Thomas Global offers "plug and play" cockpit upgrades

THOMAS GLOBAL SYSTEMS CHIEF EXECUTIVE ANGUS HUTCHINSON HAS GROWN USED TO THE LOOK OF SURPRISE FROM VISITORS WHEN THEY DISCOVER AN AUSTRALIAN COMPANY MAKING COMMERCIAL AND MILITARY AIRCRAFT COCKPIT AVIONICS.

PHILIP SMART

"WE HAD A GOVERNMENT group out here the other day for a tour and we talked through the products that we're making here," he said. "They nearly fell over themselves. They thought it was unbelievable."

Thomas Global builds cockpit displays, the vital flight deck indicators that present pilots with almost every piece of data required to fly any airliner, military aircraft or helicopter, from the aircraft's attitude to engine performance, emergency warnings and navigation.

The Sydney based company's displays can be found on Boeing, Airbus and other flight decks in around 70 airlines such as Lufthansa, British Airways, Air New Zealand and Qantas and in military platforms including the Australian Defence Force's F/A-18 Hornet strike fighters and earlier Sikorsky Seahawk helicopters.

But Thomas Global does not aim to be a direct competitor for major avionics manufacturers such as Rockwell Collins and Universal Avionics. Instead it provides cost-effective cockpit display retrofit and repair solutions, often for systems that have reached the age where manufacturer support may come at a prohibitive price, or not at all.

"Take United Airlines," Hutchinson said. "They're flying 747s, fitted with a Rockwell Collins avionics suite, there's six CRT (cathode ray tube) displays per cockpit. "By coming up with an innovative repair for those CRTs we offered savings of up to 60 per cent versus the original equipment manufacturer. So we were able to capture a very large share of the international CRT business from Australia, supporting the products of Honeywell, Rockwell Collins, Thales and GE."

Thomas Global began manufacturing television cathode ray tubes in 1956, before moving in to military and special purpose projects such as radar and vehicle displays.

The early 80s brought the breakthrough opportunity, selection to build Rockwell Collins CRT displays under licence for the Australian Defence Force's new F/A-18 Hornet strike fighters and Sikorsky S-70B Seahawk helicopters.

"That was really the catalyst for us to get into the commercial avionics market, because of the skills and technology that we were able to develop as part of those two different programs," Hutchinson said.

Thomas Global's home-grown CRT display support solutions quickly developed a reputation for great performance and better value than the systems they replaced. But it was the rise of Active Matrix Liquid Crystal Display (AMLCD) units, lighter, more reliable, needing less power and with fewer parts, that helped the company turn the corner yet again in to a new area.

Thomas Global developers devised a means of replacing older CRT systems with a new AMLCD equivalent without disturbing other wiring, software or elements of the Electronic Flight Instrument System (EFIS). Thanks to in-house expertise in signal conversion, a new Thomas Global AMLCD system would literally "plug and play", even retaining the use of existing symbol generators, EFIS controllers and EFIS select panels.

Dubbed Adaptive Display Architecture, the system allowed operators of ageing aircraft to replace elements of their cockpit avionics as needed, rather than being forced to upgrade to an all-new, all-encompassing manufacturer's package at a cost that may exceed the value of the aircraft in which it was destined to be fitted.

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The first Adaptive Display Architecture AMLCD was developed with launch customer Regional Express Airlines (Rex), Australia's largest independent regional airline, operating a fleet of more than 50 Saab 340 aircraft.

Rex was the text book CRT to LCD launch partner, with aircraft that had only used a percentage of their economic airframe life, but needed a cockpit upgrade to reduce maintenance and comply with future air navigation regulations.

Rex and Thomas Global worked together to replace the Saab's Rockwell Collins EFD-86 CRT with a new Thomas Global TFD-8601 LCD, 50 per cent lighter, using less power, but offfering much greater reliability. Rex began modifying its fleet in 2015.

The conversion has opened a ready market for Thomas Global with around 370 Saab 340s still flying, and the same Rockwell Collins unit also fitted to the Embraer EMB-120 Brasilia and

ABOVE Thomas Global's Adaptive Display Architecture has reduced both the cost and complexity of cockpit upgrades.

Beechcraft King Air turboprops, plus Dassault Falcon, Gulfstream, Hawker and Learjet business jets.

The company is looking at military applications for Adaptive Display Architecture and has formed an alliance with L-3 Communications on a new flight display for the ATR turboprop. But Hutchinson is clearly focused on the niche in which he believes his company can excel.

"We're very clear about what we are and what we're not," he said. "We don't want to compete with the large avionics OEMs who make total cockpit solutions.

"There are going to be airlines or operators happy to spend a lot of money on a cockpit. And then there's the ones who are more cost-conscious and want to get the most out of their existing investment, and that's where our products come in. One of the things I am proudest about is that we are creating world class avionics in Australia." A