



# Regulating for Responsible Technology

---

Capacity, evidence and redress:  
a new system for a fairer future

doteveryone

# About Doteveryone

---

Doteveryone is an independent, non-partisan organisation and a registered charity whose mission is to champion Responsible Technology for a fairer future.

Responsible Technology promotes a fair, inclusive and thriving democratic society. It works in the best interests of the individual and of the public as a whole, safeguards against harm and is founded on fair and transparent value exchange between people and technology.

Doteveryone's work on regulation is framed through this mission and is complemented by our engagement with industry to create a model for responsible-technology practice, and our drive to help the public, and the social sector, to better understand technology and have a greater voice in shaping it.

Visit [www.doteveryone.org.uk](http://www.doteveryone.org.uk) to learn more.

Doteveryone  
New Wing, Somerset House  
WC2R 1LA

+44 (0)20 7257 9397  
[hello@doteveryone.org.uk](mailto:hello@doteveryone.org.uk)  
[@doteveryoneuk](https://twitter.com/doteveryoneuk)

Our Principal Partners



Registered Charity: 1146972  
Doteveryone is registered in England and Wales  
Company no: 06960661

## Download

This document is available to download at:  
<https://doteveryone.org.uk/project/regulating-for-responsible-technology/>

## Citation

If you are using this document in your own writing, our preferred citation is: Miller C, Ohrvik-Stott J, Coldicutt R. (2018) *Regulating for Responsible Technology: Capacity, Evidence and Redress: a new system for a fairer future*. London: Doteveryone. <https://doteveryone.org.uk/project/regulating-for-responsible-technology/>

## Permission to share

This document is published under a creative commons licence:  
Attribution-ShareAlike 4.0 International (CC BY-SA 4.0)  
<https://creativecommons.org/licenses/by-sa/4.0/>



# Contents

---

|                                                             |           |
|-------------------------------------------------------------|-----------|
| <b>Foreword</b>                                             | <b>4</b>  |
| <b>Executive Summary</b>                                    | <b>5</b>  |
| Recommendations                                             | <b>6</b>  |
| <b>Introduction</b>                                         | <b>7</b>  |
| <b>A system in need of a steward</b>                        | <b>10</b> |
| <b>Empowering regulators</b>                                | <b>12</b> |
| Addressing the gaps in regulation                           | <b>12</b> |
| <i>Case study: Political advertising and misinformation</i> | <b>14</b> |
| Equipping regulators for the digital age                    | <b>15</b> |
| Future-proofing the regulatory system                       | <b>16</b> |
| <i>Case Study: Anticipating quantum computing</i>           | <b>17</b> |
| <b>Informing policymakers and the public</b>                | <b>18</b> |
| Evidencing the benefits and harms of technology             | <b>18</b> |
| Informing and empowering the public                         | <b>19</b> |
| Articulating a vision for technology and society            | <b>20</b> |
| <b>Supporting people to seek redress</b>                    | <b>21</b> |
| Dealing fairly with public concerns                         | <b>21</b> |
| Providing backstop mediation                                | <b>22</b> |
| Sharing insights within the system                          | <b>23</b> |
| <i>Case study: Accountable Algorithms</i>                   | <b>24</b> |
| <b>Governance and funding</b>                               | <b>25</b> |
| Funding models                                              | <b>25</b> |
| Governance                                                  | <b>26</b> |
| <b>Conclusions and Next Steps</b>                           | <b>27</b> |
| <b>Methodology and Acknowledgments</b>                      | <b>28</b> |
| <b>References</b>                                           | <b>29</b> |

# Foreword

---

The ability to connect everyone, and everything, comes with a great deal of responsibility.

Internet-enabled technologies are now present in nearly all aspects of modern life - healthcare, democracy, our relationships with our loved ones - and it is time to improve how they are governed and regulated. No technology can be responsible for itself - and certainly not one as transformative or fast-moving as the internet.

The journey from moving fast and breaking things to one of accountability is one that every young person knows well. Innovation and internet-enabled technologies have long been given permission to adhere to different standards to the rest of society; now the impact of those technologies is becoming clearer, we as a society must find ways to shape them, for the good of everyone.

There is much to do but this is not rocket science; it's democracy.

These recommendations from Doteveryone set a clear and achievable path to a system of regulation that will achieve the accountability we need. This is a unique moment in time: the most important thing is for those who can act on them to show the leadership to make this vision a reality.

A handwritten signature in blue ink, reading "Martha Lane Fox". The signature is fluid and cursive, with the first name "Martha" and last name "Lane Fox" clearly distinguishable.

October 2018

**Martha Lane Fox**

Founder & Executive Chair  
Doteveryone

# Executive Summary

---

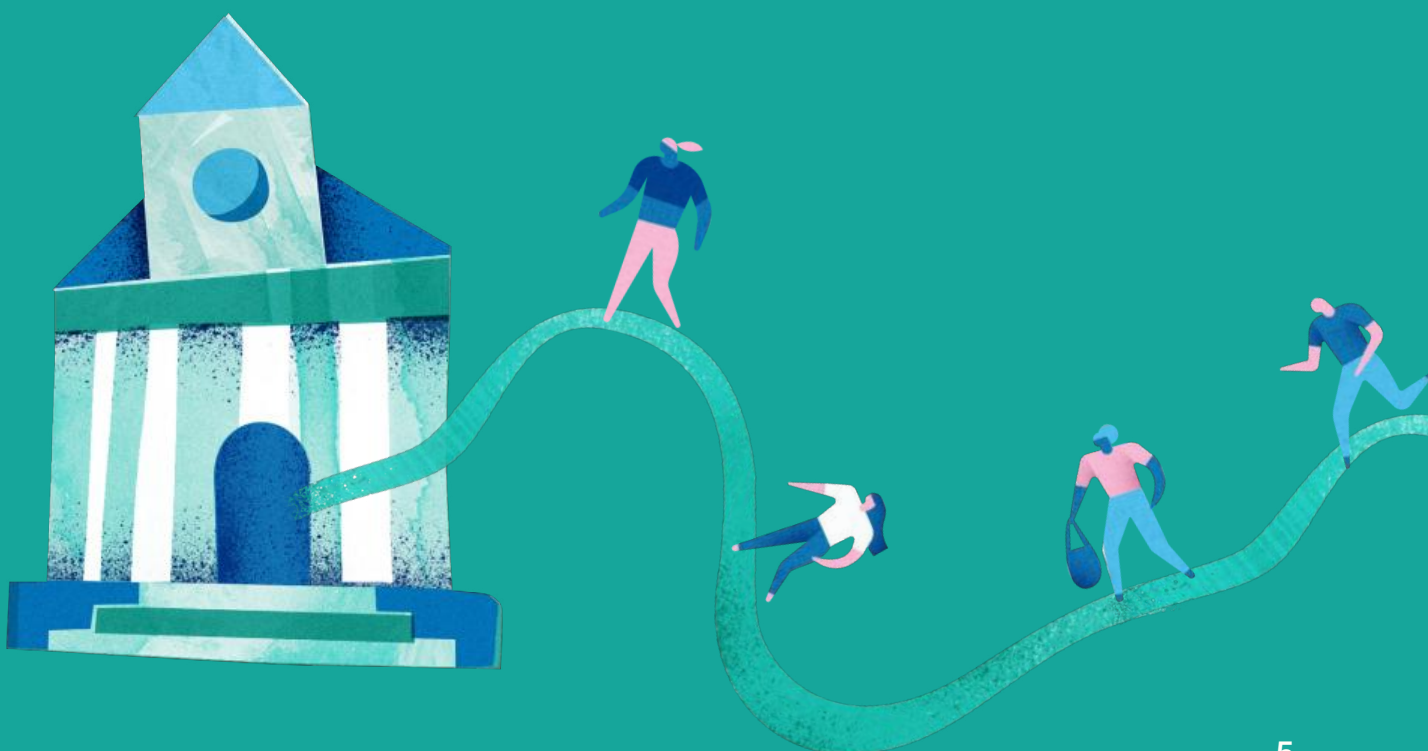
Digital technologies pose new problems for society. There needs to be a new kind of regulation to address them.

Technologies change at speed and are changing our society at speed. It's time to move from piecemeal regulation that tries and fails to play catch up with tech, to a new, systematic approach to accountability that strengthens the UK's democratic institutions and asserts the public's values.

To achieve this everyone is calling for a new independent regulatory body with three responsibilities: to give regulators the *capacity* to hold technology to account; to inform the public and policymakers with robust *evidence* on the impacts of technology; and to support people to seek *redress* from technology-driven harms.

Until recently it's been considered too complex to regulate technology – the enormity of the challenge has paralysed policymakers already fearful of choking innovation. But technology will not stop changing society, and the UK must show leadership to strengthen and promote a fair, inclusive and thriving democratic society.

The approach outlined here is actionable, achievable and builds on the current regulatory and institutional landscape. Implementation could begin immediately. Increased regulatory capacity, bolstered by a shared body of evidence and new channels for public redress will ensure the UK can tackle the problems technology poses today and make the most of the opportunities that lie ahead.



## Recommendations

Establish a new Office for Responsible Technology with three functions:

- 1. Empower regulators.** The Office sits above existing regulators, identifies the gaps in regulation and supports regulators with the expertise and foresight to respond to digital technologies as they affect their sectors.
- 2. Inform the public and policymakers.** The Office creates an authoritative body of evidence about the benefits and harms of technologies to underpin the work of regulators, builds public awareness, and engages all parts of society to create consensus around a future vision for technology to underpin the regulatory system.
- 3. Support people to find redress.** The Office ensures the public can hold technologies to account for individual and collective harms derived from their use, and mediates unresolved disputes.

