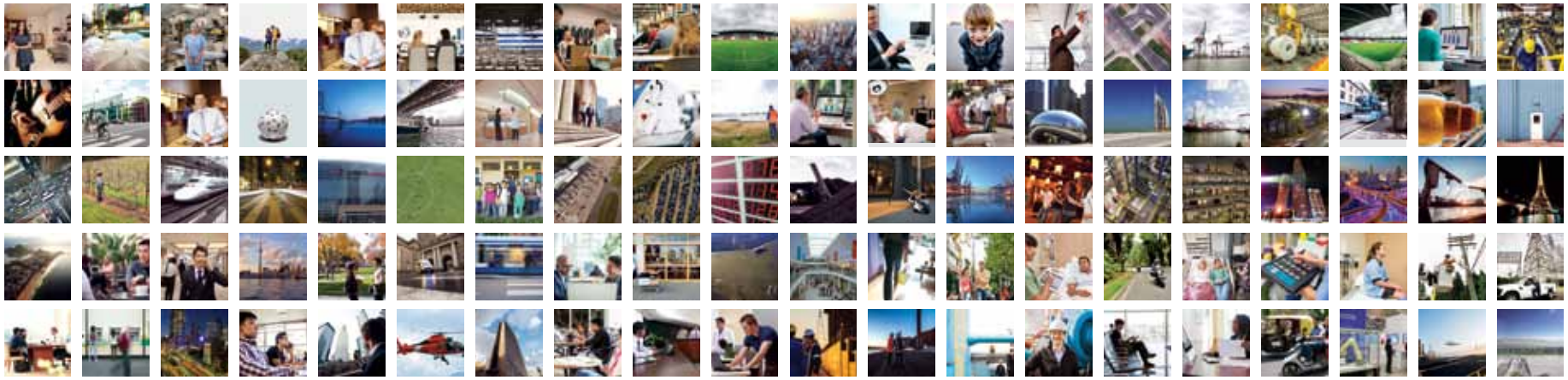

Digital Transformation with the Internet of Everything

100 Customer Stories

For 30 years, Cisco has been committed to changing the way the world works, lives, plays and learns.

We have helped the world connect to the Internet, embrace voice, video, and data communications and blend technology and business together in ways that many thought were impossible. Together with our partners, we have been able to help our clients innovate, manage market transitions and turn technology into business advantage.

Two years ago, we began a discussion about the next wave of the Internet – a digitized world where the networked connections of people, process, data and things are brought together to unlock unprecedented business value. The power of the connections unlocks new types of data and insight, and physical and virtual environments are blended seamlessly for greater business and societal outcomes. We called this new digital era the Internet of Everything.

Now the term "digital" is everywhere – digital transformation, digital business, and digitization are the key topics in nearly every technology or business conversation. While many are now defining what it means to be digital, very few have defined how industries, cities, and countries are becoming digital.

Cisco and our partners have been working with innovative clients around the world to help them digitize. We are building and implementing digital roadmaps and transformations in industries from manufacturing to retail to government. We are helping countries transform the citizen experiences, banks reimagine the customer experience, and helping energy providers become more efficient. And we're doing it today.

We invite you to read the stories of 100 innovative companies who are using the Internet of Everything to become digital. They are turning technology into business outcomes and are truly changing the way we work, live, play and learn.

Sincerely,

Mike Riegel
VP, Internet of Everything
Cisco

Education

George Brown College's Smart, Connected Waterfront Campus Ushers in a New Era of Collaboration

George Brown College (GBC) in Toronto, Ontario has been at the forefront of healthcare delivery since its founding in 1967. GBC wished to create a highly integrated, technology-responsive building to eliminate barriers between disciplines such as nursing, dental health, and health sciences management.

Looking for construction and IT partners who were prepared to embrace collaboration, GBC partnered with Cisco and EllisDon Corporation to embark on the construction of a 380,000 square-foot waterfront campus. To initiate its integration program, GBC required a flexible, high-speed network that could sustain high volumes of video traffic, allow real-time connectivity, and support the use of sophisticated, high-fidelity mannequins in state-of-the-art simulation labs. That high-speed network would also incorporate multimedia technology to support on-campus and distance education with fully integrated smart-building technology on a single, easily controlled interface.

The new campus now includes 25 multimedia learning lab class environments, more than 50 audiovisual areas, an IP-enabled mechanical, a lighting system, and a user-friendly dashboard facility control system, all layered on a single high-speed network. The campus also offers special simulation practice labs with an operating theater and equipment for healthcare training. In addition to voice and emergency notification capabilities, the phones let officials remotely control workplace conditions like temperature, lighting, and blinds.

Using technology, GBC is bringing together both physical and virtual environments to improve education.

Education

George Brown College

Hong Kong Academy

Katy Independent School District

Los Alamos Public Schools

Punahou School

San Jose State University

University of New South Wales

George Brown College is leading education transformation. Examples include:

17 integrated sequences, which improve building efficiency

Plug-and-play classrooms to facilitate group connectivity

Reinforcement of collaborative health practices

"Each of our classrooms has become a plug-and-play multimedia environment that supports group work and connectivity. We now have an advanced platform that allows for online education, distance learning, and the evolution of the virtual learning process."

Terry Comeau, Executive Director, Waterfront Campus Development, George Brown College

Education

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Punahou School

San Jose State University

University of New South Wales

Hong Kong Academy Enriches Collaborative Learning with Technology

Hong Kong Academy (HKA) is an International Baccalaureate school for preschool to grade- 12 students. HKA highly encourages the use of technology in the classroom, including an aggressive bring-your-own-device (BYOD) initiative. To support this digital learning approach, HKA needed a network that could deliver sufficient capacity and reliability to support the surge in devices, combined with the ability to prioritize bandwidth for lessons and classroom assignments.

Working with installation partner, BT Group, HKA wired its new facilities with Cisco® wired and wireless networking solutions to support high-speed connections. Now, teachers can connect their laptops to projectors from anywhere in any room and access resources with excellent uptime and reliability. With new mobile devices connected to the network, location-based services from Cisco Connected Mobile Experience (CMX) help IT staff collect location data on Wi-Fi users. Using real-time analytics, CMX helps HKA investigate behavioral patterns and trends to inform IT where to adjust and customize Wi-Fi access for specific locations. HKA also uses Cisco Identity Services Engine to automate and simplify policy control for the BYOD environment, helping IT staff prioritize use for teachers in the classrooms and prevent unauthorized high-bandwidth activities.

Connecting teachers and their devices with online tools and resources help HKA improve its students' learning experience. With IT staff that takes advantage of data and analytics to optimize the school's digital environment, HKA can connect people, process, data, and things in the Internet of Everything (IoE) and set new standards for the digital classroom.

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University of New South Wales

Hong Kong Academy enriches the student experience by:

Supporting an open network while maintaining access for BYOD

Using location-specific technologies to manage and balance traffic

Improving IT staff productivity

"Cisco enables us to create a network where teachers, parents, and students are truly connected in a virtual space that supports learning."

Andy Birch, Director of Technology, Hong Kong Academy

Education

Katy Independent School District Launches Successful BYOD Program and Conquers the Digital Divide

The digital era is changing how schools educate and how they operate. Today, teachers are taking advantage of digital resources in their curriculum to improve student engagement, and facility managers are using the latest technologies to manage school utilities in more efficient ways. By connecting people, process, data, and things with new digital capabilities in the education sector, school districts like Katy Independent School District (Katy ISD) are well on their way to realizing value in the Internet of Everything (IoE).

At Katy ISD, bring-your-own-device (BYOD) and district-owned device programs are providing students access to an education designed for the digital era. Many student resources reside in digital formats such as video, audio, simulations, and animations, so teachers and students need reliable access to technology devices through a robust and scalable network. With Cisco® Wi-Fi access points installed in classrooms and outdoor locations along with centrally managed wired and wireless networks, Katy ISD can provide fast, reliable connectivity for staff, teachers, and students. Teachers can use video and Internet resources in lessons without experiencing dropped or slow connections. Biology students can use mobile devices to view images from microscopes, and chemistry students can participate in online, interactive labs. Staff can even use mobile devices to monitor pumps and heating, ventilation, and air conditioning (HVAC) systems.

In combining digital content with the convenience of BYOD backed by a reliable and scalable network, the schools of Katy ISD saw an immediate increase in student achievement and saved money.

Education

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Punahou School

San Jose State University

University of New South Wales

With the Internet of Everything, Katy Independent School District has:

Provided an excellent Wi-Fi experience for students, staff, and guests

Implemented successful BYOD and digital equity programs

Improved teacher and student satisfaction

"Utilizing the plethora of digital resources, students are able to take an active role in their learning because they are asked to create, collaborate, and problem solve."

Darlene Rankin, Director of Instructional Technology, Katy Independent School District

Education

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Punahou School

San Jose State University

University of New South Wales

Los Alamos Public Schools Create a More Connected and Secure Campus for Students and Staff

Located in New Mexico, Los Alamos Public Schools have five elementary schools, one middle school, and one high school. With the vast size and location of the multiple campuses already creating a security challenge, each of the schools' open-campus policy further complicated the situation.

To solve this challenge, Los Alamos Public Schools leveraged Cisco and the Internet of Everything (IoE). Now, safety officers, principals, and secretaries can monitor all of their school's video feeds using workstations or tablets from anywhere on campus thanks to a Cisco® Video Surveillance solution. Connecting cameras, campuses, district personnel, and the police department, results in a safer learning environment and faster more coordinated responses during an event. Advanced Network Management, a Cisco partner, installed 64 Cisco Video Surveillance IP cameras at the high school. Cameras cover open courtyards and parking lots, creating a new level of remote services and capabilities never before possible. And as part of emergency preparedness, the district conducts active-shooter exercises coordinating security staff and police officers to ensure everyone on the campus is safe.

The district's new security solutions have increased safety for students and staff, enhanced emergency preparedness measures, and streamlined processes. By connecting the people, process, data, and things across their large campuses, the Los Alamos Public Schools is transforming education today.

Education

George Brown College

Hong Kong Academy

Katy Independent School District

Los Alamos Public Schools

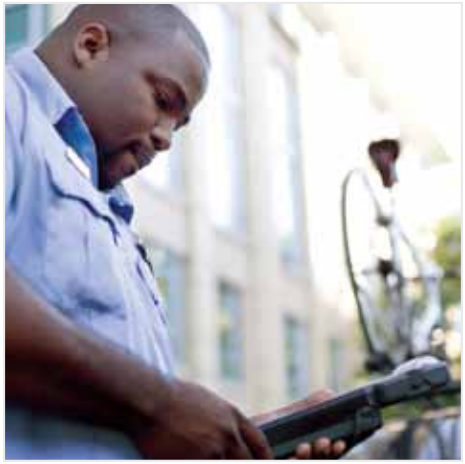
Punahou School

San Jose State University

University of New South Wales

Los Alamos Public Schools create a more connected and secure campus. They have:

Increased awareness of people and incidents on campus



Resource efficiency – one security officer can effectively monitor the 10-acre high school campus

Reduced time and skills to install and replace cameras

"We had confidence in the Cisco physical security solution because we've had a great experience with Cisco switches and IP phones. They are reliable, scalable, and consistent."

Ted Galvez, Network Administrator, Los Alamos Public Schools

Education

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Los Alamos Public Schools

Punahou School

San Jose State University

University of New South Wales

Punahou School Connects Its Security Team with Solutions From Cisco and the Internet of Everything to Increase Campus Safety

Today it is no longer a question of when schools and educators will adapt to the sweeping digital changes, but how quickly they will adapt. Punahou School is the largest coeducational, independent K–12 school on a single campus in the United States and is one such example. Located in Honolulu, administration is committed to ongoing renovation and renewal for its 60 buildings covering a lush 77 acres. Punahou's classroom buildings typically lack interior hallways and most doors open to the outdoors to take advantage of the mild climate. Having many more entry points from outdoors, reliable, high definition campus security is crucial for the school.

With their security requirements to add more cameras and cover additional locations, Punahou turned to Cisco for Connected Safety and Security solutions that would integrate with the existing InformaCast system. Adding to the existing Cisco switches and wireless network, they expanded their security with Cisco virtualized video security software on Cisco Unified Computing System™ (UCS®) platforms. The new solutions in place at Punahou School intelligently connect people, process, data, and things better than ever.

The original Cisco Wireless network has grown to more than 300 access points. More connections give the school full visibility on a common platform. Wireless door locks and the accompanying software are connected to the network, helping the school manage operations more efficiently. The school can access and manage its photovoltaic sensors that generate solar power for the school from the network. Campus lighting and HVAC systems connect through a Virtual Private Network (VPN) and Cisco firewalls for secure remote controllability. With the Internet of Everything (IoE), Punahou School now has the ability to connect people and things for a more secure future.

Education

George Brown College

Hong Kong Academy

Katy Independent School District

Los Alamos Public Schools

Punahou School

San Jose State University

University of New South Wales

With the Internet of Everything, Punahou School has:

Improved communication, safety, and emergency response

Improved processes, operational efficiency, and access to data

Retained campus accessibility and openness while simultaneously enhancing breadth and depth of security measures

"Although our security officers are the cornerstone of campus security, Cisco Connected Security solutions are an important tool in their security toolset. Cameras and a human presence across campus assure students, parents, and staff that safety and security are of the utmost importance at Punahou School."

Wendi Kamiya, CIO, Punahou School

Education

San Jose State University Reimagines the Learning Experience for Silicon Valley Students

As a major education institution in the center of Silicon Valley, creating an innovative learning experience for students is key to the success of San Jose State University (SJSU). To change the way its students learn, SJSU turned to Cisco and the Internet of Everything (IoE).

Partnering with Vyopta, Cisco® Services helped SJSU transition to an all-Cisco infrastructure. Together, they connected disparate networking, communications, and security systems to create a foundation capable of delivering the innovative learning experience that SJSU envisioned for its students. Using Cisco wireless and collaboration technologies such as Cisco Show and Share®, Cisco WebEx® video conferencing and Cisco TelePresence®, students can now review classroom material or missed lectures on demand, take classes from across the world, and experience better, in-class interactions with faculty through anytime, anywhere online meetings. By connecting students to digital content, global classes, and professors in new ways, SJSU, Cisco, and Vyopta are creating richer learning experiences for students with the IoE.

Education

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Punahou School

San Jose State University

University of New South Wales

San Jose State University is reinventing education. They can now:

Enable students to review classroom material on demand

Increase off-campus participation in lecture-based courses
without adversely affecting the classroom experience

"A more connected, immersive environment helps students become more engaged, it allows them to collaborate with people all around the world, enhances their quality of learning, and prepares them for the future."

Mohammad Qayoumi, President, San Jose State University

Education

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Los Alamos Public Schools

Punahou School

San Jose State University

University of New South Wales

University of New South Wales Connects People and Things in New Ways

Visit the University of New South Wales (UNSW) Australia campus and you will see students watching video lectures before class on their mobile devices, socializing with classmates through social applications, and enjoying video calls with family members worldwide in the campus quad.

Looking to reduce the cost of future housing and improve facilities planning through enhanced Wi-Fi, UNSW found its answer in Cisco® wireless solutions.

Now, high-performance, high-density Wi-Fi is giving UNSW the opportunity to look at teaching in a new way. Students watch video lectures before class, from anywhere, allowing for new methods of teaching. Teachers use class time for small group activities to reinforce the lecture material.

Additionally, UNSW is using the network to make facilities management more efficient. By placing sensors on trash bins to indicate fill level, and using video surveillance to identify common areas that need cleaning, the network can ensure facility maintenance resources are deployed as needed. By bringing new things online, facilities management can collect the appropriate data to identify the needs of the UNSW campus and allocate resources accordingly.

At UNSW, the Internet of Everything (IoE) is changing the student learning experience as well as facilities management. By connecting people, process, data, and things, UNSW is creating a digital campus of the future.

Education

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San Jose State University

University of New South Wales

University of New South Wales transformed its education services to:

Deliver improved user experience for 55,000 people using 168,000 devices

Prepare to introduce "flipped" learning where students watch lectures before class

Improve facilities planning by capturing information about students' paths across campus

"All of the things that connect to our network can give us a clear picture of the who, what, how, and when of campus usage. That helps us create an engaging, fulfilling, and positive campus experience."

Sam Costello, Manager of facilities systems and delivery, University of New South Wales

Energy

BC Hydro

BKK Group

ESSAR Group

Explorer Pipeline

Ferguson Group

JiuLong Villa

London Hydro

Quan Zhou Nan
An Power Company

Ti Xing Power Company

BC Hydro Innovates to Lower Cost and Increase Both Performance and Customer Satisfaction

The utility industry today faces immense costs and demanding challenges. For Canadian electric utility, BC Hydro, their challenge was in measuring consumption, monitoring service, and automating the electricity distribution system. They sought a solution to help improve visibility, manage cost, reduce theft and technical losses, and provide greater safety and reliability to their millions of customers.

Today, BC Hydro has deployed 1.9 million smart meters, all connected by a robust Cisco® network. They have exchanged old meters to create an IPv6-capable network allowing for advanced metering, real-time outage notification, as well as wide area monitoring and grid automation.

Along with partners Bit Stew and Itron, Cisco is helping BC Hydro look at requirements to overcome rising operational costs and analyze more data with fog computing and allow applications to run directly at the network edge. This, in turn, is leading to improved power management and predictive maintenance. With real-time visibility into the network and ability to analyze trends, BC Hydro is harnessing the power of becoming a digital utility and turning insight and data into business outcomes.

Energy

- BC Hydro
- BKK Group
- ESSAR Group
- Explorer Pipeline
- Ferguson Group
- JiuLong Villa
- London Hydro
- Quan Zhou Nan An Power Company
- Ti Xing Power Company

BC Hydro is leading digital innovation. They now have:

The ability to analyze consumer treads and offer new IP-based services

Real-time visibility to eventual 1.9 million meters throughout BC Hydro to enable lower cost management and fast response remediation

The ability to manage approximately 1 billion data points per day

"The Cisco-Itron alliance was a game changer for the industry. The ability to leverage our infrastructure with Itron's smart grid solution and Cisco's Connected Grid networking and security capabilities is a great stepping stone into smart grid."

Gary Murphy, Chief Project Officer, BC Hydro

Energy

Norwegian Utility, BKK Group, Modernizes the Power Grid

BKK AS Group is the second largest power grid owner in Norway. Like most power utilities, BKK traditionally operated its power grid with a legacy utility communications network. Maintaining the aging network used for the power grid was getting more difficult and costly. BKK wanted to prepare for the future by transitioning to an IP network to improve efficiency with a digital-ready platform.

Now, all IT and OT (operational technology) systems connect to one network: ruggedized routers at substations connect grid devices, protection, teleprotection systems, and Supervisory Control and Data Acquisition (SCADA) systems so bandwidth is available to whatever systems need it. This next-generation, packet-based utility network is saving them significant operational costs due to the ability to use cost-effective, standardized IP networking equipment. They can now offer the same network resources at substations that are available at corporate office locations. This represents a major improvement in workforce enablement.

BKK deployed Cisco® MPLS WAN to support the new packet-based utility network. They also converted all utility communications and services to a new, robust network. By moving from traditional to digital and connecting all of its substations to turn data into insight, BKK is leading the way for digitizing utility operations through the Internet of Everything (IoE).

Energy

BC Hydro

BKK Group

ESSAR Group

Explorer Pipeline

Ferguson Group

JiuLong Villa

London Hydro

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An Power Company

Ti Xing Power Company

BKK Group is capturing value with the Internet of Everything. They now have:

An ability to offer new IP-based services that reduce utility operation cost

Improved management efficiency

Better workforce enablement

"The utility industry is changing fast as smart grids become reality and more devices become part of the Internet of Things. With Cisco-based IP utility network, we're ready to reap the benefits of this new paradigm."

Svein Kåre Grønås, Managing Director (CEO), BKK Fiber AS

Energy

ESSAR Group Enables Real-Time Access to Data and Analytics with a Dynamic Server Platform

The ESSAR Group is a leading conglomerate in the production of steel, oil and gas, power, communications, shipping port logistics, construction, and minerals. With operations in more than 20 countries, ESSAR Group needed a way to unlock the valuable insight within their data. Not only was accessing the data time-consuming, but the company could not use their SAP High Performance Analytic Appliance (HANA) applications to view information across all business divisions and needed a solution to bring their data within reach.

To bring people, process, and data together, ESSAR Group chose Cisco as the strategic business partner to turn their data into insight with the Cisco Unified Computing System (UCS®). The Cisco UCS platform allows HANA to bring all data within the reach of decision makers in seconds, enabling innovative new applications and combining high-volume transactions with analytics. ESSAR can now process the massive quantities of data, in real time, enabling decision-makers to see results within seconds, in an understandable and user-friendly format.

With their data and people connected, their processes became more efficient as the solution also dramatically improved their existing planning, forecasting, and pricing optimization processes by combining high-volume transactions and real-time analytics.

With on-demand visibility into the business, the Internet of Everything (IoE) is enabling better, faster decision-making, and helping ESSAR become more agile to win in the digital era.

Energy

BC Hydro

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Ti Xing Power Company

ESSAR Group is benefitting from the Internet of Everything. They now have:

Quick access to data for accelerated real-time decision making

Accelerated business performance – dramatic improvement in planning, forecasting, and pricing optimization

Reduced total cost of ownership because of minimal hardware need, maintenance and testing

"The implementation of Cisco UCS over SAP HANA has brought a number of benefits to the ESSAR group. It has helped accelerate real-time decisions and dramatically improved business performance, all while reducing total cost of ownership."

Jayantha Prabhu, CTO, ESSAR Group

Energy

Explorer Pipeline Unifies a Distributed Workforce to Improve Productivity

Moving fuel from the United States Gulf Coast to the Midwest takes 1,830 miles of pipeline. Explorer Pipeline, an American company, transports different types of oil and fuel, while embracing a flexible work style for 230 employees who work in company offices, home offices, and along their 1,830 miles of pipeline. Unfortunately, without a unified collaboration strategy, employees not located in company offices could not join in key parts of the business. While the remote employees could stream videos of training and safety meetings, they could not participate in onsite conversations, resulting in a one-way communication system.

Today, with the Internet of Everything (IoE), employees can connect better than ever before. Through video collaboration tools, distributed teams now meet in person through video without the travel time and associated costs. The personal connection delivered through video allows remote employees to participate in training and safety meetings, while managers can conduct job interviews through video conferencing.

Explorer Pipeline chose Cisco as its strategic business partner to deploy integrated voice and video, using Cisco TelePresence® and collaboration tools. The company can now bring all employees together with the touch of a button on an endpoint, or start a voice, video, chat, and Cisco WebEx® session in Microsoft Outlook. Together with Cisco® Unified Communications solutions, Explorer Pipeline is bringing a once disparate operation online for seamless collaboration and productivity.

