The University of North Dakota is actively seeking industry partners to license, develop and commercialize its technology consisting of high-tech digital aviation electronics (avionics) for use in unmanned aircraft systems, allowing them to autonomously and safely avoid other aircraft and other collision threats. This system provides for Unmanned Aircraft System (UAS) vehicles to be safely integrated into otherwise restricted military or civilian airspace.

**Suggested Uses**
- Safely guiding unmanned aircraft vehicles within the National Airspace System (NAS) while avoiding threats such as manned aircraft, other UAS vehicles, man-made obstacles, trees, and terrain
- Guiding land craft to avoid obstacles and other vehicles
- Guiding marine craft to avoid submerged obstacles as well as those on the water surface

**Advantages**
- This technology meets a need that has not yet been satisfied in the quickly growing UAS industry and other remote guidance industries including ground and marine vehicles
- Uses highly regulated right-of-way rules to avoid airborne collision threats in the same way as an actual piloted aircraft would maneuver

**Technology**
Automatic Dependent Surveillance for automated flight control and collision prevention which uses an embedded computer using precise algorithms designed to ensure safe flight of Unmanned Aircraft System (UAS) vehicles.

The sense and avoid (SAA) technology’s real-time self-separation and collision avoidance algorithms within the flight computer can track neighboring ADS-B Out equipped air traffic and operated 4D trajectory changes whenever one or more declared intruders were predicted not to remain “Well Clear” or to enter a Near Mid-Air Collision (NMAC) course with the UAS according to its flight path. The SAA technology also uses other forms of tracking and measurement in conjunction to detect and avoid obstacles that are not equipped with ADS-B Out.

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