We anticipate the costs of the Office of Responsible Technology to be around £37m per year which should be funded through a combination of government investment and an industry levy.

The government has already established the Centre for Data Ethics and Innovation with the intention that it should become an independent body. However, we believe its focus has been too narrowly framed and its ambition is too limited. Given that the Centre's scope is still developing, we recommend that the Government radically reconsiders its purpose and uses this opportunity to instead establish the Office for Responsible Technology with a remit to transform the regulatory landscape and build a system of capacity, evidence and redress.

## Responsibilities

| 1. Empower regulators                                                                         | 2. Inform the public and policymakers                                                                              | 3. Support people to find redress                                                                              |
|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Identify where issues fall between regulators and recommend new remits and powers.            | Understand and articulate the values that underpin regulation through engagement with all parts of society.        | Set best practice for handling public complaints about impacts of technologies and audit how companies behave. |
| Build regulators' digital capabilities and promote knowledge transfer with industry.          | Commission and conduct research into the benefits and harms of technologies to inform regulators and policymakers. | Provide backstop mediation.                                                                                    |
| Lead foresight activities to anticipate opportunities and challenges of digital technologies. | Provide clear, understandable information and guidance to the public.                                              | Share insights to flag emerging issues and inform regulatory practice.                                         |

# Introduction

---

Society is failing to shape the impacts of technology. There needs to be a switch from a responsive regulatory approach that tries to whack-a-mole harms to a forward-looking one that directs technologies for the public good. In this paper, Doteveryone recommends setting up an independent regulatory body to build resilience and capability across the regulatory landscape.

Our research has found that the current regulatory ecosystem does not meet the needs of a digital society. Regulators are reactive and lack the necessary skills, resources and powers. There's little independent in-depth evidence around what the impacts of technology are and what interventions work. And the public has few avenues for redress.

Our recommendations address each of these areas to create a system that empowers regulators, informs the public and policymakers and supports people to hold technologies to account.

Doteveryone's *People, Power and Technology* research found 50% of the public in the UK think the internet has been very positive for them personally, but only 12% think the same for society as a whole. We found a widespread feeling of disempowerment and cynicism towards tech companies. Since that research was published earlier this year, new problematic issues around technology have surfaced on an almost weekly basis.

The drip-feed of tech scandals has changed the policy conversation from a near-consensus that digital technologies could or should not be independently regulated to a proliferation of new proposals coming from both inside and outside government<sup>†</sup> and a recognition from tech companies that regulation is on its way.

Many of these initiatives around regulation have merits. But they largely remain reactive and siloed – focusing for example on social media harms, the proliferation of misinformation or the particular needs of children.

Each of these is of course an urgent issue, causing individuals to suffer abuse, elections to be skewed and children to be put at risk from grooming. But they are all complex and connected issues. And they are by no means *all* the issues; there are many impacts of technology that are not yet understood or have yet to galvanise a set of activists to demand change. A quick fix may assuage the need for 'something to be done' in the short term, but it does not put the UK's democratic institutions in the position to set the terms under which technologies operate.

*“ One thing that is clear to me and which is clear to many commentators in the public is that things cannot continue the way that they are. The time has come to have more rules and more controls for individuals to protect against some of the harms that are of deep public concern.<sup>1</sup> ”*

Elizabeth Denham,  
Information Commissioner

---

<sup>†</sup> This report builds on a diverse body of work in the internet regulation space. We have set up a live directory of internet regulation proposals here: <https://docs.google.com/document/d/1b6xZtYNAL2O3DT7bDTHY2DdvTtNIOVGtTeRecFAwFI4/edit#>

The new political appetite to get to grips with technological change could establish the UK as a global leader in forward-looking regulation and create a thriving environment for both technology and democracy.

The challenge of regulating global technologies remains daunting. But both GDPR and legislation at national levels in Europe have shown it is possible for territory-specific regulation to be recognised and enforced. Waiting for international consensus to emerge makes inaction an inevitability.

The UK cannot rival the global tech superpowers in scale. But a values-based system can differentiate the UK as a market leader in responsible innovation and create a template for others to follow. It's vital that after Brexit there is an alternative system that will ensure the UK stays – both economically and societally – at the forefront of technological change.

The Government's forthcoming White Paper on Internet Safety, the establishment of the Centre for Data Ethics and Innovation and the Industrial Strategy all create the momentum to quickly make such a system a reality.

The recommendations in this paper build on the work of Doteveryone's Green Paper *Making the case for an independent internet regulator*, which explored the challenges to the existing regulatory landscape. This second phase involved in-depth research, an open consultation and the generous input of many, many technologists, regulators, policymakers, consumer bodies, civil society groups, academics and ethicists. We are deeply indebted to their generous sharing of thoughts and time.

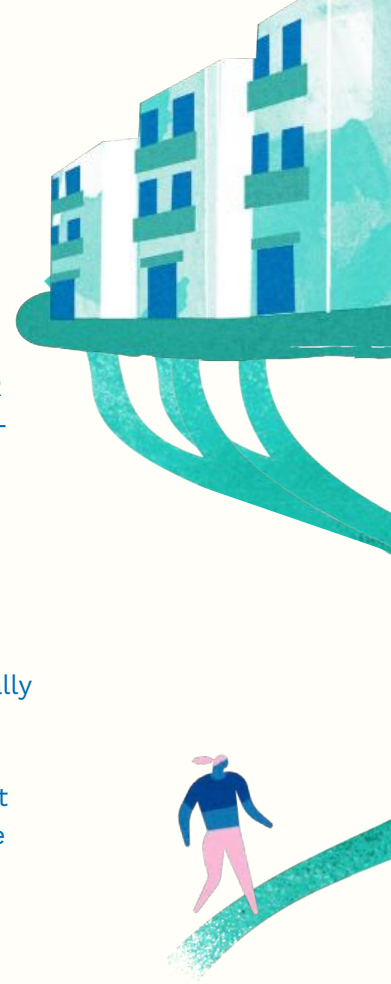
During this consultation process, we have shifted our thinking, and recognised that a single independent internet regulator could quickly snowball to become an *everything* regulator. Instead, this paper recognises all regulators need the powers to positively shape digital technologies in a comprehensive and co-ordinated way.

We take a systems approach to regulation and recognise the complex and dynamic landscape of interlocking institutions, power structures and values we are trying to change. Digital technologies are almost ubiquitous and the entire ecosystem must be made fit to positively shape how technologies serve society. <sup>2, 3, 4</sup>

This approach is centred around shared values for responsible technology, shapes technologies by influencing the relationships between business, government and the public and social sector both nationally and internationally, and focuses on long-term sustainability.

In the following pages we lay out our proposals for a new, independent body, the Office for Responsible Technology. As a minimum we believe the Office will require around £37 million per year to run, with one third provided by government and the remainder by industry levies and subscription fees.

We explain how our research of the regulatory landscape identified the need for a co-ordinating body to *empower* regulators, *inform* policymakers and the public and support people to seek *redress*.



We then go on to explain how each of these three functions will work in practice.

**Firstly**, we demonstrate how to *empower* regulators by revising their remits, building capacity to tackle technology and anticipating emerging issues.

**Secondly**, we describe how to *inform* the public and policymakers with timely and independent evidence base and clear, understandable information.

**Thirdly**, we outline how to support people to seek *redress* by auditing the way complaints are handled and offering backstop mediation.

**In conclusion**, we consider the funding and governance needed to make this body effective.



# A system in need of a steward



Our review of the current regulatory landscape<sup>5</sup> identified a number of issues stopping digital technologies from being effectively held to account.

- **Issues fall through the gaps** between regulators. Ofcom has pointed out the failure to regulate content hosted on social media<sup>6</sup> – but without direction from Parliament it cannot step outside its existing remit to address this. Other areas such as online political campaigning and targeted advertising also fall in the grey areas between existing bodies.
- **Regulators lack expertise and resources.** Even the Information Commissioner's Office (ICO) – the leading regulator in this area – significantly lags behind the tech sector. Recent changes to ICO hiring policies are starting to address this. But there remains a major imbalance between industry and regulators.
- **Regulators react too late.** Most regulators look backwards not forwards. The Electoral Commission reports<sup>8</sup> on the impacts of digital advertising on the referendum and election campaigns, for example, came months after the votes, with the outcomes already decided. The Competition and Markets Authority has only recently set up a data unit and announced a review of modern consumer markets, but that's after the tech sector has already outgrown all others in market capitalisation.<sup>9</sup> A recent survey of businesses found 92% expect a negative impact if sectoral regulators don't adapt to disruptive change.<sup>10</sup>
- **Societal impacts are out of scope.** There's a focus on the protection of individuals, such as the data protection rights conferred through GDPR. But there's little consideration of broader social impacts such as algorithmic discrimination, where both the Alan Turing Institute<sup>11</sup> and the Information Commissioner<sup>12</sup> have identified the need for strengthened regulation. The CMA's focus on individual consumer welfare over broader public interest has been identified as a reason it's failed to respond to the data driven business models of many online services.<sup>13</sup>
- **There's an absence of robust evidence** about the prevalence and cause of technology driven impacts – for example the effect of screen time on children has been described both as inconclusive<sup>14</sup> and as like 'a gram of cocaine'.<sup>15</sup> This makes it hard to prioritise where to intervene or to evaluate what works. Information provided by industry is partial and not subject to external audit, as Google and Facebook's recent transparency reports show.<sup>16</sup>

*"One of the weak points of the ICO is the lack of technical people. The fact is they've had to ask me a lot of questions that a database engineer would not ask."*

Christopher Wylie,  
Cambridge Analytica  
whistleblower

- **The public has little voice.** Doteveryone's *People, Power and Technology* research shows there's limited understanding of how digital technologies work, the business models behind them or how to exercise their rights – less than half know their rights when using social media online, or how rules and laws apply on the internet.<sup>17</sup>

The problems in the current system fall into three categories: weaknesses within regulators; a lack of evidence on which to base regulation and policy; and the lack of public agency in seeking redress.

