Microsoft

IoT in Action

#IoTinActionMS

Microsoft

Tackling urban development challenges with IOT

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IoT in Action

Telensa

- World #1 in smart street lighting controls
- 1.7 million lights connected in 10 countries
- 400+ cities connected
- 1 in 10 of UK streetlights
- Streetlight sensor deployments
- HQ Cambridge, UK manufacturer

Cities need better data to become smart

- Cost of mass-scale data collection
- Data management and protection
- Citizen trust and transparency

Project objectives

- Cut the cost of data collection
- Make data insights easy to manage
- Protect urban data and make policies transparent

Key partners

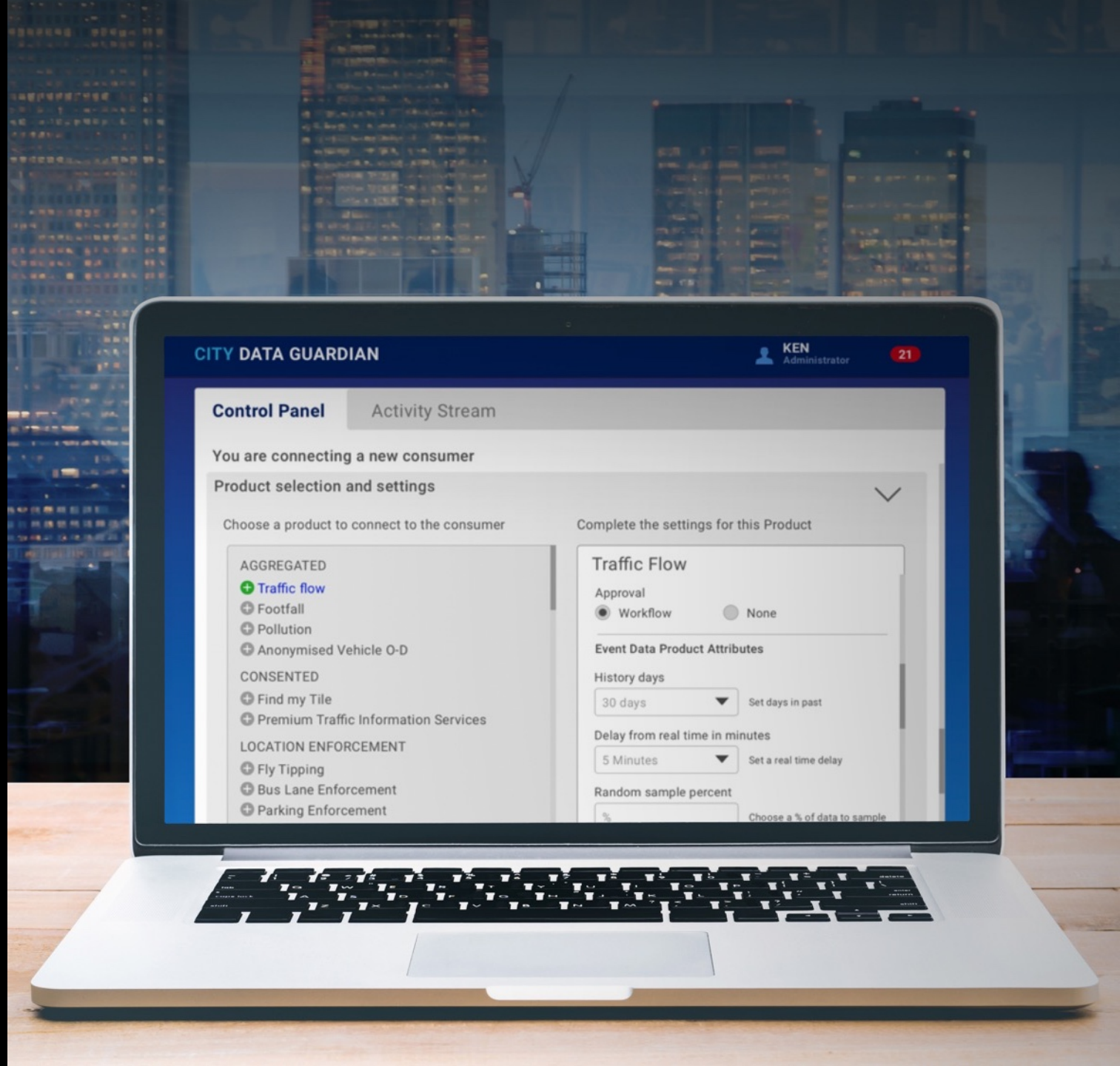
- Microsoft: foundation technologies
- Kainos: AI, data and govtech expertise

