

The Journal of the
Parliamentary and
Scientific Committee –
All-Party Parliamentary
Group

SCIENCE IN PARLIAMENT

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WINTER 2022-23

ARE YOU A
DIGITALLY-ACTIVATED
ORGANISATION?

ESTABLISH YOUR
DIGITAL
MATURITY LEVEL



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Parliamentary and Scientific Committee

Bringing Science and Parliament together

The Health Crisis of Climate Change: did COP27 Deliver?

Climate change is the greatest risk to human health we face this century. This evening we heard from four expert speakers about the link between climate and health, and the policies needed to reduce harm. Prof. Mike Tipton MBE, Professor of Human & Applied Physiology at the University of Portsmouth and Chair of the Policy Committee at The Physiological Society, spoke to us about the role of physiology in the climate crisis. Dr Marina Romanello, Research Director of the Lancet Countdown Annual Report on Climate Change and Health, spoke to us about how climate change mitigation policies can be enacted to improve human health. Prof. Madeleine Thomson, Head of Climate Impacts at the Wellcome Trust, spoke to us about what the Wellcome Trust was doing to look into the link between health and climate change, as well as its participation at COP27. Lastly, Hiten Patel, Head of Net Zero Delivery for the Greener NHS programme for NHS England, spoke to us about how the NHS is responding to climate change. We had an impassioned Q&A session, with many questions revolving round what action the government should take.

The climate crisis is a human health crisis, with an estimated 1-3 billion people living outside survivable climate conditions over the next 50 years. Prof. Tipton discussed how physiology will be crucial in mitigating against the health impacts. For example, better understanding of our thermoregulatory system will enable us to both reduce demand on high energy consuming technology, whilst also adapting buildings and planning to mitigate against increasing temperatures. Prof. Tipton also emphasised the point that health and climate change are interdependent; increasing temperatures leads to increasing strain on the health care system, which in turn increases emissions. Working out how to break this cycle is crucial.

Climate action can improve health. A clear example

that Dr Romanello gave was how overconsumption of red meat and dairy led to over 105,000 excess deaths in 2019. This produce also counts for 61% of consumption-based agricultural emissions. It's clear how moving to more plant based diets can both reduce emissions and improve health.

The Wellcome Trust was an active player at COP27, participating at the health pavilion. Prof. Thomson found it optimistic that there had been an increased interest in the topic of health, but emphasised that more work needs to be done to support lower and middle income countries. More work needs to be done to make the health impacts of climate change more visible before COP28 also.

As a major health system, the NHS must respond to climate change by both preparing for the impacts and reducing its emissions. Mr Patel discussed many of the ways the NHS aims to reduce emissions, with the goal of reaching net zero direct emissions by 2040 and indirect emissions by 2045. The upfront cost of reducing emissions on a large scale will be high, but it's clear that it will pay-off quickly when the health impacts of climate change are considered.

The health challenges of climate change are a key way to engage the general public and politicians, as all of us have a vested interest. All of the speakers emphasised that COP27 wasn't ambitious enough to restrict emissions to reach the 1.5 degrees warming target, with the aim to reach peak emissions by 2025 removed. Going beyond this target will drastically worsen the health impacts of climate change, adding strain to our health system and our lives. Therefore, the number one action government can take to improve health prospects is ambitious emission reduction targets.

Alfie Hoar

P&SC Discussion Meeting, 'The Health Crisis of Climate Change: did COP27 Deliver?'

28th November 2022



Stephen Metcalfe MP
Chairman, Parliamentary & Scientific
Committee (All-Party Parliamentary
Group)

A warm welcome to our first edition of 2023.

I am pleased to say that we are now back to normal business in terms of our discussion events at the Palace of Westminster. In October we were delighted to partner with the Institution of Mechanical Engineers, in November with The Physiological Society and at the time of going to press, with UKRI.

My thanks to these valued member organisations for their support and to our wonderful speakers, a number of whom have kindly contributed articles to this edition and others who will be doing so for the Spring journal

We have some excellent speaker meetings planned for the first half of 2023 and you will hear more about these events in the coming weeks from David Youdan.

The Programme Committee, chaired by Carol Monaghan MP, is meeting this month to determine the shape of the Autumn and Winter programme.

I should like to thank all members who have fed in interesting suggestions for the discussions to David. We are certainly not short of them!

This Autumn I was delighted to be elected as a member of the House of Commons Science and Technology Select Committee. As a member, and Chair of the Committee, in previous Parliaments, it was a happy return.

The Committee's current Inquiries include the governance of AI and the antimicrobial potential of bacteriophages.

I very much welcome the recent appointment of George Freeman MP as Minister of State for Science, Research and Innovation.

George, of course, brings a wealth of experience to his role

and we look forward to seeing him at our events. I am also delighted that he has agreed to write for the next edition of *Science in Parliament*.

