smart
CAMBRIDGE
Solutions for the city and beyond

Collaboration

Anglia Ruskin University

appyparking
ONE PLACE FOR EVERY SPACE

AQMesh

bsi.

CCS

CAMBRIDGE CLEANTECH

cdbb
Centre for Digital Built Britain

Cambridge Network

CW CONNECTING THE DIGITAL WORLD

everynet

GeoSpock
Uncharted discoveries

ito world

RDM GROUP

Microsoft Research

Telensa
making brighter cities

UNIVERSITY OF CAMBRIDGE

VIVACITY

WND

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Sustainable solutions

City as a Platform

Data
Visualisation & Modelling
Analysis
Platform
Standards & Ethics

Sensors
Air Quality
Mobility sensors

Connectivity
IoT Connectivity

Projects that contribute to improving the management of the city through controlled sharing of data and improving collaboration.

Intelligent Mobility

First/Last Mile
Demand Responsive Transport
Autonomous Vehicles

Network Management
Kerbside Management
Local/Strategic Network management

Customer Experience
Behaviour change
Mobility as a Service
Ticketing and Payments

Investigating ways that emerging technology can support the city to reduce congestion and improve mobility for residents and visitors.

Enhancing Communities

New Communities
Planning process
Monitor & Measure
Smart Communities

Existing Communities
Smart Market Towns
Connectivity
Delivery of services
Engagement

Engaging with communities to understand local challenges and evaluate how data and technology can offer solutions and enhance the community.

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Carbon Emissions

Cambridge City Council declares climate emergency

By Mike Scialom - mike.scialom@iliffemedia.co.uk

Published: 12:56, 22 February 2019 | **Updated:** 12:56, 22 February 2019

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Extinction Rebellion outsi

Climate emergency declared by South Cambridgeshire District Council - but one councillor votes against it

