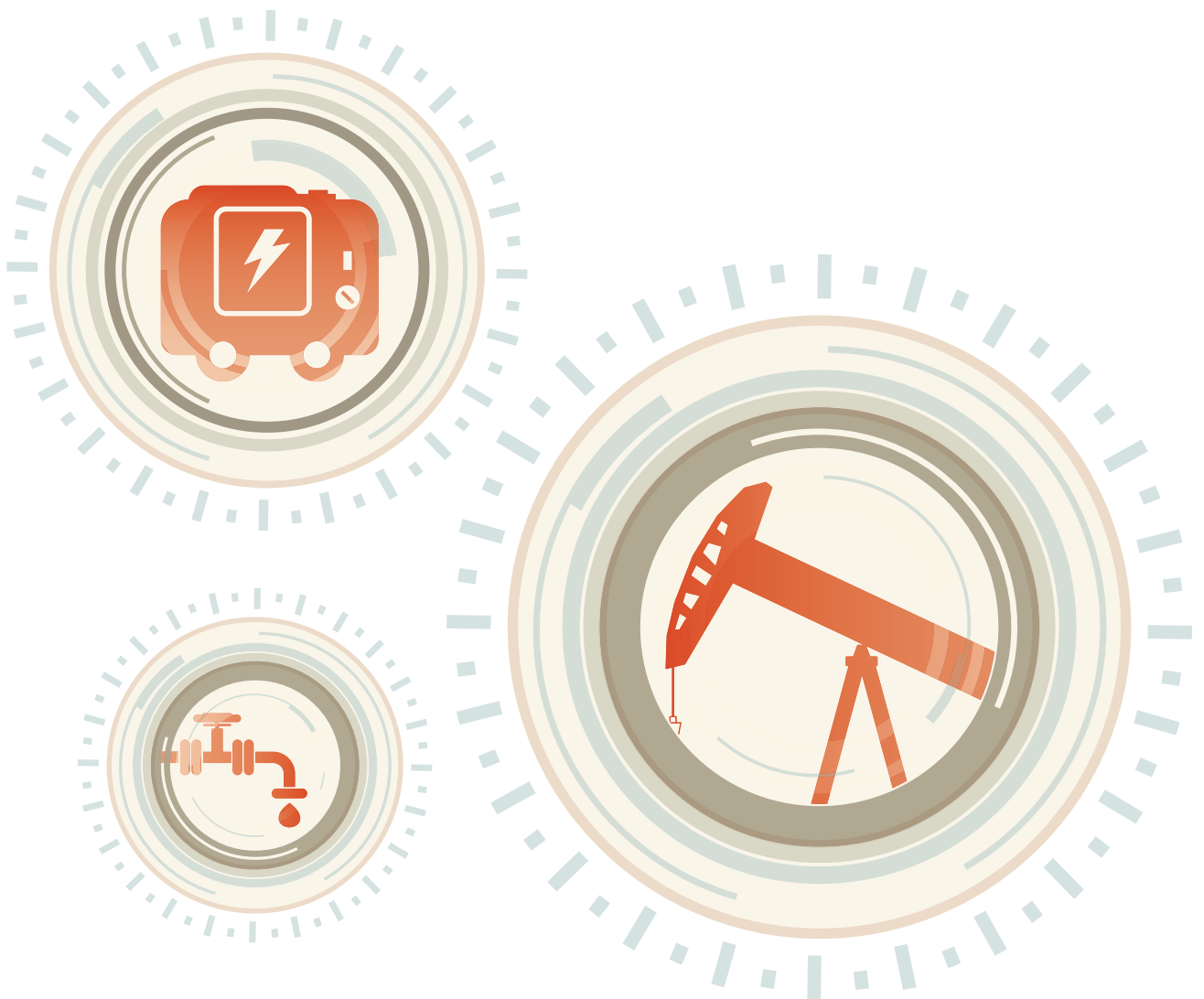


# SAFE ASSETS AND SOUND PRODUCTIVITY THROUGH REMOTE MONITORING

How Aware360 Solves the Problem of Monitoring Remote Assets



## **INTRODUCTION**

**3**

## **REMOTE MONITORING & REAL TIME ALERTS**

**4**

## **THE CHALLENGE OF MONITORING REMOTE ASSETS**

**5**

## **CASE STUDIES**

**6**

KEEPING DIESEL GENERATORS FROM FAILING

**6**

KEEPING PIPELINE NETWORKS FLOWING

**10**

## **THE CONTROL CENTER**

**13**

TRACK YOUR PEOPLE, PLACES AND THINGS

**14**

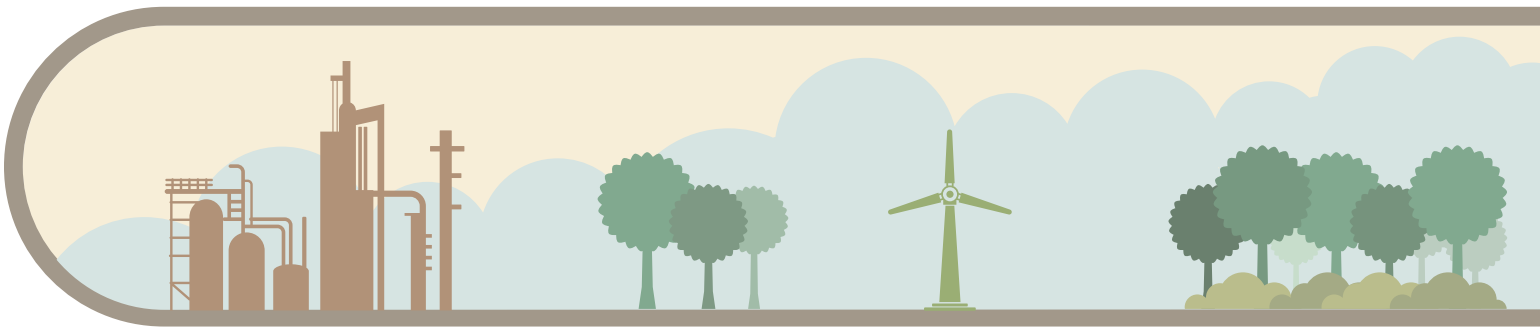
MORE THAN TRACKING A DOT ON A MAP

**15**

## **ABOUT AWARE360**

**17**

At Aware360, our mission is to improve the safety of people and maximize the security of assets in remote or mobile settings. This e-Book explores just a few ways in which we make this possible for our clients.



## **Energy exploration, extraction and transport all take place in some of the most remote locations on the planet.**

In order to deliver product to market, our customers have invested in complex assets such as drill sites, centrifuges for drilling mud and oil recovery, pipelines for transporting product, and in the high-performance diesel generators that power all of this equipment.

As well, a vast network of pipelines carries product to be refined and then shipped to customers. Like drill sites and other critical infrastructure, pipelines are located “off the grid,” far from the company’s operations.

The remoteness of these assets poses major challenges for Aware360’s customers. For instance, workers must be dispatched to drive out to check on remote drilling rigs, diesel generators and pipelines.

Despite the time and expense of sending crews to check on these remote assets, problems with equipment are often not identified until it is too late and disaster occurs.

# The Game Changer: Remote Monitoring and Real Time Alerts

For our customers with assets located almost anywhere in the world, Aware360's remote monitoring solution has been a game changer.

Using satellite or cellular connectivity, equipment status can be checked in real time and problems can be prevented before they ever happen.







## The Challenge of Monitoring Remote Assets

There are nearly 700 drilling rigs in North America, and many of these sites are located in remote locations, outside of cellular or landline communications. Expensive mobile diesel generators are a common piece of equipment on these sites. These generators power light stands, shacks and keep the operation running.

If a generator fails so far off the grid, it can become a major problem for our customers—generators are costly to replace and a failure will cause expensive production delays that are a disaster when margins are razor-thin.

---

To prevent failures and to keep operations running, Aware360's clients typically send out maintenance crews to remote locations to document run hours, coolant pressure and other diagnostic information to determine whether or not the diesel generator is being abused.

---



Do you want to learn more about Aware360's progressive remote monitoring solutions?

[CONTACT US](#)

