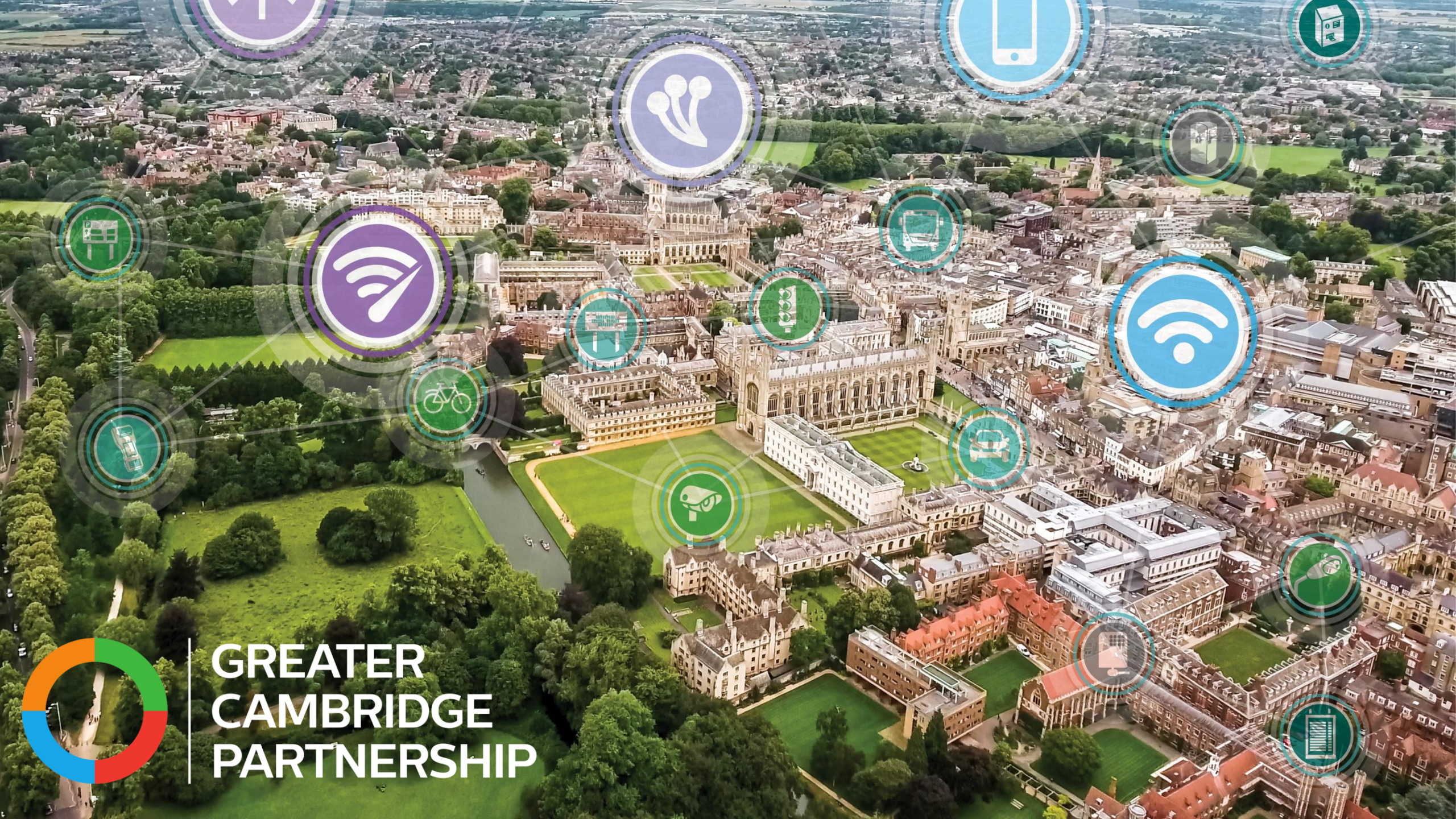
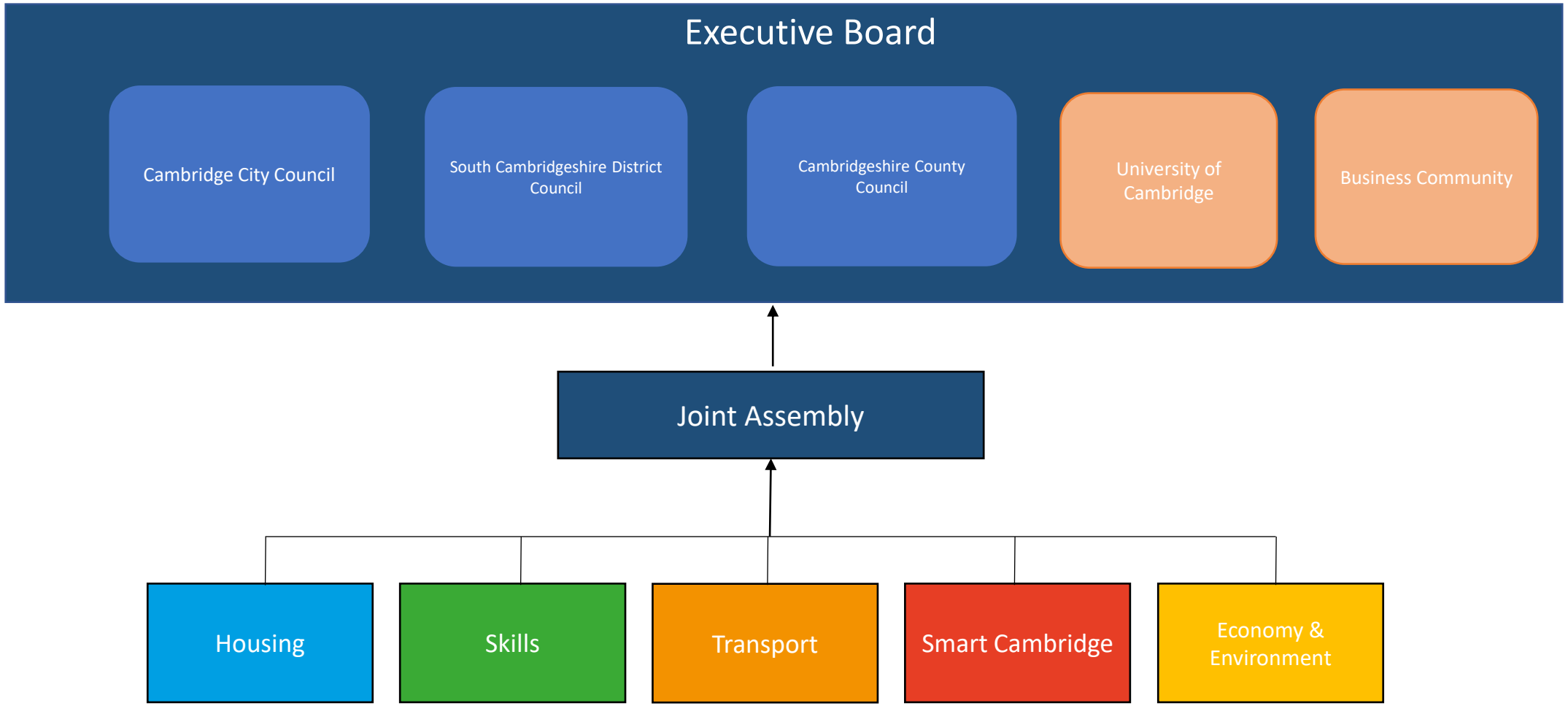
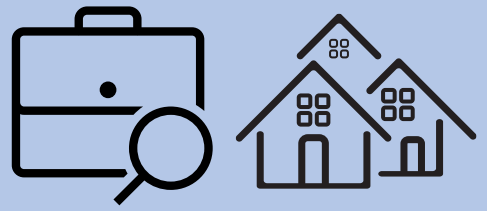

