

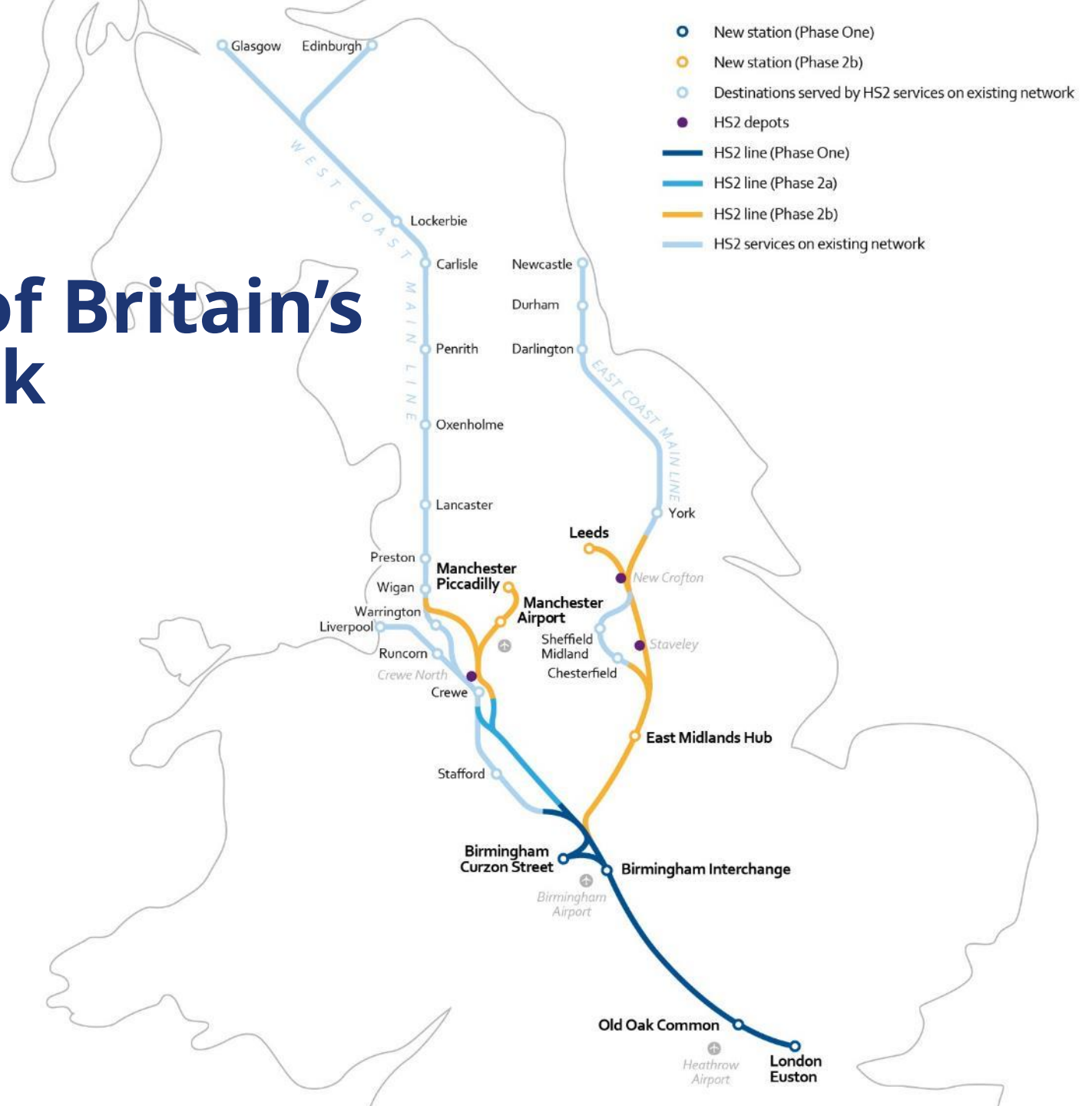
HS2

Geosynthetics on HS2 - Banned, permitted or welcomed?

