

FIELD SERVICE NEWS
special reports

Why IoT is the Future of Field Service



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DON'T BELIEVE THE HYPE?



Are we on the cusp of a revolution or are we experiencing evolution? To kick-off this special IoT supplement we spoke to Paul Joesbury, Operations Manager at HomeServe and Chris Proctor, CEO at FSM Software provider Oneserve and got their thoughts on the afore aforementioned IoT, automation and the general attitude towards new technology adoption...

The impact of technology has been felt far beyond service. Homeserve's Paul Joesbury worked in finance before joining the utility company "I look back and reflect on my time in finance," he recalls, "many of the tasks were done manually, like ledger reconciliations, which are all automated now. Previously it would take a bank of humans that would take the best part of a week to reconcile something and now it's pretty much done with the touch of a button."

The Operation Manager continues, adamant that his current sector should benefit from the same progress "So why should service operations be

different? The technology, I think, is pretty much already there. It's how it can be applied in a cost-effective way which is going to be the challenge for organisations."

Chris Proctor is another great believer in technology but he suggests firms should adopt technology for the right reasons. "A lot of companies are trialing new technology at the moment, but it comes down to when it is absolutely necessary, and at what point does the use-case become really tried and really tested."

However, the Oneserve CEO is concerned about



the pace of adoption generally in the sector. "I might be lambasted for saying this but I don't think there has been much innovation," he says, aware of the statement's brevity. "It's disappointing that the last real innovation in field service management was moving to the cloud and even then, I don't think everyone is fully there yet."

It's a bold claim, yet one that has substance. The industry has been accused before of lagging when it comes to embracing disruptive, digital technology. "I think one of the biggest problems the industry has is properly understanding the trajectory of new technology," he explains.

"There's this concept of necessity being the mother of all inventions and I think there's a really good point in that. A lot of industries and a lot of sectors are having to go through a lot of change. In the UK there's so much uncertainty in so many pockets at the moment, trying to make big decisions on how you engage with new technologies is very difficult."

It's a sentiment echoed by Joesbury who feels the role of technology will slowly phase out that of the engineer...but not quite yet.

"I definitely think in five years' time that there will still be humans around," he ponders, "but I think we'll be doing different roles, and I think the important aspect over the next five years is to learn to trust the technology and equally for the technology to work and we've got to embrace that. After that you're on a journey searching for the next big leap of faith but where does it come from? I'm not sure if service operations is going to be the market leader in this space, but I definitely can see lots of value potential, I think we just have to open our hearts a little bit and embrace it."

The society that technology operates in can also influence how it is executed. We are on the cusp of a younger generation who expect everything to work first time. The way in which people communicate is also changing, to a point where digital messaging is superseding vocal interaction. If the trend is to continue then service will have to adapt to this way of communicating and reflect that in its technology usage.

Where does Proctor see the service sector heading? Will there be a fundamental shift in approach as more young people enter the arena? Servitization and the gig economy, he predicts, will have an impact on the way services are delivered.

Most likely through a subscription-based model, complimented by disruptive innovations and delivered by freelancers who, in order to maintain their personal brand, deliver consistent service excellence.

"I can see a world where most of your services are consumed on a subscription-type basis. You contact your service provider who then uses technology similar to programmatic advertising whereby contracts are tendered and bid for and secured within seconds, all underpinned by blockchain," he says.

The role of blockchain in IoT and its evolution will surely be an important one. As more devices connect with one another than security becomes more of an issue, however Blockchain could provide the ringfence IoT needs. However, Proctor, a passionate advocate for blockchain, wants quicker adoption.

"I think there are lots and lots of limitations of how we are going to bring [blockchain] in," he says. "In exactly the same way that IoT and AI is a technology set that people don't fully understand. There is a lot of hype around how it can help service but when you scratch under the surface, it's just a hypothesis," he pauses, "it has the ability to be truly, truly game changing."

Blockchain, IoT and AI are all huge potential disruptors in the service sector. IoT could, over the next few years, become something that pushes the boundaries of what we now see as traditional service.

As Paul Joesbury said, it's about "trusting and embracing what is available". Perhaps then will we witness a number of game changing moments.

Game on!