GREATER
CAMBRIDGE
PARTNERSHIP

The GCP Structure

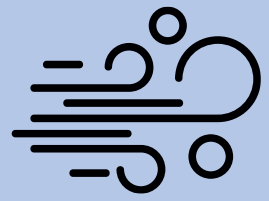


THE CHALLENGE - 8 KEY STATS

35,000 more residents in Greater Cambridge in 2021 than there were in 2011

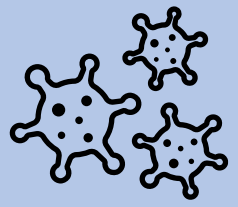


44,000 more jobs and 33,500 more homes expected by 2031



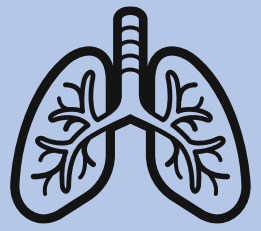
We need to reduce traffic by 25% to run better public transport and reduce emissions

In 2019 there was 10% more traffic than there was ten years ago



Car use is at 92% of pre-covid levels yet bus use is only at 73%

Transport causes 35% of local carbon emissions



121 deaths in Greater Cambridge attributable to air pollution in 2020

Thousands of people living and working in Greater Cambridge have no alternative to traveling by car

Innovation Prospectus

Purpose:

- Set out how the market can engage with the GCP – testing and trialling new technologies
- Focus trials and pilots on challenges that the GCP are working on
- Create a framework for assessing which companies to allocate resource to
- Set out procurement approaches including innovation procurements
- Embed Innovation across all GCP workstreams
- Set out principles for trialling in the GCP area

