The Postal Museum:
Mail Rail Interactives

x330 Case Study 06

FARO

The Postal Museum:
Mail Rail Interactives

The Mail Rail shuttled post between Paddington to Whitechapel deep beneath London's streets from 1927 to 2003. The Royal Mail's then high speed network delivered letters from the other side of London in a little under 5 minutes. Maintaining those trains was undertaken at Mount Pleasant, right under the Royal Mail's postal sorting office which stands on the site today.

Mothballed in 2003, the Mail Rail's huge underground complex of tunnels, trains and platforms has remained closed, left exactly as it was for the best part of a decade. The Depot was scanned by ScanLAB Projects in 2015, capturing the tunnels, platforms and terminals along with all the spanners, nuts and bolts before its transformation into the Postal Museum.

Client and Team
The Postal Museum

ScanLAB Projects
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The Postal Museum
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About the Experience
The British Postal Museum opened in on the site in July 2017 with two permanent installations Time Telescopes & Network Explorer created from those captured 3D scans. Allowing visitors a portal back in time, the Time Telescope shows how the Train Depot looked before the Museum renovated the space. Peeling paint, engine parts and spanners can all be discovered as you search and zoom through the scan.

Guiding visitors around the extensive underground network beneath Mount Pleasant, the Network Explorer gives a forensic perspective to the labyrinth of tunnels, platforms and sidings, which makes up the Mount Pleasant section of the Mail Rail. The scan data and touch screen allow audiences to interact with the scans exploring hidden areas from impossible viewpoints.