How To Embrace Augmented Reality In Field Service

In a world of connected field service, new exciting opportunities are being created by new technology such as Augmented Reality. Michael Murphy, VP International Operations, Librestream Technologies explains...

The Field Service industry is in the midst of digital change – investments are being made in different digital transformation technologies to help expand their service offerings to customers.

According to Forrester¹, 32% of enterprises are focusing on digital transformation, and in two years, that number will increase to 49%. Augmented Reality (AR) is one key technology that organizations are deploying as part of these digital transformation initiatives.

It is difficult to define AR as capabilities range from deployable now to future applications. The future capability can be considered 'extreme AR' - think of 3D digital models of assets that you can pull apart and manipulate. However, most organizations don't have the content or infrastructure available for this form of AR even though this is the type of AR many refer to first. In reality, the more deployed form of AR includes applications such as remote assistance and digital work instructions.

Within field service we are seeing this 'deployable now' AR gain significant traction. In working with industrial customers, we have identified three main drivers behind this growth: aging/ loss of experts, change in customer demands and service offerings, and ecosystem readiness.

These three drivers are propelling service organizations to adopt AR tools that can leverage expertise across a broad product set and customer base. Early adopters within industry have already proven results with performance improvements in first-time-fix rates, asset uptime, and overall issue resolution time. Embracing AR capabilities can be difficult if you don't know where or how to start, and there are critical factors that can make the deployment a success or failure. Here are the three main stages of successfully deploying AR technologies:

Get Started

The first and most crucial step is articulating the

problem or need - Are you experiencing a loss of expertise within your organization? Are customers demanding stronger SLA commitments? If there is more demand on your service organization, AR technology can help meet these demands.

Once the need and goals are identified, the next challenge is choosing the AR technology and vendor that best fits your needs. Ask if they have other customers like you. Can they provide you with best practice suggestions? Starting with applications like digital work instructions and remote expertise will expedite results as they are proven already. In addition to wearables, these solutions can be used on smart devices, such as smartphones and tablets, that your workers likely already have in their pockets.

Work with your team to figure out the potential use cases for this technology and document them. Creating a library of use cases will help a lot in the deployment stage. The last important part of the 'get started' stage is getting the right people involved from the start. That means IT, project champions, and the executive buy-in. Having all these groups on board will help make the deployment a success.

Make It A Success

AR technology is usually a learning curve for new users. Making this technology deployment a success is key when users adopt the new tools. You will see the most benefit from AR when deployed in scale – if one user has the technology it's hard to see it success.

Think of the network effect. If only two users have the technology, there is only one connection that can be made, but with 100 users enabled, there are 4,950 potential connections. The next most important step to success is in creating an achievable adoption plan. Work with your team and your AR vendor to properly introduce and train on the technology. And communicate your use cases and successes to help with the adoption. If users understand how and why the technology is

being used, the chance of them actually using the technology grows.

Think About the Future

The future of AR within service is virtually limitless, and enterprise businesses are testing a range of wearables as part of various AR applications. While wearables add hands-free capabilities, they add cost to the initial deployments. Many enterprises are deploying test groups with wearables while enabling workers to use the applications on their mobile devices to expand the value.

Capturing field intelligence data and providing expanded analytics are also major topics within AR. Applications such as remote expert and digital work instructions capture valuable information from the field including IoT data. Solutions are also moving toward working with IoT sensors to grab valuable data in real-time or to record in step-by-step workflow.

Using the data you've collected from the AR applications, you can add to your predictive maintenance and service analytics. The field intelligence data you capture also must be available within your existing systems such as your ERP or knowledge management system. To achieve this integration, connectors and APIs are a 'big thing' in AR - and ad-hoc or silo systems are no longer acceptable. Enterprises expect a completely integrated solution.

Practical AR solutions are proven to improve performance, especially in the field service industry. With AR the main drivers of the aging workforce, ecosystem readiness, and the change in service offerings and customer demands, service organizations are realizing the need for innovation and digital change. As the industry continues to embrace the digital space, AR will become the norm within field service.



LIBRESTREAM

Michael Murphy, VP International Operations, Librestream Technologies

Why IoT is Democratizing Servitization



The prevalence of IoT within field service, has put Servitization within the reach of smaller companies and those that embracing it are capable of disrupting their sectors writes Kris Oldland.

