



Project Harlander

Mike Dawson, People & Digital Transformation Director





About Belfast Harbour

- **Northern Ireland's leading gateway** for trade, services and tourism
- The Harbour Estate is home to a **vibrant community of people and businesses**
- A thriving waterfront, and some of the **world's most famous tourist attractions**
- **A Gateway to Opportunity**
- **A city in miniature**

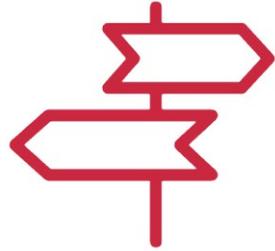




Belfast Harbour in numbers



**2,000-acre
Estate**



**8km of quays
30km of
roads**



**760 businesses
in the Harbour
Estate**



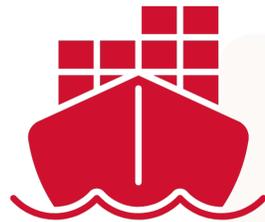
**£254m ongoing
investment
programme**



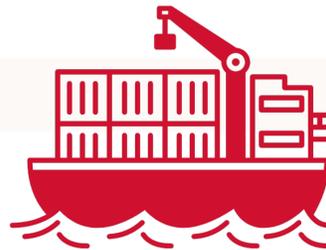
**c. £3m
community
grants in last
10 years**



**70% of all
NI's seaborne
trade**



**9th largest
port in UK**



**24.5m tonnes
of goods
handled**



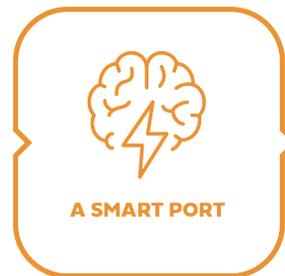
**1.8m ferry
passengers
annually**



**250,000 cruise
passengers in
2022**

Strategic Vision

- Our Vision is to be a world leading **regional port** and **key economic hub**, creating an **iconic waterfront** for the city
- **Smart and Green** levers are fundamental to programme delivery
- Our £254 million strategic investment programme continues to **create jobs, stimulate growth and aid the region's socio-economic recovery**
- **Developing the tourism industry** sustainably



Investing in technology, inspiring innovation

- Smart technologies to **accelerate strategic delivery, improve energy and resource efficiency and enhance safety**
- Delivering through partnership
 - 5G Private Network 
 - Innovation District 
 - Sustainable Maritime Innovation 
 - Harlander...