AI and edge processing

- Low-cost camera/radar imaging with Qualcomm smartphone AI
- Detailed, real-time data covering all traffic types including pedestrians
- All data is anonymised on the device using machine learning
- Edge processing reduces comms costs to a minimum
- Runs on Microsoft Azure IoT Edge

City Data Guardian

- Protects ownership and control of data assets
- Combines data from many sources
- Enables the controlled monetization of data assets
- Publishes data policy for citizen transparency
- Built with Kainos on Microsoft Azure



First deployment in Cambridge May 2019

Pilot installation

Classification, routing, events

Regulatory compliance

What kinds of data are we talking about?

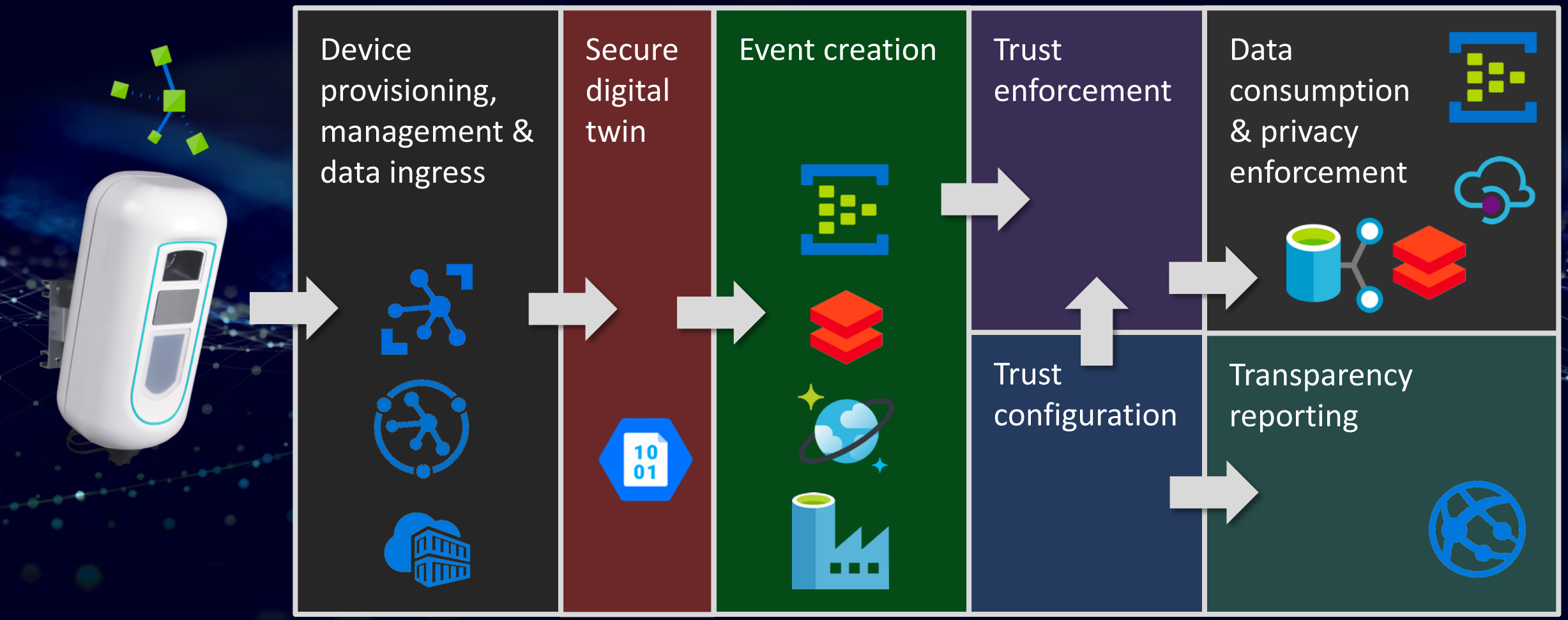
- Classification of vehicle types:
  - pedestrians, bikes, cars, trucks
- Origin-destination information:
  - through vs. local traffic
  - taxi/uber patterns
  - last mile delivery patterns
- Service usage patterns
- Air quality – traffic overlays

