THE SKY'S THE LIMIT FOR ENERGY'S NEXT BOOM

By Jason Spiess

The energy industry is on the cusp of yet another a breakout industry driven by aviation, more specifically unmanned aviation. This budding industry has increased its impact into our daily lives for the past decade through a variety of ways. As technological advancements in industry continue, the feeling from the public has gone from military to investment opportunity.

Understanding the good, the bad and the ugly of this industry is one of the main reasons the general public has not seen Black Friday sales on unmanned vehicles. There are real concerns in the world of safety, privacy and ethics, however, the benefits are becoming so strong, North Dakota became one of six states to become a Federal Aviation Administration selected test site. Alaska, Nevada, New York, Texas and Virginia, were the other states selected to research integrating UAS into the general population.

"I've actually developed some legislation that set up six pilot test sites around the country, we are one of them. We are the first one as it should be," U.S. Senator John Hoeven said. "Now look, we are going to make sure that we get this right, that it is developed in a way that we insure general aviation can continue to function, that we protect privacy rights. That's the point."

North Dakota's UAS Test Site is headquartered in Grand Forks and, like all the other UAS Test Sites, is expected to serve the needs of the FAA through at least February, 2017. Robert Becklund, Director of the Northern Plains UAS Test Site, oversaw the very first federally approved test flight this past May. Additionally, through the course of his career, both military and civilian, Becklund has been intimately involved with UAS for over a decade.

"North Dakota is very honored to be chosen by the FAA to help them solve the very complicated technical, procedural and regulatory challenges associated with the safe integration of unmanned aircraft into our national airspace system," Becklund said. "Additionally, and perhaps most importantly, we are excited to assist industry with any needs they may have regarding opportunities to utilize UAS to make their work safer, less expensive and more efficient. "

Another individual who has been heavily involved in the UAS industry is North Dakota Agriculture Commissioner Doug Goehring.

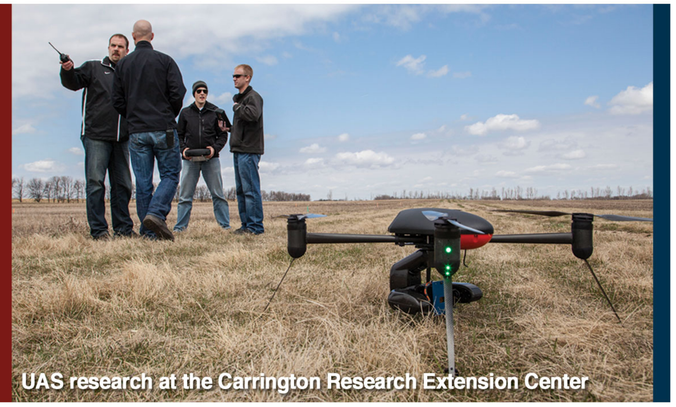
North Dakota is one of the pilot states to develop the rules, to develop the ability to fly in areas under certain criteria and certain borders and boundaries and do the work that is needed to help agriculture be more effective and more efficient," Goehring said. "This is going to be a great story because they are also going to be working in other areas when it comes to security, emergency services, but also for the energy industry."

U.S. Congressman Kevin Cramer sees the energy industry using the remote-controlled technology sooner rather than later in the state, however, establishing the ground rules will take some time. He believes North Dakota was picked as a test site for a variety of reasons.

"I think it will happen. North Dakota was picked for a number of reasons, not the least which is the tremendous cooperation between all levels of government and the private sector. Of course the intellectual and academic assets that we have, the diversity of our geography and our climate certainly are reasons," Cramer said.

"But another big reason is we have such a sophisticated precision agriculture culture in North Dakota and we have this energy sector where you know the monitoring, for example, of the pipelines is a very important safety component. Cramer added there are additional factors to consider when discussing UAS and industry.

"Today manned aircrafts travel and fly over our pipelines and infrastructure to make sure everything is working the way it is supposed to be working and to detect any problems early," Cramer said. "The advantage of unmanned aircrafts or remote piloted vehicles is that they can stay in the air much longer, fly much closer, record everything. It's really tremendous technology when used right and I think North Dakota is the perfect place to test it first because we do things right."



UAS research at the Carrington Research Extension Center

While the idea of UAS is not new, the industry is. According to the Association for Unmanned Vehicle Systems International, the UAS global industry is approximately $11 billion and forecasts the global market will generate $140 billion in economic growth by 2025. Furthermore, projections indicate the industry will create more than 100,000 jobs in that time period.

Goehring, who also sits on the North Dakota Industrial Commission, sees the energy industry incorporating this technology into their business practices to help in a number of fields.

"For the energy industry I see it as a way to safeguard our energy resources to look at pipelines, to look at all the infrastructure out there including roads," Goehring said. "And then also inspect and stay on top of where those tank batteries are, what is going on in well heads, and the pads out there. What's happening in energy production in general, very good way to inventory."

U.S. Senator Heidi Heitkamp has been working with industry, government and universities to ensure the state will be prepared for the next boom, which she believes will be directed by safety and is inevitable due to our vast and diverse resources.

"Anyone who has been involved in the energy industry knows that you have to fly over your transmission lines. You have to fly over your pipelines," Heitkamp said. "This could be a huge safety opportunity to do surveillance on safety issues, whether it is a pipeline, transmission line, well pad, producing well that maybe someone isn't on site all the time, but you will have the opportunity to check on it remotely."

Heitkamp added there will be additional opportunities for the six UAS test states.

"And at times we are looking at a workforce challenge this can be an incredible opportunity," Heitkamp said."And we believe that whether it is law enforcement, border security, whether it is in production agriculture, whether it is in energy, that there is going to be a tremendous opportunity for remotely piloted aircrafts going forward."

Currently the FAA prohibits the commercial use of drones, but with the help of Alaska, North Dakota, Nevada, New York, Texas and Virginia, operational guidelines are being drawn up. The agency estimates 7,500 commercial drones could be flying within five years across the nation's airspace.According to Lynn Helms, director North Dakota Department of Minerals, the energy industry is further along than just conversations about the unmanned systems. Industry is

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