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# 6 technology pledges that should be in every political manifesto

From a digital Geneva Convention to taking down big data firms, these proposals should be required by any political party that wants your vote on 8 June


Simon Dawson/Bloomberg via Getty

*From fake news to artificial intelligence, our world is defined by technological change. But the political response is too often characterised by ignorance, incompetence and illiberality: failing to address challenges such as cybersecurity; letting giant companies wreak havoc on social norms; and using high-tech snooping to restrict our freedom rather than enhance it.*

*So what should politicians do to make sure technology truly benefits the public? We asked the experts and came up with six pledges we'd like to see them make*

### 1. Enforce the right to an explanation

COMPUTER says no. Algorithms decide everything from what ads we are served online to whether we are eligible for a loan, affecting many aspects of our daily lives. That's led to mounting concern about their opacity: how do they arrive at the decisions they do?

The problem is that algorithms aren't objective, but can be led astray – for example, because they're poorly designed or trained on an unsuitable data set. In the US, algos are used to inform sentencing by calculating the probability of a defendant reoffending – a process that has turned out to be biased against black people. But we have no way to peer into their icy minds to understand when, whether and why their decisions are unfair.

The EU's antidote is to give people a "right to explanation" as to why an algorithm made a particular decision about them. Though the spirit of these rules is worthy, Sandra Wachter and colleagues at the Oxford Internet Institute in the UK have suggested that the wording means it might not be legally enforceable. What does an explanation of an algorithm look like – and who could understand it?

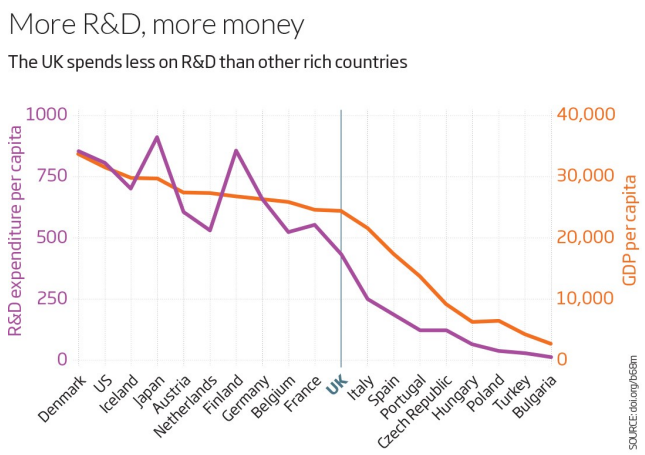
Nonetheless, we can look for undesirable outcomes, and Joshua Loftus at the University of Cambridge has developed tools to test whether algorithms are biased. So politicians must keep the right enshrined and back it up with workable mechanisms. A watchdog should be established with robust powers to investigate the algorithms used by private firms. And parties should promise to make data science a regulated profession, to ensure that those designing algorithms also know their ethics. **Joshua Howgego**

### 2. Own the next killer app

MANY urbanites harbour little fondness for the days before Uber, when you couldn't always get a cab and drivers only accepted cash. But the convenient ride-hailing app has created its own problems – including slashing taxi drivers' wages in cities where it has been adopted, while the employment status of its own drivers is hotly disputed. Its contempt for regulators and competitors has drawn fire, too.

All this for a private service that relies on public infrastructure and in some respects replicates public transport. But it took Silicon Valley's technological wizardry to make it happen, right? Wrong, says University College London economist Mariana Mazzucato. It's often public money that creates crucial technologies in the first place – from semiconductors to the internet to search engines.

Uber's founder Travis Kalanik didn't invent GPS: the US Department of Defense did. But he did grasp that many places are underserved by public transport, and smartphones with GPS could help fill the gap. The Valley, in turn, provided the funds needed for Uber to grow rapidly – and the attitude that "moving fast and breaking things" was a good, and perhaps the best, way to proceed.

