

Innovating Scotland's Railway

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Pioneers Welcome

Empowering you to transform our industry

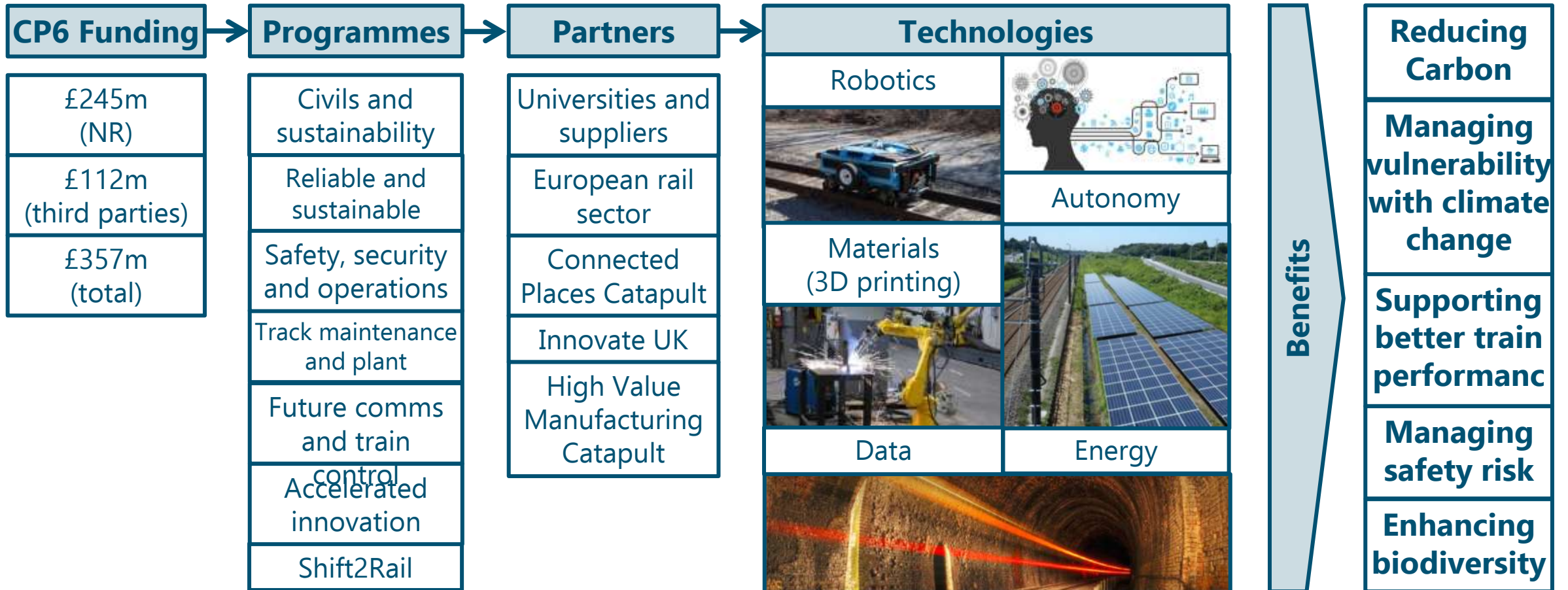


Research and Development
Innovation is in our nature

Scotland, the forefront of innovation



R&D Portfolio – technology for better infrastructure



Managing vulnerability with climate change

Mapping asset criticality and vulnerability for extreme weather resilience



Understanding the real cost of climate change



These projects will inform asset management decisions to manage the costs and passenger impact from climate change

Supporting better train performance

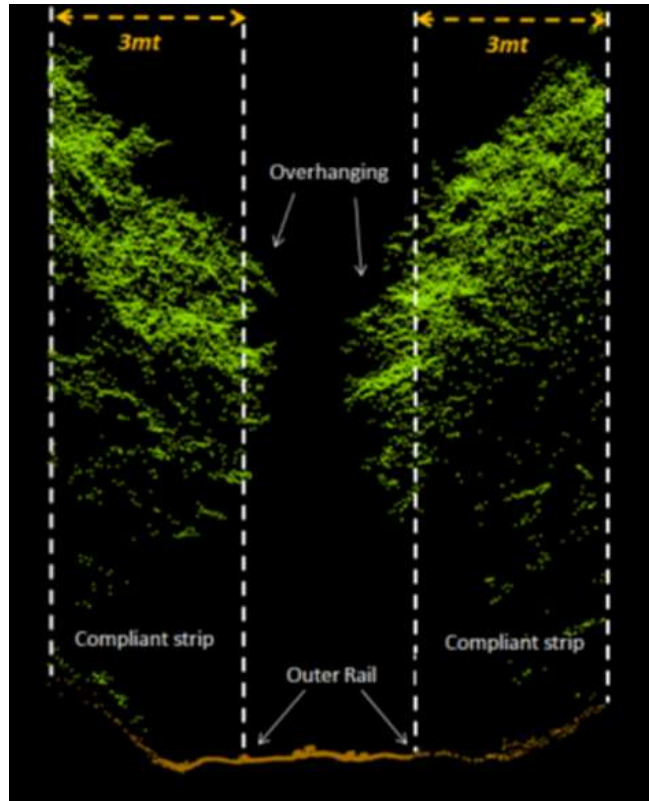
Weather Forecast Asset Failure Project



Hackathon style trial. Looking at probability of asset failure based on weather forecast data to reduce weather disruption to Scotland's Railway.



