

IoT applications spanning across industries

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Internet of Things examples extend from smart connected homes to wearables to healthcare. In fact, IoT is in every aspect of our lives. Not only are Internet of Things applications enhancing our comfort, but they also simplify routine work life and personal tasks.

The recent hype about our IoT future has forced companies to consider the basic building blocks for the IoT ecosystem—hardware, software and support—to enable developers to deploy applications that can connect anything.

We know the potential of IoT markets is huge, but some domains will mature more quickly than the rest. Here are some application areas that have the potential for exponential growth.

Smart Homes

A smart home is one in which devices have the capability to communicate with each other, as well as with the Internet. Smart homes enable owners to customize and control their home environments for increased security and management. There are already hundreds of IoT technologies available to monitor and build smart homes.

Consumer product manufacturers like Belkin, Philips, Amazon and Haier have established themselves in the smart home market. Here are some ways to build your own smart home with the Internet of Things.



Nest Learning Thermostat is a revolutionary concept with many benefits. Its breakthrough technology and it a highly efficient addition to your home. Usually, about half of your energy bill can be attributed to your thermostat. It can save up to 15% on cooling and 12% on heating bills on average.



Image: Philips Hue, image copyright: www2.meethue.com

With products such as Philips Hue, the Internet of Things continues to show real potential in smart home (600 to 800 color lumens, which means there is a light for every one of your moods. It's compatible with smart speakers like Amazon Echo and Apple's HomeKit for the iPhone.



Image: Air Quality Egg, image copyright: airqualityegg.com

Based on the concept of a “community-led air quality sensing network,” the Air Quality Egg is a smart sensor that tracks traces of CO and NO₂ in home environments. These two gases are high contributors to air pollution by inexpensive DIY sensors. Community participation puts you in touch with like-minded people concerned about the environment.



Image: Amazon Echo, image copyright:
amazon.com/echo

Take control of your home with your voice: Amazon Echo was built around this concept. Designed to be a Echo has seven built-in microphones so you can be heard from across the room, even through other noise. It can play music, listen to audio books and integrate with other smart home devices, like Philips Hue, Samsung SmartThings, and others, backed with 360° omni-directional audio.

Wearables

Wearables are one of the hottest trends in IoT. Apple, Samsung, Jawbone and plenty of others are joining the market.

Wearable IoT tech is a very large domain consisting of many devices, broadly covering fitness, health and productivity. The primary prerequisites for wearable IoT technology are that sensors or devices are highly energy-efficient, have low latency, and are easy to use.

sized. Here are some top examples of wearable IoT devices and what they do.



Image: Jawbone UP2, image copyright:
jawbone.com/up

This tracker band is an excellent example of wearable IoT applications in healthcare. It includes features like activity logging, coaching and tracking sleep patterns. It's also offered in many styles and colors.



Image: Fitbit Charge HR, image copyright:
www.fitbit.com/chargehr

Charge HR is a high performance IoT wearable that provides many smart features. It tracks your heart rate while simply sitting on your wrist. You're able to automatically track your heart rate and workouts, monitor call notifications, and synchronize the data with your PC and hundreds of smartphones and wireless devices.



Image: Motorola Moto 360 Sport, image copyright:
www.motorola.com

The Motorola Moto 360 Sport delivers all the important health information, communication updates and e wrist in a very sleek and fashionable watch design, It's available in both men's and women's collections an iOS apps.

Retail

The potential of IoT in the retail sector is enormous. Imagine if your home appliances could notify you whe order them all on their own. This proximity-based advertising model of smart retailing is becoming a reality.

Things application examples through smart supply chains. Applications for tracking goods, real-time inventory among suppliers and retailers, and automated delivery capabilities exist and new growth areas are emerging.



Image: Smart Retail Solution, image copyright: smartretailsolution.com

One example is TCI's Smart Retail Solution, powered by Yourcegid Retail's management software. Based on handheld devices and ePOS stations, the Smart Retail Solution helps avoid costly mistakes and maximizes resource efficiency. It integrates data from multiple sources, collecting important consumer data, creating alerts for errors and monitoring inventory levels.

