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Sanjiv Singh on "Personal Aviation" for Autonomous Flight  
Autonomous land vehicles as stepping stones to flying autonomously

By Henry Lenard

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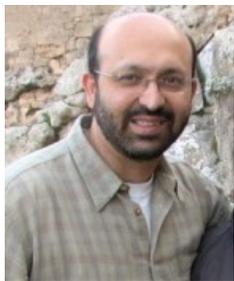


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### High flight at RoboBusiness

Calling autonomous flight "the next frontier", Dr. Sanjiv Singh hopes his keynote address on the topic at RoboBusiness 2013 will get people talking.

"I want to start a provocative conversation about the future of personal aviation," said Dr. Singh, a research professor at Carnegie Mellon University's Robotics Institute and co-founder and CEO of Pittsburgh-based start up Near Earth Autonomy.



"Now that cars are driving autonomously, we need to look at the stepping stones to flying autonomously," Dr. Singh said. "Can people fly small airplanes autonomously?"

The lure of autonomous automobiles, said Dr. Singh, is a desire for safety, particularly for people driving long distances that may have trouble sustaining their level of attention to the road. How that translates over into flying is a different matter.

"In personal aviation, there are very few people that are excellent pilots," Dr. Singh said. "You don't really need a lot of training to fly a small plane. There is a real safety issue for aircraft."

Another factor is that with airplanes, there is an increased possibility of greater damage in an accident.

"We need to find a way to offer pilots or operators of aircraft additional safety. We need to make autonomous flying safe even in turbulent conditions," said Dr. Singh.

He said that while modern aircraft do have auto-pilot capabilities, such systems are technically based on GPS, utilizing points in space for flying. Auto-pilot systems do not have the ability to detect or do anything in real-time about local conditions.

"With personal aviation, it is not necessarily about flying into airports. The aircraft must be sure it can land safely cognizant of the area it is in," Dr. Singh said. "There are two pieces to the puzzle: Staying safe while in flight and finding a safe way to land the plane."

"Autonomous flight is the next frontier, but it might not be an easy one. There are many things that will have to be in place for it become commonplace," said Dr. Singh.

Those factors, said Dr. Singh, include finding commercial applications to become early adapters of autonomous flight and developing a business model that makes sense.

Once that is in place, there would be an inevitable trickle down to autonomous aircraft for personal use.

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#### About the author



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Henry Lenard is the former editor-in-chief of the Pittsburgh Business Times and also was editor-in-chief of the former Industry.Net, a national network of regional publications covering manufacturing and computer technology.

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