

UNLOCKING EXPERTISE IN FELLOWSHIP



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1. INTRODUCTION: BCS PRESIDENT, REBECCA GEORGE OBE



As BCS Fellows you represent our finest examples of professional practice, ethical commitment, knowledge and leadership within the commercial, public and education sectors.

Fellows are powerful advocates for BCS, its values, ambitions and for Professionalism as a principle.

This regular report for Fellows is intended to:

- › inform you of our profile-raising work within the policy and public relations sphere, so you are equipped to speak with confidence to external audiences, contacts and potential new members.
- › be used in the context of your own experiences, networking and intelligence gathering, so you can join the dots and report back intelligence to BCS for policy and thought-leadership.

- › be shared in its entirety with anyone within your network who would benefit and has the potential to become a new BCS Fellow. We believe that you can be the most credible and effective recruiters of future Fellows.

BCS' PR and Public affairs strategy is based on two key elements which have been building our profile with media and stakeholders this year:

- › Producing original data and insight through analysis and research, and
- › Developing our reputation for commentary and policy leadership on issues that matter

It communicates the **three wider BCS strategic pillars** of supporting existing and new members; driving standards and campaigning for professionalism.

That's why we want to promote our Fellows' expertise and evidence-based opinion on the social and policy issues where it is most relevant. For example, we'll soon share plans for assembling a group of BCS subject experts capable of producing technical papers of sector-leading standard, under the BCS brand.

With your help, we can keep growing our reputation for incisive analysis and policy positions on issues that matter to the future of the UK's digital industries. This mission is now inextricably linked to the grand challenge of socio-economic renewal post Covid-19 and post-Brexit.

It includes helping BCS make relevant contributions to areas like narrowing the digital skills gap or increasing public understanding of issues like 5G where trusted, unbiased expertise is vital.

We want to hear your views on how well this approach and how effectively the information in this document works for you. So please contact us at policyhub@bcs.uk and we'll be ready to take your input forward.

1.1 An advocate; Paul Williams, Technical Lead, Surveys & Insights, Google



2. OUR MISSION AND AMBITIONS

2.1 Our mission

BCS' mission is to make IT Good for Society by ensuring everyone's experience of technology is positive - from securing the role of computing in schools to introducing recognised standards across the digital NHS.

We'll achieve this by creating:

- › A highly competent, trusted and ethical profession that is diverse, inclusive and plentiful in talent at all levels.
- › A society that is resilient and thriving in a digital world, with access to the technology, education and skills needed.

2.2 What makes us unique

We have a Royal Charter to: promote and advance the education and practice of computing for the benefit of the public.

We have nearly 60,000 members in 150 countries – including 3,000 influential Fellows – who are business leaders, public sector professionals, educators, health informaticians and policy influencers.

Over 10,000 of these are part of BCS because they work for our 100+ Organisational Members, ranging from Deloitte to NHS South Central and West.

Thanks to our Charter, we're uniquely placed to provide people and organisations with independent evidence of their commitment to the highest professional and ethical standards. RITTech, FEDIP and CITP,

for example, allow individuals to prove their dedication to ongoing professional development. Organisations can align standards to the SFIA^{plus} framework, allowing clear benchmarking of team skills against organisational need.

As a leading IT qualification body, we offer a range of widely recognised professional and end-user qualifications. We accredit over 90 computing degree courses in the UK.

We are trusted by government to contribute to crucial policy-making activity. We played a lead role in making computing a statutory subject in 2014 – that means 20,000 schools across England now teach computing every year to children from age 5 to 16.

While much of our policy and engagement work is concerned with the UK where we are represented across Northern Ireland, Scotland and Wales, our outlook is global. We have active groups across Europe, Asia, Africa, USA and Canada.

2.3 Our ambitions and campaign goals

1. **Over 12m people in the UK lack basic digital life skills*:** We're proud that 3m have studied for our digital literacy qualifications – but we want to help government and industry ensure that every adult and child has the right level of digital education and training for them to succeed; the insight and experience of BCS Fellows will play a major role.

*Lloyds Consumer Digital Index 2020

2. Greater diversity in the IT profession benefits society

Around 20% of IT specialist roles are now held by women* (a record share) but clearly our field has not achieved gender equality. BAME IT professionals and particularly black women remain severely under-represented at senior levels.

