ADEPT LIVE LABS

ADEPT SMART PLACES LIVE LABS PROGRAMME

Monitoring & Evaluation
ADEPT Autumn Conference

Monitoring and Evaluation

Karen Farquharson

Proving Services

Key Objectives of Monitoring & Evaluation Framework

- Share and disseminate learning across the programme and the wider ADEPT membership, including to:
  - Help identify where synergies across the programme may deliver improved outcomes.
  - Identify and reduce any duplications of effort and associated cost.
- Help capture, monitor and assess the key learning & benefits (both quantitative & qualitative) to be realised from the research.
- Quickly identify where intervention and support are required.
- Help identify the future service, social, economic and commercial opportunities derived from the research.

Monitoring Schedule

- **Research Project Initiation (**December 2019 / January 2020)
  - Includes an assessment of knowledge sharing opportunities.
  - Includes options for research projects consolidation.
- **Waypoint #1: Progress & Performance Review** (April / May 2020)
  - Implementation & Early Indicators Review & Assessment
  - Includes benefits realisation, achievability risks & options for research projects consolidation.
- **Waypoint #2: Progress & Performance Review** (November / December 2020)
  - Research Case Analysis & Lessons Learnt
  - Re-weighted to focus on the veracity of the data and findings to support benefits realisation.
- **Waypoint #3: Research Findings Review** (April / May 2021)
  - Research Applications Assessment
  - Includes economy impact assessments, commercial and partnering opportunities.

Research Evaluation Factor Set

ATTRACTIVENESS

1. Learning Objectives Clarity
2. Strategic Alignment & Contribution
3. Benefits Analysis & Certainty (Including Dis-Benefits)
4. Constraints Analysis & Certainty
5. Scalability & Flexibility of Project
6. Providers & Partners
7. Stakeholder Support & Sponsorship
8. Consistency & Coherence

ACHIEVABILITY

1. Complexity (Inherent Risk Management)
2. Governance & Accountability
3. Partner Management
4. Resources Competence & Capacity
5. Clarity & Perception (Communications Strategy)
6. Alternatives Certainty
7. Future Affordability & Transferability

