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Infrastructure and urban systems as drivers of equity, inclusion and social justice



UK COLLABORATORIUM FOR RESEARCH ON INFRASTRUCTURE & CITIES
Inspired infrastructure for better living

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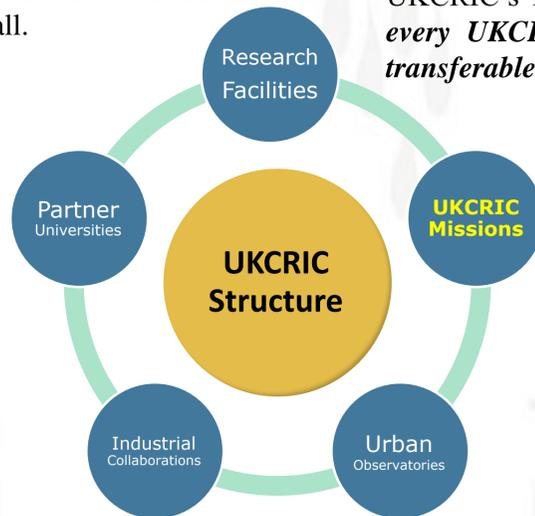
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UKCRIC - A Family of Interlinked Partner Institutions and Adjoining Facilities

UKCRIC is *transforming infrastructure and cities research and development*. Its vision is to connect policy and practice with internationally leading, systems-based transdisciplinary research for the transformation of infrastructure and urban systems to enable safe, resilient and sustainable living, and to generate wellbeing and prosperity for all.

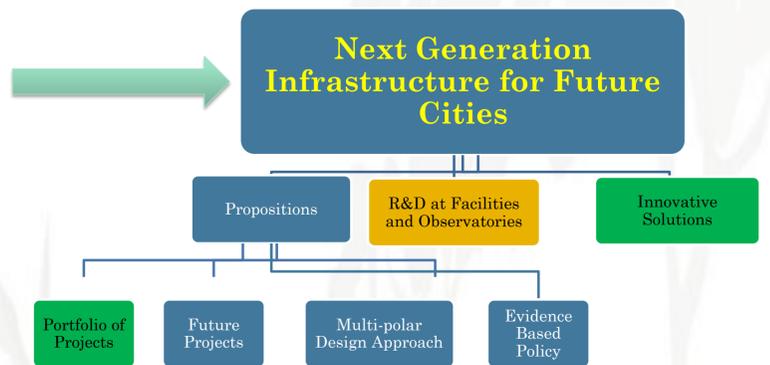
Its mission is to use its *integrated research facilities* to underpin the renewal, sustainment and improvement of infrastructure and cities in the UK and elsewhere.

By *engaging academia, government, industry and end users, UKCRIC de-risks*, helps to prioritise, and provides evidence, analysis and innovation for infrastructure and urban investments for a safer, more resilient and more sustainable future.



UKCRIC's work is guided by *four scientific missions that promote resilience, sustainability, liveability and good governance*.

UKCRIC's facilities are commissioned individually or in combination and *every UKCRIC project aspires to become an 'observatory' from which transferable lessons/solutions can be learnt to enhance future projects*.



UKCRIC Unique Capabilities

UKCRIC offers two primary advances in delivering infrastructure and urban systems interventions:

- the ability to deliver a far more extensive range of benefits than has traditionally been achieved, and;
- far better identification of the likely consequences of the intervention to help de-risk decision-making and investments.



UKCRIC Facilities, Observatories and Data Analytics & Simulation

- We propose that *every infrastructure and urban system project should become an 'observatory'* from which lessons are learned throughout the design, construction and operational phases.
- This *requires unprecedented degrees of agility, trust and buy-in* from all those involved, and new forms of contract and governance, to provide support and confidence to decision-makers.
- UKCRIC's *collaborative model and convening power across multiple sites and establishments* can mobilise world-class research to tackle these complex, systems-level challenges.
- UKCRIC is *uniquely positioned to accelerate our contribution to national goals* through advanced research on all aspects of the nation's infrastructure.

UKCRIC Addressing Global Challenges

As UKCRIC grows in stature, outreach and impact in *response to evolving national and global priorities*, we will adapt our own structures and governance to match our ambitions in order to advance *world-class research applied to real-world problems*, and to provide decision support for the reshaping of our infrastructure systems so that they work for both people and the planet by:

- Investing in *considerable research and development which will be needed to deliver* the required technological, economic, governance, and business model innovations to global infrastructure challenges;
- UKCRIC will need to *develop improved understandings of the interdependencies between infrastructure systems* and the communities they serve;
- *Global challenges span multiple areas of society*, have no single owner, and cannot be effectively addressed by focusing on traditional industrial sectors or single knowledge generation disciplines;
- As UKCRIC transitions into its operational phase in 2022, it *remains committed to enabling a step change in the performance of the UK's and global cities* and its infrastructure systems and to creating positive generational impacts.



Visualisation of the Interlinked UKCRIC Facilities and Observatories

The primary outputs from UKCRIC's investments – the data intensive science of structures, processes, behaviors, and interactions – provide a world-leading advance in capacity and capability to *engineer city solutions more effectively*.