By Ben Hatton, Local Democracy Reporter

Published: 09:42, 04 December 2019 | **Updated:** 10:15, 04 December 2019

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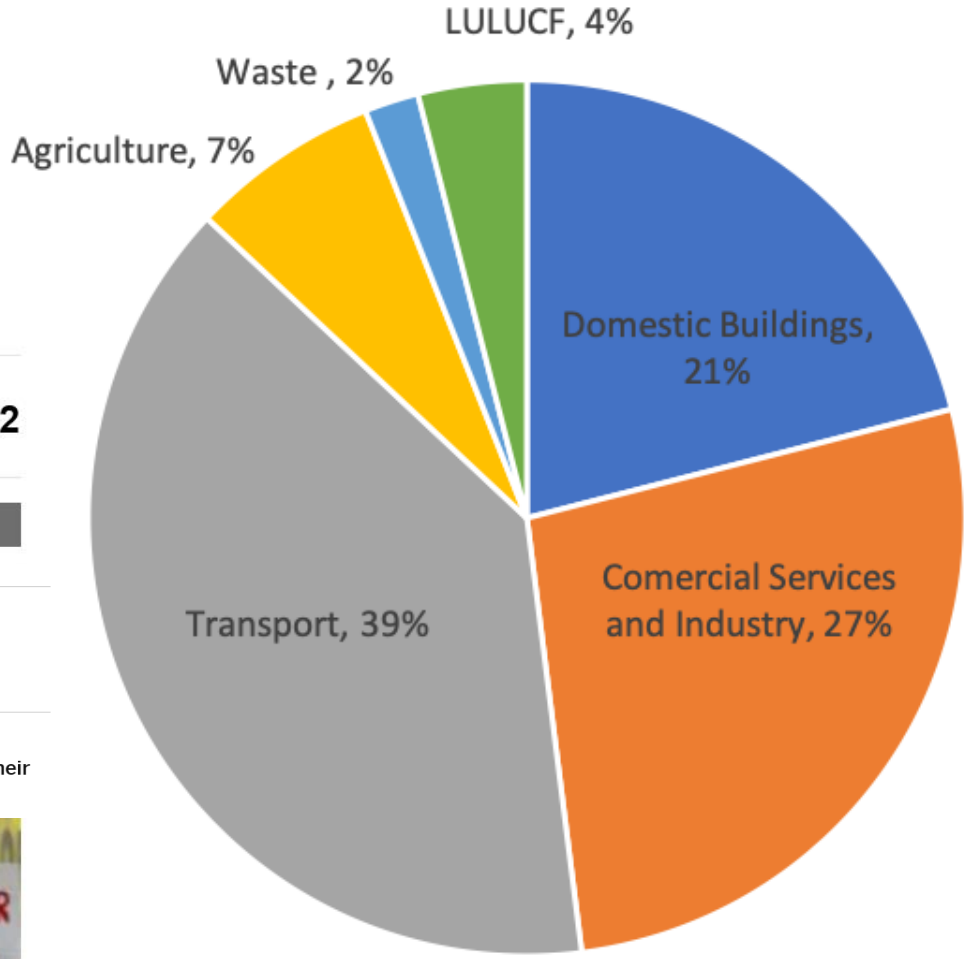
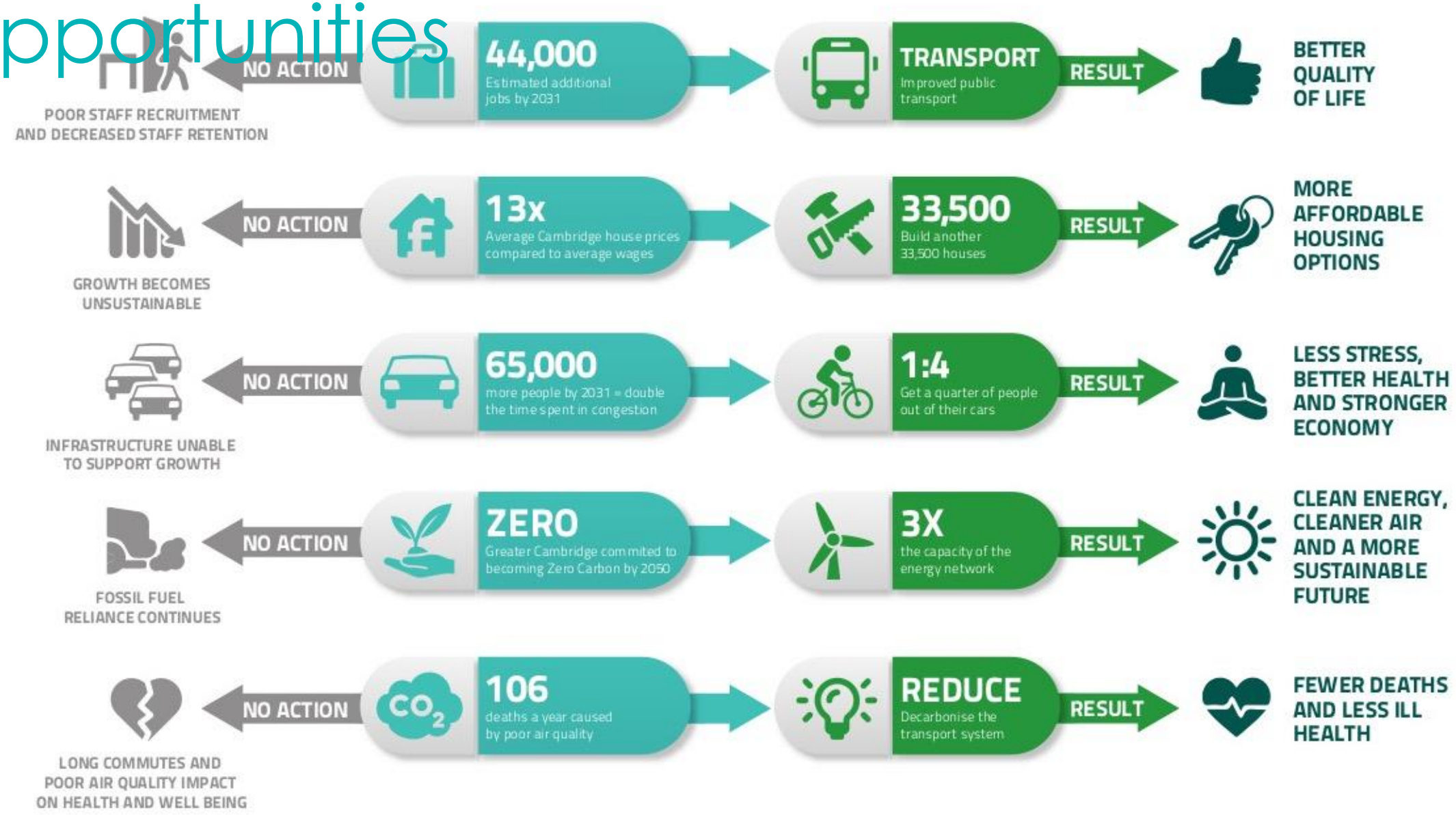
Joint Cambridgeshire local plan to target zero carbon emissions by 2050

6 December 2018 by Michael Donnelly

Two Cambridgeshire councils have committed to cutting their local carbon emissions to zero by 2050 through their future joint local plan.

