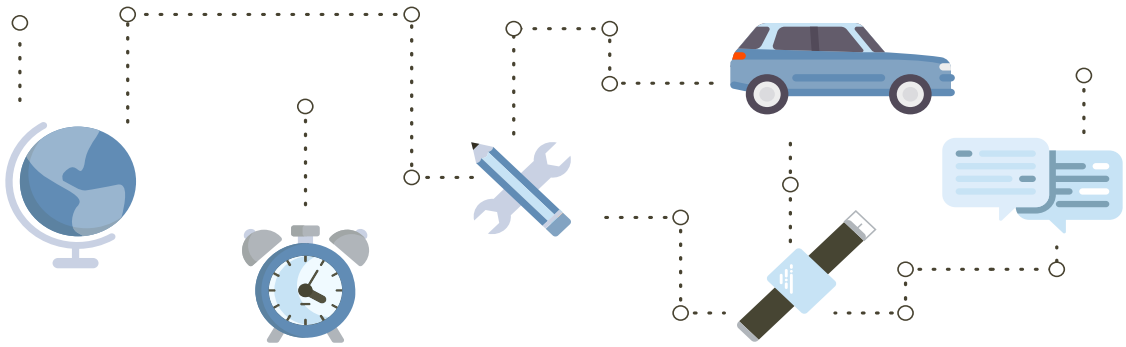

How to Find Value for People in the Internet of Things

New IoT Technologies Will Keep People Around the World Safer and Healthier

AWARE 360

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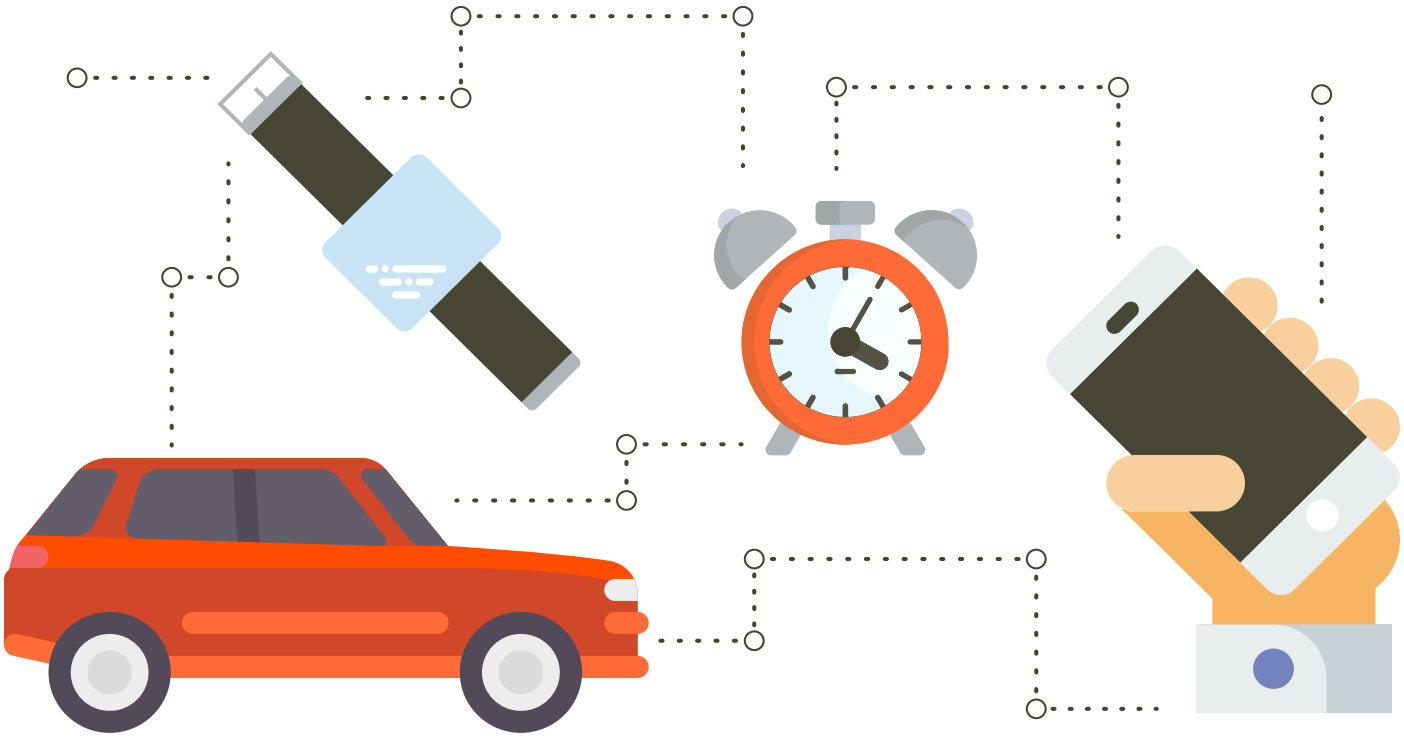
How to Find Value for People in the Internet of Things (IoT)