### MANAGING COMPLEX REMOTE ASSETS

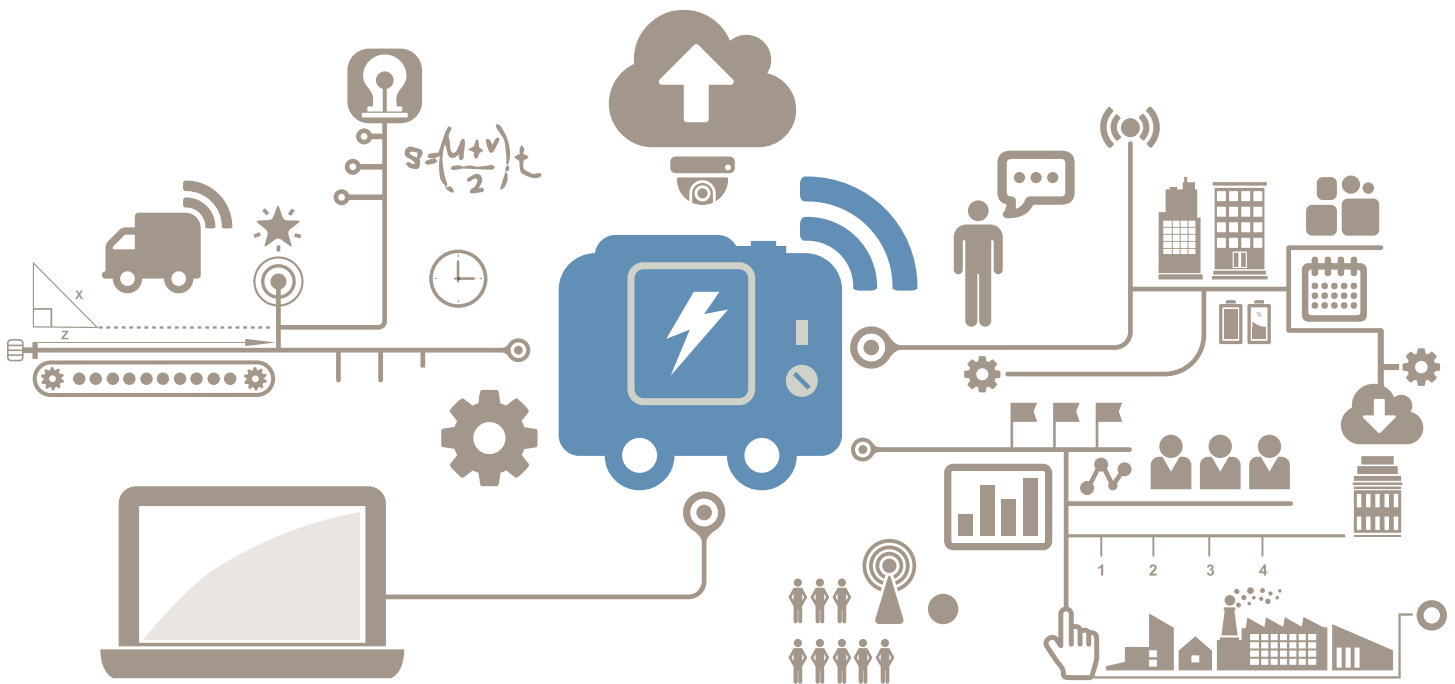
Some of our customers rely on cathodic rectifiers to prevent pipeline spills. Once again, using standard inspection best practices, there is no way to see if a cathodic rectifier will fail, even as employers are sending crews out to check on them.

Remotely-located centrifuges present a similar problem for Aware360's customers. These complex assets are also typically located off the grid and are vital to the operations of our customers. And with diesel generators, in the event of a centrifuge failure, the estimated downtime creates inefficiencies that affect operations, resources and margins.

Traditionally, businesses have just had to accept there will be unforeseen failures that result in production delays and reduced profits. However, new remote monitoring solutions are proving to be a game-changer. Problems are identified and failure is prevented, all while reducing operational costs.

# Case Study: How Remote Monitoring Keeps Diesel Generators From Failing

Every remote work site depends on diesel generators to keep operations running. These generators power everything from worksite lighting to the cookhouse that keeps the crew fed. And yet there is no easy way for operations staff back at HQ to prevent these generators from suddenly failing.



A failing remote generator creates a very serious problem for oil and gas companies—with no power, a shack or bunkhouse shuts down, site lighting turns off, and equipment stops running. Everything grinds to a halt both at the drill site and back at the operations center as crews are mustered and sent out to the remote location to fix the problem.

Sometimes it can take valuable time to find the right person to fix the problem—Aware360's customers report at least 20% of their productivity is drained by responding to failing equipment.

---

What happens if a generator fails? Everything stops until the problem is fixed.

---

And if you can't fix the problem? Operations staff spend time searching the yard for a replacement generator, or spend money leasing a new one. The new generator must then be delivered to the remote drill site. In the meantime work stops as virtually everyone across your organization is focused on solving the problem.

## **What Happens If a Generator Fails and You Can't Fix the Problem?**

*Sometimes it can take time to find the right person to fix the problem; businesses report that responding to failing equipment drains productivity by at least 20%.*

*Aware360 has developed a solution that enables clients to monitor their equipment at any time, in real time, no matter the location.*



## **SENDING OUT CREWS TO CHECK ON EQUIPMENT HEALTH IS A DRAIN ON PRODUCTIVITY**

Even so, preventative maintenance is not a solution. Sending crews out to check on these generators is a time-consuming, labor-intensive process that doesn't necessarily mean the generators will be kept running.

Why? Monitoring remotely located assets is almost never conducted in real time. Instead, workers must drive back to headquarters and back to the grid, to document and report on potential issues.

A return trip can take days or even a week, which makes it impossible to prevent an expensive generator from failing.



Despite the effort and expense devoted to sending workers out to check on equipment, conducting preventative maintenance is nearly impossible.

At Aware360, we've listened to our customers and have developed a solution that allows them to monitor their equipment at any time, in real time, no matter the location.