Smart Cities

Smart surveillance, safer and automated transportation, smarter energy management systems and environmental monitoring are examples of IoT applications for smart cities. Smart cities have real, substantial solutions for complications such as traffic congestion, pollution, poor infrastructure and energy supply shortages. Here are some examples of IoT device applications in smart cities.



Image: Bigbelly, image copyright: bigbelly.com

The Bigbelly smart waste and recycling system is a waste management system. Completely modular, Bigbelly offers real-time data collection capabilities via a cloud-based service. It helps with smart trash pick up, helps avoid other notifications to help cities manage waste better and keep them both cleaner and more beautiful.



Image: CitySense, image copyright: twilight.com

Based on a patented presence-detecting technology, CitySense is a smart and wireless outdoor lighting fixture. Like adaptive lighting, it helps save electricity by intuitively adjusting the brightness of street lights, based on the presence of automobiles and pedestrians. And, it is smart enough to filter out interferences like animals and trees.



Image: Libelium, image copyright: libelium.com

Libelium has launched a new smart parking solution for smart cities to allow citizens to find available park parking device — with LoRaWAN and Sigfox — features a smaller size, higher accuracy and faster detector installation costs.

Health Care

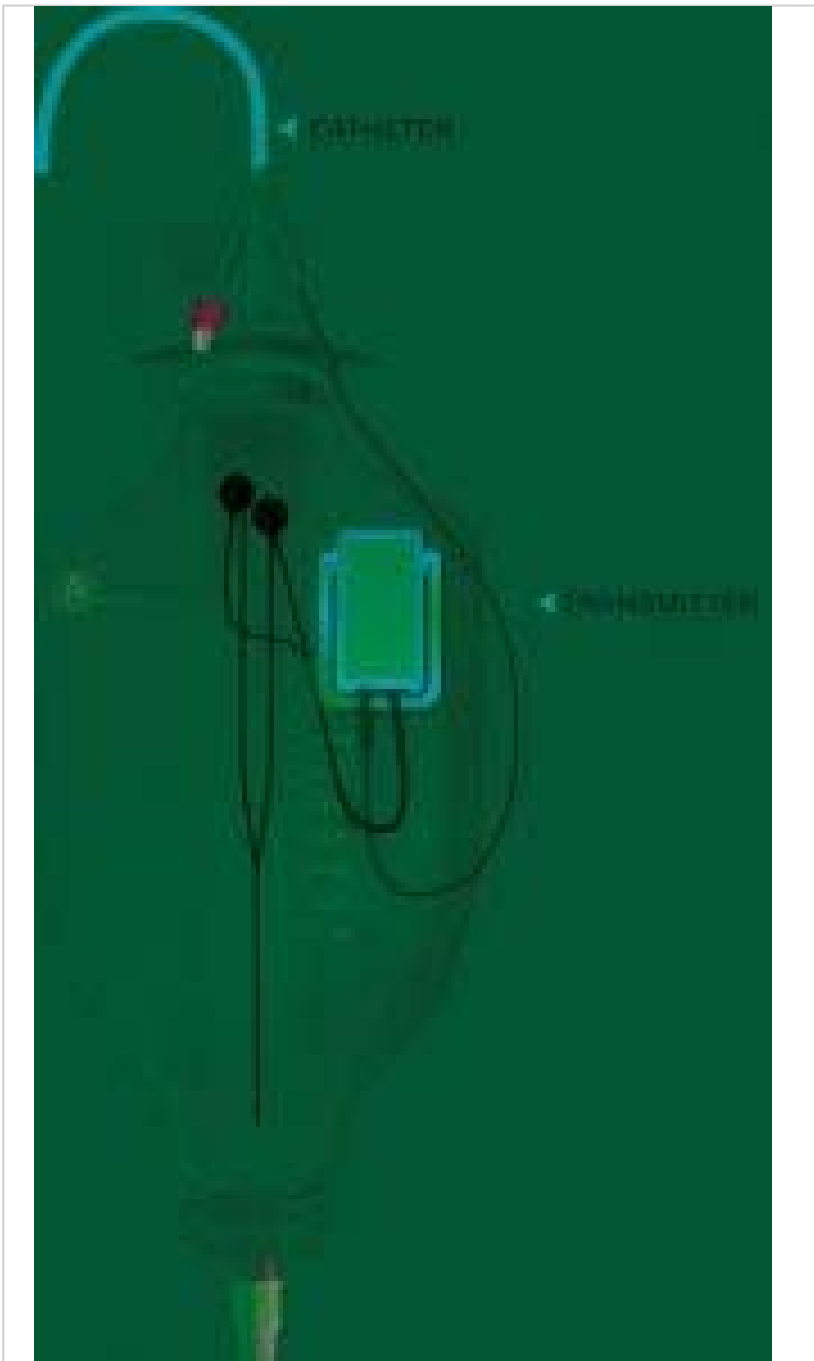


Image: UroSense, image copyright: www.future-path.net

UroSense is a smart fluid management solution offered by Future Path Medical. It automatically measures (CBT) and urine output of patients on catheterization. The smart monitoring of these vital signs helps avoid early care of medical conditions like diabetes, prostate cancer, heart failure and sepsis. UroSense can wire directly to nursing stations anywhere.



Image: Medication Dispensing Service, image copyright: NYT

Philips is one of those tech giants making full use of Internet of Things opportunities available for business. Service is one of the most successful IoT healthcare applications from Philips. Focused on elderly patients to maintain their medication dosages on their own, MDS dispenses pre-filled cups for the scheduled dosage when it's time to take or refill medications, or when there are malfunctions or missed dosages.

Agriculture

The Phenonet Project is designed to help farmers monitor vital information like humidity, air temperature, and sensors. This project helps farmers improve yield, plan more efficient irrigation and make harvest forecast, study the effects of genomes and microclimates on crop production.



