

RAYTHEON ACHIEVES ATC MILESTONES

Earlier this year, **Raytheon Electronic Systems** participated in successful demonstrations of the Automatic Dependent Surveillance (ADS) digital data link air traffic control features of FANS-1 in Beijing, Peoples Republic of China.

These flight trials, led by the **General Civil Aviation Authority of China (CAAC)** demonstrated the Raytheon ADS ground workstation in operation with both **United Air Lines B747-400 FANS-1** certified aircraft and **GPS-equipped Air China B737** aircraft. They illustrated the features of displaying aircraft position and status information on the Raytheon air traffic control display and monitor system.

The necessary data link capability was provided by the **Société Internationale de Télécommunications Aéronautiques (SITA)**, which has a substantive operation in Montréal in order to be close to ICAO's Headquarters.

The capability was achieved via a seamless combination of ground based VHF and SATCOM facilities.

Data collected during the trials will aid in the development of ADS/Radar control requirements and procedures for future system implementation in China.

Further trials throughout 1996 introduced the CAAC air traffic controllers to the concepts of digital data link surveillance and advanced air traffic management, in addition to helping refine both air traffic control functions and computer-human interfaces.

The Raytheon ADS workstation is configured from elements of the open architecture AutoTrac air traffic control automation system, which is being installed at **Beijing International Airport** and five regional airports within China.

Raytheon achieved yet another aviation milestone in 1996 with the operational commissioning of the new air traffic control centre in Royken, near Oslo in Norway.

The ATC Center controls Southern Norwegian airspace, as well as providing control capabilities for the four southern airports of **Fornebu, Rygge, Torp**

and **Gardenmoen**. Also included are links to the flight database from **Kristiansand, Stavanger**, and **Trondheim** and international links to **Malmo, Stockholm**, and **Copenhagen** for the coordination of flight information.

Described as the first Open Architecture System in the world, the Oslo ATC system includes 58 air traffic control positions of which 28 are operational, 18 are training and 12 are pilot positions. In all, it comprises 174 computers and is one of the largest installations of its type in the world, with several features to increase air safety.

For example, it contains minimum safe altitude warnings, alerting controllers if aircraft are flying too low over designated areas. It also incorporates a built-in collision avoidance system which constantly predicts ahead and gives a warning if aircraft will pass too close to each other.

In Europe, Raytheon is providing major air traffic control systems in Germany and The Netherlands, as well as having provided radar systems for the United Kingdom, Norway, Sweden, The Netherlands, Greece, Cyprus, and Germany.

It is also installing substantial air traffic control systems worldwide, in India, Oman, Hong Kong, China, Australia, in addition to providing satellite communications for Russia.

In North America, it is providing display systems for the next-generation FAA systems, and is currently installing 47 terminal doppler weather radar systems in major airports and FAA Technical Centres across the U.S. ➔