Hollywood

George Best
Belfast City
Airport

5G Private Network
Stormont & Gotto
Wharfs

5G Digital Fabric
Innovation Ecosystem
Queens Island

SAILORTOWN

SSE Arena Belfast

Public 5G

Public 5G

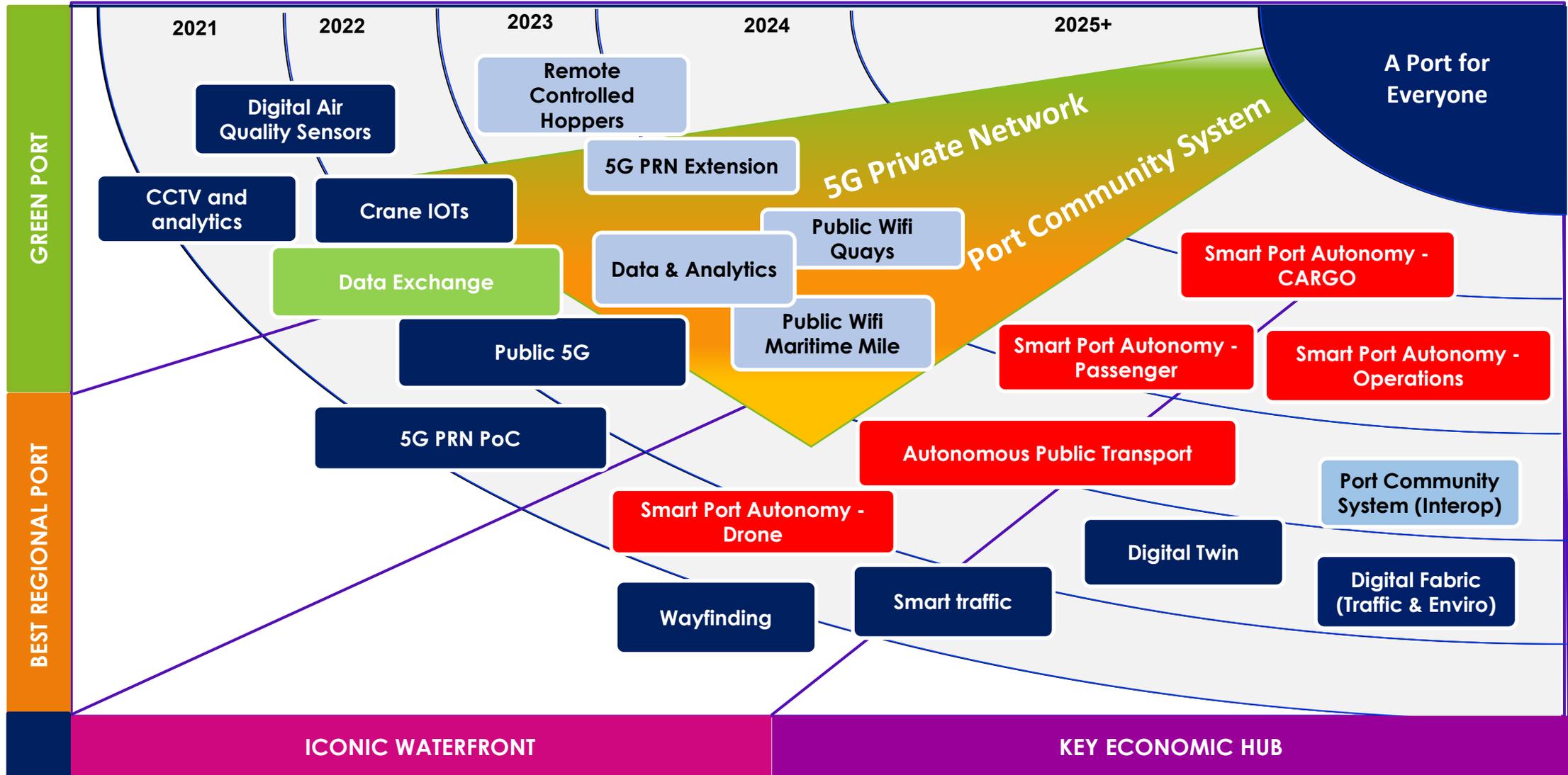
NOT TO SCALE



Advanced Wireless Ecosystem

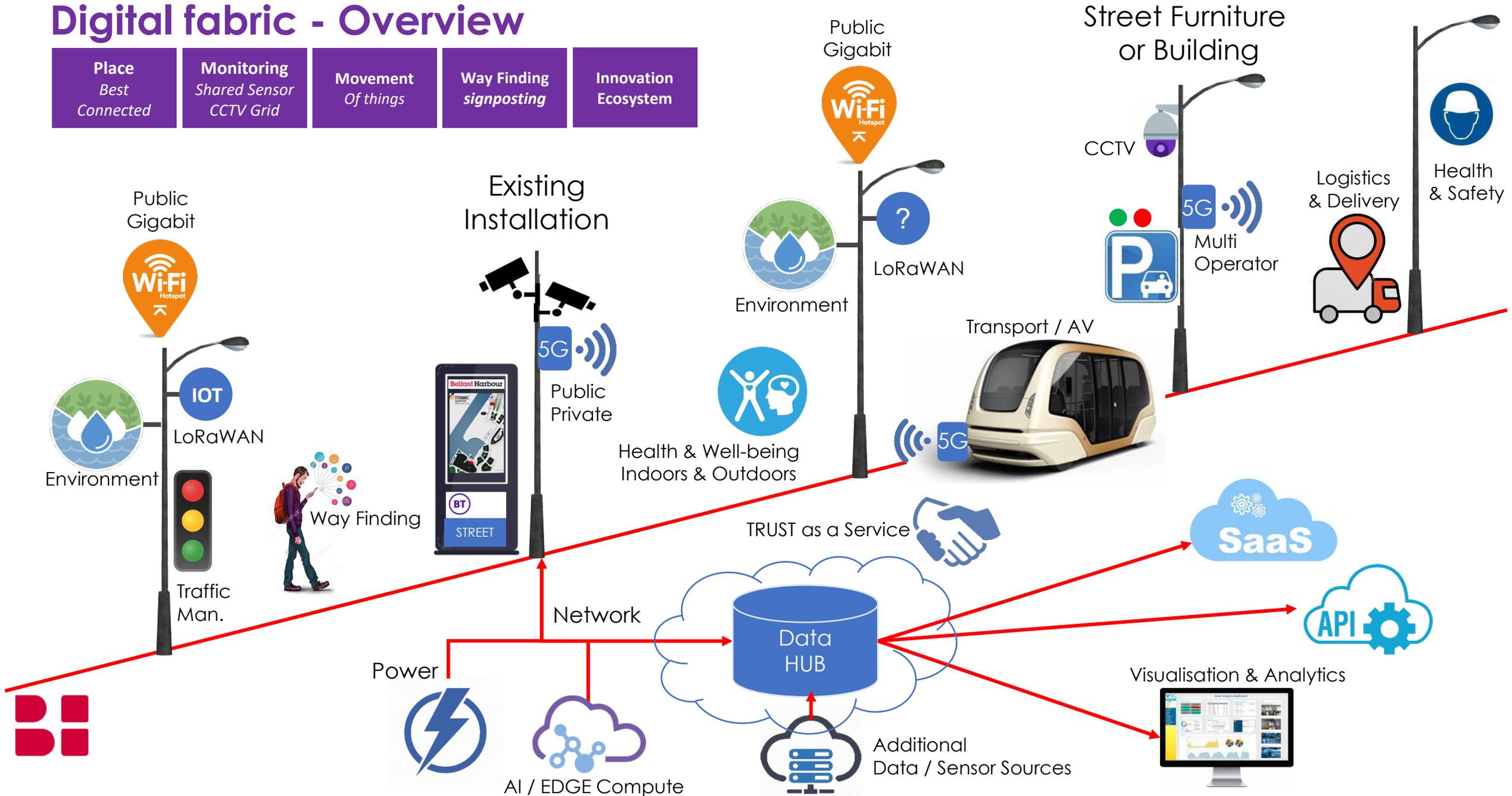


Innovation – Smart Port



Digital fabric - Overview

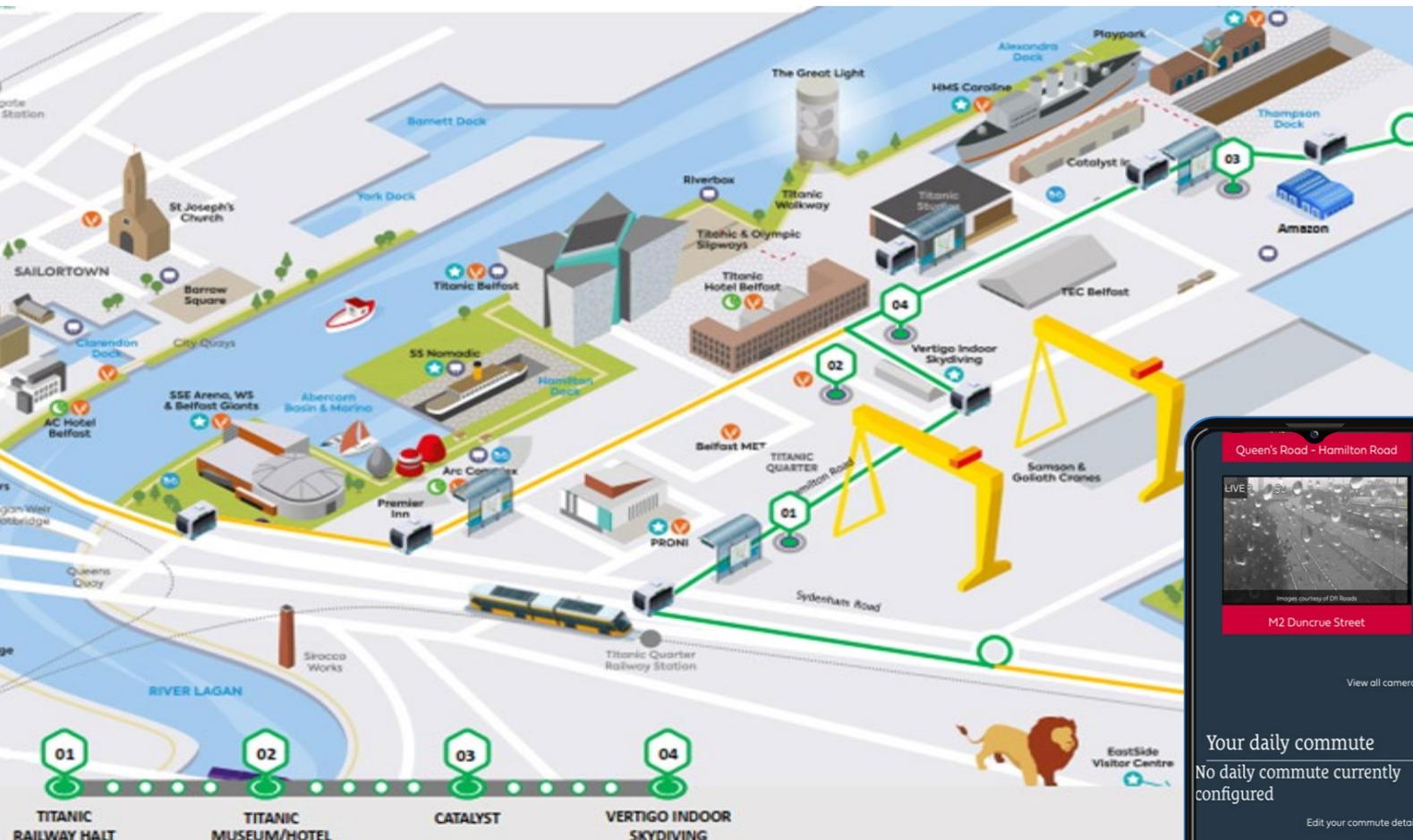