The Internet of Things (IoT) is spurring a revolution of innovative technology and new ways of doing business, dramatically transforming our society. Surprisingly, the IoT has its roots in some of the most common technology we all use – computers, internet and sensors all contributed to creating a vast network for machines to communicate.

Although these tools have been available for many years, the concept of the IoT wasn't fully understood until 1999 when Kevin Ashton coined the term the "Internet of Things" while developing the Electronic Product Code (EPC)[1].

Fast-forward almost 20 years and it's becoming commonplace to control the thermostat in your house with a smartphone, browse the internet in your car, and remotely manage industrial machinery.

To date, focus in the IoT has been primarily on physical assets. We've seen the emergence of smart homes, smart cities, smart objects and smart transportation – but somewhere along the way we forgot about the most important smart element, people.



[1]Internet of Things (IoT) History (n.d): https://www.postscapes.com/internet-of-things-history/

50 BILLION
CONNECTED DEVICES

By the end of the decade, almost every business and household will be transformed by the Internet of Things through the benefits of 'connectedness.'

Our connected world is growing at a breathtaking pace; the number of connected objects is projected to grow to 200 billion by 2020[1]. That's nearly 26 smart objects for every human being on Earth. These smart objects range from smartphones and machinery with built-in sensors to wearables that transmit biometric data to help identify problems and instantly call for help.

[1]IDC, Intel, United Nations.

ONE MILLION NEW IOT DEVICES EVERY HOUR

It's predicted that spending by organizations and individuals on connected devices will increase to $2.5 million a minute, with one million new IoT devices being sold every hour by 2021[1].

Organizations which embrace the Internet of Things are expected to increase their productivity while also reducing costs[2]. More importantly, to us, the Internet of Things will provide real time information and actionable insights to help keep people healthier and safer.

[1]Gartner, Newsroom, 5 October 2015: http://www.gartner.com/newsroom/id/3142917
[2]Leveraging the Internet of Things for Competitive Advantage. Knowledge@Wharton , 22 March 2016.

Putting Humans First

The fast-paced creation and adoption of a vast number of IoT components over the past two decades has produced an environment where it's now possible to apply this technology to people's needs. Now, not only can we gather more information about ourselves and our environment than ever before, but we also can use it to drive actionable insights to help better our lives.

For example, new wearables allow students to access buildings on college campuses while also giving them an immediate link to campus security in case of emergency. Parents can leverage technology to ensure their children make it home safely from school. The growing ageing population can enjoy more independence and freedom to live their lives to the fullest. If you use your imagination the possibilities are endless...

WHAT'S DRIVING THIS DIGITAL TRANSFORMATION?

We believe there are three main elements driving the People**IoT**™ movement; Peoples' acceptance of technology to help them in almost every aspect of their day, an abundance of new devices with **unprecedented functionality and affordability**, and the blurring of lines which distinguish our workplaces, homes and personal time.