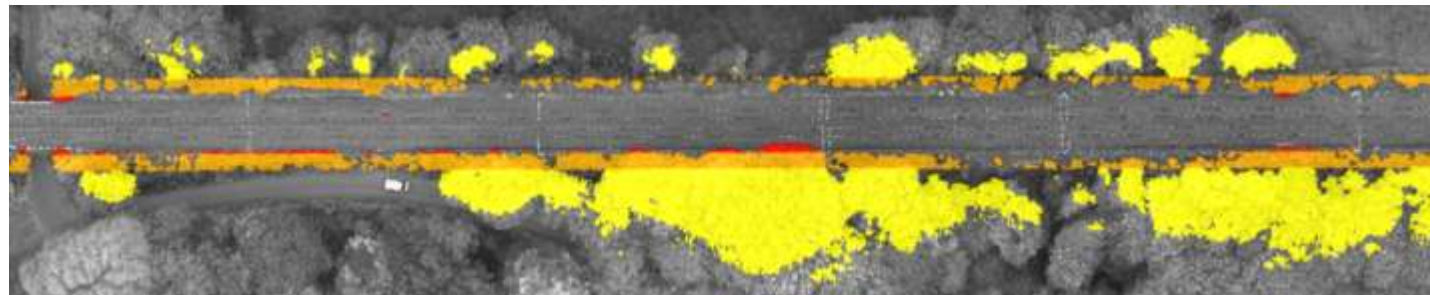
Supporting better train and station performance



Digital Lineside Inspection Project



Live Lift Monitoring Project



Using near real time data on asset condition to drive maintenance and provide information to passengers

