



Graduation 29 Jan 15 at City University, another 35 Master of Science Graduates got their degree at a festive event in London



Tilmann's Monthly Newsletter March 2015

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It is not the strongest of the species that survive, nor the most intelligent, but the one most responsive to change

Charles Darwin

1. One Year Ago MH 370

In my first newsletter posted on our website, one year ago, I wrote about the mysterious loss of Malaysian MH 370 (you can find it on our website in the Archive 2014-April 2014). I wrote then:

Since the 9/11 attack on the World Trade Center we have a Fort Knox style steel door between the cockpit and cabin. The cabin crew has neither keys nor other means of entering the cockpit. They have to contact the pilots via call buttons, block the front area near the cockpit and wait for the pilots to open the door. Communication and interaction between the cockpit and cabin crew is reduced to a minimum. The two pilots sit together for the length of the flight, often not talking much, staying awake is the goal; an 8 hour flight can become very tedious. The isolation contributes to fatigue and staying awake becomes a veritable problem. In my good old days, we had constant cockpit visitors who kept me talking and explaining, while having all cockpit instruments in my peripheral sight.

It seems that in at least two cases the steel door was used by one pilot to lock himself away from his colleague who uses the washroom and, once alone in the cockpit, do his mischievous things. While his Captain was outside the cockpit, an Ethiopian Co-Pilot landed the 767 in Geneva asking for asylum in February. This Malaysian accident might have had a similar cause: one pilot, alone in the cockpit, can proceed on his well prepared mission, disguising his intentions and crashing the aircraft in a very remote location, where it would never be found. For flight safety, I think the disadvantages of the steel door barricade between cabin and cockpit crew outweigh the advantages. This discussion will have to be started.

Just this week, a B777 colleague Simon Hardy came forward and explained his 6 month single hand research to FlightGlobal's Editor David Learmount (see <http://www.flightglobal.com/features/mh370/>). For a long time we had no other possible explanation than that the Captain had staged a precisely planned suicide. Simon analyzed the flight path, the last transmissions and the background of the Captain, and the most likely cause (to be fully proven by finding the aircraft) is very obvious. You might think a sophisticated Accident Investigation Team should have similar or better insights. Simon Hardy also predicted the most likely touchdown on the Southern Indian Ocean by fuel range and satellite analysis.

Just today (7 March) the Malaysian Prime Minister promised to find the aircraft. Hopefully, the new data is closing the haystack area where they will find the aircraft needle.

Recently, an aircraft was found in the Andes, which crashed there in the 1960s, lets hope MH370 is found faster.

2. New Aircraft Cockpits and Pilot Training

One of my Master students at City University London is writing his dissertation about “upset-prevention-and-recovery-training” (UPRT), a new training regulation in basic- and type-rating-training, which shall give pilots enough knowledge about upset aircraft recovery.

The findings of the Air France crash, where the two pilots were overwhelmed by the three Autopilots shutting down, when all three pitot static tubes, which provide the airspeed, were blocked by hail or ice. As we are all smarter after such a tragic crash, Airbus is instructing airlines and pilots, not to do anything initially, as the aircraft is trimmed out and thus should continue to fly within boundaries of enough airspeed. The two pilots wanted to fly the aircraft, as the autopilots dropped out, and failed this very difficult exercise, eventually steering the aircraft into a stall which could not be recovered.

In high altitude, where the air pressure is very low, flying manually is an immense challenge for pilots, and no training can give the pilots enough skills to do this flying smoothly. Eventually, the pilots would need to descent and fly in better air conditions. Consequently, new training procedures teach us to dive down with the aircraft, lose altitude and then recover the aircraft in altitudes, where pilots can easily control the aircraft manually.

ICAO, the US FAA regulatory body and the European EASA are currently preparing new rules and regulations for the initial pilot training and each new aircraft type-rating for pilots. In the basic training the new pilot will have to fly aerobatic aircraft, he will be taught to recover aircraft from upset conditions which would include high G-load maneuvers. How far and intense this training has to be, is subject of major discussions in the training and regulatory industry. At the same time, the simulators will have to be equipped with high altitude stall recovery models, so that the pilots, in each type-rating training, are faced with recovery of aircraft in high altitudes.

Now all this might make sense. The question must be allowed how the industry has isolated the pilots from their aircraft handling performance. Pilots today are handling three computers, the latest aircraft have 5 or 6 Ipad like displays, almost all entries and activities of pilots are performed via a mouse or (new Falcon cockpits) touchscreen. This in turn makes the pilot a system operator, relying totally on the computers doing the work.

We need to find the right balance between automated flight, the system control function of a pilot and the actual Human Computer Interaction, the integration of (wo)man into the cockpit controls. Several latest accidents re-launch intense Human Factor discussions, which we had handled in the late 80s, wrongfully assuming “case closed” with the integration of HF training into pilot training.

Our department at City University London and several of our Master students will continue to work on the subject.

3. The new Master of Science Programmes at City University London

The three MSc programmes at City University London (MSc Air Transport, Air Safety and Aircraft Maintenance) are specifically designed for licensed Aviation Personnel (Pilots, Air Traffic Controller, Engineers, etc) who had not yet studied in a University. In 3 to 4 years part-time, the Master student does not only receive a thorough insight into aviation developments, airline and aviation management and more, but he/she receives a toolkit for future management careers, or safety and

quality related skills. The programs are also designed to give the student access to academic research, working on a dissertation about a subject of choice, which for many has become their “masterpiece” in academic achievement.

Meanwhile, more than 1000 Alumni have successfully passed the program, some 450 students are enrolled at any one time, a fantastic opportunity to meet industry experts from around the world and build a life-long network of peers. For more information follow this link:

http://media.wix.com/ugd/b9cd19_36cd0b3087174a0fa437087207a70818.pdf

4. Merger & Acquisitions

tiansalo specializes in the M&A market, finding investors for an exciting new product development or getting an aspiring company investors for the next stage. 2015 promises to be an interesting year for investment opportunities in aviation, we offer our expertise in matchmaking.

Contact us!

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