Image: CleanGrow, image copyright: www.cleangrow.com

Based in Ireland, the CleanGrow project helps monitor crop nutrients with a carbon nanotube-based sensor. It helps farmers to alter crop maturity rates or colors. As opposed to conventionally used analog devices, the CleanGrow device detects the quantity and presence of specific ions in crop production to optimize quality and yield.

Transportation

IoT is making self-driving and/or connected cars a reality. Automotive industry leaders such as BMW, Ford, and Google are entrants in the auto space like Google, Local Motors and Uber are announcing and deploying innovative connected car platforms. These automotive IoT initiatives promise to save lives, reduce pollution and improve transportation for millions around the globe.



Image: Railway, image copyright: <http://media.gettransportation.com>

Rail is another area of high upside for the Internet of Things. For example, the latest GE Evolution Series Ti with 250 sensors to measure a staggering 150,000 data points per minute. This data, combined with other data from environmental and operating systems, along with analytics, helps anticipate events that might impact safety, on time performance, equipment uptime and longevity.



Image: CAT, image copyright: www.caterpillar.com

Caterpillar is helping its dealers succeed with the help of IoT for industrial analytics. The company is harnessing data from its industrial engines, machines and tools, and shares the analyzed data insights with its customers. This helps them identify problems, manage fleets to avoid unplanned downtime and proactively schedule maintenance.

Applications for Industrial Internet of Things

Industrial automation is one of the most profound applications of IoT. The IoT infrastructure, combined with cloud networks, wireless connectivity, innovative hardware and machine-to-machine communication, will complement the conventional automation process of industries. IoT automation solutions for industries are already in the market, as NEC, Siemens, Emerson and Honeywell.



Image: construction industry site, image copyright: Pixabay.com

In the construction industry, determining concrete quality is very important. The Embedded Data Collector Structure, works by embedding sensors in the concrete during the pouring and curing process. This way, permanent part of the structure. They provide vital information about concrete strength and quality directly to the Work Station.