Peoples' acceptance of technology to help them

Devices with unprecedented functionality and affordability

Blurring between workplaces, homes and personal time

PeopleIoT™- Providing the Right, Timely Response, Guaranteed

In an emergency, two elements are key - knowledge of the situation and a timely response.

Many employees work in dangerous places due to the nature or location of the work – whether that be working with hazardous materials, working alone, after hours or visiting others' homes. Real time data on people's location, hazards and health provide supervisors and emergency response teams with **the right information, quickly to guarantee the best possible outcome.**

Aware360's platform generates alerts and notifications based on the information gathered from mobile apps, sensors, GPS devices and wearables. In addition, our clients input their own vital emergency information such as allergies, health conditions, medical training and the exact response they would like actioned in an emergency event.

People and Devices

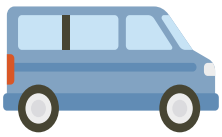
People Who Care
Real Time Response Partners

Our **Real Time Response Centre teams are trained to handle emergency situations** 24 x 7 x 365; they know who is in the immediate area and can provide assistance, what skills local responders have and who to contact within the person's organization. Combining this knowledge with the injured worker's situation and **data improves the likelihood of a better outcome** – meaning emergency teams can respond to events more quickly and with more context.

Lone Workers

Approximately 15% of all employees are lone workers according to Berg Insight, a global M2M / IoT market research firm. These workers include those working alone in remote locations (for example; remote maintenance workers, oil and gas field workers, park wardens) and those who work with others, but may not have help readily available if there was an emergency.

No matter how extreme a working environment may be, we tailor solutions using the right technology to ensure workers are always protected. Families, friends, employers and colleagues can have peace of mind knowing every worker will have the means to make it home safely.



Drivers

Driving is the most dangerous task an employee does. Instead of traditional telematics solutions, which involve installation of in-vehicle hardware and focus primarily on the vehicle, software-centered solutions provide real time feedback to the driver through a smartphone or smartwatch to increase safety.

An alarming 90% of all vehicle collisions are due to human error[1], such as distracted driving, speeding or general unawareness. Therefore, we see the core of any driver safety program must be must be curbing driver habits. Statistics show immediate feedback to drivers is the best way to improve their overall safety[2].

Through Driver Behavior & Safety solutions with real time verbal coaching on important items such as, speeding, fast accelleration, harsh breaking and phone use while driving, we're aiming to reduce the vast number of fatalities and collisions that happen on the road.

After-Hours Employees

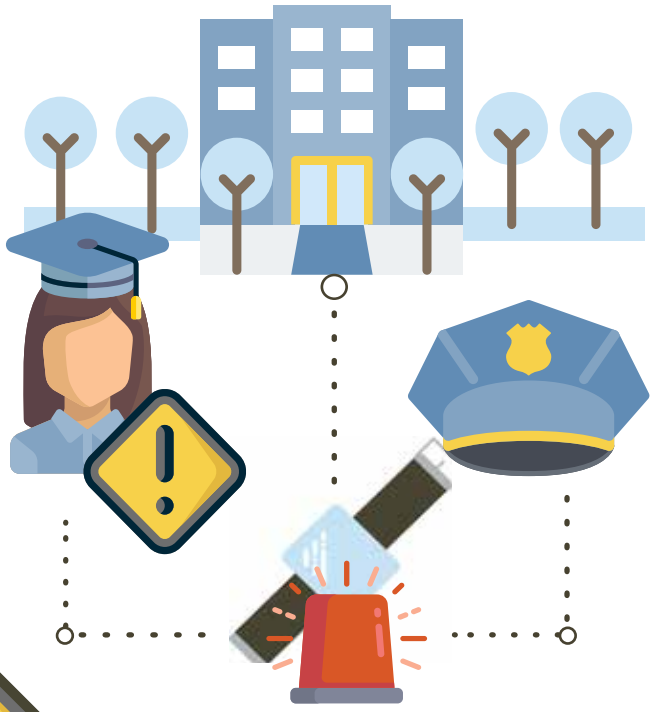
Employees who work outside normal business hours such as cleaners, security guards, night shift workers, maintenance staff and those in similar occupations are at an increased risk of experiencing theft and assault, or may become injured and incapacitated while all alone. Using Aware360 People**IoT**™ solutions provides these workers with instant assistance, wherever and whenever it's needed.