Retracing the Mail Rail path with a newly designed Time Telescope, visitors are now able to virtually wonder along the platforms, having unique viewing access to the tunnel split that allowed the Mail Rail to reach the opposite sides of the city. Lockers, hoist, mail cart and the train graveyard are also featured in the Timescope, providing an exact digital legacy of every left spanner, bolt and flaky paint of the authentic Postal Depot.
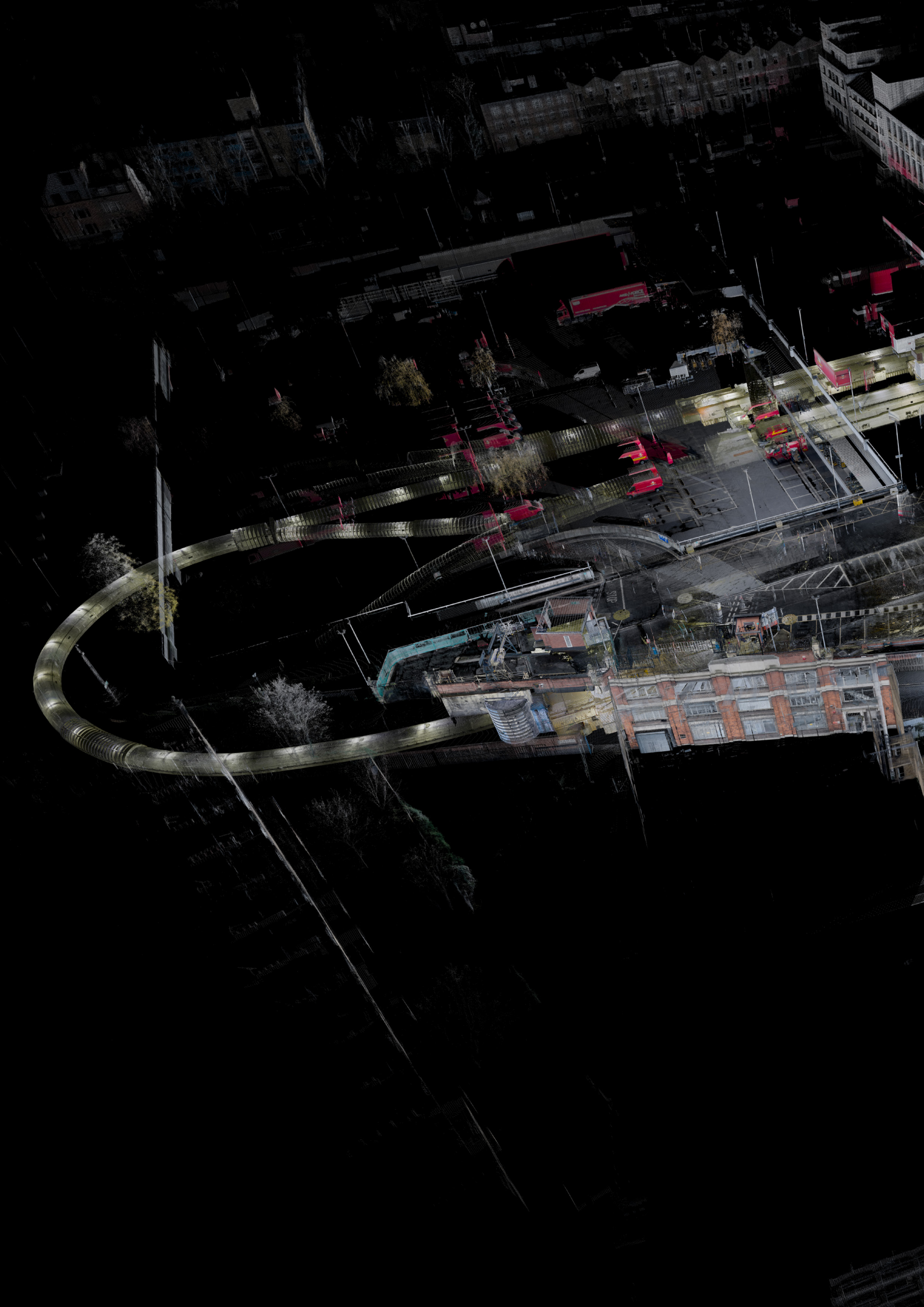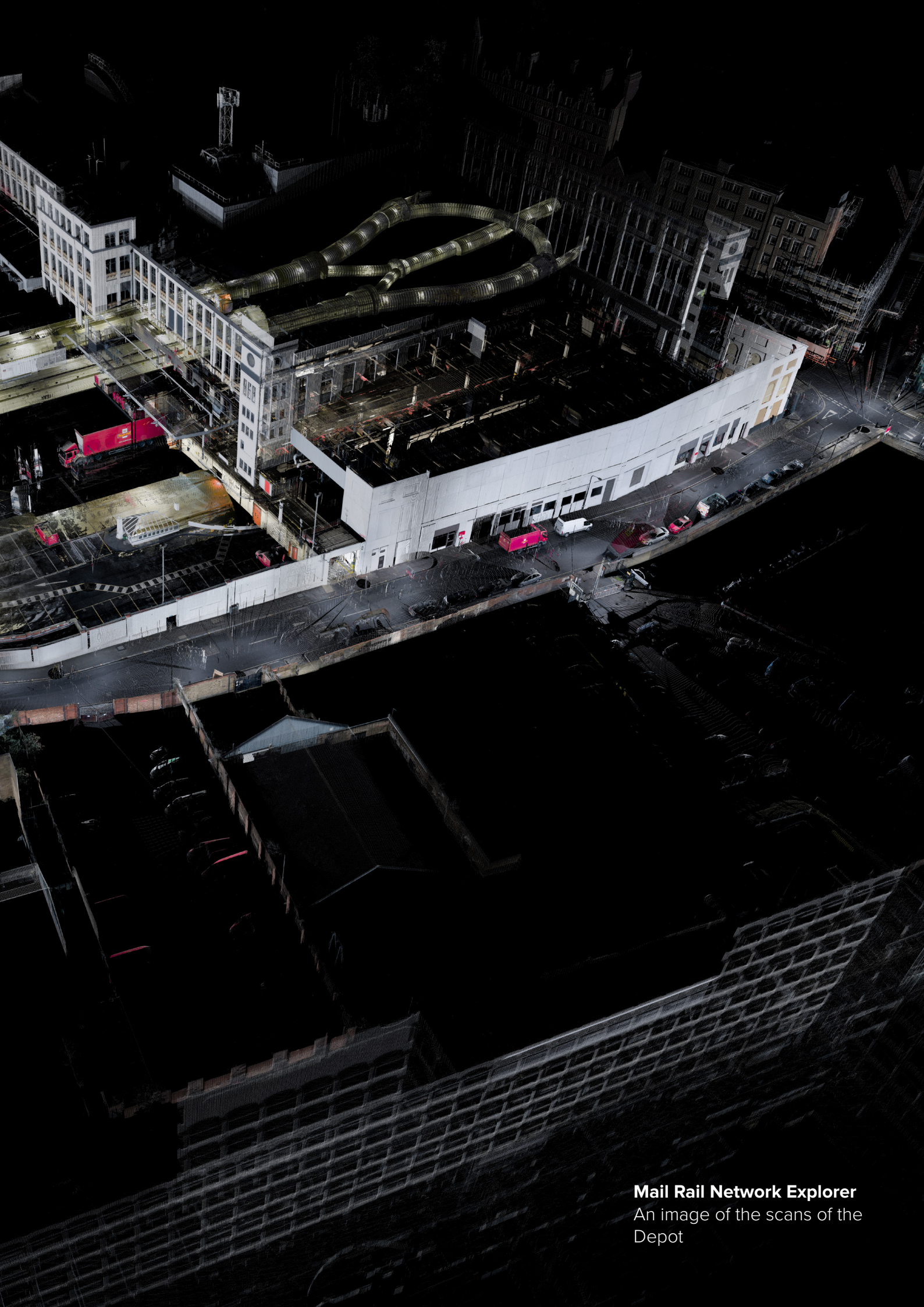
The Postal Museum
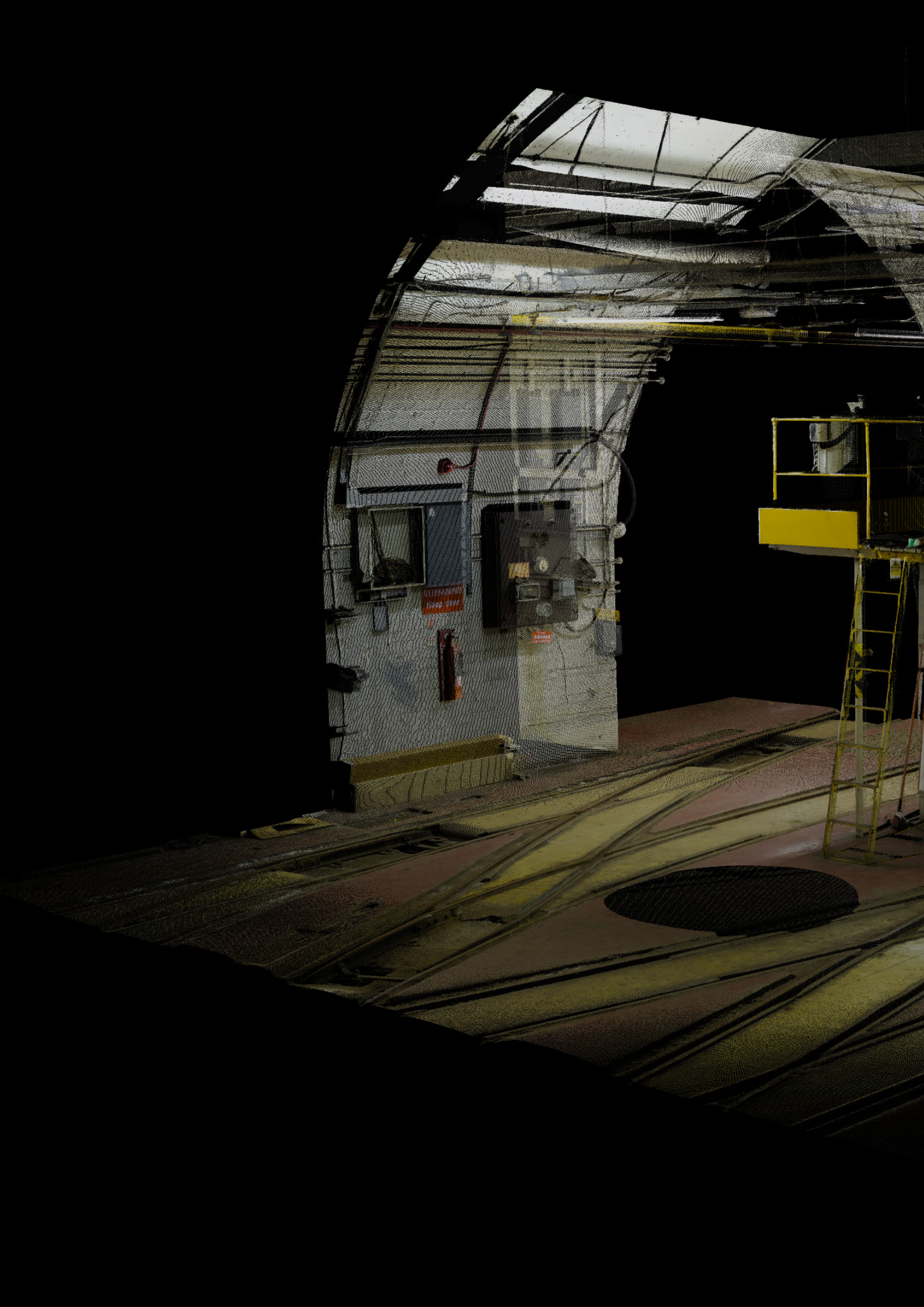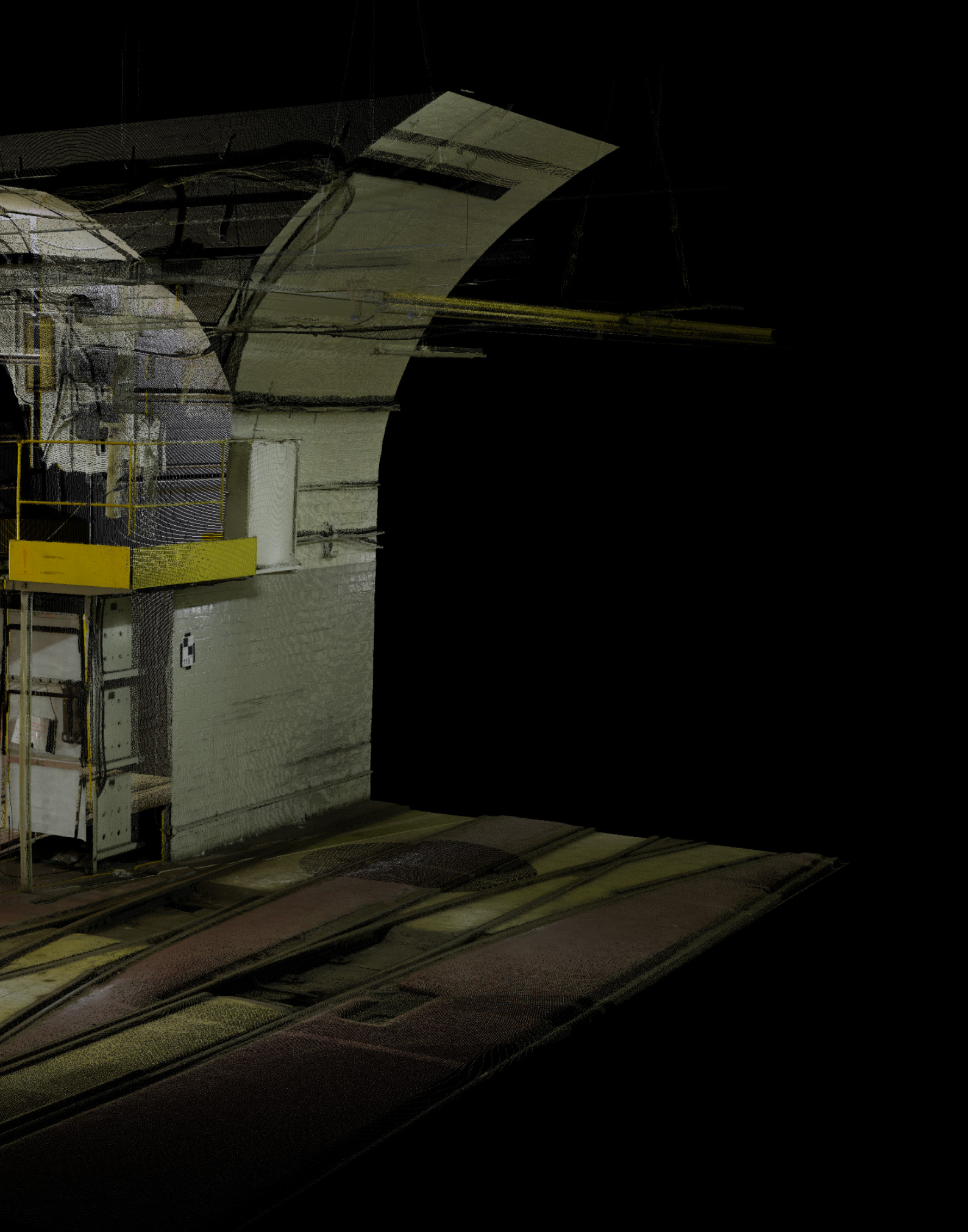The Mail Rail Depot, Network
Explorer, installation view

