

# Aviation Human Factors Industry News

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*From the sands of Kitty Hawk, the tradition lives on.*

Hello all,

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## Human error blamed for runway incident

A serious incident at the Hong Kong International Airport over a year ago that could have cost many lives, **was caused by human error**, the Civil Aviation Department found in a report released on Friday. The Nov 27, 2010 incident involved a Finnair Airbus A340-300, taxiing out on flight from Hong Kong to, **making a wrong turn** onto a southern taxiway **which was under maintenance at the time**. The aircraft had been directed to a parallel northern runway.



The report concluded that a serious accident may have occurred, if **an alert air traffic controller** had not noticed the Airbus in the wrong place and reined in the jetliner before it took off on a wrong track.

The plane had commenced a rolling takeoff, but the ground movement controller soon detected the abnormal maneuver and promptly alerted the air movements controller to halt the takeoff.

There were no injuries and the flight took off on the right taxiway after a delay of about half an hour. After the first attempted takeoff, the report said, the brakes on the aircraft had already turned hot.

"The result could have been deadly if the plane did take off," former Hong Kong director of civil aviation Peter Lok Kung-nam told China Daily.

He cited a similar incident back in 2000, when Singapore Airlines Flight 006 smacked into some maintenance equipment, **as it taxied down the wrong taxiway**. The high speed impact severed the aircraft into three pieces. The ensuing fire resulted in the deaths of 83 people.

The captain of the Finnair flight **had failed to notice several visual cues** that should have alerted him to abort the takeoff, including a line of green lights and the red stop bar, all in the wrong position.

According to the report, when the aircraft reached the southern taxiway, air movements controller had already cleared the aircraft for takeoff before the danger was identified.

The report said that **"a sudden surge in workload"** on the pilots after the message **"allowed little time for the pilots to cross check their position visually before applying takeoff power"**.

The report also found that after the plane had been cleared for takeoff, the air traffic controller guiding the aircraft **left his position to fetch a glass of water four meters away**. That was when the aircraft made the wrong turn, preparing for takeoff.

The Civil Aviation Department recommended that Finnair reinforce the requirement to verify departure runways prior to the commencement of a takeoff roll.

The department also noted that up-to-date safety information, such as aerodrome hot spots, should be updated in a timely manner.

## **15,000 fire extinguishers removed from planes worldwide after Welsh factory owner's fraud**

A man who sent shockwaves through the global airline industry by supplying **substandard gas** to onboard fire extinguishers has been jailed for two and a half years. More than 15,000 fire extinguishers were removed from planes worldwide because of Eric Andrew Lyon, 47. His actions sparked a huge investigation and led to the changing of guidelines for the production of fire extinguishers and fire suppressant systems in aircraft in Britain, Europe and in America.

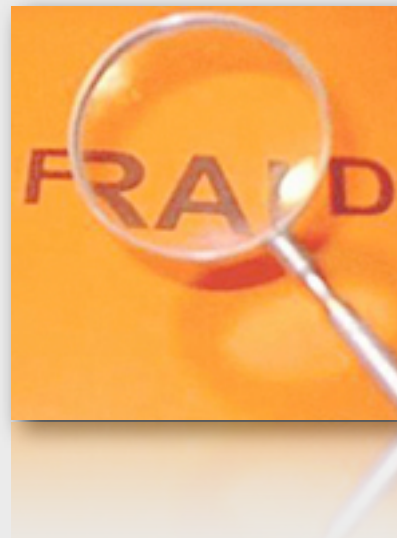
And at the time his actions were discovered it was believed he had put the lives of thousands of aircraft passengers at risk.

Mold Crown Court heard the halon gas Lyon supplied for fire extinguishers was **not up to a required standard** and that he had **altered certificates**.

The gas had to be 99% pure but Lyon changed analyses certificates when his samples failed to meet that high standard. Some were later found to be **as low as 60%**.

The gas, recycled by Lyon at his company Lyontech Engineering Ltd at Flints Manor Industrial Estate, was used by manufacturers at home and abroad in 2007, 2008 and the start of 2009.

The court, sitting in Chester, heard the gas was no longer manufactured because of its harmful effects to the ozone layer.



It was not used in everyday fire extinguishers but because of the importance of being able to prevent catastrophes in the air it was used in airplanes under strict guidelines.

When the [fraud](#) was discovered it sent shockwaves throughout the aircraft industry and aviation safety authorities worldwide.