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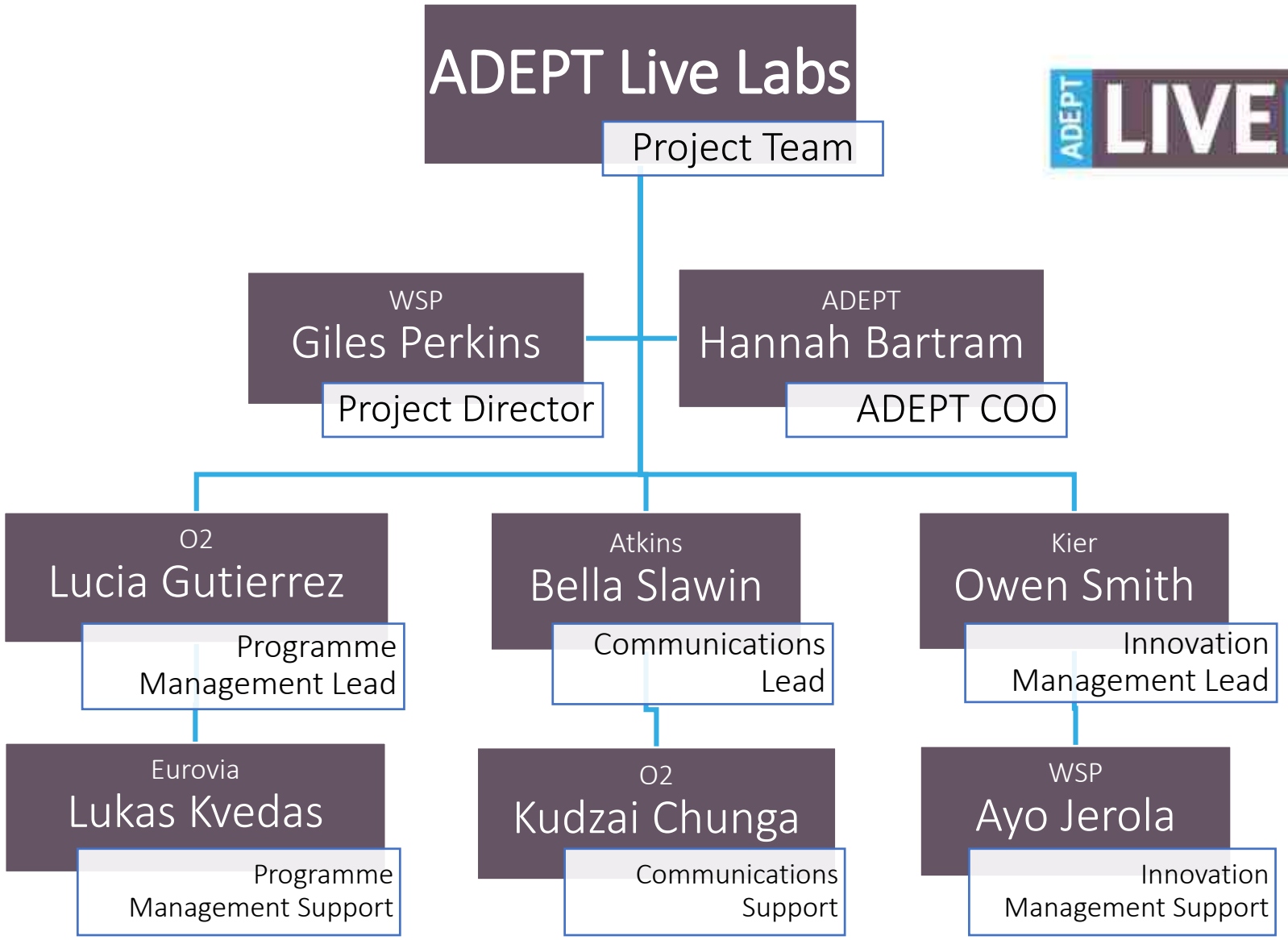
The Project Team