Energy

BC Hydro

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Ti Xing Power Company

With the Internet of Everything, Explorer Pipeline has:

Improved productivity with voice and video collaboration, and can solve problems more quickly

Increased employee communication and engagement

Reduced costs and saved employee time

"Our Cisco Collaboration toolset raises the level of engagement among colleagues. We feel more connected."

Todd Golla, Director of IT, Explorer Pipeline

Energy

Ferguson Group Ltd Builds a Safer Workplace With Digital Transformation

Founded more than 35 years ago in Aberdeenshire, Scotland, Ferguson Group Ltd is one of the world's leading suppliers of containers, accommodations, and workspace modules for the offshore energy industry. Today, the company is growing faster than ever and expanding globally at an exponential rate.

Ferguson Group was concerned about the standardization of physical security across its global bases. This was particularly important for the provision of day-and-night digital surveillance on the large, valuable equipment in its ports and storage yards.

With IP-based security cameras and swipe-card entry systems at Ferguson Group's headquarters, management now enjoys better peace of mind. Access to Cisco® IP cameras using Cisco Video Surveillance Manager allows the company to view live and recorded footage, increasing protection of property and assets. Managers can keep employees and contractors safe while also holding them more accountable. In the event of any adverse circumstance, such as a break-in or an accident, the company can quickly access video data and take action.

To take full advantage of the solutions available from Cisco, Ferguson Group selected Cisco certified Partner, Clark Integrated Technologies (CIT). Working closely with CIT and backed by Cisco Services to plan and implement a physical security solution, Ferguson Group gained access to technologies and services previously unavailable to the company. The team effort allowed Ferguson Group to focus more time and energy on its core business, and worry less about IT and security issues.

Energy

BC Hydro

BKK Group

ESSAR Group

Explorer Pipeline

Ferguson Group

JiuLong Villa

London Hydro

Quan Zhou Nan
An Power Company

Ti Xing Power Company

With greater workforce connectivity, Ferguson Group Ltd has:

Gained real-time access to video footage anywhere, anytime, on any device

Increased employee safety and decreased risk of equipment theft and damage

Improved contractor delivery accuracy of on-site physical security services

"Only Cisco could provide us with a total combination of Cisco IP video cameras, door readers, firewalls, and routers, all available globally with the highest levels of vendor support."

Graham Cowperthwaite, Director of Operations, Ferguson Group Ltd

Energy

JiuLong Villa Creates a More Robust Energy Management System

Worldwide, organizations are looking for newer, more efficient ways to manage energy. As digital capabilities create greater opportunities to connect people, process and data, the Internet of Everything (IoE) is helping organizations like JiuLong Villa embrace networked connections and bring new value to energy management systems.

Located in ZheJiang Province, China, JiuLong Villa is comprised of 850 villas and apartments. With an estate of that size, managing energy production and consumption are critical to keeping costs down. Looking to optimize their energy management system through real-time data collection and analysis, JiuLong Villa turned to Cisco and our partner. Leveraging resources from the Cisco® IoE Innovation Center at Hangzhou, Cisco independent software vendor partner, Creaway, helped JiuLong Villa connect everything, from solar panels to major home appliances, onto a Cisco network. Combining the Cisco Field Area Network Solution with energy management applications built by Creaway, JiuLong Villa now has a more robust energy management system that tracks and analyzes solar power generation and usage, monitors all distributed solar panels on a real-time basis, and collects and analyzes data of major home appliances. With the ability to turn data into insight in real time, JiuLong Villa is optimizing their end-user power generation and usage while reducing damage to home appliances now that fault detection capabilities can be instantly located.

By bringing together newly connected things with people, process, data and insights, JiuLong Villa is embracing the IoE to improve how energy is managed and consumed today and in the future.

Energy

BC Hydro

BKK Group

ESSAR Group

Explorer Pipeline

Ferguson Group

JiuLong Villa

London Hydro

Quan Zhou Nan
An Power Company

Ti Xing Power Company

With the Internet of Everything, JiuLong Villa has:

Optimized end-user power generation and usage

Reduced damage due to faster fault detection

"The Cisco Field Area Network solution enables us to use one network platform to create different solutions. With the support of Cisco IoE Innovation Center, the development process is much more efficient."

Jin Hui, General Manager, Creaway

Energy

BC Hydro

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ESSAR Group

Explorer Pipeline

Ferguson Group

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An Power Company

Ti Xing Power Company

London Hydro Improves Customer Engagement and Empowerment Through the Green Button Program

For many energy producers, predicting energy demand and usage is a difficult task. Failure to predict correctly can lead to over production and over spending. London Hydro is an innovative local distribution company for the city of London, Ontario. With a major focus on developing a digital strategy that supports smart meter and interval meter data, they chose to participate in the Green Button Program, an industry-led effort to provide utility customers with easy and secure access to their energy usage information in a consumer- and computer-friendly format. London Hydro's goal was to maximize customer smart meter data, bring together other energy companies and applications, and bridge systems.

London Hydro chose Cisco as their technology partner over other competitors for its ability to provide a more complete solution. The Cisco® Integrated Platform provides a lightweight and dynamic solution that combines Wi-Fi connectivity and core infrastructure. London Hydro can seamlessly integrate infrastructure, data, and applications that are on premise and in the cloud. This solution helps simplify their complex enterprise environment and empowers London Hydro to create new energy management and customer engagement integrations much faster. Utility companies within the Green Button Program can standardize controls and fully integrate with each other, drastically improving operational processes and efficiencies, and creating new partnership opportunities to better serve London, Ontario.

The first phase of the Green Button Program included capturing data and insight using smart meter and interval meter data. Application program interface connectivity, data virtualization and analytics are also incorporated into the overall solution. Additionally, they worked with Cisco partner, SAP, to store and access their data through a cloud solution.

London Hydro's digital transformation is changing the way their business uses information, breaking down technological borders to business collaboration.

Energy

BC Hydro

BKK Group

ESSAR Group

Explorer Pipeline

Ferguson Group

JiuLong Villa

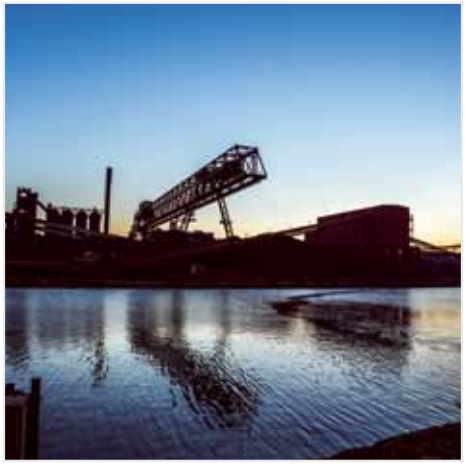
London Hydro

Quan Zhou Nan An Power Company

Ti Xing Power Company

London Hydro is transforming the energy industry through:

Increased customer engagement with access to more information including: weather, outages, utility, and other water and gas data



Increased revenue through energy optimization, demand prediction, and the ability to serve more customers

Time, money, and natural resources savings because customers can access information that will allow them to predict their usage

"London Hydro has been leading the way with innovative solutions to engage customers. One of the advantages of smart meters is that they can permit homeowners to download their home's electricity usage data using Green Button. This can help homeowners manage their electricity bill."

Bob Chiarelli, Ontario Minister of Energy

Energy

Quan Zhou Nan An Power Company Transforms the Way they Monitor, Control and Distribute Energy

Digitization is revolutionizing the way utility companies monitor, control and distribute energy. Today, power grids have self-healing capabilities that completely transform outage management systems and grid operators are able to collect and analyze power distribution data in real time to make better decisions, faster. By connecting people, process, data and things, utility companies like Quan Zhou Nan An Power Company are leveraging Cisco and Internet of Everything (IoE) to drive digital transformation.

Located in the Province of FuJian, China, Quan Zhou Nan An Power Company strives to provide reliable and efficient power delivery to their consumers. Recognizing the importance of real-time data and its role in power monitoring, control and distribution, Quan Zhou Nan An Power Company turned to Cisco and Holystar, a Cisco® independent software vendor partner, to deploy a Distribution Automation (DA) solution.

By connecting sensors on power line cables to Cisco's communications technology and network, the DA solution integrates distribution grid control along with devices and software applications within data communications infrastructures. In addition to DA, Holystar leveraged resources from the Cisco IoE Innovation Center at Hangzhou to provide Quan Zhou Nan An Power Company with new capabilities such as real-time monitoring of their power distribution network and real-time fault location and analysis of their power transmission lines. Using data management tools developed by Cisco combined with four types of monitoring functions: telemetering, remote signaling, remote regulating and remote control systems, grid operators can now collect and analyze data about power distribution and consumption in real time. As a result, Quan Zhou Nan An Power Company has reduced the time it takes to achieve power restoration, fault identification, and fault isolation, and is now able to control network loading and improve the quality of power supply. By connecting people, process, data and things, Quan Zhou Nan An Power Company is setting new precedents for the utility industry with the IoE.

Energy

BC Hydro

BKK Group

ESSAR Group

Explorer Pipeline

Ferguson Group

JiuLong Villa

London Hydro

Quan Zhou Nan An Power Company

Ti Xing Power Company

Through the Internet of Everything, Quan Zhou Nan An Power Company has:

Shortened fault identification, fault isolation and power restoration time

Optimized the operation of power distribution network

Improved the quality of power supply

"Cisco works with us like a team. We learned a lot from them and created a secure, manageable, distributed automation solution. More importantly, it is much better than the legacy technologies with much lower cost."

Chun Tian, CTO, Holystar

Energy

Ti Xing Power Company Improves Energy Management with Real-Time Monitoring

The Internet of Everything (IoE) allows utility companies to create a new level of intelligence that helps the utility industry lower costs, secure mission-critical infrastructure and streamline operations. A leading example of this is Ti Xing Power Company and its Connected Power Distribution Station.

Located in the Province of Jiang Su, China, Ti Xing Power Company aims to provide reliable and efficient power delivery while operating at maximum efficiency. Understanding the advantages of remote monitoring capabilities, Ti Xing Power Company worked with Cisco and Borui, a Cisco® independent software vendor partner, to enable four new monitoring functions: telemetering, remote signaling, remote regulating and remote control systems.

By connecting everything from sensors on transmission cables to transformers and switchgears inside the Jiang Su communities, the Cisco network enables the substation's equipment to be monitored and controlled remotely. Now, operators at the Ti Xing Power Company can remotely identify exact locations of problems before driving to the fault location, leading to shorter fault identification and fault isolation time. Additionally, faster power restoration is enabled since operators can instantaneously respond to power failures by remotely controlling switchgears. Combining these new features with resources from the Cisco IoE Innovation Center at Hangzhou, Borui helped Tai Xing Power Company build a cloud based platform to monitor the communities' power distribution from their mobile devices.

By improving utility processes with new things brought online, grid operators at Ti Xing Power Company are leveraging the networked connections of the Internet of Everything to provide more reliable services to their communities while increasing operational efficiency.

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London Hydro

Quan Zhou Nan
An Power Company

Ti Xing Power Company

Ti Xing Power Company improves energy management. They:

Shortened fault identification, fault isolation and power restoration time

Optimized the operation of power distribution network

Improved the quality of power supply

"We chose Cisco as our partner because they can bring us to the future of IP based IoT solutions. More importantly, we can tailor solutions with Cisco technologies to meet our customer's requirements."

Zhu, Wen Tang, CEO, Borui

Financial Services

Alexander Forbes Reduces Energy Consumption and Building Costs with Virtualization

The opportunity to design an IT infrastructure without having to account for legacy technology is rare, but Alexander Forbes had that opportunity. A leading provider of retirement funds consulting and administration, financial and multi-manager services for individuals and institutions, and health and wellness programs for institutions, Alexander Forbes wanted to gain the agility to adopt new IT advances as its business needs changed.

With the decision to implement a converged infrastructure, Alexander Forbes engaged Cisco and Dimension Data, a Cisco® Gold Certified Partner, to help plan and design its new facility's IT infrastructure. This converged network builds on Cisco switches and routers, a centralized video surveillance system, centralized physical access control, and virtualized servers on Cisco Unified Computing System™ (UCS®).

By bringing disparate systems together with voice, video, and data, physical security and building management processes at Alexander Forbes have become more efficient and automated. With centralized management and monitoring of physical security systems across 14 branch offices, the physical security organization has improved efficiency. When video surveillance cameras detect motion in the data center or other sensitive areas, the Cisco Video Surveillance solution sends an alert to facilities management to take action.

By virtualizing more than 1,000 applications, Alexander Forbes has conserved space, power, and cooling to achieve a four-star Green Star South African rating for energy efficiency. Alexander Forbes Insurance is now connecting people, process, data, and things in a way that is changing how business works.

Financial Services

Alexander Forbes Insurance benefits from the Internet of Everything with:

Achievement of a four-star Green Star South African rating for energy efficiency

Centralized management and monitoring of physical security systems across 14 offices

Deployment of 200 cameras and 160 access controls up to 30 to 40 percent faster with Cisco technologies

"Virtualizing our physical security applications and other applications on Cisco UCS has increased data center power and cooling efficiency while decreasing engineering workload."

Brad Elliot, Director, Group CIO, Alexander Forbes Insurance

Financial Services

Allied Irish Bank Delivers Engaging Digital Experiences with Cost Savings

Customers are demanding better digital services from businesses everywhere. And banks are no exception. Without improved digital services, customers may feel their banks are not helping them reach their financial goals and will increasingly look to alternative options.

Allied Irish Bank (AIB), a full-service bank with a network of 300 branches across Ireland and the UK, is addressing this market transition by putting digital innovation at the heart of its strategy. To become a more customer centric and digitally oriented bank, AIB is turning to the Internet of Everything (IoE) to ensure customers are provided with a choice of channels to fulfill their banking needs, whenever and wherever they choose to bank.

To move beyond its competition, AIB created a digital store to support adoption, drive customer education of digital channels, and gauge customer reaction to potential new services.

AIB chose Cisco® Remote Expert solution to enable virtual face-to-face meetings between customers and remote bank staff over high-definition video. This has allowed AIB to deliver seamless customer experiences that empower a customer to engage with their bank when, where, and how they choose. With the ability to deploy virtual data centers in multiple locations, hardware costs are minimized. The IoE is helping AIB improve customer experience and the bottom line.

Financial Services

Alexander Forbes Insurance

Allied Irish Bank

American Bank

Bombay Stock Exchange

Nationwide

Skipton Building Society

State Bank of India

With the Internet of Everything, Allied Irish Bank can now:

Deliver an engaging experience for customers

Expand accessibility to experts

Simplify customer and expert care

"Cisco was keen to embrace our vision, and the Cisco Services team was critical to us. One of the most important things for us was its ability to deliver an enterprise-wide solution that was both scalable and secure."

Fergal Coburn, Head of Channel Development and Strategy, Allied Irish Bank

Financial Services

An American Bank Proactively Protects Customer Data from Malicious Hackers

In the Internet of Everything (IoE), digital technologies converge and banks gain what Cisco calls an "advice advantage." Banks can use their size, physical branches, financial expertise, and rich customer data to offer contextual advice through a wide portfolio of offerings at scale; reaching more customers, at more times, in more places, and with more relevant information than ever before.

But with all this confidential information used across multiple functions and widely distributed across machines and devices, large financial institutions have more potential vulnerabilities than ever. Aware that the sheer size of their institution made them both a target of and more vulnerable to hacking, a bank in the U.S. partnered with Cisco to assess its digital and physical assets.

To fully understand the bank's security posture, Cisco performed a Red Team exercise – performing physical and virtual security assessments of numerous facilities deemed sensitive by the bank, as well as numerous branches and executives' residences. The assessment included attempts to infiltrate facilities, breach wireless networks, gain access to internal devices and networks and then deliver custom malware. Today, the bank is better secured in the IoE – their network vulnerabilities have been identified and remediated, tripling the cost to attackers of infiltrating the network. By blending physical and virtual security, this American bank is meeting the demands of pervasive security created by the IoE.

Financial Services

This American bank improved security with the Internet of Everything. They:

Identified and remediated network vulnerabilities ranging from holes in proprietary software to employee lack of adherence to security policies

Tripled the cost to attackers to infiltrate the network

Financial Services

Bombay Stock Exchange is Changing the Financial Services Industry Through Digital Transformation

Headquartered in Mumbai, India, the Bombay Stock Exchange (BSE) is one of India's leading exchange groups. Recognizing that traders want current information and instantaneous trade executions, speed and security are two of the exchange's top priorities. To safeguard itself from security threats and facilitate better networking, BSE is constantly upgrading its technological and security platforms.

With an IT infrastructure developed by Cisco, BSE has stayed ahead of the competition while achieving low latency and seamless connectivity across the network. With a robust Cisco® network, BSE has upgraded its entire technology platform to connect everything from trading systems to physical security devices, and phones to radios. When one physical system detects an unusual event, it instructs other systems to take immediate action based on BSE's rules. Now, trades execute several times faster than the competition and incident response times have decreased.

As the nation's preferred multi-asset financial infrastructure, BSE is looking to the Internet of Everything (IoE) as another way to step ahead. By connecting people, process, data, and things to improve customer experiences, BSE will create more value for its shareholders.

Financial Services

Alexander Forbes Insurance

Allied Irish Bank

American Bank

Bombay Stock Exchange

Nationwide

Skipton Building Society

State Bank of India

Bombay Stock Exchange creates more value with the Internet of Everything by:

Remaining the nation's most preferred multi-asset financial structure

Improving operational efficiencies

Executing trades several times faster than other Asian exchanges

"We tend to work on the lowest possible response time, so effectively we have seen the usage of technology in getting that extra moment compared to others. That's what our business is all about."

Ashishkumar Chauhan, MD & CEO, Bombay Stock Exchange

Financial Services

Nationwide Increases Customer Satisfaction While Reducing Its Cost of Sales

According to a recent Cisco® Consulting Services research study, there is a widening gap between digital expectations of customers and what banks deliver. In the digital era, banking customers expect anytime, anywhere personalized services.

British financial institution, Nationwide, saw this trend and wanted to become the leading vendor among its peers in customer satisfaction. It recognized that it needed to transform its customer experience and partnered with Cisco to achieve the goal.

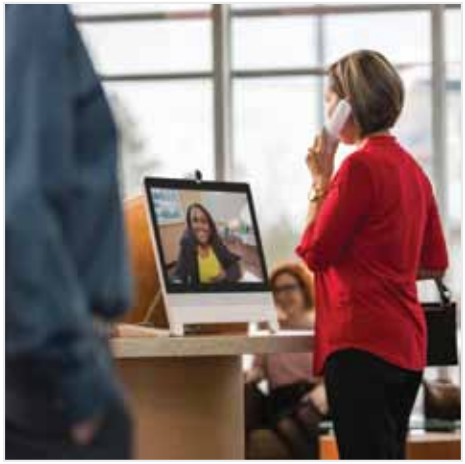
By turning to Cisco and the Internet of Everything (IoE), Nationwide provides virtual advisors to customers through uniform pods that resemble branch offices. To shorten wait times, Nationwide staff use instant messaging to check consultant availability when there is a customer mortgage query. Once connected, the advisor and customer consult over video, with the ability to review documents and mortgage options in real time.

Cisco and Nationwide partnered to develop a business case, proof of concept, and a plan for return on investment. As a result, Cisco now provides and manages the Virtual Mortgage Advisor solution for Nationwide and other retail banking companies. The IoE connects people, data, and processes to help Nationwide digitize the mortgage process, to improve customer service and excel over competitors in the mortgage market.

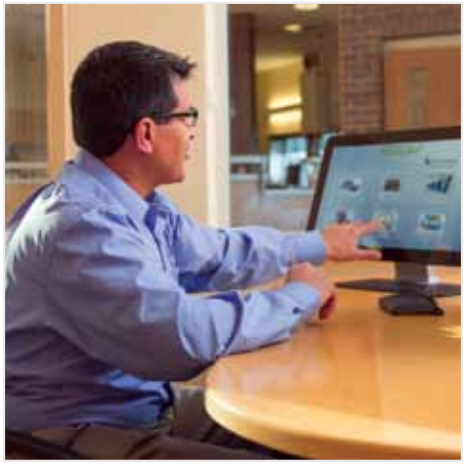
Financial Services

Nationwide is capturing value in the Internet of Everything by:

Driving growth with more than 60 percent improvement in new mortgage business



Improving customer experience with double-digit improvement in customer net satisfaction



Reducing costs by 66 percent in the cost of sale

"At Nationwide, we believe that a vital part of serving our members is providing access to our consultants and products in their community when it best suits them."

Mark Goldman, Divisional Director of Central Distribution at Nationwide Building Society

Financial Services

Skipton Building Society Aligns Its IT and Business Strategies for a Journey to Digital Transformation

As one of the largest financial services institutions in the United Kingdom, Skipton Building Society's competitive advantage comes from the effectiveness of its core mortgage and savings applications. While the company has made strong advances in many areas of its business, the IT department was struggling with complex processes, aging servers, and a lack of agility. In order for IT to meet the demands of Skipton's fast-paced business, it needed to become more agile for today's digital era.

Skipton turned to Cisco to better align IT with its business strategy, starting with the adoption of a cloud solution. Skipton worked with Cisco® Services to gain a better understanding of cloud adoption. In this workshop, Cisco helped Skipton identify the business impacts of cloud technology, its opportunities and challenges, as well as a migration strategy. After identifying gaps and next steps, Skipton chose Cisco UCS® servers as its platform to move to the cloud.

Looking forward, Skipton can operate more efficiently, increasing its agility. Manual, error-prone processes that could take up to four weeks will now take less than one day. Today, Skipton is in a position to provide its services for the digital era, bridging the gap between business results and technology capability. Additionally, Skipton's data center footprint can shrink by half, making it easier and more cost-effective to meet business demands. With greater agility and alignment between IT and the business, Skipton gained a more robust foundation for connecting people, process, data, and things in the Internet of Everything (IoE).

Financial Services

Alexander Forbes Insurance

Allied Irish Bank

American Bank

Bombay Stock Exchange

Nationwide

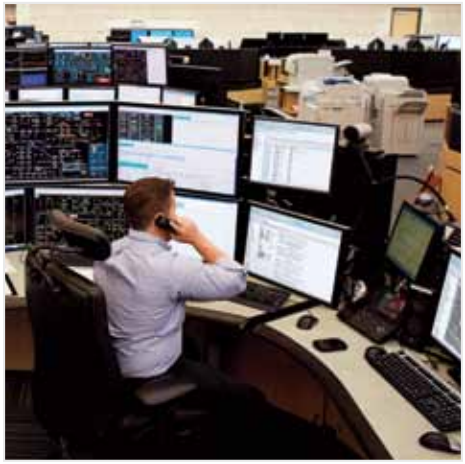
Skipton Building Society

State Bank of India

With the Internet of Everything, Skipton Building Society created:

Faster server deployments

A highly virtualized server environment that adapts to changing business needs



IT processes that support competitive differentiation

"With the Domain Ten workshops, there was no sales pitch. It was all focused on our challenges and aspirations."