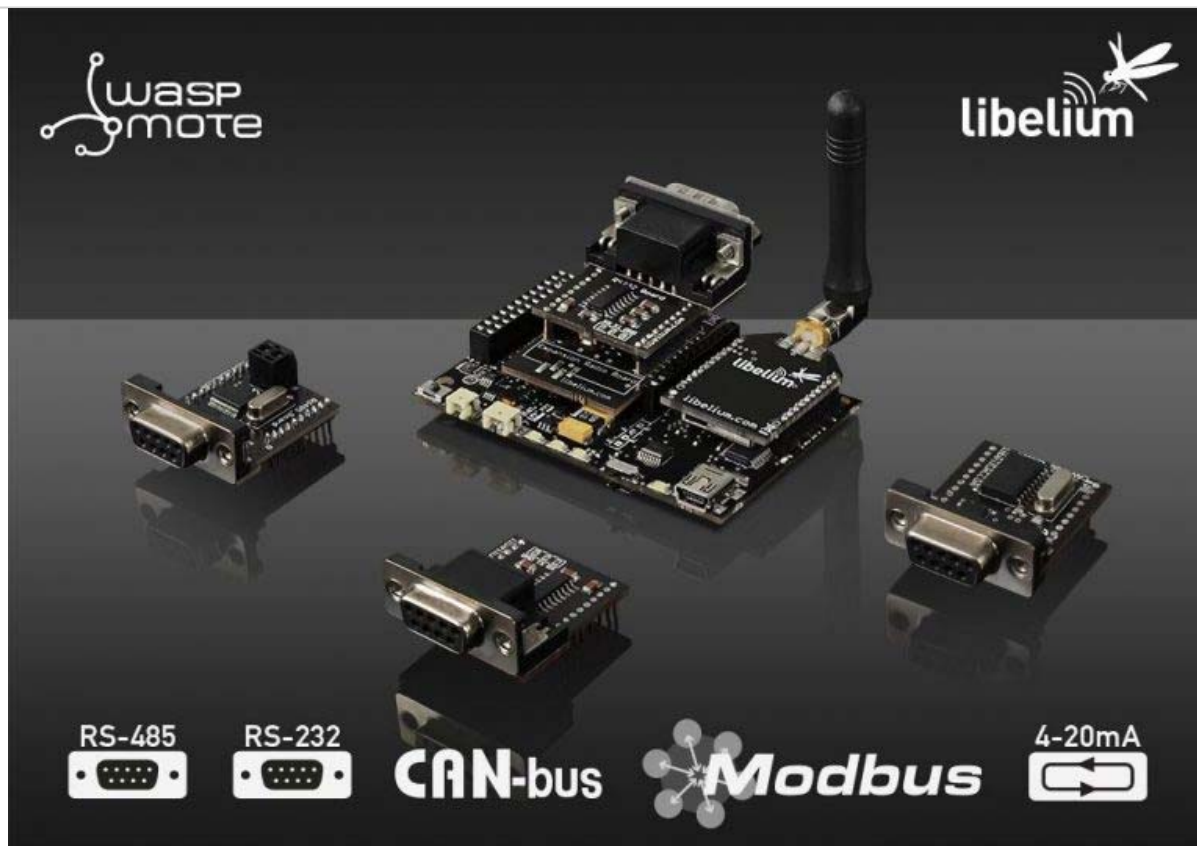


Image: Libelium Wasp mote Sensor Nodes, image copyright: www.libelium.com

Libelium is known to champion Internet of Things application solutions for industries. Its Wasp mote Sensor API libraries and industrial protocol modules to help integrate industrial devices with the cloud for data collection. Supported industrial protocols include CAN Bus, RS-232 and RS-485. The nodes' applications range from military to manufacturing sectors.



Image: smart meter solution, image copyright: www.landisgyr.com

Advanced metering promises to make energy management easier for everyone. Landis+Gyr offer a wide range of energy management products, such as its smart metering solution, which will help consumers better understand their energy usage with load management as well. They have many multi-energy metering solutions to offer reliable energy management.



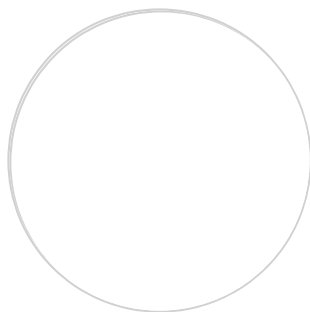
Image: electricity grid, image copyright: Pixabay.com

Landis+Gyr's grid management solutions are smart programs that provide capabilities to automate, analyze requirements in a smarter manner. They offer leading-edge tools that help suppliers and consumers reduce and increase energy use efficiency.

[Understanding the Internet of Things](#) and the true potential of IoT applications is truly dazzling. Stay focus maybe you'll be the next IoT innovator who transforms a product, service or even an entire whole industry

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