JAMES BREHM & ASSOCIATES

A Deeper Connected Conversation

Volume 3 / Issue 6 / May 2017

What's Happening in IoT: CONEXPO-CON/AGG, Europe's RED, & BHPH?

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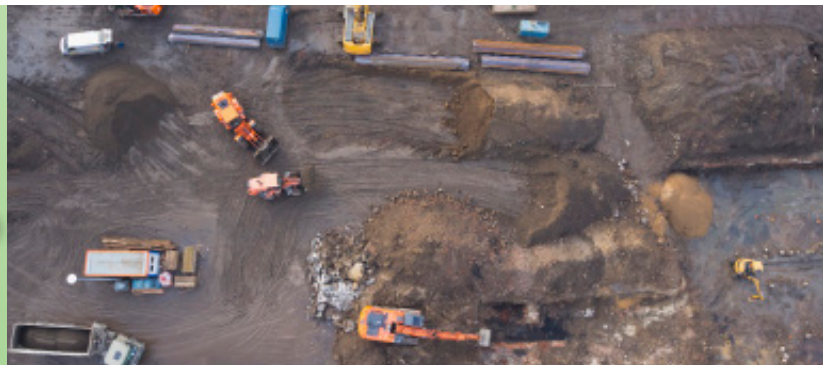
Where Was IoT at CONAGG/CON-EXPO?



By: Bill Brehm

CONEXPO-CON/AGG, held in Las Vegas every three years, is one of the largest construction and aggregate machine conferences in the United States. This massive event is always interesting, even if just to see the size and volume of heavy equipment currently available on the market. These manufacturers are right in the middle of the space I have always gravitated to since playing with my TONKA toys in the sandbox.

So, I find it exciting to see what new offerings they present every three years. As a critical observer, I have a tendency to search for IoT-related products and how they can impact our daily lives. My theory is that through the proper implementation of IoT, construction equipment can not only be made more efficient but also safer for the operator and crews that work near them.

Dispell Anxiety of the "New" & Talk "IoT"

I started my day by listening to the pitches made by major equipment manufacturers and trying to catch any and every mention of IoT. In other circles IoT has long outgrown buzzword-status and begun to mature into a much more formidable status--future, ubiquitous architecture. At CONEXPO-CON/AGG, however, IoT was hardly acknowledged. Although I saw a lot of displays on tracking, GPS, telematics, and other IoT-relevant topics, but the term "IoT" was loudly absent. IoT has become part-and-parcel to all of these topics as they exist in modern day, but remains unnamed and unacknowledged among anxious, equipment salespeople who regard it as foreign and hard to define. While these salespeople and company execs have been hesitating, however, their more enterprising counterparts have already put out (we estimate) over 1.5M pieces of connected heavy equipment in the US, alone.

IoT Solutions at CONEXPO-CON/AGG

Deere, for example, displayed a fantastic machine telematics solution. As a manufacturer, they are remotely capturing information from their machines, sending it to the engineering team to be routed through their analysis engines, and then sending the pertinent information to local dealers for distribution to machine owners as they request the data. There's real potential in this model because it pools together and uses combined information to spot abnormally running equipment. These machines stand out when compared to their peers, especially when viewed by region. By moving the information to a central data warehouse, the engineering teams that create the processes behind maintenance, warranty, and recall campaigns also create for

themselves access to the real-time information that feeds their processes.

I was really impressed by one of CAT's newest additions to its suite of tracking solutions. Aptly called "Track It" devices, these are basically just Bluetooth trackers conveniently designed for mounting on equipment &/or accessories and make it easier for fleet managers to monitor asset location. It's all too easy and not uncommon to leave an attachment or small piece of equipment in the wrong spot of a yard or worksite and lose hours or days trying to figure out where it is. Track It takes what is normally a source of stress for fleet managers—the constant hustle-bustle of personnel flowing in and out of worksites—and uses it to inform a crowdsourced phone app which fleet managers can use to keep constant tabs on where their assets are located. The amount of time lost to searching for missing equipment cuts into productivity, and a simple tracker would reduce that drag on productivity. Combined with the current solutions they have for hours, location, and engine diagnostics, Track It is a great addition to CAT's already very large, IoT-based suite of offerings.