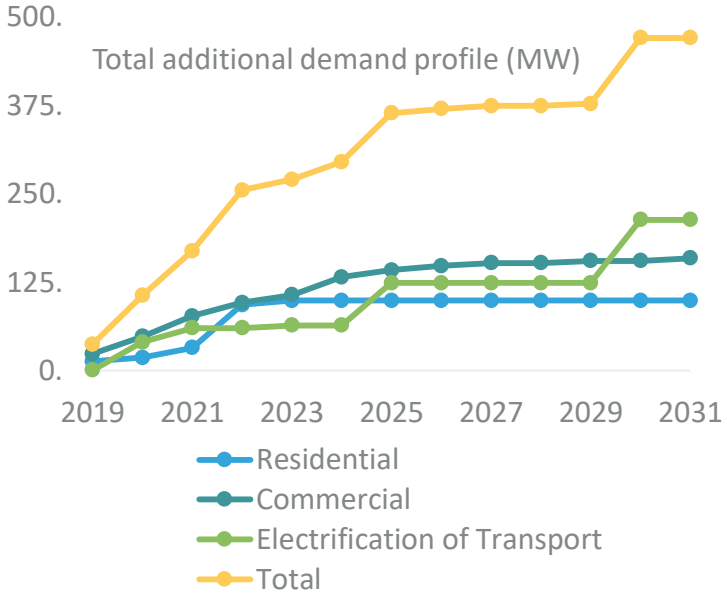


Challenges and opportunities

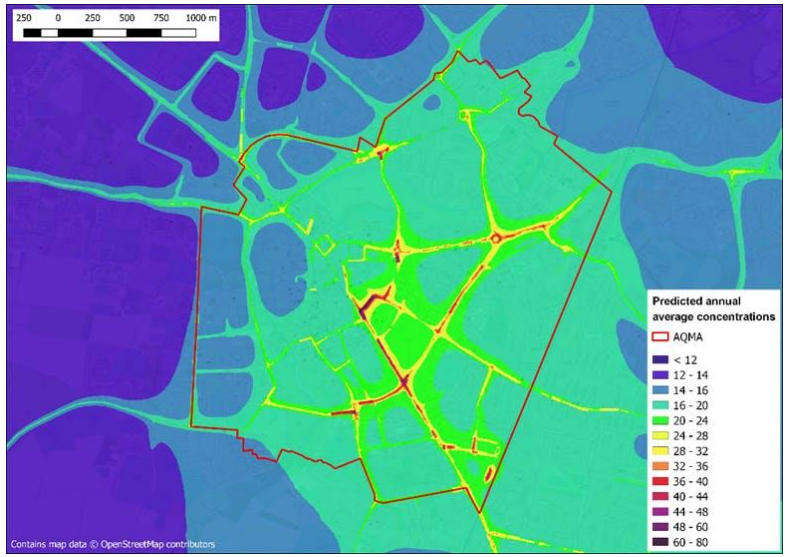


