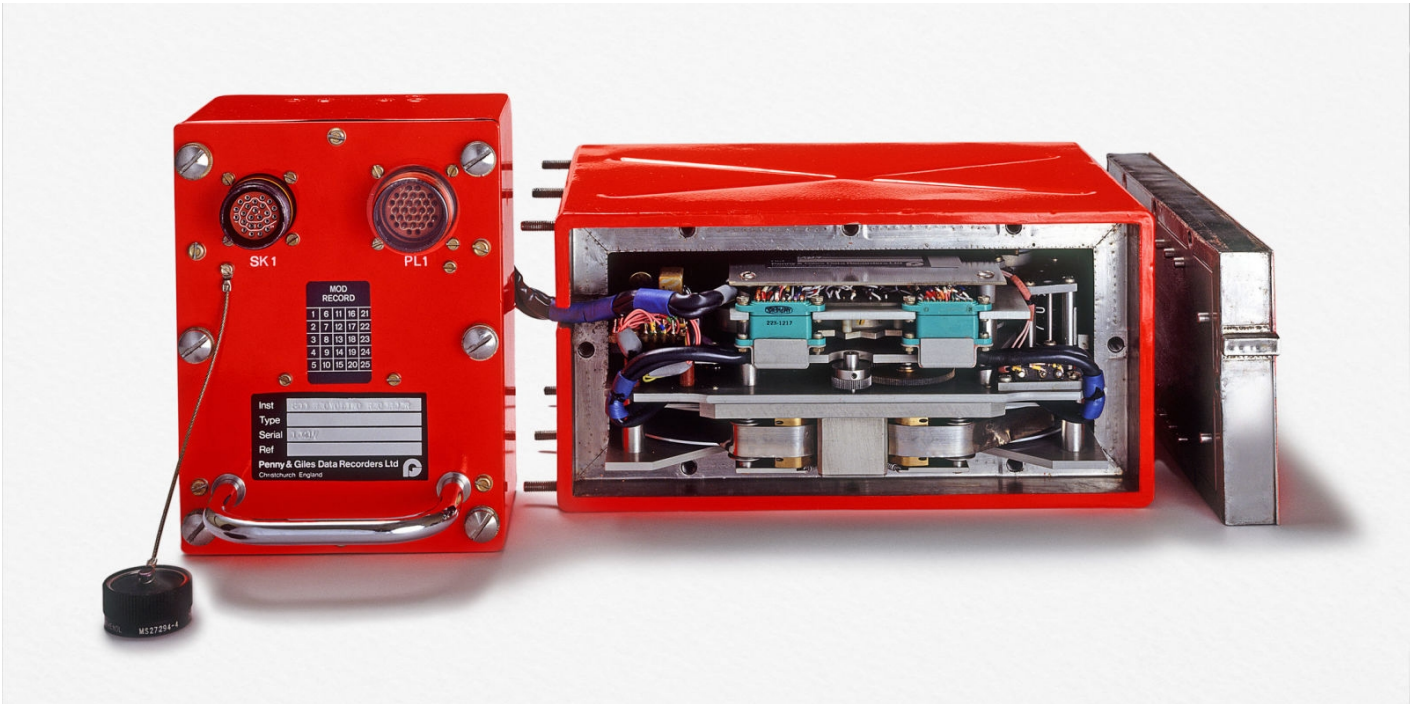


PLANES NEED SOMETHING BETTER THAN THE BLACK BOX

News / Manufacturer



Last week, the flight data recorders ("black boxes") extracted from the wreckage of EgyptAir Flight 804 yielded clear evidence of a fire aboard the doomed plane, officials said. Today investigators say they've recovered some of the voice recordings. Even with this news, though, the May 19 crash remains unsolved and could be for some time. But if airlines had instituted a more high-tech way of getting at that flight data—technology that exists today—it's possible we'd have those answers already.