[1]National Safety Council Estimates Traffic Deaths Down Three Percent in 2013. National Safety Council, February 12, 2014
[2]Real-Time Data May Be the Best Backseat Driver. Association for Psychological Science, April 15, 2017

Student Safety

In 2015, there were over 5,000 reported rapes, 2,500 aggravated assaults and 30 murders on college campuses across the US[1].

Universities and colleges have implemented a number of programs to reduce these risks – for example, escorted walking programs, lighted pathways, shuttle service, fixed position emergency phones and late night door-to-door services – however the statistics are not improving[2].



INSTANTLY SEND AN SOS AND GET HELP!

Students who sense danger or feel threatened can **instantly alert campus security** via a panic button, or smartphone app. Panic buttons can be carried in hand, clipped onto a keyring or worn as a wearable in order to go unnoticed by a potential assailant.

Our solution only transmits a student's location data when a request for help is made, ensuring there is no personal tracking of students. When the request for help is made, campus security knows their location, where the security team is and can dispatch help immediately. In addition, those who have volunteered to help in emergencies can be dispatched if they are nearby.

In situations where students are unaware of a threat, our **mass notification** system identifies students in the immediate area of a risk and send them instructions. This greatly improves communication in lockdown and active shooter situations.

IoT technology is not only limited to use within a campus; students travelling off-campus, commuting or travelling abroad, can stay in contact with campus security and local authorities.

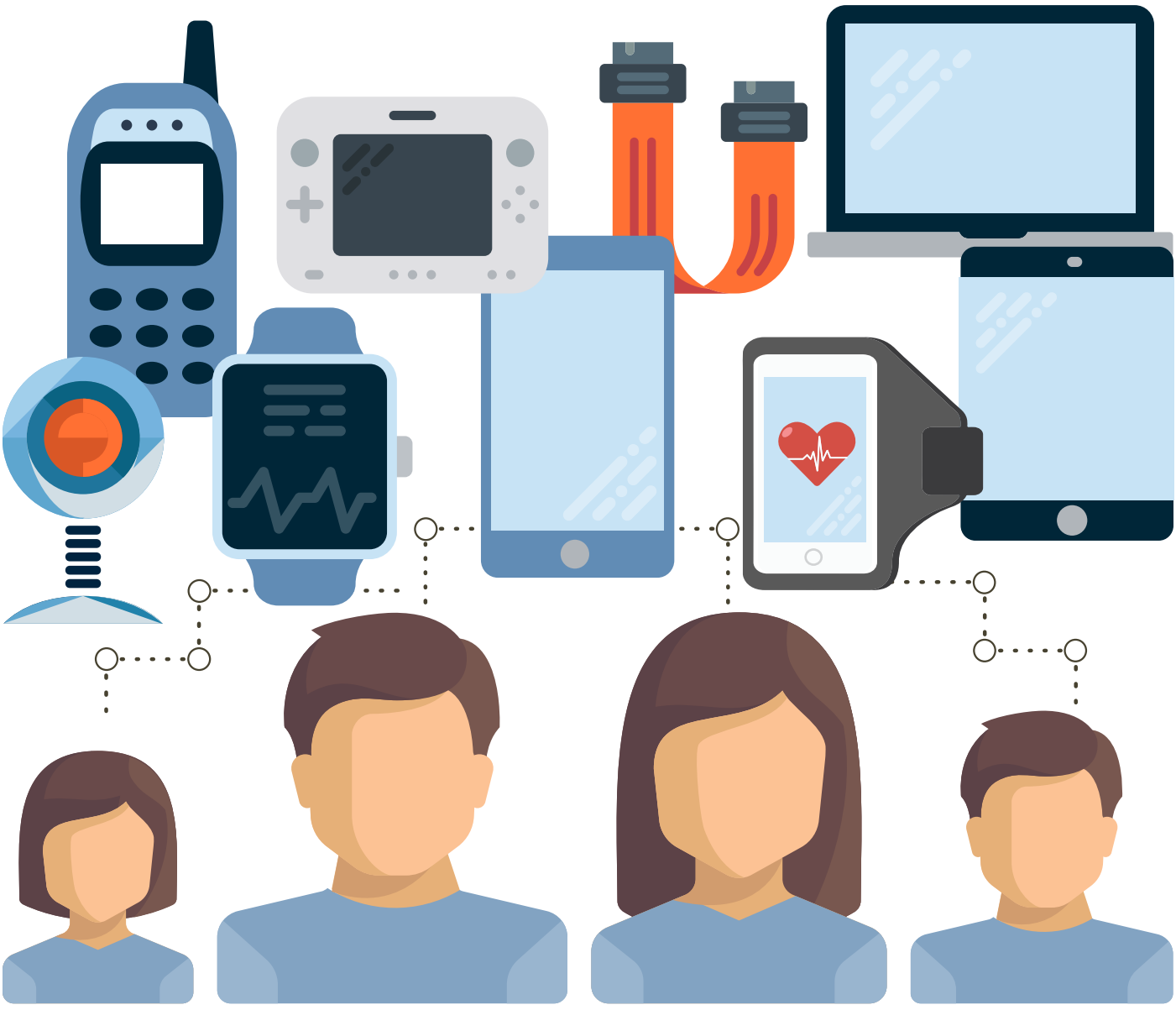
In addition, athletes at all levels strive to become better in their sports endeavours, sometimes unkowingly putting their health at risk. Through our biometric wearables, data is captured which may indicate oncoming wellness issues. For example during strenuous workouts, football players may become dehydrated which could result in cramps, heat exhaustion or heat stroke. Real time alerting on these issues can greatly reduce injuries and improve athletic performance.