Decision making tools – models

Transport

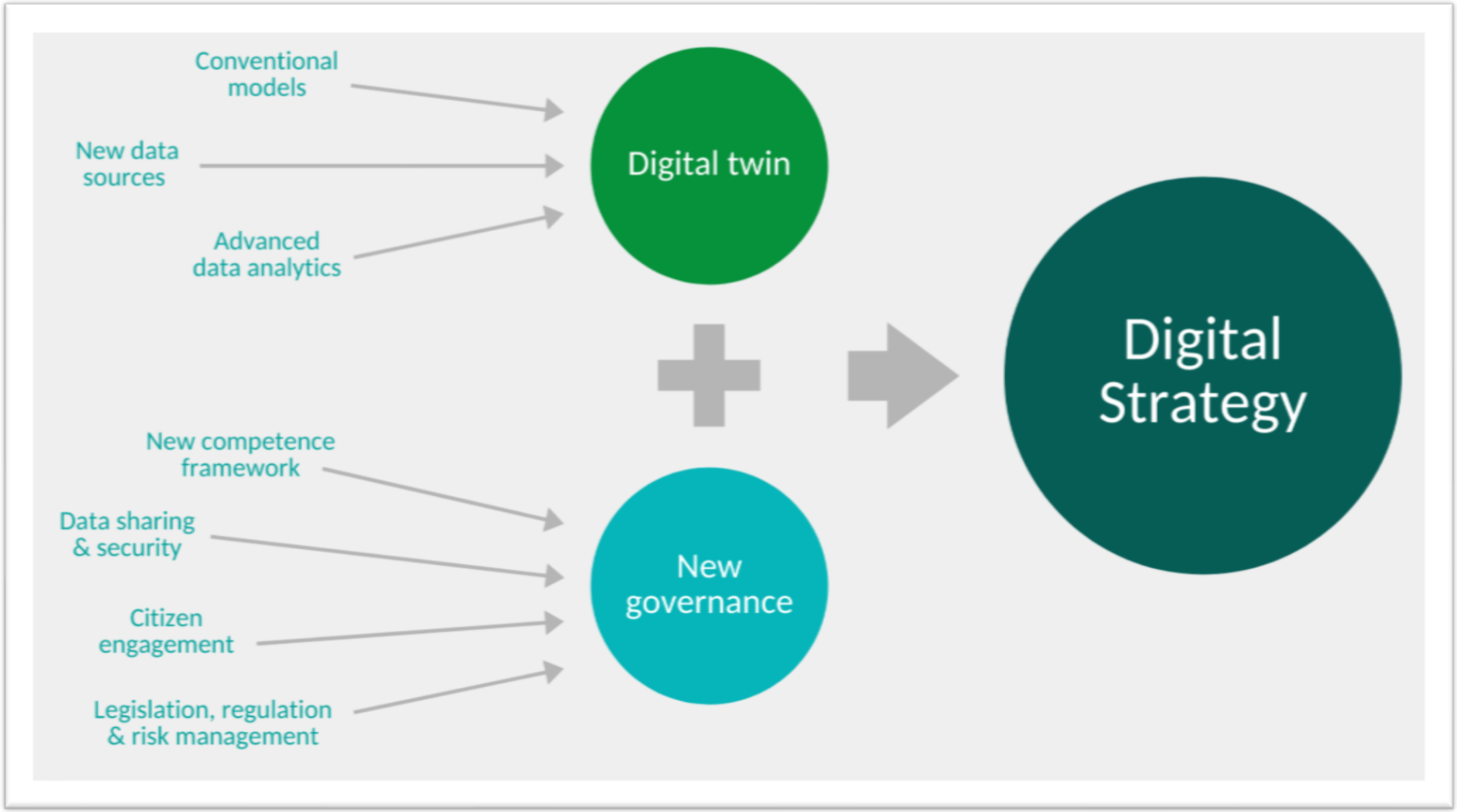


Energy



Air Quality

Digital Twin



