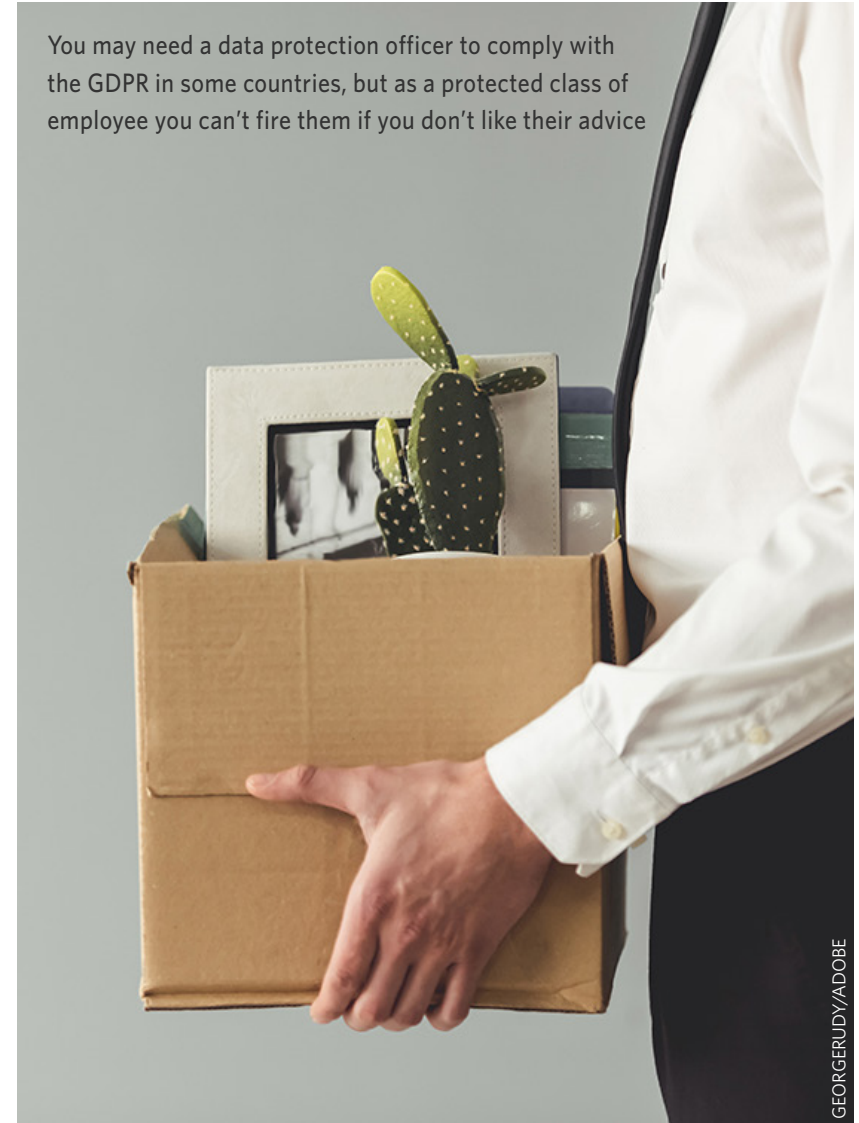
GEORGERUDY/ADOBE

someone granted in their will that their executor could exercise their data protection rights, a data processor must allow that.

"So you can have a post-mortem right-to-be-forgotten request, and in some member states you have to honour that and in some you don't," says Hickman. "As you can imagine, that can be quite complicated. It depends on whose law applies and in which member state the request was made, and so on. For a lot of businesses, there is a huge compliance cost-base baked into this in trying to answer questions that nobody has a firm grip on."

Unfortunately, this won't change much in the short term. A law firm can guide on how to manage your exposure to GDPR, but this is complex because there are 28 regulators taking divergent positions on the issues, infighting, and producing guidance that isn't legally binding and can change at the drop of a hat – something Hickman has learned the hard way in court.

> **"WE WILL END UP IN THIS SITUATION WHERE WE HAVE EU DATA PROTECTION LAW IN ALL BUT NAME, EVEN AFTER BREXIT"**
> TIM HICKMAN, WHITE & CASE LLP

There are also cultural problems. Eastern Europeans with lived experience under one-party dictatorships take privacy much more seriously, whereas the British take a more cavalier attitude.

"We should have one law that governs the way this operates across the EU," says Hickman. "It makes sense. But because of these different conditions, we're in a position where different regulators hold two ideas, and the interpretations shoot off at different angles. I can have the same law in my Dublin datacentre as my Frankfurt datacentre, but totally different requirements in terms of what I practically need to do."

BREXIT IN NAME ONLY

The big test for GDPR in the UK this year will, of course, be Brexit. Hickman was speaking to Computer Weekly on 11 February 2020, a mere 11 days after the UK formally left the bloc with a transition agreement in place until 31 December.

The situation around Brexit is fluid – not least because of the Covid-19 pandemic – but in terms of GDPR compliance, nothing changes before 31 December, and probably not beyond that. Businesses still face a degree of uncertainty, says Hickman, but not as much as they did before the December 2019 General Election. In terms of the UK's domestic compliance, once the transition period ends, the Data Protection Act (2018) will import the GDPR into UK law, with various keywords changed as needed.

"We will end up in this situation where the default outcome will be that we have EU data protection law in all but name, even after Brexit, after the end of the transition period," says Hickman. "The $64m question is, what are we going to do in the long term? Will the UK diverge from the EU or not?

