

Smart infrastructure revolution needs investment, innovation and collaboration to succeed

The future success of the smart infrastructure revolution has reached a tipping point. But, says CSIC director Jennifer Schooling, industry collaboration is vital.



Dr Jennifer Schooling
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Topics

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In order to thrive, the construction and infrastructure sectors must follow the lead of other industries to deliver infrastructure that is fit for purpose today and for many years to come. The aerospace sector, for example, has been quick to exploit the rapid evolution of sensors and data analytics.

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This requires investment, innovation and collaboration. Funding of £18M awarded to the University of Cambridge from the UK Collaboration for Research in Infrastructure & Cities (UKCRIC) will support a new National Research Facility for Infrastructure Sensing building upon the expertise of the Cambridge Centre for Smart Infrastructure and Construction (CSIC).

CSIC's proven ability to collaboratively foster innovation and implement smart solutions in infrastructure and construction is confirmed by the announcement of a further five years of core funding from the Engineering and Physical Sciences Research

together, we all benefit"

Council (EPSRC) and Innovate UK.

This comes at a significant time for the industry. Chancellor George Osborne launched the government's new National Infrastructure Commission in October this year and, in his Autumn Statement, he pledged to boost spending on infrastructure by £12bn over the next five years. This is alongside the creation of the Infrastructure and Projects Authority, to be established on 1 January 2016, which brings together Infrastructure UK with the Major Projects Association, combining expertise with funding authority to better deliver the transformative projects and programmes that Britain's economy needs to prosper.

Innovation is key to delivering smarter infrastructure which meets the needs of the future. However, innovating in our industry is no easy task; no single organisation involved in delivering and managing infrastructure can fully realise the potential benefits offered by smart infrastructure.

In the past five years CSIC and its 40 industry partners have developed many essentials for smarter infrastructure: innovative sensors and technologies, successfully deployed on some of the largest infrastructure projects in the UK; using data to develop whole-life, value-based decision-making frameworks for asset management; and looking at how infrastructure investments bring value to cities and communities.

Dialogue with CSIC industry partners and collaborators has highlighted four key challenges to delivering smarter infrastructure and the benefits it brings:

- integrating initial building blocks into complete solutions
- building industry confidence in solutions
- demonstrating the business case for investment in smart infrastructure solutions where benefits tend to take time to be recouped.
- building up the supply chain and creating a roadmap for Smart Infrastructure Standards to give clients confidence in smart infrastructure solutions.

Over the next five years CSIC is keen to increase its industry reach and support the UK to become a world leader in the fields of sensing technologies, asset management and smart city development.

Collaboration will be key to success. CSIC has begun working with industry bodies including the Construction Leadership Council (CLC) and the Institution of Civil Engineers (ICE) to unite the industry in smart innovation.

There is more yet to be done. As an industry we must continue to break down barriers and engage at all levels to foster innovation, placing it at the heart of infrastructure planning. No one organisation can do this alone. If we work together, we all benefit.

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