Place <i>Best Connected</i>	Monitoring <i>Shared Sensor CCTV Grid</i>	Movement <i>Of things</i>	Way Finding <i>signposting</i>	Innovation <i>Ecosystem</i>
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The Harlander Autonomous Passenger Shuttle service

- Innovative 'last mile' passenger service to our commercial, industrial and tourist venues, linking Titanic Rail Station into the Harbour Estate

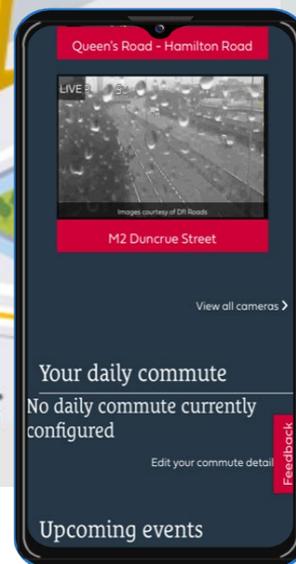


Purpose:

- encourage modal shift and reduce emissions and traffic
- Integrated with Queens Island Transport Master Plan

Project objectives:

- prove operational and commercial viability of service
- build confidence with public and passengers
- accelerate NI and UK roadmap





Harlander Team



Professional & Academic expertise:

SPECIALIST
LAWYERS

INSURANCE
FIRMS

ENGAGEMENT
EXPERTS

UNIVERSITY
RESEARCH

ADVISORY GROUP





The “Bus Challenge”

Policy drivers:

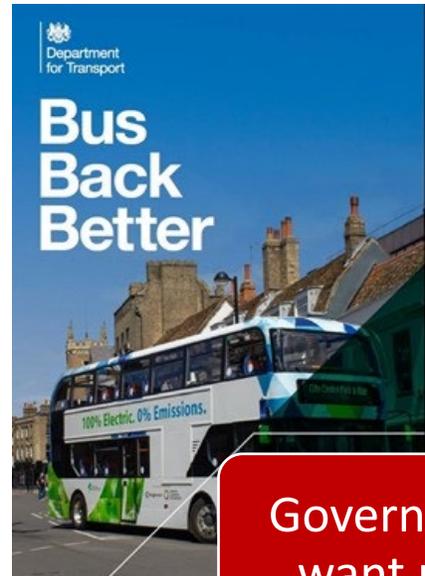
- economic, social, environmental

Strategy:

- shared mass transport on shared infrastructure

Hurdles to implementation:

1. Technology maturity
2. Passenger & public trust
3. Legislation
4. Commercial viability



Shortage of bus drivers ‘worse than previously thought’

Driver shortages affect 99% of UK bus garages

NEWS By [Aian Jones](#) & [Sophie Goodall](#)

05:57, 29 NOV 2021

Governments want more buses

Not enough drivers for existing services

Autonomous buses



Same challenge, same opportunities across the UK

Not just “one driver per bus”

- A 'Park & Ride' operating 7 days / week typically needs 5 drivers per bus

City regions across UK face same challenges of:

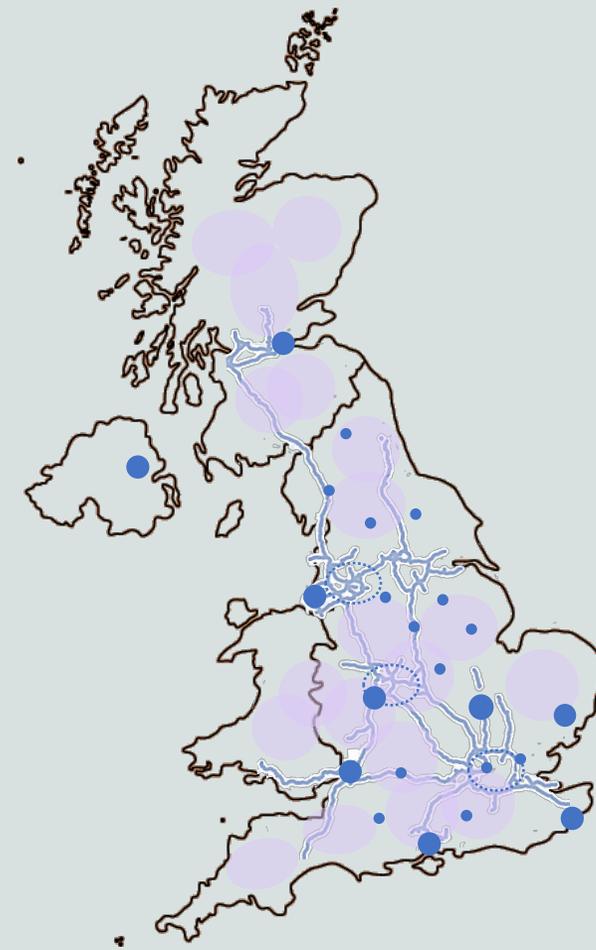
- Demand for increased service provision
- Shortage of drivers
- Cost pressures

Harlander will:

- **Prove** Harlander as solution for public transport
- **Commercialise** the Blueprint

£150m near term annual cost savings UK-wide

- Assuming 1 / 4 of 30 cities across UK adopted autonomous public transport to address the same challenges