Giles Perkins, Hannah Bartram

WSP, ADEPT


ADEPT Live Labs
Project Team
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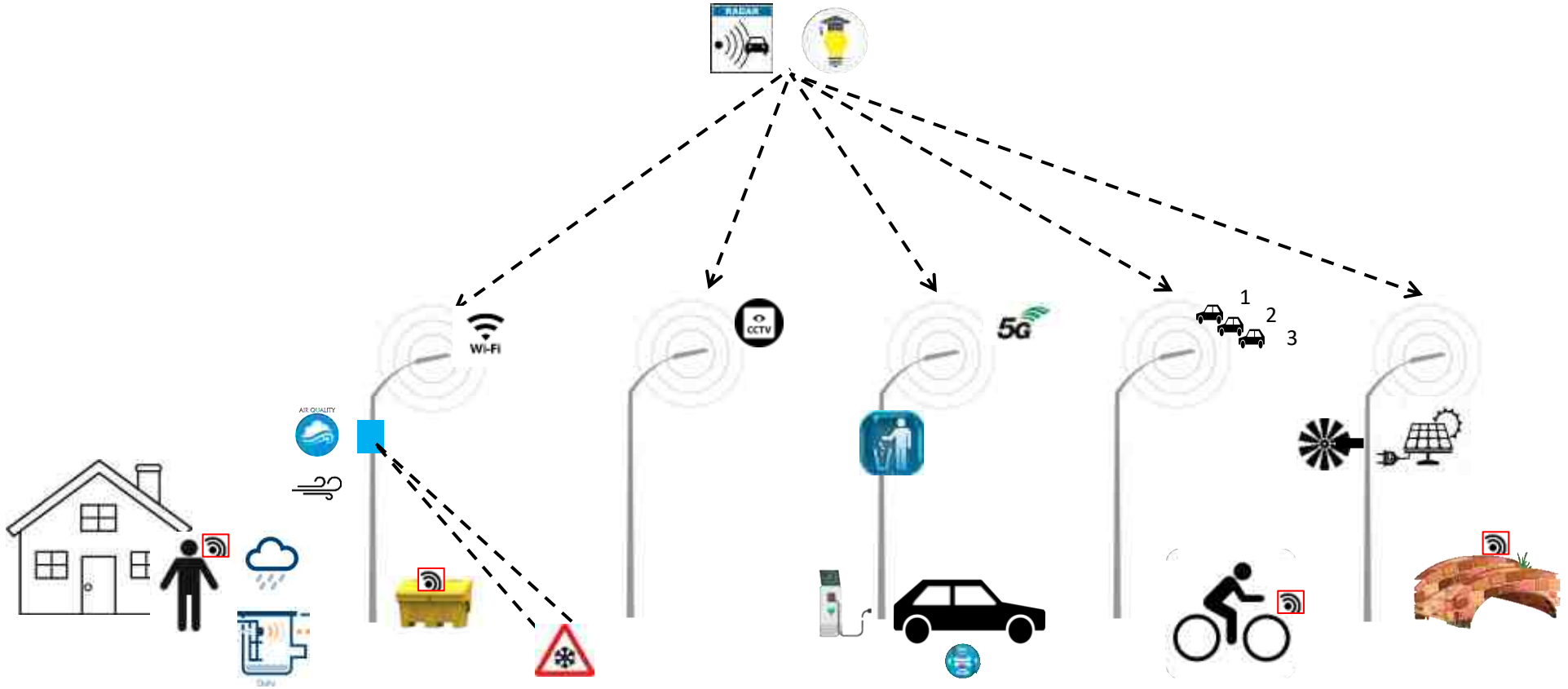
Programme Management Lead
Atkins
Bella Slawin
Communications Lead
Kier
Owen Smith
Innovation Management Lead
Eurovia
Lukas Kvedas
Programme Management Support
O2
Kudzai Chunga
Communications Support
WSP
Ayo Jerola
Innovation Management Support

