

## Philip Graham (National Infrastructure Commission) – Building a National Infrastructure for Growth when choices are running out

### Abstract

The UK's National Infrastructure Commission (NIC) was set up as an independent body to recommend and help priorities long-term infrastructure projects to government. Looking 30 years ahead across the key sectors of economic infrastructure – energy, transport, water supply, waste, flood defences, digital and broadband – the NIC provides an assessment of the UK's infrastructure needs. Recent conversations with industry on new technologies that have the greatest potential for improving the productivity of the UK infrastructure has concluded that the Digital Twin has great potential to deliver these benefits.

- The National Infrastructure Commission (NIC) has been in existence for 18 months
- Make independent recommendations to government on infrastructure decisions – long-term decisions during short parliamentary cycles
- The challenges for infrastructure are growing and becoming more complex
- The committee is looking at the long-term perspective, similar to what Australia has done
- There are physical challenges that need to be overcome despite fiscal restraint – some projects will need to be prioritised over projects
- Within the UK the knowledge of infrastructure supply is very primitive
  - Much of that is linked to the privatisation of infrastructure and the lack of information about assets
- There is also little information available on infrastructure performance which makes its assessment impossible
  - What we know evolves around what we spend on it and what the customer feedback is
- Knowledge about the geographical location of assets is poor
  - For example: no one holds information about where the fibre network is
  - To take advantage of new technology available we need this information/data
  - Crucial for decision making
- The committee has published studies on infrastructure challenges:
  - Smart power
    - More flexibility in the energy system is needed to meet long-term carbon challenges
    - Storage facilities need to be located in the right place – geography crucial factor for planning decisions

- Connected Future
  - To enable 5G knowledge of the location of the fibre network is important but the information doesn't exist
- The committee is also concerned with questions that are not primarily geographical
  - These include questions around efficiency, productivity, and data
- The latest study is looking into what new technology has the greatest potential to increase productivity over the next 20 to 30 years
  - At the heart of the study is the availability, quality and comprehensiveness of data
  - Initial findings show that in order to better balance demand and supply, information on asset conditions and asset location need to be combined
  - Conversation with industry has highlighted that a possible answer is the creation of a 'digital twin'
- Internationally other countries are ahead of the UK
- The lack or poor quality of data is the factor holding back infrastructure