



BCS - The Chartered Institute for IT

How to level up the economic performance across the UK

A response to a request by the Department for Business, Energy & Industrial Strategy for input to its roundtable.

By Dr Bill Mitchell OBE, Director of Policy at BCS

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BCS Key Recommendations

1. It is imperative that all companies build resilience and sustainability by becoming digital-first through the widespread adoption of digital systems that meet professional, externally accredited standards, and which turbo-charge innovation and productivity.
2. The government should work with business to create a virtuous cycle combining education, workplace training and apprenticeships, professional development and digital transformation.
3. There needs to be a clear multi-year holistic vision encompassing education, industrial strategy, business, and local government. The vision needs to result in meaningful cooperation of mayors and Local Enterprise Partnerships, and into Ministry of Housing, Communities & Local Government and Higher Education to create sustainable communities.
4. The government should give mayors of combined authorities the resources and support necessary to digitally transform public services to harness the power of digital technologies to improve their reach, effectiveness, resilience and value for money as society and the economy recovers from the pandemic.
5. Across every region, there should be cross-sector grassroots communities of practice made up of technology, education and business professionals that provide strategic structured collaboration across local businesses to identify and build the digital technological capability necessary to aid recovery from the current economic shock of the coronavirus pandemic, but also to improve productivity and develop new business opportunities.
6. The government should monitor the level of professional registration across all regions of the UK of newly qualified digital apprentices and chartered IT practitioners as an indicator of digital capability and capacity.

The following sections give detailed responses to each of the questions from the BEIS request for input.

What are the key barriers to private sector investment and growth in the regions? Considering how business and government can work to address these.

The government's '[Made Smarter Review](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/655570/20171027_MadeSmarter_FINAL_DIGITAL.pdf)'¹ estimated there could be an increase of up to 14% in value of UK manufacturing by 2027 through the uptake of industrial digital technologies. The government commissioned '[Growing the Artificial Intelligence industry in the UK](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/652097/Growing_the_artificial_intelligence_industry_in_the_UK_report.pdf)' report² estimated there could be an increase of £630 billion to the UK economy from the adoption of AI by 2035.

Such benefits will not be uniform across the UK. [DCMS data](https://www.gov.uk/government/statistics/dcms-sectors-economic-estimates-2018-regional-gva)³ shows that in every UK region except London and the South East the digital sector is worth 6% or less of GVA in that

¹https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/655570/20171027_MadeSmarter_FINAL_DIGITAL.pdf

²https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/652097/Growing_the_artificial_intelligence_industry_in_the_UK_report.pdf

³ <https://www.gov.uk/government/statistics/dcms-sectors-economic-estimates-2018-regional-gva>

region. Whereas in London it is 18% of regional GVA and in the South East it is 13% of regional GVA. Growth in the digital sector and increasing digitisation of industry in the regions outside London and the South East to help them level up, therefore, has huge potential for increasing GVA nationally. However, all this data is pre-pandemic.

Post COVID-19 we are going to have to take a fundamentally different approach as a country to how our economy works – how the public and private sectors work together to deliver services, what we manufacture, how we manage supply chains and value chains, inventories, logistics and distribution, business continuity and business intelligence. We must also take a fundamentally different approach to the nature of work itself, as many jobs become primarily virtual, where teams collaborate through the internet and are supported by artificial intelligence.

The government's pre-pandemic industrial strategy and digital strategy were a welcome start to such an approach, but post COVID-19 these need reimagining on a far bolder and ambitious scale. From now on all companies need to build resilience and sustainability by becoming digital-first through the widespread adoption of digital systems that meet professional, externally accredited standards, and which turbo-charge innovation and productivity.

To execute such an ambition requires a vast scaling up of capabilities in areas such as data science, artificial intelligence and machine learning, cloud technologies, mobile computing and the internet of things, electronic commerce, and cybersecurity.

But, digital transformation has been talked about for years, yet has happened only partially and unevenly across the UK - why?

Employers large and small have told BCS during many consultations that such digital transformation is held back by the lack of *diverse interdisciplinary* teams that are highly skilled at *ethically*:

- transferring a deep scientific knowledge of computing into business contexts
- engineering digital systems that meet business needs
- managing the adoption of digital technologies and maximising their value across strategic business units

The government should work with business to create a virtuous cycle combining education, workplace training and apprenticeships, professional development, and digital transformation to overcome this barrier. This is especially necessary for sectors that are traditionally non-digital, e.g. agriculture, caring professions, food manufacture, but which could greatly benefit from digital technologies to improve productivity.

A key measure of the success of this virtuous cycle will be the level of professional registration across all regions of the UK of newly qualified digital apprentices and chartered IT practitioners. This is an important indicator because professional registration provides objective, independent, authoritative validation of a practitioner's expertise, competencies and ethical practice against globally recognised standards.

Another key barrier is fragmentation across the different stakeholders in society and the economy. There needs to be a clear multi-year holistic vision encompassing education, industrial strategy, business, and local government. The vision needs to result in meaningful cooperation of mayors and Local Enterprise Partnerships, and the Ministry of Housing, Communities & Local Government and Higher Education to create sustainable communities. Professional bodies, such as BCS, can help to galvanise grassroots support for such a vision, bringing together IT professionals with professionals in other sectors to help implement systemic change at a regional level.

How can government and businesses work together to identify meaningful opportunities to invest across the whole of the UK, including in the Midlands, the North and the Devolved Nations?

Government and business need to work with local communities and expert bodies in digital technologies to identify:

People Skills – Opportunities for developing the skills pipeline and ongoing professional training to ensure the workforce as a whole is digitally skilled and that key IT workers can support strategic business needs.

Especially developing an inclusive pipeline for people from all ethnicities, genders, and all social backgrounds.