A Smarter Suffolk

Mark Stevens

Suffolk Highways

A social infrastructure asset…

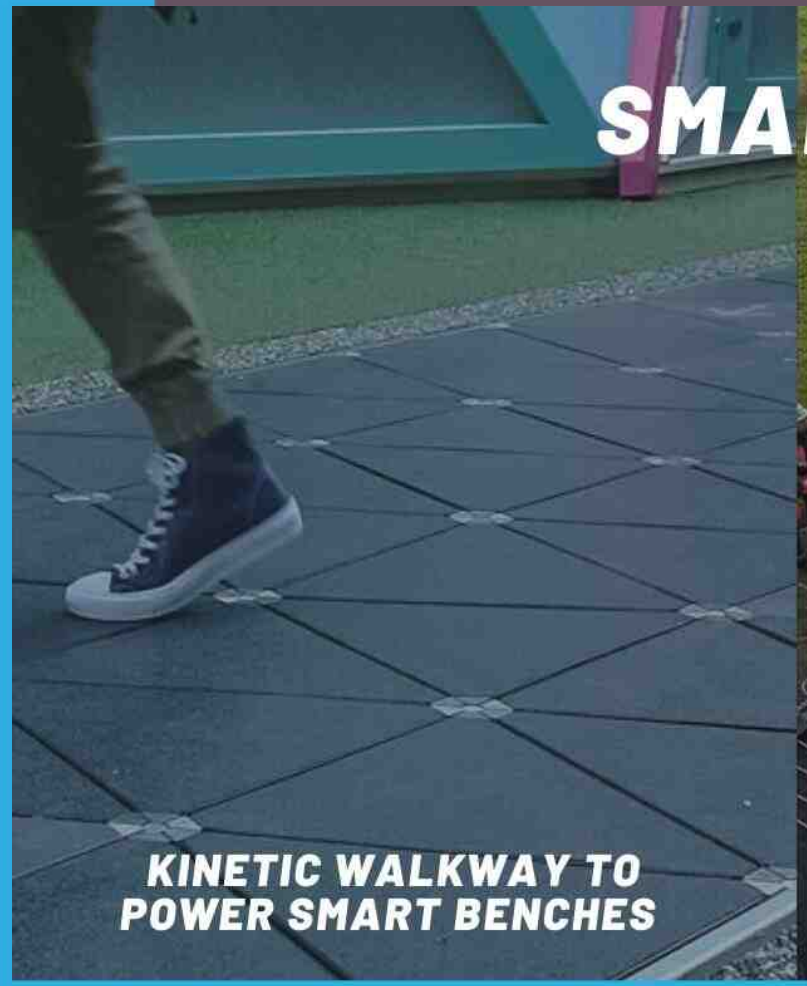


Power Roads

Jade Jones

Central Bedfordshire Council

SMART ENERGY LIVE LABS



KINETIC WALKWAY TO POWER SMART BENCHES

DE-ICING SOLUTION FOR HEATED CAR PARK

SOLAR SURFACING TO LIGHT OFFICES

CENTRAL BEDFORDSHIRE COUNCIL

Central Bedfordshire

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WWW.CENTRALBEDFORDSHIRE.GOV.UK