"The world once seemed simple; manufacturers made things and services companies did things for us. Today, increasing numbers of manufacturers compete through a portfolio of integrated products and services."

This is how Professor Tim Baines, someone I consider to be something of a mentor to me as well as a friend, and who also happens to be one of the worlds leading academics within the field of servitization once described servitization to me, having been asked to do so in basic terms that I as a lay person could comprehend. >>

Of course servitization is much more than simply adding services to existing products within a few large multi-national companies as Professor Baines went on to explain.

"It's about viewing the manufacturer as a service provider that sets out to improve the processes of its customers through a business model, rather than product-based, innovation. The manufacturer exploits its design and production competencies to deliver improvements in efficiency and effectiveness to the customer."

In context of the traditional product-centric viewpoint of manufacturers, this is of course a radical and seismic shift. A fact that Baines himself can never be accused of underplaying, often referring to us as living through the fourth industrial paradigm - the previous three coming via mechanisation and steam power, followed by the mass production line, and then computing and automation.

The fourth paradigm that we are currently adapting to is a world of cyber-physical products. Or to put it in more familiar terms perhaps, a world of IoT and connected assets.

If you have spent anything more than 5 minutes talking about servitization, then you will most likely already know that as the inventors of 'power-by-the-hour' some 57 years ago, Rolls Royce are something of a Poster Boy for the movement.

But wait! Here you cry. If Rolls Royce managed to pioneer their own brand of servitization so long ago, when we hadn't even established an internet, let alone one built literally just for 'things', then how can you say IoT is fundamental to servitization?

It is of course a hugely valid point. Servitization has been demonstrably proven to be possible prior to the age of IoT. However, there are a few core factors shared amongst Rolls Royce and the other early pioneers of servitization such as Caterpillar, Alstom, and MAN UK.

Firstly, there is a layer of innovation within their leadership and organisational DNA. This is true of all pioneers, some companies are prepared to take the greater risks and push boundaries past what is the current normal.

However, in many cases, those servitization pioneers also had strong other revenue streams that gave them the opportunity to fail if needs be without sinking the whole business. It is certainly a luxury that not all companies have but cross sector organisations such as Swiss heavy manufacturing giant ABB, have proven to be an excellent example of how to leverage reputation, cross industry learnings but also how having the additional breathing space of being a multi-vertical, multi national organisation allowed them to drive their own servitization strategies.

But the one thing that almost all of these companies in the early vanguard of servitization also shared, was that they were relatively advanced in telematics and that they could see not only the potential value of the data they were able to take from their assets but also, more importantly how they could take that data and build it into meaningful insights for their customers.

Crucially, they understood they could utilise the information on how their assets were performing to help guide their customers to a far more effective understanding of their challenges, and then step in to offer further, more complex solutions that were specifically in line with their customers' desired outcomes.

They were able to take the data and become integral partners within their

customers' business ecosystems rather than just one of many transactional relationships - and whilst I am by no means an expert on the topic myself, I've spent enough time with Professor Baines and many of his academic peers over the last few years to understand that this is at the core of why servitization is such an attractive proposition for supplier and customer alike.

Deeper relationships provide greater output, stability and effectiveness for the customer and deeper customer loyalty, greater profits and longer term contracts for the supplier.

And now as the IoT, and even more importantly it's enterprise equivalent the Industrial Internet, begin to mature into something more meaningful than connected toasters, and as we begin to see companies start to at least acknowledge, if not yet truly harness the potential of IoT, what we are seeing is the democratization of servitization.

It is no longer just those companies who can afford to be innovative, that can now embrace servitization. It is not just those companies who already have access to, or deep enough pockets to be able to invest in connected assets that can explore the numerous advantages of adopting an advanced services strategy.

It is also not just manufacturers either. In fact, the rapid rise of IoT has enabled many smaller, third party service providers to capitalise on gaps within original equipment manufacturers, or in some cases even utility providers, service offerings. This has allowed them to carve out service-centric businesses that were frankly, missed opportunities for the slow to react enterprise organisations whose sector they disrupted.

For example, there is the French start-up who were able to make significant inroads into the Liquid Petroleum Gas (LPG) hospitality sector by offering to fit their clients gas tanks with cheap but effective sensors so they could offer guarantees of uptime instead of the old model of a restaurant always buying surplus to avoid running out of gas mid shift.

