

Malaysian plane drama fuels aviation security rethink

March 23 2014, by Bhavan Jaipragas



A view from a Boeing 777 passenger jet, cruising at forty thousand feet, seen on July 24, 2012

As the hunt for Malaysia Airlines Flight 370 enters a third week, the piecemeal returns from one of the most intense, international searches in living memory have delivered a public and institutional shock that could force a major rethink about aviation security.

The fact that a Boeing-777 equipped with state-of-the-art location tracking technology could vanish for so long, is in itself, aviation experts say, shocking enough to compel changes in the way [commercial aircraft](#) are electronically monitored.

One priority would be to enhance tracking coverage for a plane in an emergency situation that forces it beyond the reach of conventional radar systems.

It was modern satellite imagery that pointed MH370 investigators to a remote part of the Indian Ocean 2,500 kilometres (1,500 miles) southwest of Perth, but the physical search for debris in the area had to rely on less sophisticated methods—binoculars held to the windows of spotter planes.

If a crash site is finally located, investigators will have to rush to find the plane's crucial "black box" before it stops emitting its tracking signals.

"There's no doubt that what has gone on is one of the greatest mysteries of modern aviation and it will have an impact on the global aviation and airline industry," Jonathan Galaviz, partner at the US-based travel and aviation consultancy firm Global Market Advisors, told AFP.

"I expect there will be a real examination of the kind of recording technology we have right now in airplanes, a debate on how they are designed and how long they can last," Galaviz said.

Live data streaming?

"There will also be discussion about live satellite streaming of such data so that it can constantly be monitored," he added.

The separate flight data recorder and cockpit voice recorder currently

send pings for about 30 days—a timespan that could well be reconsidered given the unprecedented length of the search for the Malaysian airliner.



The arrival board shows the missing Malaysia Airlines flight (top, in red) as 'cancelled', at Beijing International Airport, on March 8, 2014

The mystery of MH370 owes much to the abrupt nature of its "disappearance".

Nearly one hour into its flight, both its automated signalling systems ceased to function and the plane dropped off civilian radar.

The immediate assumption was of a catastrophic event that plunged the

plane into the South China Sea before any distress call could be made.

But sketchy satellite and military radar showed that, in fact, the aircraft had veered sharply off course, backtracked across the Malaysian peninsula, and then flown on—possibly for hours—in a northerly or southerly direction.

Technology already exists for passenger jets to immediately relay the black box data via satellite, but most commercial airlines have balked at the prospect of investing millions in such systems, as bottom lines come under pressure due to rising fuel costs and increasing competition.

Major airlines, including Malaysia Airlines, have access to the Aircraft Communications Addressing and Reporting System (ACARS), a digital datalink via satellite or VHS radio, for brief text messages from aircraft, but they do not compare with the parameters that the flight data recorder monitors.

In the case of Flight 370, the ACARS, which was supposed to transmit data every 30 minutes, failed to send messages after the aircraft fell off civilian radar.

Minimising upgrade costs

Andrew Herdman, director-general of the Asia Pacific Airlines Association, said costs for satellite-linked black boxes could be minimised by programming them to transmit data to ground controllers only when an in-flight abnormality is detected.



Two Malaysian Airlines planes are seen obscured by haze on the tarmac at Kuala Lumpur International Airport, in Sepang, on March 9, 2014

Such abnormalities might include the disabling of communications systems or a sudden deviation from the flight plan.

"The idea of live streaming the black boxes would also entail an enormous amount of data being transmitted on any given day and that in itself would also be a huge logistical challenge," he told AFP.

Greg Waldron, the Asia managing editor for aviation industry magazine Flightglobal, said the uptake of such technology by airlines would be a "slow and gradual process".

Airlines may move faster if leading civil [aviation](#) regulators including the US Federal Aviation Administration and the European Aviation Safety Agency decide to make such systems mandatory for their

respective jurisdictions within a set deadline, he said.

"There is still a sense of shock that a modern aircraft like the Boeing 777 can just go missing, and I'm sure there will (be) more robust monitoring as we go along," he said.

Galaviz said rekindled debate over [aviation security](#) was always an important and constructive by-product of events like the disappearance of MH370.

"Aside from the tragedy of it all and the unanswered questions, perhaps at this point we need to take a step back and acknowledge that despite all of it there may be some positives that come out of it," he said.

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