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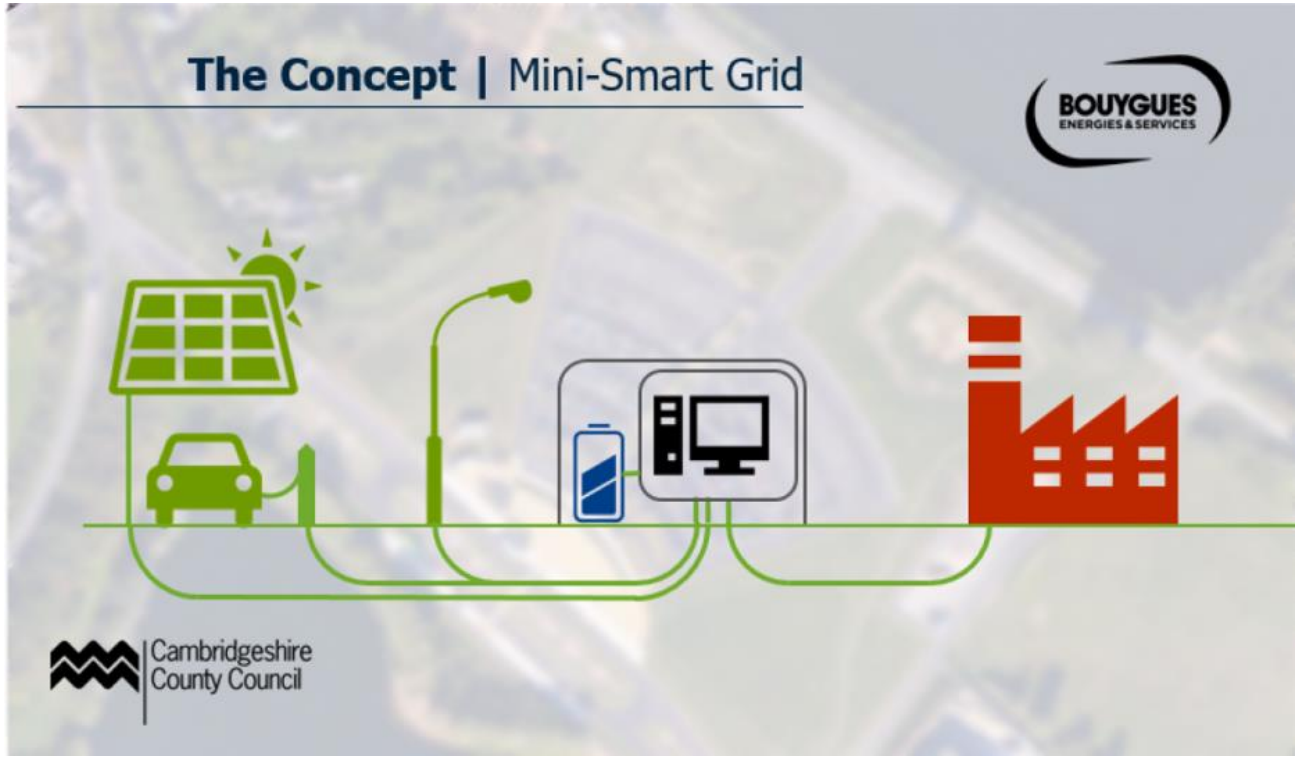
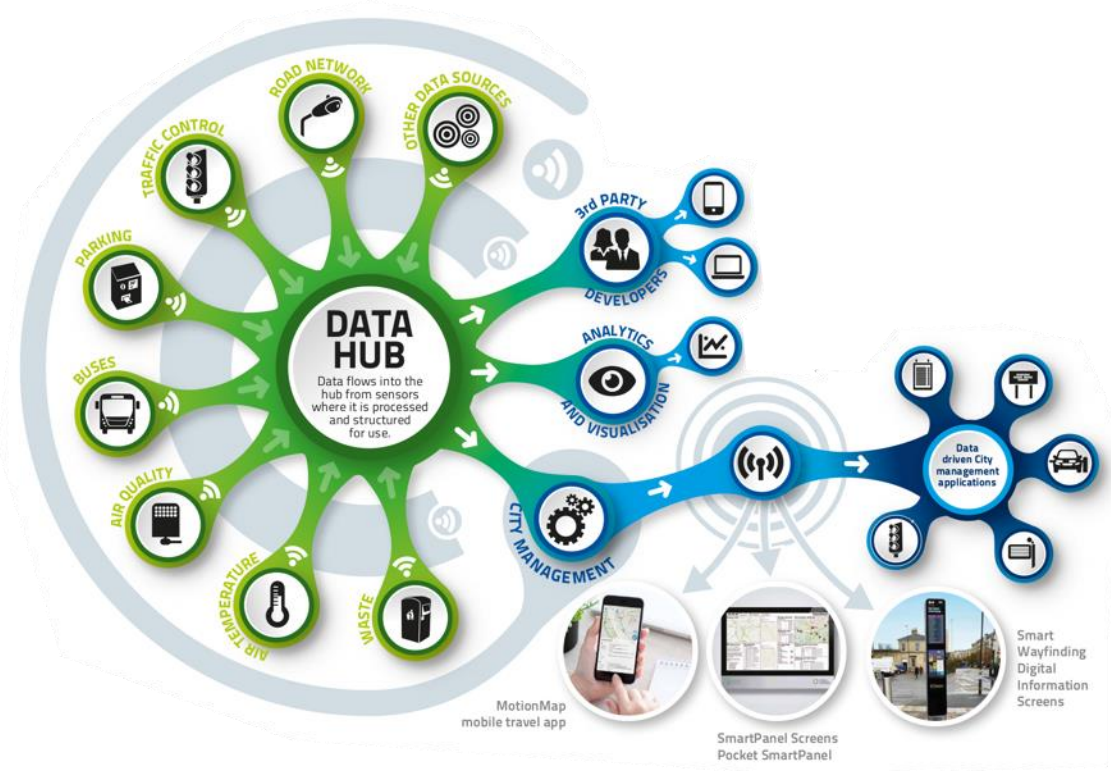
Monitoring

