



Smart Devices: Superior, by Design

Ubiquitous yet Disappearing

By leveraging specific domain knowledge, superior industrial design capabilities and great software engineering skills, smart devices are becoming ubiquitous. These innovations address many markets and incorporate novel form factors. Their business models often reflect physical product sales, rather than "software-as a service" (SAAS) approaches. Some smart devices work with platforms from firms, such as Apple, Google and Amazon, while others add value by providing unique industry specific integration.

Markets and Uses are expanding. Smart devices address many markets, including agriculture, healthcare, enterprise, consumer, utilities and manufacturing, as well as government. The capabilities of these devices extend across a broad spectrum of uses, including home appliances and security, fitness/health, entertainment, factory automation, transportation, real-time system management, robotics, supply chain optimization and more.

These devices apply the latest technology advances in sensors, artificial intelligence/machine learning, data capture, data storage, analytics, cybersecurity, computer vision, communication and material design.

With this briefing, the second in our Smarter Living series, we highlight the efforts of the following smart device innovators as emblematic of this growing opportunity:

Arable Labs

Offers affordable tools that help people collect and synthesize site-specific agricultural data

Eight Sleep

Uses technology that can measure, understand, and optimize the way you sleep

Huddly

Applies artificial intelligence to video conferencing and collaboration

June Oven

Delivers the best possible culinary experience by applying a passion for technology

LifeEar

Empowers people to get the most of life through smart, simplified hearing solutions

Neurio

Provides granular intelligent data for today's new energy world

Swift Sensors

Offers solutions to proactively protect and monitor equipment and processes, comply with regulations, and enhance business performance

Whistle

Uses smart technology to track your pet's location and activity

Guidance from the Past

The smart devices of today are the result of years of progress in the evolution and integration of many technologies. To provide perspective, consider the views of **Mark Weiser**, a researcher at **Xerox PARC**, who coined the term **ubiquitous computing** and conceptualized the **potential of smart devices**:

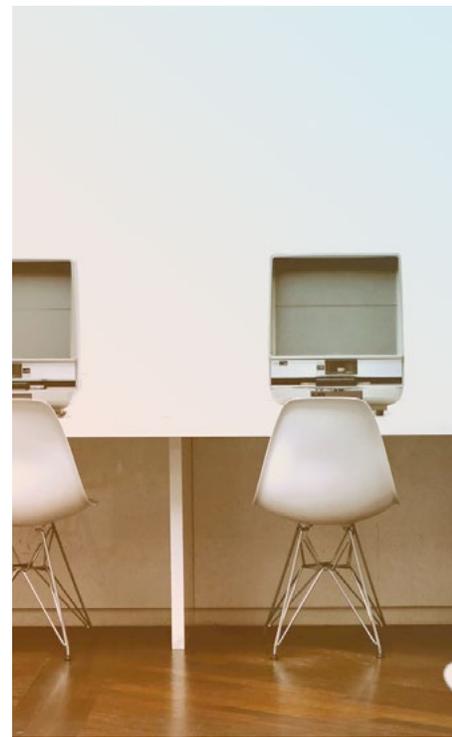
“The most profound technologies are those that disappear. They weave themselves into the fabric of everyday life until they are indistinguishable from it.”

*“Like the personal computer, **ubiquitous computing** will enable nothing fundamentally new, but by making everything faster and easier to do, with less strain and mental gymnastics, it **will transform what is apparently possible.**”*

*“**Machines that fit the human environment, instead of forcing humans to enter theirs, will make using a computer as refreshing as taking a walk in the woods.**”*

The Computer for the 21 Century

Scientific American — Sept. 1991



... and Market Data for the Future

The investment opportunity for smart devices is significant. The global smart device market is expected to experience rapid growth driven by demand for devices from individuals, many industry verticals, and increased demand for internet of things (IoT) applications.



IDC estimates the **smart home market** (smart speakers, video entertainment products, connected lighting, smart thermostats, and home monitoring/security) will grow to **nearly 1.3 billion devices** per year by 2022 at an **annualized rate of 20.8%**.



