HP Enables Better, Faster Decision Making with Breakthrough Sensing Technology

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HP today announced new inertial sensing technology that enables the development of digital micro-electro-mechanical systems (MEMS) accelerometers that are up to 1,000 times more sensitive than high-volume products currently available.

A MEMS accelerometer is a sensor that can be used to measure vibration, shock or change in velocity. By deploying many of these detectors as part of a complete sensor network, HP will enable real-time data collection, management evaluation and analysis. This information empowers people to make better, faster decisions, and take subsequent action to improve safety, security and sustainability for a range of applications, such as bridge and infrastructure health monitoring, geophysical mapping, mine exploration and earthquake monitoring.

The new sensing technology represents a breakthrough in nano sensing research and uses the fluidic MEMS technology co-developed over the past 25 years by HP Labs - the company's central research arm - and the company's Imaging and Printing Group.

"HP is already the world's leading MEMS provider for fluidic devices, which are present in hundreds of millions of print cartridges each year, and we have proven capabilities for deep technology integration and commercialization into high-volume products," said Ken Abbott, director, Emerging Technology, Technology Development Organization, HP. "This, coupled with our position as a leading technology company, uniquely positions HP to deliver sensing solutions and services on a

global scale."

The HP sensing technology enables a new class of ultrasensitive, low-power MEMS accelerometers. Up to 1,000 times more sensitive than high-volume, commercial products, sensors based on this technology can achieve noise density performance in the sub 100 nano-g per square root Hz range to enable dramatic improvements in data quality. The MEMS device can be customized with single or multiple axes per chip to meet individual system requirements.

The sensing technology is a key enabler of HP's vision for a new information ecosystem, the Central Nervous System for the Earth (CeNSE). Integrating the devices within a complete system that encompasses numerous sensor types, networks, storage, computation and software solutions enables a new level of awareness, revolutionizing communication between objects and people.

"With a trillion sensors embedded in the environment - all connected by computing systems, software and services - it will be possible to hear the heartbeat of the Earth, impacting human interaction with the globe as profoundly as the Internet has revolutionized communication," said Peter Hartwell, senior researcher, HP Labs.

Source: HP