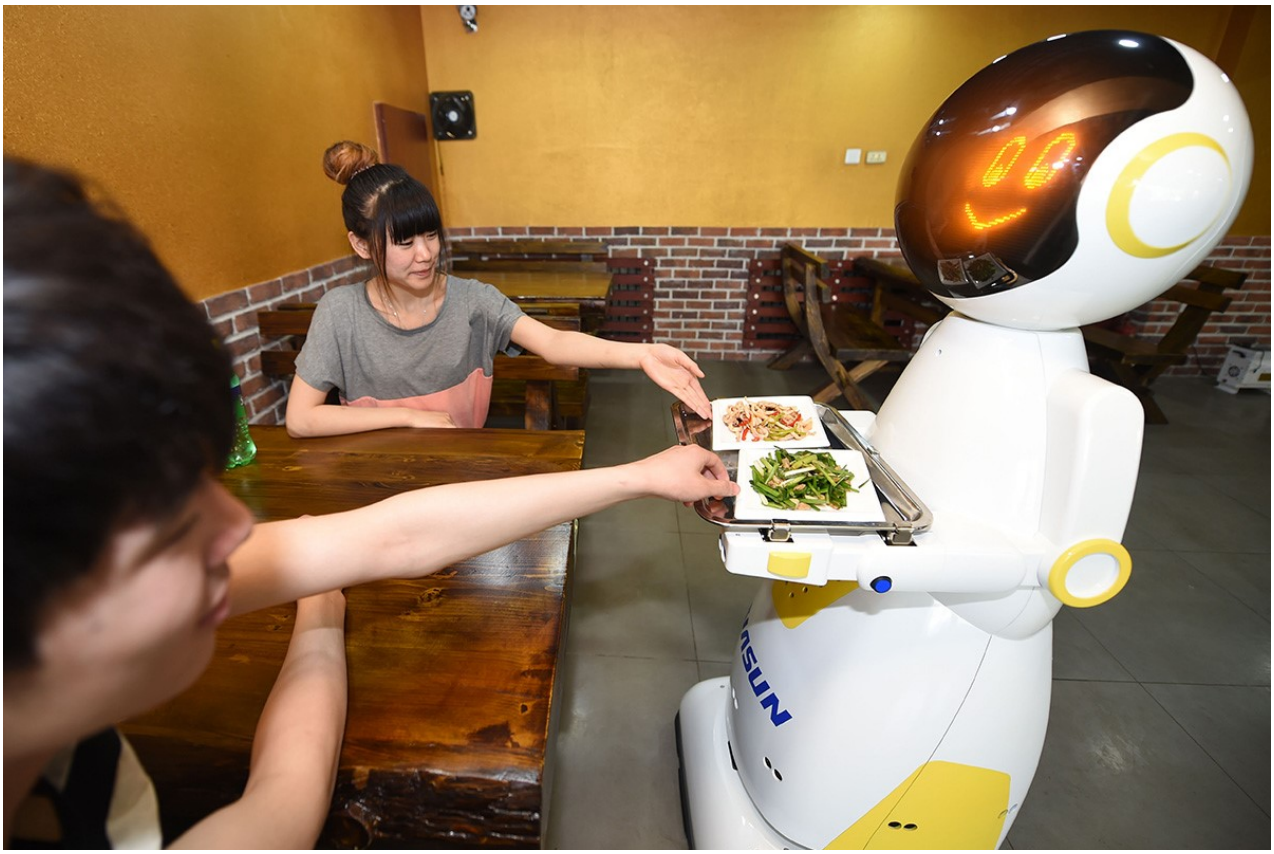



But what if governments didn't passively wait for Silicon Valley mavens, but anticipated how such new technology could help fix and fill gaps in public services, rather than breaking them? If that were possible, governments could ensure the resulting innovation gives back to society, not just to private firms. That doesn't have to mean public ownership – but it could mean a greater public say in how innovations reshape society.

Governments already fund research and development, as Mazzucato points out. But "everyone forgets about the D" in R&D, says Jen Rae of innovation charity Nesta. "Countries like Finland and Sweden devote a larger piece of the pie to development." That's where the ways people want to use a technology are identified, markets created and societies changed. Increasing R&D spending could prove be good for citizens' purses and wallets, too (see graph).

The UK has seen a big increase in grassroots organisations that try to anticipate public desires by looking at social challenges, from air pollution levels to lack of engagement with political systems. Fund these better, and maybe the next killer app could work within civic society rather than disrupting it. **Sally Adee**

### 3. Put workers before robots



**Beneficial automation?**
Xinhua News Agency/Rex/Shutterstock

IF ROBOTS aren't already lining up to take your job, they will be soon. A much-cited study from the University of Oxford found that 47 per cent of US jobs are at risk of being automated over the next 20 years. Other studies have come up with lower, but still large, estimates. Automation is set to affect everyone from cashiers to credit analysts: even if your job can't be fully automated, there's a good chance parts of it can be. That means everyone's working life is set to change.