Delivery


The Concept | Mini-Smart Grid
BOUYGUES
ENERGIES & SERVICES
Cambridgeshire
County Council


DATA HUB
Data flows into the hub from sensors where it is processed and structured for use.
ROAD NETWORK
OTHER DATA SOURCES
TRAFFIC CONTROL
PARKING
BUSES
AIR QUALITY
AIR TEMPERATURE
WASTE
3rd PARTY DEVELOPERS
ANALYTICS AND VISUALISATION
CITY MANAGEMENT
Data driven City management applications
MotionMap mobile travel app
SmartPanel Screens Pocket SmartPanel
Smart Wayfinding Digital Information Screens

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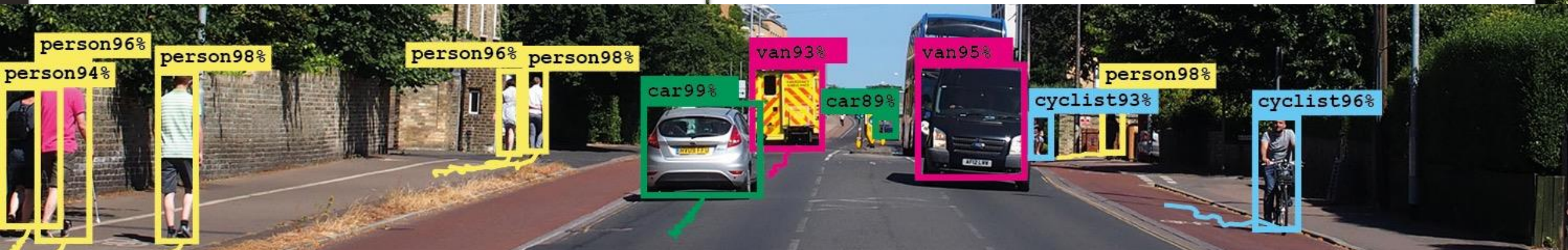
Urban Data Project

Multi Sensor Pods - use edge processing to collect data and instantly analyse data from raw video

Our use case – examining impact of bridge closure



kainos®

Part 2: Beyond Cambridge

Bill Wilson, Technical Director for IOT and Smart Cities

We're Kainos

We overcome big challenges for clients across the public sector, using the best in talent and technology.