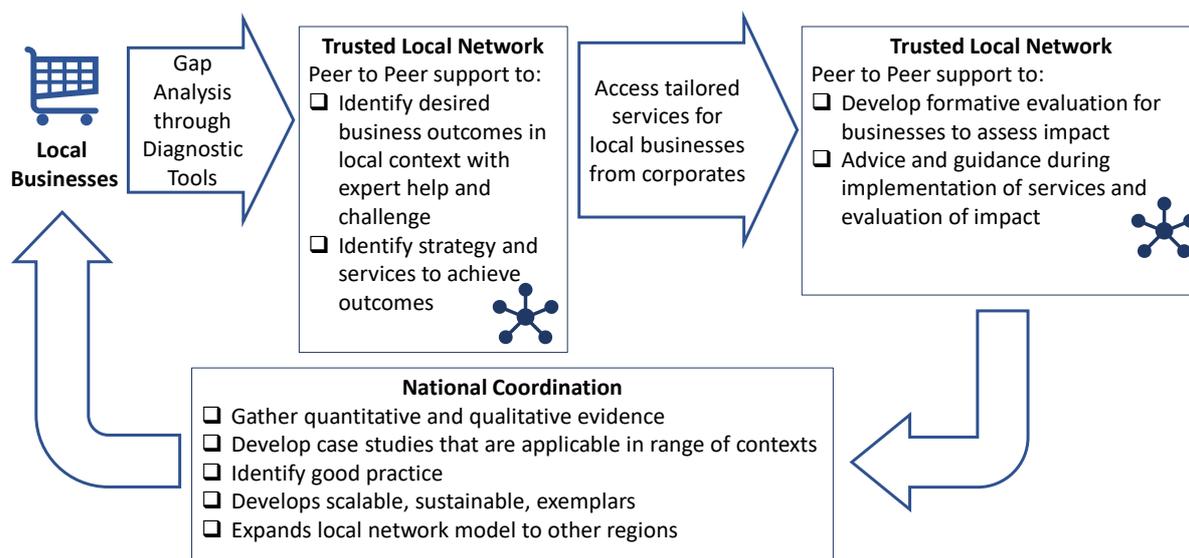
Business Models – Opportunities for public and private sector services to become based on digitally-enabled delivery.

Infrastructure – Opportunities to develop infrastructure to become sufficiently reliable, flexible and maintainable to support digitally-enabled delivery.

It is important the U.K's central government works closely with devolved nations to ensure a cohesive approach is developed that will have the greatest multiplier effect by sharing good practice and ensuring resources are strategically distributed in ways that support collaboration between regions.

How can the government work with business to strengthen local business networks and ecosystems?

The government and business can work together to create 'Trusted Local Networks'. These will be cross-sector communities of practice made up of technology, education and business professionals that provide strategic structured collaboration across local businesses to identify and build the digital technological capability necessary to aid recovery from the current economic shock of the coronavirus pandemic, but also to improve productivity and develop new business opportunities. Here's how they would operate:



What could be the single most meaningful priority for business and government to work towards in order to level up? (e.g. skills, transport, science & innovation, net-zero etc)

Supporting digital-first in all sectors of the economy, which requires digital transformation delivered by ethical, diverse, interdisciplinary teams that can successfully combine science, engineering and business practices.

This will create a major opportunity for the government and businesses to help link up existing initiatives across education, workplace training, apprenticeships, and professional development. This should build on the [Higher Technical Education review](#)⁴, the [Augar Review](#)⁵, also taking into account the introduction of T-levels, the success of digital apprenticeships and a likely shift in the HE sector caused by disruption to student recruitment.

These education initiatives should be reviewed in the context of robust local digital-first strategies, aligned to a national digital-first strategy, and supported by local government and business. Each area of the country needs to understand what business capability it has, what it could achieve through new digital-first business models, and how that could improve productivity. That provides a basis from which to develop a pipeline of talent through the education system.

There have been many initiatives to reduce inequalities and improve outcomes in deprived areas. We must reflect on what has worked for local communities and build on those.

How can the government strengthen the support provided by publicly funded economic development institutions? (e.g. the role of mayor-led combined authorities).

The government should give mayors the resources and support necessary to digitally transform public services to harness the power of digital technologies to improve their

⁴ https://consult.education.gov.uk/higher-technical-level-4-5-review-team/higher-technical-education/supporting_documents/Improving_higher_technical_education%20pdf.pdf

⁵ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/805127/Review_of_post_18_education_and_funding.pdf

reach, effectiveness, resilience, and value for money as society and the economy recovers from the pandemic.

One of the necessary resources will be grassroots support networks, such as the Trusted Local Networks we suggested above. The government can help establish and coordinate these networks in all combined authorities. Professional bodies, tech associations and a range of other stakeholders can help establish these in collaboration with other key organisations such as Local Digital Skills Partnerships for example and building on platforms such as the [Digital Boost](#) partnership.

The government should also prioritise breaking down silos and making the system less fragmented. A key component of this would be improving public sector productivity through shared, digitally enabled services. The government should also facilitate changing the terms of reference of all Public Sector Boards in a locality to make explicit that their first duty is to ensure public services provide the maximum benefit to society, including through the proactive adoption of appropriate digital technologies.

Who we are - BCS, The Chartered Institute for IT

BCS is the UK's Chartered Institute for IT. The purpose of BCS as defined by its Royal Charter is to promote and advance the education and practice of computing for the benefit of the public.

We bring together industry, academics, practitioners and government to share knowledge, promote new thinking, inform the design of new curricula, shape public policy and inform the public.

As the professional membership and accreditation body for IT, we serve over 60,000 members including practitioners, businesses, academics and students, in the UK and internationally.

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