



# The Superjet 100 Disaster

by Johan de Villiers

## Death of a Russian Dream?

The Sukhoi Superjet 100 was intended to be the first new civil aircraft developed by a post-Soviet Russia needed to replace the ageing fleet of Tupolev Tu-134 and Yak 42 Aircraft. With development work starting around 2000, the maiden flight was conducted on the 21 April 2011 and was hailed a successful partnership between the Russian Sukhoi company, with assistance from Boeing, in developing this fly-by-wire regional jet. At a price tag of USD 35 million, the Superjet 100 is also substantially cheaper than its competitors, such as the Antonov An-148, Embraer 190/195 and Bombardier CRJ. According to Sukhoi the aircraft's direct operating

costs are 6–8% lower than those of its key competitors.

On 9 May 2012, a Russian Sukhoi Superjet 100 airliner on a demonstration flight with 37 passengers and eight Russian crew members on board, took off from the Halim Perdanakusuma Airport in Jakarta, Indonesia.

The aircraft was flying at an altitude of 10 000 ft when the pilot requested authorization to descend to 6000 ft. It is unclear from air traffic control in Jakarta, if permission for this descend was granted at the time, nor why the flight crew requested the descend. At 14:12 local time (07:12 UTC), the plane disappeared from ATC

radar screens at an altitude of 6200ft.

At the time, satellite images showed heavy cumulus nimbus cloud formations with heavy rain in the mountainous area, which was located about 60km south of Jakarta, in the province of West Java. The search and rescue teams eventually located the wreckage on the side of Mount Salak. This Indonesian volcano, with its peaks shrouded in heavy mist for most of the year, has been the scene of more than 7 aircraft crashes in the past decade, with the last one, in 2008, claiming 18 lives from the impact of a military plane.

The demonstration flight for selected airline buyers, was the second

of the day and has put the focus on the informal atmosphere aboard so called demonstrator flights, also known as "joy flights". The passenger manifest was changed several times before take-off, with the final copy being stored on the doomed flight. Pilots chosen, are normally very experienced and routinely make faster than normal ascents or drop down to lower than expected altitudes to impress potential buyers on the flight and to illustrate the versatility of the plane.

In this case, the Russian pilot in command, Alexander Yablontsev, was no exception and had more than 10 000 hours logged in the Superjet or similar commercial jets. Russia

immediately dispatched 78 "experts" to Indonesia to assist with the air crash investigation, which is expected to last more than a year.

The Jakarta Post reported that the secretary-general of the Indonesian National Air Carrier Association, Tengku Burhanuddin, claimed that the Sukhoi Superjet 100's pilot pushed the aircraft to show its capacity to potential buyers during the first demonstration flight on Wednesday, the day of the crash.

Burhanuddin told the Post that on the first flight that morning, the pilot descended from cruising altitude, a manoeuvre that allowed passengers to get a closer look at the ground.

Even so, at least one decision has come into question — the flight path.

"As I understand it, it was the pilot who asked to pass Mount Salak," said Ruth Simatunpang, a former investigator with the National Commission on Safety Transportation, adding she was surprised given its infamous reputation.

"Usually, in a demo flight, you would go out of your way to avoid a route that is full of obstacles," Simatunpang said. "But almost everyone knows Salak is dangerous and that the weather is extremely unpredictable."

Like many others, she was surprised that the pilot would seek

such a sharp descent so close to the 7,000-foot-high (2,100-meter-high) mountain.

An aerial search and rescue team spotted the plane's debris on a slope of West Java's Mount Salak on Thursday, 10th of May. The elusive black box was finally found on Monday, the 14th of May at the bottom of a steep ravine in the plane's tail section.

Indonesia's National Search and Rescue Agency (Basarnas) said a team had found a dozen bodies at the crash site, but difficult terrain and bad weather has hampered efforts to sift through the wreckage.

Interestingly enough, in March 2012, approx two months before the

crash of the Superjet 100, the deputy chief engineer of the Department of Aviation and Technical Support of "Aeroflot" Constantine Mohniit revealed in the Russian daily newspaper Vedomosti that Aeroflot is asking Sukhoi for compensation since the six Superjet 100s it operates are in the air only 3.9 hours/day on average instead of the standard 8 to 9 hours. Breakdowns "... were caused by failures due to technical problems and delayed delivery of parts."

It remains to be seen what the black box flight recorder reveals. Was this a controlled flight into terrain (CFIT) due to pilot error, or an inherent technical design flaw within the aircraft? •