Keeping West Midlands Moving

Deborah Fox

Transport for West Midlands

Constituent Authorities and Investment Programme

Transport for West Midlands

Birmingham City Council

Coventry City Council

Sandwell Metropolitan Borough Council

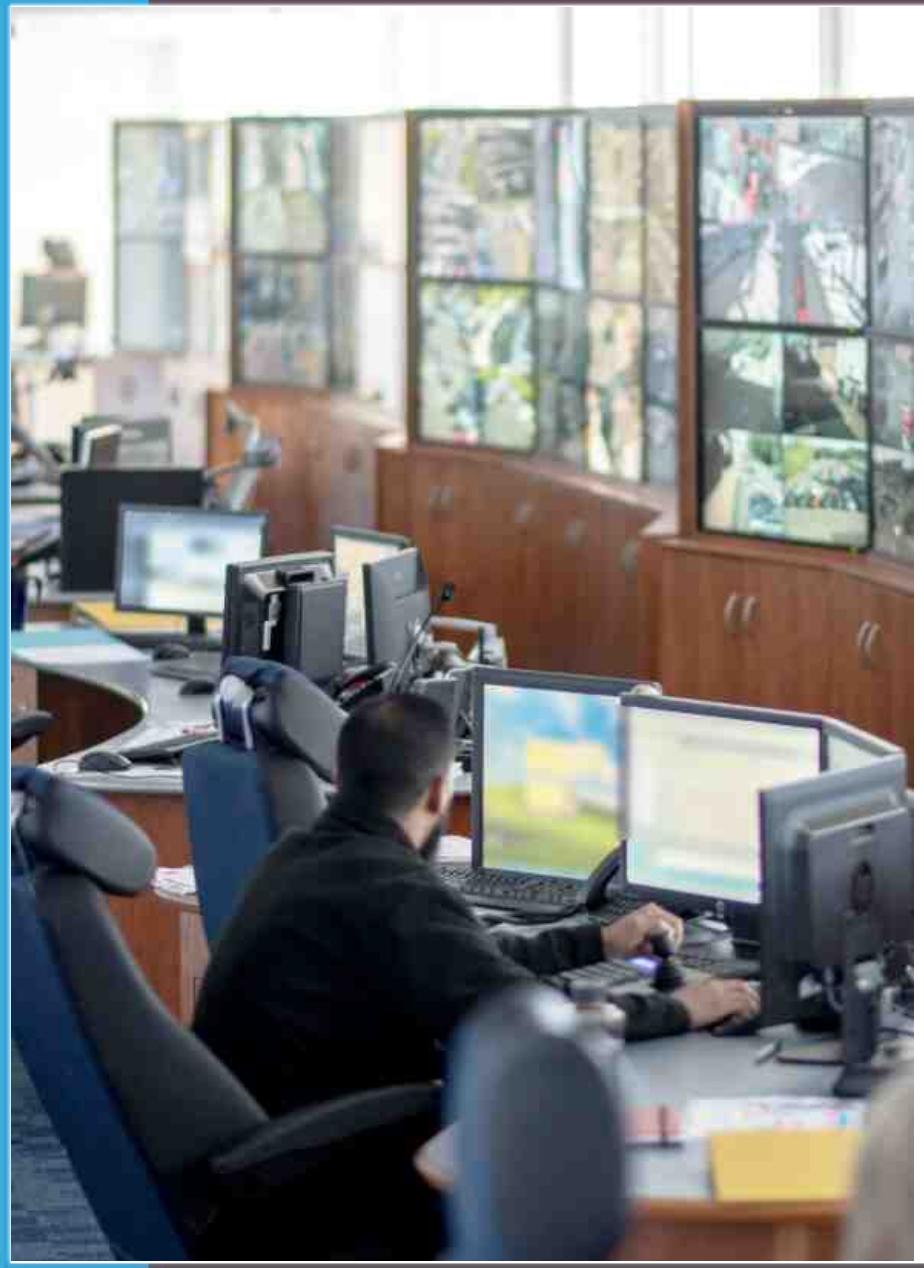
CITY OF WOLVERHAMPTON COUNCIL

Dudley Metropolitan Borough Council

BIRMINGHAM 2022
XXII COMMONWEALTH GAMES

Walsall Council

Solihull Metropolitan Borough Council



Transport for West Midlands

Network Resilience Live Lab

Our Live Lab is contributing to developing the operational capability of the Regional Transport Coordination Centre (RTCC) and its evolution through innovation.

If the pilot is successful, the anticipated long-term benefits will be:

- better car journeys
- improved health
- personalised travel planning through learned patterns of travel behaviour.

Contact:
Deborah.fox@tfwm.org.uk

Network resilience evolution through innovation…

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Data and testing

Fixed asset operations

Granular personas

Learning and feedback loops

…growing our capability from monitoring the network to machine learning and helping people to Plan Ahead and Keep Moving

Transport Systems Living Live Lab

Louise Clayton

Staffordshire

The Staffs Live-Lab will be incubating SMEs in response to challenges around two emerging issues:

1. How can we use future interconnected ‘Mobility Hubs’ to solve rural transport problems?

2. How can we create sustainable clean air zones from existing AQMAs?

1

How can we use future interconnected ‘Mobility Hubs’ to solve rural transport issues?

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Proposed Location

Mobility Hub Feasibility Study

Challenge-based Incubator & trialling

- DEMAND RESPONSIVE TRANSPORT
- SUSTAINABLE AND SHARED TRANSPORT
- TRANSPORT PLANNING

2 How can we create sustainable clean air zones from existing AQMAs?

Proposed Location

SCHOOL AQMA

INTERSECTION AQMA

TOWNSHIP AQMA

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Pre-deployment of pervasive Air Quality monitoring network

Challenge-based Incubator & trialling

- CLEAN AIR SCRUBBING AND ABATEMENT
- ITS AND CONGESTION MANAGEMENT
- BEHAVIOURAL CHANGE AND MODAL SHIFT

Creating a SMART Connected Community in Aylesbury Garden Town, Bucks

Luciano Lopes

Buckinghamshire

SMART materials

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BUCKINGHAMSHIRE COUNTY COUNCIL

iDAPS - illuminated data access points

- Composite Materials – increased operational hours & passively safe.
- 3D Printed adornments will allow bespoke elements to be included in the build.
- 3D Printed illuminated bollards.

SMART communication

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Central Management System

- Real time data management and commercialisation through our CMS system.
- Greater Control of Highways Asset and additional data types such as air quality, noise and temperature.
- Enhanced Social Inclusion and Safeguarding for vulnerable adults.

SMART energy

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Energy Generation and Storage

- Solar & Wind – Traditional, non-traditional and the avant-garde.
- Kinetic Energy Generation from roads creating forms of revenue from our assets.
- Energy Storage – Storing energy generated to power street furniture.