By sitting across the regulatory landscape, the Office for Responsible Technology will act as a steward, ensuring all these areas are addressed. It will shape relationships between industry, government, regulators, civil society and the public.

To make this landscape coherent, the Office for Responsible Technology needs to work towards a clear vision. There must be a common understanding of the role digital technology should play in society and the principles that underlie that.<sup>18</sup> The Office for Responsible Technology must establish those tenets through engagement with all sectors of society.

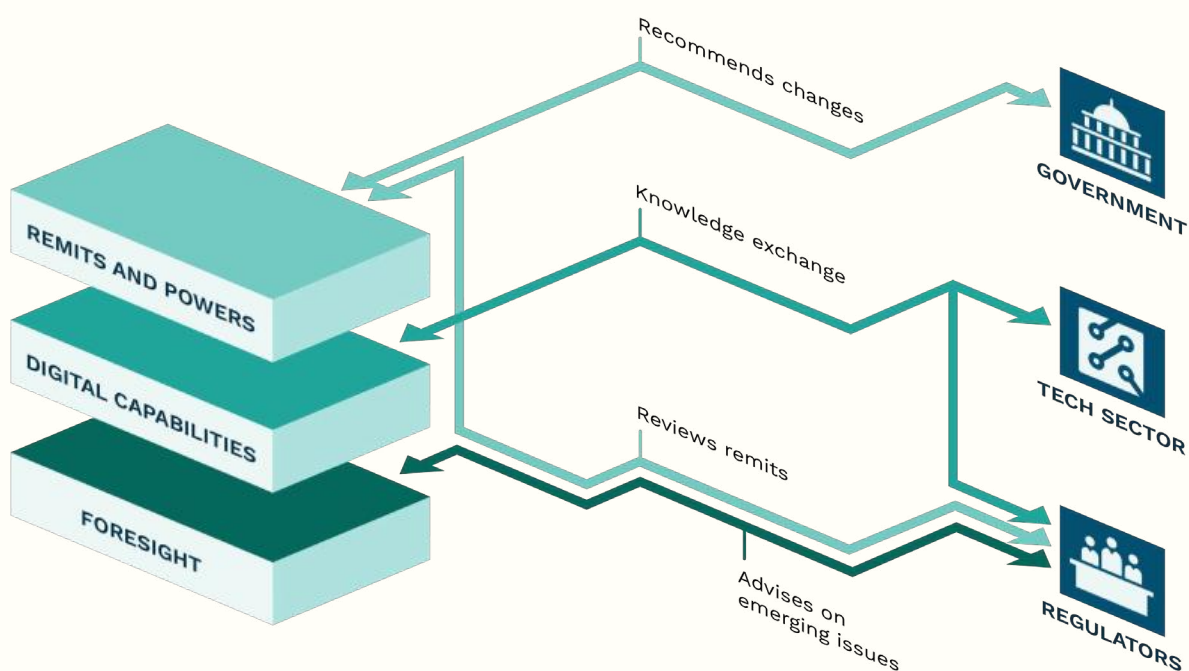
The result of this approach will be a resilient infrastructure for regulation to test and learn so that it can grow and adapt alongside digital technologies.



# Empowering regulators

1

The first responsibility of the Office for Responsible Technology is to empower regulators so each of them is able to effectively hold digital technologies to account. The Office identifies what powers regulators need, supports them to build capacity and looks ahead to help them anticipate emerging issues for their sectors.



## Addressing the gaps in regulation

The discrepancy between the regulation of broadcast and digital content is the most frequently mentioned gap in accountability. As Sharon White recently made clear, it's urgent that this gap is closed – either by giving responsibility for regulation to Ofcom or by setting up a new independent body. In this area there have been a number of thoughtful proposals, notably Will Perrin and Lorna Woods' work on a Duty of Care for platforms.<sup>19</sup>

But the need to change regulators' remits is a much wider problem than social media content and was raised repeatedly during our consultation by individuals and organisations across the landscape. At the moment the UK's 90 regulators have variable levels of freedom to scrutinise their mandates and most are struggling to adapt.<sup>20</sup>

*"Without even knowing it, viewers are watching the same content, governed by different regulation in different places, or by none at all. This is a standards lottery. If protection matters, and we all believe it does, this cannot be our message to viewers – 'choose your screen, and take your chances'."*

Sharon White, CEO Ofcom  
Royal Television Society,  
18 September 2019

Given the speed of technological change, there needs to be a continual calibration of regulators' powers against the accountability they're trying to achieve.



**The Office for Responsible Technology will lead independent reviews of regulators' powers, resources, governance structures and remits and publish recommendations to parliament on how they should be amended or what new bodies are required. Government will be obliged to respond to these recommendations.**

To do this, the Office will conduct ongoing engagement with regulators, government, civil society, industry and the public to understand where the gaps lie. It will draw on its own research and external expertise on the benefits and harms of technologies and the effectiveness of different interventions. And it will use the insights from its own redress system to ensure the public's experiences help shape future regulation.

This system of repeated review takes into account the whole landscape of regulation to avoid the piecemeal parcelling off of tasks to potentially ill-equipped regulators, as has been the case for example with age verification for pornography which has been assigned to the British Board for Film Classification.<sup>†</sup> It also shortens the lag between a gap in regulation being identified and being closed.

This does not mean an ever-expanding mandate for regulators. The Office will also recommend the scrapping of powers where regulators' remits are outdated or where they stifle opportunities for responsible innovation.

Once established, the Office can both quickly resolve the urgent and well-rehearsed arguments around issues such as social media content regulation, and start to look at wider issues across sectors.

*"[The Competition and Markets Authority's] actions can't go beyond what we are allowed to do by statute. In a fast changing environment, it is crucial that our existing legal remit and procedures are kept under review and updated to meet the challenges of the digital economy."*

**Noel Tarleton, Competition and Markets Authority**  
Doteveryone research interview

---

<sup>†</sup> These concerns are encapsulated by the comments of Jim Killock, Director of Open Rights Group: "The BBFC will struggle to ensure that Age Verification is safe, secure and anonymous. They are powerless to ensure people's privacy. The major publisher, MindGeek, looks like it will dominate the AV market. We are very worried about their product, AgeID, which could track people's porn use. The way this product develops is completely out of BBFC's hands."

# Case Study



## Political advertising and misinformation

Digital campaigning has transformed the way elections are run. In the 2017 election over £3 million was spent on Facebook advertising alone,<sup>21</sup> representing a third of all advertising spending.<sup>22</sup> The use of data to microtarget persuadable voters has been adopted across the political spectrum.

Since 2003, the Electoral Commission has called repeatedly for a new remit<sup>23, 24, 25</sup> to give it oversight of online methods. Despite backing from others, including the DCMS Select Committee,<sup>26</sup> nothing has changed. With online political advertising also outside the remits of the Advertising Standards Agency (ASA), Ofcom and the Independent Press Standards Organisation (IPSO), there is little scrutiny of practices.

The Office for Responsible Technology will close this gap in regulation by conducting an independent review of the risks to democracy, social cohesion and public trust and recommend what new powers are needed. This might include:

- The Political Parties and Elections Act being amended to give the Electoral Commission flexibility to apply its powers online, including for example mandatory imprinting of online political advertising, reporting of online campaign spending and minimum group sizes for targeted online advertising
- The ICO, ASA and Electoral Commission developing a joint statutory code of practice for online political advertising, including for micro-targeting,<sup>27</sup> transparency of funding and the evidence used to substantiate adverts' claims
- Legislation to give the ASA, or a new regulatory body, powers to handle complaints on demonstrably misleading online political advertising (learning from the model used in New Zealand)<sup>28</sup>
- A statutory obligation on large social media platforms to report numbers of false accounts and "bots" that spread political misinformation and the measures taken against them.

This work to empower regulators will be supported with research on public understanding and resilience to political misinformation. This might then lead to work with industry to develop awareness campaigns and tools to interpret political advertising in-situ, or to issuing alerts around particularly high-risk content.<sup>†</sup>

Finally, the Office's foresight function will consider the potential impacts of emerging technology such as "deep-fake" fabricated videos on elections and political discourse. This will include evaluating potential interventions: attempts to "inoculate" people against misinformation<sup>29</sup> and use games to increase awareness of misleading content,<sup>30</sup> have both shown promising results.

---

<sup>†</sup> "High-risk" could for example entail content that risks national security or threatens public safety. Political misinformation online has been directly linked to violence in Myanmar, India and Sri Lanka previously. Source: <https://www.nytimes.com/2018/07/18/technology/facebook-to-remove-misinformation-that-leads-to-violence.html>

## Equipping regulators for the digital age

Tech talent is expensive, in short supply and more attracted to the work culture of startups than government agencies, especially those located out of London. The Information Commissioner's Office has been given pay flexibility to recruit skilled staff but it remains difficult.<sup>31</sup> Other regulators can't even offer that. The asymmetry of capacity between industry and regulators hinders effective accountability.



**The Office for Responsible Technology will be a hub for digital expertise which will empower regulators by working alongside them. It will combine the best of tech knowledge with the best of sector understanding.**

Its staff will be experts in areas such as algorithmic testing, cyber security and design patterns that carry broad relevance across regulatory sectors. These specialists will work alongside – not above – regulators and will help craft responses which are right for each sector.