[1]U.S. Department of Education Caampus Safety and Security (n.d.)
[2]Indicators of School Crime and Safety:2016, National Center for Education Statistics

Connected Family

Today, seniors are living longer, achieving more active lifestyles and children are growing up faster and are wanting more independence – causing parents to become more worried for the safety of all their family members.

The IoT designed for people provides many different solutions – for seniors, for children, for travellers, and drivers – that reduce risks of everyday life. More specifically, People**IoT**™ solutions provide a single point of contact – a Real Time Response Centre – for all your needs – while guaranteeing parents and family members peace of mind.



What Health Problems can be Minimized Through the IoT?

The Internet of Things has the ability to propel medicine forward with unprecented speed.

Over the last decade, technology advances have significantly changed the delivery of healthcare – the internet has become a main source of medical information, doctors are easier to reach, patient care is safer and more reliable and more recently, online databases have collected sufficient data to predict healthcare trends such as possible epidemics.

While these advances have been helpful, the growing focus is on connected health; using technology for the delivery of healthcare remotely, often in a patient's home.

The IoT is a key part of connected health, and is beginning to provide a more accurate, timely and rich information stream for healthcare professionals. With richer data, chronic conditions can be monitored more accurately, providing doctors improved information to manage health conditions.

KEY PREDICTION:

By 2020, 40% of expenditures in the IoT will be made in healthcare, more than any other category of spending.[1]

[1]Dimitrov, D. V. (2016). Medical Internet of Things and Big Data in Healthcare. Healthcare Informatics Research, 22(3), 156–163.

Key Uses for the IoT in Healthcare

Smart Indicators

Connected devices built with their own intelligence systems can generate an alert for the user as well as a notification for those who are concerned with their care. For example, there's a new smartwatch from Empatica called Embrace. This wearable provides early indication of an epilepsy event through a Bluetooth wearable connected to a smartphone. With this device, both the user and their loved-ones will be notified when a seizure is coming, before it happens - greatly reducing the risk of injury.