# Remote Monitoring Increases Productivity By 20%

By implementing a remote monitoring solution our customer was able to reduce the number of trips their crews had to make to remote locations; one Aware360 client actually reduced costs and increased their productivity by 20%.



The customer had always sent crews out to check on generators deployed at drill sites in northern Alberta. The generators powered on-site lighting and crew shacks at drilling rigs. If a generator failed, all operations at the drill site came to a halt.

---

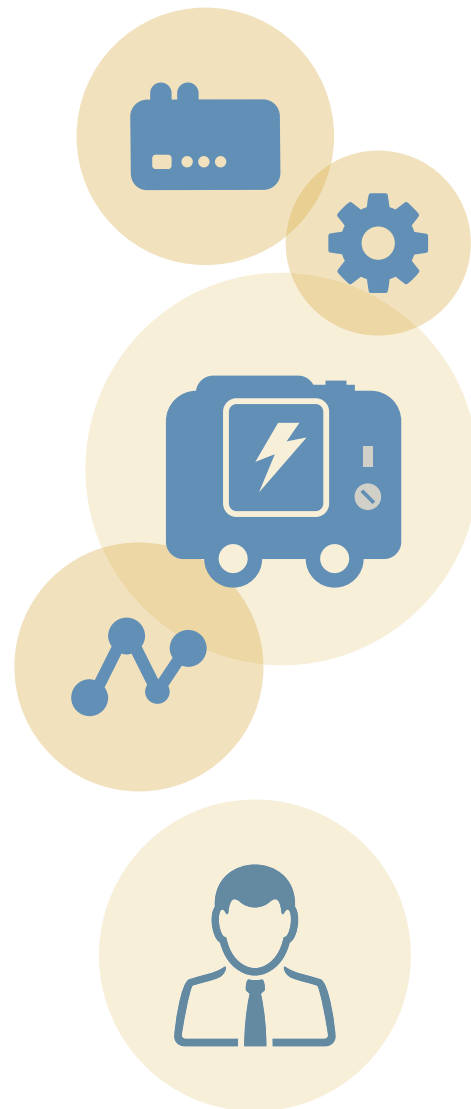
Spending \$1 million a year just to read a Murphy panel.

---

The only way to check on generator health was to drive out, check on the generator, and drive all the way back to the yard—our customer was spending a million dollars a year just to send crews out to read a Murphy panel.

Aware360 worked with our customer to install a remote monitoring solution on every diesel generator. Instead of sending out crews to read Murphy panels, our customer could observe generator health in real time over the Internet.

Because crews no longer had to take trips to check on generator health. One million dollars of operations budget was freed up for our customer.



Do you want to learn more about Aware360's progressive remote monitoring solutions?

[CONTACT US](#)



## HOW REMOTE MONITORING FREED UP \$1 MILLION OF OPERATIONAL BUDGET

Thanks to real time alerts and a constant stream of diagnostic information from the remotely located generators, our customer was able to spend more time creating and implementing a process for preventative maintenance. Information was communicated instantly to operations staff who used the Aware360 Control Center to observe equipment health in real time. Generators that needed preventative maintenance were flagged and crews were only sent out when they were needed.

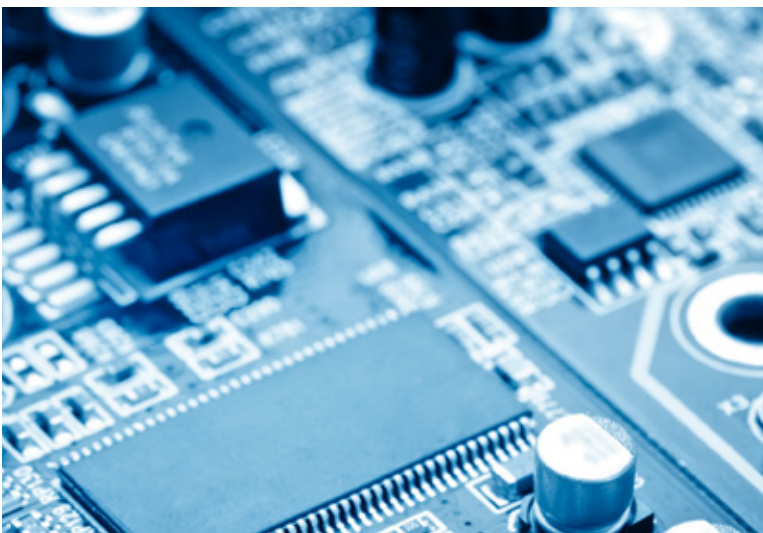
## REMOTE MONITORING OPENS UP NEW POSSIBILITIES

As a result of becoming more efficient, operations staff were able to dedicate much needed time to inventory control and billing. By incorporating data about equipment health and even equipment location, our customer knew what generators were in the yard, and what their condition was.

