

AVIATION WEEK

& SPACE TECHNOLOGY

RETOOLING AIRBUS

PAGES 37 and 44

#AUW0005982327/9# DAW69F17 01SEP08
MARK MAURICE 00002
KINETIC AVIONIC PRODUCTS LTD
KINETIC HOUSE 002191
44 HATTON GARDEN
LONDON 024711
EC1N 8ER ENGLAND

CLOSE UP

4,000 ADS-B Receivers Later

Avionics start-up addresses aircraft tracking, Eurocae standards

DAVID HUGHES/MAASTRICHT, THE NETHERLANDS

There are small aerospace electronics companies and then there are tiny ones like Kinetic Avionics Products Ltd., which started up two years ago and has already sold 4,000 units of the first system it invented.

Not bad for a company run by two owners with two full-time employees who together design equipment but outsource almost everything else, from production to product support.

"We outsource, but we ensure quality," says David Goodman, managing director and co-founder of Kinetic, headquartered in London.

So far, the unusual business model seems to be working. One of the employees, for example, is Martin Stevens, who was recently attracted away from Raytheon where he was an engineer working on Automatic Dependent Surveillance-Broadcast (ADS-B) systems. This alone seems like a vote of confidence for what the small company is up to. Raytheon Systems Ltd. is developing a major ADS-B air traffic surveillance capability at its facility in Harlow, England (*AW&ST* Jan. 13, 2005, p. 42).

In explaining what it is like to work for such a small company, Stevens says, "I have the ability to investigate technology, and yet we have to have a certain amount of process control to make professional equipment, but not so much so that we can't afford to make professional equipment."

The SBS-1 developed as the company's first product is described by Kinetic as a lightweight Mode-S/ADS-B receiver that decodes transponder signals from aircraft. The company claims it is affordable—but since you can buy one for \$850-900, that is more or less indisputable. Underlying base station software takes the data received from a Mode-S-equipped aircraft and displays it on a suitable laptop or personal computer (not included). And voila, if you were in London, you could see all of the Mode-S-equipped aircraft flying in and out of Heathrow Airport.

The system was invented in Britain, which just happens to be the home of a rare breed of hobbyist: the tail-spotter. SBS-1 is a tail-spotter's dream come true as far as tracking his quarry up to 250 naut. mi. away so he can identify aircraft even before seeing them with the naked eye. With its "virtual radar" display on a laptop, the SBS-1 gives a tail-spotter his own command center for tracking aircraft either from home or near an airport.

But ATC professionals are also finding the system useful at companies including ATC manufacturers, air navigation service providers and even military organizations. For example, major aerospace companies that supply ATC equip-


ment worldwide have bought units so their sales people can show potential customers in remote areas how ADS-B surveillance works in displaying the position of suitably equipped aircraft.

Goodman got involved in this line of work because he is crazy about aircraft. He loves to fly and has three helicopters to keep him airborne: a Eurocopter AS-355 F2, a Robinson R44 and the Korean War-vintage Bell 47 used on the set of the movie *M.A.S.H.*

He and his friend Keith Frewin, an electronics engineer and helicopter pilot who also holds a degree in psychology, got the idea of forming Kinetic Avionics while discussing a helicopter accident north of London near the general aviation airfield they fly from called Elstree. Near the airport, a Robinson R22 helicopter collided with a microlight in July 2004, killing the pilot and passenger in the smaller aircraft. From this debacle, a company was born to try to set things right. Goodman and Frewin wanted to develop lightweight ADS-B transmitters, and when they found no receiver available to test the system, they created the SBS-1. Frewin is now Kinetic's technical director.

In addition to developing the SBS-1, Kinetic also designed the SBS-2 professional class ADS-B system that would allow a small airport like Elstree to have surveillance of air traffic in the area. This unit costs less than \$30,000. Ten have been sold and several more are on order.

Kinetic has been making headway in the world of professional ATC organizations lately, with members of the company serving on the European Organization for Civil Aviation Equipment (Eurocae) working groups on ADS-B and other issues. David Bowen, technical secretary of Eurocae, says Kinetic specialists have been making valuable contributions in standards setting for ADS-B, multilateration and transponders.

But one point of possible confusion about the small British company was evident at the Maastricht ATC conference. When referring to the company to ATC specialists, it is essential to clarify "Kinetic with a K, not a Q." The Qinetiq Group, a large international defense and security company based in England that grew out of the British government's defense laboratories, was also exhibiting at Maastricht. But there is another easy way to tell the two apart—Qinetiq has 11,400 employees and operates at numerous sites in Britain. But both Kinetic and Qinetiq work on ADS-B, so be sure to mind your Ks and Qs. 

The \$850-900 Kinetic SBS-1 is a lightweight Mode-S/ADS-B receiver that decodes transponder signals from aircraft and uses software to display this information on a laptop computer, thus creating a virtual display of air traffic in real time.