"Now some of the smart money is looking at this and saying that if the EU is serious about keeping the UK in its political orbit,

> ❯ *Read more from 'The Security Interviews' series online.*

then one of the best ways to do that is to give the UK an adequacy decision. That will force the UK to keep this GDPR standard, because if we depart from it, we lose our ability to trade data with Europe. That would, to my mind, be an easy win for the EU," adds Hickman.

"Whether or not the European Commission will do that is unclear. I have some sympathy for them in that if we've spent years furiously arguing with them about everything and anything, and then the next day we come to them cap in hand and say, 'Please, sir, can we have a data adequacy decision?', I can get a sense of how Michel Barnier might respond to that kind of approach."

Hickman adds: "There's no indication that the UK is going to put in place any barriers in terms of sending data to or receiving data from the EU. This is purely a problem of what is the EU going to do about the barrier that it has vis-a-vis all third countries? Will it be just as hard to send data from the EU to the UK as it is to send it to Mexico or India? Or will they come to an arrangement?"

There are vested interests, many in banking, that would love to see the EU tell the UK to get stuffed in terms of data adequacy. This is mainly a question of competition, as EU banks will benefit if they can shut the City of London out of European financial markets. However, in the UK's favour, these interests clash with political ones. Take the position of the Information Commissioner's Office (ICO), which was, until 31 January, a member of the European Data Protection Board (EDPB) and, given its budgetary clout and authority in the development of the GDPR compared with many other EU regulators, it is expected there will be some appetite to keep it involved in some way.

EU's General Data Protection Regulation
entered its so-called 'terrible twos' on 25 May

NEW AFRICA/ADOBE

Consider also the UK's membership of the Five Eyes intelligence alliance. It could be argued from a business perspective that this is reason enough to shut the British out, thanks to how GCHQ collects data and shares it with the US, but it could also be argued that from a foreign policy perspective, the EU benefits from this.

"In practice, the national security agencies of every EU member state want access to GCHQ's data, so in reality, they will probably want some kind of under-the-table access," says Hickman.

Compliance, non-compliance, and something in between

So, what are the compliance options? These depend on what type of business you are running, the risks you face and the areas of national divergence that worry you. So, to start, work these things out. Broadly speaking, Hickman defines three basic strategies – and mixing and matching from them is fine, too.

The first is a high watermark strategy. This reflects the fact that 100% compliance is unrealistic and that, even if you have done everything right, you can't guarantee against accidents. In this approach, you identify the areas where you see most risk, which country has the strictest law in that regard, and then stick to that across the EU. For many, this is the only realistic option – otherwise, you may need 28 different websites. It comes with downsides, though – in states with lower standards, your competitors may gain an advantage.

The second, more flexible option, is one of targeted compliance. In this approach, you set out to achieve minimum compliance in every EU country where you do business, which means you miss fewer business opportunities, but pay more.

The third option is what Hickman calls targeted non-compliance. "This is where you say: 'This law is simply antithetical to my business model; if I were to try to achieve anything that was compliant here, the net effect would be utter destruction of whatever it is that I'm doing'," he says.

A lot of organisations are taking the third approach to some degree, but it is very risky because it demands that your cyber security practices be unimpeachable, and when they are found wanting, you are at the mercy of whoever interprets the law.

"The best strategy at the moment is to stay off the radar," says Hickman. "And how you do that will depend on three things. The first is luck – to the extent you can control that, obviously it would be advisable to put in place good cyber security, but there is just an element of risk there that is irreducible.

"Then, if you're going to suffer a data breach, try not to have credit card data or any kind of payment card data involved. The two biggest enforcement actions by the ICO involved the loss of credit card data, insofar as you can extrapolate a theme from two enforcement actions. The third thing is, if you're going to suffer a data breach, in addition to not losing card data, don't lose anything that's politically sensitive," he says.

"The takeaway theme for businesses at the moment is to look at what you can do to reduce your risk profile," says Hickman. "Total, 100% compliance is not achievable, but there are quite a lot of things you could do to reduce risk, both in terms of better cyber security and also in terms of having the right structures, policies and procedures in place to make sure that when you suffer a data breach, you know what you're doing." ∎

❯ *Read more from The Security Interviews series online.*

HOME

EDITOR'S COMMENT

Get on board for the digital new normal

The coronavirus pandemic has become a catalyst, accelerating radical change to how organisations operate. The economic recovery from the lockdown is forcing some to push through changes that they would previously have considered impossible.

While people were told to work from home when the Covid-19 "R" value was greater than one, the government wants the economy to start moving again, and that means encouraging people back to their place of work. People need to feel safe not just in their workplace, but also on their daily commute. And this is more than mandating everyone on public transport to wear face masks.

Speaking at the recent MuleSoft Digital conference, Simon Moorhead, CIO of the Rail Delivery Group, described how the pandemic had accelerated the move to paperless railcards. "We need not be bound by some of the constraints we thought were immovable," he said. For an industry that engineers for the long term, everyone now works together using new methods of communication, he added.

For Moorhead, there is now a golden opportunity to unpick 25 years of complexity that had probably grown over the previous 50 years, to define new services that do not look like the ones they replace. Such services can be designed for a digital world, to remove friction from the customer experience.

For the UK rail industry, the pandemic is forcing through a change to digital ticketing and more joined-up train timetable data, to enable passengers to understand how to get to their destination with the least disruption. Such changes are essential to build confidence in the railways and help people feel they can get to and from their home and travel destination with minimal contact with station staff and avoid queues at ticketing machines. Joined-up data may even help to reduce rush-hour peaks.