Or the company that provided sensors for heavy industrial bins, which allowed them to disrupt the refuse collection in their local market by offering a collection service based on need rather than schedule - again a start up that utilised outsourcing, innovation and IoT to disrupt an established market.

Or the third party service provider that specialises in coffee vending machines that was able to create an additional revenue stream for their organisation by identifying buying trends within specific store locations and translating that data into insights for their customers who could in turn leverage local population preferences with focused promotional campaigns.

Each of these examples, were driven by use of and an understanding of how IoT can offer additional value to the end customer. Each of the above examples is also a demonstration of a company identifying the additional revenue for advanced services beyond the traditional scope of the service provider.

The essence here is that they are all based on an understanding of the desired outcomes of their customers.

So whilst field service companies should absolutely be looking to explore how best they can improve the efficiency of their service delivery through IoT, the real gold is in understanding how you can improve your effectiveness in helping your customers achieve their goals.

That in a nutshell is servitization and that is exactly where the greatest value of the IoT will surely exist.

IoT Alone is Not Enough...

Whilst the Internet of Things is undoubtedly set to become a hugely prominent part of field service delivery in the coming years, it shouldn't be viewed as a technology in isolation writes Kris Oldland....



I've written and spoken about the importance of IoT in field service for many years now. In the past I've often compared it to the mobile revolution, outlining my case for why I think IoT will ultimately have a far bigger impact in our sector than mobile.

Now this is not to underplay the importance of mobile in field service. Mobile was undoubtedly a huge leap forwards in terms of how field service companies were able to deliver efficient field service maintenance.

The streamlining of workflows that mobile allowed has seen field service companies be able to do more with the same or even less field service technicians than they could have even imagined possible in the days of triplicate paper documentation and the mighty pen.

Equally, the introduction of increasingly intelligent mobile applications has given field service engineers greater insight into each job they undertake, better support options for when they face an unusual fix and the easy processing of job completion and on site customer feedback. All of

which have seen field service companies become able to truly leverage the often untapped potential of the field service technician as a genuine, trusted, brand ambassador.

In many respects the introduction of mobile was a true revolution.

That is until we compare it to the potential of IoT.

In this context, actually what mobile brought to the table was the ability to do the things that we always knew were important in terms of service

efficiency and customer satisfaction, better. We didn't revolutionise our fundamental approach to field service when we introduced mobile into the mix. We just did things exponentially more efficiently.

However, whilst the advent of IoT will bring even more efficiency gains, as our engineers become forearmed with the knowledge of exactly which parameters of the asset they are about to work upon are falling outside of acceptable norms, there is the opportunity for a much more radical shift in thinking that IoT presents in addition to this.

This is of course, the shift away from traditional break-fix, service level agreement-based service contracts and into the brave new world of guarantees of uptime, truly predictive maintenance and advanced services.

This is the true revolution.

However, IoT alone is not enough for us to harness the disruptive force of such a revolution. Much

discover insights that yields true competitive advantage, is a fairly uncommon skill set that blends the analytical and the creative thought processes into one holistic discipline.

Yet, as machine learning matures, I see a world where the role of the data scientist will be much more of an initial consultant, someone to make sure a business understands the methodology of data science.

Someone who outlines to them, the whys and the hows, basically lining up the ducks into a row, before setting the AI to do its thing.

The technology is improving so rapidly now that the actual implementation of such data interrogation programs is likely to sit with senior business execs, rather than senior IT execs driving it. The value of the human input will not be within the data analysis itself, but in guiding what areas of the business performance should be being measured.

The reality is that the sheer volume of data and

door in this regard and such developments will inevitably become common place eventually.

However, this I feel is just the very tip of the iceberg in terms of AR in field service and it is when we add into the system a feed of real-time data from an asset, that we will see AR truly flourish.

Imagine a field service technician being able to simply look at a device and to get a visual overlay of how that device is performing in real time. The engineer would be able to identify fault, pull up asset history, and access a knowledge bank of the most suitable action for maintenance within just a few moments.

Comparative Analysis Across The Fleet

Perhaps one of the most exciting potential applications of IoT with respect to maintenance and service, is the ability to offer additional layers of advanced services, which could yield newly created revenue streams.

