Pipeline
Technology for Service Providers.
www.pipelinepub.com Volume 14, Issue 2

From Fighting Malnutrition to Making Cities Greener: The Unexpected Ways IoT is Changing Our World

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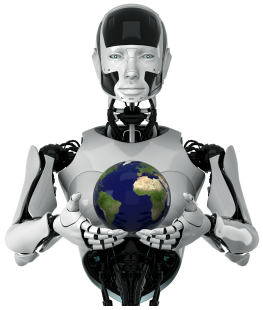

The Internet of Things (IoT) is rapidly changing the way we interact with almost everything in our daily lives. From smart homes and connected cars to sensors in manufacturing plants, new applications of IoT technology that come to market every day, making our lives easier and more efficient. All markets are integrating the technology at a breakneck pace, setting a course for significant scale in the coming years. In fact, **Gartner** predicts that by 2020, IoT will connect 20.4 billion things worldwide.

As the broad web of the IoT continues to expand and the technology matures, companies across every industry are recognizing that the solution is a necessity to stay relevant in our digital world. In fact, the 2017/2018 Vodafone Barometer report found that 85 percent of companies surveyed across global markets see IoT as “critical” for the future success of any organization in their sector.

With IoT, businesses have access to more information than ever before, and they’re using it to rethink how they operate—to, in fact, transform from the inside out. IoT is enabling businesses to use data to make smarter decisions. It’s helping them to build stronger relationships with their customers. It’s improving their speed and agility in responding to urgent issues.

As businesses continue to embrace IoT, they are finding unique ways to leverage the technology, driving progress in new and often unexpected ways. With uses in transportation, agriculture and healthcare, IoT is offering new and impactful solutions to, among other things, fight malnutrition, offer sustainable ride-sharing transportation options, and even enable better disease management. This sampling of unique cases offers a view into the magnitude at which IoT will provide better and more efficient solutions to change the way we interact with our world.

A Smart Way to Fight Micronutrient Malnutrition

Food fortification is common in the developed world. From the milk we pour into our cereal each morning to the calcium-enriched orange juice that we use to wash it down, much of our food is fortified with the vitamins and minerals we need for healthy development and optimal function. However, there are two billion people in the developing world who aren’t as fortunate. Without

access to key vitamins and minerals in their available food supply, they can suffer from “hidden hunger” or micronutrient malnutrition. This is a problem that can lead to infant fatalities, intellectual disability in children, preventable blindness among adults, and maternal death during childbirth.

Fortunately, micronutrient malnutrition is a preventable and solvable problem. Organizations like Sanku (Project Healthy Children) are at the forefront of battling hidden hunger with technology. By adding nutrients during the milling process with a unique technology called a “dosifier,” Sanku is making fortified flour available to communities in need, creating a solution for people who lack access to healthy food.

Today, IoT is accelerating these efforts. Before adding IoT to their technology, workers had to manually oversee dosifier maintenance and flour production at each mill Sanku supports, meaning each staff member could only manage 25 dosifiers.

With IoT, Sanku mill workers will now be able to monitor up to 100 dosifiers in real-time, through data-driven insights on equipment performance, maintenance and power supply. IoT allows Sanku to optimize performance and scale its operations significantly. Using IoT, Sanku will expand its efforts across an estimated 3,000 mills in the next four years. By 2025, Sanku aims to have IoT in over 15,000 mills, providing fortified flour to 100 million people in need.

A Cleaner, Greener Transportation Solution

According to the EPA, the transportation industry was the largest contributor of greenhouse gas emissions in 2016 in the U.S., accounting for 28.5 percent of all air pollution. While ride-sharing services and alternative energy cars are offering new options to reduce carbon emissions, advances in IoT and mobile technology are also providing new and unexpected ways to combat this global issue.

Smart bike-sharing is a green, healthy and sustainable transportation solution that allows us to reimagine how people live in and move through cities. Smart bike-sharing leverages big data insights to reduce street congestion and a city’s carbon footprint while simultaneously providing healthier alternatives for short-distance commuting.

Mobike, the world’s first and largest, smart cashless and station-free bike-sharing platform, is making an impact on a global scale. To date, Mobikers have cycled over 18.2 billion kilometers, the equivalent of saving over 4.4 million tons of carbon emissions, worth more than $194 million in economic benefits.

Using IoT, Mobike is providing a unique mobile solution in Singapore that is simultaneously improving quality of life and the environment. Mobike uses a unique bike design and a smart lock system, accessible via smartphone app, which riders can use to pick up and drop off bicycles across the country at their leisure. IoT enables the key operations for the ride-sharing platform, which includes GPS navigation, allowing users to find and book available bikes, and Mobike’s QR code-based locking system.

As one of the earliest adopters of IoT technology, the transportation industry continues to push the boundaries of new and exciting ways to use the Internet of Things. As green initiatives continue to drive smart city development, businesses are finding unexpected applications for IoT, like smart bike-sharing, to improve the lives of their customers.

Better Disease Management with IoT

Diabetes is the seventh leading cause of death in the U.S. and a growing issue globally. In fact, the International Diabetes Foundation estimates that the total number of people with diabetes is expected to grow from 415 million in 2015 to 642 million by 2040.

Diabetes requires constant monitoring and management, and if neglected, the repercussions can be fatal. Fortunately, advances in IoT technology create affordable, easy-to-use solutions that play a big role in helping to lower the glycated hemoglobin (HbA1C) of people with diabetes. Companies like Smart Meter, LLC are bringing new and innovative products to market to disrupt standard diabetes management methods. One such product is their cellular iGlucose® Diabetes Care Solution, an easy-to-use mHealth solution supported by IoT.

iGlucose uses IoT to provide a simple, effective, and impactful disease management solution. Delivered via a global IoT network, the cellular iGlucose blood glucose meter is able to instantly transfer data real-time to iGlucose personal web portals, accessible to patients and their designated "Circle of Care." Patients, family members and healthcare professionals can access the portals for customized trend reports and digital logbooks that automatically update information each time blood glucose readings are taken. The platform also supports two-way communication, so updates can be sent to any designated member of the patient's Circle of Care via text or email. Recipients can easily respond or remind users to check their blood glucose levels.

With better visibility, medical professionals can attend to patients according to their level of need. The ability for real-time monitoring and the increase of interactions between caregiver and patient is having real-world impact on iGlucose users. Increasing communication has been proven to improve therapy compliance and drug adherence in many patients, ultimately making disease management more effective.

As we look ahead, unique IoT applications are shaping new and exciting experiences that will only continue to change the way we interact with our world. Simply put, these products and use cases are making connected healthcare a reality. Ecosystems harnessing technology like Smart Meter and their health partners to leverage reliable, timely and accurate data will be those that see true advantages in the digital future.