Prosecutor Wyn Lloyd Jones told the court that while Lyon had admitted a \$390,000 fraud upon his customers, the seriousness of the case outweighed the high value.

There was a [substantial breach of trust](#) in this case. Because the gas was being supplied to the airline industry there was at the very least a real risk that public safety could have been compromised, he said.

[The motive was greed and profit.](#)

Lyon, of Oakmount House, Northop Country Park, near Mold, admitted 25 fraud offenses and was jailed for 2.5 years.

Judge Niclas Parry told him: By your activity, you caused the potential withdrawal of aircraft from service both in this country, in Europe and in the USA.

You caused emergency directives regarding the recall of safety equipment to be issued worldwide.

It has subsequently transpired that the breaching of the regulations may not have had such an impact upon public safety as had initially been feared.

That knowledge is important for the sake of future passenger confidence.

But the reality is that at the time you were offending you could not have been certain of that and you continued to ignore the risk regardless.

The judge said Lyon had an operation close to being a monopoly because of his expertise and said he abused that position in a systematic, sophisticated fraud achieved with total disregard for the potential risk to public safety.

It beggars belief that a man of your experience in such a specialized activity acted in such a cavalier fashion, [showing utter disregard](#) for the potential consequences, the judge said.

Lyon was not charged with any airline safety offenses following an investigation by the Civil Aviation Authority.

It was passed to North Wales Police who carried out a fraud investigation.

But the Aviation Regulation Enforcement Department of the CAA had carried out a full investigation into the risk to flight safety caused by fire.

Halon was a highly effective fire suppressant widely used in the aircraft industry and it was estimated that about [15,000 fire extinguishers had to be replaced](#) because the gas was outside specification.



Following tests in America it had been found that gas with a 90% purity was just as effective as that with 99%.

But Mr Lloyd Jones said the defendant did not know that at the time and some of the purities in the gas he supplied were far less than that.

The probe by the CAA, the European Aircraft Safety Agency and the Federal Agency in America meant thousands of extinguishers were recalled and replaced by compliant products.

Paul Abraham, defending, said his client denied his actions were down to greed. He was not supplying a product that was rubbish to make money, he said.

## **Technician Shortage a Key Issue for Aviation Industry**

The economy is getting better, which means some things may be getting worse. That's how it appears as the business aviation industry slowly and haltingly starts to emerge from a long and deep recession and a search begins for **skilled labor** fill the growing number of openings. As Yogi Berra famously said, "This is like déjà vu all over again." And so it is, though not as dramatic. Following the recession that began in 2001, thousands of skilled workers hired during the boom time of the late 1990s through early 2001 were laid off and furloughed as struggling companies "right-sized" to meet the drop in demand. In mid-2006, the economy was righting itself and business aviation followed suit, and many of those skilled workers let go during tough times **didn't come back** when things got better. Some had found other work in areas where the same skills were in demand, others retrained for new careers in different fields, and still others left for more stable, if not greener, pastures.



And so the competition for skilled labor became intense, with one company going so far as to paper the automobiles in a competitor's employee parking lot with help-wanted flyers.

Now, on the heels of this most recent recession, assuming a recovery is indeed under way, the business aviation industry is already starting to see a new shortage of skilled workers.

Layoffs at Gulfstream Aerospace, from March 2008 through the end of 2009, totaled 1,200. Duncan Aviation, a family-owned and -operated MRO that had long taken pride in the fact that it had never laid off an employee in its 55-year history, implemented a reduction in force that affected 306 positions. Wichita alone, long the self-described [air capital of the world](#), saw a combined total of nearly 13,000 workers laid off by Cessna, Learjet and Hawker Beechcraft and their vendors.

As business aviation begins this recovery, it faces the same problem it did in 2006: many of those who were laid off, as well as those lost to natural attrition, [are not coming back](#).

“A lot of people got out of the industry, and a lot of them aren’t coming back, at least not here,” said George Kythreotis, general manager of Jet Professionals, a global aviation staffing specialist based in Teterboro, N.J. “Some of them went overseas, to the Middle East, China and India.”

These are growth areas for business aviation, he explained, and skilled, experienced A&Ps who would command salaries of \$80,000 to \$90,000 at Bombardier or Gulfstream are making as much as \$120,000 a year in an overseas assignment, said Kythreotis. He added that there can be considerable tax advantages, depending on the host country’s tax treaty terms with the United States. A U.S. citizen working in Shanghai, for example, will pay taxes on earnings only in China, “but it’s significantly less than the U.S. tax rate.”