Many people believe businesses are unlikely ever to return to how they operated before the pandemic. Not only should CIOs assess the digital initiatives that can get their organisations moving again, they should also take a hard look at the inner workings of the IT department. [Ross Mason, founder of MuleSoft](), believes they should look to reorganise the IT department to support self-service IT.

People at work already have access to advanced reporting software. With the right governance from IT, they should be able to bring in any data they require and build simple forms-based applications using low-code environments – all without IT's involvement. ■

Cliff Saran, managing editor (technology)

> ## JOINED-UP DATA MAY EVEN HELP TO REDUCE RUSH-HOUR PEAKS

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TechTarget

DEALING IN DATA

Lessons learned from pandemic data reporting will help forge new analytics techniques to improve data quality.
Cliff Saran reports

GARRYKILLIAN/ADOBE

A ccording to the <u>World Economic Forum</u> (WEF), the collection and misinterpretation of unreliable data can undermine <u>trust in public health systems</u> or the willingness to trust government generally.

The Covid-19 coronavirus pandemic has highlighted inadequacies in the collection, processing and interpretation of data. As the world's population makes small steps on the journey to recovery, the lessons learned will help forge new data analytics techniques to improve data quality.

INACCURACIES IN DATA COLLECTION

"We've seen lots of inaccuracies, inconsistencies and anomalies in the reporting of the data relating to Covid-19," says Michael O'Connell, chief analytics officer at Tibco. "The pandemic has highlighted the need for sound <u>data science</u>, visual analytics and data management methods, and the infusion of these skills and literacy into broader groups of users – in companies and in the population at large."

According to Stan Christiaens, co-founder and chief technology officer (CTO) at Collibra, which provides a cloud-based platform for building a data-driven culture, what the coronavirus pandemic has shown is that not all data is created equal and <u>datasets are often incomplete</u>.

"There is a lack of alignment among the players fighting the spread of the coronavirus about what is being measured and compared," he says. "And all of that is contributing to uncertainty and inconsistency amid Covid-19, and that is compounding mistrust and fear."

The challenge for researchers trying to combat the virus is that comparing the data they have available to them is often a bit like trying to compare apples to oranges, and there are discrepancies between countries.

"We're all in this together," he says. "Yet some countries are finger-pointing and telling others that their numbers related to coronavirus infection rates and fatalities are wrong."

It all boils down to how people collect data and on what they base their measurements.

As Christiaens points out, there are many ways a country can account for the number of coronavirus fatalities. Officials may just count anyone who died with coronavirus-like symptoms, but unless a person was tested, it is unclear whether that individual succumbed to the virus directly. And even if a patient had the virus, that individual's cause of death could have been due to coronavirus combined with something else.

This, for Christiaens, is a classic problem, but the coronavirus pandemic represents one of the first times the problem of recording deaths slightly differently has had a worldwide effect.

"Part of the solution involves those who are measuring cases to come together to identify the similarities and differences in their approaches," he says. "That provides a fundamental layer of trust and alignment. If you don't do this, it's impossible to share numbers effectively. Everybody in accounting knows this. You have to keep what you're comparing comparable."

Christiaens believes the coronavirus pandemic has shown that not all data is created equal, and this applies not only to battling with a deadly virus, but also everyday business systems.

"In business, CRM [customer relationship management] systems often contain inaccurate data because they rely on salespeople typing in notes," he says. "In the coronavirus fight, efforts that rely on Covid-19 self-reporting can create inaccurate data because people may not tell the truth or they might misinterpret signals."

But machines also make mistakes. "You might also get inaccurate data coming from automated systems," adds Christiaens.

"Say a country uses an automated system that connects with smartphones to check users' temperatures. Maybe it's warm where the person is and they are spending time in the sun, so that person's temperature is elevated," he says.

"Or maybe the person has symptoms that do not stem from the coronavirus. There are many reasons why the measurements in automated solutions can display variability, leading to inaccurate data."

> "**THOSE WHO ARE MEASURING CASES [NEED] TO COME TOGETHER TO IDENTIFY THE SIMILARITIES AND DIFFERENCES IN THEIR APPROACHES. YOU HAVE TO KEEP WHAT YOU'RE COMPARING COMPARABLE**"
>
> STAN CHRISTIAENS, COLLIBRA

SMOOTHING OUT DATA ERRORS

Data science methodologies are key to dealing with case reporting and other data artefacts. To address the data reporting artefacts and inconsistencies, O'Connell says Tibco uses a "non-parametric regression estimator based on local regression with adaptive bandwidths".

This technique – introduced by Jerome Friedman, professor emeritus of statistics at Stanford University – allows data scientists to fit a series of smooth curves across the data. It is called "super smoother".

"This is essential as, at the most basic level, people don't report data well, such as the coronavirus infection rate on weekends, compared to weekdays. This is why we often see a spike on Mondays, or on days when an influx of test results arrive," he says.

The super smoother technique fits a smooth curve to local regions of the data, which O'Connell says avoids chasing noise – a typical problem with many raw data presentations.

DATA PROFILING

As well as using techniques to smooth out data discrepancies, data profiling tools can also be used to find incomplete data by identifying basic problems.

"They can spot that a dataset does not include the ages of patients, or that 70% of the ages are missing," says Christiaens.