For example, an Office expert on distributed ledger technologies can work with the FCA and Ofgem to explore the profoundly different impacts the blockchain can have on the finance and energy sectors. Where there are commonalities, there can be coordinated responses across regulators, emulating programmes such as the FCA, Bank of England and Treasury's planned joint cryptocurrency taskforce.<sup>32</sup>

Their work will be benchmarked against the principles of responsible technology which underpin the Office and they will co-operate nationally and internationally with organisations such as the British Standards Institution, World Wide Web Consortium (W3C), Internet Engineering Taskforce (IETF) and the Institute of Electrical and Electronics Engineers (IEEE), all of which are developing standards in this space. This will ensure technology that is “responsible by design” becomes widespread.<sup>†</sup>

---

<sup>†</sup> The Office for Responsible Technology can bring together existing design tools promoting social responsibility into a unified “responsible by design” programme, developing toolkits or code of practice that encompass:

- Cyber security, incorporating initiatives such as the UK Government's Secure by Design for Internet-of-Things technology programme
- Age-appropriate Design Codes currently being developed by the ICO to ensure young people's rights are respected by digital products
- Transparency and explainability of product architecture and terms and conditions, allowing users to fully understand the tradeoffs of using them and give informed consent
- The eradication of “Dark design” patterns that nudge users towards privacy-intrusive choices
- User control, ensuring digital services are still operational if individuals don't wish to share personal data, where not critical to the service's operation
- The protection of Human Rights by design, building on existing initiatives such as the Internet Research Task Force's Human Rights Protocol Research Group

#### Sources:

<https://www.gov.uk/government/publications/secure-by-design>

<https://ico.org.uk/about-the-ico/ico-and-stakeholder-consultations/call-for-evidence-age-appropriate-design-code>

<https://fil.forbrukerradet.no/wp-content/uploads/2018/06/2018-06-27-deceived-by-design-final.pdf>

<https://hrpc.io/>

Effective dialogue with industry is needed to keep this expertise current. The US Government's Congressional Innovation Fellowships<sup>33</sup> that send technology specialists on secondment to Congress are an effective way of connecting these two worlds. The Office will establish similar programmes. But knowledge can't just flow in one direction – regulators should also be seconded to tech companies and fellowships must be open to ethicists, civil society leaders and others.

Creating this hub needs resources. Policymakers cannot complain that technology is not held to account and then refuse to pay for the expertise that can make this happen. However, hosting expertise in the Office for Responsible Technology should be seen as a strategic investment that will ultimately be more cost-effective than each regulator individually trying to build up in-house knowledge. The long-term outcome will be regulators that are more collaborative and agile, helping realise the Government's ambitions for the more streamlined regulatory system set out in the Regulatory Futures Review.<sup>34</sup>

## Future-proofing the regulatory system

Some regulators already look ahead. The Financial Conduct Authority (FCA), Environment Agency, Food Standards Agency and the Human Fertilisation and Embryology Authority among others have foresight functions such as horizon-scanning panels and regulatory sandboxes.

But most do not. Despite interest in anticipatory regulation from the Department for Business, Energy and the Industrial Strategy and initiatives like the UK Regulators' Network, many regulators wait until digital issues have surfaced before responding, leaving them playing perpetual catch-up.



**The Office for Responsible Technology will future-proof the system by looking ahead to potential impacts of technologies. These include the social and democratic challenges and opportunities, not just economic concerns and short-term political priorities. It will share intelligence on emerging issues among regulators and spread good practice in innovation.**

This work will put UK regulators at the forefront of emerging regulatory approaches, shifting away from retrospective, command-and-control regulation towards the agile and intelligent approach digital technologies require.

The current collaboration between Ofgem, Ombudsman Services and Citizens Advice shows how this can be done, by looking at wider sectoral issues, sharing data and tackling emerging issues in ways that balance the needs of regulators, industry and consumers. This encourages early-stage compliance from energy companies and reserves fines and punishments for more serious breaches.

*“ Our mindset has shifted to being more open and willing to take risks. We can support innovation whilst still ensuring consumer protections. ”*

**Scott Laczay, Ofgem**  
on the Innovation Link  
programme, Doteveryone  
research interview

# Case Study

---

## Anticipating quantum computing

Quantum computing will bring unprecedented capacity to the way digital technologies work. Thirty years after the concept first emerged, there are signs that the technology is close to becoming a commercial reality. Quantum computers bring vast economic potential. But they may also be able to crack the encryption protocols that safeguard today's sectors.

The foresight functions of the Office for Responsible Technology will anticipate the risks and opportunities of quantum computing, highlighting where action is needed today. Potential stockpiling of existing encrypted data to be unlocked in the future means these security risks need to be addressed now.

Techniques such as quantum key distribution and quantum resistant algorithms are under development, and the European Telecommunication Standards Institute<sup>35</sup> and the US National Institute of Standards and Technology are formulating standards around them. The Office for Responsible Technology will feed into this work, and collaborate with regulators to encourage their sectors to adopt relevant post-quantum security standards, particularly in critical areas like health, finance and security.<sup>36</sup> It can also ensure regulation doesn't impede opportunities – for example the potential to accelerate drug discovery through quantum,<sup>37</sup> could increase demands on the UK's Medicine and Healthcare Products Regulatory Agency.

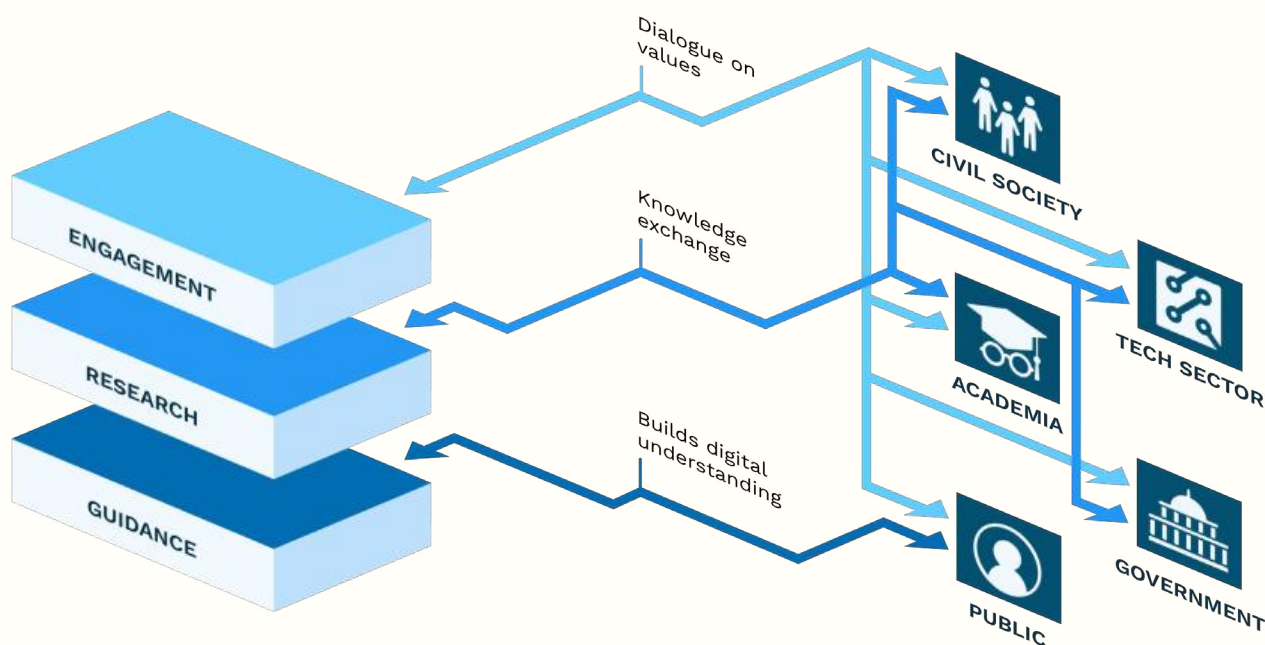
Finally, the public can be supported to adapt to the arrival of a new technology. Providing clear, independent information about what quantum computing is and how it might change things can help the public weigh up benefits and risks and make sure innovation is adopted in line with public values. Recent public engagement by the EPSRC surfaced potential future public concerns around power imbalances between those that can and can't afford quantum technologies.<sup>38</sup> It's important to open up this public debate – If regulators are to realise a publicly acceptable vision of a quantum future, they will need to act now.



# Informing policymakers and the public

## 2

The second task of the Office for Responsibility is to inform the public and policymakers so that regulation is founded on an authoritative body of evidence about the benefits and harms of technologies and the public has a source of independent and understandable information. The Office must also engage all parts of society to move towards a consensus around a future vision for technology to underpin the regulatory system.



## Evidencing the benefits and harms of technology

Policymakers are hampered by a lack of reliable information about the impacts of technologies. This leads to policymaking by anecdote – initiatives based on perceived rather than evidenced problems and influenced by personal experience, such as proposed banning of mobile phones in schools.<sup>39</sup> Tech companies' own attempts to address harms fail to convince because there's no benchmark to measure against.

A repeated theme in Doteveryone's consultation was the lack of consensus around the harms and benefits of technology. Technology companies we spoke to called for a more rigorous approach to identifying and attributing harms. Others wanted better scrutiny of the actions taken by tech companies to tackle them.

Without clear evidence of what problem regulation is supposed to address, or where opportunities of technologies are being missed, it's impossible to craft effective interventions or to know if they've worked. The Internet Safety Strategy included a laundry list of everything from sexting and cyberbullying to targeted advertising and young people's mental health.<sup>41</sup> At the moment the root cause and severity of each of these issues is largely unknown.

