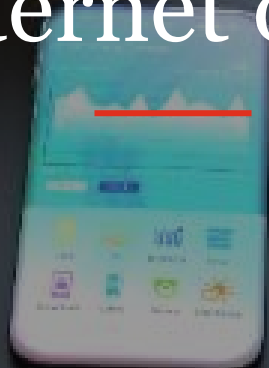


The Internet of Things





Internet of Things essentials

The Internet of Things (IoT) **extends internet connectivity** to a diverse range of devices and everyday things.

These devices utilize embedded technology to communicate, record, and interact with the external environment using the Internet as a means of communication. A "thing" can be any object that can be assigned an IP address and can transfer data over a network. The connected embedded systems include small micro-controller-based computers that do not require a human interface, but rather function independently. Instead of interacting with a human, these systems use sensors or other advanced detection mechanisms to collect data and communicate that back to a data repository or act upon the data without user interaction.

Features

- Allows for devices to send data over the internet without any human-to-human or human-to-computer interaction
- IoT and IIoT enables efficiencies that were not possible in the past as devices and assets can communicate with each other, create alerts, and take action
- IoT is the backbone of smart cities, which integrate smart devices and smart infrastructure with IT to more efficiently manage a city's assets
- The Industrial IoT (IIoT) is transforming asset-intensive industries by reducing or eliminating downtime, enabling predictive insights, and boosting productivity and efficiencies across plants and entire fleets.

IoT in practice



Asset tracking

Stanley Black & Decker uses Cisco connectivity and smart RFID tags to track their products as they move around assembly lines and throughout the plant. Direct cost savings are apparent as equipment effectiveness increased by 24% and costs have decreased because employees are better allocated and roles are more clearly defined.



Smart metering

GridComm in partnership with Intel is installing smart street lights in a few major cities. The lights will change their brightness and hours of operation based on real-time foot and vehicle traffic and use smart metering to analyze energy consumption. With a smart electric grid, a building could take this extra electricity and store it on batteries when it is cheaper and then use the supply when demand peaks.



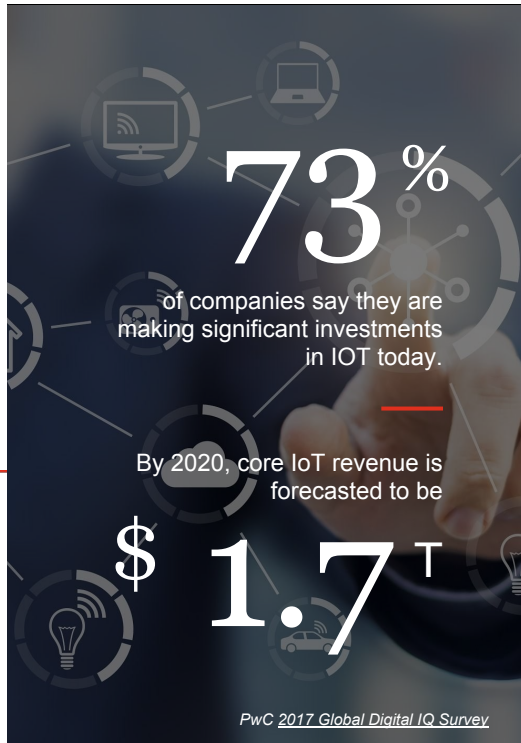
Fleet management

Sierra Wireless's mobile solutions and chips can be embedded in vehicles and provide numerous real-time insights and data. Their latest solutions offer fleet operators insights into environmental compliance, optimizing maintenance and logistics, optimizing routes and fuel consumption, and driver performance.



Predictive maintenance

VR Group, the state owned railway in Finland, developed a predictive maintenance solution that monitors train parts at all times. Models predict when parts will fail and they can be fixed preemptively preventing unnecessary down time. Using sensor data and analytics, VR Group gets a real-time overview of their fleet.



Want to learn more about IoT? View the PwC's Next in Tech [briefing](#).



Our experience

We work with clients to create and deploy IoT strategies and solutions.

CORE CAPABILITIES:

- IoT and Industrial IoT (IIoT) strategy
- Product development roadmap and planning
- Technical design
- Functional design and implementation
- Operating model design and implementation
- Testing and certification
- Change management

IoT Case Studies

AUTOMOTIVE

Connected car service delivery strategy

PwC worked with an auto manufacturer to assess key market trends and connected car services components/segments along strategic, operational, and financial criteria to determine attractiveness. We recommended capabilities and operating model changes required to effectively deliver connected car strategy.

TELECOMMUNICATIONS

Smart Home product development roadmap

PwC worked with a large Middle East telecom company to develop its Smart Home strategy, including identifying key product/solution offerings, selecting partnerships along the smart home service value chain, and detailed product development roadmap.

CONSUMER PRODUCTS

Remote monitoring and predictive maintenance

For a global beverage company, PwC created a sensor-enabled Smart Cooler enabling real-time image processing of inventory and remote tracking of maintenance issues for a global fleet of coolers.

PUBLIC SECTOR

Diesel tank monitoring

After a hurricane devastated a U.S. territory's communications and power infrastructure, PwC worked with the aqueduct and sewer authority to deploy a solution to remotely monitor diesel fuel levels to coordinate fuel delivery and avoid pump downtime.

IIoT / Large Platform Deployment Case Studies

POWER AND UTILITIES

Optimizing asset performance management

PwC is helping a Fortune 200 global power company develop, deploy, and scale Industrial IoT solutions across 15+ plants by 2018 and beyond. PwC's solutions--powered by GE Digital technologies--help the company optimize asset performance management and drive operational excellence across plants and fleets.

OIL AND GAS

Digitizing bulk logistics

PwC is helping a global oil provider digitize its end-to-end bulk logistics process. The client is starting with a proof of concept phase and will then consider scaling the solution both geographically and operationally into other commodities like sand and fuel.



New Services resources and contacts

THOUGHT LEADERSHIP

- [Next in Tech Briefing: IoT](#)
- [IoT: What board members need to know](#)
- [The Industrial Internet of Things](#)
- [IoT: What it means for U.S. manufacturing](#)
- [Six principles for becoming a digital industrial](#)
- [Connected cars: where are we headed?](#)
- [Intersection of AI and IoT](#)

Find other recent thought leadership on PwC's [Next in Tech](#) blog.

TECHNOLOGY ALLIANCES AND VENDORS



We want to help you take this technology to market.



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