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STMicroelectronics Ships 1 Billionth Time-of-Flight Module

- *Milestone demonstrates market leadership in ranging solutions*
- *Continues development of miniature ToF modules that enable innovative use cases*
- *Maintains exceptional delivery and quality standards while supplying the most demanding customers in key market sectors*

Geneva, November 26, 2019 – STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications, has announced the shipment of its 1 billionth [Time-of-Flight \(ToF\) module](#).

ST's ToF sensors utilize the Company's Single Photon Avalanche Diode (SPAD) sensor technology and are manufactured in ST's 300mm front-end wafer fab in Crolles, France. The final module, which integrates the SPAD sensor, a Vertical Cavity Surface Emission Laser (VCSEL), and the necessary optical elements to enable the product's outstanding performance, is assembled and tested in ST's state-of-the-art internal back-end facilities.

"ST has pioneered and transitioned Time-of-Flight technology from its research labs to a fully industrialized family of market-leading products that are now being used in more than 150 different smartphone models and have just passed the 1 billion module milestone," said Eric Aussedat, General Manager of ST's Imaging Subgroup. *"In continuing to invest, ST has extended the **FlightSense™** roadmap for Time-of-Flight products from high-performance 1-dimensional ranging devices to multi-zone solutions and most recently adding high-resolution 3D depth sensing capabilities to enable innovative applications using advanced proximity sensing, human presence detection, and laser autofocus."*

The VL6180, VL53L0, and VL53L1 families of products, among others, are in high-volume production for consumer, personal computer, and industrial markets. ST's unique vertically integrated manufacturing model for the Time-of-Flight sensors ensures best-in-class levels of service, quality, customer support, and performance.

Technical Notes to Editors:

The development and introduction of ST's high-performance Time-of-Flight technology deliver clear performance benefits. By optimizing module size, power,

and ranging capabilities, and offering greater operating range than competitive sensors, FlightSense ToF sensors enable a wide range of use cases. These include human presence detection, which can control the wakeup and hibernation of laptops, monitors, or other equipment; user proximity detection; and laser autofocus (LAF) in hybrid focusing algorithms for smartphone cameras.

The camera subsystem, for example, is a major differentiator in smartphones. The LAF feature improves camera focusing in demanding operating conditions, including low light or with low-contrast targets that are particularly difficult for conventional autofocus systems. Laser autofocus is widely used by leading smartphone OEMs with most choosing ST's ToF technology. In fact, [a well-recognized benchmark](#) has identified the "top 10 Camera" smartphones and many are equipped with ST's Time-of-Flight technology.

A wide range of other mass-market products benefit from ST's Time-of-Flight devices. They have been designed into robotic vacuum cleaners, laptops, children's tablet computers (to promote eye safety), automated water faucets, consumer drones, robots, and projectors, among many others.

With hundreds of successful design-wins completed, the local ST Application and Customer Support teams have expertise in sensor integration into OEM products, reference software for platform integration, selection of cover-glass material, and algorithm customization. This valuable support can be available to customers to accelerate new-product time-to-market.

About STMicroelectronics

ST is a global semiconductor leader delivering intelligent and energy-efficient products and solutions that power the electronics at the heart of everyday life. ST's products are found everywhere today, and together with our customers, we are enabling smarter driving and smarter factories, cities and homes, along with the next generation of mobile and Internet of Things devices.

By getting more from technology to get more from life, ST stands for life.augmented.

In 2018, the Company's net revenues were \$9.66 billion. Further information on ST can be found at www.st.com.

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