GARRYKILLIAN/ADOBE

Data profiling tools can be used to smooth out
data discrepancies and identify incomplete data

"Perhaps these details are missing due to privacy laws. But if you're going to build a model for Covid-19 that doesn't include age information, particularly for the elderly, that model is going to be bullish compared to one that relies on datasets containing age details for the patients."

His top tip for anyone looking at using such tools is to ensure they are programmed with relevant rules. "If you don't, it could create problems," he says. "For example, we all know there's no such thing as a 200-year-old person or a minus-10-year-old person, but unless you set a rule for that, the data profiler will not know it."

Reassess assumptions

Beyond the immediate challenges of accurately recording and modelling the infection rate and learning how other countries respond to the easing of lockdown measures, there are set to be numerous data science challenges as economies attempt to return to normal working patterns.

In a recent blog post, Michael Berthold, CEO and co-founder of Knime, an open source data analytics company, wrote about how some existing data models were wholly inadequate at predicting business outcomes during the lockdown.

"Many of the models used for segmentation or forecasting started to fail when traffic and shopping patterns changed, supply chains were interrupted, borders were locked down, and the way people behaved changed fundamentally," he wrote.

"Sometimes, the data science systems adapted reasonably quickly when the new data started to represent the new reality. In other cases, the new reality is so fundamentally different that the new data is not sufficient to train a new system, or worse, the base assumptions built into the system just don't hold anymore, so the entire process from data science creation to productionising must be revisited," said Berthold.

A complete change of the underlying system requires both an update of the data science process itself and a revision of the assumptions that went into its design. "This requires a full new data science creation and productionisation cycle: understanding and incorporating business knowledge, exploring data sources and possibly replacing data that doesn't exist anymore," he said.

In some cases, the base data remains valid, but some data required by the model is no longer available. If the missing data really represents a significant portion of the information that went

> "**Models used for segmentation or forecasting started to fail when [the pandemic meant] traffic and shopping patterns changed, supply chains were interrupted, borders were locked down, and the way people behaved changed**"
>
> Michael Berthold, Knime

into model construction, Berthold recommends that the data science team re-run the model selection and optimisation process. But in some cases, where only the missing data is partial, he says it may only be necessary to retrain the data model.

Data governance

Rachel Roumeliotis, vice-president of data and artificial intelligence (AI) at O'Reilly, points out that some common data quality issues point to larger, institutional problems.

"Disorganised data stores and lack of metadata is fundamentally a governance issue," she says, adding that data governance is not a problem that is easy to solve and one that is likely to grow.

"Poor data quality controls at data entry is fundamentally where this problem originates – as any good data scientist knows, entry issues are persistent and widespread. Adding to this, practitioners may have little or no control over providers of third-party data, so missing data will always be an issue," she adds.

According to Roumeliotis, data governance, like data quality, is fundamentally a socio-technical problem, and as much as machine learning and AI can help, the right people and processes need to be in place to truly make it happen.

"People and processes are almost always implicated in both the creation and the perpetuation of data quality issues," she says, "so we need to start there." ◼

Some common data quality issues point to larger, institutional problems

GARRYKILLIAN/ADOBE
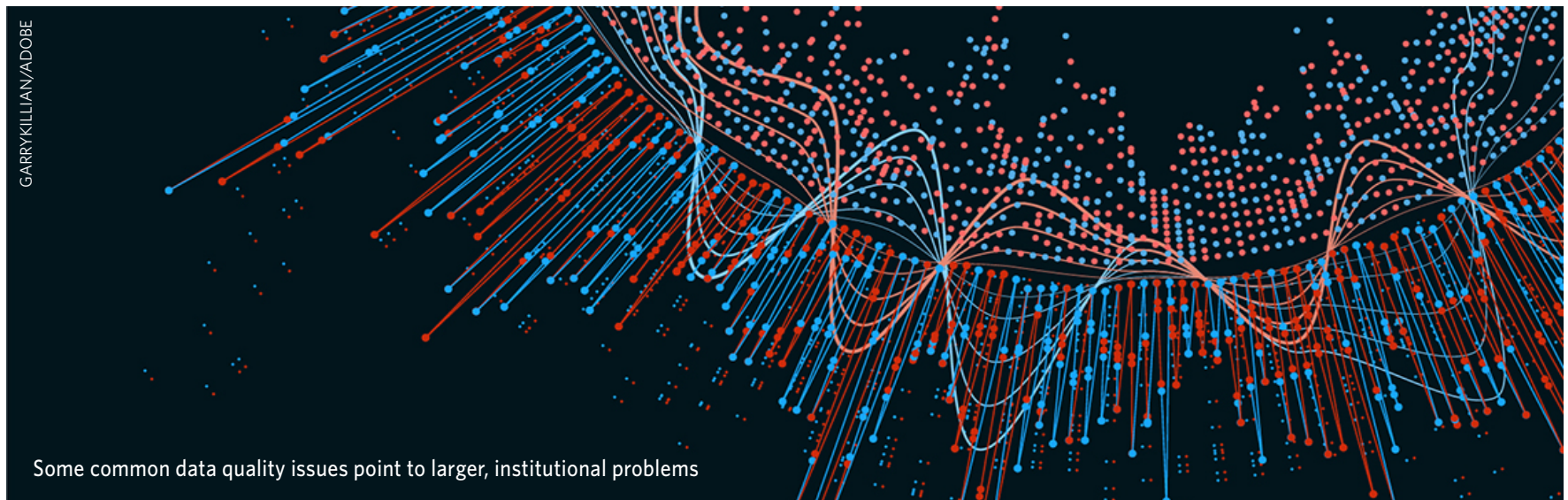
Coronavirus: How to cope with the digital skills divide

Employers need digital talent more than ever. Cath Everett asks how firms can recruit and train for the skills they need during a lockdown

ANDREW_RYBALKO/ADOBE

HOME

One of the consequences of the Covid-19 coronavirus pandemic has been an intensifying of the digital divide both between individual companies and among different parts of their workforces, according to a report by the Harvard Business Review.

