

Heathrow Enhances Operational Resilience with Real-time Geospatial Platform

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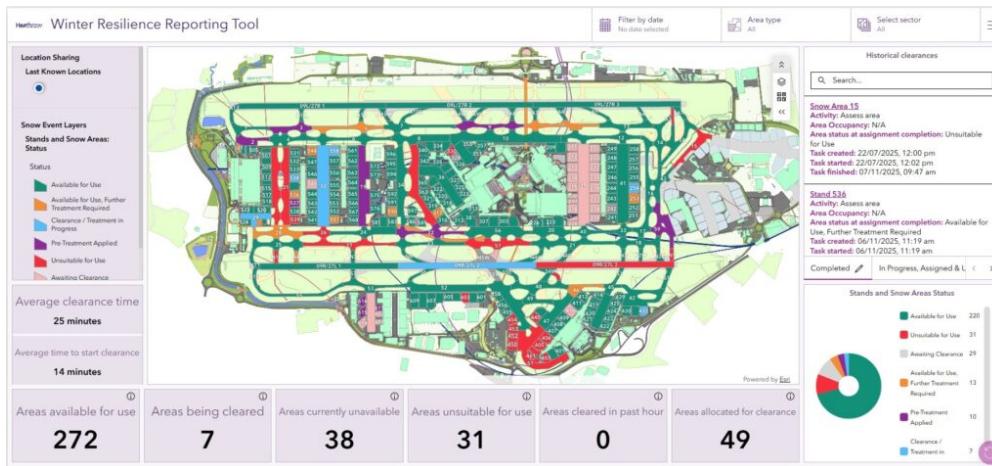
New Esri mapping technology modernises workflows for 3,000 staff

Heathrow Airport has gone live with Heathrow Explorer, a new mapping and data platform to modernise workflows and strengthen operations at Europe's busiest airport. A core component of Heathrow's digital transformation strategy, the system provides a real-time, single view of infrastructure and assets, enabling teams to make faster and better decisions.

Using interactive maps and dashboards, the system brings together previously siloed technical and operational information on more than 500,000 assets. The initial launch includes applications for up to 3,000 staff across Engineering, Operations, Fire Service, Property, Retail and airport third parties, including airlines. Created by [Esri UK](#) using its GIS (Geographic Information System), the new approach replaces outdated legacy software with increased functionality, enhanced security and mobile access.

Containing almost 300 different layers of information, the mapping system makes Heathrow's 'digital engineer' strategy possible. Engineers can now quickly access data relating to the airport's asset base from any location, making maintenance planning, inspections and site visits safer and more efficient.

Heathrow Explorer is part of the airport's Asset Management and Compliance Programme, focused on renewing and maintaining Heathrow's critical infrastructure, including runways, terminals, security and baggage to improve operational performance and the passenger experience.



Gavin Payne, Director of Engineering and Baggage at Heathrow Airport, said: “Location intelligence is becoming a core capability in how we achieve Heathrow’s asset management and operational goals. Our new Esri platform is making it easier for colleagues to access and use the information they need, improving everyday efficiency, supporting better decision-making and helping build a more resilient airport.”

Heathrow is Europe’s busiest airport, serving almost 85 million passengers in 2025, the airport’s busiest year on record. The airport is also the most connected hub in the world, with over 230 destinations in over 80 countries.

The first application to go live was Winter Resilience, providing airfield teams with real-time updates on airside snow clearance or de-icing activity. Replacing manual workflows which used printed maps, the new tool gives teams a single operational picture on handheld devices. Airfield managers can dispatch the nearest available clearance team and track progress instantly, helping speed up snow clearance activities to avoid flight delays during winter.

Improving access to information via mobile devices is a key driver of the new system. One example is a new application designed for the fire services team, showing all water assets with live hydrant and water network availability, including Heathrow’s 72 miles of fire mains. Fire crews can now access maps and graphical information about assets from mobile devices, which helps improve incident response and future scenario planning.

The geospatial system has been extended to major contractors working on Heathrow’s asset management and compliance programme, enhancing collaboration and helping to streamline construction projects. A new tool to manage the airport’s noise and vortex compensation and repairs scheme for neighbouring properties has also gone live.

Future developments include applications for the Heathrow Expansion Programme and the use of Esri Indoor GIS to improve terminal navigation for passengers and staff on smartphones.

Pete Wilkinson, Managing Director, Esri UK commented: “Heathrow is demonstrating what next generation airport geospatial systems look like. By unifying spatial data to streamline workflows, the airport is creating a digital foundation that will fuel innovation for years to come and keep delivering a world class

passenger experience.”

Heathrow Explorer has been designed and developed by Esri UK’s professional services team, in partnership with Syprosoft, 1Spatial and GeoJobe. Geospatial data has been provided by Esri UK partners Ordnance Survey, BlueSky and LandClan.