SMART mobility

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Sustainable and Eco friendly Travel, but who pays for the last mile?

- CAV Study - How to create a blueprint for suburban areas.
- Docked E-Bikes. Connecting the last mile.

Developing the use of plastic roads on the local network

Peter Clay

Cumbria

What is the aim of the Live Labs Project?

- Is using plastic in roads affordable and environmentally sustainable?
- Does plastic in roads improve the life cycle and quality of the roads?

How will the project do this?

- Compile and review existing information from all Local Authorities and laboratories
- Continue surfacing trials looking at construction design changes
- Investigate the business case of local authority circular economy of waste to roads.

Partners

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electricity north west
Bringing energy to your door

Cumbria County Council

CUMBRIA WASTE GROUP

GALLAGHER

LGC Awards 2020 FINALIST

Highway Asset Data-led Management System (HADMS)

Carol Valentine

Kent County Council

Integration of existing data sources

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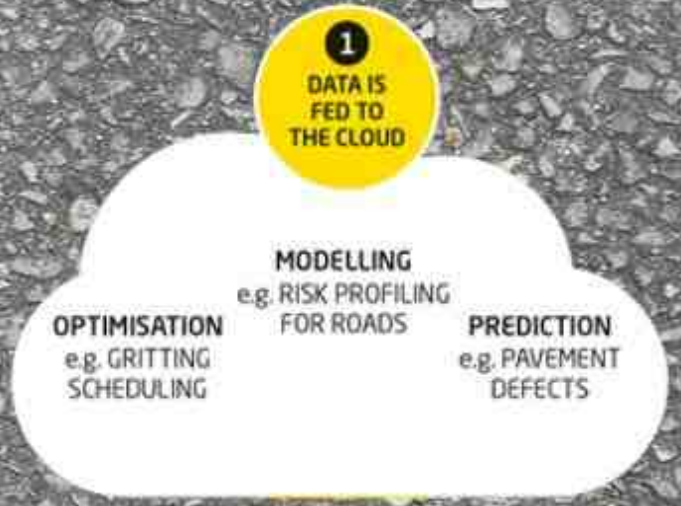
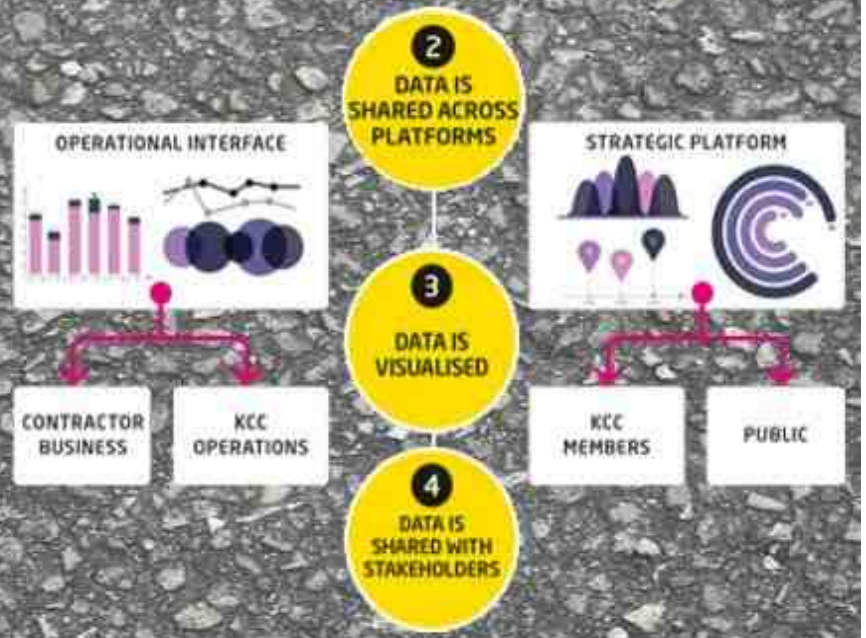
Asset Management