“The value of the human input will not be within the data analysis itself, but in guiding what areas of the business performance should be being measured..”

like Cloud before it, it is perhaps the foundational technology upon which we can build even greater innovations.

Machine Learning Is Crucial For Iot Success

One of the throw away phrases that you will invariably hear at conferences, read in articles and discuss in board rooms in pretty much any industry vertical right now, is that 'data is the new oil or gold'.

I politely disagree with that assertion.

Data, as an entity in its own right, is quite frankly almost worthless. It has no use-value. It is without agency and it is without utility. Insight that can be found from mining such data however, is something of truly massive value. When people comment that data is the new currency, they are generally referring to insight.

This is why the data scientist was widely posited to become the 'rock star' of the twentieth first century not too long ago. The ability to not only know how to surface insight from data, but more importantly understand exactly which direction your interrogation of that data should go to

the speed at which it is generated means that truly utilising and embracing IoT means simultaneously adopting a machine learning strategy at the same time.

Augmenting Augmented Reality

Another technology I have championed for some time now is Augmented Reality (AR) which offers up in the short term at least, a very realistic solution to both the ageing workforce crisis and also the need for field service organisations to reduce the time and costs of training new field service engineers and get them being productive parts of the field workforce as swiftly as possible.

For a long time I have posited the benefits of being able to hold onto the tribal knowledge of an older engineer by allowing them a more convenient support role where their experience can be 'dialled into' by the less experienced, newly qualified engineers.

This ability to provide 'see-what-I-see' over the shoulder remote support is an obvious solution to the two issues I mention above, and I am somewhat surprised that as yet we haven't seen as large a take up as I would have anticipated - although I do feel we are pushing at an open

One such example could be the application of asset data analysis across a fleet of assets to allow your organisation to provide corrective changes to settings either at the individual asset level, the individual component level or even at the macro level across the whole fleet.

Take this a step further and through the anonymisation of key data sets across an entire install base of your assets, and then the analysis of the operational performance of the install base as a whole - you could be in a position to offer your customers a solution update that could improve productivity by X%.

Whilst, admittedly we are still getting our heads around the practical regulatory challenges and big questions around who owns what data, with the waters becoming infinitely more muddled by ill thought out and poorly defined legislation such as GDPR or the Californian Consumer Privacy Act, there are already examples of companies leveraging data from across their whole install base to be able to provide just such intelligence to their customers for an additional cost.

Such solutions are dependent on high level operational performance analytics, which have



evolved from the world of Big Data.

Don't Forget To Make It Safe

Of course, it is always more preferable to talk about opportunity, but it must be remembered that with whilst in every great challenge we can find opportunity, so to does every new opportunity present a new threat - and the biggest threat of all in a world of data-breaches and connected assets is cyber-security. The shift to the Cloud reinvigorated the discussion of cyber-security hugely.

Many were initially reluctant to make such a move despite all the various benefits of doing so, because the Cloud felt just so much more penetrable and vulnerable than an On Premise solution that had the advantage of being visible, tactile and 'real'.

The truth is the amount of resources cloud providers like AWS, IBM and Microsoft spend on protecting their cloud offerings are so mind blowing that no on premise solution could be as risk free.

Microsoft for example spend over a \$1Billion dollars a year and operate 3,500 professional security engineers plus a highly sophisticated AI to thwart the incredible 1.5Million attacks they get every day.

For this reason, I've always felt comfortable with the Cloud as being as close as we can get to secure - whilst nothing is ever 100% safe, choosing any of the big three Cloud providers gives you as good

protection as your likely to get.

However, with IoT at the moment I would hesitate to be just so confident in my prediction.

A large part of this is down to the technology still being in something of a 'wild-west-phase' with protocols still being ironed out and at the same time a huge surge in consumer appetite for IoT products has driven costs of components down, with many coming out of China which adds an additional question around security against the global geopolitical landscape we find ourselves in. Not only can IoT components be a weak point of entry to gain access to a wider network, but should the unthinkable happen, they also pose a huge risk in terms of cyber terrorism.

If a device can be hacked and it plays a role in wider ecosystem of a factory - could it be conceivable that a cyber criminal could hold a business to ransom shutting them down until they pay up?