“The fact is,” concluded Kythreotis, “human capital is evolving on a multinational and international stage, and skilled workers willing to go abroad may find some real advantages.” This, he added, is one reason that Jet Professionals International now has recruiting offices in Basel, Switzerland and Abu Dhabi in the United Arab Emirates.

As for wages in the U.S., Kythreotis said the structure has remained rather flat, “maybe 3 or 4 percent higher than in 2008.” This means a starting salary of about \$50,000 a year, or roughly \$24 or \$25 an hour.

To be sure, even though the industry as a whole appears to be slowly recovering in the U.S., it is halting and spotty and not everyone is hiring. Some pockets of the aerospace industry are recruiting. Atlanta and St. Louis, for example, are cities where aviation businesses are hiring. In fact, “St. Louis [home to Jet Aviation] is hiring both full-time employees and contractors,” said Kythreotis. Other areas, notably Wichita, where Hawker Beechcraft continues to lay off workers and where [Boeing is in the process of closing the plant](#) at which it employed more than 2,160 workers, are generally not hiring—although Bombardier Learjet recently announced plans to boost its payroll in Wichita by 300 jobs related to the Learjet 85 program.

## Public-Private Training Partnerships

The Aviation Institute of Maintenance (AIM) in Virginia Beach, Va., reports that enrollment starts were up 7 percent last year, and enrollment continued to show positive growth early this year. At its 10 schools around the U.S., a new 80-week program for A&Ps starts every five weeks, and corporate aviation education director David Jones said, “In the Atlanta area, virtually everybody graduating could find an aviation job.”

Gulfstream Aerospace hired 1,300 at its U.S. facilities nationwide last year and is currently [shopping for mechanics, avionics technicians and engineers in some specialized areas](#).

The hiring process emphasizes the individual merit of the candidate and previous work history, including previous Gulfstream experience, said a spokesman.

Looking ahead to a continued recovery, Gulfstream has a number of partnerships with government programs and with local institutions to ensure a continuing pool of entry-level workers.

It is working with Georgia Quick Start, which delivers training in classrooms, mobile labs or on plant floors, to provide leadership training. The company has also made arrangements with Embry-Riddle Aeronautical University to offer master’s degree programs for engineers who qualify for extra tuition reimbursement, and with local Savannah Technical College to offer skill-building classes “with the intent of potentially hiring the program graduates.”

When Duncan Aviation, headquartered in Lincoln, Neb., was forced to adopt layoffs, it offered severance packages, assistance with counseling services, grief management, training, résumé writing, networking and job hunting. Today, with the market improving, Duncan has begun hiring and saw its workforce grow approximately 6.7 percent last year.

Further, Duncan is seeking to hire the best skilled people [with an attitude that fits its corporate culture](#). “All things being equal, the candidate with prior experience at Duncan Aviation will be given preferential consideration.” Duncan has rehired about 13 percent of those who were laid off or furloughed.

Looking at such key growth indicators as customer feedback, requests for information and quotations, as well as a growing backlog, Duncan has established alliances with colleges in Nebraska and Michigan, and Duncan employees serve on the board of advisors at the schools.

Greenpoint Technologies, an independent completion and refurbishment center in Kirkland, Wash., is hiring, but carefully, “to match our staffing to our workload,” said head of sales and marketing Christine Hadley. She said the center is not finding it difficult to find technical talent, but she emphasized that it is also important that those hired understand and embrace the corporate culture at Greenpoint of “a highly productive, customer-centric team.”

(Partnerships to boost the base of trained mechanics exist elsewhere as well. [AAR has teamed with the city of Chicago to create maintenance training programs](#))

Indications are that while an industry recovery is slow, and may be somewhat lengthy, it is happening and it is evident in the gradual growth in hiring. What is less clear is to what degree and how quickly demand for skilled and experienced employees will surpass the available worker pool.

Jones at AIM said the institution expects approximately 1,750 people to graduate this year, with about 65 to 70 percent going into aviation.

He added that those who want jobs in aviation will be able to get jobs, [“If they’re willing to go where there are jobs.”](#)

Will that change? Dale Forton, president of the Professional Aviation Maintenance Association in Ionia, Mich., notes that about 80 percent of the A&P community is between the ages of 40 and 65 and over the next 20 years “those people are going away.” But that’s the long term.

Another long-term look, said Forton, came from Boeing, which last year estimated [a need through 2030 for 650,000 A&Ps worldwide](#), approximately 32,000 of them in corporate aviation.

