

Corporate Backgrounder

At a Glance

Corporate headquarters

San Jose, CA, USA

Founded

2003

Employees

~650

Leadership

Behrooz Abdl

President and CEO

Mark Dentlinger

Chief Financial Officer

Daniel Goehl

Vice President of Worldwide Sales

Stephen Lloyd

Vice President of Engineering and New Product Development

Mo Maghsoudnia

Vice President, Technology & Worldwide Manufacturing

Eltan Medina

Vice President, Marketing & Product Management

Leon Bezdiklian

Vice President, Human Resources

Al Heshmati

Vice President, Systems & Software

Amir Panush

Vice President, Corporate Development

Market Presence

- Handset & tablet devices
- Digital still & video cameras
- Wearable devices
- Portable navigation systems
- Digital tv & set-top box remote controls
- Industrial & automotive applications
- Remote-controlled toys
- Console & portable video game devices

Vision

InvenSense® is a world leading provider of MEMS sensor platforms. InvenSense's vision of "Sensing Everything™" targets the consumer electronics and industrial markets with integrated Motion and Sound solutions. Our solutions combine MEMS (micro electrical mechanical systems) sensors, such as accelerometers, gyroscopes, compasses, and microphones with proprietary algorithms and firmware that intelligently process, synthesize, and calibrate the output of sensors, maximizing performance and accuracy. InvenSense's motion tracking, audio and location platforms, and services can be found in Mobile, Wearables, Smart Home, Industrial, Automotive, and IoT products.

Market Overview

Mobile:

Motion Interface is transforming user-interactions with smartphone and tablet devices. Quickly becoming a "must have" function, Motion Interface is already being adopted by all major operating systems and hardware platform providers. Motion Interface functions can be divided into four different categories: 1:1 Move, Gesture Recognition, Pointing, and Tracking. These functions enable mobile applications to reach new levels of sophistication for users – more immersive gaming, accurate indoor and outdoor navigation, augmented reality, and location-based services, adding and increasing new ways to generate revenue for carriers and manufacturers.

Wearable devices:

Integrated MotionTracking™ devices, with accelerometers, gyroscopes and other motion sensors, are expected to be incorporated into activity monitors, fitness devices, pedometers, golf and tennis swing analysis tools, and sports kinetics applications. Health and Fitness wearable sensors can now stream data to smartphones via low-power wireless interfaces and deliver real-time data to a wide variety of smartphone health and fitness applications. Leveraging wireless connectivity, powerful application processing and storage capabilities in today's smartphones, wearable sensors are finding new use cases such as remote patient monitoring, where the patient's motion data analysis can be sent directly to the physician.

Smart Home:

InvenSense's MoveaTV is the first complete solution for the Interactive TV ecosystem and Smart Home control units. It allows all partners to leverage a unifying platform that supports easy integration of motion control, as well as the monetization and delivery of these services for the entire ecosystem. Our MoveaTV products and tools bring motion to service providers, device manufacturers, Smart Home solution providers, and apps developers, revolutionizing home entertainment and Smart Home control. Our microphones solutions for remotes and IoT devices directly connect with the application processor, saving space and cost.

Optical Image Stabilization:

Currently, many digital still, camera phone modules, and video cameras are equipped with basic motion sensors that perform image stabilization to reduce blur caused by hand jitter. In addition to enhanced image stabilization, the inclusion of MotionTracking technology enables digital still and video camera manufacturers to differentiate their products to address performance, size, robustness and cost considerations.

Industrial:

InvenSense's motion sensors are used in industrial applications such as platform and antenna stabilization, precision robotics, inventory control systems, survey instruments, factory equipment, industrial power tools, unmanned aerial vehicles, precision agricultural machinery, guidance and steering applications, and construction equipment. These applications are characterized by harsh environmental conditions where extreme temperature ranges, and severe shocks are present. Industrial motion sensors are required to handle such conditions while providing highly accurate results and low system power consumption..

Automotive:

InvenSense is well positioned to provide MEMS Inertial Sensors and Microphones to support the rapid growth of Advanced Driver Assistance Systems (ADAS) and Safety & Control applications in the Automobile. Applications include Electronic Stability Control (ESC), Navigation/Dead Reckoning, Lift Gate Motion Detection, Skid Control, Dash Cam Video Stabilization and Audio (Microphone) Noise Cancellation & Voice Commands to enhance the consumer's automotive experience.

