

Updating the SAMAX Airport Traffic Analyzer



After using the SAMAX Analyzer to track the flow of aircraft and ground-based vehicular traffic at airport for a number of years, Flughafen Zürich AG (FZAG), the company that operates Zurich Airport, commissioned EBP to update the tool and expand its range of functions.

Zurich Airport is Switzerland's largest and busiest airport, with an average of around 740 aircraft take-offs and landings per day, based on 2017 data.

To monitor the flow of traffic at the airport, FZAG long deployed the MATLAB-based SAMAX Analyzer. However, as soon as the application was assessed as no longer meeting the same specifications as state-of-the-art systems, EBP was commissioned to migrate it to Esri ArcMap and expand its range of functions.

The tool uses recorded radar data to ascertain all points at which aircraft and ground-based vehicles enter and exit any given sector of airport space. This enables system analysts, for instance, to track the number of movements across individual taxiways and to record the approach speeds of various types of aircraft.

Integration into existing GIS

FZAG's mapping data are administered in a centralized geographic information system (GIS), effectively making all existing and future airport infrastructure digitally available. These data are essentially an integral part of the new version of the SAMAX tool (i.e. as an Arc Map add-in). This enables system operators to ensure that all current and pending analyses take

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Project Country	Switzerland

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account of the very latest infrastructure changes. Moreover, the integration enables the use of traffic flow analyses in other maps, as well as future functional expansions.

Services provided by EBP

EBP realized the update of the SAMAX Analyzer as an Esri ArcMap Add-On, paying special attention in this regard to the mapping of sectors and enabling batch analyses of millions of spatial points. EBP will also continue to maintain the application and otherwise support its operation.