Our policy and research focus shines a light on under-representation, reporting on gender and ethnicity in particular, exploring barriers to entry and career progression to close the gap.

*ONS Labour Force Survey data

3. Public IT projects must meet independent trusted, ethical and professional standards

Algorithms, AI and machine learning permeate all areas of public policy from estimating exam results to modelling the health impact of pandemics; we believe that code used in projects that change people's lives should meet independent professional standards to win public trust.

3. KEY POLICY AND PR ACHIEVEMENTS

3.1 Algorithms, public trust, and the Exams Crisis

In response to this summer's exams crisis, we commissioned a YouGov poll to investigate the public's trust in and understanding of organisation's use of algorithms.

We found the 53% of the 1000 UK adults surveyed had no trust in any organisation, from government to social media, to use algorithms to make decisions about them.

The research was covered in an exclusive arrangement by **The 'i' national newspaper** and then later by **The Telegraph** and a range of other trade press.

The study also had demonstrable policy impact, with politicians including Conservative Peer and Good Careers Guide director, Lord Ralph Lucas, and Institute of Artificial Intelligence leader, Labour MP Darren Jones.

The poll was supported by a detailed policy position paper entitled: **"The Exam Question: How to do we make algorithms do the right thing?"** which recommended the professionalisation of data science alongside independent, public impact assessments whenever algorithms are used to make high-stakes public policy decisions.

3.2 Diversity and under-represented groups in IT

BCS is making good on its commitment to promote diversity and inclusion both internally and throughout the sector, as part of its mission to Make IT Good for Society.

In particular we recognise there are key areas of under-representation in the IT sector beginning in education and continuing to senior professional levels.

While the proportion of women applying to study computer science at degree level has risen slightly, in 2020, women still made up just 17% of the total university applicants (UCAS data). Women currently enjoy their largest ever employment share of the IT profession (currently at 20% according to ONS data), but we know that Black women make up less than one percent of the total.

While IT staff from BAME backgrounds are relatively well represented in the sector as a whole, they are less likely to be in senior roles. BCS' Diversity and Inclusion 2020 survey showed that while being better qualified than their white counterparts, BAME IT Professionals make up just 9% of Directors. The research was covered by a range of media including Computer Weekly, under the heading **Tech's Diversity Gap - Slow Growth for Minority Groups**.

Our webinar *'The Awkward Conversation'* focused on the experiences of BAME IT professionals and featured Dorothy Monekosso, Professor of Computer Science at Leeds Beckett University; Dr Ip-Shing Fan, Senior Lecturer in Enterprise Systems at Cranfield University and Chair of BCS Bedford; and Nzube Ufodike, an entrepreneur and Vice-Chair of BCS London Central.

The group found that diversity and inclusion remained a 'box-ticking exercise' for many organisations, and called on senior managers to do much more to understand the diversity of experiences, backgrounds and perspectives in their organisations.

The event was **covered exclusively by The Voice**, the UK's leading Black newspaper, promoting our work and research to a new audience.

We are working closely with our members ahead of the imminent launch of BCS' first Specialist Group (SG) dedicated to supporting and inspiring IT professionals from BAME backgrounds.

We are building an ever-wider network, developing relationships with groups that represent the full diversity of the IT sector, such as **Coding Black Females**.

We joined the **Tech Talent Charter** in June 2020, and will be working with a range of nationally known organisations to promote diversity and inclusion across the tech industries.

We are an active member the **Council of European Professional Informatics Societies (CEPIS)** - and have joined its DiversIT Charter to promote gender diversity across Europe

3.3 Huawei 5G ban and geo-politics

Our survey of members' views on the banning of Huawei from the UK's 5G infrastructure attracted almost 3000 responses, a record for a poll of this kind at BCS.

The majority of IT professionals (53%) did not believe Huawei's claim that the UK's decision to ban the tech giant from 5G will 'move Britain into the digital slow lane, push up bills and deepen the digital divide'. However, over a quarter (28%) did agree with the Chinese telecoms firms' warning that the UK's tech development will stall without it, with 19% remaining neutral.