The article entitled *Coronavirus is widening the corporate digital divide* points out that the "need to virtualise work due to Covid-19 is driving digital transformation and deepening differences across people and across firms at an incredible rate".

But a key problem is that "not all businesses with a digital operating core can be virtualised to the same extent" – and indeed for some, it is almost impossible, leading to furloughs, closures and layoffs as a result.

"The Covid-19 crisis is giving us a terrifying, close-up view of how the digital divide will continue to play out," the article adds, unless business and government work together to do something about it.

Digitally prepared

Bev White, chief executive of recruitment consultancy Harvey Nash, agrees that "digitally prepared" organisations are in a much stronger position to weather the storm than those that had previously not digitised much – a situation that could inevitably lead to the digital divide getting wider.

This is because those companies that were "ready to roll" when the lockdown was introduced could "move their business strategies forward as they'd already invested in the necessary platforms, solutions and skills. As a result, they were able to adapt

products and services faster than those who didn't already have all of that in place", she says.

Ultimately, being digitally prepared or not, or at least being able to move swiftly in that direction, has made the difference between survival and collapse in some instances.

But even among the organisations that remain, the digital divide is becoming more marked, "with those business that are further ahead accelerating what they're doing, and those businesses needing to find their way in the new world having to plan at speed", says White.

SHINING A LIGHT

As Eleanor Bradley, managing director for registry and public benefit at Nominet – which owns the .UK internet domain registry – indicates, the current situation is "shining a very clear light on where the issues currently exist in terms of digitising business, and where the digital skills of both the workforce and general public are lagging behind to a great extent".

"What was a big challenge for UK plc pre-Covid is now critical and has to be addressed – existing problems have been highlighted and made more acute, so we have to think about how to accelerate our responses," she says.

To put things into context, the _Lloyds Bank UK consumer digital index 2019_ revealed that just over half (53%) of UK employees were without the digital skills necessary for work, while a worrying 22% (11.9 million people) did not have the _"essential digital skills"_, as defined in the government framework, required to manoeuvre everyday life.

INVESTING IN DIGITAL SKILLS FOR THE FUTURE

But Bradley points to the activities of organisations that are trying to help, such as _Future.now_ – of which Nominet is a founding partner. For example, it is attempting to support employers in addressing the digital skills gap among their own workforces and the wider supply chain by providing a range of online resources and courses.

The coalition of companies and civil society groups has also launched a Devices.now campaign to supply tablet computers pre-loaded with software to help members of disadvantaged groups to access social and health services. Such software includes simple communication tools so people can access the NHS 111 helpline number and video-conferencing tools to interact with their GP.

But the situation is just as grave in a corporate IT context. According to 2019's _Harvey Nash/KPMG CIO survey_, the UK was experiencing the highest tech skills shortage for more than a decade, with a huge two-thirds of CIOs reporting a talent shortage, particularly in the areas of big data and analytics.

Since the Covid-19 crisis struck and the threat of highly controversial changes to the _IR35 tax regulations has abated for the_

> ## "WHAT WAS A BIG CHALLENGE FOR UK PLC PRE-COVID IS NOW CRITICAL AND HAS TO BE ADDRESSED"
> ### ELEANOR BRADLEY, NOMINET

time being at least, this scenario has translated into high levels of demand for contractors.

Harvey Nash's White says: "Contract-based skills and interims are at a premium due to uncertainty among employers who still need to progress things but aren't so keen to take on permanent staff in the current climate.

"Over the past few weeks, demand for cyber security skills in particular has been on the rise."

But taking a somewhat longer-term view of the situation, Nominet's Bradley also believes that it is vital for organisations to invest in broadening out the skill sets of their own workforces too.

"Doing so means they're more adaptable and so are less at risk of furlough or redundancy," she says. "It's how you go about creating a more resilient workforce and economy – it's not enough to just accept that there's a digital divide and do nothing."

Upskilling the population

Bradley believes that the current scenario, combined with the workplace changes that are likely to come about over the next 10 to 20 years due to automation, mean it is imperative that action is taken to upskill the population as quickly as possible.

But in her view, everyone – whether that be the government, employers or individuals themselves – have a responsibility to affect such change.

"If there is some good to come out of this current crisis, I hope it's that people will see things have to change, and work hard to make that change lasting rather than going back to it being incremental," she says.

VECTORMINE/ADOBE

"The current crisis has shone such a stark light on where the issues lie that it would be a real missed opportunity if we don't address the situation in a more active way."

SMARTDEBIT

The organisations best placed to survive and thrive during the current Covid-19 lockdown are not just those that have been able to digitise rapidly – if the kind of business they are in allows it.

Indeed, the ones reaping the rewards now are those that have also taken their business continuity (BC) and disaster recovery (DR) planning seriously, believes Gavin Scruby, CIO at SmartDebit. "Those companies that have only paid lip service to business continuity will struggle as the whole house of cards is likely to come down," he adds.

