

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

SCIENCE IN PARLIAMENT

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AUTUMN 2024

# AI INNOVATIONS

## Powering Organisational Performance

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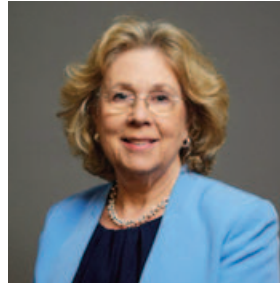
## CONGRATULATIONS TO OUR 2024-25 ELECTED P&SC OFFICERS



**Rt Hon. George Freeman FRSA MP**  
(Chair)



**The Viscount Stansgate FRSB**  
(President)



**The Baroness Northover**  
(Vice-Chair)



**Sam Carling MP**  
(Vice Chair)

## WITH GRATEFUL THANKS TO OUR OUTGOING OFFICERS

Viscount Stansgate, President, Parliamentary & Scientific Committee

It is in the nature of Democracy that General Elections produce changes in the composition of the House of Commons. This has proved to be the case for the Parliamentary & Scientific Committee in the wake of the General Election on 4 July 2024. As a result there are three people about whom a word must be said because three of our most distinguished Members have now left their active participation in the P&SC as the result of the Election:

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### CHI ONWURAH MP

From the moment Chi was first elected to the House in 2010 as the Labour Member for Newcastle-upon-Tyne it was clear that she was going to play a major part in Parliamentary debates on Science & Engineering. As an electrical engineer herself she made her mark early on and has been a consistent champion ever since for Science & Engineering and especially Diversity and Inclusion within science. She always co-sponsored major science-related events like *Parliamentary Links Day* and *Voice of the Future* and others. Chi has now stepped down from a prominent role with the P&SC where she



served as one of the key officers of the Committee for many years. However she has certainly not been lost to the world of science: anything but. Having served as a Shadow Minister for Science and Innovation for many years she is now a candidate for the Chairship of the House of Commons Select Committee on Science & Technology. If successful she will emerge as a major player on behalf of Science in this new Parliament. We thank her sincerely for her service on the P&SC and wish her well in the future.

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### CAROL MONAGHAN

Carol Monaghan served as the MP for Glasgow North West on behalf of the Scottish National Party from 2015 until the constituency was abolished by Boundary Commission changes in 2024. As a graduate in Physics from the University of Strathclyde, and subsequently a teacher, she was a natural candidate to become a Member of the Commons Select Committee on Science & Technology which she was for many years. She also took a great interest in the work of the P&SC and went on to become one of its major office-



holders. For many years chaired the P&SC Programme Committee which mapped out and planned the monthly discussion meetings. She also championed Photonics and did much to draw attention to this important area considering its UK-wide industrial significance. She also served as the SNP's Westminster Spokesperson for Education, Armed Forces and Veterans. She was a tireless supporter and attender of Parliamentary & Scientific Committee events and she will be much missed.

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### STEPHEN METCALFE

With literally the final declared result in an English Parliamentary Constituency in the 2024 General Election the P&SC sadly lost its Chair, Stephen Metcalfe, who was first elected as the Member of Parliament for South Basildon and East Thurrock in 2010 until his defeat in 2024. Stephen had a very distinguished career in Parliament where he soon emerged to become one of the new intake of backbenchers to take a sustained interest in science. He served as a Member of the Science & Technology Select Committee under the chairship of Andrew Miller MP (our former Chair) and from 2016-2017 he served as the Select Committee's Chair. After the party allocation of chairships of select committees was abruptly changed (and his chairship effectively removed) he found himself again as a backbench Member but assiduously continued to support Science in every possible way. He also co-chaired the All Party Parliamentary Group on AI and helped pioneer and steer



Parliamentary discussion and debate of this vital new technology that will doubtless transform our lives in the future. He was re-elected to serve on the Science & Technology Select Committee in 2022. Meanwhile he was himself elected Chair of the P&SC and served with distinction for the entirety of the last Parliament both in chairing the formal meetings and the informal dinners. He championed the 'crown jewel' of the P&SC's work – STEM for BRITAIN competition – and the last Parliament saw an unbroken series of successful events which has entrenched this annual event in the Parliamentary calendar. He also took a prominent role in co-sponsoring events like *Parliamentary Links Day* and *Voice of the Future* and the *Christmas Receptions* for Science & Engineering. He will be hugely missed and forever remembered for his commitment to the cause of Science in Parliament. As President I deeply appreciate all he did for the P&SC.



Rt. Hon George Freeman FRSA MP, Chair, Parliamentary & Scientific Committee (All-Party Parliamentary Group)

### Welcome to the Autumn journal

It's a great pleasure to be writing this my first Chair's piece in the Science in Parliament quarterly journal. After a 30yr career in science venturing – 15yrs in bioscience venture capital and 14yrs pushing my government to give a higher priority to the role of science & technology in our country – it's a great honour and privilege to take on this role.