Nick Sartain, Head of Geotechnical Engineering, HS2 Ltd

IGS Rail Symposium, April 2018

HS2: the new backbone of Britain's rail network

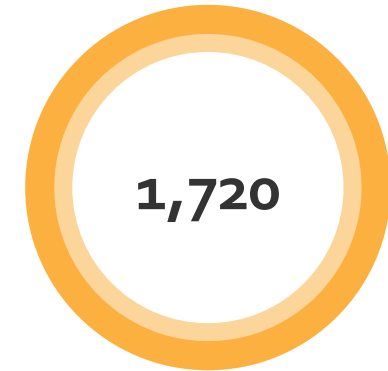
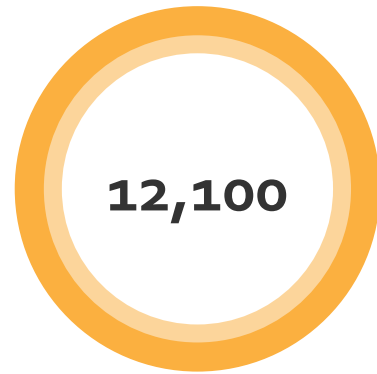




HS2 Announcements 17th July 2017

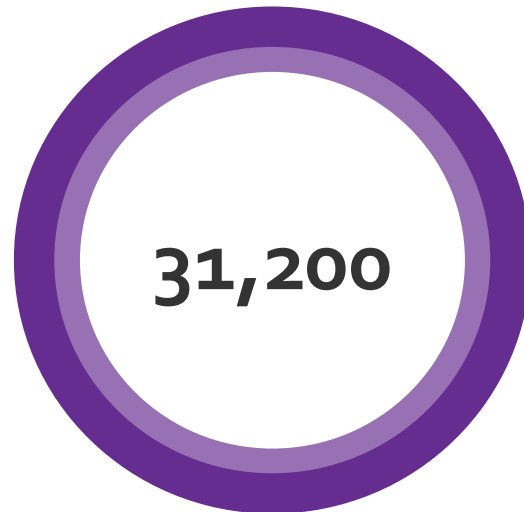
More than double the seats

2017



evening rush hour
total seated capacity

**2033 with
HS2**



London Euston

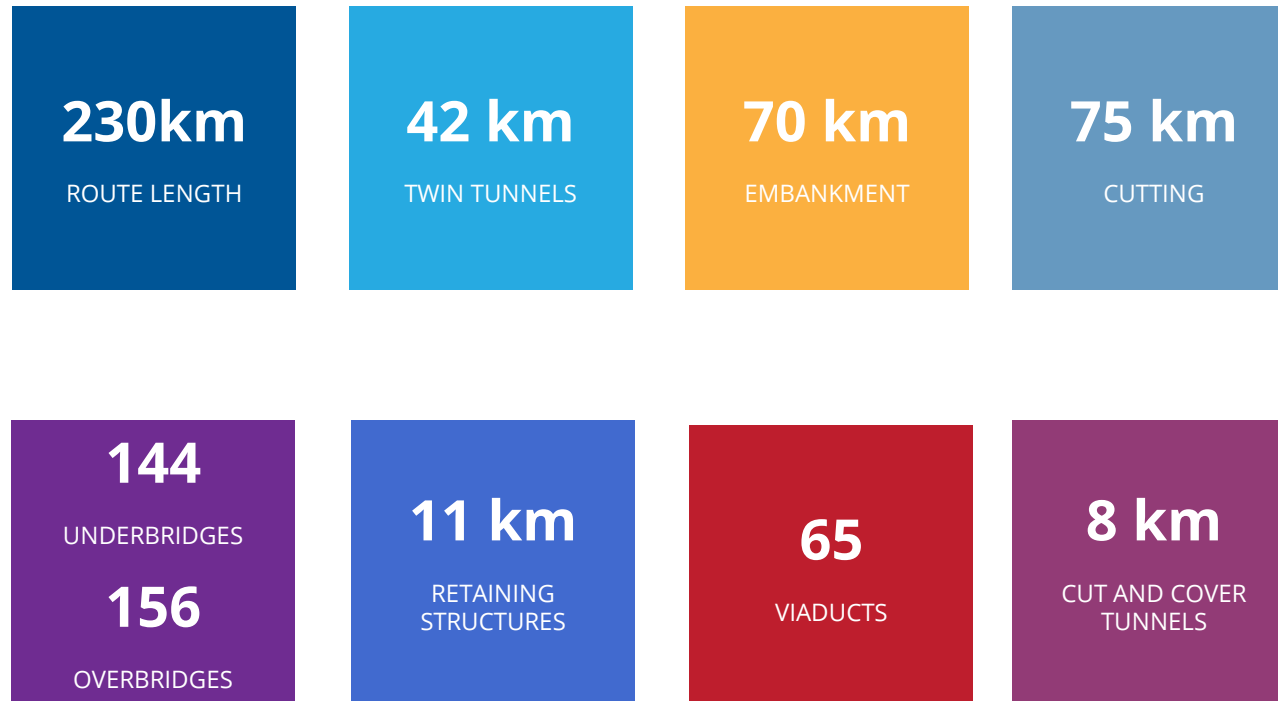
Manchester Piccadilly
(Crewe/Stoke Corridor)

