



Port 2050

What could shape the port of the future?



TRENDS EMERGING NOW



Physical



- Ports as hubs for wider economic activity – logistics, manufacturing, 'free areas'
- More solutions specific for customers
- Decline in coal and hydro-carbon cargoes
- Connectivity – ongoing shift to multi-modal



Augmentation and Automation



- Remotely operated equipment (e.g. cranes)
- Autonomous operations (e.g. container yards)
- Operators as supervisors & technology users

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Digital



- Ports as data platforms (e.g. Port Community Systems and advanced inventory systems)
- Providing tracking data
- Blockchain and 'smart contracts'
- Cyber security as a core skill



Sustainable



- Ports as (renewable) power stations
- Electrification of processes and plant & equipment
- Reducing emissions and improving air quality through smarter operations (e.g. Vehicle Booking Systems)
- UK as a key influencer of global standards

- More flexible usage of assets
 - Use of data for real time utilisation
 - End to end supply chain visibility
 - Adaptable buildings / space
- Large scale port-based value addition
- Connectivity
 - Focused key trade corridors
 - More & better integrated hub & spoke water borne freight
 - New modes (e.g. hyper loop)
- Constrained assets / 'capacity markets'

- Further applications of enhanced technology developments
- An Internet of Things enabled world
- New business opportunities – 'Air Traffic Control' for near UK waters; drone operation hubs; human services to enable remote / autonomous operations
- Changed roles for human interface

- Applying Artificial Intelligence, Machine Learning, 'Digital twins' and other advanced analytics for applications such as predictive planning & operations, self diagnosis
- Seamless end-to-end data supply chains – data as a service
- Large scale blockchain adoption
- More dynamic charging in response to demand

- Large scale alternative fuelling
- Ports as key nodes in energy transition – both as consumers & enablers
- Electric vessels for some uses (e.g. coastal feeder services)
- Natural capital businesses
- Use of advanced analytics in monitoring & approvals
- Appropriately integrated regulatory framework

POSSIBLE FUTURE GAME-CHANGERS



THE HUMAN DIMENSION

Challenges but also opportunities

- **Safer jobs** – Less man / machine interface, height, confined spaces
- **Different jobs** – e.g. high intensity crewing, data services
- **Better jobs** – more skilled, new skills
- **Balance** – Increased gender diversity
- **Continuity** – Ports will remain significant sources and catalysts of employment



THE ROLE FOR GOVERNMENT

Create an enabling framework for investment, development and innovation

- **Do** – provide infrastructure – physical and knowledge; set a consistent long-term direction; join and align the regulatory framework with strategic goals (e.g. trade)
- **Don't** – pick winners, over regulate