Works Management

Vehicle Data

Sensors Imagery Drones





Trailing of cutting edge SMEs

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ADEPT

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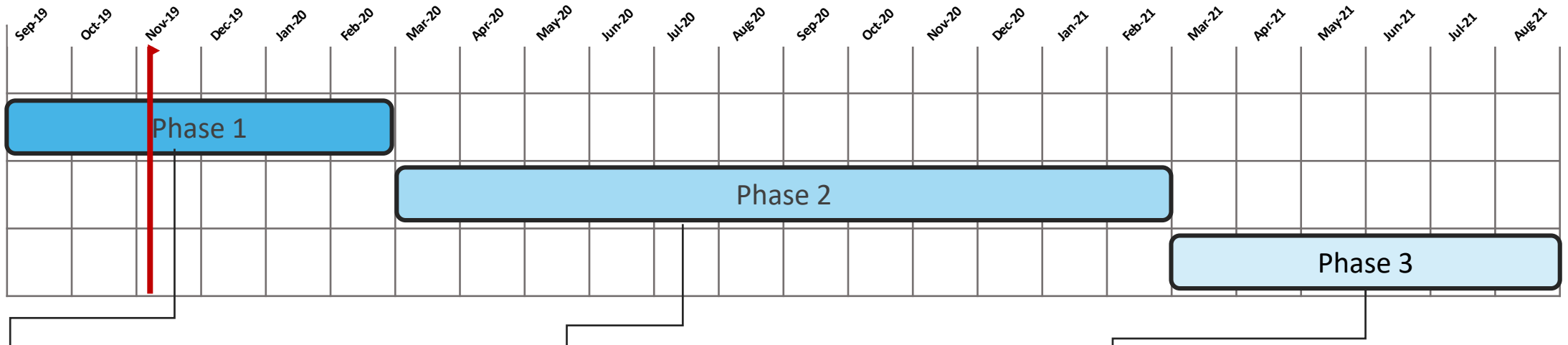
3-phase delivery



1 Innovation Discovery & Platform Development

- Data exploration and establishing benefits cases
- Platform architecture and prototyping
- Market research and supplier engagement
- Implementation of 'Quick Wins'

2 Trials and innovation implementation

- Further platform development
- Major innovation workstreams
- Benefits realisation of quick wins
- Facilitate business process changes

3 Business Transformation & Evaluation

- Implement business change
- Agile platform refinement
- Establish performance measures
- Embed enduring support model

Progress so far

73 innovations identified through:

- Stakeholder Engagement
- Business Process Analysis
- Data Exploration
- Supplier Evaluation

Workstreams from innovations

- Winter
- Draining
- Lighting
- Network risk
- Works processing
- Road surface
- Traffic management
- Trees and vegetation
- Air quality

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Innovation Categorised

- **Phase 1 –** no hardware or significant analytic requirements
- **Phase 2 – Third party technology trials –** trailing of third-party solutions, deliverable within
- **Phase 3 –** development of analytical tools/models/machine learning algorithms, deliverable within

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Thames Valley Living Lab

Simon Beasley

Reading


ADEPT LIVELABS
Energy
Air quality and exposure
Traffic flow
A4
Potholes
Health
Bracknell Forest Council
smarter grid solutions
University of Reading
Slough
shoothill
Thames Valley Berkshire
West Berkshire
WOKINGHAM BOROUGH COUNCIL
pba
Stantec
O2
SIEMENS
Wokingham
Reading Borough Council

The Thames Valley Berkshire Live Lab

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Innovation driven

Communication experts (O2)

A4

Large scale (urban and rural, over 6 Local Authorities)

Scale up – power of O2 and Siemens

Citizen focussed

Bracknell Forest Council · smarter grid solutions · University of Reading · Slough · shoothill · Thames Valley Berkshire · West Berkshire · WOKINGHAM BOROUGH COUNCIL · pba · Stantec · O2 · SIEMENS · Wipro · Reading

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Department for Transport

SNC·LAVALIN

ATKINS
Member of the SNC-Lavalin Group

EY

KIER

O2

RINGWAY

WSP

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