Several companies have come out with new, wireless remote control systems that allow operators to work from a safe distance and thereby eliminate much of the risk associated with operating heavy machinery. These systems would be particularly beneficial in tight spaces or other work conditions that would place operators in jeopardy. This really reiterated operator safety from a manufacturer's perspective. By taking the operator out of harm's way and giving them line-of-site control of the machine, preservation of the workplace safety initiative is maintained.

Toward the end of the day, I ran into an actual IoT solution offered by Rexnord. The IIoT gearbox they touted, Smart Gear Drive, incorporated all the things I was looking for in an end-to-end solution. This solution was simple—by attaching a series of sensors to the gearbox of a large conveyer's drive system, they had created an actual IoT solution to a very large problem for the aggregate industry. Rexnord's IIoT Smart Gear Drive collects real-time secure data on the operation of the gearbox and sends it to the cloud via an IoT-connected edge device. This gives local and remote access to the status of the product and allows for analytics to build a predictive maintenance program for the operator. It also provides geolocation information on the gearbox within 50 feet. This would be huge in certain applications such as mining where multiple units would have to be used and positioned throughout an extremely large worksite.

Looking Forward

As I was finishing up my time and continued to walk the floor and talk to manufacturers, I kept hearing the same thing: "I can get my information collected on my machine, but I'm having a hard time getting the information transmitted to where it can make a difference or through the system on the chassis or in a cost-effective way." Despite the fact that IoT is becoming an integral part of business and offers many of the solutions that manufacturers are looking for, equipment manufacturers haven't caught on or don't know to look to IoT or who they could partner with to help them get un-stuck. Here's the question: as we continue to put effort into solutions, is it time to start talking about solutions' names? Will it be easier for people to find the solutions if they know where to look? How do we partner with solution providers if we don't know where to look? The power of IoT is massive, and although we stand on common ground when it comes to how necessary and powerful it will be, we'll never be able to really use it until we establish a common language, as well.

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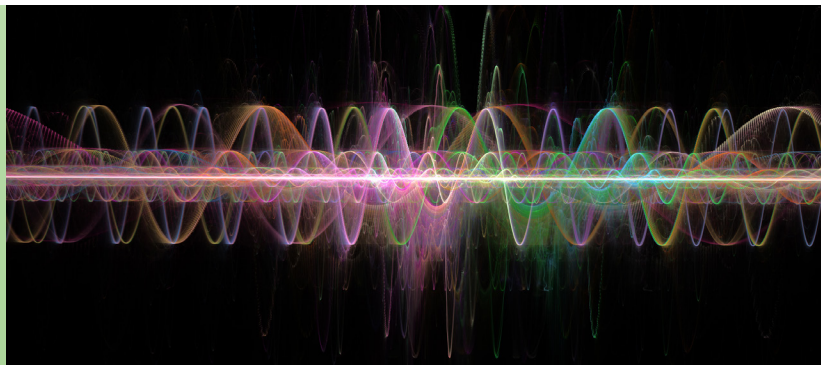
European Commission to IoT Device Manufacturers: "Hurry Up and Wait."



With Europe's Radio Equipment Directive (RED) kicking into effect in less than a month, I've been getting more and more questions about what it is and what implications it holds. So I read up on it, talked with equipment manufacturers (both module and gateway), and even had a discussion with someone at ETSI. What I learned, however, left me scratching my head and wondering exactly what device manufacturers should do.

What is RED?

The Radio Equipment Directive, or RED, was adopted by the European Commission in 2014 to create 170 "harmonized standards," or standardized specifications. The directive's goal is to improve receiver specs to use the radio spectrum more efficiently and effectively.

RED applies to equipment that transmits or receives radio waves for communications regardless of its primary function. So any device connected to the Internet that uses an embedded radio module for communications or to determine position -- via the Global Positioning System (GPS) -- is required to meet the same standards as radios. RED went into effect last year with a 12-month transition period and June 13, 2017 deadline.