As with anything the pros and cons of a new solution need to be weighed up, and for me the benefits of IoT in field service do still outweigh the cons, but it is certainly worth putting security at the top of a list of priorities when scoping out the potential of any IoT strategy.

Rubbish In, Rubbish Out.

Finally, just a quick point on building such a strategy.

As mentioned earlier, it is important to think of IoT not as an IT project and it is too engrained within business to be viewed in such a way.

However, it should equally not be seen as solely as a business solution either. Digital transformation is a significant focus for many companies right now, and if done correctly this should be a platform for embracing IoT - so it is important that your IT leaders within the business also play a major part in such endeavours.

But the one thought I would put at the top of any strategy planning meeting would be to ask - what is it we are trying to achieve?

I would then go one level deeper and ask 'What is it that our customers are trying to achieve?'

Then ask the most crucial question that any business has in its arsenal - why?

That should give you the right path to tread down and from there the various different layers of technology that are suitable for the goal you are trying to reach will become apparent and you can plan accordingly.

Skip this process though and you may as well go right back to the old adage of the computer - put rubbish in, get rubbish out.

The IoT does offer true revolution within field service, but every revolution requires planning.

IoT Delivers Real Benefits To Smaller Field Service Businesses

IoT has long been touted as a transformational technology within field service management, and its impact will be felt by smaller organisations just as much as their larger peers writes Craig Chantler, Head of IoT, at simPRO...

Field Service is being transformed thanks to technological developments such as machine learning and the Internet of Things (IoT). The ability to remotely monitor equipment and transmit data back to the business in real-time has previously only been available to larger corporates with deep pockets. The reality is small to medium enterprises can also benefit from an agile operational environment and it doesn't need to cost the earth.

Let's take a look at the key benefits IoT brings to small to medium-sized field service operations.

Trigger automated actions

IoT connected assets are monitored for anomalies, and error messages can trigger alerts and create work orders. There doesn't need to be any human interaction in this process which reduces the impact it can have on limited resources. If a part fails, the correct parts can be ordered and then the job can be assigned to the suitably qualified and located engineer for the job.

Increased first-time fix rate

Repeat service visits are costly, especially for smaller businesses with limited resources. IoT can help to provide more efficient and cost-effective service delivery. Accurate reports on the behaviour of connected assets help to reduce unnecessary visits but when a problem arises, the right person with the correct parts can solve the problem on the first visit.

Predictive maintenance to provide better service

Moving to a predictive maintenance model, where equipment can notify us when they are operating outside of normal parameters or predict when failure is imminent, can hugely benefit businesses. By only sending an engineer to site when required can reduce costs and administration as well

as improve equipment uptime and customer satisfaction.

What are the practical applications for IoT in smaller field service businesses?

When looking to implement an IoT solution, it's important to evaluate all options. It's not only about cost, but the full end-to-end solution. Consider whether new equipment is required or whether the technology works with existing installations. One of our customers did exactly that when they looked at how they could use IoT in their business.

The business in question is an installer and maintainer of specialist plant equipment found in the plant rooms of many prestigious commercial buildings. They were seeking a solution that could deliver live operational data on the performance of their equipment to support their ongoing maintenance and servicing activities and even help create new revenue-generating services.

Having persevered with another IoT system for close to two years and getting nowhere, they implemented simPRO IoT and had it up and running in a very short space of time.

The simPRO plug and play sensors can be retrofitted to existing equipment quickly and easily, along with the easy connection of existing sensors in place on the equipment. These sensors communicate with the gateway to the simPRO platform through thick plant room walls that other approaches were struggling with.

The sensors are used to monitor key areas of system performance such as energy usage, water levels (using pressure sensors) and water flow (via pulse meters). Thanks to real-time updates through the cloud, the provider can be instantly alerted of these metrics, along with faults on the

local equipment console.

This has allowed them to improve the operational performance of their equipment and add value to the customer by reducing costs, increasing asset uptime and facility performance. They are able to "sweat the asset" and get more out of the equipment long term. Moving away from reactive and prescriptive pre-planned work, towards cost-effective proactive management of the equipment, has had a positive impact on their bottom line. Lowering the cost of operations has enabled them to use resources more efficiently which ultimately benefits the customer.