Preventative maintenance could then be performed, cutting down 50% of trips to remote locations. The net benefit? Remote monitoring provided new possibilities for our customer. By building a whole process around the moment generators are returned to the yard, our customer increased their productivity by 20% and solved their worker shortage problem.

# Transform Any Remote Worksite into a Communications Hub

Affixed to a diesel generator or other remote asset, Aware360's TruLink dual-band modem uses cellular networks or satellite uplink to send diagnostic information and real time alerts from anywhere on earth to your ops team.




The TruLink modem also provides near-field communications on the remote work site. A ZigBEE antenna creates a type of mesh network that allows your workers to stay safe.

The remote lone worker safety solution allowed our customer's employees to check in, send an alert or SOS to the Aware360 Control Center.

This exception-based lone worker safety solution replaced the company's current in-house lone worker safety system that relied on phone calls, voicemail messages and emails.

Combining remote monitoring with lone worker safety saved costs, while keeping the company's most important assets—its people—protected.

## Case Study: How Remote Monitoring Keeps Pipeline Networks Flowing



Three million miles of pipeline span North America transporting oil from drill site to refinery, and from refinery to market. These pipelines are often miles from the grid and cellular connectivity.

The constant challenge Aware360's customers face is how to efficiently inspect this network of pipelines and prevent spills.

Pipelines must be continuously checked, not only to confirm there are no leaks, but also to ensure there is no corrosion.

Besides putting the environment at risk, corrosion can potentially shut down operations. To keep this from happening, corroded pipe must be identified and replaced. Manually inspecting pipelines to perform preventative maintenance can become expensive, quite quickly.

### **SPENDING \$2.5 MILLION A YEAR ON PIPELINE INSPECTION... BUT NO POWER TO PREVENT SPILLS**

One Aware360 customer faced considerable cleanup costs—and fines—after pipeline corrosion caused a spill that affected the surrounding wetlands. All sales and operations stopped for weeks as the company fixed the problem.

To combat corrosion, our client had deployed cathodic rectifiers throughout their pipeline networks. This leads to another challenge for the company—how to ensure the cathodic rectifiers are working properly?

Since the company's pipelines are often located in remote locations, they followed the industry practice of regularly sending out teams to monitor those vital pieces of equipment.

Besides operational overhead and the implications for ensuring lone worker safety, our customer could only identify problems by eye. This meant the company was compelled to dispatch crews and physically inspect thousands of kilometers of pipeline.

Even after spending \$2.5 million a year, preventing pipeline spills was impossible.

The return trip to inspect the pipeline can take several hours or even several days—and there are some remote locations that can only be accessed by helicopter.

Our customer was easily spending \$2.5 million a year on pipeline inspections, but problems could only be identified after the fact. Despite devoting considerable resources to protect the pipeline, there was no way to prevent a catastrophic spill if a cathodic rectifier failed.

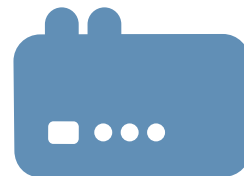
## **AWARE360'S SOLUTION: REMOTELY MONITOR PIPELINE HEALTH**

Aware360 worked with the pipeline operator to develop an innovative solution to prevent the problem of failing cathodic rectifiers before it ever happened.



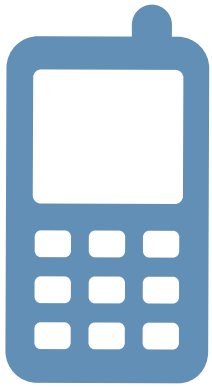
All it took was to install a dual-band TruLink modem on each of the cathodic rectifiers. The modems acted as communication hubs at key locations throughout the pipeline network, and even helped provide our customer with a lone worker safety solution.

The modems used cellular or satellite connectivity to relay data to the Aware360 Control Center. As a result diagnostics about pipeline corrosion and general health could now be viewed by the customer in real time. This saved time, reduced operational overhead, and helped our customer prevent problems before they ever happened.



Do you want to learn more about Aware360's progressive remote monitoring solutions?