Data Collection – Collaborative Innovation

Issue: We don't have the granular data needed on movement in the city

Enabled an initial pilot of VivaCity technology

Scale funded trial – Mill Road Bridge closure

Tender Process

Assessment of accuracy

At scale deployment 80+ sensors

Assessment of scale deployment

Alechera - Data Platform

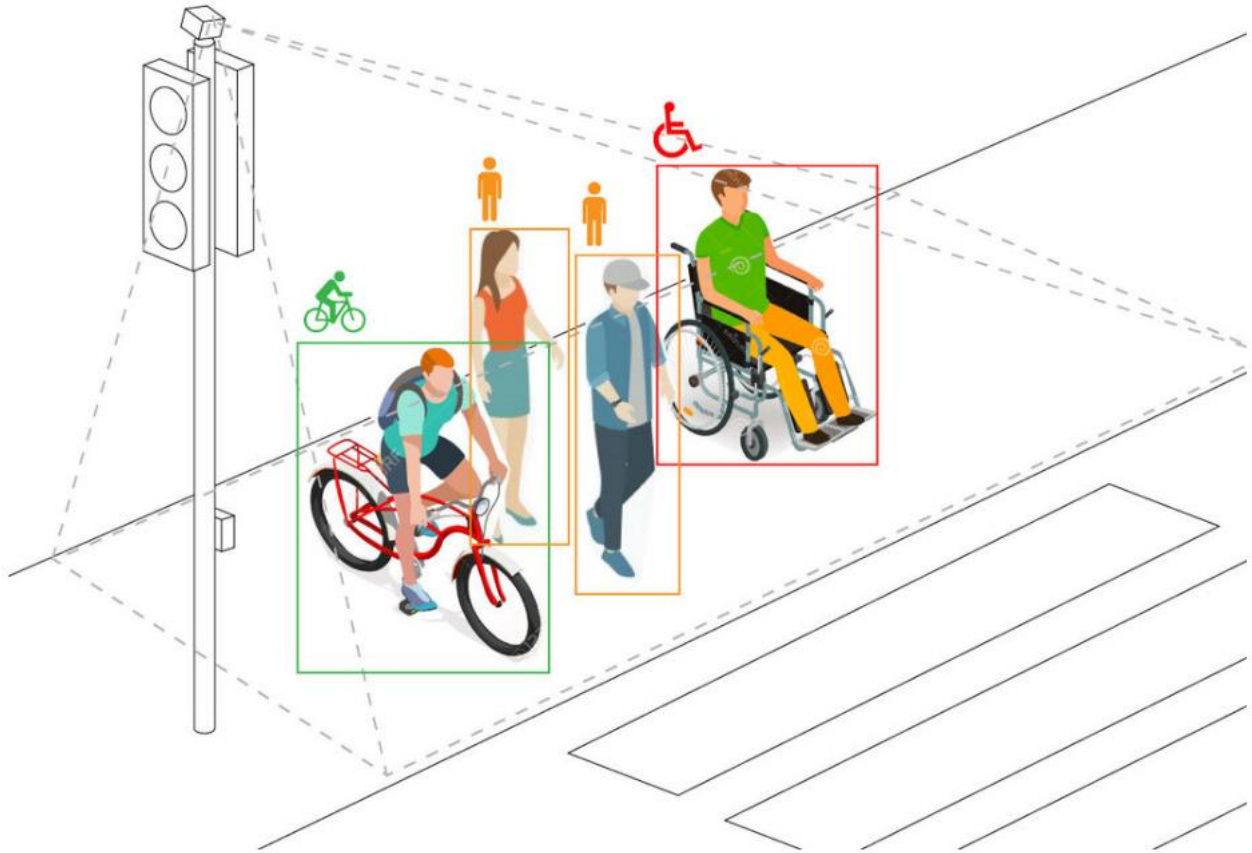
Smart signals trial

Starling Technologies

STARLING TECHNOLOGIES

Starling's AI technology provides:

- Advanced counts and behavioural analyses at crossings, for example:
  - Pedestrians eg. confident, reluctant, running, waiting, near collisions
  - Vehicles eg. do and do not give-way, stopping distances, approach speeds
- Predictive approaches to optimise crossings to reduce pedestrian waiting times without a commensurate delay to vehicles, and a better pedestrian experience



Sensors

- Starling standard or high-powered sensors
- Extra wide field of view reduces the overall number of sensors required
- Option to use existing client CCTV

Automated Transport– External Funding Bids

Issue: Need to improve public transport – how can we utilise new vehicle technologies

Expanded services: running on-demand services out of hours when traditional buses may not operate.

Improved first and last mile transport: Automated vehicles offer a cost-effective solution to closing the first/last mile gap, by bringing bus stops closer to places of work and homes.

Better accessibility for travellers with disabilities: provide a door-to-door service for passengers with disabilities. Any savings from not having a driver could be diverted into support staff to help with entering and exiting the vehicle.

Reduced operations costs:

- Potential to reduce both costs and human error.
- Risk reduction helps lower insurance and liability costs
- Reduce staff overheads.
- Greater monitoring of vehicle reduces maintenance costs

