Millions join satellite search for missing plane

March 18 2014, by Rob Lever

A performer poses in front of messages expressing prayers and well-wishes for passengers onboard missing Malaysia Airlines flight MH370 at Kuala Lumpur International Airport in Sepang on March 17, 2014

Three million people have joined an effort led by a satellite operator to locate the missing Malaysia Airlines plane, in what may be the largest crowdsourcing project of its kind.

The satellite firm DigitalGlobe said Monday that its search area now has

some 24,000 square kilometers (9,000 square miles) and that more images are being added daily, including a new area in the Indian Ocean.

The company said more than three million people have participated in the program, with some 257 million "map views" and 2.9 million areas "tagged" by participants.

The plane went missing early on March 8 with 239 passengers and crew aboard, spawning a massive international search across Southeast Asia and the Indian Ocean that has turned up no trace of wreckage.

DigitalGlobe activated its crowdsourcing platform called Tomnod on March 11, inviting the public to look at the imagery from its five high-definition satellites to help in the search.

The response was so great it overloaded the system's computers for a time last week.

The company uses an algorithm called CrowdRank to determine the most promising leads, paying close attention to overlap where people tagged the same location.

"DigitalGlobe's expert analysts will examine the tags to identify the top 10 or so most notable areas and share the information with customers and authorities," a statement said.

"DigitalGlobe has direct contact with the US government and there is close and continuous coordination on this and many other world events."

Largest in history?

Although no definitive records are kept on crowdsourcing, this effort is likely one of the largest in history, and Digital Globe said it was bigger

than the relief effort for Typhoon Haiyan last November in the Philippines.
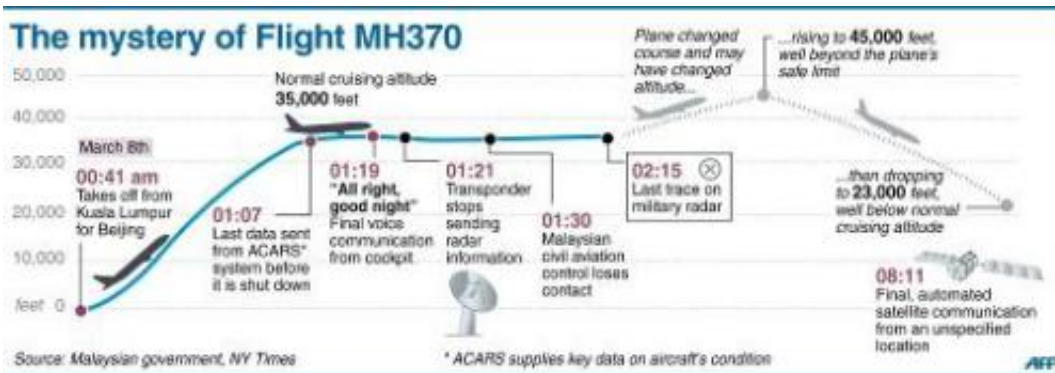
Chronology of last known minutes of flight MH370

"There are projects with as many people but perhaps not in as short a time span as this," said Lea Shanley, a researcher who studies crowdsourcing at the Woodrow Wilson International Center for Scholars.

"While this crowdsourced effort is unlikely to find the missing Malaysia Flight 370, it may help to identify where the aircraft is not located, thus saving critical time for the professional image analysts and responders."

The search turned up no definitive evidence, but conversation among the volunteer searchers was robust. Several claimed to have located a plane.

"Looks like a plane shape, but i doubt. Similar shape in map-tile 112075, also near by river..think this is drowned trees," wrote one person identified as Rasande Tyskar Youness Mikou.

Another using the moniker Alice von Malice responded, "Youness, it

looks a bit too small, but definitely shaped like a plane."

Several people tagged an area that appeared to have floating seats and debris.

Other searchers said they located what appeared to be a plane, a boat, oil slicks and even "a Jesus statue." Some pointed to what appeared to be large numbers of oil slicks.

Some volunteers pointed out that the satellites are not like surveillance cameras with a constant video feed of the Earth's surface but only take snapshots of segments, meaning they would have to get lucky to find the missing Boeing 777.

Science by crowdsourcing

While crowdsourcing is seen as a means for hotel and restaurant reviews on sites like Yelp, scientists have found ways to use the power of many sets of eyes and ears.

US Navy crew members assist in search and rescue operations for Malaysia Airlines flight MH370, March 16, 2014

A study released last week found volunteer counters who examined NASA lunar images did just as well in identifying individual craters as scientists with five to 50 years of experience.

Stuart Robbins of the University of Colorado, who led the study, said it provides "evidence that we can use the power of crowdsourcing to gather more reliable data from the moon than we ever thought was possible before."

Shanley said that while crowdsourcing was used mainly in the commercial sector, it has come into wider use for public efforts such as disasters.

Crowdsourcing may have helped responders in 2012 after Superstorm Sandy in the eastern US and was also used during the devastating 2010 Haiti earthquake. But crowdsourcing also pointed in the wrong direction after last year's Boston Marathon bombings.

In a crisis response, Shanley said, "you're dealing with very big data sets, and there's a lot of noise that needs to be filtered out."

Cambodians light candles as they pray for the missing Malaysia Airlines flight MH370 in Phnom Penh on March 17, 2014

She said effective use of crowdsourcing needs hefty computing power which can separate good leads from bad ones, and that this is improving.

Shanley noted that [crowdsourcing](#) in the public sector is evolving from simply reporting data—such as the US Geological Survey's "did you feel it?" campaign for earthquakes—to more analytics by the crowd.

"As technology improves we are seeing people moving to get volunteers helping with data analysis, and with problem solving," she said.

© 2014 AFP