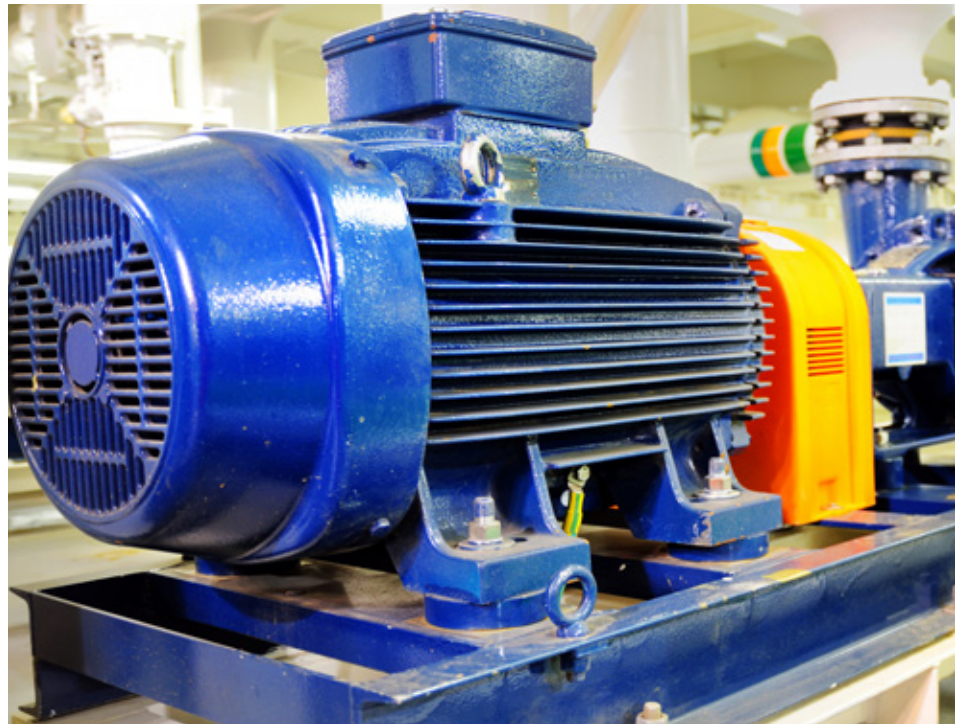
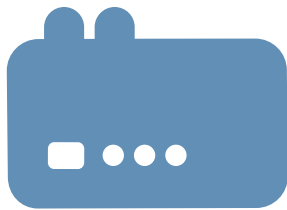
**CONTACT US**



## How to Prevent Centrifuges from Failing

Centrifuges play an essential role in the oil and gas drilling operations of our customers. Drilling mud is used to help clean and cool the drill bit or carry the crushed or cut rock up to the surface. This fluid must be recycled to be reused again.

Whether the fluid is water, water-based mud, oil-based mud, synthetic-based fluid or a polymer, a centrifuge also helps separate contaminants and return the liquid to the mud pits for reuse. Even small problems with the centrifuge can transform into huge liabilities for your company.



As with other remotely located assets, Aware360's customers have traditionally sent teams out into the field to check on equipment health. Problems are often not identified until it is too late, despite the significant operational resources devoted to keeping them running efficiently.

By installing a dual-band TruLink modem that communicates with Aware360's Control Center in real time, our customers can monitor these centrifuges, avoiding costly equipment failures that delay their operations.





## The Control Center: How Aware360's Remote Monitoring Solution Works

With Aware360's Control Center, you can keep your people safer, manage your assets more efficiently and be everywhere you need to be - all via one consolidated cloud-based portal.

No matter what your equipment is, or where on the planet it is located, the Aware360 Control Center provides alerts and notifications about its health in real time. Problems can be identified before they ever happen, instead of after the fact. This keeps your operations running, and allows your people to focus on growing your business.



First, an Aware360 dual-band TruLink modem is affixed to your remote asset. The TruLink modem uses cellular networks and satellite uplink to transmit diagnostic data to where you can see it. Next, this information is displayed by the Aware360 Control Center anywhere on the planet.

Scarce resources can be focused on solving problems that add value to your organization, finding new customers, or becoming more efficient to improve your margins. If you can save \$500,000 in operational costs by sending out fewer crews, that's a massive opportunity to grow your business.

## WE PREDICT:

By 2017, 50% of enterprises will implement IoT into their core operations. This will transform their businesses, spawning opportunities to provide entirely new products and services.

[Forrester](#)

TWEET THIS

## Protecting Remote Assets: It's About More Than Tracking a Dot on a Map

Using remote monitoring, data is collected and transmitted from the generator in real time, using cellular or satellite communications.

With a generator there is an almost unlimited amount of information that can be transmitted and stored. Aware360's solution will analyze and then prioritize the most important information, and then send an alert so someone on your team can act.

Compared to the traditional approach of sending out workers across long distances to check on the status of remotely located assets, Aware360's solutions allow oil and gas companies to monitor critical assets in real time.



Do you want to learn more about Aware360's progressive remote monitoring solutions?

[CONTACT US](#)

### KEEP TRACK OF YOUR ASSETS

As an added benefit, Aware360's remote monitoring solution comes pre-packaged with powerful asset tracking and lone worker safety capabilities.

Once installed on a diesel generator or other piece of equipment, besides sending diagnostic data about equipment health, Aware360's dual-band TruLink modem relays GPS coordinates of the asset in real time.

---

Stop theft by always knowing where your assets are, no matter how remote the location.