Mail Rail Time Telescope
Home Page

Mail Rail Time Telescope
in action

Mail Rail Network Explorer
An image of the scans of the
Depot

Mail Rail Network Explorer
An image of the scans of the locker area within the Depot

Technique and Workflow

On location:
5 days on site
¼ resolution scans for both underground and ground areas
250 scans in total

The ScanLAB team used 2 Faro Focus x330's in a traditional static setup with a survey tripod. Referencing was completed with 145mm spheres and A4 Paper Targets. Colour information was captured separately using a Nikon camera and pano-head, later stitched and colourised in Faro Scene.

Processing:
Statically captured scan data from the x330, was aligned using Faro Scene 6.2, following filtering and automatic target detection and successful target based alignment was completed for the location. Colour processing was completed in PTGui before application to the scan data in FARO Scene. Following the alignment and colourisation the data set was integrated into interactive user interfaces, Time Telescope and the Network Explorer allowing visitors to experience the Mail Rail network as it was before its transformation.

The hardware and software programs for these were developed at ScanLAB Projects, utilising the latest web and interactive touch screen technologies.

The Postal Museum
The Mail Rail Depot,
Network Explorer

The Success of the x330
Due to the extent of the Mail Rail's underground network and the difficult working environment the x330 was by far the instrument of choice. Its lightweight, robust construction and powerful batteries meant we could capture for upto 10 hours straight with 4 separate batteries. In addition the compass and altitude sensors worked well in the heavily engineered space.

The x330 creates new opportunities for cultural heritage visualisation and digitalisation. The data captured of the platform, tunnels and depot now forms part of the Mail Rail's permanent archive. This record of the space before its transformation into the Museum is now preserved indefinitely.

The scan data is also a creative opportunity to engage visitors, broadening the appeal of the Museum's interactive exhibits by utilising cutting edge technologies to offer visitors something they might have never thought possible.

About ScanLAB Projects
ScanLAB Projects are one of the UK's leading providers of large scale 3D scan data. They specialise in visualisation of pointcloud data for film, tv, advertising and the creative industries. Their work has been broadcasted internationally and exhibited at leading cultural institutions across the world. They are currently working with leading architects, scientists, broadcasters and artists on a portfolio of projects worldwide.

The Postal Museum
The Mail Rail Depot, Time
Telescope, installation view