Ged Donovan, Architecture and Solutions Manager, Skipton Building Society

State Bank of India Serves the Emerging Digital Customer

By 2020, the average age of India's population is estimated to be 29. With the rising digital expectations of this demographic, State Bank of India turned to Cisco and the Internet of Everything (IoE) to transform its customers' experience, attract the mass-affluent generation Y customers, and deliver new, omnichannel business models.

Using the Cisco® Remote Expert solution combined with wireless technologies, State Bank of India can connect customers with experts to deliver a richer, more interactive experience in an omnichannel environment. Now, customers can reach virtual advisors instantly using high-definition video conferencing. The interactive screens also allow advisors to remotely write on or share screens with customers. Additionally, Wi-Fi for customer access and location-based services improves the in-branch experience.

By connecting customers with financial services in new and innovative ways, State Bank of India is transforming the banking experience for its digitally savvy customers.

Financial Services

Alexander Forbes Insurance

Allied Irish Bank

American Bank

Bombay Stock Exchange

Nationwide

Skipton Building Society

State Bank of India

State Bank of India is serving the emerging digital customer. They now have:

New omnichannel business models

Faster customer onboarding, with card issuance in real time

"This is our attempt to put our brand in touch with the dreams of the aspirational customer. It's a deep rooted transformation."

S K Mishra, Deputy Managing Director, State Bank of India

Government

The City of Barcelona Saves over US$50 Million and Creates 47,000 New Jobs with Smart City Solutions

Citizens are demanding more of their cities. The Barcelona City Council wanted to revitalize the city, stimulate the economy, and provide a great quality of life that attracts businesses, residents, and tourists. It also wanted to earn a leading place on lists of the world's most livable cities, reduce its carbon footprint, and deliver government services at lower cost. The City Council knew that technology could help achieve these goals.

To make the vision real, the city needed three kinds of technology: a reliable, easy-to-manage Wi-Fi network; a way to know the location of people and things connected to the network; and different kinds of sensors. Being able to connect to a Wi-Fi network to work from a public park, receive timely updates on current traffic patterns, and even reserve a parking spot from a smartphone are all expected resident services. These capabilities are becoming a reality for the citizens of the city of Barcelona with Cisco and the Internet of Everything (IoE).

The city partnered with Cisco to deploy Cisco Smart+Connected™ City Solutions. Today, in-ground parking sensors communicate with smartphones to help drivers quickly find parking spaces. Information about transportation, area commerce, and attractions can easily be accessed through touchscreen kiosks at bus stops, encouraging tourism and repeat visits. And with wireless sensors monitoring such things as street lighting, the city can deliver many services at a lower cost.

Government

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- Hamburg Port Authority
- Kansas City
- LINZ AG
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- Singapore
- United States Army
- Waterfront Toronto

City of Barcelona has realized value from a more connected city, including:

US$58 million annual savings using smart water technology

US$50 million annual increase in parking-fee revenues due to the use of smart parking technology

47,000 new jobs as a result of smart city efforts

"We are not really putting focus on a concrete area, but going little steps forward and thinking about how technology can be used to transform the lives of our citizens."

Julia Lopez, Coordinator of Smart City Strategy, City of Barcelona

Government

The City of Chicago Analyzes City Data to Empower Leaders and Improve Citizens' Well-Being

Citizens want to be digitally engaged with their city and their government. Which streets are clear following a storm? Which parking spots are available? When is the next bus or train scheduled to arrive? Answers are easier to find now thanks to the Internet of Everything (IoE).

From street surveillance and gunshot detection sensors to mobile apps that help the local economy thrive, the city of Chicago is leveraging connected technology to enable the government and its 2.7 million citizens to better predict, prepare, and problem solve.

The city of Chicago had a vision of becoming a city where technology fuels opportunity, inclusion, engagement, and innovation. Today, the city of Chicago is a leading proponent of Smart City innovation underpinned by Cisco® technology. High-speed broadband and wireless networks, along with the Chicago open data portal feed information to various local applications. This data is then used by police and other government departments, as well as businesses to protect and inform.

Playing a key role in public safety, mobile computers with high-speed broadband in patrol cars give first responders immediate access to crime conditions. On the administrative side, the Chicago open data portal, with nearly six hundred data sets, provides information and analytics that help the city operate more effectively. The portal is also used by the Civic Development Community to build mobile apps that do everything from posting street sweeper schedules, to helping parents find the best route to bring their children to school, to giving local businesses a boost.

Today, the city has become more connected with the IoE and Cisco's Smart+Connected™ City solution.

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Sichuan
Singapore
United States Army
Waterfront Toronto

The city of Chicago now has:

The ability to analyze various data sets to gain insights for improving operations

Solutions that improve transit management and customer service

Open-source applications to increase knowledge and usage of city services

"We're very focused in Chicago about becoming as data-driven as we can be in the provision of services to our residents."

Brenna Berman, Commissioner & CIO, City of Chicago Department of Innovation and Technology

Government

The City of Dubai Incorporates Smart Technology to Reduce Traffic Fatalities and Increase Public Transportation Use

The Intelligent Transportation Society of America reports 30 percent of all traffic congestion in urban areas are caused by drivers looking for a parking space. Cities are turning to technology for better parking solutions that improve the urban life experience of residents, improve parking, and capture new economic development opportunities. The city of Dubai partnered with Cisco to provide this and other connected city solutions to its citizens.

The Dubai Smart City Initiative was established in 2013 by His Highness Sheikh Mohammed with the charter to transform Dubai into one of the world's smartest cities. In an aggressive strategy, the city planned to implement 100 initiatives and 1,000 Smart Services by 2015 across all government services, including transportation. The goal was to incorporate smart technology to make roads safer and less congested, increase the use of public transportation, and make all city services available 24/7 via handheld devices. Notably, Dubai has been a leader in implementing Cisco®smart cities solutions. Initiatives include connected parking, driverless metro service, uniform ticketing and easy payment for public transport, no-stop toll gates, and smart parking meters.

Dubai is continuing to expand their Internet of Everything (IoE) initiative in both the public and private sector with mobile collaboration, city management, and smart transmission grid. The city of Dubai is connecting people, process, data, and things to improve the experience of their citizens.

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With the Internet of Everything, the city of Dubai has experienced:

Reduced traffic fatalities from 20–22 per 100,000 citizens in 2005 to fewer than four per 100,000

Increased percentage of citizens using public transportation from six percent at start of program to 12 percent today

Improved traveler experience by reducing traffic congestion

"Most of our initiatives are going to move into the hands of the customer, on devices that they hold in their hands. They are all geared toward making Dubai smarter and providing a better quality of life."

Abdulla Al Madani, CEO of Corporate Technical Support Services, Roads and Transportation Authority

Government

The City of Guayaquil Goes Digital to Offer Telemedicine and e-Government Benefits to Citizens

Guayaquil, Ecuador, a city of 2.5 million people and up to 300,000 daily itinerants, faces a number of educational and economic challenges. Only 44 percent of its citizens have Internet access through local telecommunications companies. Guayaquil's forward-thinking mayor wanted a better connected city and invested in technology to make Guayaquil the first large, digital metropolitan area in South America.

Cisco® Emerging Advisory Services assisted with long-term planning and strategy development. The city is expanding its public Internet access for citizens, connecting hospitals and clinics, providing e-government solutions, and investing in computers, tablets, and Internet access for public schools and universities. The government also placed eight connected kiosks around the city to provide convenient access to residents. These kiosks allow residents to conduct business with the city, such as making payments for utility services, purchasing land-use and other permits, and finding information about city government structure and processes.

The mayor of Guayaquil has stated that his goal is to help every resident of the city become a digital citizen. He wants to provide education in technology skills and encourage entrepreneurial investment in the technology sector. By embracing the digital technology and the Internet of Everything (IoE), Guayaquil is truly changing the city experience for citizens.

Government

The City of Guayaquil is improving citizens' lives:

Citizens with limited mobility no longer need to travel across the city to see a specialist

Free Internet access give citizens more confidence in local government

Program investment will eventually benefit municipal reserves

"The mayor wants every citizen converted into a digital citizen…he's trying to [give people] the instruments, so the people in this city will be better prepared for the future."

Xavier Salvador, Director of Informatics Department, City of Guayaquil

Government

The City of Mississauga Uses Digital Technology to Improve Services, Reduce Costs, and Drive Efficiency with Real-Time Data

Cities are growing but city budgets are not. They face the choice to view IT as a cost center, or as a way to connect people, process, data, and things to create greater efficiency.

Economic opportunity and a reputation as Canada's safest city have boosted the city of Mississauga's population. To support this growth, Mississauga's IT staff established goals to improve services and increase operational efficiencies. The city turned to Cisco and Gold Partner, OnX, to build a private fiber network and launch citywide wireless networking using Cisco® controllers and access points. The city set strategic goals to increase operational efficiencies using the Internet of Everything (IoE).

Today, almost every piece of equipment purchased by the city has the ability to connect to the wireless network. Snowplows, buses, fire trucks, HVAC units, and traffic lights are all now capable of transmitting real-time data. Traffic can be monitored in real time, allowing signal and traffic movement changes in response to incidents. Flood-response decisions can be made immediately and public communications and operations can be put into action faster than ever. City operations field staff have mobile access to service work orders for quick and accurate maintenance decisions. The data collected allows the city to make better decisions and deliver more responsive and efficient operations.

The IoE is helping the city of Mississauga launch new services without increasing its IT budget and has created a more engaged and connected city.

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Sichuan
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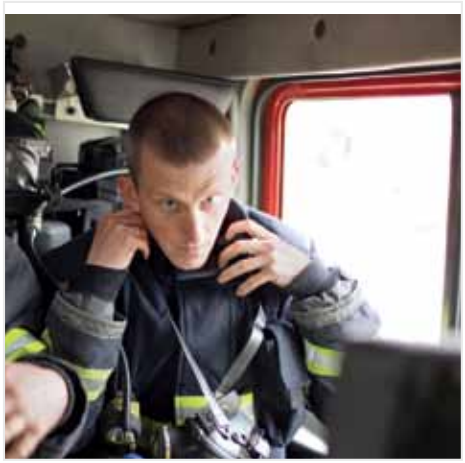
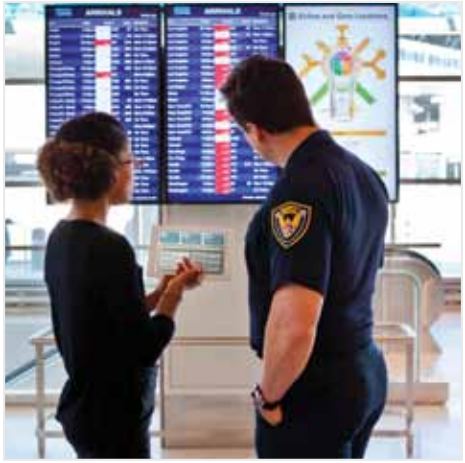
The city of Mississauga transforms citizen experience. They can now:



Make it easier for operations teams and emergency services to respond faster

Facilitate new services while keeping the IT budget flat



Improve public safety with immediately actionable information

"The Internet of Everything provides tangible service improvements and actionable information that we can use every day to deliver and improve our services."

Shawn Slack, Director of Information Technology and CIO, City of Mississauga

Government

The City of Nice Creates a Smarter Community for Its Citizens

Recent studies estimate that 70 percent of the world's population will live in a city by 2050. To accommodate this increasing number of people, the city of Nice sought to enhance the experience of its citizens by becoming a smarter city. Deputy Mayor, Chris Tordo, looked to Cisco to achieve this goal through the implementation of the Connected Boulevard pilot program.

One of Nice's most prominent boulevards embraced the Internet of Everything (IoE) to become smart. To avoid wasting time in the busy city, citizens can now check their smartphones for the nearest available parking spot. Air quality, noise levels, temperature, humidity, and traffic flow are monitored through an ultra-high broadband network, which generates and analyzes data to enhance the urban experience.

The success of smart city initiatives has resulted in closer partnerships within government departments as broader implementation within the city is considered.

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With the Internet of Everything, the city of Nice now enjoys:

Elimination of silos within government departments

Smart parking and smart street lighting initiatives

"We wanted, obviously, not to be bound to a proprietary solution with hardware or software, and to be able to have it open enough so we can add features and use it as we wish."

Chris Tordo, Deputy Mayor, Nice, France

Government

The City of San Antonio Cuts Costs, Boosts Revenue, and Increases Safety

For some cities, embracing digital transformation can be a challenging, long-term goal. For San Antonio, Texas, the seventh-largest city in the United States, this is far from reality. San Antonio has proactively invested in digital technology as a way to empower its agencies now and in the future.

Through Cisco Smart+Connected™ City solutions, a traffic light control system was installed at city intersections, allowing transportation personnel to monitor and control more than 1,200 traffic lights from a single network-enabled terminal. With networked traffic lights across the city, the synchronization of the system has facilitated smoother traffic flow. In addition, the system provides control of the city's traffic cameras, which provides the San Antonio traffic manager better visibility of traffic activity.

San Antonio's innovative approach to the Internet of Everything (IoE) goes beyond the city's streets. With the Cisco Connected Justice® solution, court hearings between San Antonio residents and municipal court judges can take place using high-quality video conferences at kiosks and link centers throughout the city. This not only helps improve services, but also reduces traffic into city offices. As a way to extend judicial resources, the city also allows constituents to complete other court-related matters such as paying traffic tickets through an online payment mechanism on mobile phones, tablets, and laptops.

Through the IoE, San Antonio has identified practical, cost-saving approaches for smoother, more efficient city operations.

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- United States Army
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The city of San Antonio is benefiting from the Internet of Everything with:

Cost savings from synchronization of traffic lights

A remote court system that drives more efficient delivery of judicial resources and city services

A dramatic reduction in administrative burdens on police officers

"We're using technology more and more to enhance how we deliver services. That's primarily the end goal: to deliver services in a much more efficient way than we have in the past."

Hugh Miller, CTO, City of San Antonio

Government

The City of Seoul Transforms Public Transit into a Profitable Business

When the city of Seoul was unable to provide optimal transportation services, its citizens took to the streets in small cars, which worsened traffic and financial problems. In response, the city sought Cisco's help to improve its public transportation services.

With Cisco's assistance, Seoul transformed a struggling bus system into the backbone of the public transportation system. Bus riders no longer wait at bus stops, they know when the bus is arriving, resulting in both the rise of bus revenues and citizen satisfaction. And because the city is integrated with the emergency management center, heavy snow, rain, and landslides are quickly reported, resulting in real-time announcements of closings and route changes.

Cisco designed a solution that connected previously disparate systems. The city of Seoul can now collect data from streets, buses, taxis, and citizens to better ensure that it delivers an improved public transit experience to its citizens.

Government

As a result of transforming public transportation, the city of Seoul has seen:

Satisfaction rates grow for public transportation from less than 50 percent to 85–90.

Improvement in the transit fare system

"So it is a win-win-win situation, not win-win. I think our system satisfies the citizen, public sector, and bus companies."

Kyung Soon Lee, Director, Seoul City Transportation Information Center

Government

France Becomes Digital to Revolutionize Every Aspect of the Country

Every business, country, and city is becoming digital to capitalize on the unprecedented opportunity brought by next wave of the Internet – the Internet of Everything (IoE). One country leading the way in digital transformation is France.

Cisco is partnering with the French government to foster growth, competitiveness, and employment for the nation. Cisco will power this initiative through the network and the IoE. With a strong traditional infrastructure in place – roads, water lines, buildings, even parking spaces – France is now committing to build out their digital infrastructure, which will help increase productivity, create jobs, and improve the lives of citizens. Cybersecurity will also be enhanced across the country, in businesses and in citizen usage.

Through country digitization acceleration, Cisco® consultants are helping France accelerate, stimulate innovation, and create new jobs. To do this, Cisco is helping them design the nation's innovation possibilities with their range of expertise in education, infrastructure, smart cities, cyber security, and more. With Cisco's Networking Academy program, 200,000 students in the country will be trained in key technologies of the future so French entrepreneurs have the necessary skills to drive the digitization process. New innovation centers are also in development and companies will receive help in developing applications. As a result, this country will fast track execution, access to resources, and best practices in just 90 days, re-creating $720 billion of untapped IoE value and 1.1 million jobs. This transformation will contribute to France's overall global competitiveness by supporting job growth, education, cybersecurity, innovation, and entrepreneurial initiatives in France. It is also expected to lead to a boost in France's Gross Domestic Product by 1-2 percent. This is a chance for France to innovate based on French values – egalitarian peer-to peer Internet architecture – one that creates new digital freedoms and significant socioeconomic growth.

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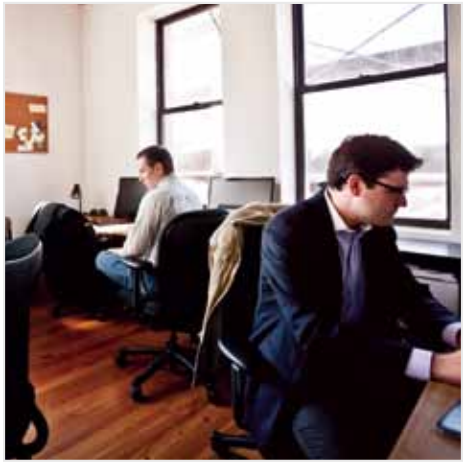
Waterfront Toronto

France is expected to capture value with the Internet of Everything:

200,000 people trained over the course of three years for digital network-based roles

New ways of digitally accessing public services, particularly in rural areas



US$100 million investment in French startups from Cisco

"The Prime Minister was happy about the signing of the agreement, which represents a development opportunity and an avenue for growth, competitiveness, and employment for the country."

John Chambers, Executive Chairman, Cisco

Gujarat International Finance Tec-City Proactively Monitors and Manages the City's Infrastructure Needs for Efficient Citizen Services

Situated on a 900-acre campus between the bustling cities of Gandhinagar and Ahmedabad, Gujarat International Finance Tec-City (GIFT-City) is India's first smart city and is on the rise to becoming India's first global financial hub.

To offer the world-class infrastructure this city envisioned for its stakeholders, GIFT-City needed a robust information and communications technology network that could enable and handle the increasing amount of connectivity in this smart city. To meet that goal, GIFT-City partnered with Cisco to build an IP infrastructure driven by the Internet of Everything (IoE).

Using a robust network infrastructure, Cisco helped GIFT-City integrate its application platform with Cisco® network equipment as well as security and surveillance. A unique feature of this integration is its centralized city command and control center. It intelligently connects, monitors, and manages the use of precious resources such as water and power, and citizen services such as security and surveillance, through one technology platform. By combining the intelligent building management system with the infrastructure management system, this center can ensure users get the best services in utilities and simplifies the operations for city managers. And as GIFT-City strives to be India's first financial hub, the control center also helps ensure it stays connected at all times. With the highly secure and resilient IT infrastructure built for IoE, GIFT-City is slated to become a site for holistic economic growth and a haven for global financial corporations.

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With the Internet of Everything, Gujarat International Finance Tec-City has:

Simplified how city managers monitor and manage the utilities and surveillance of GIFT-City through the command and control center

Saved time and costs on utilities management

"We would like to explore technology as much as possible to provide better services to the citizens."

Nilesh Kumar Purey, VP, IT & Communications, GIFT-City

Government

The Port of Hamburg Creates New Opportunities with Digital Technology

Planning for growth, efficiency and enhancing citizen's quality of life are focus areas for many cities. These were also the key objectives for the backbone of business in Hamburg, Germany: the Port of Hamburg. With the long-term goal of having proactive control of a more intelligent harbor operation, the city turned to Cisco and the Internet of Everything (IoE).

Historically, the Hamburg Port Authority (HPA) relied on four different networks from multiple vendors to perform traffic management and communication. Controlling an array of functions for radar systems, trains, voice communications, and IT, these networks were unable to communicate with each other and were not accessible throughout the port grounds. To reduce costs and improve customer experience, there was a strong need to optimize efficiency of work processes and communications while integrating four disparate networks and deploying new digital capabilities.

By deploying Cisco Smart+Connected™ City solutions including traffic management, smart parking, connected port logistics, smart lighting, and environmental sensors, the Port of Hamburg is increasing trade flows, protecting resources, and improving the citizen experience—all with a projected 70 percent reduction in operational costs over the next seven years. HPA is now working to integrate additional sensors into its systems based on initial findings. They want to place additional and more capable sensors in key hotspots to gain a deeper understanding of what is taking place. The Port of Hamburg is leveraging the IoE to create new opportunities by enabling greater mobility, efficiency, and sustainability.

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The Port of Hamburg captures value in the Internet of Everything with:

More efficient traffic management on water, roads, and rails

Quicker communication between employees by holding video conferences and better collaboration due to shared access to documents

Lower costs thanks to one uniform network and virtualization

"The reality is this: The reason we would look for a holistic model is that we have all this business going through the city, but it impacts the citizens. To create a model where we are able to do this without negatively impacting the citizens and the city itself is our goal."

Dr. Sebastian Saxe, CIO, Hamburg Port Authority

Government

Kansas City Enhances Citizen Experiences Through Digitization

Kansas City, located in the United States, is supplying the digital innovation needed to connect its people, process, data, and things through the Internet of Everything (IoE). The city is poised to create significant new economic value by installing a new technology framework of the future.

A Cisco designed Smart+Connected™ City framework provides a blueprint for using the Internet to improve city life. In its initial phase of deployment, service provider, Sprint, will own, manage, and construct Wi-Fi connectivity along a 2.2-mile Kansas City Streetcar starter line to enable smart lighting, digital kiosks, and sensor technology.

Using a joint intelligent lighting platform designed by Cisco and partner, Sensity, smart lighting will reduce power consumption and support better tracking of energy consumption. To provide citizens with information about local businesses and events, the city will place interactive digital kiosks at Kansas City Streetcar platforms and other locations around the downtown area with the help of CityPost.

In addition, new applications are being developed through a Living Lab partnership between Cisco and Think Big Partners. This will create opportunities for entrepreneurs to build high-growth companies, partner with larger companies, and help Kansas City realize financial and social benefits of the IoE.