Flight data streaming technology could track a plane and learn its condition within minutes of an emergency, getting some, if not all, of the crucial information stored in the black boxes immediately rather than launching time-consuming and expensive missions to find them at the bottom of the sea (or not find them, in the case of the still-missing MH370.) Recent high-profile disasters would argue for a cutting-edge solution: beyond the unsolved disappearance of MH370, consider the 2009 crash of Air France 447 in which it took two years and \$40 million for searchers to find the wreckage. Yet some aviation officials are questioning whether such a move is really imminent, or even necessary. And the initial findings in the case of EgyptAir 804 could bolster the argument against change.

At first glance this seems surprising. In an era when we can track a cell phone anywhere in the world, shouldn't we know the whereabouts and status of every commercial airliner in more or less real time? There are two big reasons the industry is dragging its feet: Cost, and the idea that things are basically good enough.

In the case of EgyptAir 804, the current system, outmoded as it may be, appears to be working. The traditional technology to find a wrecked plane—an emergency locator transmitter and a beacon attached to the data recorders—worked fast enough to get results. Investigators found the black boxes before the one-month lifespan of the pingers expired. Experts says last week's news confirming smoke detectors went off in both the lavatory and the avionics bay under the flight deck confirms what they had already suspected from the automated messages sent from the plane as it went down.

That said, the black boxes and messages haven't answered every question, including why no distress signal was sent from the plane, which was carrying 66 people on a flight from Paris to Cairo when it disappeared off radar screens at 37,000 feet. And, if it was a sudden explosion like a bomb, then why hasn't any group taken responsibility? Streaming data might have shed some more light on these questions. But given the rarity of these aviation disasters and the fact that the world's accident rate is at an historic low, some airlines might want to hold back on the enormous investment that moving to universal flight tracking would require.

"They are not jumping up and down at the opportunity" to get onboard, says former National Transportation Safety Board (NTSB) member John Goglia. He says the cost to the industry could exceed \$6 billion. "That's only for the hardware," Goglia says, which he estimates at about \$100,000 per plane. "It's brutally expensive. You have to pay for satellite time and the people who own the satellites are going to get a premium for that." Furthermore, the flight data recorders have "thousands of parameters on them," he says, so another big question is how much data should be streamed, and what type.

The NTSB is fully behind the idea that airliners should be equipped with more modern equipment for transmitting data, according to a spokesman. After all, black boxes have been around for more than a half-century. While they're built to withstand crash impacts and intense heat, in a few cases they've been so badly damaged that crucial information couldn't be retrieved. In the case of the Germanwings crash in the French Alps by a suicidal pilot, for example, the flight data recorder was missing a critical memory card.

"Our feeling is that this is inevitable," the spokesman says, given the wired world we live in. "It's widely accepted notion that the technology is here, and we should have faster access to data."

The question is when. The NTSB came out with a position paper earlier this year on the subject, and the International Civil Aviation Organization, a U.N. affiliate, in March endorsed the goal of having equipment on all airliners that would immediately transmit flight data in the case of a crash or other emergency. But ICAO didn't say how airlines should meet the proposed standards. It's possible that rather than streaming data over the airwaves, airlines could comply by using flight data recorders that would eject upon impact and could float on water. This type of recorder is common on military aircraft.

ICAO's mandate wouldn't take effect until 2021, and even then it wouldn't make much of a tangible difference because it would apply only to new models. Aircraft already in service wouldn't have to be retrofitted to meet the new standards.

The bottom line, said several sources close to the issue, is that the aviation industry will inevitably resist expensive new regulations unless it can be shown that they'd prevent crashes and improve safety for all.

There are interim solutions that would be less costly. Airlines that already equip their planes with

Wi-Fi could use that technology to stream at least some flight data. And some airlines aren't waiting until they're up against the deadline; Qatar Airways, for example, last year said it aims to be the first airline in the world to stream flight data from black boxes to operations centers on the ground in real-time. It is testing such a system now to deploy on its entire fleet.

Inmarsat, whose SwiftBroadband service supports inflight Wi-Fi on many aircraft, is coming out with what's being dubbed a "black box in the cloud," in which flight data recorder and possibly some cockpit voice information could be streamed off a plane in specified trigger events, such as a course deviation, or, of course, when a plane disappears off radar screens. Perhaps the next time a plane vanishes, we won't have to wait weeks or months with little to do but wonder.

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