The pace and ubiquity of technological change means there's so far only scant academic research available and what exists has not always been well connected into the policy conversation. But the failure of major tech companies – particularly Facebook and Google – to share information with government and independent researchers has been a major obstacle.

*“ The public discourse around the effects of screen time and technology use are being marred by the use of emotionally evocative language, scaremongering, and a general lack of solid, open and reproducible evidence. ”*

**Children's screen time action network,**  
Letter to the American Paediatric Association<sup>40</sup>



**The Office for Responsible Technology will commission and conduct research to identify the benefits and harms of technologies and to evaluate the impact of regulatory measures. It will have the power to compel tech companies and government bodies that use technology to share meaningful information to make this research possible.**

The newly founded Ada Lovelace Institute is well placed to contribute to this work, alongside existing bodies such as the Alan Turing Institute and Oxford Internet Institute. Close co-operation with the Research Councils, industry representatives, individual companies and consumer organisations amongst others will also be needed.

## Informing and empowering the public

Doteveryone's *People, Power and Technology* research found the public has little understanding of key elements of how technology works – from data collection and sharing to the underlying business models. Without digital understanding people can't make good choices about how they use technologies and can become fearful of them.

Although 92% of the public would like a single place where they can find out what their rights are online, only 28% feel they know where to go to for help.<sup>42</sup> Information is currently scattered across a mosaic of corporate and charity websites with no authoritative, independent source of advice and no deeper explanation of underlying issues. Nor is there information to help people realise the potential benefits of digital technologies and understand the opportunities of innovations such as data trusts. Australia's new eSafety Commissioner's Office is attempting to address this.

While the burden should not be on the individual to solve the problems of technology, the collective power of a public

*“ The [eSafety Commissioner] cyberbullying scheme is the first of its kind in the world so lots of people, and government, are still working out how to change this culture and make people aware of the protections available to them. ”*

**Ben Au,**  
**eSafety Commissioner's Office**  
Doteveryone research interview

that understands and cares about the impacts of technology can drive more responsible technology – the history of many sectors, such as building and car safety, show the power of an activist public.<sup>43</sup>

From an industry perspective, independent information can mitigate cynicism and be a check against “regulation by outrage”<sup>44</sup> where misunderstanding of risk leads to a backlash (as some say has been the case with GM foods).



**The Office for Responsible Technology will provide clear, understandable information to the public. Modeled on nhs.uk, it will provide accurate and up-to-date advice on the impacts of technologies and what actions individuals can take. It will run public information campaigns to promote positive change and deliver crisis communications on immediate issues such as ransomware outbreaks.**

This builds on the work of the Information Commissioner’s Office and GCHQ which have provided useful public alerts for example in response to the recent Facebook data breach<sup>45</sup> and the “Trickbot” banking ransomware outbreak.<sup>46</sup> Creating a central resource that amplifies these messages makes it easier for the public to know where to turn.

## Articulating a vision for technology and society

But as well as informing, the Office for Responsible Technology must also engage. It must create a dialogue with the public, industry and the social sector to understand how people want technology to serve society and ensure regulation is driving towards a clearly identified goal.

To create effective regulation, there needs to be an underpinning vision of how Britain should shape technology and how technology should shape Britain.

So far most policy initiatives around technology have emerged haphazardly and lack coherence. The Government’s Digital Charter outlines a bold vision to “set new online standards for years to come...[and] agree norms and rules for the online world”,<sup>47</sup> but details remain scant<sup>48</sup> and the tech sector has been the most active voice in defining what this means in practice.<sup>49</sup>

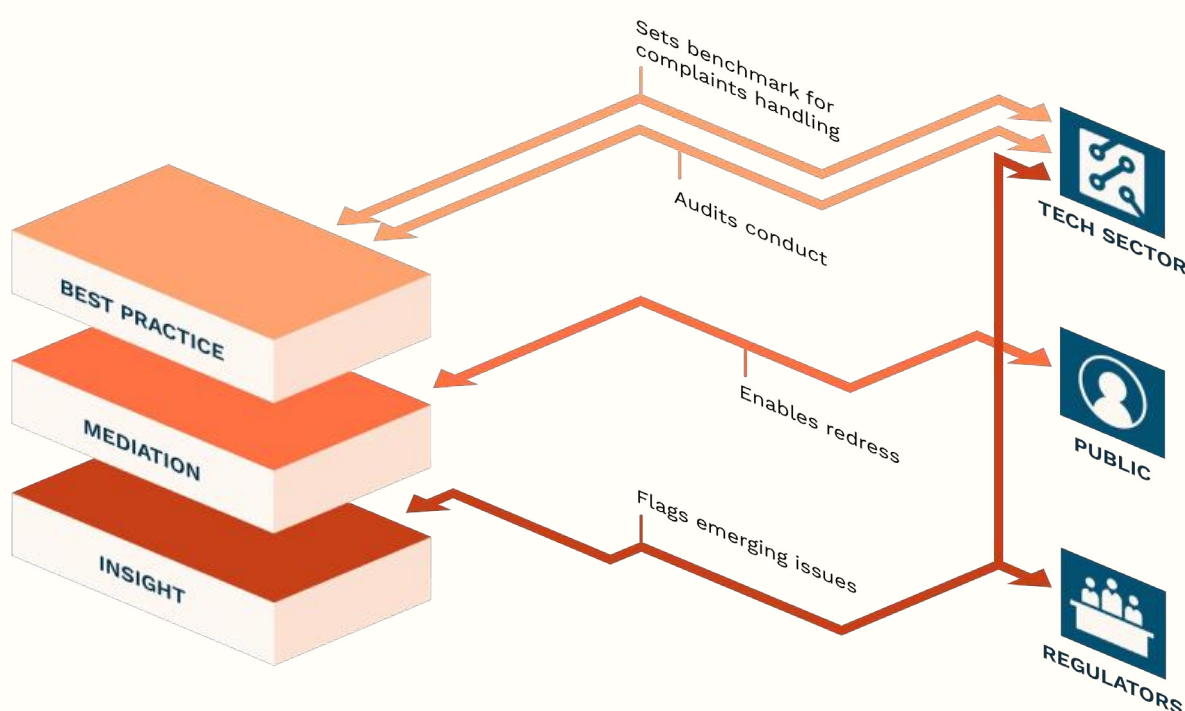
A set of values to inform the regulatory system will ensure that regulators’ work is all pulling in the same direction. These principles need to be rooted in the country’s cultural norms and last beyond the immediate demands of a political cycle.



**The Office for Responsible Technology will involve the public, social sector, academia and industry to consult on and then articulate a set of principles to allow technology and society to thrive. It will ensure these principles permeate all its work. These principles will be reviewed every five years to reflect changing public expectations.**

# Supporting people to seek redress

The final duty of the Office for Responsible Technology is to support people to hold technologies to account for individual and collective harms derived from their use. The Office will ensure people's complaints are fairly handled, mediate unresolved disputes and ensure regulators learn from the experience of the public.



## Dealing fairly with public concerns

Public faith in digital technologies is eroding – Doteveryone's *People, Power and Technology* research found 43% of people say there's no point reading terms and conditions because "companies will do what they want anyway". Edelman's Trust Barometer finds only 36% of the UK public trusts search engines and platforms.<sup>50</sup>

If technology is going to earn trust, it's vital that the public are able to hold to account the technologies that shape their lives. If not, the current cynicism may grow to an ingrained opposition to all innovation and missed opportunities for society and the economy.

*"I don't think there are any rules. It seems to be whatever suits them [the technology companies]."*

**Research participant**

Doteveryone (2018) *People, Power & Technology* <sup>51</sup>

Independent oversight of the ways tech companies and public sector technology services respond to people's complaints can benefit both the public and industry by bridging this growing gap in trust.

In Doteveryone's *People, Power and Technology* research, people told us how they were often dissatisfied with the response when they raised complaints – especially about social media. Money Saving Expert Martin Lewis is a high profile example of this frustration and has launched court proceedings against Facebook over fake adverts that use his image after failing to get a satisfactory response.<sup>52</sup>

Most people don't have the resources to do this. They need to be able to have confidence their complaints are taken seriously and handled fairly.

They also need to have opportunities to take collective action – 87% of UK consumers would be more willing to defend their rights if collective redress was available to them.<sup>53</sup> Many of the potential harms of technology such as algorithmic bias or political misinformation are hard to identify at an individual level but have a profound impact on society as a whole.



**The Office for Responsible Technology will set best practice for how digital technology services handle complaints. It will audit this through twice yearly reporting on complaints handling and with spot checks on individual cases. The Office will rate these processes and organisations will have to display this rating prominently. There will be the power to sanction companies that consistently and seriously fail to provide adequate redress.**

Based on the Office's review of regulators' powers and capacity, this function may be devolved to the existing or future ombudsmen associated with particular sectors, or it may be more effective to keep this as an independent function within the Office. The Office will lead regular reviews of this new body's performance to ensure they are delivering the redress the public needs.

## Providing backstop mediation

Even with improved standards of redress, there will still be disputes between people and companies that don't get resolved. There needs to be an option outside of court action to settle these.