In the short term, there is yet another factor to be considered, and that is an end to the war in Iraq and the numbers of highly skilled aviation mechanics who will be leaving the military as their enlistments expire and looking to enter the civilian job market. “It may not be a dramatic number, but it is there,” said Kythreotis.

In the meantime, said Forton, the industry can be thankful that the slow recovery is—for the moment—keeping demand from rising too sharply.

## **FAA Safety Analysis**

FAA is rewriting the book on accident prevention, and in the new year the aviation community will learn more about growth of the [Aviation Safety Analysis and Sharing System](#) (ASIAS). ASIAS (ah-sigh-us), launched in 2007, represents FAA's transition from traditional “forensic” analysis process to the [“predictive” or “prognostic”](#) approach that aims to quash accidents from occurring. In the still-valid forensic method, a crash occurs.





Investigators then determine the cause and issue safety recommendations. Regulators issue rules aimed at preventing a recurrence.

The predictive method sounds more like a plot for sci-fi novel ASIAs visits the past to change the future. FAA collects terabytes of data from wide range of government and industry sources. These include accident/incident databases and information from voluntary safety reporting programs, such as Flight Operational Quality Assurance (FOQA) and Aviation Safety Action Program (ASAP), in use by the airlines. ASIAs is expanding rapidly. In mid-2010, the FAA had 71.2 million FOQA and 71,000 ASAP reports in the system. By Dec. 1, 2011, ASIAs had collected 8.1 million FOQA operations and 106,000 ASAP reports.

Data are de-identified, and teams of subject matter experts and system users analyze the information to identify hazards and the precursors of accidents. They then develop and implement measures to prevent accidents/incidences from ever occurring. Ultimately, plans are to have ASIAs identify previously unknown risks. FAA emphasizes the system may be used only for safety analysis, never for punitive actions against individuals.

Between now and Fiscal 2013, FAA plans to increase the number of databases to 64 from the current 46 and welcome other aviation community members to the fold, including more regional air carriers as well as participants from the domestic corporate general aviation, helicopter and military sectors and manufacturers.

The connected databases are then integrated into the Commercial Aviation Safety Team (CAST) process. CAST, formed in 1998, is a joint industry/government team that coordinates with major industry groups such as ICAO to study past accident/incidents and identify precursors and safety enhancements. CAST, using the historic method, reduced the fatality risk for U.S. commercial aviation by 83 percent in the 1998-2008 period. In the next decade, CAST plans to transition to the prognostic safety analysis, and by 2025, aims to lower the the fatality risk in U.S. transport operations by 50 percent. It will also step up its work to reduce international fatality risk.

ASIAs aggregates and analyzes the data to identify safety risks. CAST teams of experts study the risks, and develop and implement safety measures to prevent recurrence. Then it's back to ASIAs to monitor the effectiveness of those mitigations.

A demonstration of ASIAs's capability occurred in the wake of the Aug. 27, 2006, crash of Comair Flight 5191 at Lexington (Ky.) Blue Grass Airport. The accident killed 49 of 50 people onboard when the crew attempted takeoff from the wrong runway. The flight was cleared to depart Runway 22, but the crew taxied onto Runway 26 in the early morning darkness. The aircraft ran off the end of the runway during takeoff roll.

ASIAS reviewed numerous databases for reports involving aircraft that had departed or taxied into position on the wrong runway in the 1981-2006 period.

Findings of ASIAS “Wrong Runway Report” indicated that while “wrong runway events” happened at many U.S. airports, they most frequently occur at four: Cleveland Hopkins, Houston Hobby, Salt Lake City and Miami International.

ASIAS identified contributing factors/common elements: Each airport had multiple runway thresholds in close proximity, a complex airport design, use of a runway as a taxiway, a runway using intersection departures and a short distance between airport terminal and runway. The system then identified areas where events had not yet occurred and determined several ways in which **crew confusion and “wrong runway”** accidents/incidents could be avoided.

These included the incorporation in Part 121 operations of electronic flight bags with “own-ship” moving map display. And any pilot who has used own-ship MMD knows its benefits in terms of **situational awareness** on the airport surface, particularly when operating at an unfamiliar airport.