Instead of letting automation push people into low-skilled jobs or the gig economy, automation can and should be made to work for everyone. There are already suggestions for how this could be done. Bill Gates has suggested a robot tax, for instance, which firms would shell out when they supplant humans with machines.

But the EU rejected a robot tax proposal in February, and such simplistic measures don't get to the heart of the problem. What we need is a larger reassessment of our relationship with work, says Anthony Painter at the RSA think tank. Work isn't just about money. It gives us a sense of purpose and identity, which is why using technology to track workers to enforce optimal performance is so dehumanising.

That's partly why a universal basic income – a guaranteed small monthly income from the state – has been gaining interest; it lets people pursue their own priorities, including caring for relatives or running their own business. We have preliminary evidence that this can work.

Now is the time to begin testing measures that can channel the impact of automation in a beneficial direction. This could include prohibiting certain jobs from being automated, such as

those in healthcare, as well as plans to work out what levels of basic income and taxation would be appropriate. **Matt Reynolds**

### 4. Create a digital Geneva Convention

IT WAS Web War 1. Government websites disappeared, as well as those of national newspapers and banks. All because Estonia had removed a Soviet-era war memorial. Russia retaliated by taking down the country's entire digital civilian infrastructure.

Since then, government- sponsored cyberattacks have become increasingly confused with general hacking. The internet is a NATO- designated war zone.

Since the second world war the Geneva Convention has outlined rules of traditional war that minimise its impact on civilians and try to maintain a basic level of humanity. These can't and don't stop devastation, but provide a code of conduct that nations can later refer back to.

"The Geneva Convention tells governments how to protect civilians in times of war. Today, we have a situation in which governments are waging war on each other's civilians in times of peace," says Microsoft president Brad Smith.

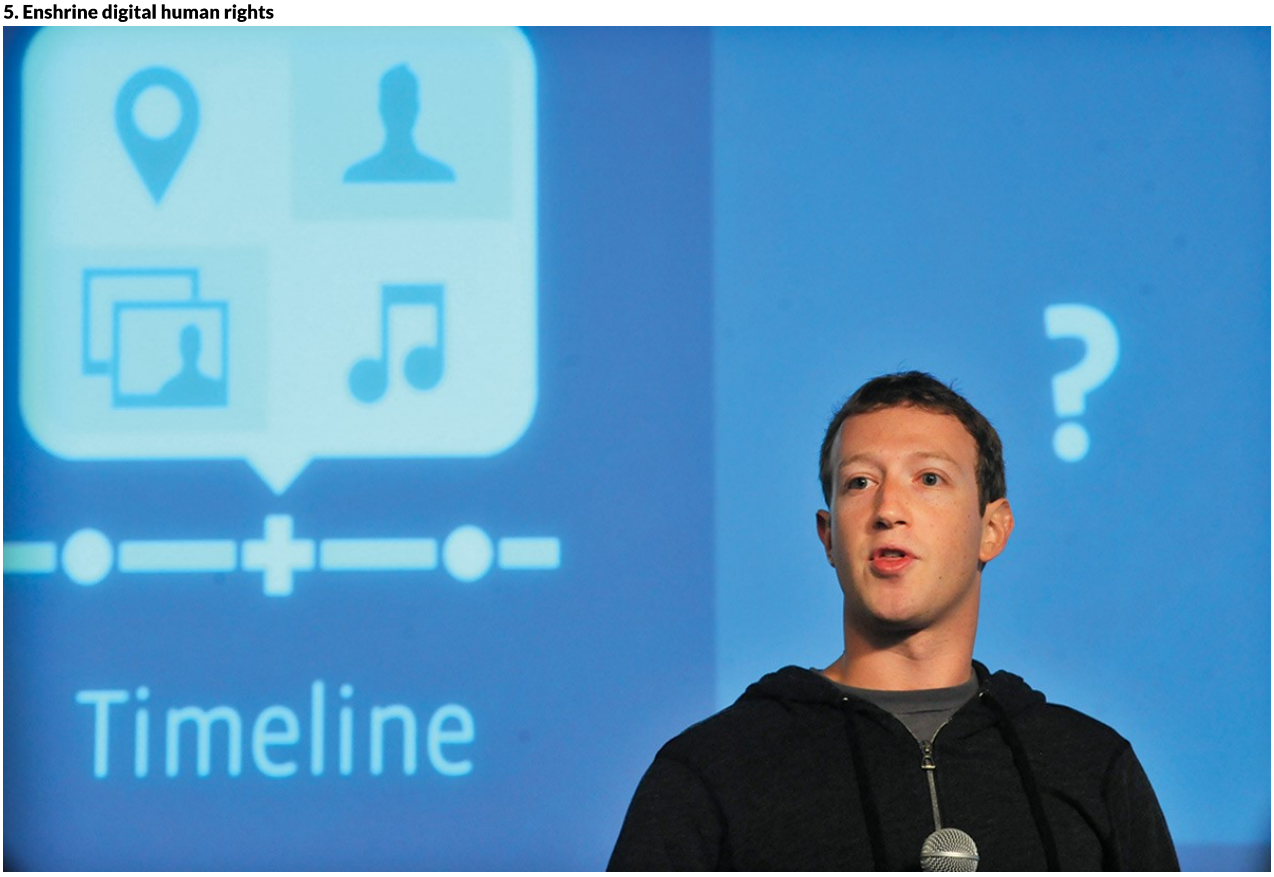
Earlier this year he began to advocate for a digital Geneva Convention that sets ground rules for cyberwarfare. With hospitals, power stations, electricity grids and water supplies connected to the internet, it's time. Nations that sign up would agree not to hack critical infrastructure. Just as bombing a hospital is a war crime, hacking one should be too.

