

Engineering Acoustics Inc. Demonstrates the Future of Haptics at the Amusement Park and Attraction Industry Trade Show in Orlando

ORLANDO, FL – Engineering Acoustics Inc. (EAI) will present their eaiHAPTICS products at the 2018 International Association of Amusement Parks and Attractions (IAAPA) show in Orlando during the week of November 13th. EAI has worked with a major ride developer to integrate this technology into a recently opened attraction, and will showcase their latest generation of haptic actuators and systems in an interactive demonstration.

Gary Zets, EAI's founder and CEO explains, "We naturally integrate sight, sound and touch to make sense of the world around us, so when we synthesize an experience, we have to make sure that those sensory components are presented accurately and appropriately. For many years, the visual and audio quality of productions has been extremely good, but the tactile component has been limited, or completely absent from the experience."

EAI has changed this with the introduction of their eaiHAPTICS product line. A number of different actuators are offered that can be incorporated in ride seats and restraints; these can produce a wide range of haptic sensory effects to simulate movement, intensity and pitch. For example, a person can "feel" a virtual spider crawling over their back, or the movement of a lightning bolt as it strikes the ground in front of you.

There is an interesting background to the development of the eaiHAPTICS products. As a designer and manufacturer of Sonar and Underwater Acoustic equipment for the US Navy, EAI submitted a proposal in 1994 to the Navy's Small Business Innovative Research (SBIR) program in response to a requirement for small actuators that can be integrated in a pilot or soldier's tactical vest, and provide a strong vibrational (haptic) stimulus to the human body. The intended application was to use the sense of touch to provide soldiers and aviators situation awareness information using the sense of touch. So, for example, if an incoming missile were detected, a pilot would feel a vibration on his or her body in the direction of the threat and could take immediate evasive action even before looking at visual displays.

Engineers at EAI reasoned that since the body is made up of about 65% water, vibrating the skin would require similar equipment that is used to generate underwater sound. Upon winning the Phase I SBIR contract, EAI embarked on a development effort to model and build haptic actuators using design principles and practices from their Sonar products. After the six-month effort, EAI demonstrated working prototypes to the Navy, and so began a 25-year (and continuing) involvement in the design and manufacture of haptic actuators and tactile systems for military, biomedical and physiological research applications.

EAI always recognized potential commercial uses for their technology; one of the most obvious was in the entertainment and computer gaming industries, which has always sought to make their experience more immersive. This is particularly true today with the introduction of virtual reality and advanced simulators in theme parks.

Bruce Mortimer, EAI director of R&D explained further, "With our actuator technology advancements, we are able to create precise, dynamic and localized sensations over the body. When properly integrated (by the show creator) with audio and visual timelines, the combination of sensory effects provides the user with a rich and immersive experience."

See the future of haptics, and "feel the fun" at eaiHAPTICS Booth 3283. For more information, contact Gary Zets at (407) 645-5444 or zets@eaiinfo.com. Web: www.eaiHAPTICS.com

Engineering Acoustics, Inc. (EAI) is a technology leader in the development and application of human-centric vibrotactile and haptic systems for defense, entertainment, simulation and training, aviation, and healthcare applications.