



News Fact Sheet

Intel CES 2014: Wearable Technology Highlights

Jan. 6, 2014 – During the International Consumer Electronics Show (CES) in Las Vegas, Intel Corporation highlighted several products and initiatives aimed at accelerating wearable device innovation.

Below is a summary:

Intel® Edison – Making Objects Smart:

Intel® Edison is a new Quark technology-based computer housed in an SD card form factor with built-in wireless. The product-ready, general purpose compute platform is well-suited to enable rapid innovation and product development by a range of inventors, entrepreneurs and consumer product designers when available this summer.

Intel Edison is based on 22nm Intel Quark technology for ultra-small and low power-sensitive, Internet of Things edge devices, smart consumer products and wearable computing. The product features an Intel processor and microcontroller core. The programmable microcontroller helps manage I/Os and other baseline functions, while the x86 compatible processor core brings Linux support and enables multiple operating systems to run sophisticated high-level user applications. The small compute package brings connectivity with Wi-Fi and Bluetooth LE*, and has LPDDR2* and NAND flash storage as well as a wide array of flexible and expandable I/O capabilities.

Intel Edison also brings the ease of Intel technology development with support for Linux and open source community software tools. The product will be compatible with accessible developer tools used by the maker community.

Intel Edison Technology Demonstration:

Rest Devices*, the maker of the innovative [Mimo Baby](#) product line, demonstrated how the company is using Intel Edison to reduce the size and cost of its products while adding functionality.

Using Intel Edison, Rest Devices was able to condense all of the compute intelligence inside a baby onesie and eliminate the need for an external receiver. The company also reduced the size of its smart bottle warmer by more than half.

Supporting Intel Edison, Autodesk* announced the company is adding Intel Edison mechanical/electrical libraries to [123D Circuits](#), which is part of the Autodesk 123D suite of apps. 123D is a suite of tools to make designs, 3-D printing and technology projects easy and efficient for entrepreneurs and makers alike.

The smart bottle warmer showcased by Rest Devices is an example of how Intel Edison, together with the Autodesk's 123D suite of tools, can provide inventors, entrepreneurs and consumer product designers with flexible tools to help realize their respective product visions.

Intel Smart Earbuds Reference Design:

Intel has developed a reference design for smart earbuds that provide biometric and fitness information. The product is aimed at fitness enthusiasts and is unique for being built into an accessory that many people already wear when they exercise -- stereo earbuds.

The Intel smart earbuds provide full stereo audio, and monitor heart rate and pulse, while the applications on the user's phone keep track of run distance and calories burned. The product also includes Intel-developed software that enables users to precision-tune workouts and acts as a coach, automatically selecting music that matches the target heart rate profile.

Intel's smart earbuds use technology developed in collaboration with Valencell Inc.*, innovators of PerformTek® Precision Biometrics. The sensor technology helps to continuously measure real-time biometric data with a high degree of accuracy and consistency, and uses this data to give people meaningful fitness assessments.

In addition to the convenience of having biometric and fitness tracking built into the earbuds, Intel designed the product in such a way that eliminates the need for a battery or additional power source to charge the product, as it harvests energy directly from the audio microphone jack.

Intel Smart Headset Reference Design:

Intel has developed a reference design for a hands-free, smart headset that is always ready to engage and can integrate with existing personal assistant technologies to make the consumer experience more convenient, natural and intuitive.

The fully integrated compute system is housed in a Bluetooth* earpiece with a battery, speaker and microphones featuring Intel-developed firmware and software. It provides all-day battery life and is designed to be comfortable enough to be worn all day.

The Intel smart headset reference design uses Sensory Inc.'s* low power, always-listening voice recognition technology.

The CES technology demonstration showcased the following capabilities:

- *One shot* – This feature allows the user to speak without pausing after being prompted. For example, the user can ask a question and get a response in one shot versus waiting for the personal assistant to respond to the initial inquiry.
- *Barge-in* – This feature allows the user to stop the personal assistant from speaking by double tapping the smart headset or using a key phrase to stop it.
- *Polite notification* – Using on-board sensors, this feature keeps track of the user's current situation and can determine the best time to provide information, without interrupting.

Intel Smart Wireless Charging Bowl Reference Design:

Intel has developed a reference design for a smart wireless charging bowl. The reference design complements Intel's smart headset, helping to make charging more convenient. Simply drop the smart headset into the smart wireless charging bowl and it will begin to recharge.

The smart wireless charging bowl with stand is approximately 10 inches in diameter. The reference design is capable of charging multiple devices simultaneously without exact alignment or placement. This is a key benefit of magnetic resonance technology, which is the foundation for the A4WP industry specification.

Intel is developing wireless charging technology to deliver “no wires” convenience across a broad range of mobile devices (e.g. headsets, phones, tablets, Ultrabooks and 2 in 1s) all based on the A4WP industry specification that Intel is actively helping to develop.

Wearable Technology Collaborations:

Intel, Barneys New York*, the Council of Fashion Designers of America*, and Opening Ceremony* today announced strategic collaborations to explore and bring to market smart wearable technology, and also to increase dialogue and cooperation between the fashion and technology industries.

As part of the collaborations, Intel and Opening Ceremony* will collaborate in the design and development of a smart bracelet concept based on Intel technology with design direction from Opening Ceremony*. Luxury retailer Barneys New York* will carry the Opening Ceremony* smart bracelet in its stores.

To scale the convergence of the two industries, Intel will work with the Council of Fashion Designers of America* to create a community for technology developers and fashion designers to network, match-make, cultivate and exchange ideas on wearable technology. The collaboration will connect more than 400 leading fashion designers who are members of CFDA* with a broad ecosystem of hardware and software developers that Intel has been instrumental in building over the last 40 years.

Intel ‘Make It Wearable’ Challenge:

Reinforcing the notion that many of the greatest ideas are now brought to market by designers, entrepreneurs, and even through self-made invention, Intel announced the ‘Make It Wearable’ challenge to encourage innovation with Intel technology.

The global effort will call upon the smartest and most creative minds to consider factors impacting the proliferation of wearable devices and ubiquitous computing, such as meaningful usages, aesthetics, battery life, security and privacy.

The challenge will award more than US\$1.3 million in cash awards to winners and will also be connecting contenders with industry luminaries to help realize their respective ideas.

About Intel

Intel (NASDAQ: INTC) is a world leader in computing innovation. The company designs and builds the essential technologies that serve as the foundation for the world’s computing devices. Additional information about Intel is available at newsroom.intel.com and blogs.intel.com.

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