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Kansas City is expected to capture value with the Internet of Everything:

Long-term goals to bring on collaborators in private sector, real estate, sports and entertainment, and academia

Application developers take available digitized city data to create new apps that address citywide challenges

Creation of a global urban marketplace for buyers, sellers, and citizens

"The agreement we are entering today will improve the livability, connectivity, efficiency and economic vitality of Kansas City in ways we cannot yet even imagine, and for generations to come,"

Sly James, Mayor, Kansas City, MO

Government

LINZ AG Connects People, Trams, and Data to Deliver an Outstanding Passenger Experience

Cities around the world are continuously looking for ways to stand out from the crowd and provide enhanced experiences residents and visitors alike. Linz, Austria is a popular tourist destination known for its beauty and rich history. LINZ AG TELEKOM (LINZ AG) is part of the technical services arm of the City of Linz, producing and distributing energy, power and water, supporting network services for the hospital and city government, operating public transportation in the city, and providing multiple additional communal services to the people of Linz and its surroundings. The leaders had an innovative vision for city transit, wanting to further digitize transit operations, rethink core processes, and embrace the Internet of Everything (IoE) as it upgraded the city tram system.

Through an existing strategic relationship with Cisco spanning over a decade, LINZ AG built upon their existing Cisco® network. They leveraged the network's agility and simplicity to incorporate new security, mobile, and analytics technologies that could help achieve their goals and gain greater business insight. LINZ AG began their digital transformation by upgrading analog systems and serial connections to digital and fiber connectivity. Tram stations are connected to the network and new video security solutions work intelligently with existing network and cybersecurity solutions to protect the network, devices, applications, users, and data.

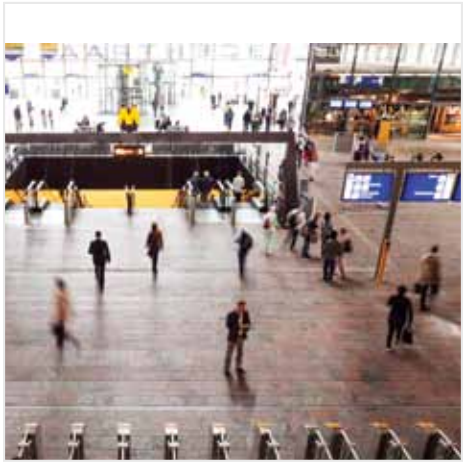
LINZ AG's 56 trams now provide free public Internet services and notify passengers of delays and alternative routes. 400 new ticketing machines support cash or credit card transactions while being monitored and managed from a central location saving technicians hours of time and eliminating return trips for correct parts when fixes are needed. Data from connected trams and existing data sources can now be analyzed in real time, enabling LINZ AG to optimize traffic flow and improve schedule accuracy. By connecting trams, data, and people, LINZ AG can gather, analyze and apply data to improve processes and innovate further.

Government

With the Internet of Everything, LINZ AG has:

Increased tram efficiency and performance while reducing energy consumption by 10 percent

Reduced CO2 output by 85 tons in just nine months



Simplified maintenance on ticketing machines

"People regard the Internet of Everything as a certainty and are excited about it. Our leaders are actively involved in seeking new insights and innovation for Linz, and the Internet of Everything is integral to their vision. It will change society."

Michael Langerreiter, Project Manager, LINZ AG TELEKOM

Government

Navi Mumbai Municipal Corporation Improves Citizen Security

Due to the current urbanization boom, India will have close to 250 million people migrating from villages to cities within the next 15 years. Navi Mumbai Municipal Corporation has emerged as one of the best planned cities in India, with the Internet of Everything (IoE) playing a crucial role in connecting its people, process, data, and things. Navi Mumbai has experienced a rapid population growth, resulting in citizen safety as a top priority. Navi Mumbai partnered with Cisco to transform the way the city protects its people, properties, and infrastructure.

Using a Cisco® IP-based city surveillance system and analytics, Navi Mumbai can now record footage at various points in the city and analyze it instantly. Running on a Cisco network, this solution provides live camera updates and alerts so that security breaches are not missed due to human error or oversight. By integrating the CCTV command center with the local police control room, local authorities can use the recorded footage to help prevent accidents. Officials can also more effectively manage traffic and investigate criminal incidents. With its new infrastructure, Navi Mumbai is a more connected city, using digital technology to increase public safety.

Government

Navi Mumbai Municipal Corporation benefits from the Internet of Everything with:

Increased efficiency through greater connectivity and remote access to safety and security information

Greater crime prevention through a smart and connected video-based surveillance system

Better management of the city's safety and security services

"The implementation of a holistic and integrated surveillance system and its easy integration with existing security systems has helped enhance the safety and security of life and property in the city."

Sagar Dynaneshwar Naik, Mayor, Navi Mumbai Municipal Corporation

Government

San Mateo County Boosts Revenue While Reducing Traffic and Emissions

San Mateo County, located in California, had a transformative vision for government services that would bring technology and connectivity to all areas of the county. With key trends in the Internet of Everything (IoE), such as open government and big data, the county saw an opportunity to partner with Cisco, along with state and city organizations, to use the IoE to transform parking, traffic control, and digital signage.

With Cisco Smart+Connected™ City solutions, Cisco helped San Mateo County improve its governance, city operations, and citizen experience. Connected to Cisco® wireless routers, parking sensors are embedded in the pavement of select parking spaces to detect when a space is available. By bringing this data online, citizens can access parking availability information in real time through a mobile application, reducing the time it takes to find parking. To improve traffic flow, San Mateo County's communication centers use sensors and closed-circuit television cameras to monitor traffic volume and speed at various locations. By connecting communication centers with real-time traffic information, San Mateo County can display traffic conditions and alternative routes through digital signs to help citizens plan their commute.

Together with state and city organizations, Cisco is connecting new things and data to the people and processes of San Mateo County. The IoE has enabled San Mateo County to positively impact quality of life for its citizens.

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San Mateo County is benefiting from a more connected community with:

Improved Internet access throughout the county, benefiting government workers, cities, citizens, and businesses

Reduced traffic congestion from citizens easily able to find open parking spots

More efficient updating and management of signs and traffic signals

"We want to take advantage of some of the trends that are going on right now with open governments, big data, and broadband connectivity."

Jon Walton, CIO, San Mateo County

Government

Sichuan Improves Healthcare and Education

After the devastating 2008 earthquake in Sichuan Province, China, many schools and hospitals that were located in rural areas were destroyed. To help restore and transform vital services in the region, Cisco and the Chinese government formed a strategic partnership through a program called Connecting Sichuan. Through the Internet of Everything (IoE), the program brought together the right people, partners, processes, and technologies to transform healthcare, education, and the workforce.

To rebuild and transform healthcare in Sichuan, Cisco deployed a networked medical delivery system that could enable providers throughout the healthcare system to interact and share resources. By installing high-bandwidth, medical-grade networking equipment, networked applications improved operational efficiency and hospital management. Newly built data centers and a WAN now connect rural areas to full-service hospitals and China's Department of Health resources across Sichuan. The result is that patients now have access to advanced care and treatment options. With the help of Cisco TelePresence® video conferencing technology, doctors can also meet and examine patients remotely.

And transformation did not stop at healthcare. Chinese officials were quick to realize that rebuilding Sichuan would provide an excellent opportunity to transform local schools into digital models for 21st century education. Working with Cisco and select Cisco® partners, the government installed 1,140 multimedia classrooms and created education clouds to connect schools and centralized resources and services. Teachers now have the power to integrate more creativity into their courses and use collaborative resources in the cloud to share lesson plans and ideas.

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With the Internet of Everything, the province of Sichuan now delivers:

Holistic and collaborative healthcare

Advanced education and equalizing opportunities in rural and urban communities

"As a result of this program, advanced networked infrastructures were built to facilitate the post-quake reconstruction and sustainable development, especially in the areas of education and healthcare."

Huang Xiaoxiang, Vice Governor of Sichuan

Government

Singapore Employs Digital Connections as a Foundation for a "Smart Nation" Vision

Since achieving independence in 1965, Singapore has developed into an economic powerhouse and continues to grow and innovate as a world-class hub for trading and logistics, smart manufacturing, and biomedicine.

Singapore's vision is to become the world's first Smart Nation. The country continually seeks to develop a technology-savvy public, promote technological education, and support industrial development and entrepreneurial interests. To further that vision and simplify how public and private sectors can innovate together, Cisco helped the Singapore government connect nearly 99 percent of its residences to an ultra-high-speed fiber-optic Nationwide Broadband Network.

In addition to the broadband network, Cisco also helped with the establishment of wireless hotspots throughout the country. Known as Wireless SG in Singapore, this program offers Internet-based services in areas frequented by students, tourists, professionals, and business travelers with portable devices. Upon registration, users can connect at any hotspot within the coverage area regardless of the operator network. Login methods include SIM-based authentication, Seamless and Secure Access, and HTTP-based Login.

With a robust and future-proof infrastructure foundation, Singapore hopes to pioneer a new tech industry in Smart Nation capabilities. This will include developing creative talent in data analytics and other disruptive technologies, such as smart robotics, big data, cloud computing, and much more.

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Singapore is creating a smarter nation with:

Nearly ubiquitous connectivity

Improved efficiency

Interoperability of strong industry players

Government

The United States Army Builds a Digital Infrastructure for the Protection Force of Tomorrow

The Internet of Everything (IoE) continues to advance the way we communicate, turn data into insight and enhance our digital experiences. A prime example of such advancement takes place in the U.S. Army, where Cisco and Sonim Technologies partnered to transform the communications systems for the U.S. Army training centers in Fort Irwin, California and Fort Polk, Louisiana.

To train and prepare troops for duty, the U.S. Army wanted an off-the-shelf, next-generation communication device that is both sophisticated in its features and functionality, yet tough enough to withstand the demands of military use. By combining Cisco® Instant Connect software with Sonim rugged smartphones, the solution provided the durability, versatility, and reliability the Army was looking for.

Sonim ultra-rugged smartphones can endure extreme weather conditions while providing visibility under direct sunlight and more than 22 hours of LTE-based talk time, and Cisco Instant Connect allows for private push-to-talk calls, online user presence, contact mapping, user priority with preemption, and Land Mobile Radio (LMR) integration for walkie-talkies and two-way radios.

Together, the solution provides secure hyper connectivity of devices, people, data, and processes to create a better-connected experience for soldier development and productivity in the U.S. Army.

Government

With the Internet of Everything, the United States Army achieves:

Better connected experiences for soldier development and productivity

A durable, versatile, and reliable communications system

Government

Waterfront Toronto Enhances the City of Toronto Through Smart and Connected Services

As North America's fourth largest city, Toronto's, finance, education, development, and technology define the economy and drive the region's innovation and prosperity. For the past 15 years, the city of Toronto has embarked on a distinguished urban redevelopment project: Toronto's Waterfront district. The project serves as a blueprint for building a hyper-connected and intelligent community.

A key foundation for Waterfront Toronto's vision is the latest network and communication technology. An ultra high-speed fiber infrastructure fuels the intelligent community and provides a foundation for connecting people, process, data, and things. Waterfront Toronto works with leading technology companies like Cisco and IBM to provide unprecedented innovation and services delivery. Working with these partners, they are improving community performance and experiences. Cisco helped deploy Wi-Fi for the entire Waterfront district. Now, residents, business users, and visitors interact with each other at unparalleled speeds. Intelligent portals and interactive kiosks allow citizens access to real-time tourism, transportation, and community services with Cisco® collaboration products. Smart sensors and surveillance ensure public health and safety for all.

Additionally, Cisco Smart+Connected™ Buildings solution helps residents and business owners optimize performance, reduce energy use, and create personalized spaces. As a result, they won the 2014 Intelligent Community of the Year award. But they're not stopping there. Waterfront Toronto will continue to strive for smarter and more connected cities that connect people, process, data, and things better than ever before.

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With the Waterfront Toronto project, the city of Toronto has:

Reduced energy usage

Interaction between residents, business users, and visitors at unprecedented speeds

Smart sensors and surveillance that promote public health and safety

Healthcare

Children's Hospital of Orange County Leverages Virtual Pediatric Network to Provide World-Class Cancer Treatment

When children are diagnosed with rare forms of cancers, treatments may require numerous surgeries and specialists. Quality treatment requires a team. Today, Cisco® technology is powering a virtual pediatric network that creates a hub to connect leading pediatric oncologists from Children's Hospital of Orange County (CHOC) and five other leading hospital locations.

Since 1964, CHOC has nurtured, advanced, and protected the health and well-being of children through innovative care and state-of-the-art facilities. True to their spirit of innovation, they developed the virtual pediatric network, which leverages Cisco's TelePresence® video conferencing system to connect experts at various locations across the United States. By combining their expertise, hospitals and oncologists work together to bring the best care to patients wherever they may live.

The virtual pediatric network is allowing doctors to collaborate on how to treat children and teens with the most rare forms of cancer. The VPN consortium aspires to link to 200 facilities currently involved in delivery of care to pediatric cancer patients nationwide. With a more digital and connected health system, CHOC is able to improve healthcare by breaking down previous communication limitations.

Healthcare

- **Children's Hospital of Orange County**
- Children's National Medical Center
- Houston Methodist
- Lee Memorial Health System
- Lucile Packard Children's Hospital
- Miami Children's Hospital
- Sault Area Hospital
- University Hospital
- University Medical Center Hamburg-Eppendorf
- University of Virginia Center for Telehealth
- VITAS Healthcare

Children's Hospital of Orange County captures value with the Internet of Everything. They have:

Reduced travel time and costs

Increased access to external clinical and research expertise

Improved efficiency and collective value for the course of patient treatment

"Cisco understands that everything can be connected. It's not an idle claim, it's in their DNA."

Dr. Leonard Sender, Medical Director, Hyundai Cancer Institute at Children's Hospital of Orange County

Healthcare

Children's National Medical Center Provides Safer and More Cost-Efficient Care

Quality, cost-efficient healthcare is a global priority for both healthcare providers and patients. However, for people located in remote areas, accessing this care can be a challenge.

As the largest provider of healthcare for children and young adults in the Washington D.C. region, Children's National Medical Center is committed to providing high-quality, efficient healthcare to both its local region and around the world. To accomplish this, they partnered with Cisco to share knowledge with the Uganda Heart Institute (UHI) through immersive video.

In a new telemedicine room at UHI, doctors use Cisco TelePresence® to interact with Children's National doctors as if they were in the same room. Telemedicine allows Children's National to transform medicine and extend its expertise to remote areas. It can now design, develop, and execute strategies that use digital and telecommunications technologies to improve access to care and outcomes for children throughout the region, the nation, and the world. Through the technology, Children's National doctors have detected critical heart problems and arranged transfer of children to Washington D.C. for life-saving surgery.

With the Internet of Everything (IoE), Children's National is delivering excellent services that better serve their patients.

Healthcare

Children's Hospital of Orange County

Children's National Medical Center

Houston Methodist

Lee Memorial Health System

Lucile Packard Children's Hospital

Miami Children's Hospital

Sault Area Hospital

University Hospital

University Medical Center Hamburg-Eppendorf

University of Virginia Center for Telehealth

VITAS Healthcare

With the Internet of Everything, Children's National Medical Center has:

Prevented thousands of unnecessary patient transfers

Collaborated with the UHI on the care of hundreds of children

Provided patients with safe and cost-efficient care

"The Internet of Everything creates new opportunities in the healthcare system by allowing us to get information faster and more accurately and to be able to share a large amount of information and provide patients with safer and more cost-efficient care."

Dr. Craig Sable, Pediatric Cardiology, Children's National Medical Center

Healthcare

Children's Hospital of Orange County

Children's National Medical Center

Houston Methodist

Lee Memorial Health System

Lucile Packard Children's Hospital

Miami Children's Hospital

Sault Area Hospital

University Hospital

University Medical Center Hamburg-Eppendorf

University of Virginia Center for Telehealth

VITAS Healthcare

Houston Methodist Leverages Wireless Technology to Improve Process, Patient Experiences, and Safety

Hospitals understand the importance of collecting and using data from connected devices to make better clinical decisions. Houston Methodist is no exception. They are leveraging digital transformation and the Internet of Everything (IoE) to change the way they deliver care to patients.

Houston Methodist is a renowned Texas-based healthcare center that includes a 500,000 square-foot research institute in addition to five hospitals. It is a center for medical discovery and teaching as well as a leader in IT innovation in the healthcare field. In the spirit of innovation, they sought a way to deliver high-definition video at bedsides along with efficiently managing their growing wireless traffic. Houston Methodist chose Cisco as a strategic partner to deploy wireless technology and improve process, patient experiences, and safety with connected devices. To service such a volume of wireless traffic, Houston Methodist employed Cisco® Wireless Controller and more than 3,000 Cisco Aironet® Access Points. To control and manage the network, both wired and wireless, the hospital migrated their infrastructure to the Integrated Cisco Prime™ Infrastructure.

Now, clinical teams can easily communicate between each other, caregivers receive information promptly on their connected devices, and nurses are able to quickly reach and share information with physicians to ensure the best possible care. The IoE is helping Houston Methodist meet patient care expectations and improve patient safety.

Healthcare

Children's Hospital of Orange County

Children's National Medical Center

Houston Methodist

Lee Memorial Health System

Lucile Packard Children's Hospital

Miami Children's Hospital

Sault Area Hospital

University Hospital

University Medical Center Hamburg-Eppendorf

University of Virginia Center for Telehealth

VITAS Healthcare

Houston Methodist is leading transformation with:

More efficient delivery of diagnostic images and treatment plans to patients and families

Improved wireless user experiences and prolonged battery life for client devices

"In today's healthcare, wireless technology is becoming key to our success in our ability to provide leading medicine."

Darby Dennis, VP of Clinical Informatics and Systems, Houston Methodist

Lee Memorial Health System Connects with Patients in Real Time

Digital capabilities such as telehealth are changing how healthcare is delivered and population health management is improving how patient data is managed. With a focus on enhancing the patient experience, healthcare providers, such as Lee Memorial Health System, are leveraging new digital tools and connecting people, process, data, and things to change how the healthcare industry operates.

With over one million patient contacts each year and multiple hospitals, physician offices, and facilities, Lee Memorial is one of the largest public health system in the state of Florida. Ensuring caregivers have full knowledge about their patients at all times, Lee Memorial requires seamless, clinically integrated access to patient information no matter where the data resides. But with different automation requirements at each of Lee Memorial's healthcare locations, connecting caregivers with a full view of patient data was a challenge. To simplify how patient data gets connected to the right people, process and things, Lee Memorial turned to Cisco, Dimension Data and the Internet of Everything (IoE).

By connecting IT and Cisco® video technology with clinical information systems, Lee Memorial's Epic Electronic Health Record system now runs on an agile network, delivering real-time insight into each patient's condition, history, and care protocols. Combined with Lee Memorial's Telestroke video technology design and Dimension Data's video technology know how, on-call specialists now have remote access to high-resolution video, enabling them to begin emergency care virtually from their home with instant access to a stroke patient's electronic record and CT scan. Additionally, patients can also access medications, visit summaries, and communicate with providers electronically through the "My Chart" capability on a laptop, tablet or phone.

By seamlessly connecting physicians with patient data across their entire healthcare system, Lee Memorial is improving their processes while enhancing the patient experience.

Healthcare

With the Internet of Everything, Lee Memorial Health System has:

Increased patient satisfaction

Mitigated risk

"Physicians can see the video and the CT scan that was taken 20 minutes ago from their home. It allows us to deliver care anywhere from 10 to 45 minutes before a drug called tPA is administered. That can make the difference between the patient being able to walk out of the hospital and suffering much less desirable outcomes."

Michael W. Smith, Chief Information Officer, Lee Memorial Health System

Healthcare

Lucile Packard Children's Hospital Expands Access to Pediatric Care in the San Francisco Bay Area

In many rural areas and developing countries, pediatric doctors and specialists are scarce. Consequently, it is extremely difficult for sick children to meet with specialists. To see a doctor, children must often travel long distances, at great cost to both their family and the child's health. To address the global shortage of pediatric specialists, Lucile Packard Children's Hospital partnered with Cisco to deliver specialist care remotely through the Connected Healthy Children Initiative.

In 2012, the hospital became the first to enable remote clinical interactions for pediatric care using Cisco HealthPresence® technology. The hospital uses high-quality video conferencing and network-connected medical devices to route clinical data from patient to doctor for immediate access. A network-enabled patient care system also includes electronic patient records and automated healthcare applications to improve the efficiency of collecting and managing information.

Taking advantage of the Internet of Everything (IoE) to make the world a healthier place, Lucile Packard is also a member of the virtual patient network. This network allows doctors to collaborate on how to treat children and teens afflicted with rare forms of cancer.

Healthcare

Lucile Packard Children's Hospital is significantly improving patient experiences:

Children experience a 60 percent drop in wait times to see doctors—from months to weeks

300 pediatric patients receive care-at-a-distance from pediatric specialists each month

54 percent of patients choose to schedule a video consultation to see a doctor sooner

"The bottom line is that telehealth allows us to provide high-quality, collaborative care that is accessible to our patients in their own communities. What we've achieved since the telehealth sessions began is wonderful."

William Kennedy, M.D., Pediatric Urologist, Lucile Packard Children's Hospital

Healthcare

Miami Children's Hospital Ranks Among the Top Children's Hospitals in the United States

In the increasingly competitive healthcare industry, Miami Children's Hospital (MCH) knew that digitizing the patient experience and clinician support was essential to maintaining its top-ranked position. Cisco and Gold-Certified Partner, Presidio, helped MCH take patient care and staff efficiency to the next level with the Internet of Everything (IoE).

Built on a Cisco® Unified Wired and Wireless Network, mobility software and location analytics help MCH deliver the right information to the right person at the right time. Medical staff can now monitor and analyze traffic patterns throughout the hospital to improve productivity and convenience for employees and guests alike. To further improve patient and visitor experiences, Cisco mobility solutions helped enable the development of MCH's unique app, Fit4KidsCare. This app offers patients and their families a convenient way to navigate the hospital, order room service from the hospital cafeteria, buy items from the gift shop, and play interactive games.

Healthcare

Miami Children's Hospital transforms patient experience by:

Enhancing healthcare through expanding clinician access to patient information

Enriching patient and visitor experiences through wireless Fit4KidsCare apps

Empowering patients and families through incorporating information into medical care

"The Internet of Everything has become a critical piece of our strategy. We want to be able to integrate people, process, data and things across the board for a lot of different reasons. Without Cisco, none of this would have been possible."

Ed Martinez, SVP and CIO, Miami Children's Hospital

Sault Area Hospital Taps Digital Technology to Cut Costs and Provide Simpler Management of Buildings, People, and Information

Serving a population of approximately 115,000, Sault Area Hospital (SAH) wanted to simplify operations and reduce staff workload, while improving the overall experience for patients and doctors. To do this, the hospital deployed an infrastructure that features a common platform for patient care and is designed to support patient and business processes, all coordinated through and layered upon a single network.

