CEO Perspective: The Internet of Things for High Tech
Top Priorities to Build a Successful Strategy

Unlike any other sector, high-tech companies are not only at the epicenter of innovation accelerating the pace of technologies and driving the Internet of Things (IoT), they are also adopting the technology and innovations with new business models. This is profoundly altering their own internal operations as well as customer-, supplier-, and partner-facing processes. The ability to leverage information, simplify processes, and bring innovation to market fast creates the need for high-tech companies’ own digital transformation.

IoT is breaking down traditional industry boundaries. Your customers are individuals with interests that drive interactions across industry verticals. Think of the cross-section of industries that enable connected homes, connected cars, wearables, connected high-tech devices and software — and are taking interactions to the next level. With increasingly sophisticated technology, these businesses can now intersect to enable one user experience across all interaction points and channels. This creates added value for the customer and new growth opportunities for well-poised companies.

IoT is at the heart of this transformation. It connects people, devices, equipment, items, and services to streamline the flow of information, enable real-time decisions, and heighten customer experiences. Leading high-tech companies are already investing billions in IoT — and realizing returns that range from immediate detection of manufacturing problems to real-time promotions and in-app purchases that grow sales. Companies are beginning to transform their business practices and recognize that, in time, IoT will touch nearly every area of their operations and customer engagement. How can you successfully navigate this transformation? Consider these top priorities to build a successful IoT strategy.


Connected Home and Consumer
Smart Services

Monitor, analyze, and simplify the things we care about. From situation-based, personalized real-time offers and integrated entertainment to safer and healthier lives, connected devices such as intelligent sensors and smartphones, glasses, textiles, watches, and cars are transforming every aspect of life. New types of applications and services integrate everyday life into business networks.

New Horizons for Software Companies

Transform sales models and operations by enabling real-time personalized promotions, in-app purchases, and usage-based models. Transform maintenance into value-add services based on the actual state of the system by delivering updates, support, and services directly to the device or consumer while ensuring compliance and enhancing security.

Smart Services

From remote diagnostics to virtual reality–based guidance systems, sensors in instrumented devices broadcast status reports, error messages, customer usage habits, and other data. For Lexmark’s managed-service customers, sensors in the printers broadcast data in real time that is analyzed for consumption-based billing and to predict when a device needs toner or is ready for service.

Connected Factory

To solve manufacturing problems, Intel is deploying smart sensors across its huge manufacturing facilities, measuring system and environmental parameters that influence the quality of wafers and chips, resulting in significant cost savings and higher product quality. Dan McCulley at Intel says, “This goes back to the big data concept — instead of having one data point to correlate to the quality of the chips, I can now correlate every single rack to its individual characteristics and performance. You get better data, and better results.”

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Embrace Innovation

With the marriage of smart devices, advanced connectivity, and e-commerce, IoT and machine-to-machine communication are already gaining traction in many areas of high tech to optimize efficiency and develop new business models. Use of this technology is accelerating with mobile and cloud innovation, as well as advancements in Big Data and predictive analytics based on in-memory computing. It’s also becoming more affordable and practical as the size and price of sensors shrink. High-tech companies that embrace innovative technologies can gain first-mover advantage (see the table).

IoT Innovations for High Tech

**Product Development and Efficient Manufacturing**
- Sensors on products
- Monitoring of product quality and condition
- Identification and root cause analysis of failure patterns
- Analysis of supplier components
- Digital signage
- Compliance with standards
- Sustainability monitoring
- Asset availability and performance
- Yield, quality, and energy management
- Connected logistics
- Optimized supply chain

**Software**
- New software and service delivery models
- Solution, platform plays, and multisided revenue models
- New monetization model (usage based)
- Continuous commerce (in-app purchases)
- Real-time personalized promotions
- Improved management of secure applications
- Embedded analytics
- Simplified software entitlements and compliance

**Exceptional Customer Engagement**
- Value-add services through connected products
- Consumer interactions and guidance
- Remote service
- Predictive service
- Pay per use
- Performance-based contracting

Assuming the global cost base of manufacturing is $25 trillion today, 2%–4% cost savings from IoT, and 50% penetration of IoT, we get to $500 billion in potential cost savings.4

**Conclusion 1:** Spending on real-time and predictive data analysis will increase. . . .

**Conclusion 2:** Optimization could lead to new processes. . . .

**Conclusion 3:** There will be a surge in growth in new software applications.5

Recent research shows that half of the top-performing firms (50%) use information generated through machine and remote connectivity to develop new services.6

At the [2015] Consumer Electronics Show, Cisco chairman and chief executive John Chambers said the Internet of Everything (IoE) will generate $19 trillion in economic profits by 2022. He went on to say, 'It will be bigger than anything that’s ever been done in high tech.’7


5 “The ‘Internet of Things’ Is Now, Connecting the Real Economy.” Morgan Stanley Blue Paper, April 3, 2104.


