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**PRESS RELEASE**

**For Immediate Release:**

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**Sensory Makes Wake Words Smarter with New High-Res Voice Recognition and Authentication**

*Sensory, the leader and originator of wake words for personal assistants, raises the performance bar for always-listening wake word and speech recognition, with upgraded turn-key voice interface solutions for devices of all shapes, sizes and power requirements*

**Santa Clara, Calif., September 27, 2018** – [**Sensory**](http://www.sensory.com/)**,** a Silicon Valley-based company focused on improving the user experience and security of consumer electronics through state-of-the-art embedded AI technologies, today announced that it has made significant upgrades to the embedded AI in its sixth generation of [**TrulyHandsfree™**](http://www.sensory.com/trulyhandsfree)**,** boosting the technology’s already industry-leading wake word performance and accuracy by more than 65 percent. Additionally, TrulyHandsfree boasts improved deep-neural network training that allows for even better near- and far-field speech recognition performance in all room conditions.

“In ideal conditions, an always-listening wake word recognizer should only wake the voice UI when it hears the wake word, and never false fire,” said Todd Mozer, CEO of Sensory. “This is how we designed TrulyHandsfree to operate, and with the upgraded AI technologies in version 6.0, it works exactly as it should even in far less than ideal conditions. TrulyHandsfree has long been the performance benchmark that other voice UI solutions strive to match. With our sixth generation, the bar for efficiency, security, wake word accuracy, and near- and far-field performance has been set much higher, making it the ideal wake word solution for any kind of voice-enabled product design.”

**Greater Wake Word and Speech Recognition Accuracy**

Version 6.0 improves performance and word recognition accuracy relative to the last two generations of TrulyHandsfree by reducing wake word false positives by more than 65%. This reduction is due to Sensory’s new high-resolution speech feature front-end that sees a higher resolution digitized representation of the speech audio, combined with the introduction of on-device wake word post-qualification. Post qualification uses intelligence about wake word events to better discriminate against false positives. In addition to enhanced wake word performance, Sensory’s new high-resolution speech feature front-end has improved upon what was already the benchmark for embedded speech recognizers and contributed a significant boost in TrulyHandsfree 6.0’s speech recognition performance and accuracy over previous generations. Sensory’s new high-resolution speech feature front-end enhancements in accuracy also enable TrulyHandsfree to support multiple wake words, like “Okay Google” “Alexa™,” “Hey Cortana,” “Hey Siri” and ““Xiaodu, Xiaodu” in a single implementation with great performance. This allows device makers to create new products with a user-friendly voice interface that works with more than one digital assistant technology.

**Tolerance of Accents, Dialects and Varying Room Conditions**

Sensory upgraded the machine learning within TrulyHandsfree to take advantage of high-resolution audio information for deep-neural net training. This improved training allows the algorithms to anticipate a variety of factors associated with wake word performance, including understanding how one person, or a population of people, may pronounce a wake word. It also takes into consideration acoustic challenges like various room configurations, device placement, room size, reverb and echo. This ensures superior always-listening speech recognition performance regardless of where the device is placed in a room.

**Enhanced Security Makes Sure That It’s You Speaking**

Some of the most notable challenges facing the IoT industry is privacy and data security. TrulyHandsfree 6.0 does all processing on device, keeping voice data completely safe by never storing it or sending it to the cloud. Additionally, TrulyHandsfree 6.0 includes a layer of voice biometrics recognition in the voice interface for user authentication and security. TrulyHandsfree’s embedded high-resolution voice enrollment and speaker verification (SV) technology is flexible, allowing users to enroll their voice and their own custom wake word or passphrase, restricting unauthorized users from accessing the voice user interface. Even if an unauthorized person learns the custom wake word or passphrase, Sensory’s voice biometrics technology will recognize that it’s not the enrolled user speaking and not authenticate them.

**Improved Barge-in and Far-Field Performance**

Specifically tuned to provide an ideal voice barge-in experience with TrulyHandsfree, Sensory offers upgraded AEC solution that supports single mic input systems with mono or stereo sound sources. This technology allows users to interrupt their devices by saying the wake word while the device is in the middle of playing voice prompts, music or other sounds, at any volume level. Sensory’s new high-resolution speech feature front-end and AEC also play major roles in making TrulyHandsfree better at hearing users in a variety of room sizes and configurations, making TrulyHandsfree 6.0’s far-field wake word performance second to none.

**High-Resolution Speech Recognition, Same Efficient Footprint**

In addition to being more accurate, TrulyHandsfree 6.0’s new high-resolution speech feature models are scalable and extremely efficient. Its wake word, command and control, SV and AEC all feature a compact footprint, and work with a wide range of low power DSP to high-power applications processors. TrulyHandsfree’s AEC technology is also scalable and can be tuned to optimally balance acoustic echo cancellation performance requirements and MIPS/power restrictions. For ultra-low power devices that have limited battery capacity such as wearables, Sensory offers its Low Power Sound Detector (LPSD) hardware component for DSPs and smart microphones. LPSD reduces low-power configurations of TrulyHandsfree wake words to operate at an average battery draw of under 1mA.

TrulyHandsfree is the most widely deployed embedded speech recognition engine in the world, having enabled a hands-free voice user experience on more than 2 billion devices from leading brands worldwide. TrulyHandsfree offers support for every voice UI application with several types of wake word options, such as independent fixed wake words, user enrolled fixed wake words, and user defined wake words. Sensory offers off-the-shelf wake word models for all major IoT cloud services, including Amazon AVS, Apple Siri, the Google Assistant and Microsoft Cortana, as well as wake word models for third-party devices that support cloud AI systems from Baidu, Alibaba or Tencent. Sensory can also combine multiple wake words into one solution.

Sensory’s TrulyHandsfree supports US English, UK English, Arabic, Dutch, French, German, Italian, Japanese, Korean, Mandarin, Portuguese, Russian, Spanish, Swedish and Turkish. The TrulyHandsfree SDK is available for Android, iOS, Linux, QNX and Windows. Sensory provides developer support for cloud service interfaces on Linux, Android, iOS and Windows as well as support for dozens of proprietary DSPs, microcontrollers, smart microphones and other low-power embedded devices.

Additionally, ultra-low-power deeply embedded ports of TrulyHandsfree are available for leading DSP/MCU IP cores from ARM, Cadence, CEVA, NXP, Synopsys and Verisilicon, as well as for integrated circuits from Ambiq Micro, Analog Devices, Cirrus Logic, DSP Group, Fortemedia, Intel, Knowles, Microchip (Microsemi), NXP, Qualcomm, QuickLogic, Realtek, Synaptics, STMicroelectronics, TI, Yamaha, and XMOS.

For more information about this announcement, Sensory or its technologies, please contact [*sales@sensory.com*](mailto:sales@sensory.com)*;* Press inquiries: *press@sensory.com*.

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**About Sensory**

*Sensory Inc. creates a safer and superior UX through vision and voice technologies. Sensory's technologies are widely deployed in consumer electronics applications including mobile phones, automotive, wearables, toys, IoT and various home electronics. Sensory’s product line includes TrulyHandsfree voice control, TrulySecure biometric authentication, and TrulyNatural large vocabulary natural language embedded speech recognition. Sensory’s technologies have shipped in over a billion units of leading consumer products. Visit Sensory at* [*www.sensory.com*](http://www.sensory.com)

*TrulyHandsfree is a trademark of Sensory Inc*.