While the direct debit service provider was already "quite far down" the digitisation route anyway as part of its own BC and DR planning, it has now moved all of its front-end office-based systems to the cloud.

It has also introduced unified communications (UC) platform, Microsoft Teams, in a bid to enhance communication between workers who are now remote from each other.

"Communication is the hardest thing to keep going, but it's vital if you want to deal with a crisis," says Scruby. In fact, he has found that some of these new ways of communicating have actually brought about unexpected benefits, to the extent they will now become the "new normal".

For instance, following a general systems failure, the fact that his team was now based remotely and so used Teams to input ideas and suggestions for action meant they "had to think before they typed" rather than "just run around panicking".

As a result, sorting out the situation not only "worked more smoothly than normal", says Scruby, but also provided an audit history for future reference.

> ## "COMMUNICATION IS THE HARDEST THING TO KEEP GOING, BUT IT'S VITAL WHEN DEALING WITH A CRISIS"
> GAVIN SCRUBY, SMARTDEBIT

PUTTING DIGITAL SKILLS IN PLACE

Another key issue for the IT team was providing employees who had varying levels of digital literacy with the skills necessary to work remotely. Therefore, as soon as the company heard about the lockdown in Wuhan, China, it started planning and created a risk list to help prioritise what was required to keep the company going.

Such activity included modelling potential loads on office systems, taking swift action to provide people with the tools required to stop them building shadow IT systems, and identifying employees in need of technical training. This training began as soon as the company started advising older and more vulnerable staff to self-isolate for their own good.

"For those people we knew weren't technically literate, we did a lot of personal handholding," says Scruby. "We took more time

out to do it than normal, but we knew we'd be swamped with support calls if we didn't take the time upfront."

"Champions" were also trained to become the first point of contact in case of any problems in order to free up the IT team to deal with other, more pressing issues.

"Resourcing was difficult, but we dealt with it by cancelling normal projects and reassigning people elsewhere," says Scruby. "Budgets were effectively cut everywhere else to free up money and enable us to speed up digitisation."

But while the budget sign-off process was shortened, justification criteria were toughened "as we're all focusing on where the money really needs to go", he says.

Now it's come out of the initial phase, the company is planning for the future. "We're looking at how we can automate more processes and improve our disaster recovery planning for the next possible epidemic," says Scruby. "But it's clear remote working will become a stronger feature as those who were against it have seen it works, and everyone now has the digital skills in place." ◼

VECTORMINE/ADOBE

The People versus Amazon: 'They will have to answer to all of us', says fired employee

Former Amazon employee Christian Smalls speaks to Computer Weekly about his termination and how the company is trying to silence dissent as it reports massive sales. Sebastian Klovig Skelton *reports*

YEVHENII/ADOBE

While many enterprises have struggled to cope with the fallout of the Covid-19 coronavirus pandemic, e-commerce giant Amazon is experiencing a boom.

With customers spending $11,000 a second on its products and services, in what has been described as a "lockdown bonanza", Amazon has continued to grow while others contract.

To keep up with the demand of shoppers being forced online by government lockdowns, Amazon has embarked on two separate out-of-season hiring drives in the US – the first for 100,000 extra staff, and the second for a further 75,000.

In its first-quarter financial results, released 30 April, Amazon announced it had revenues of $75.4bn in the first three months of the year – the equivalent of more than $33m an hour. Net-sales also increased 26%, from $35.8bn in the first quarter of 2019 to $46bn.

In a statement announcing the results, CEO Jeff Bezos said the second-quarter's profit in normal times would be around $4bn but that all, if not more, would be spent on Covid-related expenses. "This includes investments in personal protective equipment, enhanced cleaning of our facilities, less efficient process paths that better allow for effective social distancing, higher wages for hourly teams, and hundreds of millions to develop our own Covid-19 testing capabilities," he wrote.

However, while the firm has witnessed a massive boom in economic activity, the pandemic has also prompted a sharp increase in staff dissent who feel the company has not, until now, done enough to protect them from the coronavirus.

A WAVE OF STRIKES

Amazon has long been dogged by complaints about working conditions in its warehouses, and the pandemic has significantly upped the ante of those complaints, with workers across Europe and the US staging walkouts and strikes in protest of "unsafe working conditions" and "corporate inaction" linked to the outbreak.

The first strikes took place in Spain and Italy, both of which have been badly affected by Covid-19, after Amazon refused to shut down facilities when it was revealed a number of employees had contracted the virus.

Following a similar pattern to their European counterparts, workers in the US began taking action when warehouses were not shut for cleaning following suspected cases, with the first ones occurring on 30 March 2020 in the company's JFK8 warehouse in Staten Island, New York, and at a delivery station in Chicago.

The main driving force behind the Staten Island walkout was process assistant Christian Smalls, who became the first person to be fired by Amazon for speaking out about the alleged state of its warehouses during the pandemic.

Before his firing, Smalls had worked for Amazon for five years. Despite his termination, his commitment to securing safe and sanitary working conditions for his former colleagues remains undampened. At the time of speaking to Computer Weekly, he was in the process of connecting with warehouse workers worldwide to mobilise for weekly work stoppages, with the first taking place on International Workers' Day on 1 May 2020.

❯ *Amazon's Whole Foods uses mapping technology to predict where strikes will happen, but organisers can use similar tools to bolster their actions too.*

"We've got to come together in solidarity right now so we can fight this, so this never happens again to us. Whether it be a union or whether it be a rank-and-file workers' committee, that's to be decided, but it's what we need to do because obviously the CEO of this company has failed to protect us," Smalls told Computer Weekly. "It's never going to be Amazon versus Chris Smalls, it's going to be Amazon versus the people, and they will have to answer to all of us."