The full story was covered in a range of national and trade press including in **The Telegraph**, as well as being shared with key policy stakeholders within DCMS.

3.4 Setting Professional Standards for Data Science

We are a key partner in a prestigious group that is developing industry-wide professional standards for data science.

The aim of the work is to ensure an ethical and well-governed approach so the public can have confidence in how their data are being by used by analysts across the public and private sectors.

The Royal Statistical Society (RSS) is leading the project along with the BCS, the Operational Research Society (ORS), the Royal Academy of Engineering (RAEng), the National Physical Laboratory (NPL), the Royal Society and the Institute of Mathematics and its Applications (IMA).

The full story which featured an interview with BCS President Rebecca George was covered by tech magazine ZDNET, under the heading **Data Scientists are used to making up the rules; now they're getting some of their own to follow**.

3.5 Professionalising Coding in Scientific Research

Complementing this work, BCS has brought together a group of influential stakeholders with the specific aim of professionalising coding in scientific research and increasing accountability and transparency where coding is used in this area of public policy.

The Society of Research Software Engineering and The Software Sustainability Institute are working with us to raise the profile and impact of this lesser known area of policy, which is particularly relevant the wake of high profile challenges to scientific modelling used in COVID-19 policy.

The announcement of the project was covered in **Digital Health**, **The Telegraph** and a range of research-focussed media.

3.6 Academic Accreditation Review

In response to feedback from both universities, students and employers, BCS has launched the Academic Accreditation Review, with a steering committee under Chair Paul Martynenko, former VP of IBM, and including other industry leaders and academics such as Professor Wendy Dearing, Head of Workforce & OD NHS Wales Informatics service (NWIS).

The project will ensure that graduates have the skills needed to drive economic recovery and growth across the UK, following extensive consultation with the higher education sector - including the Council of Professors and Heads of Computing (CPHC) - The Institute of Coding, leading tech companies and employers and government departments.

Full details of the project and the committee membership can be read [here](#).

53%

OF IT PROFESSIONALS DID NOT BELIEVE HUAWEI'S CLAIM THAT THE UK'S DECISION TO BAN THE TECH GIANT FROM 5G WILL 'MOVE BRITAIN INTO THE DIGITAL SLOW LANE'

3.7 NHSX Contact Tracing App – members survey and policy position paper

BCS surveyed its members in May to gather their views on the likely effectiveness of the governments' plans to launch a bespoke contact tracing app. Over 1700 members responded.

Less than one quarter of IT professionals thought the original NHSX contact tracing app design would be effective in containing COVID-19.

In addition over half favoured moving away from the Apple/Google decentralised data storage model, an approach ultimately adopted by government in the new iteration of the app, launching in England and Wales in September.

Our research was covered across the national and trade press including in **The Daily Mail**.

The Society Board and BCS Policy also worked together to provide our members, government and the general public with a detailed and balanced view of the challenges of implementing contact tracing.

Presciently, the BCS position paper recommended that any successful app needed to ensure data protection and ethical use of data alongside an effectively administered mass test and trace programme.

It was covered by a range of media including **Digital Health** and has been shared with senior policy advisers in government and across the sector.

3.8 #vITal Worker Campaign

The advent of COVID-19 meant that BCS needed to pivot its PR and marketing approach so that we could remain relevant and make a contribution to the crisis.

We launched the **#vITal worker** campaign to celebrate the role played by IT professionals during the COVID-19 crisis, supporting essential parts of the UK's infrastructure, as well as keeping us connected as our personal and professional lives move online.



CEO Paul Fletcher wrote a keynote address for the BCS membership, detailing the ways BCS members are helping the national effort and paying tribute to the power of our organisation in keeping society strong.

The campaign was supported by the Department for Culture, Media and Sport (DCMS), as an example of outstanding commitment to keeping the country on track during this period.

The department published a **blog on the initiative** and Minister of State, Caroline Dinenage and shared via the department's communications to stakeholders and through social media.

The campaign was covered widely in the sector press for example in **Computer Weekly**, **IT Pro**, **ZDNET**.

3.9 Technical insights programme

Alongside achieving mainstream recognition for work of broad public interest, we are also focussed on harnessing members' expertise in highly skilled and 'niche dominance' areas.

