GIS takes off at Manchester Airport

The largest UK-owned airport business, Manchester Airports Group (MAG), is extending its use of ArcGIS following many years of sustained success with Esri technology. Used extensively throughout the organisation, GIS has contributed to significant improvements in asset management, operational efficiency, profitability, customer service and community relations.

MAG serves around 42 million passengers every year and supports more than 130,000 jobs at four British airports: Manchester, London Stansted, East Midlands and Bournemouth. The organisation first used GIS at Manchester Airport nearly 20 years ago to model noise contours and has been gradually developing and extending its use of this technology ever since. Today, Esri's ArcGIS platform is a vital business system for MAG, bringing clarity to complex operational, environmental and strategic issues.

ArcGIS has played a pivotal role in helping MAG make important decisions about future developments and day-to-day operations at Manchester Airport. The solution has identified opportunities to improve business efficiency and hence reduce costs, as well as reveal new ways to optimise profitability, particularly in retail operations. ArcGIS has also been instrumental in helping MAG minimise its impact on the environment, improve its customer service and build positive relations with people who live near the airport or under flight paths.

To further extend the benefits that it gains from using GIS, MAG has now announced its intention to use ArcGIS for spatially managing long-term asset planning. It is building a new GIS solution that will integrate with attribute data, allowing it to be mapped, record the asset information in one central database and share it with any department. This comprehensive asset management system is expected to introduce more efficient ways of working and help MAG identify the most profitable and sustainable uses for its land and other assets for many years to come.

> **"GIS helps us make better informed decisions and thereby improve both our profitability and service for customers. It will continue to play a critical role in shaping the future growth and development of our airports."**
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> Vickie Withnell, Group GIS Advisor, Manchester Airport Group

MAG benefits from:

Improved asset management

Engineers use a mobile GIS application to log Pavement Management System faults and report maintenance work onsite. MAG then analyses this information and uses it to plan work strategically, taking into account aircraft departure and arrival times, to minimise business disruption for airlines.

Better customer service

GIS is used to visualise and analyse customer locations, socio-demographic groups, methods of travel to the airport, road and rail networks and car parking facilities. With this intelligence, MAG can provide relevant information to its customers, which helps to ensure they have the most positive experience when visiting the airport.

Enhanced operational efficiency

MAG employed GIS to analyse the locations of its assets at Manchester Airport vis-à-vis the locations of the people who use those assets on a daily basis. It then identified the locations of teams to ensure they were situated in the optimum location, where they will spend less time travelling to and from jobs, improving their efficiency.

Greater sustainability

When making decisions about the future of its airports, MAG uses GIS to analyse the impact of proposed developments on natural habitats and local communities. It also uses GIS to assess the best locations for wind turbines, ground source heat pumps and solar panels, supporting its drive to become carbon-neutral.

Increased revenues

During the renovation of its departure areas, MAG employed GIS to model the new retail spaces created and demonstrate passenger flow through these areas. With this valuable insight, the organisation is able to identify the retail units with the highest 'footfall' and optimise its retail revenues by marketing these premium units to higher-end retailers.

Positive community relations

By using GIS to analyse flight paths, noise contours and residential areas, MAG identified the individual properties that qualified for funding for secondary double glazing. It could therefore be proactive about the grant scheme to identify eligible properties, improving its public image with householders.