Leeds
(Doncaster Corridor)

HS2's timeline



HS2 Phase One key construction statistics (approximate)



Operational requirements

2 tracks
NARROW
CORRIDOR

120
years
DESIGN LIFE

0500-
2400
OPERATIONAL
WINDOW

30s /
train
AVERAGE ANNUAL
DELAY





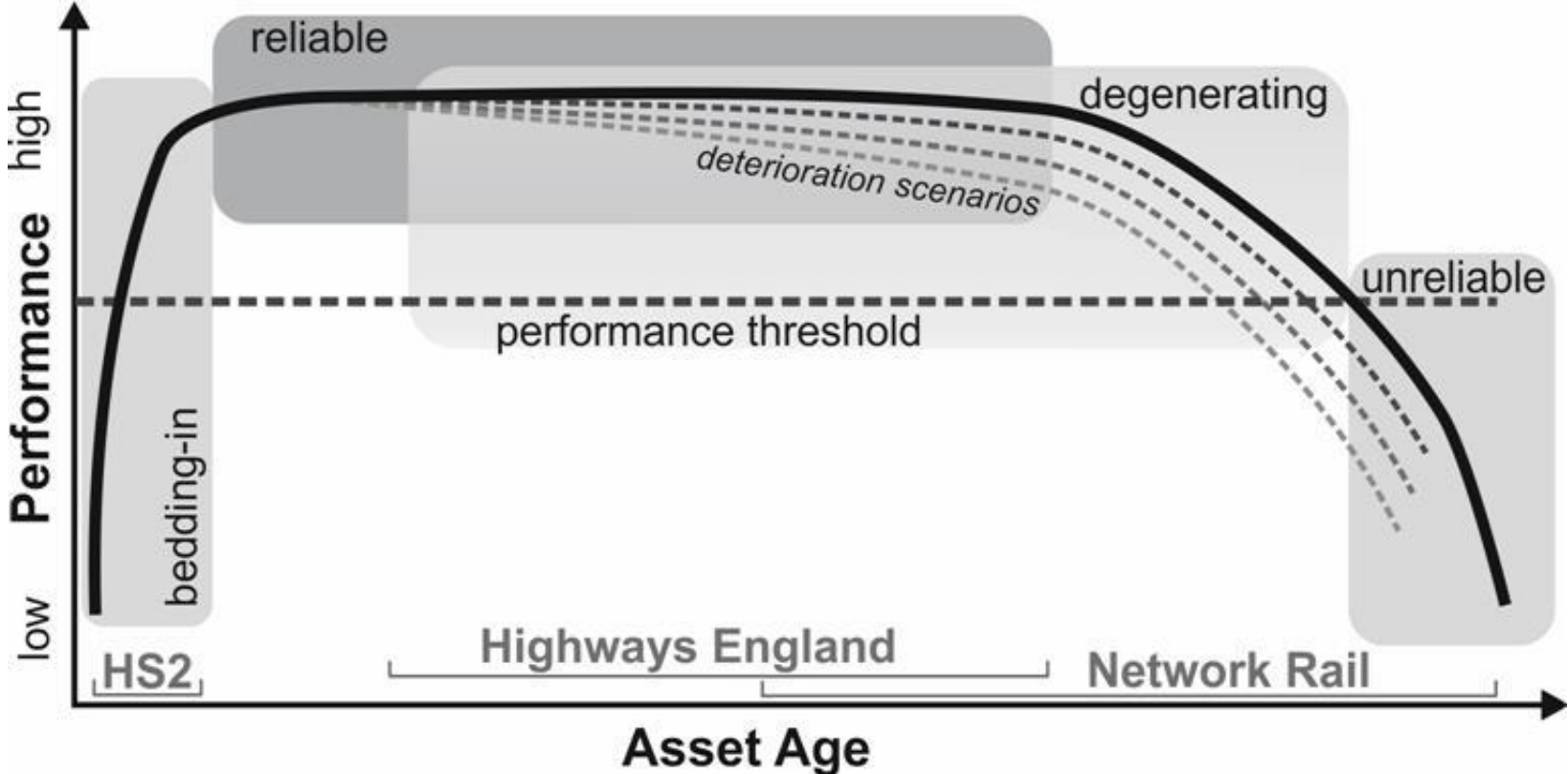
Safe at heart

Some of our strategic commitments:

- We will view health like safety
- We will design the infrastructure such that all routine, planned trackside maintenance can be carried out outside of operational hours



Earthwork performance over time

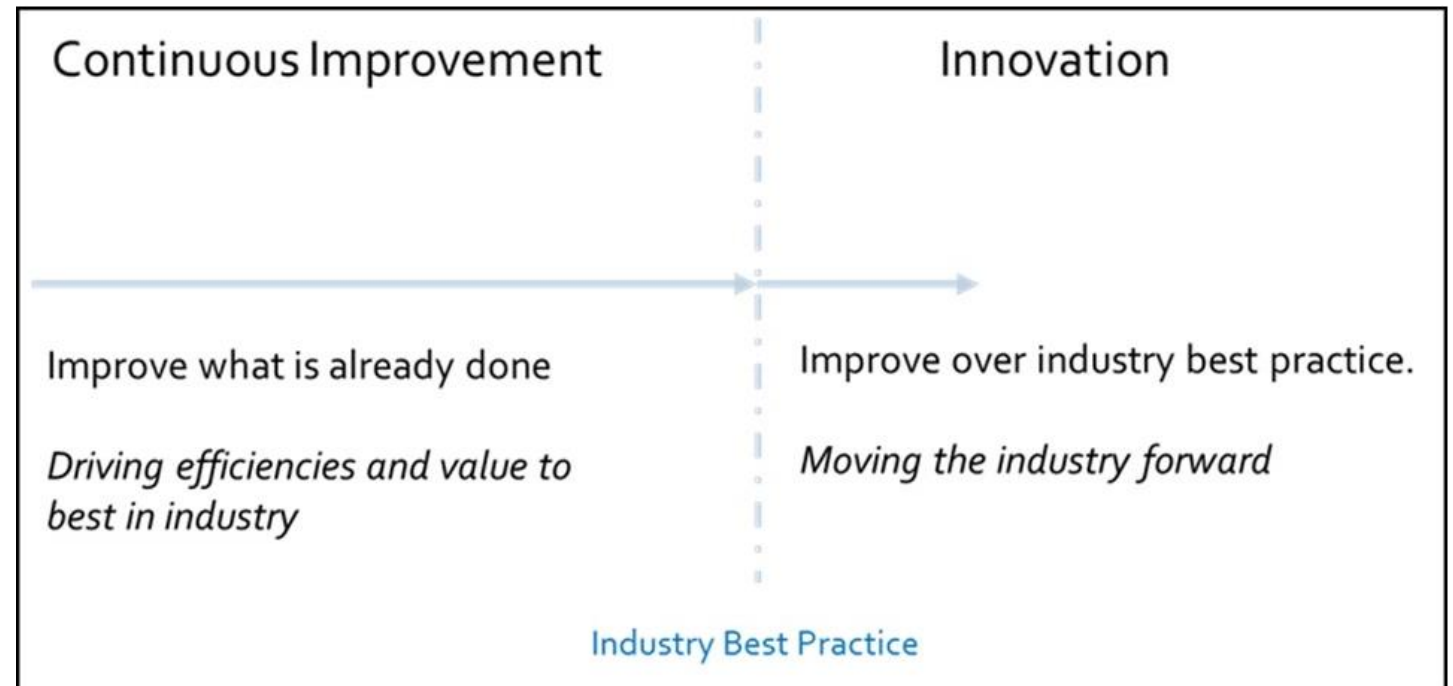


From Glendinning et al, Earth and Environmental Science, Vol. 26, 2015

Appetite for innovation

“Innovation relates to **delivering something differently** to provide a benefit beyond that which is considered industry best practice. Innovations could be related to **products, materials, people or processes/methods** and are not limited to technology”

- Evidence?
- Where on the project?
- When on the project?




Appetite for geosynthetics?

Design stage	High-speed rail - trace	Conventional rail	High-speed rail - infrastructure	Highways, roads, paths,	Temporary works
hybrid Bill	Not preferred			Not explicitly considered	



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Scheme	Increasing likelihood →			→	
Detailed	Increasing likelihood →			→	



Geosynthetics

Banned?

No

Permitted?

Yes

Welcomed?

**With the right
evidence**