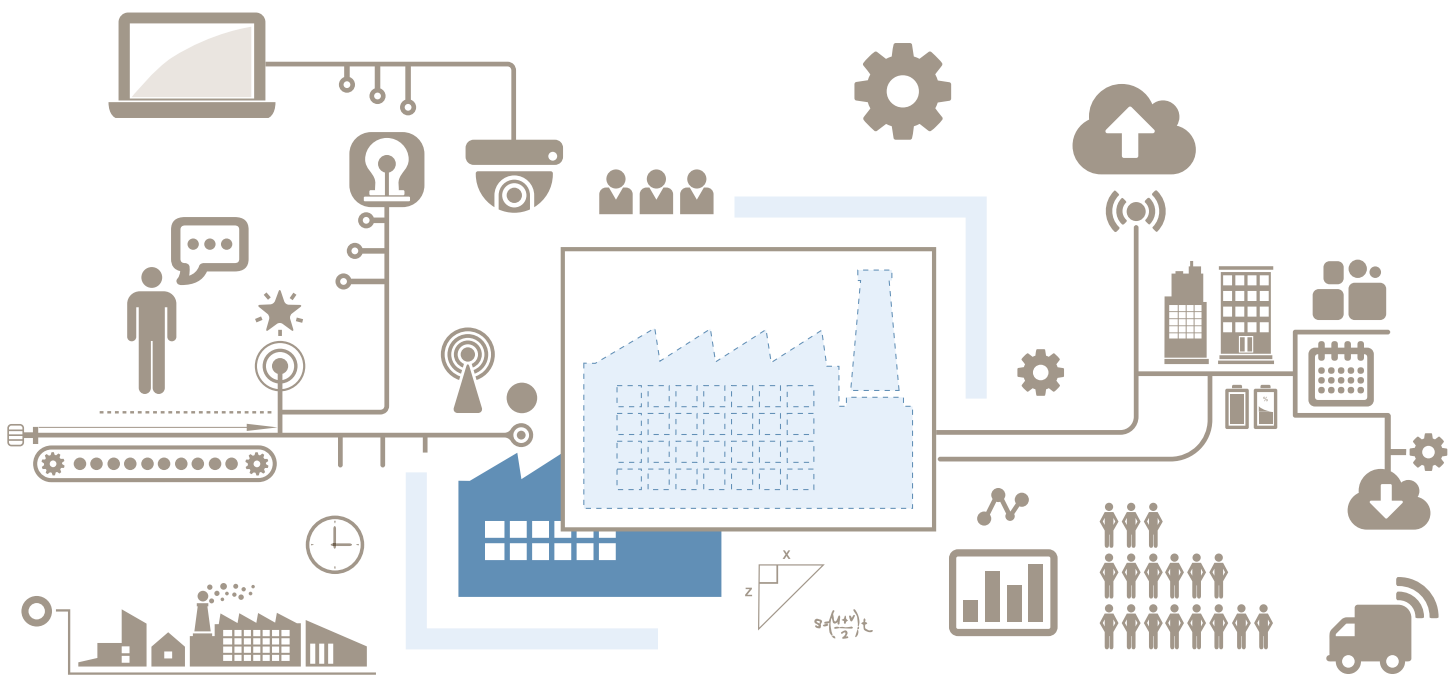
---

This means our clients always know where their assets are, no matter how remote the location. You'll even get a notification whenever someone moves your generator, whether they are authorized or not.



# By Preventing Costly Problems, You Can Focus on Growing Your Business Instead

Working with customers in oil & gas, forestry, mining and utilities, Aware360 develops solutions that gauge equipment health in real time. The purpose is to keep equipment such as remote generators running and dramatically reduce the cost of running operations.



Remote monitoring is about more than providing a stream of real time diagnostic information—by implementing an alerts-based remote monitoring solution, our customers no longer have to send out crews to perform emergency maintenance.

Instead, our customers can spend time on preventative maintenance. Remote monitoring empowers our customers to prevent catastrophic failures that trigger complex problems and massive delays that consume entire teams for days or even weeks.

Our customers are enjoying huge leaps in productivity while keeping their employees safe.



## About Aware360



As the market leader in real time integration and monitoring solutions, Aware360 helps organizations of all sizes and industries keep their people safer, manage their assets better, and stay ahead of the competition.

Regardless of the unique technical challenge or remote location, we help hundreds of businesses manage the complexities of their daily operations. We deliver a spectrum of business intelligence solutions designed to help our clients track more than thirty thousand events each and every day. This represents safer work environments. More productivity. Greater knowledge. Better bottom lines.