UK Major Ports Group

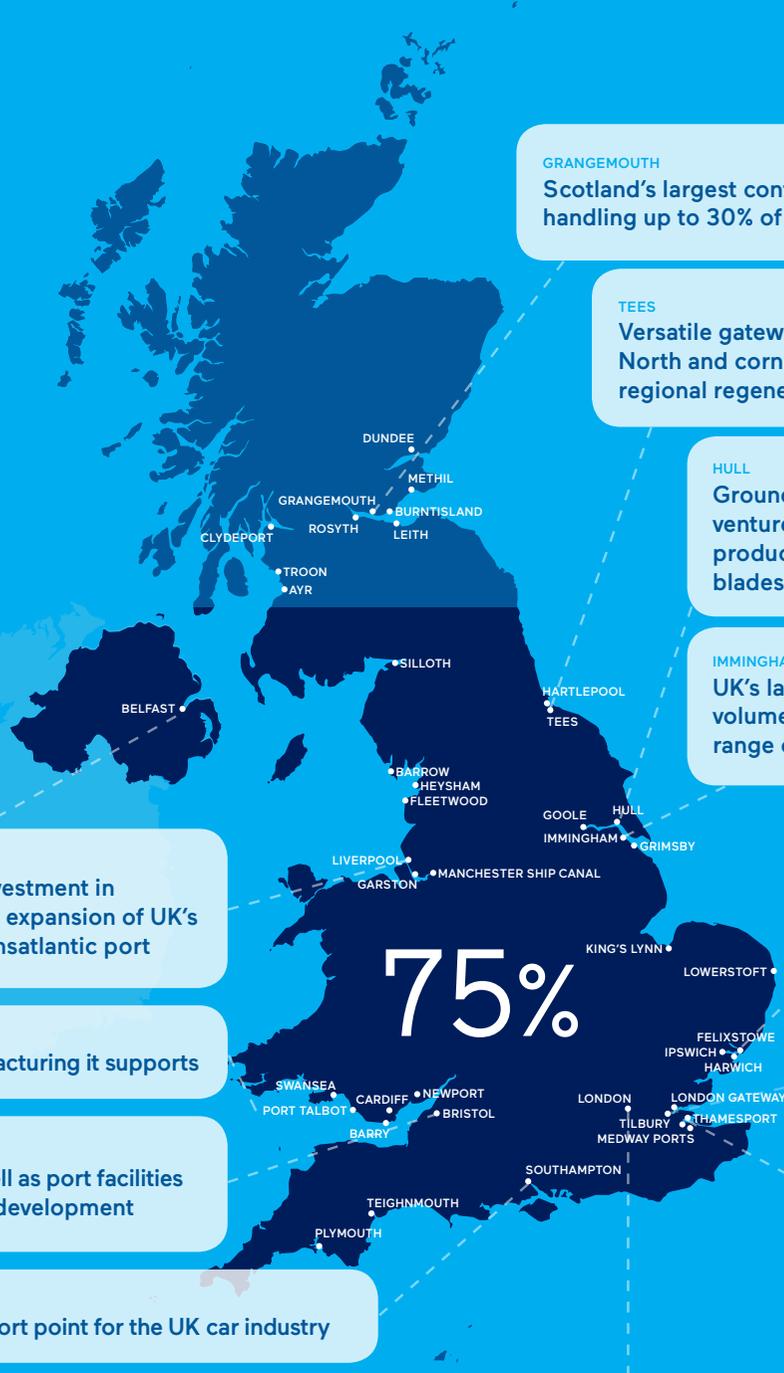
Member ports

Some examples of activity

The UK's major ports handle

75%

of UK seaborne trade – fundamental for a confident, global trading nation



75%

GRANGEMOUTH
Scotland's largest container port, handling up to 30% of Scotland's GDP

TEES
Versatile gateway to the North and cornerstone of regional regeneration

HULL
Ground breaking joint venture with Siemens to produce wind turbine blades on the port

IMMINGHAM
UK's largest port by volume from a wide range of cargoes

FELIXSTOWE
UK's largest container port, handling the world's largest vessels in operation for 50 years

TILBURY
£100m Tibury2 development, regenerating a former power station site

LONDON GATEWAY
£1.5bn invested in creating a cutting edge container port on a former oil terminal site

BELFAST
Major development & revitalisation of port area – including a film studio

LIVERPOOL
£400m investment in Liverpool2 expansion of UK's largest transatlantic port

PORT TALBOT
Critical to the UK steel sector and the manufacturing it supports

BRISTOL
Providing offsite modular construction as well as port facilities to support strategic energy infrastructure development

SOUTHAMPTON
UK's largest cruise terminal and a crucial export point for the UK car industry

LONDON
Ensuring safe navigation for UK's busiest inland waterway. First port to launch air quality strategy

UKMPG Members



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Hutchinson Ports UK
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Port of London Authority
www.pla.co.uk



PD Ports
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Peel Ports
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To learn more contact
Tim Morris, Chief Executive,
UK Major Ports Group
+44 (0) 7387 091 407
Tim.Morris@ukmajorports.org.uk
www.ukmajorports.org.uk