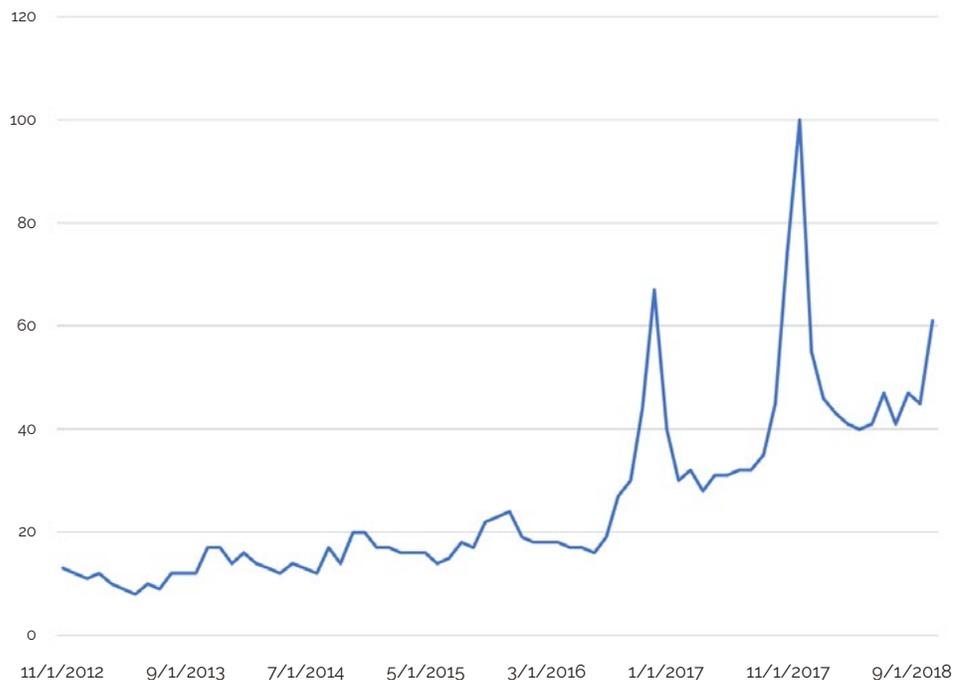
IDC also believes the top industries investing in smart devices during 2018 are **manufacturing** (\$189 billion), **transportation** (\$85 billion) and **utilities** (\$73 billion), while **consumer IoT** will reach \$62 billion.



Bain & Company predicts that industrial applications will generate more than \$300 billion by 2020, while the consumer opportunity should grow to about \$150 billion.

Chart 1: Interest in “Smart Devices” is increasing

As presented in Chart 1, interest in “Smart Devices” continues to increase, with notable holiday season spikes. (information based on Google Trend analysis).



Several Leaders in Smart Device Innovation

At La Honda Advisors, we believe Mark Weiser and many others have set the stage for today's smart device innovators. In the following pages, we highlight the efforts of several industry leaders that share this vision and are executing on its promise.



Princeton, NJ-based **Arable Labs** was founded in 2013 to provide a global solution to managing weather risk and crop health, delivering real-time, actionable insights from the field.

“From the industrial designers behind GoPro and Nest, the Arable Mark brings consumer ease to an industry-grade product.

“Our durable [Arable Mark] device and intuitive data analysis software empowers you to consolidate hardware tech, optimize labor strategies, reduce inputs, and conserve resources to build a strong reputation among your growers and customers alike.

“A global solution to managing weather risk and crop health, delivering real-time, actionable insights from your field.”



New York, NY-based **Eight Sleep, Inc.** was founded in 2014 to leverage innovation, technology and personal biometrics to restore individuals to their peak energy levels each morning.

“We are not just another mattress company. We are a technology company.

“With proprietary sensors embedded in the mattress, our technology leverages your sleep patterns and bio signals to help you recover 100% every night.

Using your sleep data, Eight helps you design the sleep experience of your dreams to make you feel refreshed in the morning.

“Track over 15 factors about your sleep and health, including REM sleep, deep sleep, heart rate and respiratory rate.”

HU DDLY

Oslo, Norway-based **Huddly AS** was founded in 2013. The firm's compact, ultra-wide angle, software-driven collaboration cameras improve over time with each intelligent upgrade.