By integrating the daily management of utilities, surveillance security, telephony, and patient monitoring into an IP network, SAH simplifies operations and reduces workload for staff. Patient histories, provider-to-provider communications, administration, and building management functions are centralized in a secure, remotely accessible data center. The network creates a secure platform for ongoing transactions among medical providers, administrative staff, and pharmacy personnel. It also offers simple and secure methods to share patient histories with physicians outside the hospital.

SAH also actively collaborates with the Ontario Telemedicine Network as a provider and in training events. Patient data is secured in a central database, rather than stored on mobile devices or desktops, and is easily accessible to authorized personnel wherever they are. The network provides Wi-Fi connections for public and internal use. It integrates a wired and wireless telephone system in place of a traditional paging system.

The Internet of Everything (IoE) is enhancing Sault Area Hospital's ability to offer state-of-the-art healthcare with an integrated patient experience.

Healthcare

Children's Hospital of Orange County

Children's National Medical Center

Houston Methodist

Lee Memorial Health System

Lucile Packard Children's Hospital

Miami Children's Hospital

Sault Area Hospital

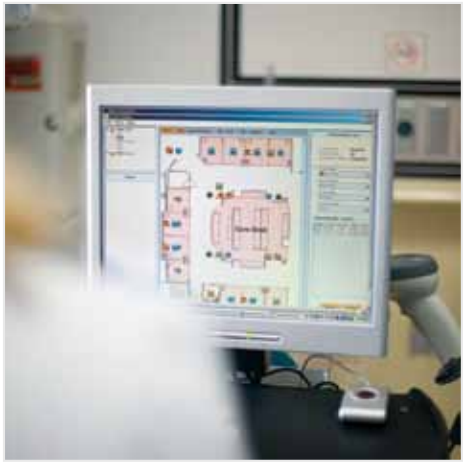
University Hospital

University Medical Center Hamburg-Eppendorf

University of Virginia Center for Telehealth

VITAS Healthcare

With the Internet of Everything, Sault Area Hospital has:



Simplified management of its building, people, and information

Saved money and energy through lighting and climate-control functions in the network

The ability to offer state-of-the-art healthcare with an integrated patient experience

"Everything is connected, right down to the incoming power feeds in the system. All the cooling, heating, and power controls are network-connected, and the team is able to manage that."

Chad Carter, Enterprise Architect, Sault Area Hospital

Healthcare

University Hospital Defends Against Known Intrusions, Zero-Day Attacks, and Advanced Persistent Threats

As the digital threat landscape continues to increase in complexity, businesses need to continuously evolve and innovate to stay ahead. Compounding the difficulty, security experts are both hard to find and prohibitively expensive. To overcome these challenges and sort through the mountain of security incident data it collected each day, one American university hospital turned to Cisco.

To improve the hospital's network security, Cisco brought in experts to collaborate on a physical and virtual solution. They integrated Cisco® machine learning algorithms and predictive analytics with third-party software and equipment. This enabled Cisco's managed security team to monitor and analyze network-based data and security analytics to detect anomalous behavior and manage the hospital's network operations.

With this solution managed onsite by Cisco, the university's security team was able to significantly reduce the amount of work needed to cull through the security incidents detected each day. Overall, Cisco has helped the university's security team progressively speed detection and remediation of cyber attacks, creating a safer environment for employees, patients, and staff in today's increasingly digital world.

Healthcare

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Children's National Medical Center

Houston Methodist

Lee Memorial Health System

Lucile Packard Children's Hospital

Miami Children's Hospital

Sault Area Hospital

University Hospital

University Medical Center Hamburg-Eppendorf

University of Virginia Center for Telehealth

VITAS Healthcare

This university hospital secured their operations for:

Significant improvement of identification of severe security incidents (it filtered 300,000 events to 71 confirmed breaches that required action in a two-week period)

Improved threat defense using a Cisco threat intelligence network

Healthcare

University Medical Center Hamburg-Eppendorf Harnesses Digital Transformation to Improve Quality of Life for Young Patients

For children who miss school because of extended or severe illnesses, physical recovery is just one of the obstacles they face. Often, they fall behind in their studies and suffer feelings of isolation due to time spent away from friends and classmates, slowing recovery and dampening their spirits. Seeing an opportunity to help, doctors and psychologists at the University Medical Center Hamburg-Eppendorf (UKE) have turned to technology to enrich quality of life for pediatric cancer patients who cannot physically attend school and enjoy normal day activities.

Working with Cisco, UKE is transforming the patient experience by changing the processes in which patients connect to life outside of the hospital. Cisco® partner avodaq AG, a German IT communications and infrastructure solutions provider, created an open and secure BYOD solution and collaborated with UKE and the Charitable Association Children's Cancer Center to bring it to life. Combining a Cisco wireless controller, camera, and microphone in an avodaq-designed robot, patients can join their classroom lessons virtually from home or the hospital on any personal device such as a laptop or tablet. Leveraging this technology, teachers and students are able to interact with their remote classmates in daily activities including music lessons, math instruction and social interaction, all over a secure broadband connection. Supported by the Cisco network, the solution is highly secure.

By using technology to change the process through which patients experience their lives while undergoing treatment, University Medical Center Hamburg-Eppendorf is embracing the Internet of Everything (IoE) to enhance quality of care and life for young patients.

Healthcare

With the Internet of Everything, University Medical Center Hamburg-Eppendorf has:

Reduced the feelings of isolation experienced by the patients

Created engagements for patients and their families

"We must not forget our true mission...This mission is to create quality of life."

Dr. Christian Gerloff, Vice Medical Director, UKE Hamburg

Healthcare

University of Virginia Center for Telehealth Extends Quality Care to Medically Underserved Areas

Providing timely access to specialty medical services in remote areas is a challenge for healthcare providers worldwide. As a leader in regional, national, and international telehealth programs, the University of Virginia (UVA) took on this challenge and pioneered a solution for patients in the state of Virginia and around the world.

Using Cisco® video and remote monitoring equipment, UVA Center for Telehealth now provides medical examinations and services in 40 specialties, including psychiatry, cardiology, pediatric specialties, child neurology, orthopedics, and general studies. In addition to serving patients throughout Virginia, the UVA Center for Telehealth has expanded its programs to medically underserved areas in Latin America, the Caribbean, Africa, and other worldwide destinations.

Using Cisco telehealth solutions, physicians can consult with one another and share documents to get immediate opinions and assistance, instead of physically moving about the hospital, which can disrupt their work and reduce productivity. From Spanish tele-interpretation services to video consultations and virtual meetings for executives, the center continues to explore ways to optimize patient care and contribute efficiency to the work of UVA's many professionals.

By helping to digitize services, the Internet of Everything (IoE) extends healthcare resources to save time, money, and travel. It accelerates healthcare delivery, increases access to specialty services, and provides educational training to physicians. UVA takes advantage of the IoE to digitally transform its healthcare delivery.

Healthcare

University of Virginia Center for Telehealth is benefitting from the Internet of Everything. They:

Increased access to healthcare resources

Accelerated healthcare delivery

Saved time and travel expenses of up to US$8.9 million

"We're going to change our relationship of where we go, so our connections are going to expand from clinics and hospitals to homes, to places of work, to schools."

David Gordon, Director, University of Virginia Office of Telemedicine

Healthcare

VITAS Healthcare Keeps Caregivers Connected by Delivering High Quality Care for Patients and Their Loved Ones

With 80 percent of hospice care being provided in-home or at a residential care facility, flexibility and access to patient information is essential for VITAS Healthcare.

VITAS Healthcare, a pioneer and leader in the hospice movement since 1978, is the largest provider of end-of-life care in the United States. VITAS identified mobile technology as the key to better connecting patients and caregivers, securely. Due to fast growth, the company devised a strong, consolidated network by standardizing on Cisco® network and communication solutions. Today, VITAS gains the stability and visibility needed to introduce new applications that bring together patients, families, and top-quality healthcare services.

VITAS standardized wired and wireless networks on Cisco networking infrastructure and rolled out thousands of mobile devices to their staff. Secure, reliable mobile access is leading to faster coordination of care logistics, immediate access for selecting and generating patient specific consent forms, and new sync methods that transfer critical data within milliseconds. VITAS also worked to reduce the security risks to their network and protect their patient's personal information from cyber-attacks with the deployment of malware detection and geoblocking using Sourcefire.

Cisco is helping VITAS securely connect patients, caregivers, services, and data through the Internet of Everything (IoE).

Healthcare

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Houston Methodist

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Lucile Packard Children's Hospital

Miami Children's Hospital

Sault Area Hospital

University Hospital

University Medical Center Hamburg-Eppendorf

University of Virginia Center for Telehealth

VITAS Healthcare

With the Internet of Everything, VITAS Healthcare is experiencing:

Reduced device cost of connecting caregivers by more than 18 percent

Improved performance on 60,000 calls quarterly with data

Reduced deployment time for mobile applications from months to one week

"With Cisco and the Internet of Everything, we are applying their best practices to healthcare and connecting our people and data more intelligently than ever."

Patrick Hale, SVP and CIO, VITAS Healthcare

Manufacturing

Benteler Automobiltechnik GmbH Automates Plants and Processes to Maintain Competitive Advantage

Leading manufacturers are racing to harness the possibilities being created by digital transformation. When every tool and part is connected to the network and production processes can be analyzed and controlled from the cloud, factories are able to achieve better outcomes, faster changeovers, and tighter cost controls. As more seamless ways to connect people, process, data and things have emerged, automotive manufacturers such as, Benteler Automobiltechnik GmbH, are taking giant steps toward evolving its factories.

German-based Benteler operates 70 plants in 29 countries, and nearly every major automaker worldwide relies on their components. To make its factory floors more agile and efficient, Benteler created a fully modular next-generation production environment of automated, self-running plants with the help of Cisco and its extensive ecosystem of partners.

With Cisco's Application Centric Infrastructure (ACI™) and ruggedized routers and switches, Benteler's new production environment is powered by a robust foundation. In order to connect the tools, parts, and belts in each factory to each other and to a central location, Benteler worked with Cisco® Partners nemetris and CANCOM DIAS. Together, they built the appropriate applications through fog computing and cloud, as well as integrated hardware and software components to provide Benteler with an easy to manage, end-to-end solution.

By connecting every aspect of the factory together, Benteler will soon realize better outcomes, faster changeovers, and increased operational efficiencies with the Internet of Everything (IoE).

Manufacturing

With the Internet of Everything, Benteler Automobiltechnik GmbH will soon realize:

Faster changeovers

Increased operational efficiencies

"The advantage we get from the Cisco Partner Ecosystem is seamless integration between the hardware components and the software side. To get this out of one ecosystem, that is a significant value for us as a customer."

Alexander Stamm, CIO, Benteler Automobiltechnik GmbH

Manufacturing

Bosch Connects Industrial Tools for Improved Quality and Safety in the Factory

To achieve the highest quality standards in industrial manufacturing, connecting tools, people, and processes on the plant floor is key. Recognizing the advantages of a connected factory, German multinational engineering and electronics company, Bosch, partnered with Cisco to improve product quality and worker safety.

Today, Bosch's tools are fully connected and generating production data. With information on the tools' location, calibration state, and other context, workers now have a detailed overview of the conditions of their tools at all times. As a result, Bosch has automated a number of routine tasks such as the replacement of worn parts on power tools. Bosch is also able to record the torque used to tighten hundreds of thousands of bolts and to store that information for quality, tracking, and traceability. This provides workers with clues as to the possible causes of torque faults and improves overall quality. These new connections are also aiding in error avoidance. If a worker tries to use a tool mistakenly for the wrong task, the tool automatically powers itself down to avoid a potentially critical manufacturing mistake.

Cisco is providing the precision location identification of the tools. Bosch supplies the cordless nutrunner used to track the tools, and Bosch Software contributes to the software used to gather and evaluate data. Working in partnership with Cisco, Bosch is harnessing digital technology to improve the safety of its workers and the quality of its products.

Manufacturing

Benteler Automobiltechnik GmbH

Bosch

Device Manufacturer

FANUC

Mahindra and Mahindra

Panasonic

Shelburne Vineyards

Stanley Black & Decker

Sub-Zero

TATA Motors

Trident Group

Bosch created a connected factory with the Internet of Everything, achieving:

Increased efficiency and competitiveness and a lower number of errors

Increased safety for workers

Cross-industry cooperation and universal use of tools from open standards

"Connected tools contribute not only to product quality and safety, but also to making production more efficient, which improves competitiveness."

Dirk Slama, Project Manager, Bosch

Manufacturing

A Device Manufacturer Assesses the Digital Security of New Products Early in the Lifecycle

As the Internet of Everything (IoE) becomes reality and the number of connections to the Internet proliferate, it's essential that security is built into networks, devices, and applications to protect businesses and consumers from cyber threats. Enabling seamless and secure access across a diverse array of people and endpoints requires careful attention to security. In order to assess the security of these pieces of technology, a device manufacturer called in Cisco.

Cisco® security experts performed a comprehensive audit of all of the manufacturer's client devices and the associated apps and cloud platforms that support them. After assessing the customer's environment for potential avenues of attack, Cisco recommended solutions to close gaps in the manufacturer's security coverage. Cisco increased the manufacturer's understanding and awareness of how the IoE is changing the security challenges of today and influencing remediation plan development and implementation.

Manufacturing

With the Internet of Everything, this device manufacturer:

Identified and remediated vulnerabilities

Avoided expensive reorganization of security infrastructure and initiatives based on information gained in the Cisco device audits

Manufacturing

FANUC Gathers Predictive Analytics and Generates Greater ROI for Customers

Manufacturing plants are running at a much higher capacity utilization than ever before. Often, it is a 24-hour a day, seven days a week operation. With downtime costing plants up to US$20,000 a minute, they cannot afford disruption to their processes. In fact, a single occurrence can cost a plant upwards of US$2 million.

Founded more than 50 years ago, FANUC provides a wide range of automation equipment for automotive components and the general industrial market. FANUC was struggling with lack of visibility into how their customers were leveraging FANUC equipment on the factory floor. The only insight was gained after a problem had already occurred resulting in costly downtime for the customer. After meeting with Cisco and exploring the possible solutions, they saw potential to change their entire go-to-market business strategy. Leveraging the Cisco Intercloud™ solution, FANUC can extract customer data, store it in the cloud, and leverage predictive analytics to remedy any potential problems before it can negatively impact their customers. FANUC leveraged Cisco expertise to influence their customer's IT departments to share their data in the cloud.

By storing their customer's data in the cloud and improving their response time to potential incidences, FANUC is leveraging the Internet of Everything (IoE) to deliver a proactive go-to-market strategy for their customers.

Manufacturing

FANUC is capturing value with the Internet of Everything. They are:

Improving their go-to-market strategy

Saving US$2M in costs from reduced hours of downtime with big data and analytics

"I've been in manufacturing automation for 35 years and what we are working on with Cisco has the potential to have the biggest impact more than anything I've seen in that timeframe."

Rick Schneider, CEO, FANUC

Mahindra and Mahindra Increases Operational Efficiencies and Improves Energy Management

For many manufacturing companies today, the opportunity to connect people, process, data, and things created by the Internet of Everything (IoE) presents a new way to look at factory automation. The opportunity for digital innovation often arises when a company is expanding capacity or building a new production facility. Mahindra and Mahindra, one of India's leading automakers, seized the opportunity to deploy a connected factory of the future at their new Chakan facility.

As they prepared for a brand new plant, Mahindra and Mahindra saw the opportunity to rethink the design of their manufacturing operations for greater flexibility and agility. Combined with their desire to embrace the latest technology, the company looked for a manufacturing process that used digital manufacturing tools and a high-level IT architecture for the plant. With the help of Cisco, Mahindra and Mahindra migrated from a traditional IT system to a dynamic, integrated, real-time and connected environment with unified communications. By automating all aspects of production—from top floor to shop floor, the company provides IT with visibility on all 20,000 IT and operational technology (OT) systems from the command center.

Today, Mahindra and Mahindra have reduced their changeover time on the shop floor and improved quality as a result of discovering issues sooner. Better decisions are made due to more accurate and timely reporting, and connecting people and equipment on the factory floor over Wi-Fi has helped them with higher output. With a connected factory, Mahindra and Mahindra is embracing the IoE for better energy management and increased operational efficiencies, leading the company to produce state-of-the-art, environmentally friendly vehicles of the future.

Manufacturing

With the Internet of Everything, Mahindra and Mahindra has:

Reduced changeover time on the shop floor

Improved quality with the ability to track the manufacturing process in real time

Improved reporting with the ability to drill down to gain a deeper understanding

"There were many parts of the lifecycle journey that we were missing. Now we get this connectivity in a very simplistic way in the Internet of Everything."

VS Parthasarathy, CFO & Group CIO, Mahindra and Mahindra

Manufacturing

Panasonic Partners with Cisco to Enable Digital Solutions Across Numerous Industries

Panasonic understands that reimagining your business for the digital era can lead to new opportunities. With more than 80 percent of its revenue coming from business-to-business (B2B) customers rather than consumers, the company has evolved its vision and strategy to embrace digital transformation by leveraging technology to improve business efficiency and profitability for its customers. Panasonic is incorporating the connection of people, process, data, and things into its digital journey.

As part of this process, Panasonic partnered with Cisco to create end-to-end solutions in key market segments. In the retail environment, Panasonic is connecting the mobile devices in its broad portfolio of intelligent endpoints to Cisco® Enterprise Mobility Services Platform, which supports backend data integration, mobile application management, and application development to help customers accelerate and simplify their mobile application development. To further enhance the customer experience, Panasonic is leveraging Cisco Integration Platform and analytics technology to increase customer engagement and profitability.

In healthcare, Panasonic and Cisco are partnering to create a new “patient media experience”. Leveraging Cisco networking and collaboration technologies, Panasonic can deliver video and interactive content through its devices from the moment patients are admitted to the moment they are discharged.

By partnering to bring relevant, connected solutions to key industries, Cisco and Panasonic will deliver transformative digital experiences to their customers.

Manufacturing

Panasonic is enabling digital solutions. They have:

Increased customer satisfaction

Improved business efficiency and profitability

Increased patient education and delivery of care

"Everyone talks about connected healthcare, but taking it from concept to deliverable and making it deployable – that couldn't be done without Cisco's help."

Jamil King, National Sales Manager, Panasonic

Manufacturing

Shelburne Vineyards Creates Smart Farming on the Vine

As one of the first commercial vineyards in Vermont, Shelburne Vineyards has been operating since 1998. The business is heavily dependent upon the weather and every minute is critical. The vineyard turned to digital technology and the Internet of Everything (IoE) to better understand and predict all of the elements that go into producing the best product possible.

Shelburne Vineyards installed a sensor system that monitors temperature, air, soil, degree of wetness of the leaves, and humidity every two minutes. This data is uploaded to a Cisco® cloud for analysis, which then provides the vineyard needed information to make crucial management decisions. Shelburne Vineyards can compare temperature profiles from year to year to determine the best time for harvest, when to spray to prevent disease, and how to pioneer new grape varieties.

With digital transformation, Shelburne Vineyards can turn the data collected by newly connected sensors into predictable quality to improve their wine-making processes, and to provide the highest quality product to their consumers.

Manufacturing

Shelburne Vineyards uses smart farming to:

Provide the highest quality product to consumers

Improve decision-making based on analytics

"This technology could improve the entire spectrum of agriculture; the quality of the food supply, yields, taste, disease resistance ... agriculture would be more effective in feeding our ever-growing population."

Ken Albert, Owner, Shelburne Vineyard

Manufacturing

Stanley Black & Decker Turns to Cisco for Visibility and Productivity Gains

Stanley Black & Decker strives to integrate technology solutions into business operations. With 40 multiproduct manufacturing lines, producing millions of power tools each year, they needed a strategy to manage this scale of production and manufacturing complexity. To do this, they turned to the Internet of Everything (IoE) and partnered with Cisco and AeroScout.

Powered by a Cisco® robust wireless network and AeroScout Industrial's leading enterprise visibility solutions, Stanley Black & Decker's plant in Reynosa, Mexico became a fully connected production line with Real-Time Location System (RTLS). The RTLS includes small and easily deployed Wi-Fi Radio Frequency Identification (RFID) tags that attach to virtually any material and provide real-time location and status to assembly workers, shift supervisors, and plant managers through tablets and smartphones. With real-time visibility into track production, floor managers are constantly aware of each line's output, whether production needs to increase or decrease to meet daily targets, and how quickly employees are completing their respective stages of production. Now thanks to the IoE, Stanley Black & Decker can better understand how to increase efficiency, lower the costs associated with housing and managing that inventory, and offer greater customer service by providing accurate delivery schedules.

Manufacturing

Benteler Automobiltechnik GmbH

Bosch

Device Manufacturer

FANUC

Mahindra and Mahindra

Panasonic

Shelburne Vineyards

Stanley Black & Decker

Sub-Zero

TATA Motors

Trident Group

With the Internet of Everything, Stanley Black & Decker is experiencing:

24 percent improvement in overall equipment effectiveness (OEE) in its router line

Improved labor utilization from 80 to 92 percent

A reduction in labeling error rates by 16 percent and inventory holding costs by 10 percent

"With the help of the Cisco and AeroScout Industrial solution, we are on our way toward realizing our vision of a virtual warehouse and fully connected factory, with complete visibility and traceability."

Gary Frederick, CIO Industrial Division, Stanley Black & Decker

Manufacturing

Sub-Zero Accelerates Product Design, Streamlines Field Service, and Improves Production Uptime

A leading manufacturer of luxury appliances, Sub-Zero, consistently looks for technological innovation to stay competitive. When faced with its largest product roll-out in company history – 60 new appliance models across refrigeration and its premium cooking brand – they looked to Cisco, Librestream, and the Internet of Everything (IoE) to aid the design, launch, and ongoing manufacture of its new products.

To effectively support the massive new product design, Sub-Zero looked to connect people in new ways by enabling employees to stay connected with external suppliers and partners through continuous communication and collaboration. Using Cisco TelePresence® and wireless technology to connect engineering teams through live video sessions, design and production issues are rapidly resolved resulting in increased productivity. On the manufacturing floor, Librestream's rugged mobile cameras connected wirelessly through the network enable employees to communicate more effectively with colleagues, global suppliers, distributors, and vendors in real time. As a result, Sub-Zero has reduced product introduction cycles by 10-20 percent, reduced production line downtime by five-ten percent and saved approximately US$100,000 to date on field testing.

Overall, Sub-Zero is a prime example of how savvy manufacturers are using the Internet of Everything to rethink product design strategies. By connecting people, process, data and things, Sub-Zero is innovating with service delivery, supply chain collaboration, and competitive advantage.