New interpretations of the ombudsman model are emerging to meet the demands of digital technologies. Australia's Office of the eSafety Commissioner was set up in 2015 to protect the public from cyberbullying and image-based abuse and the French parliament has considered a motion for an ombudsman to mediate disputes around harmful content.<sup>55</sup>

*" Who is going to make the determination that that information needs to be taken down or censored in some way? That is where you might look at some kind of an ombudsman or an intermediary. You need codes of conduct that are created, certified and backed up by an independent regulator. "*

Elizabeth Denham,  
Information Commissioner<sup>54</sup>



**The Office for Responsible Technology will provide backstop mediation and alternative dispute resolution where other means for redress have failed. This work will be funded by industry, creating an incentive to reduce the number of cases which reach this point.**

The Office must have teeth to ensure all parties comply with its decisions. Ombudsmen with too few powers have been criticised as ineffectual<sup>56</sup> and businesses only participate in 6% of cases where their involvement is voluntary.<sup>57</sup>

The potential scale of cases, particularly related to social media content, means there will need to be imaginative approaches to creating a workable mechanism for mediation. The insights of consumer advocacy groups, existing Ombudsmen and tech companies must be shared collaboratively to prototype and develop effective solutions to process complaints and to determine which body can most robustly carry out these responsibilities.

## Sharing insights within the system

Information about complaints can provide an early warning system about emerging issues. Ombudsmen in energy and finance already share data and case studies with companies in their sectors to set performance objectives and promote learning.



**The Office for Responsible Technology will capture insights gleaned from its oversight of complaints to inform the review of regulators' powers, feed into the development of policy and identify where greater public awareness measures could be needed.**

It's important to recognise that complaints are brought by groups and individuals who feel empowered. Children and other vulnerable groups are less represented and so this insight should be considered in context.

# Case Study

---

## Accountable Algorithms

The use of complex algorithms and machine learning in decision making poses a number of problems for redress: they are often inherently hard to understand and explain, it's difficult to assign legal responsibility and intent for their outcomes, and demanding total transparency around their inner-workings potentially undermines intellectual property and opens them up to being gamed.

There are now many emerging 'Explainable AI' programmes<sup>58, 59, 60</sup> which include tools such as stress-testing<sup>61</sup> and counterfactual explanation analyses<sup>62</sup> to highlight the factors that would need to change for an algorithm to have reached a different decision.

These provide a basis for the Office for Responsible Technology to set best practice for how companies handle complaints about algorithms. Based on its review of regulators' powers and capacities the Office can either recommend that a sectoral ombudsman handles disputes or that it should settle disputes itself.

The Office could, for example, work with the Financial Conduct Authority on discrimination in interest rate setting. The Office would set best practice for complaints relating to algorithmic bias and the Financial Services Ombudsman would handle the majority of cases.

But when, for example, an individual fails to get redress from their mortgage broker because they are paying more interest than their neighbours, they could escalate their complaint to the Office for Responsible Technology. The Office could then assess the handling of the dispute and run an independent algorithmic audit to see if their claims of racial bias are substantiated.

Where bias is identified, the Office would mediate between the complainant and the broker and might order a formal apology and financial compensation. It could also see if this complaint is part of a pattern and if there should be an option for collective redress.

Finally, the Office would make sure that the experience raises standards, making the broker implement responsible algorithm design guidance and algorithmic impact assessments<sup>63</sup> to prevent future racial bias. The FCA would update its guidance on algorithmic discrimination and publish a case study of learnings to be shared with others in the industry.

This approach could be mirrored in other areas - for example where an applicant suspects a university admissions algorithm has been unduly harsh,<sup>64</sup> or an automated system determines that an unemployed individual person isn't entitled to support.<sup>65</sup> The rich understanding the Office would build up could also feed into the rest of the regulatory system.



# Governance and funding

---

To be an effective and independent regulatory body, the Office for Responsible Technology needs sustainable funding and robust governance.

## Funding models

As a minimum we believe the Office will require around £37 million per year to run, with around one third provided by government and the remainder by industry.

- **Empowering regulators:** £6 million per year, based on estimates for the Centre for Data Ethics and Innovation operating with an expanded remit for all digital technologies (£3 million per year is currently earmarked for the Centre).<sup>66</sup> This should be funded by government.
- **Informing policymakers and the public:** £6 million per year to operate on a similar scale to the research and education functions of Drinkaware.<sup>67</sup> The research functions should be funded by government. Industry should co-fund the public facing awareness work.
- **Supporting people to seek redress:** £25 million per year to run at a scale of 100,000 inquiries and 3,000 mediations per year, in line with ombudsman services that conduct similarly complex mediations.<sup>68</sup> This should be funded entirely by industry.



Our proposal sets up a new model for regulation and without an existing precedent the costings are inevitably approximate.

The outlay in setting up the Office for Responsible Technology is an investment in making the regulatory system fit to meet the demands of a changing landscape of digital technologies. Without sufficient and sustained funding, the Office will not succeed in matching the industry it aims to hold accountable. Penny pinching on this issue is a false economy.

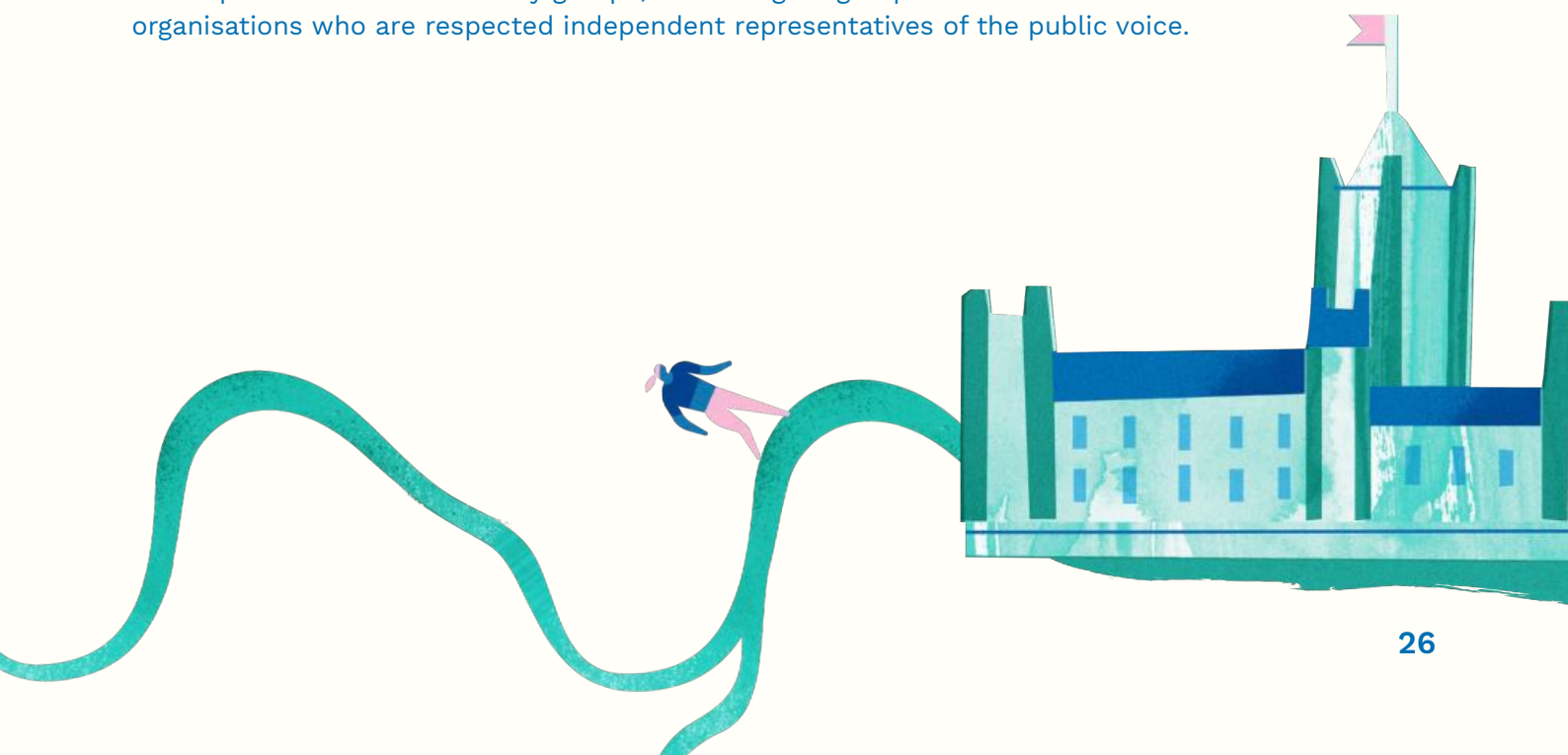
Funding from industry should be raised through industry levies (through, for example a rethinking of the Internet Safety Strategy's social media levy) or via the 'digital tax' proposed by Chancellor Philip Hammond.<sup>69</sup> Subscription fees and financial penalties can further contribute to the system for public redress.

## Governance

The role of the Office for Responsible Technology is to steward the entire regulatory system. To do this it needs to establish relationships with government, industry, regulators, civil society and the public. But the Office must also stay scrupulously independent and be able to demonstrate that none of these relationships is unduly influencing its work.

It is beyond the scope of this paper to prescribe in detail the governance structures of the Office for Responsible Technology. However we emphasise that all governing councils, advisory panels and working groups must be a truly representative mix of the different groups which contribute to and are affected by the work of the Office.

We also see a need for a Citizens' Council, supported with resources, to lead ongoing consumer research in the digital space, and to specifically champion the interests of the public. This should play an active role in helping shape all aspects of the Office's work and ensure that the real experiences and concerns of the public are represented. As well as individual members of the public, this panel will encompass consumer advocacy groups, human rights groups and social sector organisations who are respected independent representatives of the public voice.



# Conclusion and Next Steps

The recommendations in this paper are designed to create a systemic change which radically transforms the relationship between technology and the state. The outcome should be a democratically founded accountability for technology which will allow responsible innovation and a fair society to flourish side by side.

