


A wide-angle photograph of Earth taken from space at night. The Earth's curvature is visible at the top. The surface is covered in a dense network of yellow and orange lights, representing city lights. The atmosphere is visible as a thin, glowing blue layer. In the bottom right corner, a portion of a satellite or space station structure is visible, showing some metallic surfaces and a small antenna-like protrusion.

The new race for space

Martin Hamilton

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1. Space is the place
 2. Everything old is new again
 3. Destination: Mars

1. Space is the place

The fourth industrial revolution

This is a real shift in technology capability that will change the world around us; just as previous revolutions created step changes in our ancestors' lives



Example: UK hyperloop

ROUTE UK | SCOTLAND-WALES

Total Length: 1060 km

Total Duration: 89 min



Near future industries

Asteroid mining

Drone engineering

DNA editing

Robot wrangling



Launch, land, repeat

Cost of rocket: \$60m

Cost of fuel: \$200K



2. Everything old is new again

UK spaceports

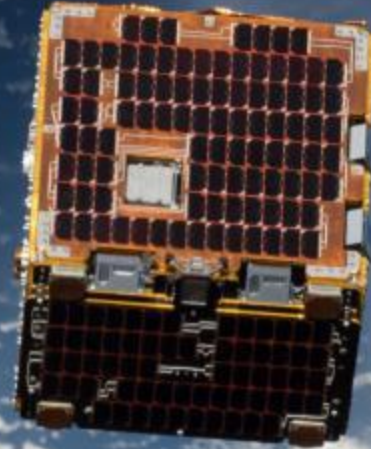
Vertical launch:

A'Mhoine, Sutherland
(Lockheed Martin, Orbex)

£40m+ support



Build it & they will come



UK already produces 44% of the world's small satellites (SSTL, Clyde Space, Spire, Alba...)

UK spaceports

Horizontal launch:
Newquay?
Llanbedr?
Prestwick?



The Janet network: catalyst for UK research and innovation

Janet connects universities and science parks, from Harwell to Surrey, Culham to Goonhilly

8,500km of optical fibre,
400Gbit/s circuits

Destination: Mars

Opportunity beckons!

Off-planet agriculture

Mining and smelting in low/zero G

Interplanetary Internet

Pregnancy and childbirth

Space law

Many thanks!

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