

Glasgow - a Collaborative Future

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Glasgow's Smart City Journey

DEFINE

MEASURE

ANALYSE

IMPROVE

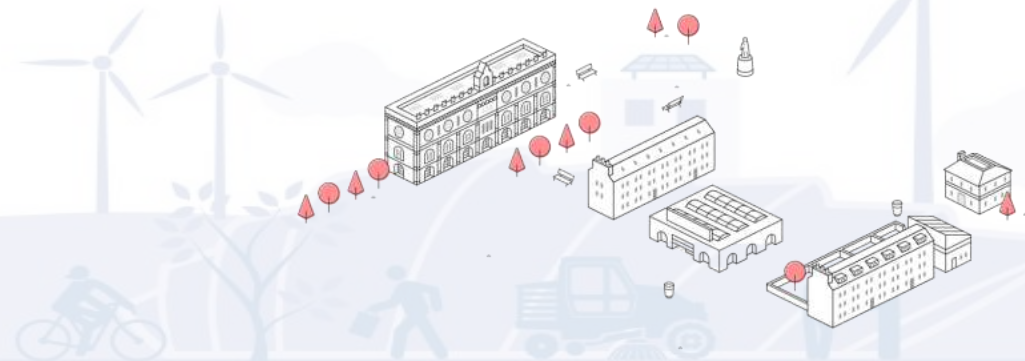
CONTROL

Process | Data | Digital | Design

Future City Glasgow

Scotland's 8th City
- the Smart City

Smart Cities
Scotland



a world class city, focused on **economic growth** and **tackling poverty and inequality**

www.glasgow.gov.uk



Future City Glasgow

DEFINE

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- In Glasgow we're exploring ways to harness the power of data and technology to make our city a better place to live, work and play.
- Leading to an ambitious programme to open up Glasgow like never before.
- So what is a Future City?
- People Make Glasgow.

**PEOPLE
MAKE
GLASGOW**

Glasgow Operations Centre

DEFINE

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- Consolidated operations centre.
- Public space CCTV and traffic management sensors and cameras.
- Video Analytics (protection of assets, anti social behaviour, missing person search).
- Event management.
- Protection against crime – data analytics.
- City operations, sensing the city, protecting the city, keep the city moving.

City Centre 'Busyness' Model

DEFINE

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00:00



Pedestrians

- Pedestrian From (No Aggregation)
- Pedestrian To (No Aggregation)

Future City Demonstrator - Energy

DEFINE

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- City energy model.
- Sensors and data to understand insulation success.
- Renewables mapping to support ground mounted solar PV.
- Demand side management – supporting grid balancing.
- Behavioural change – Gamified Engagement Tool (schools).

Public Safety

DEFINE

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- Intelligent Street Lighting.
- Energy reduction using LED technology.
- Central Management System to Control Lights.
- Further energy savings.
- Use of air quality sensors (Internet of Things).
- Noise sensors (public safety).
- Footfall counters to monitor crowd levels and understand city needs.

Scotland's 8th City – The Smart City

DEFINE

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- £10m ERDF Programme Funding – Value of Programme £24m
- 8th City vision:
 - *“enable cities to become more attractive, liveable and resilient through the use of data and digital technology”*
- Example Projects:-
 - £2m Data Cluster – involving all seven Scottish Cities
 - £6m Intelligent Street Lighting – involving Aberdeen, Glasgow, Perth and Stirling

Project - Data

DEFINE

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- Data Operation involves all seven Scottish Cities working collaboratively around Open Data



Smart Cities Scotland

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- Scotland wide identity enables Scotland's cities to access opportunities of scale for investment;
- Dynamic market place for smart city projects and solutions in Scotland;
- Promoting Scotland's cities unique inter-city approach to developing Smart City solutions; and
- Encourage and catalyse investment to build Scottish smart cities that can support increased business productivity.

RUGGEDISED

DEFINE

MEASURE

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ROTTERDAM . UMEÅ . GLASGOW: Generating Exemplar Demonstrations in Sustainable Energy Deployment

BRNO . PARMA . GDANSK



a world class city, focused on economic growth and tackling poverty and inequality

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City Operations - Glasgow

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So why do we need smart technology to help manage our cities?



a world class city, focused on **economic growth** and **tackling poverty and inequality**

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transforming glasgow

199km
A Roads

73km
B Roads

245km
C Roads

1,333km
Local Roads



275
Bridges



10,000
Litter bins

300,000
Bulk uplifts

23.5m
Domestic collections
(including recycling)

360,500km
Streets swept

316km Length of cycle routes

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Smart City Operations – Vision of the Future

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- Location tracked, route optimised, driver behaviour monitored, energy efficient vehicles.
- Data used to support infrastructure (EV Charging Points).
- Mobile working.
- Tagged, managed and connected assets.
- Sensors to manage waste, parking, flooding, buildings, air quality, public safety, health and wellbeing.
- Data to support operational transformation and to develop policy.
- Citizen engagement and empowerment using technology as an enabler.

Future City Glasgow

Return on investment

Innovate UK

Smart City - References

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- <http://futurecity.glasgow.gov.uk/>
- http://futurecity.glasgow.gov.uk/reports/12826M_FutureCityGlasgow_Evaluation_Final_v10.0.pdf
- https://www.scottishcities.org.uk/site/assets/files/1232/smart_cities_scotland_and_blueprint_web.pdf
- <https://www.gov.uk/government/case-studies/glasgow-a-world-leading-smart-city-with-support-from-innovate-uk>