Reducing carbon off the tracks

**Solar panels and
battery storage in
depots**



**Ultra low emission
road vehicles**

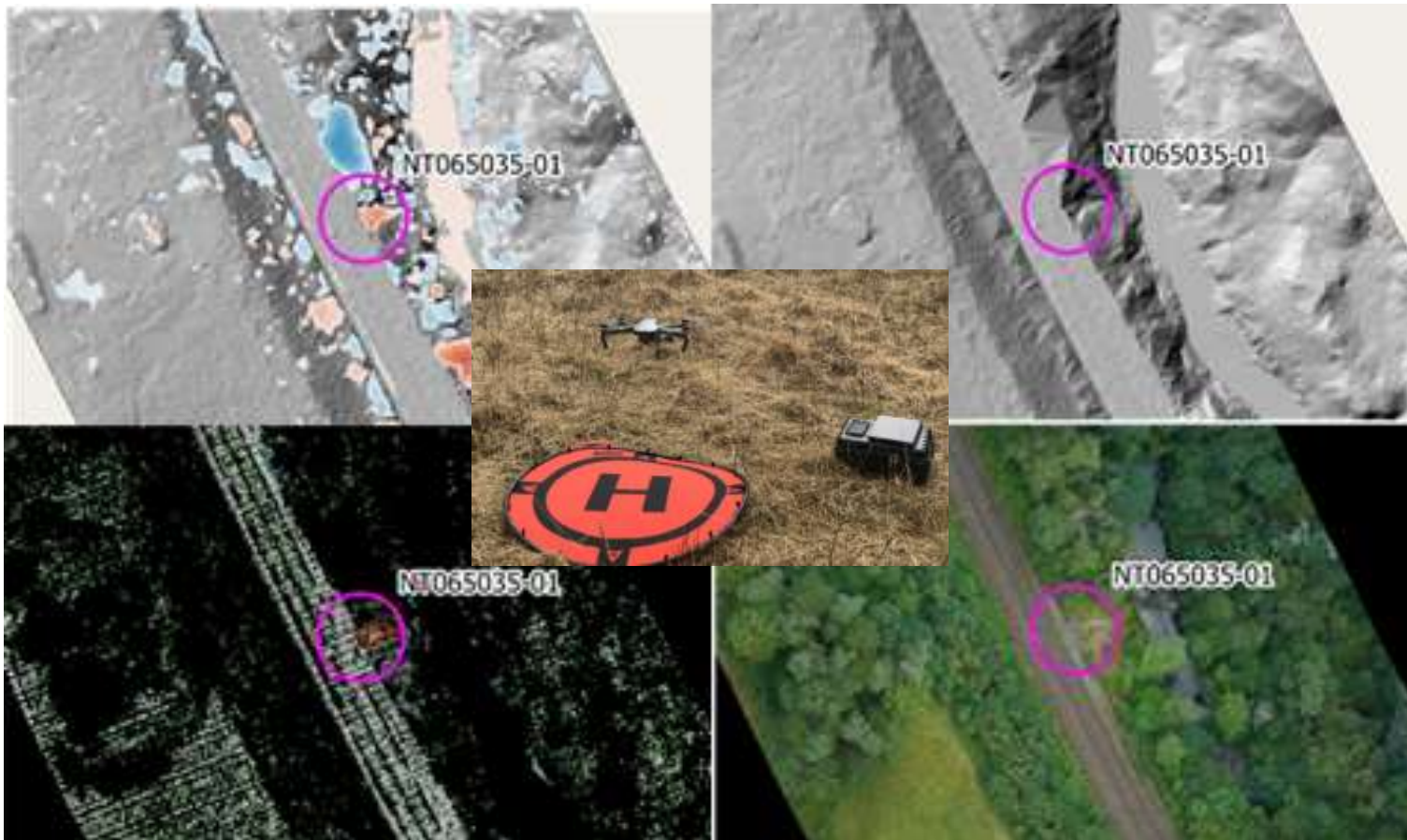


Decarbonising our estate and other non-traction energy



Managing safety risk

Monitoring earthworks by exploiting aerial survey data



Prometheus Project



Autonomous drone to inspect mines and enclosed spaces

Digital data capture and analysis to keep assets in a safe condition

Managing safety & performance risk

Smart Drainage



Submersible, area velocity sensor being deployed in smart drainage trial at Knockenjig on the GSW line

Remote Earthworks Monitoring



Loch Eilt, Mallaig Line

Remote Condition Monitoring and Remote Failure Detection

Enhancing biodiversity

Sustainable Land Use Project

OPTION 1
WILDFLOWER



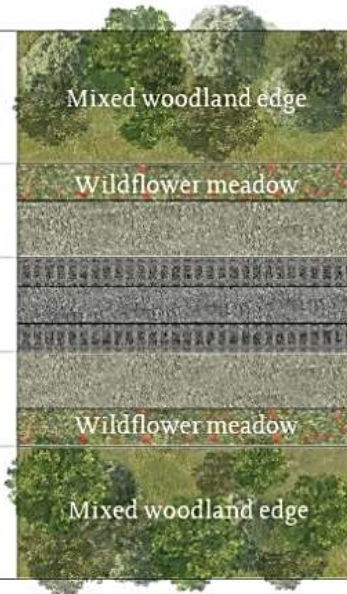
OPTION 2
WILDFLOWER & HEDGE



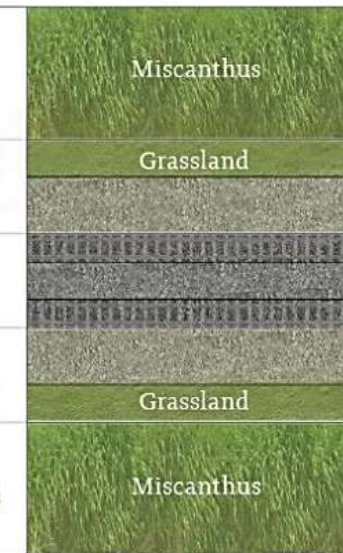
OPTION 3
WILDFLOWER & SCRUBLAND



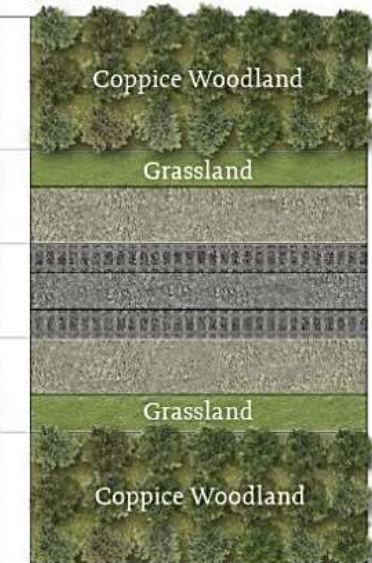
OPTION 4
WILDFLOWER & WOODLAND



OPTION 5
MISCANTHUS & GRASSLAND



OPTION 6
COPPICE WOODLAND & GRASSLAND



Large scale vegetation management trial Motherwell-Dundee and a smaller scale biodiversity trial on the Cathcart Circle. Together these form the largest trial of sustainable land management on the railway in the UK. Work commences in 2020

A wide-angle photograph of a railway track stretching into the distance. The tracks are made of steel rails on a bed of gravel, flanked by dry, golden-brown grass and a fence line. In the background, there are rolling hills and mountains under a dramatic, cloudy sky with hints of purple and blue.

SCOTLAND'S RAILWAY.

BETTER IN THE MAKING.

What legacy will
you leave?