*“Huddly is a vision technology company that **combines Scandinavian-designed hardware, software and AI to create innovative products** for everyone who uses video to collaborate.*

*“ [the recently released] Huddly IQ is the first of its kind — an **AI-powered collaboration device**, featuring 150° wide-angle video, an embedded mic array and a powerful onboard neural engine that enables cutting-edge AI features and advanced space analytics ... IQ delivers a meeting experience like no other to video meetings in small-to-medium sized meeting rooms and collaborative spaces.”*

june

San Francisco, CA-based **June Life Inc.** was founded in 2013 as a modern appliance company dedicated to bringing intelligence to the tools we use in our kitchens.

“Our mission is to help people to cook. Through elegant design and unprecedented performance, the June Oven delivers the best possible culinary experience. We are passionate about technology. And we're all about the food.

*“June's computer-controlled cooking system ensures your food is cooked perfectly every time... All images [captured by an internal HD camera] are processed by our dedicated **on-device-neural network** to recognize and cook your food.”*



Chicago, IL-based **LifeEar Corporation** was founded to provide high-quality smart hearing aids at a reasonable price. These smart devices are mobile/cloud connected and end user-tunable, removing the need for a visit to a hearing center or professional:

“Our extensive hearing aid industry experience has given us deep insight into what it means to experience hearing loss. Over the years, we saw that the industry was not using new smart technology to innovate hearing aids.

“We were frustrated by this lack of innovation that ultimately left many people living in silence. It’s why we designed smart, simplified hearing solutions – to empower people to get the most out of life.”



Vancouver, Canada-based **Neurio Technology Inc.** was founded in 2005 as a home intelligence technology company that develops hardware and software solutions for solar installers, utilities and homeowners.

*“We’re a highly energetic and innovative team that has developed ground-breaking technology in the residential energy space. **From industry leading metering technology to sophisticated analytics that provide granular energy information, we are changing how energy is used and managed in a home.***

*“We believe in a world where homeowners can decide how they generate, use, sell and share energy with others. A world where we shift away from a centrally organised energy system to a system in which we all organise our own energy. **Neurio is about enabling this new energy world by providing granular intelligent energy data** which we believe is the key building block to make the transition happen.”*



Austin, TX-based **Swift Sensors, Inc.** was founded in 2015 to wirelessly monitor systems for manufacturing, facility management, and restaurants.

*“**Swift Sensors Cloud Wireless Sensor System** offers businesses a low-cost, unified solution to proactively protect and monitor equipment and processes, comply with regulations, and enhance business performance. The system can be fully deployed in minutes at one-tenth the cost of traditional solutions.*

*“The Swift Sensors cloud-based system **incorporates sophisticated analytics to deliver business intelligence** and a rapid return on investment for a variety of uses including cold chain temperature monitoring, wifi temperature monitoring, and a server room temperature monitor.”*



San Francisco, CA-based **Whistle Labs, Inc.** was founded in 2012 to develop a device and mobile app system to monitor a pet's activity and health.

*“**Whistle 3** uses smart technology to track your pet's location and activity. You'll know more about your pet—and more about what they need—for a longer, happier life together.*

“Our expertise in pets, technology, and data analytics has allowed us to build a company set on developing a system of smart products for owners and vets — a system that grows with every owner that joins in, has the power to enrich each pet-owner relationship, and carries the potential to add years to every pet's life.”

Closing Thoughts

At La Honda Advisors, we believe in the vision to “make using a computer as refreshing as taking a walk in the woods”. We also believe that smart devices are a key component in the delivery of next-generation technology-driven solutions. Driven by “less is more” design approaches, these devices will improve how we pursue many of our daily activities.

Smart device innovators will differentiate themselves by leveraging their domain knowledge, industrial design and software engineering skills.

Significant value will be created by integrating the latest technology advances and applying well-honed product development skills.

How big is the smart devices market? The market is ubiquitous. The market is all around you.

We look forward to working with you.



About La Honda Advisors

La Honda Advisors is an investment banking boutique focused on achieving exceptional M&A and financing outcomes for our clients. Our clients are the innovators and technology leaders who build great companies and seek more creative, nimble approaches. While based in Silicon Valley, our reach is global.

For more information on La Honda Advisors, please visit our website at www.lahondaadvisors.com or contact our Partners.

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