AMAZON VERSUS CHRIS SMALLS

The termination of Smalls's employment at Amazon remains a contentious issue, with both parties giving different versions of events. According to a statement from Amazon, Smalls's employment was not terminated for organising "a 15-person protest", but for putting the "health and safety of others at risk" by "violating social distancing guidelines" despite multiple warnings.

It added: "He was also found to have had close contact with a diagnosed associate with a confirmed case of Covid-19 and was asked to remain home with pay for 14 days, which is a measure we're taking at sites around the world. Despite that instruction to stay home with pay, he came on site, further putting the teams at risk."

Smalls, however, contests the protest was attended by around 50 to 60 people, and that the guidelines Amazon claims he

violated were not introduced until after he had already been fired for organising the protest.

"The multiple safety guidelines they claim I violated weren't implemented until the month of April, but I was terminated in March – that's in black and white," said Smalls, referring to a letter he received about the guidelines dated 3 April. "If I violated guidelines of any sort, it's because I didn't have knowledge of the rules. As a process assistant, we're supposed to relay that kind of information to the employees ourselves – if we don't have the information to relay, then it doesn't exist to us. We were never given that in the month of March."

The company published a blog post on 24 March 2020 outlining the social distancing and protective measures it was introducing to protect staff from coronavirus.

Computer Weekly requested confirmation of the precise date of when the social distancing guidelines referred to above were introduced at Amazon, and received the following statement from company spokesperson, Rachael Lighty, in response: "Since the early days of this situation, we have worked closely with health authorities to respond proactively, ensuring we can continue to serve communities while taking care of our associates and teams.

"We have implemented more than 150 significant process changes to support our teams, including increased cleaning and maintaining social distance at all facilities, increasing rates of pay, adjusting time off, and providing temperature checks, masks, gloves, and other safety measures at our sites," Lighty added.

Christian Smalls was a driving force behind the JFK8 warehouse walkout, protesting over what he says was a failure of the CEO to protect employees during the Covid-19 outbreak

HATICE/ADOBE

Amazon also separately claimed Smalls was a "process assistant and did not manage other staff" after it was reported in Computer Weekly that he was an assistant manager who supervised 60 to 100 staff, as claimed by Smalls in his open letter to CEO Jeff Bezos.

"Yes, I am a process assistant, that's the business title, but the nature of my job is to be an assistant manager," said Smalls. "Whenever my direct manager calls out of work – whether sick, on vacation, or whether they're taking personal time – I do the manager's job. That's what process assistants do."

This description of the job is corroborated by Amazon's own process assistant job application form.

In terms of his quarantine, Smalls explained that while he was told to return home on Tuesday 24 March 2020, he was never told the consequence of coming back to work would be getting fired. He also pointed out that no other employees were asked to quarantine, including the person he drives to work with every day. This suggested to Smalls that his organising efforts were being noticed.

Computer Weekly asked Amazon's press team about the company's quarantine policies, including when they came into effect, how employees returning to work were dealt with, and how many JFK8 employees were asked to quarantine in the month of March.

"For employees and partners whose work requires their physical presence in their workplace, those individuals have access to all of their usual paid and unpaid time-off benefits should they, for any reason, choose not to come to work, and we support them in that decision," said Lighty in response.

"All Amazon employees diagnosed with Covid-19 or placed into quarantine will receive up to two weeks of pay (this is on top of the up to five weeks of paid time off they already receive). This additional pay while away from work is to ensure employees have the time they need to return to good health without the worry of lost income."

Amazon's PR offensive

It is worth noting that shortly after Smalls was fired, *Vice News* uncovered written notes from a meeting attended by Bezos, which detailed Amazon's strategy to discredit Smalls and the wider movement of workers organising as to better working conditions during the pandemic.

"We should spend the first part of our response strongly laying out the case for why the organiser's conduct was immoral, unacceptable, and arguably illegal, in detail, and only then follow with our usual talking points about worker safety," wrote Amazon's general counsel, David Zapolsky.

"Make him the most interesting part of the story, and if possible make him the face of the entire union/organising movement.

> *VICE NEWS* UNCOVERED WRITTEN NOTES FROM A MEETING ATTENDED BY BEZOS, WHICH DETAILED AMAZON'S STRATEGY TO DISCREDIT SMALLS

He's not smart or articulate, and to the extent the press wants to focus on us versus him, we will be in a much stronger PR position than simply explaining for the umpteenth time how we're trying to protect workers."

In a statement to *Vice*, Zapolsky said his "comments were personal and emotional", and that he was "frustrated and upset that an Amazon employee would endanger the health and safety of other Amazonians by repeatedly returning to the premises after having been warned to quarantine himself after exposure to virus Covid-19".

In response to questions about the episode, Smalls, who has never been involved in workplace organising prior to the pandemic, said: "This is what the company does – they like to sugar-coat and downplay every single thing that is negative about the

A brief look at pre-coronavirus revolts and walkouts by Amazon employees

Despite the recent uptick in employee rebellion, revolt is nothing new for Amazon workers, who have been mobilising around a number of issues in recent years.

In 2019, for example, the Amazon Employees for Climate Justice (AECJ) organised almost 3,000 corporate workers to walk out for the Global Climate Strike in September 2019, while in April 2019, more than 8,700 employees signed an open letter about the company's climate failures.