Rich Data for Accurate Diagnosis

Increasingly, the cost of consumer wearable devices is going down, while the quality of the sensors and data stream is increasing. Information availability to healthcare providers is greatly improving the understanding of a person's condition. Data collection in real time includes much more information than a once a month reading in a doctor's office. This makes in-depth information more readily available to healthcare provides and can greatly improve understand of a person's condition.

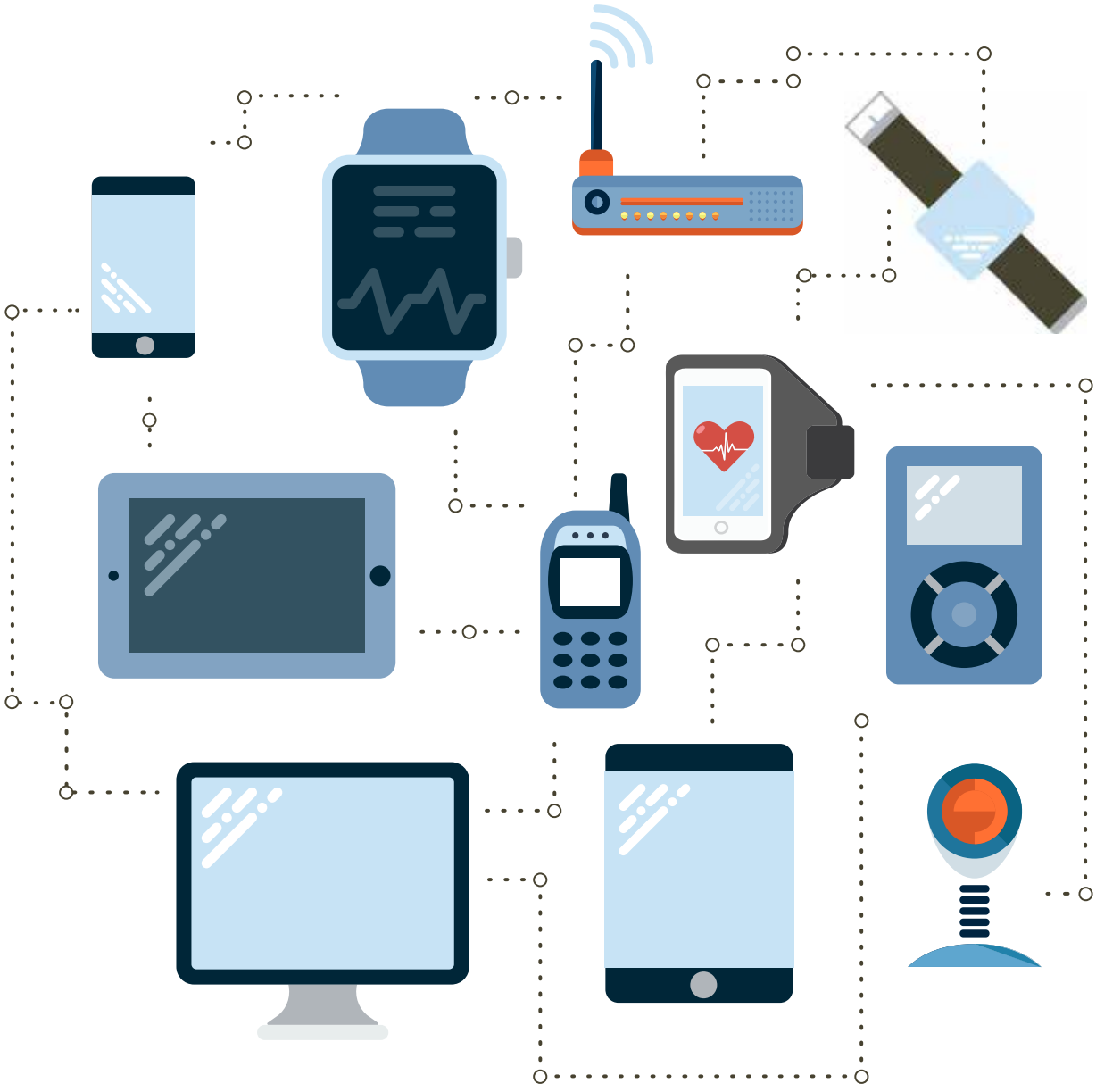
Trending Data

Enriching data gathered from patients can also be used for early warning of changes in health of a patient. Large changes in blood pressure or heart rate, depending on the patient's condition can be used to trigger someone to take action, thereby hopefully preventing a more serious health episode.