But as on May 1, EU officials have set 100 of the 170 standards. And with the rules applying to sellers of radio equipment in the EU starting June 13, 2017, much confusion exists from a vendors' standpoint because the standards haven't been fully updated yet. And that means some Internet of Things, or IoT, devices using Wi-Fi, Bluetooth or global position system technology may not be available by the deadline.

So what does a vendor do?

What we've been able to discern, under RED, bot modules and finished devices need to be tested to meet the new standards being established. A June 13 deadline is probably unrealistic, however, when you take into account that testing can easily take over a month to complete, with modules often requiring as many as three weeks and end devices also requiring several additional weeks - and that's

operating under the assumption that necessary standards were in place and ready for certification to begin with.

The second option would be to lobby all 18 European Union member countries' radio communication governing bodies for exemption. In doing so, a module or device manufacturer would need to test each device through an independent testing agency and submit the results to each governing body, showing the reults conform to the stated objectives of RED.

When conducted individually for each of the 18 EU states, the cost of certification testing could reach upwards of $100,000 or more per device. That potentially comes to a total $2 million per EU product, not small change for device makers.

Or the third option is to ramp up production on existing products, and stuff the reseller channel with these older products. These older products conform to the predecessor to RED and once a product is in the "sales channel" it gets a "pass" and doesn't need to meet RED.

This option appears to be a huge loop hole, and perhaps the best option for equipment manufacturers.

Final Word

Device manufacturers need another year to meet this new set of European Union requirements related to radio equipment specifications. Additionally, more education and more input from industry is a necessary component if the EU hopes to get things right.

It appears that the EU can't meet the deadline itself, so how can it hold companies to the deadline without stifling business? A one-year delay in implementation would be the best solution to the turmoil and create a more reasonable deadline for businesses.

With this in mind, RED may be the most appropriately named directive ever established, as it is now a RED Light moment where things should halt for a year until all of the standards and requirements are defined.

We believe there's no reason to hurry into the new requirements. Doing so leads to loop holes, corners being cut, confusion and excessive costs. But that's what happens when government agencies rush technology mandates. An additional year would give everyone ample time to properly conduct their tests.

So if you're wondering what to do under RED, you're not alone. Perhaps its time for TIA, CTIA, ETSI and other lobbying organizations all get together and lobby the EU for a delay. That's my 2 cents (or in this case, 2 pence). Tell us what you think.

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BHPH - Is This Quiet Segment of the Automotive Industry Poised to Take Off?

By: Bill Brehm

After spending over 10 years in the car business, like I did, you begin to get a sense of how everything inside truly operates. You start to learn how dealers make money, their secrets, their vulnerabilities, and what they don't want the public to see.

The term "connected car" generally conjures up visions of autonomous, self-driving, self-communicating automobiles depositing children at school, picking up groceries, and navigating city streets to take you to work all with equal ease. But there's a different kind of connected vehicle grounded entirely in reality that exists for auto sales organizations that many consumers know nothing about.

While most consumers have heard of things such as Ford's Sync, GM's OnStar, Hyundai's BlueLink, or some of the other OEM connected car programs, many auto dealers are utilizing machine-to-machine communication for another purpose. The financial crisis of the late 2000's hurt more than the housing market; the credit crunch impacted the automotive industry dramatically as funding sources to finance vehicle sales became more scarce and conservative. One solution for the credit challenged that has silently been out there for years is buy-here-pay-here (BHPH) automotive financing. BHPH is a solution for people who need a car, but have difficulty getting approved for conventional or even "second chance" financing.

What is BHPH?