I wanted to start by thanking and paying tribute to my predecessor Stephen Metcalfe who gave such longstanding service to the P&SC. You are missed, but highly respected, Stephen. I also want to thank Stephen Benn and the team of officers who make and keep the P&SC what it is.

The Parliamentary Scientific Committee is the oldest APPG in the Palace of Westminster: established by Churchill and Attlee in 1939 to support Parliamentary understanding of the growing importance of science in the war effort.

It has been a vital cog in the machinery of UK science policy for over 80 years, with many distinguished members.

That work is as vital as ever. The pace of both scientific discovery and the global race for science and technology sovereignty has arguably not been so intense since the height of the Cold War. From the rise of AI to bioengineering and gene editing, Fusion energy, Quantum, Space and the growing threat from the global climate emergency we face extraordinary challenges and opportunities to harness science for global good.

Here in the UK I'm delighted to have helped build a growing cross-party consensus is developing to support a much bolder harnessing of UK science for sovereign economic security & prosperity through a S+T led Reindustrialisation around new economic sectors and clusters of high growth S+T businesses.

The geopolitical landscape for that is fluid and challenging with post/Brexit obstacles to UK / EU collaboration, naked US industrial protectionism and the rise of China and the increasing tension between the West and the Russia, Iran and S Korea axis creating a new science and technology Cold War.

The new Government has signalled loud and clear an ambition to accelerate the last Government's work on Science and Technology led growth with a bold new framework for Industrial Strategy. As a card-carrying Conservative advocate of an

Industrial Strategy I welcome that and am keen to help the new Government learn the lessons of previous administrations to deliver for the national good. S+T venturing is hard enough without partisan politics getting in the way.

As we look ahead there are a number of hot topics I think we need to be active in - but I'm particularly keen to look at 3:

- Industrial Strategy
- UKRI and the research ecosystem
- Global impact & how we can better harness UK science for global good, and global partnerships for UK S+T.

I very much look forward to meeting you at one of our forthcoming events - please do put them in your diary:

Tuesday 15th October - Discussion Meeting, House of Commons, in partnership with The Institute of Corrosion

Tuesday 5th November - Annual Luncheon, House of Lords, with Guest Speaker Lord Willetts.

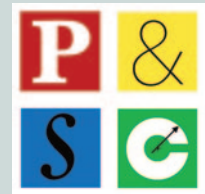
Full details of these and other upcoming events can be found in our Science Diary on the inside back page.

Please don't hesitate to contact me with any suggestions for how we can best develop the P&SC in this Parliament.

George



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.

### Editorial Note

Leigh Jeffes

Many congratulations to George, Stephen, Lindsay and Sam on their election as Officers of P&SC for 2024-25.

We were very sorry to lose Stephen Metcalfe and Carol Monaghan at the General Election. Both contributed enormously to the promotion of science and technology at Westminster, and we wish them well in the future.

A warm welcome to our new Parliamentary P&SC Members, including Dr Allison Gardner MP, Dr Adam Thompson MP, Sadik Al-Hassan MP, Dr Danny Chambers MP, Lord Tarrasenko and Baroness Alex Freeman.

Leigh

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# AI INNOVATIONS POWERING ORGANISATIONAL PERFORMANCE



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In today's rapidly evolving business landscape, the integration of Artificial Intelligence (AI) has become a cornerstone for enhancing organisational performance. From optimising decision-making processes to transforming business operations, AI innovations are driving significant improvements across various sectors. This article explores how AI is powering organisational performance, drawing insights from recent research and case studies.

## ENHANCING DECISION-MAKING WITH AI

One of the critical areas where AI has made substantial inroads is decision-making. Traditional decision-making processes, often hampered by biases and a lack of real-time data, are being transformed by AI-driven insights. Decision Intelligence (DI), for instance, is an emerging framework that combines data science, social science, and managerial science to empower organisations to make fast, accurate, and consistent decisions <sup>1,2</sup>.

The use of AI in decision-making involves several components, such as data fabric, decision models, and orchestration. These components work together to provide connected insights, contextual analytics, and continuous intelligence, enabling organisations to respond swiftly to changing conditions and complex scenarios <sup>1</sup>. For example, in crisis management scenarios, AI systems can process data from various sources, optimise resource allocation, and monitor situations in real-time to provide actionable insights <sup>3</sup>.

## STRATEGIC PLANNING AND RESOURCE ALLOCATION

AI's role in strategic planning and resource allocation cannot

be overstated. AI-augmented strategic planning frameworks, such as AISPF (AI-Augmented Strategic Planning Framework), integrates AI tools like trend analysis, forecasting, and strategy simulation to enhance decision-making processes <sup>2</sup>. These tools help organisations identify emerging threats, simulate strategic options, and develop detailed action plans, thereby improving their strategic initiatives and resource allocations <sup>4</sup>.