Neither should nations hoard software vulnerabilities to exploit. "Software weaknesses are never just for the good guys," says Joe Sturonas of security firm PKWARE. Instead, vulnerabilities should be reported and fixed to avoid situations like the recent global ransomware attack that took out hospitals in the UK.

**"Today, governments are waging cyberwar on each other's civilians in times of peace"**

Finally, nations shouldn't attempt to influence the democratic process in other countries through data leaks or proliferating online propaganda. **Timothy Revell**

### 5. Enshrine digital human rights




**Needs to share?**
Josh Edelson/AFP/Getty

THE UN Universal Declaration of Human Rights and the European Convention on Human Rights (ECHR) were written more than 60 years ago. It's time they were brought to bear on the sweeping changes that technology has brought to our ways of life.

Some might scoff at putting digital rights on the same footing as access to clean water. But as the gap between digital and physical has disappeared, loopholes have opened up in established rights. For example, the ECHR grants the right to a private life: citizens cannot be searched without probable cause. In the digital realm, that means no indiscriminate collection of data.

But how such rights are protected is largely a matter of state interpretation. Where the physical and virtual intersect, analogues should be enshrined in law, says Estelle Masse from digital rights group Access Now, starting with the following.

*The right to internet access*. This doesn't mean the state becomes a service provider or pays your bill, but that it ensures access and regulates minimum standards.

*The right to a digital private life*. Your online activity reveals more about you than a search of your home, so unreasonable digital searches need to be explicitly barred. This includes the right to encrypt your data.

*The right to control your own data*. People should have to explicitly grant permission to the firms that use it, and clearly and succinctly describe the purposes for which it will be used. It should also be easy for citizens to revoke these permissions and have their files wiped. **Timothy Revell**

### 6. Cut the data giants back down to size

WINNER takes all. That's what often happens when a new frontier opens up to commerce – whether spice routes, oil fields or telephony. Companies like the East India Company, Standard Oil and AT&T grew to enormous sizes, buying up competitors or driving them to the wall, while amassing geopolitical power to rival that of nation states.

Sound familiar? Google, Facebook and Amazon dominate different sectors – search, social media and shopping – but are converging on complete control of personal and civic information. Competitors struggle to catch up: today's titans are shielded by the very data they hoard, which allows them to spot and exploit new opportunities before anyone else secures a foothold.

Is that what we really want? In previous eras, competition authorities stepped in to break over-mighty giants into smaller firms. But their mandate is to protect customers against market failure – a hard argument to make when the services on offer are free. It's also hard to define a market when a firm offers everything from search engines to driverless cars.

So perhaps we should look at the problem a different way. We might be concerned that a given company owns too much data. But how much is too much? A first step in deciding would be to create or empower bodies that could insist on meaningful disclosure of the amount and kinds of data that companies have gathered, and how they use it. The recent spat over Facebook's

assimilation of WhatsApp data suggests there's scope to give information commissioners real teeth.

Since data can be endlessly reused, there's not necessarily any need to break up big companies: instead, certain classes of data could be made available to other organisations – much of it was, after all, originally donated with very specific purposes in mind, rather than for any and every future purpose that the tech giants dream up. That would provide a way to let competitors develop past infancy – and ensure that new winners join the old ones. **Sumit Paul-Choudhury**

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Leader: "Politicians must get a grip on tech if they want a great Britain"

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