Market Size

- MEMS consumer and mobile market will grow to \$5.6 billion by 2018. – *IHS Technology*
- MEMS for industry/telco will reach \$1.8 billion by 2019. – *Yole Développement*
- MEMS microphones are expected to grow 46% to \$1.3 billion by 2018. – *IHS Technology*
- While wearable technology is already a \$5 billion market, in 2018, that figure will hit \$30 billion on the low end and \$50 billion at the high end. – *Beecham Research*
- IoT market value by 2024 should reach \$400 billion with a global CAGR rate of 42%. – *Yole Développement*
- By 2016, 1 billion smartphones are predicted to have location-based sensory capabilities. – *ABI Research*

History of Innovation

2015— World's first motion sensor and multi-core processing Sensor System on Chip (SoC) integrating a 6-axis MEMS sensor, tri-core sensor hub, embedded Flash and SRAM, and software framework.

2014— World's lowest power family of 'AlwaysOn' MEMS AAR™ solutions for the wearable sensor market. World's lowest power family of 'AlwaysOn' MEMS solutions for the smartphone market. World's first 70 dB MEMS microphone for consumer electronics

2013—World's smallest, lowest power integrated 9-axis MotionTracking device. World's lowest profile 3-axis gyroscope. World's lowest profile 6-axis MotionTracking device. World's smallest dual-axis gyroscope for OIS.

2012— World's first 9-axis MotionTracking Device unveiled. World's first single-chip, integrated 3-axis industrial gyroscope

2011—World's first MotionApps platform for embedded system developers and the world's smallest 2-axis gyroscope for OIS.

2010—World's first Motion Processing Unit (MPU) with Digital 3-axis gyroscope and Sensor Fusion unveiled. InvenSense announces world's first MotionProcessor with integrated 3-axis gyroscope, 3-axis accelerometer and 9-axis MotionFusion.

2009—World's first dual-axis MEMS gyroscopes for 3D remote controls and PC mice. World's first single chip 3-axis digital gyroscope available for under \$3.

2008— The IDG-1100 becomes the smallest foot print integrated dual-axis gyroscope. IDG-600 is our first product to be shipped to Nintendo, featured in the Nintendo Wii MotionPlus™ accessory.

2007-2006— World's first integrated dual axis gyroscope in 2006. In 2007, the IDG-1000 chosen for image stabilization in the world's first Blu-Ray disc camcorders.

2005-2003— InvenSense develops and refines the manufacturing platform, Nasiri-Fabrication.

Solution – MotionTracking

InvenSense has developed a proprietary, intelligent, integrated single-chip MotionTracking solution that enables intuitive and immersive user interfaces. As a result of modular and scalable platform architecture, current and planned products span increasing levels of integration, from standalone single-chip gyroscopes to fully integrated multi-sensor, multi-axis digital MotionTracking SoC solutions.

Our MotionTracking technology is comprised of five core proprietary elements: the InvenSense Fabrication process, advanced MEMS motion sensor designs, application specific mixed-signal circuitry for sensor signal processing, MotionFusion algorithms and calibration firmware that intelligently assimilates data from multiple sensors for use by end applications, and the MotionApps™ platform of drivers and application programming interfaces (APIs). Although all five elements are critical to providing a complete MotionProcessing solution, the patented InvenSense Fabrication platform is the core differentiating technology. As a result of our modular and scalable platform architecture, our current and planned products span increasing levels of integration, from standalone single-chip gyroscopes to fully integrated sensor system on chip (SoC) MotionTracking solutions.

Solution – Sound

InvenSense MEMS microphone portfolio builds on a strong heritage of industry firsts, including highest SNR, I²S output, and lowest power consumption. These and many other breakthroughs enable advanced applications such as beamforming and noise cancellation, loud concert recordings, as well as support 'AlwaysOn' applications with disruptively low power consumption or unique programmable low-power modes. Some devices are available in both bottom and top port configurations with the same high performance. Advanced microphones are crucial for contextual awareness as their performance determines accurate keyword recognition from a distance and in noisy environments, while offering the longest standby times for wearables and smartphones. InvenSense Sound solutions are targeted towards electronic devices such as smartphones, tablets, microphone arrays, remote controls, smart TVs, Bluetooth headsets, notebook PCs, digital still/video cameras, security, and surveillance.

InvenSense is headquartered in San Jose, California and has offices in Boston, China, Taiwan, Korea, Japan, France, Canada, Slovakia and Italy. More information can be found at www.invensense.com or follow us on Twitter at @InvenSense.

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