

Living Lab



Transport Infrastructure Efficiency Strategy

TIES LIVING LAB PROGRAMME

Information Paper 1

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tieslivinglab.co.uk



INTRODUCTION

TIES Living Lab is a transformative collaboration of 25 partners together with Government, i3P and the Construction Innovation Hub that use data, technology and Modern Methods of Construction within live transport infrastructure projects to deliver significant value-adding benefits across the transport infrastructure sector. The programme is funded via a grant from Innovate UK through the Transforming Construction programme, plus contributions from the Department for Transport, HS2, Transport for London, Network Rail and Highways England. The Programme comprises 11 working projects, a mix of infrastructure projects, data research projects and the development of digital tools overseen by three steering groups representing the client organisations.

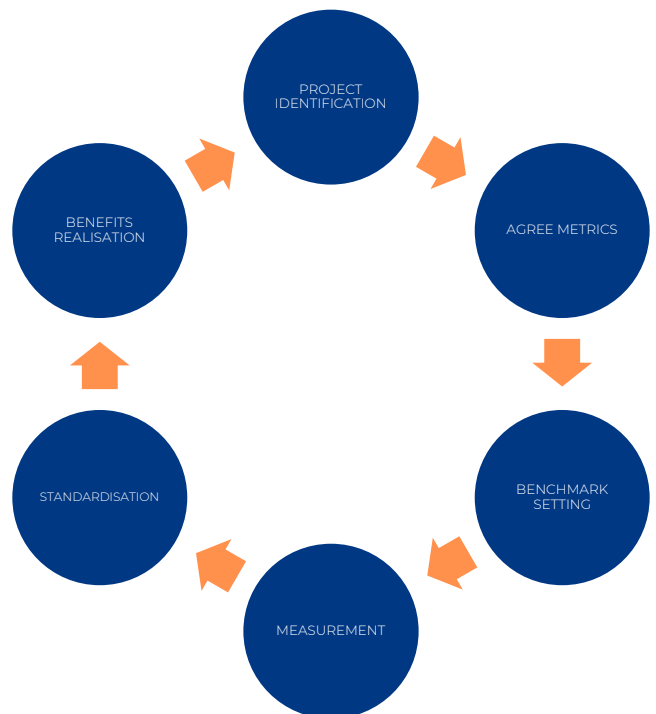
OBJECTIVES

The Living Lab programme seeks to drive four strategic outcomes:

1. Improve the way Transport Infrastructure projects are set up to maximise value
2. Achieve better assurance of project and programme value and what assets should cost (benchmarking)
3. Accelerate the wider adoption of MMC
4. Establish the TIES Living Lab as a catalyst for long term cultural change across sectors by making a compelling case for long term HM Treasury funding to scale this facility.

THE LIVING LAB PROCESS

1. Identify assets whose whole life value might benefit from modern methods of working
2. Agree metrics for measuring changes in whole life value
3. Establish baseline benchmarks
4. Capture data to provide measurement through the life of the project
5. Establish scope for standardisation and cross client procurement
6. Feedback results to continuously improve procurement of these assets
7. Identify further opportunities.





THE LIVING LAB PROJECTS

DATA RESEARCH PROJECTS

1. Metrics, Benchmarking and Repository
2. AI for Data Mining
3. Identifying drivers of project performance

DEMONSTRATOR PROJECTS

4. MMC Footbridges – Network Rail
5. MMC Modular Equipment Room – Transport for London
6. Cable Route Management System Automated Design – Transport for London
7. Cooling Panels – Transport for London

DIGITAL TOOLS

8. Intelligent Infrastructure Construction Centre
9. Advanced Logistics
10. Social Value Transport Infrastructure Calculator

TIES STEERING GROUPS

1. Cost and Performance Benchmarking - coordinating and aligning the delivery of benchmarking activities across the Living Lab sector.
2. Modern Methods of Construction - implementing/exploiting digital technologies and standardised assets that enable the adoption of best practice from the manufacturing.
3. Standards Harmonisation - harmonise standards across Living Labs partners to drive efficiency and innovation.

THE TIES CHALLENGES

The projects should demonstrate that Living Labs has supported the Ties challenges

1. Judge strategic choice and trade-offs
2. Improve the way we set up our projects
3. Create a transport infrastructure performance benchmarking forum
4. Establish a common approach
5. Promote long term collaborative relationships
6. Challenge Standards
7. Exploit digital Technologies and standardise our assets

LIVING LAB PARTNERS

The 25 partners are:

- NSAR Ltd,
- Bryden Wood Technology Ltd,
- Costain Ltd,
- Office for National Statistics,
- Whole Life Consultants Ltd,
- Accelar Ltd, Network Rail Infrastructure Ltd,
- Kier Construction Ltd, Akerlof Ltd,
- X-Treme Systems Ltd,
- Expedition Engineering Ltd,
- Walker Construction Ltd,
- Royal Institution of Chartered Surveyors,
- Strategic Rail Consultants Ltd,
- The Manufacturing Technology Centre Ltd,
- Social Profit Calculator Ltd,
- Powercube Ltd (Part of the Mavin Group),
- Department for Transport,
- HS2 Ltd, Transport for London,
- Highways England Ltd,
- East West Railway Company Ltd,
- University of Dundee,
- University of the West of England,
- University of Leeds.

FURTHER INFORMATION

tieslivinglab.co.uk

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The four strategic outcomes of the collaboration are to:

1. Improve the way Transport Infrastructure projects are set up to maximise value
2. Achieve better assurance of project and programme value and what assets should cost (benchmarking)
3. Accelerate the wider adoption of MMC
4. Establish the TIES Living Lab as a catalyst for long term cultural change across sectors by making a compelling case for long term HM Treasury funding to scale this facility.



Programme Management services from Limberger Associates