Manufacturing

Sub-Zero has captured value with the Internet of Everything. They have realized:

10-20 percent time savings in new product introduction cycles

Internal savings in downtime costs of US$2,500 per production line per hour through faster resolution of design or manufacturing issues

Over US$100,000 savings in field testing costs

"It's important for Sub-Zero not only to embrace the Internet of Everything, but to use it to make our product better, and our jobs easier."

Arturo Bonomie, Staff Engineering, Sub-Zero

Manufacturing

TATA Motors Connects People to Vehicles in a Whole New Way

As India's largest automobile manufacturer, TATA Motors relies heavily on innovation and efficient operations to stay ahead of the competition. The company is spread over 170 locations and six plants, so it understands that a stable communication network and a resilient IT platform are crucial to its success.

Partnering with Cisco, they have been able to connect people, process, data, and things more than ever before. Cisco provides end-to-end routing needs, switching devices for better connectivity, and video conferencing products to help the teams collaborate more effectively.

With this digital transformation, fleet owners can monitor their vehicles. Schools can build a web portal showing parents when buses will arrive. The new, "connected car" services include emergency breakdown alerts and usage-based insurance programs. And because TATA Motors recognizes that the Internet of Everything (IoE) will impact every part of the value chain – from sourcing, to the supply chain, to manufacturing where machines can be monitored in real time – it remains agile in the fast-paced environment. As a result, TATA Motors is providing better service to its customers.

Manufacturing

With the Internet of Everything, TATA Motors has:

Decreased expenses with collaboration through video conferencing

Increased customer satisfaction through vehicle data as a service

Increased revenue due to greater efficiency and connectivity

"The Internet of Everything makes the world more efficient."

Jagdish Belwal, CIO, TATA Motors

Manufacturing

The Trident Group Secures and Streamlines Operations with a Digitized Factory Floor

Headquartered in Punjab, India, the Trident Group is a bustling manufacturer with market segments ranging from yarn to chemicals. As India's largest exporter of towels, to clients such as WalMart and Macy's, they have over 13,000 employees across three manufacturing locations. In order to support efficient and secure operations, they needed to harness connectivity on the factory floor.

Today, Cisco® wireless technology works to connect people, machines, and processes within Trident Group. All of the campuses are fully Wi-Fi-enabled and have 24-hour video surveillance. When employees enter the plant, technology captures biometric information such as fingerprints and eye scans. On the plant floor, every tool, machine, and employee is connected with Wi-Fi and collaboration tools such as Cisco TelePresence® and WebEx®. If an employee has a question or problem with a machine, a quick video call to a remote expert can rapidly mitigate the problem and keep production on track. And with data being collected on every machine and employee, analytics can inform maintenance schedules and help predict when problems arise.

To become a fully connected factory, Trident Group turned to Cisco to create a streamlined process, from the minute employees walk in the door, until a final product is shipped to over 70 countries – with security pervasive throughout. With the Internet of Everything (IoE), the Trident Group has bridged the communication gap so that the shop floor can connect with the top floor, allowing heads of the company to make critical business decisions easily.

Manufacturing

With a digitized factory floor, the Trident Group is now:

Increasing reaction times to problems

Improving tenant experience

Saving time and money with instant collaboration

"This organization is spread to various locations so everything needs to be integrated. And there has to be a centralized location from where all of the services will be provided from the IT perspective."

Sanjiv Pant, CIO, Trident Group

Mining & Materials

Dundee Precious Metals

Goldcorp

Dundee Precious Metals Quadruples Production with a Connected Mine

Mining operations have not changed much over the past few centuries. Communicating deep in the mine to gather important information including miners and equipment locations, vehicle status, and product quantities has always been a challenge for mining companies. That is until the Internet of Everything (IoE) helped mining become digital.

International mining company, Dundee Precious Metals, is leading the way in transforming centuries-old mining operations. Today, they have increased production, improved the safety for their miners, enhanced the utilization of their assets, and lowered costs on communications and energy. With a unified communication network, everyone and everything is connected in the mines and in production, so supervisors have complete visibility into the day-to-day operations.

With Gold Certified Partner, Acrodex, Cisco implemented a Unified Wireless Network, including customized phones with push-to-talk capability, and Cisco® Jabber to allow miners and supervisors to talk anywhere, at anytime, on any device. To ensure miner safety, Radio Frequency Identification (RFID) tags are placed on the miners' hats and vehicles to track their location even deep in the mines to ultimately prevent accidents. Thanks to the connected people, process, data, and things, Dundee Precious Metals and Cisco are improving safety and the bottom line.

Mining & Materials

Dundee Precious Metals

Goldcorp

With a connected mine, Dundee Precious Metals has:

Quadrupled production from 0.5 million to 2 million tons annually

Saved US$2.5 million in long-distance costs over two years

Improved miner safety by connecting blasting systems with location-tracking systems

"The evolution of the mining industry is under way. The Internet of Everything is helping to enhance safety, increase production, and optimize resources based on real-time information."

Mark Gelsomini, Corporate Director of IT, Dundee Precious Metals

Mining & Materials

Dundee Precious Metals

Goldcorp

Goldcorp Enhances Workplace Safety and Boosts Efficiency

Employee safety and efficiency are top-of-mind priorities for mining operators throughout the world, including one of the world's fastest growing gold producers. Goldcorp is embracing the Internet of Everything (IoE) in the Élénore mine in Quebec to build the mine of the future for safer mining operations.

Goldcorp looked to technology to deliver improved visibility and management over its operations, regardless of location. Goldcorp chose Cisco to deploy a Connected Mining solution. Now, Goldcorp can manage its communications and mining operations on one highly secure, multiservice IP network. Built to withstand harsh conditions, the solution delivers unified, highly secure access from any device and any location. At the heart of the solution is a robust underground Cisco® network that can enable the firm to track people and equipment at all times. This solution helps Goldcorp immediately respond to emergencies, locate equipment, and manage its energy usage and costs with ventilation on demand.

The firm added several components from Cisco partners, including an intelligent ventilation system to conserve energy and improve airflow. Automated fan systems respond to signals emitted from AeroScout Industrial's radio frequency tags, which are tracking devices worn by all underground employees and installed on 80 pieces of underground machinery. With the combined solution, Goldcorp can track real-time locations of both employees and machinery, and measure air quality for optimum working conditions. With a more connected mine, Goldcorp is dramatically improving the efficiency of its operations.

Mining & Materials

Dundee Precious Metals

Goldcorp

With the Internet of Everything, Goldcorp has:

Reduced energy costs between $1.5 and $2.5 million per year

The ability to locate employees in the event of an emergency 45 to 50 minutes faster than before

Near real-time insight into the status and location of equipment

"It's important to use and maximize technology wherever we can so that we can improve safety, quality, efficiency, productivity, and cost. Everyday we wake up and we find ways of doing things better and smarter, and this is a living example of achieving that objective."

Guy Belleau, SVP Mine General Manager, Goldcorp Éléonore

Barilla Gives Consumers Insight into the Journey of Their Food

Consumers today expect more transparent communication and social responsibility from the companies they do business with. Barilla Group, the makers of Barilla brand pastas and sauces, is embracing the Internet of Everything (IoE) to provide consumers the ability to trace the entire chain of production for the ingredients in their food, from where it was grown to how it arrived on the store shelf.

Barilla worked with Cisco, Penelope S.p.A. and NTT DATA to implement a new technology platform called Safety for Food (S4F). Powered by the software ValueGo®, the platform enables consumers to scan a QR code on the back of limited edition Farfalle Pasta and Tomato and Basil Sauce packages to easily access a website that tells the story of the specific production batch, through a detailed analysis of all major phases of the supply chain. Cisco has collaborated with non-governmental organizations, technology partners and experts in food supply chains to create the Safety for Food initiative, which provides access to data from across the entire agricultural food chain. Innovative food companies like Barilla are taking the lead to use the data and analytics to break down information silos across their supply chains and provide consumers with greater transparency into the sources of their food.

The integrated tracking system also helps to combat counterfeiting in the food supply chain and gives consumers greater transparency and traceability of their food. Through this innovative initiative, Barilla aims to provide greater transparency and safety in the supply chain, and give consumers a greater connection to their food. By connecting people, places, process, data, and things, innovative companies like Barilla, are using new digital technologies to manage complex industrial processes and improve consumers' lives. The limited edition Barilla Farfalle Pasta and Tomato and Basil Sauce packages will be available in markets throughout Italy in the coming year.

Retail

Barilla is giving consumers a greater connection to their food. They are also:

Breaking down information silos across their supply chains

Providing consumers with greater transparency into the sources of their food

"Through this innovative initiative, we aim to not only provide greater transparency and safety in the supply chain, but to also give consumers a greater connection to their food."

Giorgio Beltrami, Quality, Food Safety and Regulatory Global Director, Barilla G.e R. Fratell

Retail

Columbia Sportswear Makes the Most of Space and Increases Resiliency

The Internet of Everything (IoE) is changing shopping behavior. Consumers are demanding more digital, more personalized shopping experiences. Today's retailers must balance how best to meet operational demands while deploying new customer services to adapt in the digital era.

Columbia Sportswear, a global retailer of apparel, footwear, accessories, and equipment to outdoor enthusiasts, wanted to shrink their IT footprint in stores in order to increase the retail floor space. They envisioned centralized management of the IT infrastructure and applications to save IT technicians from traveling to each store to add new applications and services for its customers.

Columbia Sportswear turned to Cisco for Store-in-a-Box, which responds to these challenges with a network and compute platform designed to consolidate and run all critical store systems on a single server. Now, Columbia Sportswear's point of sale applications are virtualized, allowing them to move their virtual machine to the public cloud during planned or unplanned server outages so customers can continue to make purchases even if one power supply fails. In addition to smooth-flowing checkout lines, the consolidation and virtualization benefits of Cisco Store-in-a-Box is helping Columbia Sportswear save US$20,000 annually in power costs per store as well as freeing up more real estate to sell products and provide better customer service. Using Cisco Unified Computing System™ (UCS®) and Integrated Services Routers (ISR), retailers have a powerful platform to centrally manage stores, increase flexibility, simplify operations, and ensure the data needed to provide better shopping experiences for customers is always available. Columbia Sportswear has reduced their IT footprint, lowered costs, built better business continuity, and simplified processes through store digitization with the IoE.

Retail

Barilla

Columbia Sportswear

Del Papa Distributing

intu

Mayland Real Estate

MGM Resorts International

Stary Browar

Tesco's F&F

Trinity Leeds

Columbia Sportswear is improving store operations. They have:

Reduced in-store IT infrastructure from eight to four rack units, saving US$20,000 annually on power

Established a backup connection for point of sale applications and voice

Eliminated the cost of sending technicians to stores to install or update servers

"By providing complete store infrastructure in half the space, the Cisco ISR frees up more real estate to sell product and provide customer service. We also have the flexibility to quickly add new IT services such as sales analytics, digital signage, or customer behavior analysis without the time and costs of adding physical servers. IT no longer slows down the speed of business."

Michael Leeper, Director of Global Technical Infrastructure, Columbia Sportswear

Del Papa Distributing Boosts Security, Shipping Capacity, and Service

With the goal of becoming a premier beverage distribution company, family-owned beer distributor, Del Papa, turned to technology when building its new 27-acre headquarters in Texas City, Texas. The company wanted to equip the new building with a simplified collaboration system among employees in different locations, top-level security, and an infrastructure that would help employees provide an excellent customer experience.

Today, Del Papa headquarters is a safe and highly secure environment with improved collaboration. Video surveillance and physical access controls help prevent theft and leave employees feeling safer. Thanks to a converged network that covers the entire facility, warehouse employees can now build approximately 6.4 percent more cases than they did in previous warehouses. And, for employees who are not located at headquarters, teams can come together quickly with high-quality video and audio conferencing.

Cisco and its partner, Zones, designed a network for Del Papa that connects previously unconnected people and things. Phones in all offices connect to a Cisco® Unified Communications Manager at headquarters, which lowers costs for each location. Also, Cisco TelePresence® increases the company's efficiency since employees no longer need to commute to meetings. The network can also connect future systems, allowing for unbounded opportunities with the Internet of Everything (IoE).

Retail

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MGM Resorts International

Stary Browar

Tesco's F&F

Trinity Leeds

Del Papa Distributing has captured value with the Internet of Everything. They have:

Gained better control over all entrances and restricted areas

Increased daily shipping capacity by six percent

Freed up more time for sales representatives to interact with customers

"Now a sales rep with a last-minute order can reach staff who have Cisco Unified Wireless IP Phones anywhere in the warehouse. By the time the rep is back at the warehouse, the order is sitting in the bay."

Steve Holtsclaw, Manager of Information Systems, Del Papa Distributing

Retail

Barilla

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Shopping Center, intu, Transforms Shopper Experiences for the Digital Era

Today's consumers want to control every aspect of their shopping experience. In order to be competitive, leading retailers such as intu are harnessing the power of the Internet of Everything (IoE) to improve and personalize the shopper experience. Along with Cisco partner, Block Solutions, intu turned to Cisco to help in their retail transformation.

With 400 million customer visits, including over 30 million unique customers ever year, intu is one of the biggest names in retail in the United Kingdom. And today, they embrace a fully connected, secure line of stores. All of intu's stores offer full Wi-Fi coverage for shoppers and staff, encouraging shoppers to spend more time in their local shopping center, and giving them the full online experience. Parents can keep their children entertained by streaming a video on their mobile device, while younger shoppers can engage their friends on social media. And with Cisco® cybersecurity pervasive throughout, shoppers have peace of mind knowing that all of the valuable data flowing through their network is highly secured. With all this new data, intu is able to understand how people move around stores and what draws their interest with Cisco® Connected Mobile Experiences (CMX) solution, which provides location-based analytics.

Cisco installed 2,500 access points in the space, all running on centralized management with Cisco Prime™ Infrastructure that simplifies the management of wireless and wired networks. By creating a fully connected line of stores, intu is leading transformation in the retail industry by providing better in-store experiences that shoppers are demanding in the digital era today.

Retail

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Trinity Leeds

intu is benefiting from the Internet of Everything. They:

Grew their customer database to one million unique registrations and a 50 percent opt-in rate for promotions

Gained a view into footfall traffic to measure the popularity of events and locations

Used location-based technologies to improve the customer experience

"Working with Cisco networks, we've gained a scalable and powerful backbone that we're using to gain a holistic view of our shopping centers and build new virtual features that put our customers at the heart of business."

Gian Fulgoni, Chief Information and Systems Officer, intu

Mayland Real Estate Gains Insight into Shopper Behavior from Location Information

Online merchants have an advantage over traditional merchants. Online merchants can track the product viewing history of their customers, and then make personalized offers to them. Recognizing this advantage, Mayland Real Estate sought to understand the shopping behaviors of its customers, like those of online merchants, when constructing the Centrum Riviera shopping mall in Poland.

Mayland Real Estate chose Cisco as a strategic business partner to deploy Cisco® Connected Mobile Experiences (CMX) solutions. Today, guests at Centrum Riviera receive free Wi-Fi access from anywhere in the two-story complex, including the parking structure.

Leveraging analytics through CMX, Centrum Riviera can collect valuable data about its shoppers. Examples include whether the shopper has visited the mall before, the duration of a shopper's stay, shopper behavior patterns, and who comes to the mall for specific events based on the Wi-Fi location services. This information, in turn, helps Mayland Real Estate measure the effectiveness of marketing programs. It is also valuable for Centrum Riviera tenants, who can anticipate shopper traffic, adequately schedule store staffing, and understand dwell times to optimize future experiences.

Retail

Barilla

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intu

Mayland Real Estate

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Trinity Leeds

With the Internet of Everything, Mayland Real Estate has:

Enhanced shopper experiences through free Wi-Fi and personalized offers

Correlation of shopper behavior with advertising campaigns and mall events

The ability to see what types of tenants attract visitors

"For each event at the mall, such as a concert, we can count the number of people, the impact on their shopping habits, and how many shoppers visit stores before and after the event. We chose Cisco because of their experience in retail and location tracking."

Andzej Jarosz, Marketing and Communications Director, Mayland Real Estate

Retail

MGM Resorts International Enriches Guest Experiences with Digital Transformation

MGM Resorts International is a recognized leader in global entertainment and hospitality. With 24 domestic and international properties, MGM's mission is to engage, entertain, and inspire guests. To deliver such hospitality, MGM looked to technology as an avenue for enhancing the guest experience.

Partnering with Cisco and Mobilite, MGM deployed the hospitality industry's largest next-generation Wi-Fi network. Through better access to the network and the use of the resort's application, guests can find what they currently need as well as gather suggestions for what to do next– all through their personal devices.

Now, MGM can market to guests in real time, based on guest preferences. In turn, opportunities for new revenue have increased and guests are receiving the services and engagements they prefer most.

Retail

Barilla

Columbia Sportswear

Del Papa Distributing

intu

Mayland Real Estate

MGM Resorts International

Stary Browar

Tesco's F&F

Trinity Leeds

MGM Resorts International gives guests the ultimate experience, including:

Seamless Wi-Fi roaming and interconnection among MGM Resorts properties in Las Vegas

Power to the most demanding mobile applications to further engage, entertain, and enhance guest experiences

Up to 30 percent faster connectivity

"No one else in Las Vegas, and even the world, within the hospitality industry can offer the scale, quantity, and quality of wireless services we now have available."

John Bollen, Senior VP and Chief Digital Officer, MGM Resorts International

Stary Browar Becomes a Digital Business and Transforms Customer Experiences

The sweeping digital transformation is dramatically changing the shopping behaviors of consumers. As the Internet of Everything (IoE) drives exponential change and opportunity, consumers and retailers face a complex maze of shopping journeys. Today's consumers demand new kinds of digital experiences both in stores and out.

Stary Browar, a shopping, arts, and business center located in Poland, wanted to meet the needs of its visitors and management by embracing the shift in shopping behaviors. The result is that, today, shoppers have a more engaging experience. They can connect to Stary Browar's Wi-Fi network, log in to the organization's app to connect with friends over social media, use a virtual map to find what they're looking for, and receive personalized offers directly on their mobile devices.

Stary Browar turned to Cisco and industry-leading partner, Softnet, to implement location-based services over a Wi-Fi network with social integration. Leveraging analytics with Cisco® Connected Mobile Experience solutions, Stary Browar can detect every device connected to its network and collect data about the number of visitors, their dwell times, and their shopping patterns. Through deeper engagement with its visitors and extensive analytics obtained from location-based services over Wi-Fi, Stary Browar can open up new monetization opportunities as it continues to innovate and become the retailer of tomorrow.

Retail

Stary Browar is becoming a digital business, gaining:

Deeper engagement with customers

Extensive analytics obtained from Wi-Fi

Improved safety and security of guests

"Innovation is at the core of everything we do, so we are always looking for creative and pioneering marketing and technological solutions. We work with the best in the field, such as Cisco."

Magdalena Kowalak, CEO, Stary Browar

Retail

F&F Keeps Customers Coming Back by Connecting Them with the Latest Styles and Trends

Retailers may have the greatest opportunity in the digital era. In fact, 55 percent of the Internet of Everything (IoE) value at stake for retailers went uncaptured in 2013. With a rising tide of technology-driven disruption that has dramatically changed consumer shopping behaviors and the retail business landscape, retailers need to adapt to change and deliver new digital experiences, both in the store and out.

F&F, a clothing brand sold exclusively by Tesco, wanted to connect shoppers in stores with the full online experience. Using the IoE, F&F now helps in-store customers connect for the personalized experience they get online. They can visit a specialized kiosk called an Online Order Point, ask an employee to look something up on their F&F tablet, or connect over Wi-Fi on their own personal device. When shoppers connect to the in-store Wi-Fi network, F&F uses Cisco® Connected Mobile Experiences (CMX) to deliver style advice and offers tailored to the store. Shoppers can also shop online by scanning barcodes with the cameras on their smartphones, seamlessly blending the digital and physical stores.

Looking to build better relationships with customers and increase engagement, F&F's analytics and virtual store prototypes are already showing increased customer satisfaction and loyalty. Today, F&F has deployed over 125 digital order points across the F&F estate, generating incremental online sales and a return on investment within 12 months.

Retail

Barilla

Columbia Sportswear

Del Papa Distributing

intu

Mayland Real Estate

MGM Resorts International

Stary Browar

Tesco's F&F

Trinity Leeds

F&F revolutionized their in-store shopping experience. They:

Grew online sales by 50 percent during a key holiday period

Personalized advice and deals based on store location

Provided employees with new ways to help customers

"The Cisco Consulting team has worked with F&F to bring concepts to life and live pilots in a matter of months. We are learning new things about our customers behavior in-store and how to delight them with a whole new channel."

Andy Beale, Head of Digital and Multichannel Development, F&F, Tesco

Trinity Leeds Ranks in the Top Five United Kingdom Retailers with Digital Transformation

Today's consumers demand new kinds of digital experiences both in the store and out. Shoppers are seeking a hyper-relevant experience, with more than half of United States and United Kingdom shoppers using retailer-specific apps at least once per week.

This is why Land Securities, the largest commercial property company in the United Kingdom, aims to make shopping an everyday wonder. It wanted to use its newest facility, Trinity Leeds, to attract new shoppers by providing engaging and connected experiences. Executives also wanted to keep facility costs down. To make this vision a reality, Trinity Leeds partnered with Cisco and Dimension Data to deploy a Cisco® Connected Building solution. This retail solution connects approximately 1,200 Cisco Aironet® wireless access points and Cisco Unified IP phones for retail tenants and company offices. Several hundred video surveillance cameras are in place throughout the facility for pervasive security. Additionally, smart energy meters help ensure energy efficiency.

Today, shoppers can connect to the free Wi-Fi network and check their smartphone apps for personalized shopping offers. They can also play games and view social media streams on interactive touchscreens throughout the mall for a fully connected shopping experience. Retailers can also connect with shoppers through the smartphone application, as well as through in-store digital signage. Trinity Leeds is taking advantage of the Internet of Everything (IoE) to connect people, process, data, and things to create a powerful integration platform for retail innovation.

Retail

Trinity Leeds has transformed the customer experience. They:

Attracted 22 million visitors in the first 12 months

Simplified facilities management by connecting all building systems to one network

Earned a spot in the top five best shopping places on the list of United Kingdom retail destinations

"The Cisco platforms are robust, and they stand the test of time. Now we have a building that's super connected."

Craig O'Donnell, CIO, Land Securities

Service Provider

Boingo Wireless Launches Passpoint Connectivity Deep in the Heart of Texas

Connectivity in airports is no longer a luxury in today's digital world. Rather, it is a necessity demanded by travelers to manage schedules, obtain boarding passes, check email, and stay connected. With a goal of improving and simplifying the consumer connectivity experience, Boingo Wireless pioneered the first commercial deployments of Wi-Fi CERTIFIED Passpoint™ networks in more than 25 airports.