As the IoT for healthcare evolves, there will be more targeted devices for specific conditions, a richer data stream and wide adoption based on patient success stories. You can expect large improvements in devices and their actions contributing to a more active and healthy population.

The Devices Connecting People to the Internet of Things

There are several Aware360 People**IoT**™ devices wich connect to gather real time data and engage in two-way digital communication, with new releases on a regular basis.



SMARTPHONE APPS

Aware360 provides smartphone apps to send emergency alerts, update your location, send check-ins and communicate two-ways with whomever is caring for you.

Specifically, we provide safety apps for driver behavior management, journey management, employee safety, campus safety and family safety to ensure everyone is covered no matter what they're doing with their day.

SATELLITE DEVICES

In remote locations, it can be difficult to stay in communication. Aware360 provides people with best-in-class, rugged, satellite devices for employees, drivers and adventurers to travel to distant places with confidence.

WEARABLES

New smartwatches and SOS-enabled wristbands pair with our mobile apps, to provide a fast and covert way to submit emergency alerts and stay connected to your home base.

Biometric sensors worn on the body measure signs which may indicate a health-related warning or emergency. For example, we can measure things such as heart rate, blood oxygen levels and signs of fatigue.

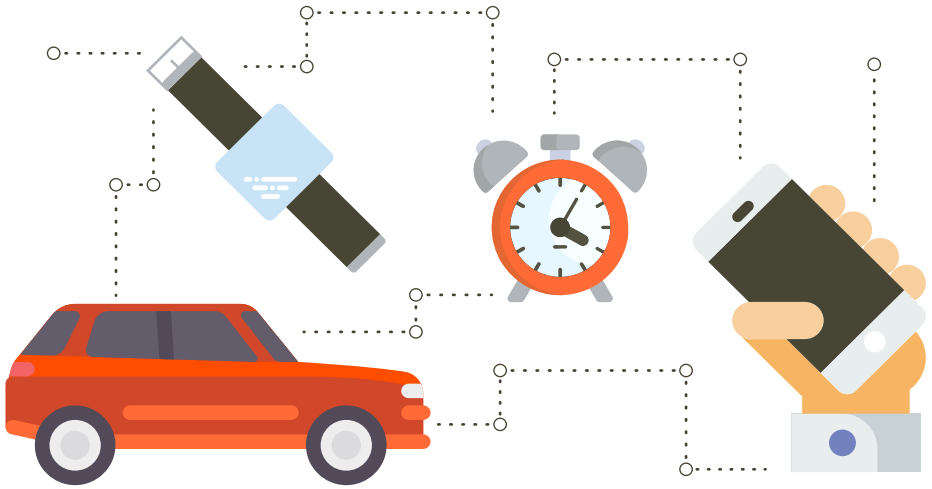
Manufacturers are creating new types of personal IoT devices every day - our job is to find the best and leverage them to improve health and safety of individuals around the world.

About Aware360

Aware360 enhances peoples' lives through early identification, notification and resolution of issues related to safety and health. Our solutions leverage personal technology (such as wearables, smartphone apps and satellite devices) to ensure every individual is protected, regardless of their unique environment.

Managers, co-workers, family members and friends can be certain their colleague, family members and friend will receive help when it's needed most. Aware360 solutions enable a robust and growing global ecosystem of device manufacturers, Internet of Things (IoT) platform providers and Real Time Response Partners.

Based in Calgary, Alberta, Canada, Aware360 has 20+ years of M2M experience working to keep employees safe and assets secured. By putting our clients first, we provide tailored solutions specific to their needs.



To learn more about PeopleIoT™ solutions, please visit us at:

Aware360.com

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