By integrating the core simPRO solution, which combines comprehensive asset and job management, with the IoT enabled live window into asset/equipment operational performance, simPRO delivers an end-to-end solution. Small businesses can benefit from this one-stop-shop approach where all hardware and software are provided, installed, configured and supported by the one vendor.

The simPRO solution allows smaller service providers to punch above their weight, and bring innovative new services into their portfolio to bring a tangible source of differentiation.

With the real-world practicalities of simPRO IoT increasing in usage by small to medium enterprises, the onus falls on the field service industry to embrace it for the wide array of benefits previously unattainable for these businesses.



simPRO
Craig Chantler
Head of IoT, simPRO



A Safe Evolution: A Brief History Of IoT In Field Service

The total installed base of connected devices is projected to amount to 75.44* billion worldwide by 2025, an astonishing fivefold increase in ten years. Mark Glover, plots IoT's extraordinary evolution, its potential impact for service and asks if concerns around its governance are being addressed...

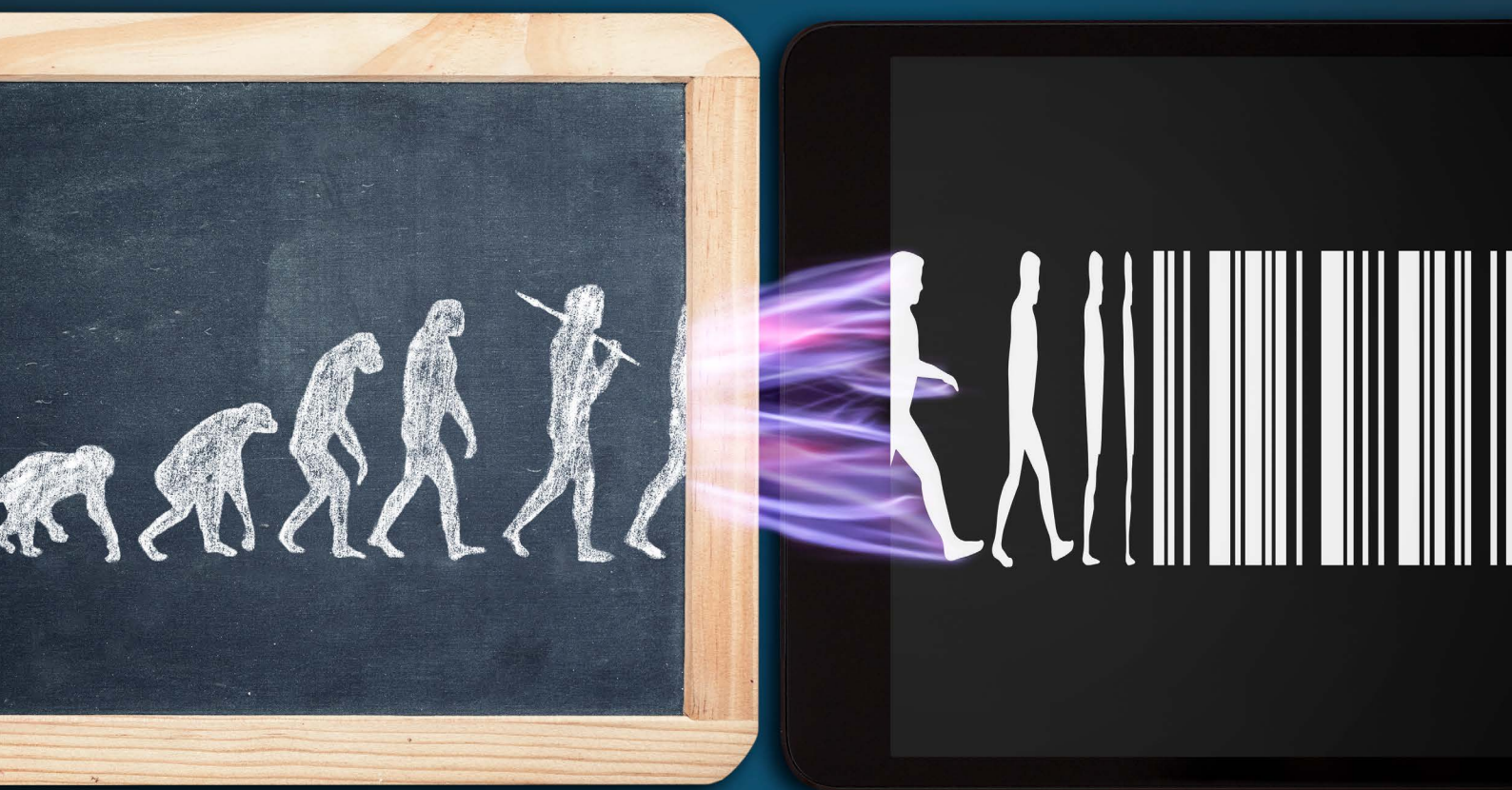
The Internet of Things (IoT), another buzz world (and acronym!) is a crucial element of Industry 4.0, or the fourth industrial revolution as it's also called; the use of data automation and data exchange in modern manufacturing.