Passpoint is an improved method for connecting to Wi-Fi hotspots, in which authentication is performed automatically and silently by the compliant mobile device and the "Passpoint Secure" hotspot, with no webpage redirects or logins, and no need for a special application.

Leveraging Cisco® Universal Wi-Fi for Service Providers, the Boingo team worked to launch Passpoint first in high-traffic locations serving tech-savvy audiences hungry for a better way to connect. Boingo built "Passpoint Secure" networks using the Passpoint (802.11u) standard at some of the most innovative airports in the U.S., including a gateway to a bustling tech hub deep in the heart of Texas: Austin-Bergstrom International Airport (ABIA).

As the first to offer Wi-Fi to passengers in 2000, ABIA is a leader in airport connectivity. Understanding the impact that airport connectivity can have on the overall experience of travelers, ABIA was eager to introduce their travelers to a better way to connect via Passpoint. Boingo subscribers just need to download a Passpoint profile to their device, walk into the airport, and seconds later their mobile device has a secure, automated connection.

With a focus on improving the traveler experience by leveraging the best in new technologies and services, ABIA and Boingo are changing the customer service experience. Extending the Passpoint experience to more consumers in Austin through a roaming agreement with Time Warner Cable, and to airports and venues across the globe, Boingo Wireless is continuing on the journey to offer richer experiences created by connecting people, process, data, and things to the Internet.

Service Provider

Boingo Wireless is leading transformation in the Internet of Everything as they have:

Improved the traveler's experience in the airport with Wi-Fi access

Enhanced Austin's tech-savvy culture by allowing travelers to share their unique Austin experience with their friends and family in real time

"We're thrilled to be at that leadership point in the industry where we're really setting [the gold standard] for how people connect. We have a great collaborator in Cisco. They've been instrumental in helping us set the standard."

Nick Hulse, SVP, Boingo Wireless

Service Provider

Boingo Wireless

Fira de Barcelona

Melita

Smart City Networks

Spark New Zealand

Telstra

Fira de Barcelona Reimagines Connectivity for Mobile World Congress 2014

Each year, Barcelona's trade fair institution, Fira de Barcelona, hosts over 70 European trade fairs. In the digital era, exhibitors and attendees expect Wi-Fi coverage throughout the events. During the world's largest exhibition for the mobile industry, Mobile World Congress (MWC), the event needed coverage for over 280,000 square meters.

Working with Cisco and partner, Unitronics, Fira de Barcelona built a network for the four-day show using Cisco® Universal Wi-Fi for Service Providers. The 4,000+ exhibitors from 200 countries were able to customize their experience with options such as bandwidth, concurrent users, custom SSID name, and private VLAN. Fira deployed a state-of-the art Cisco Prime™ Infrastructure to manage, control, and assess the entire wired-wireless network. They also installed Cisco Mobility Services Engine for location, rogue detection, and analytics. This resulted in granular customization to meet individual vendor needs. Fira collected and analyzed location information such as dwell times and top websites to enhance the event for years to come.

The Mobile World Congress 2014 broke the world record for Wi-Fi connections, sustaining over 20,000 simultaneous connected devices on the wireless network. The free public Wi-Fi bandwidth was raised to 16 Mbps per user, allowing staff to upload more than 280 GB of data in one day from a single access point – a record of its own. Taking advantage of the Internet of Everything (IoE), Fira de Barcelona connected its attendees, data, and devices to enhance the overall event experience.

Service Provider

Boingo Wireless

Fira de Barcelona

Melita

Smart City Networks

Spark New Zealand

Telstra

Delivering greater connectivity, Fira de Barcelona has:

A Wi-Fi network that supported 20,346 simultaneous connections at its peak

Support of 1,924 concurrent connections with a peak load of 530 Mbps during the keynote

Positive attendee feedback on social media

"We want to be attractive to exhibitors, and a state-of-the-art network helps us to achieve this. The value of this network is not only carrying bits. It's also the information that can be pulled out of [those bits]."

Antoni Llevat, Telecommunications Manager, Fira de Barcelona

Service Provider

Melita is Helping Turn Malta into a Smart Island with Cisco SP Wi-Fi

By 2020, there will be an estimated 50 billion things connected to the Internet; and service providers are in an enviable position. Sitting at the center of the Internet of Everything (IoE) to connect people, process, data, and things, service providers are making networked connections more relevant and valuable than ever. One such service provider, Melita, is laying the foundation for constant connectivity on the unique island of Malta.

On an island with many structures built from thick limestone, getting a wireless signal from point-to-point is not an easy task. Melita, the leading service provider on Malta, began thinking outside the box to change the way their customers get and stay connected. With their subscribers in mind, Melita built an outdoor broadband Wi-Fi network using Cisco® Universal Wi-Fi for Service Providers that extends the Wi-Fi reach from set-top boxes in subscriber's homes. Using Cisco Wi-Fi, Melita customers can seamlessly take their high broadband speeds with them. Additionally, subscribers can connect in 20 popular outdoor zones across the island and to more than 50,000 indoor hotspots, transforming Malta into a connected island, ready to take the next steps toward digital transformation.

This innovative idea sets them apart from their competition because they have become one of the only providers who offer this kind of service. The Melita Wi-Fi service is wildly popular and is helping transform Malta into a smarter island.

Service Provider

Boingo Wireless

Fira de Barcelona

Melita

Smart City Networks

Spark New Zealand

Telstra

Melita is creating a smarter island by:

Simplifying the Wi-Fi experience so that after one login, a customer's device connects automatically whenever it is in range

Increasing speed of downloads, ranging from 30Mbps to 250Mbps

"To make the [Wi-Fi broadband] user experience simple is one of the hardest challenges. Working with Cisco was a positive experience because they understand that."

Simon Montanaro, CTO, Melita

Service Provider

Boingo Wireless

Fira de Barcelona

Melita

Smart City Networks

Spark New Zealand

Telstra

Smart City Networks Creates a Scalable, State-of-the-Art Wi-Fi Experience

In the digital era, connecting people, process, data, and things to the Internet creates richer, unique experiences. When it comes to trade shows, conferences, and events, a great Wi-Fi experience plays a key factor in attendee experience. However, this requires a flexible and scalable network. Just ask Smart City Networks, a leading provider of data and networking services to the convention center industry in the United States. Wednesday's banquet might have a few hundred guests while Thursday's conference may have thousands of exhibitors and attendees. Smart City Networks is able to scale the network quickly and easily to meet the event's needs, providing each customer with the right solution. However, convention and event centers also want to make money from their Wi-Fi investment.

The solution for Smart City Networks was simple: Cisco® Universal Wi-Fi for Service Provider. Smart City Networks sells Wi-Fi hot spots and Wi-Fi buy-outs to their customers. In turn, the convention center will sell Wi-Fi to sponsors at the event. Overall, collaborating with Cisco has helped Smart City Networks increase satisfaction of event attendees and create new revenue streams for the convention centers they serve.

Service Provider

Boingo Wireless

Fira de Barcelona

Melita

Smart City Networks

Spark New Zealand

Telstra

With the Internet of Everything, Smart City Networks has:

Increased revenue generation

Increased deals signed with customers

Faster connections

"Our convention center customers can offer location-based advertising on mobile devices. It's a way to provide a service and generate revenue at the same time."

Mark Haley, President, Smart City Networks

Service Provider

Boingo Wireless

Fira de Barcelona

Melita

Smart City Networks

Spark New Zealand

Telstra

Spark New Zealand Delights Existing Subscribers and Attracts New Customers by Enabling Them to Connect

In the digital age where consumers expect fast and reliable connections, anywhere, anytime, and any place, service providers are faced with challenges like never before. New Zealand-wide communications service provider, Spark New Zealand (NZ), was no exception. The company continually looks for innovative services that will attract and retain cellular subscribers by offering constant connectivity for its customers.

Like other service providers today, Spark NZ wanted to find ways to offload traffic from its cellular network as subscribers connect more devices and use more video. To do so, they built more than 1,000 Wi-Fi hotspots on their phone boxes across the country with Cisco® Universal Wi-Fi for Service Providers. With the offload of data from the cellular network to Wi-Fi, subscribers are enjoying connectivity everywhere – from city streets, to shopping centers, to ski resorts on remote mountain tops – allowing them to enjoy high-speed Internet access in unexpected places as they work and play. And with pervasive connectivity, Spark NZ is laying the foundation for businesses to become digital.

Existing subscribers are happier than ever, and new customers are signing up quickly. Spark NZ is leading the way for service providers in the Internet of Everything (IoE) era by better balancing cellular workloads and enabling the connections between people, process, data, and things.

Service Provider

Boingo Wireless

Fira de Barcelona

Melita

Smart City Networks

Spark New Zealand

Telstra

Spark New Zealand captures value in the Internet of Everything with:

Increased customer satisfaction

Additional revenue from new customers

Greater capacity for more customers and more video

"People are amazed to say, 'I can be on top of the mountain and have Wi-Fi.'"

Andrew Carr, Wi-Fi Commerical Development Manager, Spark New Zealand

Service Provider

Boingo Wireless

Fira de Barcelona

Melita

Smart City Networks

Spark New Zealand

Telstra

Telstra Creates More Engaging Work Options and Helps Customers do the Same

Service providers are at the heart of digitization and the Internet of Everything (IoE). Telstra, Australia's largest telecommunications and media company is shaping the future of how employees work and communicate to create a brilliant and connected future. To better connect people and processes, the company needed to transform their workplace to be a more collaborative and innovative environment.

Telstra partnered with Cisco to improve collaboration both internally with their workforce and with their customers.

Envisioning a digital workplace, Telstra is leveraging innovative technologies such as unified communications, mobile device, video, and social technology to positively improve the workplace experience. With Cisco® collaboration technology as a foundation, along with the Telstra Cloud Services powered by Cisco, the company is now able to showcase how they are innovating and leading change. In doing so, they are connecting their people, business processes, data, and things to a greater effect as they continue their digitization.

Service Provider

Boingo Wireless

Fira de Barcelona

Melita

Smart City Networks

Spark New Zealand

Telstra

Telstra transforms the workplace with:

Improved collaboration and innovation within the workplace

Increased employee engagement and productivity

"There's great legacy and great history [Telstra] but I think there's also a recognition that both the industry we're in and the customers we support need us to change if we're going to meet their needs going forward, and the customer is right at the heart of that."

Helen Lea, Director, Enterprise Services, Telstra

Sports and Entertainment

Anschutz Entertainment Group Creates Dynamic Concessions and Immersive Fan Experiences at STAPLES Center

Hosting four professional sports teams and over 250 events each year, STAPLES Center in Los Angeles is one of the premier venues in the world today. Anschutz Entertainment Group (AEG), owner and operator of STAPLES Center, recognized the need to better service their increasingly tech-savvy fan base while creating new streams of revenue for the venue, partners, and sponsors. To provide these new digital capabilities, AEG turned to Cisco and the Internet of Everything (IoE).

Cisco StadiumVision™ is helping STAPLES Center centrally manage and target delivery of customized video, team and sponsor promotions, as well as relevant event information to any combination of monitors throughout the venue. Today, more than 375 HD video displays are located in the luxury suites, at concession stands, and around the premier level. With this in place, STAPLES Center can change the description of all of the marquee screens within the facility in a matter of minutes and luxury suite customers can choose their preferred content on select screens to personalize the suite experience. Dynamic menu boards enable the STAPLES Center and their partners to customize theming, pricing, and promotions at concession stands, yielding a 10 percent increase per cap spend and a 400 percent increase in select promotional item revenues.

Sports and Entertainment

Anschutz Entertainment Group

Barclays Center

CONSOL Energy Center

Denver Broncos

Norsk Toppfotball

With the Internet of Everything, Anschutz Entertainment Group and STAPLES Center have:

A 10 percent increase in year-to-year revenues from concessions for Los Angeles Kings games (in the March 2011 season)

A 400 percent increase in year-to-year revenue from select promotions offered for the Los Angeles Sparks games (in the March 2011 season)

"AEG is raising the bar for arenas when it comes to engaging fans and responding to consumer demands for real-time information that is uniquely tailored from event to event."

Todd Goldstein, President Global Partnership, Anschutz Entertainment Group

Sports and Entertainment

Barclays Center Brings Live Action to the Fingertips of Every Fan

From the moment the Barclays Center opened its doors in 2012, the home of the National Basketball Association's Brooklyn Nets has been recognized as one of the most versatile and technologically advanced venues in the world. In addition to basketball, Barclays Center hosts a variety of other sports and entertainment events each year. Today, Barclays Center is using the Internet of Everything (IoE) to connect people, process, data, and things to deliver more mobile, interactive, and engaging digital experiences.

With Cisco StadiumVision™, Barclays Center provides fans access to new levels of HD video and content via over 800 digital displays. Live event video, relevant venue and event promotions, digital menu boards, and even information on public transportation schedules contribute to creating a unique environment for fans. Cisco® Connected Stadium Wi-Fi keeps fans connected and engaged and creates opportunities for them to further customize the event experience from their mobile device.

Team and venue applications offer unique camera feeds and replays, and even food services are convenient for fans. With just a few clicks on their mobile device, Barclays Center mobile application allows fans to order food from their seat and be notified with a text when it is ready for pick up.

Barclays Center has helped set the bar for sports and entertainment experiences across the world. The digitization of these experiences made possible by the IoE will continue to fuel the next wave of innovations and business opportunities.

Sports and Entertainment

Anschutz Entertainment Group

Barclays Center

CONSOL Energy Center

Denver Broncos

Norsk Toppfotball

Barclays Center captures value in the Internet of Everything with:

Optimized bandwidth for more reliable connections

More mobile, immersive, and personalized fan experiences

"When we began building Barclays Center, we knew that we had to work with Cisco if we wanted to make the venue a premiere location for sports and entertainment. Cisco is delivering technology that is new to consumers, providing an unforgettable fan experience."

Barclays Center

Sports and Entertainment

CONSOL Energy Center Energizes Fans and Sponsors

Home to the National Hockey League's Pittsburgh Penguins professional ice hockey team, CONSOL Energy Center embraced technology and the Internet of Everything (IoE) to deliver a brand image characterized by energy, drive, and innovation for their young and highly connected fan base. To enhance that energy and innovation, CONSOL Energy Center worked with Cisco to create a highly immersive and branded experience for their fans.

With Cisco StadiumVision™ and the associated Connected Stadium™ infrastructure, the Pittsburgh Penguins and CONSOL Energy Center are providing fans with an immersive, interactive, and high-definition experience. Through highly flexible and customizable HD video and digital signage capabilities, the venue can broadcast event footage, targeted promotions, and real-time information everywhere in the stadium, with the ability to make changes quickly and easily from a single, centrally located, on-site command center.

Now, fans are immersed in the action wherever they are and ads reach more fans as they are distributed across hundreds of monitors throughout the entire building. Sponsors can choose a specific group to advertise to, a time period, or exposure for all events in the stadium. As a result, the Penguins and CONSOL Energy Center doubled the number of advertisers and tripled total revenue for concourse and arena signage.

Sports and Entertainment

Anschutz Entertainment Group

Barclays Center

CONSOL Energy Center

Denver Broncos

Norsk Toppfotball

CONSOL Energy Center is improving fan and sponsorship experiences. They have seen:

A 200 percent increase in the number of advertisers

A 300 percent increase in concourse advertising and sponsorship revenues

More memorable and impactful brand experiences; 80 percent of fans retained the digital content they viewed

"Cisco StadiumVision not only met our defined requirements, it is indispensable to driving sponsorship, revenue, and creating buzz. The solution has completely changed the dynamic of almost everything we do."

SVP of Sales and Service, CONSOL Energy Center

Sports and Entertainment

The Denver Broncos Grow Revenue and Transform Experiences

The Internet of Everything (IoE) is changing the world of sports. From richer experiences for fans to greater opportunities with sponsors, the Denver Broncos envisioned all of this for their stadium, Sports Authority Field at Mile High, along with featuring the latest in mobile connectivity and video technology. To turn their vision into reality, the Broncos turned to digital transformation.

By deploying the Cisco® Connected Stadium Wi-Fi solution at Sports Authority Field, the Broncos enabled reliable Wi-Fi connectivity for partners and tens of thousands of fans in and around the stadium, extending the fan experience to parking lots and fan zones. And to keep fans engaged with relevant event information, promotions, and video at the over 300 different events each year, Cisco StadiumVision delivers live HD video and targeted digital content to 1,200 displays throughout the venue. These capabilities have increased concourse sponsorship revenue by 50 percent. Overall, with everything running on one easily managed network, the Broncos can build on a scalable, secure platform for future innovation and growth.

Sports and Entertainment

Anschutz Entertainment Group

Barclays Center

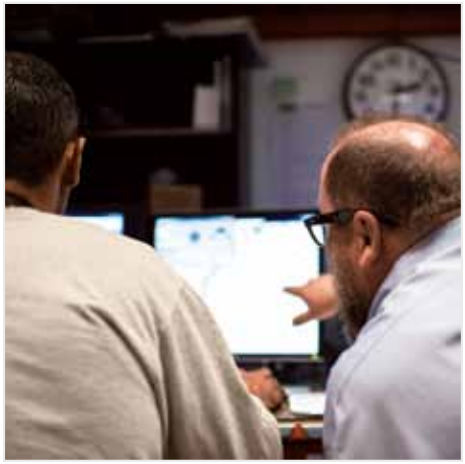
CONSOL Energy Center

Denver Broncos

Norsk Toppfotball

With the Internet of Everything, the Denver Broncos have:

Increased concourse signage revenue by 50 percent



Centrally-run digital assets for over 300 events

A customer and sponsor experience extending to the parking lots and fan zone

"The powerful Connected Stadium networking platform gives us the future – proofing and high performance we need. Cisco wireless solutions knocked it out of the park."

Russ Trainor, VP of IT, Denver Broncos

Sports and Entertainment

Norsk Toppfotball Levels the Playing Field with League-Wide Fan Engagement Solutions

Over 95 percent of all Norwegian football fans bring a smartphone to matches with high expectations to stay connected to the action and fans throughout the event. The Internet of Everything (IoE), which connects people, process, data, and things, now makes it possible. Looking to connect and engage these fans in entirely new ways and gain valuable insights from game-day fan interactions, Norsk Toppfotball turned to Cisco and Connected Sports solutions.

The Norwegian football league, Norsk Toppfotball, will deliver a connected league experience built around three key elements for success: enthusiastic fans, relevant content, and an integrated, networked approach to bring it all together. Using Cisco® Connected Stadium Wi-Fi and related mobile solutions, fans enjoy free Wi-Fi and new fan services to enhance the game-day action. Unique video and statistics, custom promotions, and interactive gaming elements are made available on mobile devices during the game to allow fans to customize and share their experience. In addition, Norsk Toppfotball is able to gain valuable insight into fan behavior and provide new opportunities for sponsors to engage fans in a more relevant manner. Now with a better understanding of such interactions, Norsk Toppfotball has created a connected league that can engage fans and sponsors in more effective ways using the network as the platform for connecting people, process, data, and things.

Sports and Entertainment

Anschutz Entertainment Group

Barclays Center

CONSOL Energy Center

Denver Broncos

Norsk Toppfotball

Norsk Toppfotball captures value in the Internet of Everything with:

An aggregated digital footprint of fans

Increased sponsor impressions and fan click-through rates

Network assets aligned with business initiatives

"We will be able to better understand our supporters' behaviors and actions immediately and deliver them an enhanced match experience."

Jon Ola Bergaplass, Chief Technical Strategist, Connected League, Norsk Toppfotball

Aegean Motorway Reduces Total Cost of Ownership with Converged Roadway Network

Established as a concession company in 2007, Aegean Motorway is responsible for more than 230 kilometers (km) of the PATHE Motorway in central Greece. The company oversees construction, maintenance, operation, and toll collection to provide drivers a safe and smooth drive.

Aegean Motorway turned to Cisco and the Internet of Everything (IoE) to reduce operation and maintenance costs and improve employee productivity through pervasive connectivity. Cisco implemented as a 232 km fiber-optic network of wired and wireless connectivity for voice, telephony, video, monitoring, toll systems, and support applications. With Cisco® Unified Access, Aegean Motorway can leverage a range of IP technologies to keep both digital and automotive traffic running smoothly. Now, Aegean Motorway centrally coordinates all activities along the PATHE Motorway, including construction, maintenance, and emergency interventions. It monitors the motorway using closed-circuit television, sensors, traffic counters, and telephones linked to a single network.

By converging operations onto a single IP-based network, Aegean Motorway was able to reduce total cost of ownership. The scalable infrastructure reliably operates in a variety of environmental conditions to deliver timely, accurate information about road conditions, improve travel time year-round, and support predictive analytics for maintenance and operations. Through constant connectivity, Aegean is protecting its drivers, improving operational efficiency, and turning data into insight to improve its motorway.

Transportation

With the Internet of Everything, Aegean Motorway has:

Established infrastructure to reduce traffic congestion by 10 percent

Reduced total cost of ownership through converged network

Connected 5,000 devices for central management

"Most drivers will never notice our IT investment, but our ability to divert traffic, make announcements, or route emergency crews efficiently can save lives."

Charalampos Kiorpelidis, Systems and IT Manager, Aegean Motorway

Alaska Department of Transportation Connects People, Data, and Equipment Along the State's Most Remote Roads

In remote northern Alaska, ensuring safe transportation of goods and services across the vast wilderness of the 150-mile Elliot Highway and the 414-mile Dalton Highway can be difficult. To improve safety for those traveling along these roads, the Alaska Department of Transportation and Public Facilities chose to establish telephone, radio, and Internet communication capabilities along these stretches of highway.

The state looked to Cisco and solutions from the Internet of Everything (IoE). Cisco® Services worked closely with AT&T, New Horizons Telecom, and the Enterprise Technology Services Division within the Alaska Department of Administration to deploy Cisco Connected Roadways Solutions, Unified Communications solutions, and Cisco Instant Connect. These solutions are now providing converged and networked communications that is more reliable than ever before drastically improving secure operations in the most harsh environments and extreme temperatures to meet the most demanding needs. By connecting people, process, data, and things, the state will significantly improve communication, safety, and emergency response in the field.

Transportation

With the Internet of Everything, the Alaska Department of Transportation is gaining:

Fast response to emergency situations with vital manpower and equipment

Push-to-talk communication simplicity, regardless of device

The ability to expand as needed to broaden reach, improve safety and responsiveness, and achieve significant process efficiency

"Now that we can connect our roadways with a Cisco solution, it's just a matter of time of deploying and testing time. The sky is the limit."

