



The Royal Academy
of Engineering



vodafone

Lecture series in Mobile Telecommunications and Networks

The engineering of intelligent transport systems and services

Professor Brian Collins FEng
Chief Scientific Adviser to DfT & BIS

Tuesday 1 June 2010
6.00pm for 6.30pm

3 Carlton House Terrace, London SW1Y 5DG



The engineering of intelligent transport systems and services



Brian Collins FREng

The technology that contributes to intelligent transport systems and services (ITSS) has now reached a level of maturity that permits consideration of real national-scale applications. The drive to reduce carbon emissions from transport, whilst at the same time reducing congestion, preserving individual freedom of choice to travellers and reducing costs of transport infrastructure, means it is now feasible for engineering solutions to deliver on these objectives.

For some decades components of ITSS have been developed and trialled in isolation and only in recent years has some level of systems integration occurred. Examples include:

- Satellite navigation systems that initially only provided route planning but now exploit mobile data services to provide incident avoidance and local 'features of interest' information.
- Variable speed limits, first attempted to smooth traffic flow on major highways, now augmented by active traffic management to allow the use of hard shoulders at peak times to provide additional capacity dynamically.
- ERMETS on railways, promising dynamic use of the space on the rail asset and thereby improving throughput without sacrificing safety.
- Collision avoidance sensors in cars, permitting safer driving in congested situations.

These advances now need to be systematically examined for potential economic and social value to ensure that investment in them is proportionate and well-evidenced. Developments in test facilities will allow this, as will collaboration between a wide range of actors, be they automobile manufacturers, road designers, mobile service providers, rail system engineers or information system integrators.

Communities are now forming to take this work forwards both nationally and internationally, and innovation is being supported both by government and industry. Engineering high quality solutions is vital to the success of achieving the vision of an intelligent transport infrastructure that meets the social, economic and low carbon objectives.

Professor Brian Collins FREng

Professor Collins became Department for Transport's (DfT) Chief Scientific Adviser (CSA) in October 2006, the CSA for Business Enterprise and Regulatory Reform (BERR) in May 2008 and CSA for Business Innovation and Skills (BIS) in June 2009. He is also Professor of Information Systems at Cranfield University. He was elected a Fellow of The Royal Academy of Engineering in 2009.

His role at DfT and BIS is to ensure that the department's scientific and technological activities are well-directed and that investment policy is based on good analysis of the underlying science, technology and engineering. He is a member of the Government's Chief Scientific Advisers Council, which has oversight of all UK Government science technology and engineering. He has a special interest in information exploitation in modernising national infrastructure, particularly in transport and energy. He was CIO of Clifford Chance, IT Director of the Wellcome Trust and Chief Scientist at GCHQ. He is a physics graduate of Oxford University, and holds a doctorate in astrophysics from the same university.

The engineering of intelligent transport systems and services

Chair Professor Mike Walker OBE FEng, Vodafone Group R&D

Programme 6.00pm Registration

6.30pm Lecture and Q&A session

8.00pm Drinks reception

9.00pm Close

For further information on the lecture series please visit www.raeng.org.uk/events

Registration Form

Tickets

Please note you must reserve tickets for the lecture.

I wish to reserve ticket(s) for the lecture and reception

Title _____ First name _____ RAEng Fellow

Surname _____ Honours _____

Position _____

Organisation _____

Address _____

Postcode _____

Telephone _____ Email _____

Guest

Title _____ First name _____

Surname _____ Honours _____

Position _____

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The Royal Academy of Engineering promotes excellence in the science, art and practice of engineering.

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