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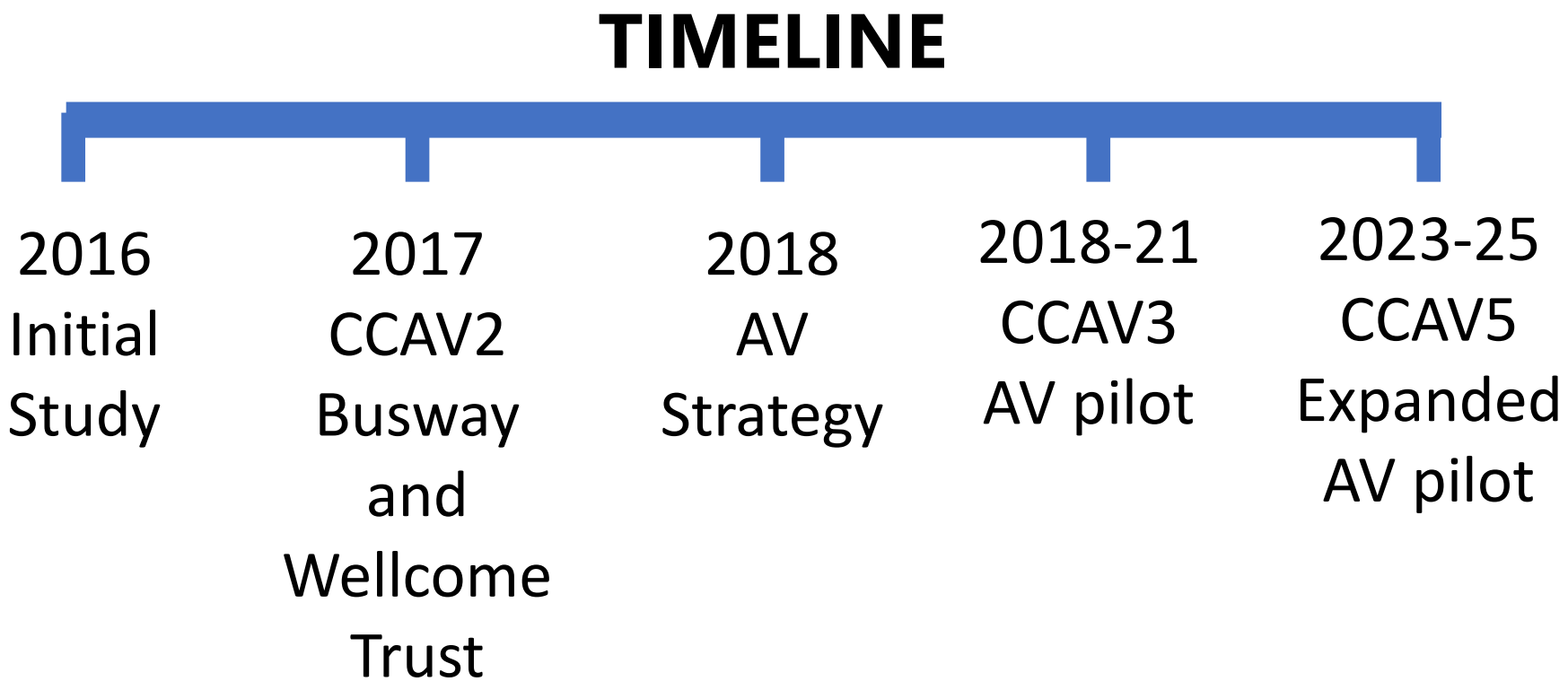
Growing and sharing prosperity
Delivering our City Deal

Automated Transport– External Funding Bids



Centre for Connected & Autonomous Vehicles
smart CAMBRIDGE
BD20RJU
Innovate UK

Cambridge Connector

GREATER CAMBRIDGE PARTNERSHIP

Lead Partner

gamma SOLUTIONS

Communication Partner - Deploy 5G

CONIGITAL CONNECTED DIGITAL

Autonomous Vehicle Provider -

IPG AUTOMOTIVE

Simulation Partner – Digital Twin.

d(risk)

Testing

Stagecoach

Service Provider

Solving the Challenge

Mixed fleet of **electric, autonomous** vehicles

Private 5G network enabling remote operations

Virtual **simulation** to test the system

Remote operation to support the fleet

Extensive field **testing** to validate the system

Service run by **a local operator**

Approach and Technology

Remote Operations Progression

Cambridge Connector Project

We aim to remove the operator from the driving seat and have them monitor more than one vehicle

CURRENT STATE OF THE ART

Safety operator in the vehicle.

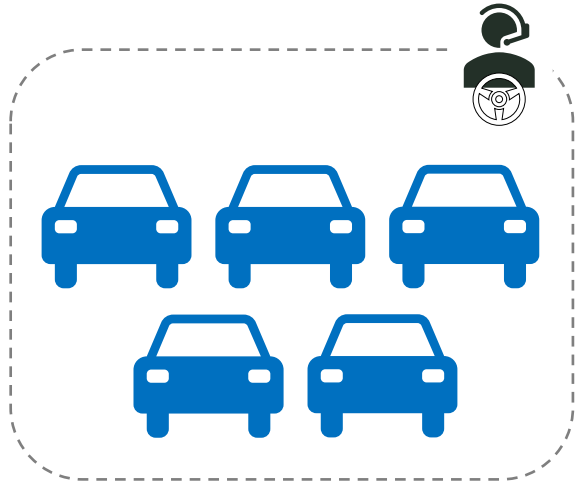
1 operator to 1 vehicle

NEXT ESSENTIAL STEP

Safety operator remote from the vehicle.

1 operator to 1 vehicle

TARGET OPERATING MODEL



Safety operator remote from the vehicle.

1 operator to multiple vehicles