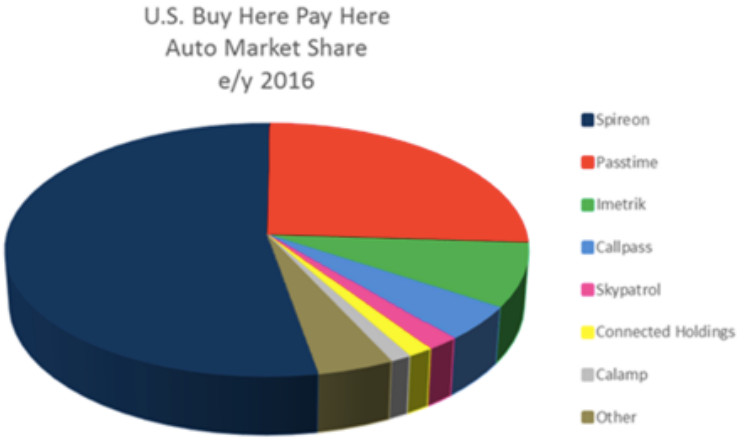
BHPH allows an individual to pay a small amount as a down payment, drive away with the car, and return to the dealership weekly or biweekly to make payments. Basically, the dealer acts as the bank and assumes risk for the loan. To reduce their risk, these dealerships have turned to technology partners that offer solutions that connect, track, and control the vehicle remotely. These solutions help the dealer to assess risk; provide payment reminders (such as in-vehicle buzzers or announcements that a payment is due); and view critical vehicle data, such as location, state, and loan payment status on a single screen. What's more, if a buyer defaults, dealers can easily pinpoint the vehicle's location, in some cases disable the ignition, and secure the vehicle for the repossession company.

The ecosystem of technology organizations supporting the BHPH market is made up of companies big and small. While it takes hardware to connect the vehicle, software that integrates back-end dealership office systems with tracking solutions is a key component. Several companies have specialized in this market over the past decade. And while we believe that market size of the BHPH space is around 4.3M connections, several

companies, have successfully been able to capture from the tens to the hundreds of thousands of BHPH connections.

Who's Leading the Way in BHPH?

Leading the industry is Spireon, with nearly 2 million BHPH connections. Other players in the space are Passtime with over a million connections. IMETRIK, CallPass, Sky Patrol, Connected Holdings, CalAmp, and others by share of the market.



BHPH as a Solution for the Credit-Challenged

Credit-challenged individuals see BHPH as a real solution. For this reason, we anticipate the market will grow at a consistent rate for the remainder of the decade. So, with the demand for subprime and collateral-backed loans increasing, we believe the number of auto dealers that will turn to technology and utilize GPS and collateral management solutions is set for an enormous rise. The greatest risk for a lender is the complete loss of collateral, but by using M2M-based GPS and CMS systems, BHPH dealers are protected.

Last year nearly a third of all auto loans were subprime, and most of these are collateralized notes. With delinquencies on the rise, the National Alliance of BHPH Dealers (NABD) released a survey stating that 74% of financers said that using an M2M-based automotive GPS and CMS solution with integrated payment reminders reduced delinquency rates by more than 10%. This helps the dealer protect inventory, helps the subprime customer in having a tool to help repair his credit, assists the financer in closing more loans, helps towing companies in the repossession process, and encourages customers to consistently make payments, which ultimately results in the lender receiving timely loan payments.

Final Thoughts

While this has been one of the auto industry's hidden secrets, we believe the practice could easily be grown to benefit mainstream dealerships and traditional lenders. Today, the BHPH industry accounts for approximately 4.3M cellular connections, and we believe that this industry will grow to 11.5M over the next 6 years.

Last year there were about 38.5 M used cars sold in the US by 138,000 used car dealers. If nearly a third are subprime, just doing some simple math, would mean there are about 12M subprime loans. That said there are about 8M loans that don't use a BHPH solution. With potential numbers that large, we feel that this space has real impact on the future of IoT and the automotive business. Last year the top 100 automotive retail groups sold nearly 2.84M retail used cars to the public.

What if they did BHPH using a connected device to mitigate the risk?

How will that move the needle?

Where the industry is headed has real potential for growth. This is just an example of IoT helping to better the lives of people and having a real impact on legacy businesses. As these businesses start to utilize the technology available the ability to serve their customer will continue to improve as the lives of the consumer improves. This always leads to increased revenue and profits.

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If you are interested in meeting with James Brehm & Associates, please contact info@jbrehm.com in order to set up a meeting date and time.

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