Loosely described, IoT is everything that is connected to the internet. However, it's the

increasing ability of devices such as laptops, phone, watches, cars and fridges to "talk" to each other that is coming to define what it actually is.

But how does it work? The blood of this digital eco-system is data, and its oxygen is automation. When combined, information is gathered, analysed and acted on producing an outcome.

We've all probably got an Alexa-type smart device blinking in the corner of our living room or kitchen, our TV knows when to record Game of Thrones and our thermostat remembers when we're coming home from work so the living room is nice and toasty but as much as your fridge sending you a text to tell you you're out of milk is handy, it's in the realm of service that IoT can really make an



impact. On the surface, its potential is enormous.

I often write about the asset becoming more important than the engineer and enjoy the debate that comes from such a statement. Yet, with machine learning, AI and in particular IoT it's looking more and more likely that eventually, at some point, the role of the human in service could go all together.

The smart asset – a wind turbine, for example – could flag-up a fault through a sensor, communicate with another turbine about the failure, who could respond with a solution, without the need for an on-site engineer. This, example, I admit is rather woolly, but you get the idea; the potential is huge and in the industrial sector its impact is starting to be felt.

Research conducted by PwC on US manufacturers' attitudes towards digitization revealed 70% of those surveyed predict to be at a stage of digital advancement by 2020, compared with 33% currently. Furthermore, those firms are investing \$907 billion annually on greater connectivity and smart factories suggesting, firms are realising the

financial benefits of such technology.

However, with all disruptions there comes challenges.

A report from Gartner in 2014, around the time the IoT enthusiasm was building, checked the momentum slightly by highlighting issues around security and consumer privacy. Given the vast amount of data being shared by the possibility of a breach could have severe consequences.

On the flip-side data collected on consumers and their behaviour is another area for concern.

And while data collection can enhance a company's ability to provide better services, any sort of mis-hap can in-turn, be just as damaging to firm's image and the market in general.

Furthermore, as the number of connected devices increase real-time processes could be affected as storage and security requirements widen

Five years on, where are we with IoT governance? Gartner's 2018 report Top Strategic IoT Trends and

Technologies Through 2023 suggested that some sort of protocol was essential.

"As the IoT continues to expand," the report's summary read, "the need for a governance framework that ensures appropriate behavior in the creation, storage, use and deletion of information related to IoT projects will become increasingly important. Governance ranges from simple technical tasks such as device audits and firmware updates to more complex issues such as the control of devices and the usage of the information they generate. CIOs must take on the role of educating their organizations on governance issues and in some cases invest in staff and technologies to tackle governance."

There's no doubting the potential of IoT. As mentioned, it can truly change the way service is delivered. However, citing the statistic in the standfirst of this article,

75 billion devices are projected to be connected by 2025 and with that, the potential for. It's the role of all firms, from the top-down to ensure they're ringfenced accordingly.

Smart Locker Technology Revolutionizing Field Service Logistics

ByBox has been shaping the field service supply chain for over 20 years. Delivering your parts to a fixed locker location, ensures your engineers get the right part, to the right place, at the right time 24/7/365.

Our app-based smart locker technology is reliable, intuitive and secure; providing real-time visibility of part movements in the field.

Enabling you to benefit from:

- ◆ Improved Efficiency
- ◆ Reduced Distribution Spend
- ◆ Minimised Inventory

Contact Marketing@ByBox.com to find out how.