A practical example of AI in action based on the IKE Institute's work with NATO is the optimisation of logistics operations. By employing a Data-Driven Decision Matrix, NATO can evaluate various logistical strategies based on cost efficiency, speed of deployment, reliability, and scalability, ultimately selecting the most effective approach.

## AI-DRIVEN BUSINESS VALUE REALISATION

High-performing organisations view AI as a strategic asset, essential for maintaining competitive advantage and driving business value. To effectively harness AI, organisations need to build a business strategy infused with AI, rather than treating AI as a separate technical strategy <sup>3</sup>. This involves prioritising AI investments across different

business model elements, assessing the impact and urgency of AI applications, and leveraging unique data to create 'Competitive Moats' <sup>5</sup>.

The realisation of AI benefits requires a systematic approach. Gartner outlines five key practices for AI benefit realisation: building an AI value story, defining a value hypothesis, building an action plan, testing the value hypothesis, and tracking leading and lagging KPIs. These practices ensure that AI initiatives are aligned with business goals and deliver measurable outcomes <sup>6</sup>.

## GENERATIVE AI AND BUSINESS PRODUCTIVITY

Generative AI is revolutionising business productivity by automating and augmenting various tasks. For instance, generative AI can significantly reduce the time required to write job descriptions, transforming a task that traditionally took 90 minutes into a five-minute process <sup>4</sup>. Such efficiencies not only save time but also enhance overall productivity and operational effectiveness.

Moreover, generative AI applications extend beyond simple automation. They include complex tasks like document search and summarisation, customer support, and personalised content creation for communication, sales and

marketing amongst other operational tasks. These applications can lead to substantial improvements in business processes and multi-role impacts, providing a competitive edge in the target market or domain of operations <sup>2,3</sup>.

## DISTRIBUTED AND AUTONOMOUS GOVERNANCE

The shift towards distributed and autonomous governance is another area where AI is making a profound impact. Traditional top-down governance models are being replaced by distributed governance frameworks that decentralise decision-making authority and processes across multiple nodes within an organisation <sup>4</sup>. This approach enhances agility, adaptability, and timely responses to dynamic

## INNOVATION ENABLING TRANSFORMATION

Innovation is at the heart of enabling organisational transformation through AI. By fostering a culture of continuous improvement and experimentation, organisations can leverage AI to drive innovation across various domains. AI technologies not only automate routine tasks but also enable employees to focus on higher-value activities that require creativity and strategic thinking <sup>7,8</sup>.

For instance, AI-driven platforms can provide real-time feedback and coaching to employees, enhancing their skills and performance. This kind of innovation is crucial in developing a more agile and responsive workforce capable of

shown that AI can enhance productivity and economic growth by automating routine tasks, improving efficiency, and creating new opportunities for innovation. McKinsey estimates that AI could potentially add around \$13 trillion to global GDP by 2030, increasing the annual growth rate of GDP by about 1.2 percentage points <sup>4, 5</sup>.

AI technologies improve GDP by enhancing labour productivity. For instance, automation and AI can perform repetitive tasks more efficiently than humans, allowing workers to focus on more complex and value-added activities. This shift not only increases the overall output but also drives economic growth by fostering innovation and creating new markets <sup>4, 9</sup>. Furthermore, sectors such as healthcare,

navigate the complexities of the modern business environment, the strategic integration of AI will be crucial for maintaining competitive advantage and driving sustainable growth. By leveraging AI's capabilities, organisations can not only optimise their operations but also unlock new opportunities for innovation and value creation, ultimately contributing to economic growth and improved GDP.

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conditions, critical for successful digital transformation.

Autonomous governance, driven by AI, empowers roles and teams with the authority to make distributed decisions while balancing risk and performance <sup>3</sup>. By integrating AI into governance structures, organisations can achieve better outcomes, reduce response times, and foster innovation both at the centre and the edges of their operations <sup>2</sup>.

adapting to rapidly changing business environments. Moreover, AI can identify patterns and trends that may not be visible to human analysts, providing deeper insights that drive strategic innovation and competitive advantage <sup>4</sup>.

## AI'S IMPACT ON GDP

AI's transformative potential extends to macroeconomic scales, with significant implications for Gross Domestic Product (GDP). Studies have

finance, defence and manufacturing have already witnessed significant contributions from AI, leading to more robust and resilient economic performance <sup>9,10</sup>.

## CONCLUSION

AI innovations are undeniably powering organisational performance by enhancing decision-making, strategic planning, business productivity, and governance. As organisations continue to