Think Big Data and Analytics

The growing number of connected devices will result in huge volumes of data. Social networks will add to this massive “data lake” of IoT information to enrich pure machine data. By correlating all this data, you can gain invaluable insight about consumers, trends, and preferences that can fuel promotion and placement efforts. But how will you make sense of it all?

High-tech companies must develop a strategy not only to store and secure massive amounts of data but also to enable advanced analytics at both the local and enterprise levels. These capabilities will help you understand past actions and predict future trends so you can deliver the right inventory mix at the right time. What’s more, they’ll enable you to act in the moment and provide higher levels of service to engage your growing audience of connected customers in real time. Cloud-based data warehouses and real-time analytics will be essential.

Worldwide IoT Revenue

According to IDC, estimates for IoT revenue by region in 2020 will be:

- $217.1 trillion (Asia Pacific)
- $114.4 billion (North America)
- $2.1 trillion (Western Europe)
- $2.6 trillion (Asia Pacific)
- $1.9 trillion (Central and Eastern Europe)
- $76.3 billion (Latin America)


Think Global

An increasingly connected world provides an effective springboard for growth and optimization. IoT is removing the physical barriers so high-tech companies can reach broader target audiences – opening up new global business opportunities and delivery models.

Global Reach

The Lenovo Group streamlined and consolidated its customer service business from disparately outsourced operations and systems to one of the world’s largest customer service systems. Lenovo now provides world-class after-sales customer service more efficiently in global markets.

Think Design

Begin your plans for new products and services with the human experience in mind. Whether you operate in a business-to-consumer or a business-to-business model, think what will simplify life for your target audience and offer a delightful user experience. Products and services should not only be IoT-capable, they also need to be designed for even better connectivity and usability.

Beautiful Design

Nest Labs captured significant market share by introducing a connected thermostat that features design and use simplicity that its customers love.

Think Big Data and Analytics

You have to begin to use data to drive the core insight. And insight is the key value of IoE (Internet of Everything) in the 21st century.”

Joseph Bradley
General Manager
IoE Practice
Cisco Consulting Services

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Address Privacy and Security

Data privacy and security must be part of every discussion around an IoT strategy. Consider several recent security breaches that have become public within well-known companies, and the financial and customer relationship issues that have occurred in their aftermath. Your security practices must be infallible, and IoT connections delivering data and enabling the customer experience need to be tamperproof.

Beyond security, high-tech companies need to clearly explain how they collect and use personal data. Privacy policies must prevent the unwanted sharing of personal information with third parties or in public forums. Opt-in programs that demonstrate the benefits of sharing data – such as incentives, exclusive offers, or loyalty rewards – need to be part of the equation.

Enable Your Infrastructure

IoT brings together a vast range of technologies, including hardware, sensors, devices, apps, telematics, data, and connectivity to the cloud. The partner you choose to build your infrastructure will have a great impact on its potential for success. Assess how software vendors, device makers, and telematics platforms can reshape product design and enable connected strategies. See them as strategic partners in your process.

Harmonize It All

The real value of IoT for high-tech companies is in connecting your infrastructure to your broader business process software. The use of in-memory technology will become necessary to successfully combine IoT data with business transactional data in one shared database, in real time.

For example, running IoT for consumer electronics on an in-memory platform can help you become a real-time company and gain unprecedented benefits in terms of consumer insight and just-in-time distribution and maintenance. IoT enables an environment where you can finally monitor, analyze, and automate in ways that greatly improve customer experiences, streamline key business processes, and create new business models.

Are You Ready for IoT in High Tech?

IoT is not a distant concept for future consideration. The time to think about IoT is now. Learn more at sap.com/iot or http://global1.sap.com/campaigns/digitalhub-internet-of-things/index.html.