Since the AECJ was formed in December 2018, Amazon has announced a slew of climate plans, including its Climate Pledge, Shipment Zero and the Bezos Earth Fund, comprising $10bn of the CEO's personal wealth.

Even these are still being criticised by outspoken activists, as well as environmental groups such as Greenpeace, pointing out Amazon's continuing ties with the oil and gas sector.

Amazon has also come under fire from its own employees on a number of occasions regarding its ties to law enforcement agencies in the US.

In particular, employees have called for Amazon to stop supplying police forces with controversial facial-recognition technology, as well as to stop selling cloud services and running biometric databases for the likes of Homeland Security and US Immigration and Customs Enforcement (ICE).

The pandemic is also not the first time that Amazon workers have called out poor working conditions. In 2019, workers in Shakopee, Minnesota, walked out on the company's Prime Day over "inhumane conditions".

Even as late as February 2020, workers in the JFK8 warehouse where Christian Smalls worked were complaining of "unsafe, gruelling conditions".

company to look good to the public eye. The simple fact you've got the richest man in the world having a meeting with all his top attorneys and executives tells you that we're speaking truth to power. The simple fact they have a vendetta against me makes it even worse for them."

Amazon versus the people

Smalls claimed to Computer Weekly that he was just the first in a growing line of people allegedly fired from Amazon for speaking out or protesting about Covid-related issues, despite Amazon's claims the employees were let go for violating various guidelines or internal policies.

This includes the firing of Amazon's user experience designers Emily Cunningham and Maren Costa, organisers in the Amazon Employees for Climate Justice (AECJ) campaign group who publicly denounced Amazon's treatment of employees such as Smalls.

It also includes Minnesota warehouse worker Bashir Mohamed, who was advocating better work conditions and pushing for more rigorous cleaning measures.

While both Smalls and Mohamed were fired for "violating social distancing guidelines", Cunningham and Costa were dismissed for "repeatedly violating internal policies" which prohibit employees from commenting publicly on the company's business without corporate justification and approval from executives.

"We all know this is what the company does – every time something negative comes out, they've always got to spin it to make sure they look like the good guys and everybody else is wrong," said Smalls. "For them to fire everybody they've fired over the past couple of weeks, for all these different excuses that aren't protest, is false. I was just the first one, but now there's been multiple firings ever since, so you're telling me that we're all suddenly insubordinate? These are people who have been with the company as long as 13 years."

Although Amazon workers have been striking since late March in protest of "unsafe working conditions" and "corporate inaction", the company insists they are small-scale and that no employee has been terminated as a result of exercising their legal right to protest.

"Incidents have occurred at a very small number of sites and represent a few hundred employees out of hundreds of thousands. We want to be very clear that we respect the rights of these employees to protest and recognise their legal right to do so," said Amazon in a blog post.

"At the same time, these rights do not provide a blanket immunity against bad actions, particularly those that endanger the health, and potentially the lives, of colleagues. It is vitally

> **"This is what the company does — every time something negative comes out, they spin it to look like the good guys"**
> Christian Smalls, Amazon ex-employee

important that we keep people safe during this pandemic, and one of the primary ways we can do that is to ensure everyone at our sites is taking precautions, such as social distancing, frequent hand washing and disinfecting surfaces."

According to the New York attorney general's office, Amazon may have violated federal safety standards for providing "inadequate protections" to warehouse workers, as well as the state's whistleblower laws by taking action against Smalls.

Writing to Amazon, state officials noted that their preliminary findings "raise serious concern that Amazon may have discharged [Smalls] to silence his complaints and send a threatening message to other employees that they should also keep quiet about any health and safety concerns".

The state officials have urged Amazon to reinstate Smalls, and requested to see all internal Amazon communications since 1 February 2020 concerning workers' complaints and organising efforts.

In the meantime, protests are set to continue, with workers from Amazon, Instacart, Whole Foods and others having striked on 1 May to protest their employer's "continuing failure to provide adequate protection in the workplace".

While there are already reports of hundreds calling in sick or walking out, it remains to be seen how much future protest will be dampened by the firing of Smalls and others, and whether Amazon's $4bn of projected second-quarter profits going to Covid-related expenses will be enough. ◼

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It remains to be seen how much effect continuing protests will have on Amazon's response to employees

Artificial ignorance

Microsoft's move to replace MSN.com's human editors with artificial intelligence has resulted in the software misidentifying one woman of colour for another – before regurgitating other outlets' stories about the error and overruling the remaining human staff's attempts to delete them.

Offensive, irrelevant and unapologetic: now there's an algorithm made for its web portal. Getting Little Mix bandmates Jade Thirlwall and Leigh-Anne Pinnock confused and not caring who knows it almost evokes the spirit of the robot editor's slightly more sentient former counterpart Paul Dacre.

"If you're going to copy and paste articles from other accurate media outlets, you might want to make sure you're using an image of the correct mixed-race member of the group," said Little Mix's Thirlwall, exacerbating suspicions of the software's racist bias.

The Guardian has attributed the following quote to one of the few Microsoft staffers yet to be fired during a pandemic: "With all the anti-racism protests at the moment, now is not the time to be making mistakes." Downtime suspects, however, due to the comment's lack of any semblance of understanding that this is unacceptable regardless of the climate, that the article has misidentified a racist robot for a human being. ∎

❯ *Read more on the Downtime blog.*