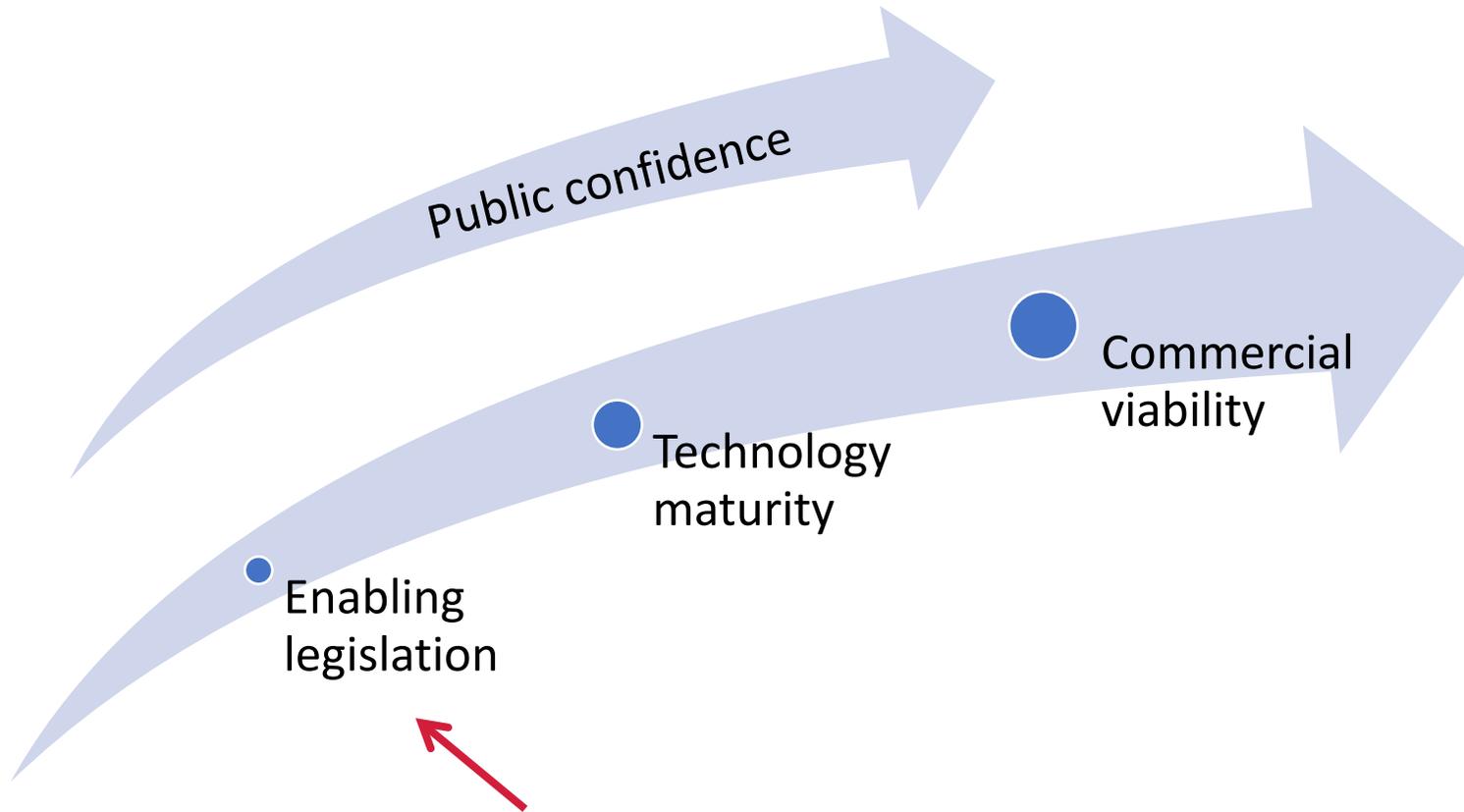


30 UK cities
> 200,000
population

AV adoption	Cost saving
10%	£60m pa
20%	£120m pa
25%	£150m pa
75%	£450m pa



Roadmap to UK-wide roll-out



Expectation of commitment to legislation in this parliament:

- Key trigger provides clarity of timing for market
- Accelerate and concentrate in UK

2023-2025
Harlander & CCAV projects
Demonstration services with constraints

2025-2027
'Pathfinder' projects
Building business cases for target services

2027-
Operational services
Commercial roll-out commences



BHC: “Commercial & Operational Validation Environment”

NOT a testing ground – everything must have a proven safety case

Make Belfast a centre for autonomy innovation

‘Smart Port’ use cases across land, maritime, aviation:

- Further Harlander routes
- Drone applications
- Cargo handling

Physical & Digital Infrastructure:

- 5G private & public networks
- Data exchange & analysis
- Smart traffic & CCTV networks