These recommendations are also designed to be practical and to be implemented. Given the current political appetite for change and the existing policy momentum, we argue it is feasible to make the Office for Responsible Technology a reality on a relatively short timescale.



**The Centre for Data Ethics and Innovation is in its early stages and its remit is still developing. We recommend greatly expanding the scope and ambition for this Centre and using this opportunity to establish the Office for Responsible Technology. The Office for Responsible Technology must be trusted, confident, relatable and representative; this will require charismatic and imaginative leadership.**

The forthcoming White Paper on Internet Safety allows for the additional powers which the Office for Responsible Technology be swiftly drafted into legislation. And existing proposals for raising revenue from tech companies - either through the social media levy or 'digital tax' - can be refined to create the funding stream to make the Office sustainable.

This body can address digital issues of the here and now - laying the foundations for evidence-based policies around online harmful content, engaging the public to build resilience against online misinformation and bringing regulators up to speed with today's data economy.

But by enabling the regulatory ecosystem to become more agile, resilient and intelligent, it is also long-term solution to ensure this system remains responsive to the risks and opportunities over the horizon.

We urge policymakers to show leadership in taking these recommendations forward to drive change that will set the UK on course for a fairer future founded on responsible technology.

*" Solutions we design here could be models that become standard in the rest of the world. "*

**Damian Collins,  
Chair of Digital, Culture, Media  
and Sport Select Committee<sup>70</sup>**

# Methodology and Acknowledgments

---

Doteveryone is an independent, non-partisan organisation and a registered charity.

We are grateful to the following people for their contribution to this research:

- Annette Egginton, Financial Conduct Authority
- Ben Au, formerly eSafety Commissioner's Office
- Charles Featherston, Government Office for Science
- Christopher Hodges, University of Oxford
- Daithí Mac Síthigh, Queen's University Belfast
- Dan Mount, Ofcom
- Dan Shefets, Association for Accountability and Internet Democracy
- David Pilling, Ombudsman Services
- Gillian Cooper, Citizens Advice
- Jack Hardinges, Open Data Institute
- James Edgar, Which?
- Jim Norton
- Jonathan Heawood, Impress
- Mark Stobbs, Professional Standards Authority
- Martin Stanley
- Nick Srnicek, King's College London
- Noel Tarleton, Competition and Markets Authority
- Peter Wells, Open Data Institute
- Sam Jeffers, Who Targets Me
- Scott Laczay, Ofgem
- Seema Mistry, UK Regulators Network
- Sharon Darcy
- Tim McGarr, British Standards Institution
- William Perrin

This report was written by Catherine Miller, Jacob Ohrvik-Stott and Rachel Coldicutt. The report was designed by Joshua Kwan, with illustrations by Elin Matilda Andersson.



# References

---

1. Select Committee on Communication (2018) *Uncorrected oral evidence: The internet: to regulate or not to regulate* <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/communications-committee/the-internet-to-regulate-or-not-to-regulate/oral/89766.pdf>
2. Deloitte (2018) *The future of regulation principles for regulating emerging technologies* <https://www2.deloitte.com/insights/us/en/industry/public-sector/future-of-regulation/regulating-emerging-technology.html>
3. Corbett, A (2016) *A systems Approach to Regulatory Excellence* <https://www.law.upenn.edu/live/files/4713-corbett-ppr-bicregulatorediscussionpaper-062015pdf>
4. Nesta (2017) *A working model for anticipatory regulation* [https://media.nesta.org.uk/documents/working\\_model\\_for\\_anticipatory\\_regulation\\_0.pdf](https://media.nesta.org.uk/documents/working_model_for_anticipatory_regulation_0.pdf)
5. Doteveryone (2018) *Regulating for Responsible Technology: Making the case for an independent internet regulator* <https://doteveryone.org.uk/wp-content/uploads/2018/09/Regulation-Paper-Final-Version-Google-Docs-compressed.pdf>
6. Ofcom (2018) *Addressing harmful online content: A perspective from broadcasting and on-demand standards regulation* [https://www.ofcom.org.uk/\\_\\_data/assets/pdf\\_file/0022/120991/Addressing-harmful-online-content.pdf](https://www.ofcom.org.uk/__data/assets/pdf_file/0022/120991/Addressing-harmful-online-content.pdf)
7. Digital Culture, Media and Sport Committee (2018) *Oral Evidence: Fake News, HC 363* <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/digital-culture-media-and-sport-committee/fake-news/oral/79388.pdf>
8. Electoral Commision (2017) *Political finance regulation at the June 2017 UK general election* [https://www.electoralcommission.org.uk/\\_\\_data/assets/pdf\\_file/0004/237550/Political-finance-regulation-at-the-June-2017-UK-general-election-PDF.pdf](https://www.electoralcommission.org.uk/__data/assets/pdf_file/0004/237550/Political-finance-regulation-at-the-June-2017-UK-general-election-PDF.pdf)
9. PwC (2017) *Global top 100 companies by market capitalisation* <https://www.pwc.com/gx/en/audit-services/assets/pdf/global-top-100-companies-2017-final.pdf>
10. PA Consulting (2018) *Re-thinking regulators: From industry watchdogs to champions of the public* <https://www.paconsulting.com/insights/2018/rethinkingregulators/>
11. Wachter, S., Mittelstadt, B., Floridi, L., (2016) *Why a Right to Explanation of Automated Decision-Making Does Not Exist in the General Data Protection Regulation* [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2903469](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2903469)

12. The Telegraph (2018) *Give children the same protection online as they get offline, says the information commissioner* <https://www.telegraph.co.uk/news/2018/09/23/give-children-protection-online-get-offline-says-information/>
13. IPPR (2018) *Prosperity and Justice A Plan for the New Economy* [https://www.ippr.org/files/2018-08/1535639099\\_prosperity-and-justice-ippr-2018.pdf](https://www.ippr.org/files/2018-08/1535639099_prosperity-and-justice-ippr-2018.pdf)
14. University of Oxford (2017) *Children's screen-time guidelines too restrictive, according to new research* <http://www.ox.ac.uk/news/2017-12-14-children%E2%80%99s-screen-time-guidelines-too-restrictive-according-new-research>
15. Independent (2017) *Giving your child a smartphone is like giving them a gram of cocaine, says top addiction expert* <https://www.independent.co.uk/news/education/education-news/child-smart-phones-cocaine-addiction-expert-mandy-saligari-harley-street-charter-clinic-technology-a7777941.html>
16. Committee to Protect Journalists (2018) *Greater transparency welcome but social media sites should allow independent audits of content takedowns* <https://cpj.org/blog/2018/05/greater-transparency-welcome-but-social-media-site.php>
17. Doteveryone (2018) *People, Power and Technology: The 2018 Digital Understanding Report* <http://understanding.doteveryone.org.uk/>
18. See a precedent in: <https://www.gov.uk/government/publications/the-7-principles-of-public-life/the-7-principles-of-public-life--2>
19. Carnegie UK Trust (2018) *Reducing Harm In Social Media Through A Duty Of Care* <https://www.carnegieuktrust.org.uk/blog/reducing-harm-social-media-duty-care/>
20. Deloitte (2018) *The future of regulation* <https://www2.deloitte.com/us/en/pages/public-sector/articles/regulating-emerging-technology.html>
21. The Guardian (2018) *Rise of digital politics: why UK parties spend big on Facebook* <https://www.theguardian.com/technology/2018/mar/23/facebook-digital-politics-tories-labour-online-advertising-marketing>
22. See: <http://search.electoralcommission.org.uk/Search/Spending?currentPage=1&rows=20&sort=TotalExpenditure&order=desc&tab=1&et=pp&includeOutsideSection75=true&evt=ukparliament&ev=3568&optCols=ExpenseCategoryName&optCols=AmountInEngland&optCols=AmountInScotland&optCols=AmountInWales&optCols=AmountInNorthernIreland&optCols=DatePaid>
23. The Electoral Commission (2017) *The 2016 EU referendum: Report on the regulation of campaigners at the referendum on the UK's membership of the European Union held on 23 June 2016* [https://www.electoralcommission.org.uk/\\_\\_data/assets/pdf\\_file/0004/223267/Report-on-the-regulation-of-campaigners-at-the-EU-referendum.pdf](https://www.electoralcommission.org.uk/__data/assets/pdf_file/0004/223267/Report-on-the-regulation-of-campaigners-at-the-EU-referendum.pdf)
24. The Electoral Commission (2013) *A regulatory review of the UK's party and election finance laws* [http://www.electoralcommission.org.uk/\\_\\_data/assets/pdf\\_file/0008/157499/PEF-Regulatory-Review-2013.pdf](http://www.electoralcommission.org.uk/__data/assets/pdf_file/0008/157499/PEF-Regulatory-Review-2013.pdf)

