Cambridge Pixel and becker-aero Collaborate to Improve ADS-B Coverage in the South and East Asia

Cambridge Pixel supplies ASD-100 and SPx Fusion to complement Becker's ADS-B receivers making flying safer in Asia and providing better nationwide coverage.

CAMBRIDGE, UNITED KINGDOM, October 5, 2021 /EINPresswire.com/ -- Automatic Dependent Surveillance-Broadcast (ADS-B) provides more accurate and reliable tracking of aircraft in flight and on the ground. By

using a combination of satellites and receivers, both flight crews and ground control personnel are able to see accurate information about position and velocity of aircraft in an area. Unlike radars, that can take up to 12 seconds to update an aircraft position, ADS-B equipment provides air traffic control (ATC) with updated aircraft information almost every second, making it possible for pilots and operators to identify and resolve potentially hazardous situations quickly and effectively.

ADS-B enabled infrastructures are especially important to deploy in areas where placement of a radar site is unfeasible, such as the highly mountainous terrains of Asia. Such terrain is notoriously challenging for aviators as it is exactly the kind of environment that creates the three common causes of turbulence: mountains, jet streams, and storms.

becker-aero is a privately held company that develops, manufactures and distributes equipment for airborne and ground applications amongst other solutions, and when installing ADS-B systems to enhance existing air traffic management systems in the South and East Asia, becker-aero's challenge was to fuse data from five redundant ADS-B ground stations (10 sensors) in two different ACCs (Area Control Centres), to feed the existing ATM systems. Cambridge Pixel was able to supply a combination of SPx Fusion and ASD-100, to complement becker-aero's ADS-B receivers XAero helping to make flying safer and to extend air traffic surveillance coverage in the region.

Cambridge Pixel's innovative SPx Fusion application receives ASTERIX CAT21 messages from

becker-aero's hardware and identifies which messages contain new aircraft data and which are repeats of previous messages. This is important because the installation of dual-redundant receivers at each site, together with geographical overlap between the sites, means multiple copies of each message are received. SPx Fusion de-duplicates the data to generate a single stream of correlated reports which are re-distributed via the network to the existing ATC systems and the new monitoring stations. Cambridge Pixel's ASD-100 provides the monitoring display by receiving the fused reports and overlaying them in graphical format onto dynamic aeronautical charts.

In addition to Cambridge Pixel's software, the becker-aero team received specialist training and support from Cambridge Pixel's engineers, including a novel custom-built solution for the older version of ASTERIX CAT21 messages still in use by some countries in the Asia Pacific Region to ensure interoperability of ADS-B ground stations. Following this development work, Cambridge Pixel's technologies are now capable of interfacing to both legacy and current versions of the ASTERIX CAT21 protocol, providing a single common interface to operators and other systems regardless of the original source of the data.

"As a result of the collaboration with Cambridge Pixel and the custom adaptions to the software, we at becker-aero, were able to provide our customers an excellent display tool with the ASD-100 application. Engineers at Cambridge Pixel were able to customise the software to the specific needs of our clients, e.g. support for SKyVector charts. Thus, we were able to offer our product to a wider range of interested parties." said Dominik Helff, Managing Director, becker-aero.

Cambridge Pixel's air surveillance tools and accessories are used around the world ranging from Indonesia, Thailand and Australia, to America, the UK and Germany. ADS-B support is included in Cambridge Pixel's SPxServer, RadarView, RadarWatch and can be recorded/replayed via the RDR application, as well as the free ADS-B Data Monitor for diagnostic purposes. Furthermore, Cambridge Pixel's engineers improved ASD-100 during this project by adding support for SkyVector aeronautical charts. David Rosic, Software Engineer from becker-aero said: "The SkyVector charts work wonderfully. We are very glad Cambridge Pixel implemented this feature."

For more information about Cambridge Pixel's technologies, or to request a demo of SPx Fusion, please call: +44 (0) 1763 852749 or email: enquiries@cambridgepixel.com.

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