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## Autonomy in Cars Proposed To Help Self-Flying Aircraft

by Jim Stickford

The advent of the autonomous car is creating great opportunities for Michigan's aerospace industry.

Gavin Brown, executive director of the Michigan Aerospace Manufacturers Association (MAMA) said that the technologies of the automotive industry and the aerospace industry are converging.

"Today's aerospace industry isn't just traditional fixed-wing aircraft," Brown said. "These days we're talking about unmanned autonomous craft. And that's where aerospace and automotive technologies are converging."

Just as the auto industry is spending billions on the autonomous car, the aerospace industry is investing a lot of money into creating flying craft that can travel routes on their own, Brown said. He added that vehicle-to-vehicle communications between cars is growing and this technology can also be used for vehicle-to-vehicle communications between flying craft.

"The wealth of engineering talent located in southeast Michigan is tremendous," Brown said. "That makes it possible to create a ground-zero for a new industrial base in terms of developing an industry that combines automotive and aerospace technologies."

This base, Brown said, would hopefully extend beyond just engineering. It would include manufacturing.

Fortunately, he said, Michigan also doesn't lack for talent in the

development of manufacturing systems.

Autonomous flying craft – Brown and his colleagues don't like the term "drone" because of its martial connotations – extend beyond Amazon using them to deliver small packages.

"In Africa, for example, there are places that aren't easily accessible by road," Brown said. "Having autonomous flying craft that could make deliveries of medicine and other basics would be of tremendous benefit."

Brown said that MAMA's mission started in 2007 and the organization has been based in Sterling Heights since 2012. The group held a meeting on March 9 so its members could interact, network and just see what they were all doing.

"Michigan has greater aerospace resources located in the state than people think," Brown said.

"There are about 300 aerospace companies that employ



Gavin Brown of MAMA in front of Michigan-made helicopter

more than 5,000 people in the state. Right now, we have an opportunity to help create a future for Michigan that is a little less auto-centric."

Brown cited Enstrom, a Menominee-based manufacturer of helicopters, as an example of a Michigan-based company in the aerospace industry. Its president, Tracy Biegler, is a member of MAMA and was

at the March 9 meeting.

"We're a small company," Biegler said. "We're one of five helicopter manufacturers in the U.S. and we employ about 250 people."

"Our helicopters cost between \$550,000 and \$1.2 million. Our product is in the low-end part of the helicopter market. They're 'off-the-shelf' vehicles."

And by working with others in

the state, Enstrom can see what's going on in the industry as a whole and stay on top of the latest technology, Biegler said.

The company got its start when its founder, Rudy Enstrom, a mining engineer in the Upper Peninsula, built a helicopter in his basement in the 1940s. In the 1950s, local people got together

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create the Enstrom helicopter company.

That spirit of cooperation that made Enstrom possible 60 years ago can help Michigan's aerospace industry today, Biegler said.

One Detroit-based company that's on the cutting edge of this new aerospace technology is Detroit Aircraft Corporation. The company is headquartered at Detroit City Airport and designs and makes small, unmanned aerial systems for military, civil and commercial interests.

"Take agriculture," said company founder and CEO Jon Rimanelli. "Unmanned craft can be of great benefit to farmers. They can fly over crops and show farmers what areas need watering or if crops are ready to be harvested."

"And this work can be done a lot faster than before when a farmer would have to walk around and see what was what."

It's now possible to see thousands of acres of farmland from the sky using unmanned craft, Rimanelli said.

As for civil and commercial uses, road systems need inspecting and nobody wants to climb structures like the Mackinac Bridge when a UAV can be sent to inspect the structure, Rimanelli said.