For example, the Law SG produced a well-received paper on the Schrems II European Court of Justice judgement which ruled that the Privacy Shield Framework cannot be used for transferring personal data between the EU and US. Our work urged 'prompt action' from UK organisations alongside information and guidance.

The judgement will have sustained, post-Brexit impact on any countries that are not considered by the EU to have adequate data protection. **Our policy paper** has now become the most downloaded document on the BCS website.

Most recently, we were able to provide expert comment from Adam Leon Smith, Chair of BCS' Software Testing SG on process failures which led to coding errors in the Test and Trace Website, covered by **Schools Week**.

We are finalising plans for a Technical Leaders group which creates sector-leading papers on areas including 5G and will share details with you over the coming weeks, as this flagship policy project will draw heavily on the BCS Fellowship community.

3.10 Barefoot campaign in partnership with BT

Actor and Author **David Walliams** lead a summer campaign aiming to help parents find online resources for home education during the Coronavirus crisis, developed by the BT and BCS' Barefoot Computing Programme, which was established in 2014 to help primary school teachers deliver IT classes in engaging ways.

3.11 Health and Care Executive

Dr Philip Scott, Chair of the BCS Health and Care Executive (HCE) has become an established thought-leader in health informatics and its relationship with professionalism. Dr Scott followed BCS' survey and policy work on the COVID-19 contact tracing app with a piece in the influential website Digital Health on joined up approaches to sharing data.

He wrote: "We must not jump to standardising on technology, but rather should look for design principles and successful methods to engage public trust and participation and share data securely and rapidly. In my view, BCS and partners in FEDIP have an important role to play in starting this evaluation nationally, in collaboration with the global network of IMIA."

FEDIP – the Federation of Informatics Professionals – of which BCS is the largest member, is the only public register for all informatics professionals in the UK dedicated to delivering better health and care through the advanced use of technology.

The HCE is currently working to sharpen and promote FEDIP's public policy role in professionalising the Digital Health discipline across the NHS.

3.12 Relationships with government departments

Alongside our formal consultation responses our Director of Policy Dr Bill Mitchell OBE continues to regularly advise DCMS, DfE, BEIS, the Office for AI and the Cabinet Office.

Most recently, he was invited to speak at DfE's digital strategy workshop in August.

We also continue to develop our influence in the devolved nations with the policy team and BCS Northern Ireland arranging a meeting between BCS President Rebecca George and NI Ministers for Economy and Education.

3.13 DCMS National Data Strategy

BCS will continue to help shape and deliver the national data strategy which has already adopted key BCS policy aims including:

- › The establishment of a Data Quality Framework
- › Creating a data management Community of Practice
- › Teaching foundational data skills to undergraduates in two ways – through offering modules including wider subjects such as AI, cyber and digital skills, and by integrating data skills in other subject areas
- › Creating a clear definition of Data Skills

"IN MY VIEW, BCS AND PARTNERS IN FED-IP HAVE AN IMPORTANT ROLE TO PLAY IN STARTING THIS EVALUATION NATIONALLY, IN COLLABORATION WITH THE GLOBAL NETWORK OF IMIA."

DR PHILIP SCOTT



3.14 Working with All-Party Parliamentary Groups

- › **The Parliamentary Internet, Communications and Technology Forum (PICTFOR)** is the largest and most active All-Party Parliamentary Group.

Its most recent report included a full overview of BCS' proposal for Communities of Practice as a potential solution to harnessing positive regional and SME uses tech as we emerge from the crisis.

BCS also submitted a response to the **All-Party Parliamentary Group (APPG) on Digital Skills'** call for evidence on the impact of COVID-19. The subsequent report called for government to create a lifelong digital training resources network and quoted BCS heavily.

We have joined the Parliamentary and Scientific APPG, which is the oldest All-Party Parliamentary Group at Westminster, having been formed in 1939."

3.15 Advising BEIS on economic performance

BCS responded to a request in June from the Department for Business, Energy and Industrial Strategy (BEIS) to provide evidence and insight on How to Level Up Economic Performance across the UK.

Among our recommendations we argued that companies should: build resilience and sustainability through the adoption of digital systems that meet professional, externally accredited standards, and which turbo-charge innovation and productivity.

