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VoxelSensors

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Press Release

VoxelSensors introduces breakthrough 3D perception technology for XR/AR/MR/VR to blend the physical and digital worlds

December 27th, 2022, Brussels (Belgium). *VoxelSensors, the leading provider of Active Event Sensor (AES) technology for 3D perception, will announce its Switching Pixels® solution during CES in Las Vegas on January 5-8, 2023. Switching Pixels is a novel category of 3D perception systems designed to resolve the current limitations in XR/AR/MR/VR applications by offering unprecedented milliwatts low-power, nanoseconds low-latency performance, and a simplified data path.*

Switching Pixels resolves major challenges in 3D perception to bridge the gap between the physical and digital worlds. The technology is particularly useful for XR/AR/MR/VR glasses, which require low-power, low-latency perception systems for tasks such as SLAM (Simultaneous Localization and Mapping), anchoring and interaction using gestures or controllers. VoxelSensors reports impressive performance figures, including the sequential construction of 3D information at a 100Mhz update rate (100 million updates per second, or 10 nanoseconds per update) and with just an energy budget of 6 photons per voxel to integrate accurate and reliable 3D perception.

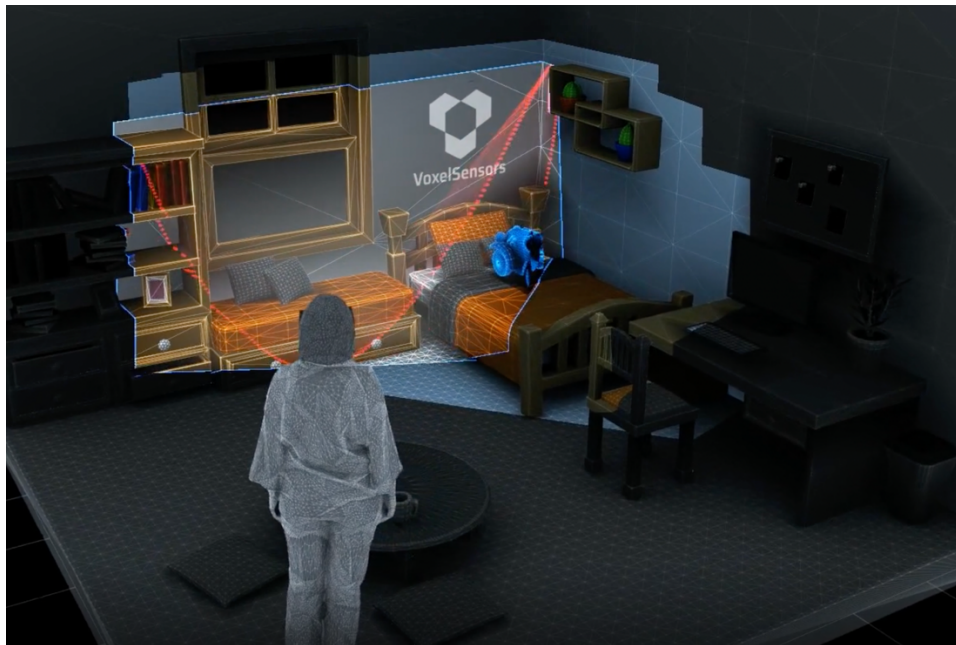
With its unique architecture, Switching Pixels is the only technology on the market for visual odometry in under 2 milliseconds while remaining insensitive to daylight, crosstalk, or motion in dynamic scenes. While current state-of-the-art systems such as Time-of-Flight, Stereoscopy, and Event-Based Vision Systems fail to meet the latency target of less than 10 milliseconds, Switching Pixels delivers useful 3D data points starting at 1/10th of a millisecond.

VoxelSensors' XR/AR/MR/VR laser beam scanning reference system outperforms current state-of-the-art smartphone LiDAR scanners, with a power budget below 25mW (over 90% energy saving) and a latency of 2 milliseconds (over 90% reduction).

“As VoxelSensors CEO, I wanted to build technology that could revolutionize 3D perception while delivering a positive societal impact. XR/AR/MR/VR and related applications allow the world to blend the physical and digital worlds. Such applications will elevate human communication to the next level and enable experiences that are today out of reach for many of us,” explains Johannes Peeters, CEO and co-founder of VoxelSensors. “Blending the physical and virtual worlds will create astonishing experiences to consumers and productivity gains in the enterprise world.”



VoxelSensors founding team has a long history of innovation in 3D sensing. They previously developed the CMOS CAPD pixel and successfully spun-out a ToF sensor company from VUB (Vrije Universiteit Brussel). This technology was later developed by SoftKinetic, a company acquired by Sony in 2015. Based on their extensive experience, the founders of VoxelSensors set out to create a new technology to address the well-known challenges of active 3D perception systems.



About VoxelSensors

VoxelSensors is the creator of a novel category of efficient 3D perception solutions for blending the physical and the digitally augmented and virtual worlds. Its proprietary and patented Switching Pixels technology achieves unprecedentedly low power consumption, latency, and computational complexity. Switching Pixels is a game changer that unlocks the true potential of fully immersive experiences for consumer electronics and enterprise AR / VR / MR wearables and various other industries. For more information, see voxelsensors.com

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