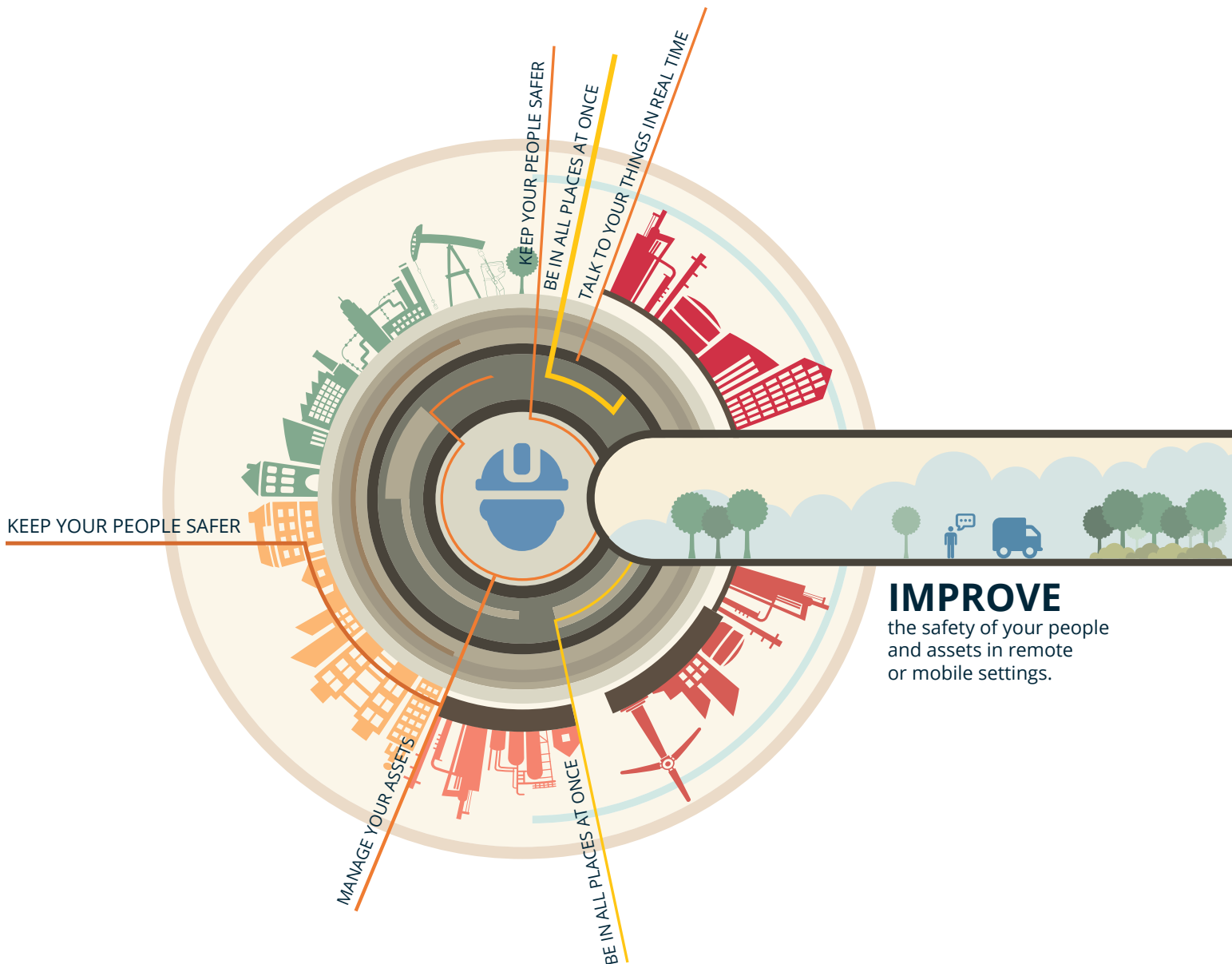
**We help keep your people and your assets safe.** Our mission is to improve the safety of your people and your assets in remote or mobile settings. Aware360 helps you stay in touch with your workers while being aware of their location at all times, as well as providing lone worker safety systems in any environment.

**We make you more efficient.** We increase your efficiency by doing all this through one comprehensive, easy to use end-to-end solution.

**We are device agnostic.** We will integrate your existing technology, supply new, high-performing devices or even build custom hardware and software to create the optimum solution that balances performance, cost and productivity for your specific environment.

**We are a complete solutions provider.** You come to us with your goals and needs and we'll propose the most practical solution possible and then work with you through the process of solution design, implementation, and training and support.

Through our flexible offerings, we save customers money compared to off-the-shelf integrations, and we reduce your initial costs by leveraging your existing infrastructure. This also leads to a more efficient solution, which costs less to operate and maintain.



## IMPROVE

the safety of your people  
and assets in remote  
or mobile settings.

This e-Book was created by Aware360 Ltd., a remote monitoring solutions provider that has helped hundreds of businesses become more efficient, increase revenue and keep their people safe.

Do you want to learn more about Aware360's progressive remote monitoring solutions?

[CONTACT US](#)