We also urged Government to work with business to create a virtuous cycle combining education, workplace training and apprenticeships, professional development and digital transformation.

3.16 BEIS call for evidence: Recognition of professional qualifications and regulation of professions: call for evidence

We will be working with our partners across the Chartered and professional bodies to respond to BEIS' call for evidence on the UK's approach to the recognition of professional qualifications and the regulation of professions.



Department for
Business, Energy
& Industrial Strategy

4. OTHER PARTNERSHIPS

CEO Paul Fletcher was a co-signatory on a letter to government from the **Chartered Management Institute (CMI)** promoting the value of Chartered bodies as a collective, at a time when the public and government need to rely on the common standards of trust and professionalism assured by Chartered status.

BCS has a leading role in the Cyber Security Alliance, a consortium of 16 organisations across the UK cyber security community, which have come together with the aim of raising the overall standard of current cyber security practice.

4.1 Society Medal

We are set to launch the first Society Medal this year, to complement our other awards such as the Distinguished Fellowship. The Medal aims to recognise an individual who has made an outstanding contribution to enhancing the esteem and understanding of IT within society. Our vision is that the successful candidate will not be a pure IT Professional but someone who has succeeded in making the benefits and value of IT clear to wider audience.



5. INSPIRING CHANGE - WHAT MAKES A BCS FELLOW AND HOW TO RECOGNISE THESE QUALITIES

The global community of BCS Fellows to which you belong contains some of the foremost strategic, ethical and commercial leaders in the BCS community.

Fellows are role-models and exemplars of how a career dedicated to IT can influence policy and practice, transform organisations and lives.

As such, potential new fellows must be proven figureheads in IT, recognised for their eminence, authority or seniority.

Fellows must also promote the value of professionalism throughout their organisation and wider industry. Fellows carry our message that standards and frameworks like CITP and SFI*Aplus* are a way to safeguard the highest ethical and professional standards as digital transformation permeates every area of society.

1.

Eminence: They are likely to have a substantial record of published work, and a strong or growing public profile.

2.

Authority: They could be involved in a national or international standards committee, or professional body like BCS, in a technical or professional capacity.

3.

Seniority: They may manage a team of 50 or more people, which includes senior BCS members; or be a consultant, a senior lecturer or leader in the Civil Service.

Please recommend that anyone interested in applying for Fellowship should visit the BCS website in the first instance. For full details see the 'Membership Criteria Checklist' in the members section. We also need details of two supporters to evidence their experience.

6. SUCCESS STATISTICS

6.1 Learning and Development

Our learning and development subsidiary has shown **strong performance during the pandemic**, allowing us to continue to reinvest in **supporting our members** and the future of the profession

Over 20,000 people have now started BCS Digital Apprenticeships broadening the pipeline of tech talent ready for the workforce and supporting the UK's economic and social renewal, post COVID- 19

Over 69,000 exams (Prof Certs, Vocational, Knowledge Modules) have been delivered in the last year

A range of new certification offerings including **AI, DevOps, Agile** and **Business Analysis** have now been launched

RoleModelplus - our new skills audit platform developed and launched this year

6.2 National Centre for Computing Education (NCCE)

BCS runs the NCCE with Department for Education (DfE) funding, in partnership with Raspberry Pi and STEM Learning. It supports and promotes the teaching of computing in schools (England) from Key Stage 1 to A level.

We've established **34 Computing Hubs** based in schools

300 hours of computing lesson resources have been created and delivered

Over **1,100 teachers** have been certified

We received **£600k** of additional industry funding

15,000 teachers engaged with us

2.5M children have been reached in primary schools through our Barefoot computing education programme with BT

64 books currently in print and **75** ebooks published

6.3 Virtual Events and Engagement

Over 150 BCS webinars have been hosted since April

Over 6,500 people attended BCS Group or BCS membership virtual events

7,000 delegates attended the Computing at School (CAS) virtual conference



Computing at School

2.5M

**CHILDREN HAVE BEEN REACHED
IN PRIMARY SCHOOLS THROUGH
OUR BAREFOOT COMPUTING
EDUCATION PROGRAMME WITH BT**

For further information please contact:

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