Urban data and development projects

- Municipalities want to make good planning decisions and measure impact over the long term
- Developers want to demonstrate compliance in real-time and to eliminate phase delays

- Edge AI enables new data applications to be developed after the sensing infrastructure is deployed…

Extensible Azure platform

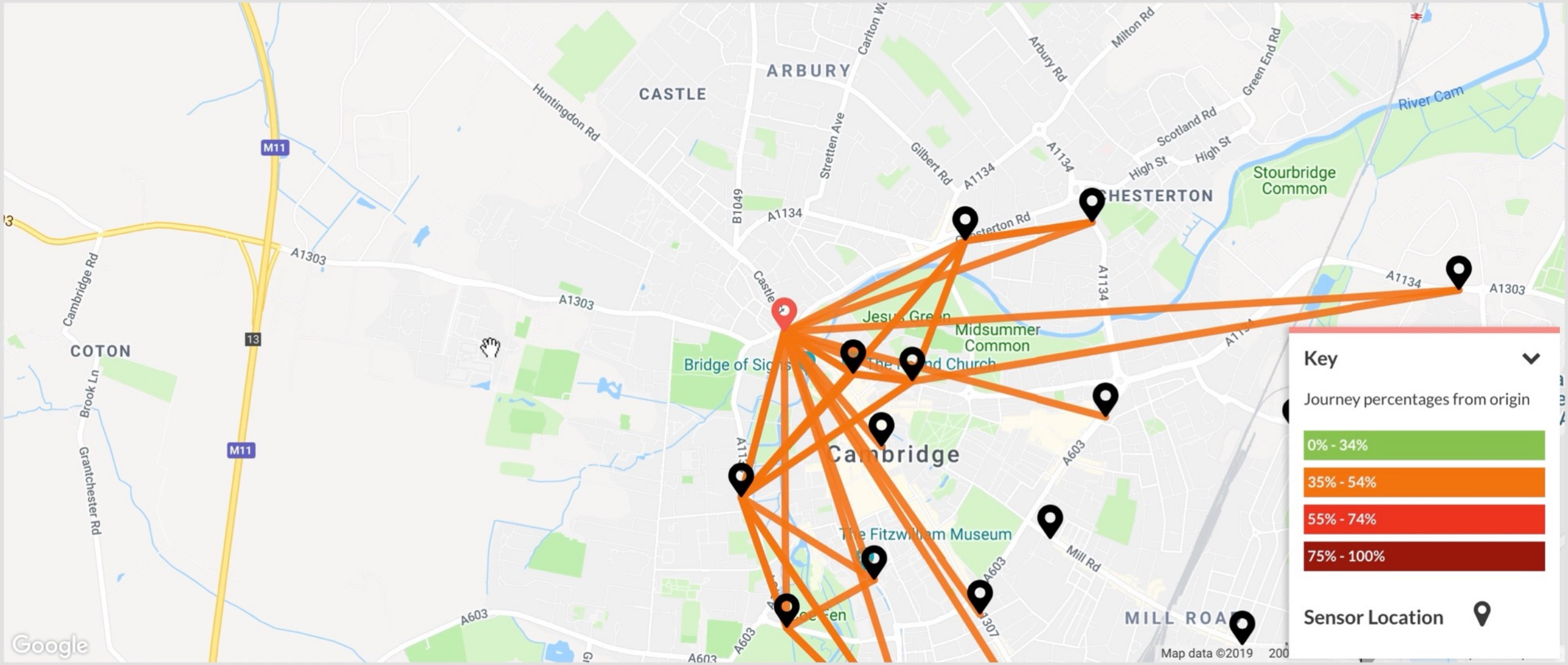


RouteMind

Home / Map

HOME LOGOUT

Welcome to RouteMind

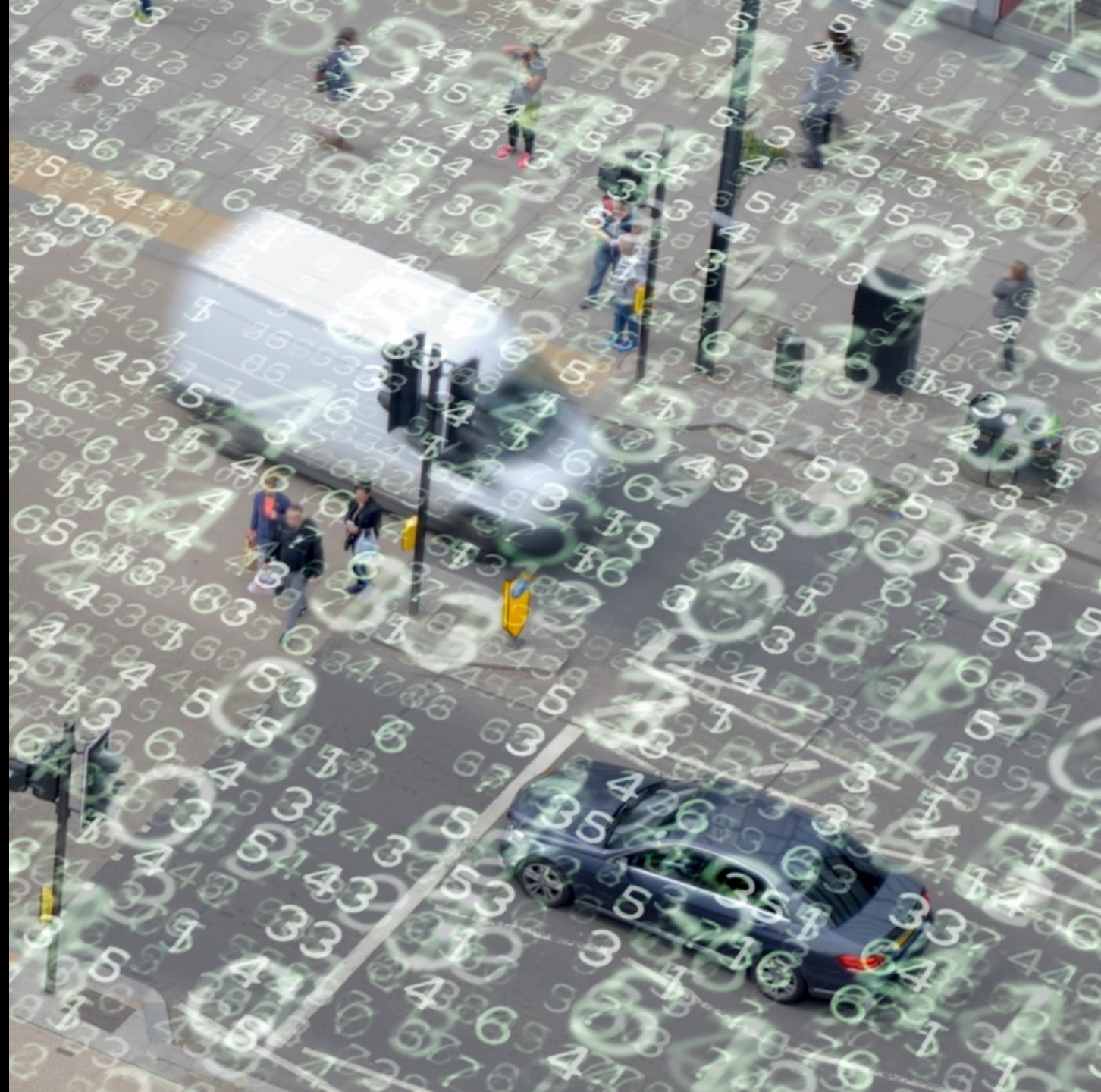


Why citizen trust in urban data is essential

- Even meta city data is citizen data
- Public data collection is associated with big brother surveillance

- Citizens want to know what is being collected, who has access and what it is being used for
- They don’t want city leaders to give away data value to Silicon Valley

- Reclaim data as a force for good
- Make data policy part of the democratic process



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Microsoft Partner
Microsoft

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Bring your IOT solutions to life and to market.

Integrate IOT data into the enterprise for end-to-end digital transformation

Integrate

Stream and analyse in real-time

Data platform delivery

Acquire (batch / stream / CDC)

Refine / cleanse / aggregate / transform

Optimise for consumption

Discover, visualise, report

Experiment & productionise

Consume in operational applications

Configure and secure the platform; support in life

Data Governance, Data Lineage, Data Quality, Data Modelling, Consent & MDM features

Innovation

Consulting

Cyber Security

Software engineering

Experience Design

Devops

Delivery Management

Q&A

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