25. The Electoral Commission (2016) *UK Parliamentary General Election 2015: Campaign spending report* [https://www.electoralcommission.org.uk/\\_\\_data/assets/pdf\\_file/0006/197907/UKPGE-Spending-Report-2015.pdf](https://www.electoralcommission.org.uk/__data/assets/pdf_file/0006/197907/UKPGE-Spending-Report-2015.pdf)
26. Digital, Culture, Media and Sport Committee (2018) *Disinformation and 'fake news': Interim Report* <https://publications.parliament.uk/pa/cm201719/cmselect/cmcmds/363/363.pdf>
27. Advertising Standards Agency (2017) *Targeting* <https://www.asa.org.uk/advice-online/targeting.html>
28. Advertising Standards Authority (2015) *Advocacy Advertising Principles and the Code of Ethics Rule 11* <http://www.asa.co.nz/codes/code-guidance-notes/advocacy-principles-and-the-code-of-ethics-rule-11/>
29. Van der Linden, S., Leisorowitz, A., Rosenthal, S., Maibach, E., (2017) *Inoculating the Public against Misinformation about Climate Change* <https://onlinelibrary.wiley.com/doi/abs/10.1002/gch2.201600008>
30. Roozenbeek, J., Van der Linden, S. (2018) *The fake news game: actively inoculating against the risk of misinformation* <https://www.tandfonline.com/doi/abs/10.1080/13669877.2018.1443491?journalCode=rjrr20>
31. Select Committee on Communications (2018) *Uncorrected oral evidence: The internet: to regulate or not to regulate* <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/communications-committee/the-internet-to-regulate-or-not-to-regulate/oral/89766.pdf>
32. Financial News (2018) *UK government sets up cryptocurrency taskforce* <https://www.fnondon.com/articles/uk-government-assembles-cryptocurrency-taskforce-20180322>
33. TECHCONGRESS (2018) *The Fellowship* <https://www.techcongress.io/the-fellowship/>
34. UK Government (2017) *Regulatory Futures Review* [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/582283/Regulatory\\_Futures\\_Review.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/582283/Regulatory_Futures_Review.pdf)
35. European Telecommunications Standards Institute (2015) *Quantum Safe Cryptography and Security: An introduction, benefits, enablers and challenges* <https://www.etsi.org/images/files/ETSIWhitePapers/QuantumSafeWhitepaper.pdf>
36. *ibid*
37. Accenture (2018) *BIOGEN, 1QBIT AND ACCENTURE: PIONEERING QUANTUM COMPUTING IN R&D* <https://www.accenture.com/gb-en/success-biogen-quantum-computing-advance-drug-discovery>
38. EPSRC (2016) *Quantum Technologies Public Dialogue Report Summary* <https://epsrc.ukri.org/newsevents/pubs/epsrc-quantum-technologies-public-dialogue-summary-report/>

39. PoliticsHome (2018) *Matt Hancock calls on schools to ban mobile phones in classrooms* <https://www.politicshome.com/news/uk/education/news/96145/matt-hancock-calls-schools-ban-mobile-phones-classrooms>
40. Children's screen time action network (2018) *Our letter to the APA* <https://screentimenetwork.org/apa>
41. UK Government (2017) *Internet Safety Strategy - Green Paper* [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/650949/Internet\\_Safety\\_Strategy\\_green\\_paper.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/650949/Internet_Safety_Strategy_green_paper.pdf)
42. Doteveryone (2018) *People, Power and Technology: The 2018 Digital Understanding Report* <http://understanding.doteveryone.org.uk/>
43. Leblanc, J. (2018) *A look back at privacy* <https://s3-eu-west-1.amazonaws.com/projectsbyif.com/ebooks/A-Look-Back-at-Privacy.pdf>
44. Buntin, M., Williamson, B. (2018) *Reconciling Private Market Governance and Law: A Policy Primer for Digital Platforms* [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3188937](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3188937)
45. Information Commissioner's Office (2018) *ICO statement in response to Facebook data breach announcement* <https://ico.org.uk/about-the-ico/news-and-events/news-and-blogs/2018/09/ico-statement-in-response-to-facebook-data-breach-announcement/>
46. National Cyber Security Centre (2018) *Advisory: Trickbot banking trojan* <https://www.ncsc.gov.uk/alerts/trickbot-banking-trojan>
47. UK Government (2018) *Digital Charter* <https://www.gov.uk/government/publications/digital-charter/digital-charter>
48. Bunting, M. (2018) *A quiet revolution: the Digital Charter is an opportunity to strike a new deal with online platforms* <http://blogs.lse.ac.uk/mediapolicyproject/2018/02/13/a-quiet-revolution-the-digital-charter-is-an-opportunity-to-strike-a-new-deal-with-online-platforms/>
49. COADEC (2018) *12 Principles for the Digital Charter* <http://coadec.com/wp-content/uploads/2018/07/12-Principles-for-the-Digital-Charter.pdf>
50. Edelman (2018) *Edelman Trust Barometer 2018 - UK findings* <https://www.edelman.co.uk/magazine/posts/edelman-trust-barometer-2018/>
51. Doteveryone (2018) *People, Power and Technology: The 2018 Digital Attitudes Report* <http://attitudes.doteveryone.org.uk/>
52. Lewis, M (2018) *Martin Lewis to sue Facebook for defamation in groundbreaking campaigning lawsuit* <https://blog.moneysavingexpert.com/2018/04/martin-lewis-to-sue-facebook/>
53. European Commission (2011) *Consumer attitudes towards cross-border trade and consumer protection* [http://ec.europa.eu/commfrontoffice/publicopinion/flash/fl\\_299\\_en.pdf](http://ec.europa.eu/commfrontoffice/publicopinion/flash/fl_299_en.pdf)

54. Select Committee on Communication (2018) *Uncorrected oral evidence: The internet: to regulate or not to regulate* <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/communications-committee/the-internet-to-regulate-or-not-to-regulate/oral/89766.pdf>
55. Council of Europe Parliamentary Assembly (2017) *The creation of a competent Ombudsman to qualify Internet content as lawful or unlawful through a targeted content review process* <http://assembly.coe.int/nw/xml/XRef/Xref-DocDetails-FR.asp?fileid=23373&lang=FR&search=KjoqfGNvcnB1c19uYW1lX2VuOiJPZmZpY2lhbCBkb2N1bWVudHMifHB1Ymxpc2hkYXRlOltOT1cvREFZLTdEQVlTIFRPICPd>
56. All-Party Parliamentary Group on Consumer Protection (2017) *Sharper Teeth: The consumer need for ombudsman reform* [https://images6.moneysavingexpert.com/images/documents/MSE-Sharper\\_teeth\\_interactive.pdf](https://images6.moneysavingexpert.com/images/documents/MSE-Sharper_teeth_interactive.pdf)
57. Department for Business, Energy and Industrial Strategy (2018) *Modernising Consumer Markets Consumer Green Paper* [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/699937/modernising-consumer-markets-green-paper.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/699937/modernising-consumer-markets-green-paper.pdf)
58. Gunning, D (2018) *Explainable Artificial Intelligence (XAI)* [https://www.cc.gatech.edu/~alanwags/DLAI2016/\(Gunning\)%20JCAI-16%20DLAI%20WS.pdf](https://www.cc.gatech.edu/~alanwags/DLAI2016/(Gunning)%20JCAI-16%20DLAI%20WS.pdf)
59. Google (2018) *Google UK written submission to the House of Lords Select Committee on Artificial Intelligence inquiry into the economic, ethical and social implications of advances in artificial intelligence* <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/artificial-intelligence-committee/artificial-intelligence/written/71367.html>
60. Bastani, O., Kim, C., Bastani, H. (2018) *Interpretability via Model Extraction* <https://arxiv.org/pdf/1706.09773.pdf>
61. The Economist (2018) *For Artificial Intelligence to thrive it must explain itself* <https://www.economist.com/science-and-technology/2018/02/15/for-artificial-intelligence-to-thrive-it-must-explain-itself>
62. Wachter, S., Mittelstadt, B., Russell, C. (2018) *Counterfactual Explanations Without Opening the Black Box: Automated Decisions and the GDPR* [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3063289](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3063289)
63. AI Now Institute (2018) *ALGORITHMIC IMPACT ASSESSMENTS: A PRACTICAL FRAMEWORK FOR PUBLIC AGENCY ACCOUNTABILITY* <https://ainowinstitute.org/aiareport2018.pdf>
64. Williams, B. (2018) *How Algorithms Discriminate Based on Data they Lack: Challenges, Solutions, and Policy Implications* <https://www.jstor.org/stable/10.5325/jinfopoli.8.2018.0078>
65. Fundacja Panoptikon (2015) *Profiling the unemployed in Poland: Social and political implications of algorithmic decision making* [https://panoptikon.org/sites/default/files/leadimage-biblioteka/panoptikon\\_profiling\\_report\\_final.pdf](https://panoptikon.org/sites/default/files/leadimage-biblioteka/panoptikon_profiling_report_final.pdf)

66. UK Government (2018) *Consultation on the Centre for Data Ethics and Innovation* <https://www.gov.uk/government/consultations/consultation-on-the-centre-for-data-ethics-and-innovation/centre-for-data-ethics-and-innovation-consultation>
67. Drinkaware (2017) *Annual reports and accounts for 2017* <https://www.drinkaware.co.uk/media/292923/6068-annual-report-spreads-v14.pdf>
68. Parliamentary and Health Service Ombudsman (2018) *The Ombudsman's Annual Report and Accounts 2017-2018* [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/727100/PHSO\\_Annual\\_Report\\_and\\_Accounts\\_2017\\_2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/727100/PHSO_Annual_Report_and_Accounts_2017_2018.pdf)
69. City University of London (2018) *Chancellor announces measures on digital tax and apprenticeships* <https://www.city.ac.uk/news/2018/october/chancellor-announces-measures-on-digital-tax-and-apprenticeships>
70. Business Insider (2018) *Britain is coming for Silicon Valley's unruly tech giants, and it could change the way they do business forever* <https://www.businessinsider.com/britain-will-regulate-silicon-valley-according-to-damian-collins-2018-9?IR=T>



Doteveryone  
New Wing, Somerset House  
WC2R 1LA

+44 (0)20 7257 9397  
[hello@doteveryone.org.uk](mailto:hello@doteveryone.org.uk)  
[@doteveryoneuk](https://www.doteveryoneuk.org)

[doteveryone.org.uk](https://www.doteveryone.org.uk)