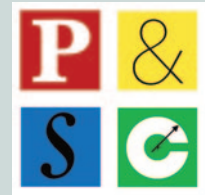
As always I am looking forward to hosting STEM for BRITAIN 2023, our annual competition for Early Career Researchers, which takes place on Monday 6th March, and can report that we have received a very high standard of applications which are now being shortlisted by our excellent judging panels.

Finally, it is with sadness that I report the recent passing of Arthur Butler, who served as a distinguished Executive Secretary of P&SC in previous decades. Our thoughts are with Arthur's family.

My thanks to all our members, fellow officers and the P&SC team for their support and my best wishes for a Happy and Healthy New Year.



The Journal of the Parliamentary and Scientific Committee (All-Party Parliamentary Group).



Science in Parliament has two main objectives:

1. to inform the scientific and industrial communities of activities within Parliament of a scientific nature and of the progress of relevant legislation;
2. to keep Members of Parliament abreast of scientific affairs.

THE ROYAL SOCIETY OF BIOLOGY HOSTS ANNUAL PARLIAMENTARY RECEPTION IN PORTCULLIS HOUSE

The Society held its Annual Reception in celebration of Biology Week in the Autumn



Stephen Metcalfe MP, chair of the Parliamentary and Scientific Committee



Stephen Metcalfe MP, chair of the Parliamentary and Scientific Committee and Susie Rabin MRSB, Associate Director of Parliamentary and Public Affairs

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ARE YOU A DIGITALLY ACTIVATED ORGANISATION?



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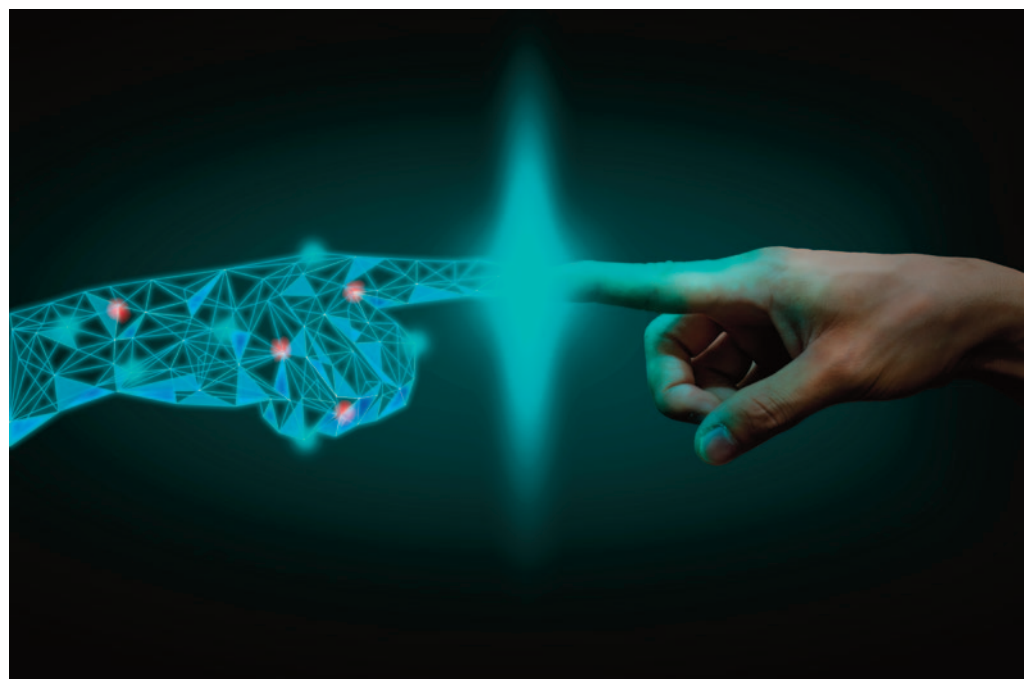
It is a fundamental question all organisations, whatever sector they operate in, need to answer. With statistics like 12.5 trillion hours having been spent online since beginning of January 2021 (with an average of 6 hours and 58 minutes a day online); more than two thirds of the world using mobile phones, and 4.95 billion people globally engaging on internet on a daily basis, (Simon Kemp – Digital 2022 Report, 2022) – digital is force that is only growing in power and reach.

The world is changing fast and digital is at the centre of every change happening. Digital transformation is on the lips of everyone in business, government, and academia. But digital transformation needs to be handled correctly, for as George Westerman, of MIT said famously *“When digital transformation is done right, it’s like a caterpillar turning into a butterfly, but when done wrong, all you have is a really fast caterpillar.”* A sobering thought for those starting their digital transformation activities.

For the past decade, digital has been experiencing a surge in growth, but in the last few years since the pandemic, digital has gone through a steep acceleration in being actively used more in peoples’ lives. From not batting an eyelid at making a video call, or holding interactive meetings and collaborations live online, more organisations have changed the way they work. Business models have been reinvented to adapt to the new environment and deliver new digital propositions and offerings, and internal and external processes have been

digitalized for speed and efficiency. Innovation ecosystems have been extended to include digital partners, not just IT suppliers, but stakeholders who are invested in the digital reinvention of an organisation.