Local

Surrey County Council

Belfast City Council

West Midlands Combined Authority

Devolved

Scottish Courts and Tribunals

Awdurdod Cyllid Cymru
Welsh Revenue Authority

National

Department for Environment Food & Rural Affairs

Home Office

NHS

Supra-national

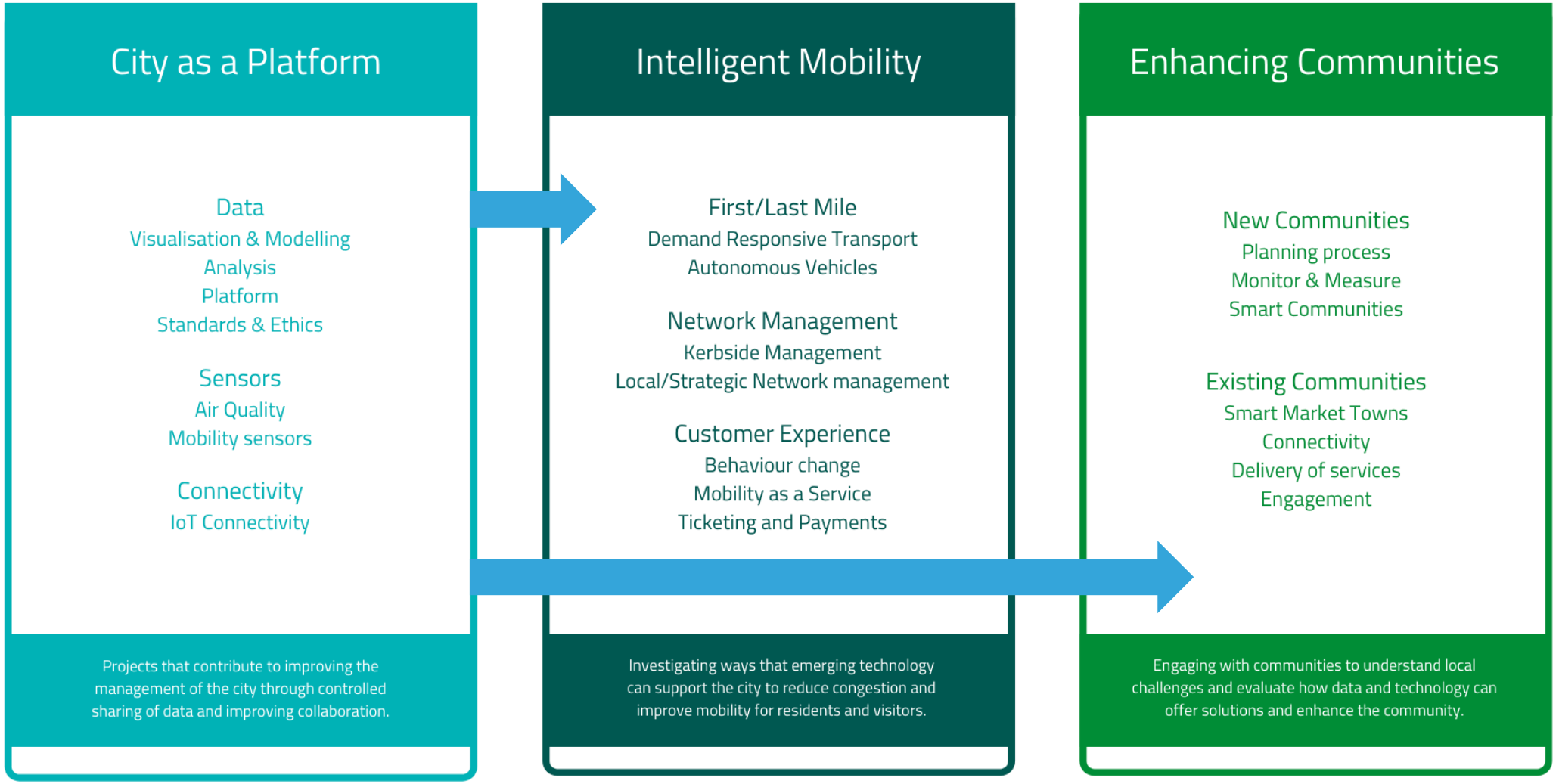
World Health Organization

IOM UN Migration

Example clients

kainos

Sustainable solutions



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Liverpool City Council

Example monitoring (sensor, camera, satellite etc)

Bus route efficacy

Air quality measurement

Example interventions

Adaptive traffic signals & signage

Congestion charging

Streetlight dimming Telensa

Urban Data Project

Connectivity

VORTEX IoT

Standards-based integration / data fabric & digital twins

Local planning

Local operations

Real-time optimisation

CONIGITAL CONNECTED DIGITAL

Reporting, analytics, AI capability

kainos® Digital Transformation

Open data, public trust & democratic accountability

Solution & data governance

kainos®

Telensa · smart CAMBRIDGE · Microsoft · SAMSUNG · Qualcomm · kainos

Urban Data Project

Collect

Change the economics of data collection - with low cost multi-purpose AI sensors

Protect

Provide a trust toolset for cities – with privacy and transparency for cities and their citizens

Apply

Enable controlled data sharing for operational improvement and future monetisation

Flexible trust infrastructure for cities

Telensa

Collect

MULTI-SENSOR PODS

Cameras, radar, noise, air quality, temperature etc.

3rd PARTY MULTI-SENSORS

EXISTING SINGLE PURPOSE SENSORS

Protect

CITY DATA GUARDIAN

- *Control for Chief Data Officers*
- *Oversight for citizens*

SECURE DIGITAL TWIN

DATA PRODUCTS

TRUST ENGINE

API set

Apply

Hundreds of use cases

CITY DEPARTMENTS

OPEN DATA

COMMERCIAL MARKETPLACES

POLICE

Integrates with existing data sets, systems and platforms

Regional partnerships & national directives

Local sustainability priorities

City Data Trust

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