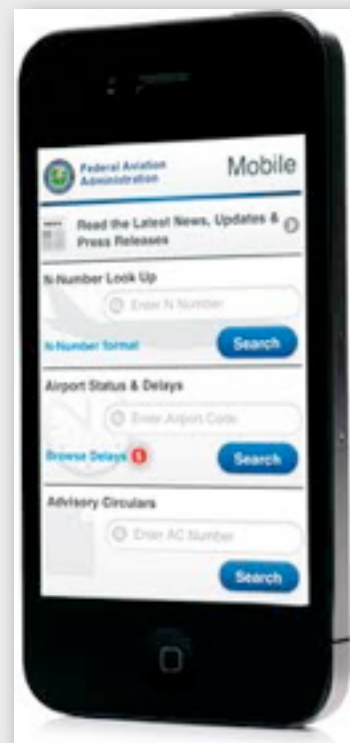
For more on ASIAS, go to [www.asias.faa.gov](http://www.asias.faa.gov).

## **Announcing the First Release of FAA Mobile!**

Source: Federal Aviation Administration

You can look up N-numbers, find Advisory Circulars, browse airport delays, and more.

FAA Mobile is an easy-to-use mobile website that provides quick access to popular FAA.gov tasks for aviation enthusiasts on-the-go. You can look up N-numbers, find Advisory Circulars, browse airport delays, and more. You can find FAA Mobile at <http://www.faa.gov/mobile/> (optimized for mobile devices). The FAA Mobile website allows you to stay connected with popular features of FAA.gov from any location – whether it be the hangar, the office, or home. You can also access the full web version of FAA.gov by tapping a link at the bottom of any FAA Mobile page.



FAA Mobile fully supports iOS 4 and higher, as well as Android 2.2 and higher. For details on all devices that are compatible with FAA Mobile, see [Supported Platforms and Devices](#).

<http://www.faa.gov/mobile/>

## **Sleep and Energy Among Top Health Trends for 2012**

The need for [better sleep](#) and a growing appetite for [liquid energy](#) are among the top consumer health trends expected to make headlines in 2012, according to a national research group studying health-related attitudes and behavior in America. [The Values Institute at DGWB](#), a social science research entity, used observational studies to identify five health and wellness trends that Americans are most likely to embrace in 2012. The list is an extension of the institute's work in values-based marketing and social entrepreneurialism, as well as a long-term partnership with the international research firm Iconoculture of Minneapolis.

Among the top five consumer health trends for 2012 were America's infatuation with [naturally boosting energy](#) and the country's obsession with [getting more sleep](#). "Sleep may be to this decade what fitness and diet were to the 1980s and 1990s," according to a press release from the institute. "Faced with new evidence linking [inadequate sleep with weight gain, high blood pressure, depression, and lowered immunity](#), more consumers will connect health and shut-eye in 2012."



<http://casandbox.argusinteractive.com/tvi-phase1/>

## Aviation Maintenance Magazine iPhone/iPad APP

In accordance with the love of technology exhibited by the industry, Aviation Maintenance has recently established an iPad and iPhone app for accessing and reading the magazine via those devices. The app can be found [here](http://www.aviationmaintenance.com). It is a free download and once you have the app, you will be able to read your issue of Maintenance on your iPad or iPhone. As new issues are released, they will drop into your newsstand automatically, ready for your perusal.

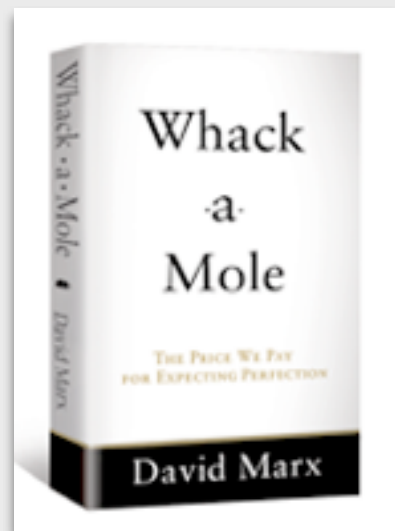


I have already downloaded the app and the experience of reading the magazine on the iPad is excellent. See above for a picture of my iPad with the latest copy of Aviation Maintenance sitting right next to O Magazine and the New York Times!. Please download the app and enjoy.

<http://hello.trusquib.net/t/r//ikihkrl/fdhlrdhyk/yk/>

## BOOK

Whack-a-Mole explores the role of [human error in society, from aviation and healthcare](#), to driving and parenting—and where accountability rests those errors, especially when they take the life of another. David Marx that regulatory and human resource prohibitions, along with the criminal prosecution of human error, have been counter-productive to helping society deal with the risks and consequences of human fallibility. Marx advocates a different approach to addressing our shared fallibility.



<http://search.barnesandnoble.com/Whack-a-Mole/David-Marx/e/9780615283074>