

Questions & Answers to the Honorable Michael C. Burgess, M.D.

1. Mr. Walden, as news reporters have highlighted, there are a lot of people out there who are pretty oblivious to no-fly zones and restricted areas.

2. What are manufacturers doing to ensure that their customers are aware of all the available tools such as “Know Before You Fly?”

We are participating in a NTIA initiative to derive best practices for providing individuals with information on when and where UAVs are operated. We are also investing in companies that will have direct access to consumers and will work to support the implementation of best practices.

3. Does packaging include resources on where consumers can go to find a map of restricted areas and instructions on safe flying?

Intel has not created packaging for UAS sold to consumers, but with the December 28 acquisition of Ascending Technologies, we are invested in making sure that best practices are implemented and we are supporting the UAS ecosystem in consumer education.

Questions & Answers to the Honorable Tony Cardenas

1. How can technology be utilized to prevent UAVs from flying into no-fly zones around sensitive areas, such as airports stadiums, or nuclear facilities, whether intentional or unintentional?

Technology can help mitigate no-fly zone concerns. No Fly Zones will be determined by GPS, and in the future, having real time updates via LTE to the drone can create dynamic no-fly zones for emergency purposes. This is an area of important future innovation.

2. What types of technologies has Intel developed, or do you plan to develop, to ensure UAVs can be operated safely if a regulatory framework is adopted that allows the number of drones operating in the national airspace to increase exponentially?

Technology can improve drone safety. Today, we are working to address UAV safety through a variety of innovations. We are actively creating the silicon architecture and computing power that will create an onboard drone platform that has outstanding speed, performance and functionality. Intel hardware powers the cloud, where unmanned air traffic management systems being designed by NASA in partnership with several leading companies (including Intel) are likely to be sited. Intel also brings its data analytics, communications platforms, vision and depth based computing technology to UAV

software and to the data that such software will create. Drones in the future will have sense and avoid abilities with auto landing and re-charge capability and provide real time communication and data links to ground stations and cloud infrastructures securely. But, our most important contribution to date involves our RealSense technology, an onboard sensor application that represents a key ingredient for best-in-class collision avoidance. It provides real time depth sensing capability for a flying drone and combined with GPS, altitude and other onboard sensors, can prevent flying into no-fly zones and other restricted areas.

3. Should regulations require the use of certain technologies to ensure safe operations of UAVs? If so, how should regulations be drafted so that they are flexible enough to adapt to new technologies as they develop?

Intel believes that it is critical for the United States to develop a regulatory framework for UAVs that role models innovation for the rest of the world. Intel supports a regulatory framework that is risk-based and flexible enough to change as technology evolves so that it does not hinder innovation and economic growth. This flexibility can be achieved through adopting a streamlined certification and approval process, and through exemptions and waivers under existing FAA authority. Simultaneously, regulations should encourage the use of computing to meet the key challenges to safe integration of UAVs in the National Airspace System: sense and avoid collision avoidance, secure geo fencing and command and control technology. Also, this flexible regulatory framework should recognize that there are a wide variety of devices that fall under the definition of UAVs, with multiple categories of UAV categories considered by the FAA based on their size and functionality. Modernized regulations will help the UAS advance in a safe and responsible fashion.