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Contact: George Williams

Tel: 971-223-5646 x112

Email: georgew@voxel-inc.com

Voxel Receives DARPA ReImagine Program Award for Software Reconfigurable Imaging and Ranging Sensor for Autonomous Navigation and Military Imaging

Beaverton, Ore., July 25, 2017 – Voxel Inc. has been awarded the first phase of a potential \$5.2 million contract by the U.S. Defense Advanced Research Projects Agency (DARPA) for the Reconfigurable Imaging (ReImagine) program.

Voxel is developing a multi-mode fused image sensor that integrates short-wavelength infrared (SWIR) passive imaging and laser detection and radar (LADAR) sensing in the same imager.

Similar to a field-programmable gate array (FPGA) processor, the field-programmable imaging array (FPIA)

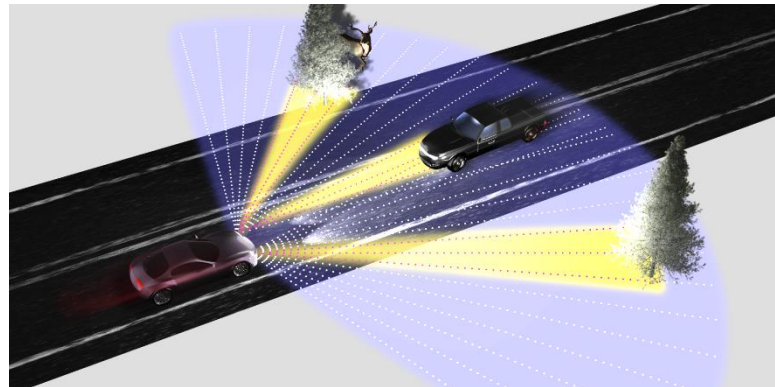
architecture that Voxel is developing in the ReImagine program would incorporate dynamically reconfigurable pixel elements, so that separate regions of the focal plane array may run separately at high resolution, at high frame rate, or in active time-of-flight mode, enabling on-focal-plane object detection and extraction, along with pixel-registered sensor fusion.

By designing multi-mode passive- and active-imaging algorithms implemented at the pixel level with reconfigurable on-focal-plane processing, the technology would allow autonomous object detection and imager configuration, with efficient extraction of relevant information.

“Our multi-mode fused image sensor would greatly benefit applications that require significant laser power, like LADAR-assisted automotive navigation,” states Voxel CEO George Williams, “By using laser pulse energy only where the scene requires it, Voxel can make systems that are smaller, less-expensive, more efficient at scene extraction, and require less processing.”

DARPA’s ReImagine program seeks to develop a software-reconfigurable, multi-mode imager that can adapt to different conditions in a scene and autonomously reconfigure itself to collect the most valuable information in the scene.

An approximately three-year contract under the auspices of the ReImagine program was awarded to Voxel in May, 2017. In addition to use in autonomous automobile navigation and driver assistance



Voxel’s multi-mode fused image sensor, currently being developed in DARPA’s ReImagine program, would enable autonomous navigation from a small-sized LADAR system that requires less laser power and less computer processing. [Source: Voxel artist concept]

systems, military applications would include multi-mode imaging for helmet-mounted, weapon-mounted, and unmanned-vehicle systems.

About Voxel, Inc.

Founded in 1999, Voxel, Inc. of Beaverton, Ore., is a leading supplier of [laser-ranging and 3D-imaging systems](#), [eyesafe DPSS lasers](#), [avalanche photodiode \(APD\) InGaAs detectors](#) and [scanned lidar and laser-ranging photoreceivers](#), and [focal plane arrays \(FPAs\)](#).

For more information, visit www.voxel-inc.com, call 971-223-5646 x112, or email georgew@voxel-inc.com.

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