Jeff Russel, Dalton Area Superintendent, Alaska Department of Transportation

ASFiNAG Connects Roads, Drivers, and Authorities Nationwide

With an estimated 50 percent of the world's population currently living in cities and expectations for that figure to grow to 70 percent by 2050, there are more people and cars on the roads than ever before. ASFiNAG, an Austrian corporation that plans, finances, builds, maintains, and collects tolls for the Austrian autobahns, had a vision to become an innovative roadway operator.

Through the connection of thousands of cameras and sensors, ASFiNAG wanted to gather data on roads, traffic, and weather conditions and communicate that to drivers. The company crafted a visionary plan to build a fiber-optic network along the highways to connect technical equipment on the roads. To make this vision a reality, ASFiNAG turned to Cisco and partner, A1Telekom Austria, to connect thousands of sensors, ruggedized switches, and routers. It also deployed a Cisco® IP Interoperability and Collaboration System for centralized and fast communication to any device or system.

ASFiNAG is now improving road utilization with enhanced traffic management systems. This allows it to connect with all communication systems and to get drivers the information they need. ASFiNAG is also looking at more ways to use data analytics and technology, such as Cisco Connected Mobile Experiences (CMX), to learn more about its customers. With Cisco and the Internet of Everything (IoE), ASFiNAG will continue to turn its digital vision into a reality and become one of the world's most innovative roadway operators.

Transportation

Aegean Motorway

Alaska Department of Transportation

ASFiNAG

CALSTAR

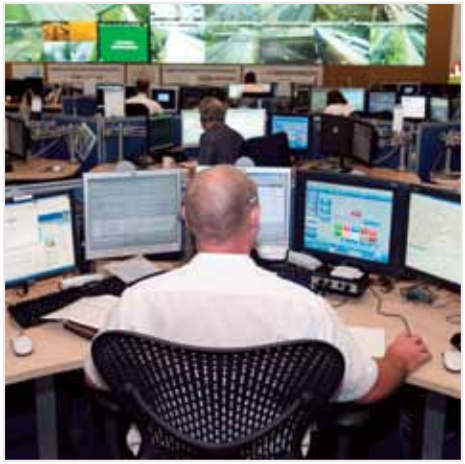
Delhi Airport

DHL

Metrolinx

San Diego Metropolitan Transit System

ASFiNAG creates connected roadways to:



Reduce the need for investment through better road utilization

Connect roads, drivers, and authorities nationwide

Exceed European Union standards for road transport

"By connecting roads and drivers, we can get people the information they need for a smoother and safer drive."

Bernd Datler, Managing Director, Tolling Company, ASFiNAG

CALSTAR Builds an Air-to-Ground Dispatch System That Connects Air Transport to Lifesaving Care

Air ambulances can transport patients to hospitals faster and more smoothly than ground transportation. This can mean the difference between life and death. California Shock Trauma Air Rescue (CALSTAR) is a nonprofit regional air ambulance service with approximately 60 percent of flights supporting regional 911 emergency services networks and the other 40 percent supporting interfacility transports (ISTs). Every day its operations save lives, reduce disability, and accelerate recovery for victims of trauma and illness by bringing critical care to the scene.

CALSTAR needed to ensure always-available communications between the CALSTAR Communications Center (CALCOM), flight crews, medical teams, first responders, and hospitals. CALSTAR had already deployed Cisco® switching and routing infrastructure, as well as Cisco Unified Communications Manager for voice communications. But dispatch capabilities had to be integrated while keeping all of the components—from dispatchers' workstations and base radios to mountaintop microwave radio repeaters—as reliable as humanly possible.

CALSTAR deployed Cisco Unified Enterprise Attendant Console and Cisco Instant Connect with its Cisco Unified Communications Manager platform. This gives the nonprofit organization a unified solution with a single recording capability. Each team member in CALSTAR's Communications Center has a single desktop with their apps and a headset, from which they can communicate with first responders, helicopter pilots, and base stations. They also can bridge hospitals into the communication flow when they need to. CALSTAR also uses Cisco WebEx® to bring its growing organization closer together. It anticipates using the video conferencing, instant messaging, and other features to help connect crews, mechanics, and administration. Collaboration is critical when seconds count.

Transportation

Aegean Motorway

Alaska Department of Transportation

ASFiNAG

CALSTAR

Delhi Airport

DHL

Metrolinx

San Diego Metropolitan Transit System

With the Internet of Everything, CALSTAR can:

Accelerate lift times

Simplify communications and increase accuracy for high situational awareness

Enhance operational control

"The Internet of Everything is connecting our people, processes, and data in ways that we couldn't do before. The technology enhances operational control. Operations have greater peace of mind, because they know that our technology helps ensure safety and security."

Julie Hyde, IT Director, CALSTAR

Delhi Airport Improves Customer Satisfaction with Digital Technology

With IP becoming more pervasive, things that were not normally connected to the Internet are now connected, generating massive amounts of data. For industries like civil aviation, this can be of tremendous value. Delhi International Airport Limited (DIAL) saw an opportunity to go beyond connecting things. It worked with Cisco to connect people, process, data, and things and embrace the Internet of Everything (IoE).

DIAL, ranked the fourth best airport in the world, has an intense focus on customer satisfaction. Designed to accommodate 60 million passengers per year, the network backbone for supporting this traffic is critical. With more than 75 systems connected, DIAL has access to a massive amount of data. To use this data to its fullest potential, DIAL looked to Cisco to connect its data with the right elements of the airport to generate business and technology insights.

Partnering with Cisco, DIAL implemented an intelligent IP network that supports day-zero operations at maximum efficiency. By connecting its retail management systems to CCTV, DIAL gained location-based mapping capabilities to gather data on the location and duration of passengers during airport dining and shopping experiences. With an enhanced understanding of passenger preferences, DIAL can accommodate its visitors and retail businesses inside the airport. And to meet the evolving needs of digital consumers, retailers at DIAL can extend their offerings through mobile applications.

DIAL has plans to create an IP network that uses unified communications to connect all stakeholders inside the airport, placing them well on their way to capturing value in the IoE.

Transportation

Aegean Motorway

Alaska Department of Transportation

ASFiNAG

CALSTAR

Delhi Airport

DHL

Metrolinx

San Diego Metropolitan Transit System

By leveraging digital technology, Delhi Airport has:

Increased efficiency and productivity

Increased customer satisfaction

Enhanced revenue generation with a Cisco® ONE intelligent network

"We were quickly able to justify that with investment on capital expenditures – integration of the retail management system to CCTV – you could actually make your money back in a couple of months."

Davesh Shukla, VP & CIO, Delhi Airport

DHL Connects Their Entire Supply Chain to Improve Operations and Service to Customers

Every day, logistics companies move, track, and stow millions of shipments. As each shipment moves along its journey, it is touched by numerous machines, vehicles, and people. Making sure that goods arrive in time, at the right place, and intact requires knowing where everyone and everything is. DHL and Cisco are collaborating to improve decision-making in warehouse operations.

Using Cisco® Connected Mobile Experiences (CMX), DHL tracks the location of all people and assets along the supply chain in real time. The high-density wireless network collects aggregate location data on the Wi-Fi connected devices that include pallets, packages, conveyor belts, vehicles, and more. Connecting pallets will be a driver for smarter inventory management and the tracking of goods becomes faster, more accurate, predictive, and secure.

New kinds of connections will make warehouse operations more efficient and ensure a safer work environment. Connected cameras can detect damaged goods. Visibility into inventory levels will prevent costly out-of-stock situations. Telemetry data from vehicles will enable predictive maintenance. Sensors on forklifts and pallets can help prevent accidents. Connecting delivery personnel with surrounding vehicles and people generates an opportunity to monetize and optimize the return trip to improve efficiency and service in the last mile delivery. This data will improve overall decision making in warehouse operations with real-time data analytics. It also enables DHL to provide faster, more reliable and cost-effective services for their customers.

DHL is leveraging the Internet of Everything (IoE) to connect people, process, data, and things across their entire supply chain to speed efficiency, accuracy, and ultimately customer satisfaction.

Transportation

Aegean Motorway

Alaska Department of Transportation

ASFiNAG

CALSTAR

Delhi Airport

DHL

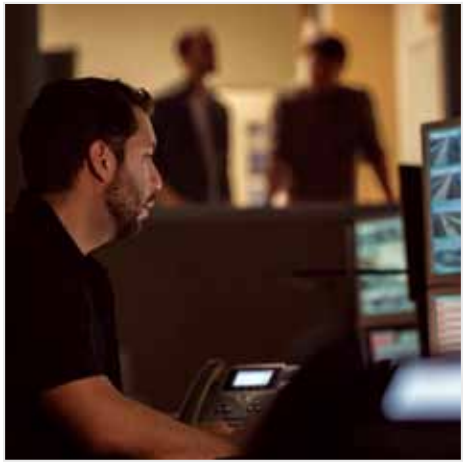
Metrolinx

San Diego Metropolitan Transit System

DHL is benefiting from the Internet of Everything. They have:

Safer and more efficient operations

Reduced costs based on increased visibility into inventory levels



Reduced accidents with predictive analytics

"The Internet of Things is the connection of almost anything–from parcels to people. Both Cisco and DHL believe this will revolutionize business processes across the entire value chain, including supply chain and logistics."

Markus Kückelhaus, VP Innovation & Trend Research, DHL

Metrolinx Builds a State of the Art Connected Rail

Metrolinx, a government agency of Ontario, moves an average of 271,000 people a day via their mass transit system. With the opening of Union Pearson Express, a rail link between Toronto Pearson Airport and Union Station, Metrolinx wanted to incorporate digital technology to make this a high quality express rail service.

The Union Pearson Express opened in June 2015 with free passenger Wi-Fi, onboard infotainment, and onboard fair collection and validation. Leveraging Cisco® IP Command and Instant Connect technology, Metrolinx has consolidated all voice over IP calls to the control center. They have also integrated all passenger intercoms and public address systems. But that was just the start. They are currently designing full on-board end-to-end network infrastructure to support all operational and passenger systems including CCTV, Public Address, Fare Collection, Infotainment and visual next stop announcements.

As part of the second phase of their digital transformation, Metrolinx is investigating the feasibility of implementing a private carrier grade fiber network infrastructure to support signaling, communications, Passenger Wi-Fi, track-side telemetry, and supervisory control and data acquisition (SCADA) systems.

Transportation

Metrolinx innovates rail travel:

Passengers enjoy onboard Wi-Fi for work and play

Digital signs with accurate schedules improve customer experience

Improved safety; and more efficient operational communications with passengers and internal staff

"Instead of looking backwards at old technologies, we're looking forward with the Cisco Connected Rail architecture. The payoff is a better passenger experience and better safety."

Brandon Scott, Senior IT Infrastructure Architect, Metrolinx

San Diego Metropolitan Transit System Improves the Rider Experience

Optimizing the possibilities of the Internet of Everything (IoE) with real-life transportation solutions have been happening all around the world. With longtime Internet of Things partner, Davra Networks, Cisco is helping San Diego Metropolitan Transit System (MTS) transform their riders' experience.

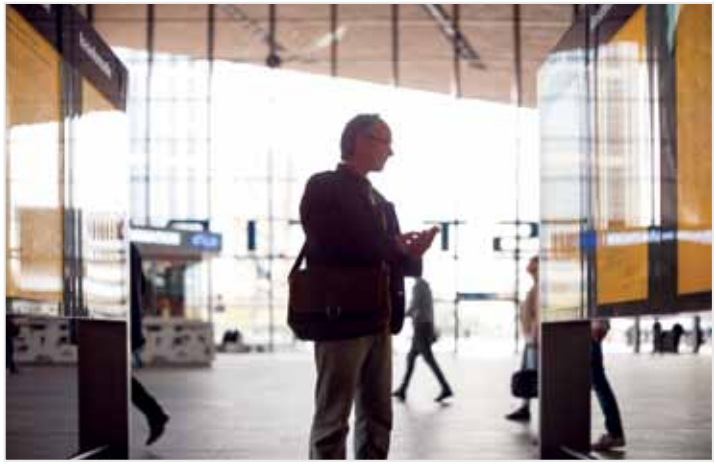
As San Diego's local provider of bus and light rail vehicles, San Diego MTS covers approximately 3,200 square miles and serves nearly 100 million riders every year. Striving to improve the quality of service to their riders, MTS looked to provide them with accurate, to-the-minute, next train arrival information. To increase the accuracy of information and improve customer experience, MTS partnered with Cisco and Davra Networks for a combined solution.

Currently, the customer is building out a Cisco® optical network and will be testing the Cisco Industrial Integrated Services Routers to give them real time GPS of the trains. With the Cisco Industrial Integrated Services Routers and Davra's RuBAN platform, MTS will track the positions of their trains in real time, all while sending data seamlessly to over 200 digital signs across MTS train stations. This combined solution will give riders access to accurate information and data like never before.

Transportation

San Diego Metropolitan Transit System benefits from the Internet of Everything with:

Real-time tracking of its light-rail system



Real-time information on train arrival provided to MTS passengers

"It's the first piece of opening up a huge direction and a huge opportunity for us to do more with public safety…ridership experience…operational efficiencies for our staff and…increased ridership."

Sandy Bobek, IT Manager, San Diego Metropolitan Transit System

Other

EllisDon Integrates Building Management Systems to Improve Building Performance and Transform the Tenant Experience

As one of Canada's largest construction services providers, EllisDon is committed to innovation by removing traditional siloed approaches to building design. To do this, they wanted to bring data from previously disparate building systems and bring them together over one IP network.

Using Cisco Smart+Connected™ Real Estate solutions, they are completely transforming the building business from traditional brick and mortar to IT-based locations across the country. Buildings include Eighth Avenue Place in Calgary, Surrey Memorial Hospital Critical Care Tower in Vancouver, and several other buildings in Toronto, including: PwC, George Brown College, Halton New Oakville Hospital, Joseph Brant Hospital, and their newest endeavour, Waterpark Place III. The soon to be completed tower will add 30,000 square feet of office space to the area and will feature an above ground path connection to Union Station, Canada's largest transit hub. It will also be home to a Cisco Innovation Center, which is enabling the development of other Internet of Everything (IoE) related applications. EllisDon will also leverage the Cisco® Integration Platform to integrate third-party applications for lighting, security, blinds, heating, cooling, and other environmental factors back into their building management system.

In phase two, EllisDon will leverage the Cisco® Enterprise Mobility Services Platform to make many of these new controls and capabilities available via smart phones. This enables the management company to not only monitor and improve the performance of the building but also deliver new tenant experiences.

Other

EllisDon

Fernbank Museum of Natural History

Foxy Lady

Transwestern

Water for People

With the Internet of Everything, EllisDon has:

Reduced cost and client risk

Improved efficiencies and processes

Gained real-time data analysis of cities

"The IoE is already impacting commercial construction. We know the importance of getting the network online early to start testing and commissioning systems. Each building we're involved with provides more value as we add more IoE features. We're not just talking about smart buildings anymore; we're producing them and demonstrating their value."

Stephen Foster, Managing Director; Information, Communication, and Automation Technology, EllisDon

Fernbank Museum Creates Interactive, Immersive Experience for Its Visitors

Fernbank Museum of Natural History is a private, nonprofit organization with a mission to inspire lifelong learning of natural history and to encourage a greater appreciation of our planet and its inhabitants. With a desire to expand its attractiveness as an education and social location, Fernbank sought to upgrade its infrastructure.

Today, visitors can interact with the exhibits through their personal devices for a more in-depth learning experience. The free Wi-Fi network and the Fernbank Museum application guide visitors through the museum and present them with educational information that encourages longer visits and in-depth exploration. Fernbank also tracks visitors along their journey to understand overall preferences and time spent in the museum.

To create this immersive environment, Fernbank turned to Cisco to establish a high-density Wi-Fi network and to develop an interactive application where the museum and its visitors can communicate. Fernbank installed access points throughout its 150,000 square foot facility and brought together, people, process, data, and things to create a truly connected museum.

Other

EllisDon

Fernbank Museum of Natural History

Foxy Lady

Transwestern

Water for People

Fernbank Museum of Natural History transforms visitor experience:

The density of Wi-Fi availability throughout the facility supports additional exhibit content

The museum can easily and quickly deploy hardware behind the scenes

Better engagements with guests through their personal devices

"We've added some kiosks in our hands-on exhibitions, and we are drawing the data through the Wi-Fi network. That's really been helpful for us in terms of thinking about how we can do our exhibitions going forward."

Jennifer Grant Warner, Chief Programming Officer, Fernbank Museum of Natural History

Other

Regatta-Winning Yacht, Foxy Lady, Harnesses Digital Technology for Competitive Advantage on the Sea

In sailboat racing, crews are constantly responding to ever-changing conditions. Unpredictable conditions call for situational tactics, plus a long-term strategy for the race. The Internet of Everything (IoE) gives the crew of the world-class regatta-winning yacht, the Foxy Lady, its competitive advantage. The team implemented sensor network components that use real-time data and connected things to provide time-saving analytics. The yacht's ruggedized platform combines boat sensor data, GPS, wind and weather information, and a local Wi-Fi access network to help the crew make critical decisions.

Today, the yacht's data is generated from an efficient on-boat network that sends real-time data to the crew locally over Wi-Fi and cellular networks. The racing vessel is also connected to cloud applications for data analytics, storage, and reporting. Sensors collect, store, and analyze data to optimize the boat's speed through the water in varying wind, sea-state, and tidal conditions.

Working closely with Cisco® Services, the yacht crew set digital transformation speed records. Amazingly, the team implemented on-board technology in just two weeks. Hundreds of thousands of measurements have been captured since deployment, allowing for ongoing analysis that helps the crew optimize the boat's speed, sail trim, and hull efficiency.

Other

EllisDon

Fernbank Museum of Natural History

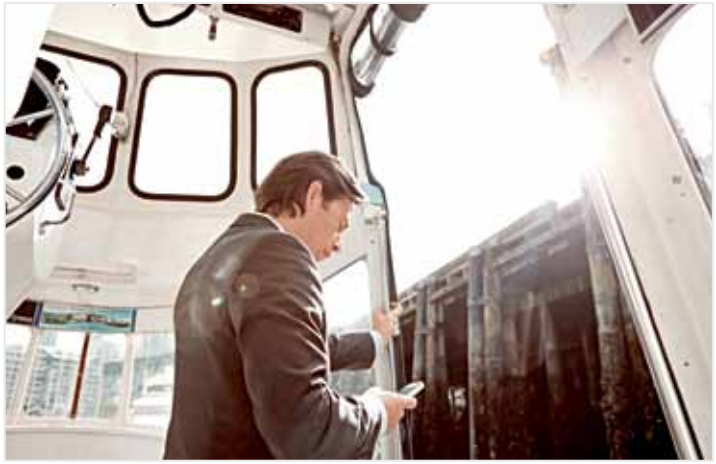
Foxy Lady

Transwestern

Water for People

The Foxy Lady captures value in the Internet of Everything with:

The ability to optimize the boat's speed and efficiency



Fast collection of critical data in real time

"My vision as the skipper of Foxy Lady, for our future is to continue to augment our team with the best in technology that the industry has to offer."

Bill Bremner, Skipper and Owner, Foxy Lady

Other

Transwestern Creates One of the Most Energy-Efficient Buildings in the United States

In order to compete in the commercial real estate market, Transwestern knew it needed to differentiate itself with innovative new services to attract clients. With a vision to transform property management, Transwestern began turning its vision into reality at one of its award-winning management properties, Pennzoil Place.

Built in 1975 with 1.4 million square feet of rentable space, Pennzoil Place in Houston, Texas is made up of two 36-story towers. With approximately 35 mobile employees and contractors and 95,000 network-connected devices, Pennzoil Place had challenges with efficient building management.

Cisco and Zones, a Cisco® Gold Certified Partner, helped Transwestern install a core IP network to connect all current and future building systems, communications systems, and physical security systems. By connecting all building points to the IP network, Transwestern can analyze energy consumption on a real-time basis and its building engineers can monitor and manage building systems remotely from tablets or laptops.

With these changes, Transwestern decreased energy costs by 21 percent from 2011 to 2012, and another 11 percent in the first eight months of 2013. In addition, using unified communications and collaboration technology from Cisco, Transwestern employees and contractors can communicate and collaborate from anywhere, on any device. With the ability to reach building engineers and security officers anywhere in the building, Transwestern responds more quickly to tenant requests and building issues, increasing tenant satisfaction.

By connecting everything to the network and uncovering insights to augment employee productivity and building management processes, Transwestern exemplifies the innovation made possible by the Internet of Everything (IoE).

Other

EllisDon

Fernbank Museum of Natural History

Foxy Lady

Transwestern

Water for People

With the Internet of Everything, Transwestern has:

Increased building efficiency

Improved tenant experience

Lowered energy costs by 21 percent in the first year

"Embracing the Internet of Everything has increased tenant satisfaction while also lowering operating costs."

Roger Vasquez, Director of Engineering, Transwestern

Other

EllisDon

Fernbank Museum of Natural History

Foxy Lady

Transwestern

Water for People

Water For People Harnesses Technology to Deliver Safe, Clean Water

Millions of people worldwide do not have access to clean water. This simple fact can lead to illness and even death. While many organizations are working to improve access to clean water, the challenge remains difficult.

With grant support from Cisco, Water For People uses the power of technology to develop more effective and long-lasting solutions. Water For People believes that collaboration and information-sharing is key to improving water and sanitation around the world. Its goal is to deliver safe, drinkable water to four million people in 30 districts across nine countries. Using smartphone and web-based technology developed with Cisco® support, Water For People monitors water investments by collecting and analyzing data from remote and difficult-to-reach field locations. The analysis helps increase the water delivery sector's effectiveness, accountability, and transparency.

Field Level Operations Watch (FLOW) is a mobile application that collects, manages, and analyzes data on the condition of water service distribution points. This data is automatically uploaded to a dashboard, where it helps team members make informed decisions. The Re-Imagine Reporting (RIR) platform offers a comprehensive view of what is happening in country programs over time and allows partners to make decisions based on year-over-year trends. By connecting these devices and data, over 500,000 people now have access to clean water. Water For People is using the Internet of Everything (IoE) to give everyone, everywhere access to clean, safe, and continuous sources for water forever.

Other

EllisDon

Fernbank Museum of Natural History

Foxy Lady

Transwestern

Water for People

Water For People is ending water access problems:

FLOW is used by 69 organizations in 28 countries

75 percent of residents in Water For People targeted communities in India have access to reliable water and sanitation

549,000 people received access to improved water or sanitation and hygiene education in 2013

"The Internet of Everything is creating an environment where people can see data and respond in different ways, can access things in different ways, and can intervene and support changes in the world that make the world a better place."

Ned Breslin, CEO, Water For People

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Europe, Middle East, Africa, and Russia (EMEAR)

For more on customer success stories, go to cisco.com/go/customer-success