A Digitally-Activated organisation demonstrates a number of characteristics including having a coherent and integrated Digital Strategy that aligns with the organisation’s overall business objectives and direction. The Digital Strategy provides for strategic goals, operating principles, an



acknowledgement of barriers, with a plan on how to overcome them and an overall risk appetite towards Digital Transformation.

A critical aspect in Digital Transformation is provision for Transparency within a Digital Plan. Transparency ensure that the organisation meets compliancy and regulatory requirements in the sharing of data responsibly for the greater good. Most Digitally-Activated organisations have a focus that is customer-centric, driving their business model through a platform that is intermediated with other sources and channels via Application Protocol Interface (API) management. A key element of success, and something that sets a Digitally-Activated organisation apart from one that is still in digital development is the design, management, and usage of a digital ecosystem. Such an ecosystem supports the creation and co-creation of products, processes, and services with internal and external actors, enabling expertise to be exchanged and leveraged to create value for the organisation, and its end-users.

The tech spotlight for a Digitally-Activated organisation is on web application programming interfaces to create, publish, share, and present data in accordance with privacy and usage policies, thereby, controlling API access, collecting, and analysing usage data and reporting on performance. In driving the organisation to meet these capabilities, those undertaking a Digital Transformation need to make an investment in Training and Development. If the technical competencies aren't available in-house, upskilling, and reskilling needs to take place in technical areas such as data science, data analytics and

data architecture, alongside of technical project management skills in Agile and Lean. If organic development can't be undertaken, organisations need to acquire the skills through selection and recruitment. Without such skills, an organisation will not be able to secure the value from Digital Transformation.

It is important, when starting Digital Transformation, senior leadership in the organisation should commission a review of internal processes and evaluate where redesign of process data flows will be necessary to avoid inefficiencies and wastage being baked into newly digitalized processes. A prioritisation by leaders of such process change is critical to deliver expected value-driven KPIs.

IKE Institute recognized through evidential research, that organisations fall into different levels of maturity, and as a result have developed the Digital Maturity Framework, comprising of six assurance categories: Digital Strategy and Alignment, Digital Organisational Readiness, Digital Enablement, Digital Trends and Competitive Intelligence, Digital Interaction Channels and Digital Maturity Impact and Value. The Digital Maturity Assessment (DMA) validates and assures an organisation at four levels of digital maturity, namely:

- Digitally Ad-Hoc – an organisation at the early stages of exploring tactical approaches to Digital;
- Digitally-Activated – an organisation that goes Digital through largely the use and adaption of existing business models;
- Digitally-Mature – an organisation that defines and applies Digital strategically;

- Digitally-Optimized – an organisation that embeds Digital into every part of its DNA.

Across business, government, and academia, assessing Digital Maturity has been given priority. The Institute enables organisations to pursue in parallel, both its Digital Maturity Assured Standard and its Investor in Innovations Standard aligned to ISO56002, as the Institute knows from extensive experience, innovation underpins digital transformation. Innovation is often the catalyst that ensures digital transformation is implemented correctly to gain full effect.

Education and training is key to digital transformation, and thus, it's recognised that academic institutions need to position themselves as digital leaders, equipped with the knowledge, skills and capabilities to support organisations in the private and public sector, that form their customer base.

City of Glasgow College, a leader in digital innovation transformation, and home of Scottish IKE Institute, together with IKE Institute HQ in London, and European partners from Noorderpoort and ROC A12 in the Netherlands; Gradia in Finland, and Miguel Altuna from the Basque Country have formed an exciting collaboration to discover, engage and support digital maturity within the tertiary education sector across Europe. Assessing Digital Maturity in Colleges (ADMIC) is a 24-month project, funded by Erasmus Plus that will help institutions assess their digital maturity. Using the IKE Institute's own Digital Maturity Framework, institutions will be assessed, and guidance in the form of online tools, techniques and resources will be provided close technological

gaps, as identified by the (ADMIC) assessment report, thus, supplying institutions with the knowledge to help them accelerate towards digital readiness.

Dr Paul Little, Principal and Chief Executive at City of Glasgow College, said:

"Having made a significant investment in a new virtual learning environment and, as the first college in Scotland to host a virtual learning laboratory, I am delighted that we are leading on this vital digital transformation project. The pandemic has greatly increased awareness of the advantages of technology and our own blended learning model offers a richer experience for our students."

Digital transformation offers huge opportunities for institutions; from IT modernisation to digital optimisation, and the design and implementation of new digital business models. But digital transformation in academic institutions is more than just teaching and learning, it focuses on the enterprise architecture, to not only redesign and improve internal processes but also, enhance the way in which the institution interacts across its value chain using technology.

Whether in business, industry, government or education, digital transformation is the primary objective leaders should strive to achieve, to reduce complexity and uncertainty, through balancing people, process, and technology, and aligning data and analytics activities to leverage and optimise their organisation's value. ■