

Three major areas of field service evolution

Despite all the hyperbole around technology, field service is still very much a human discipline insists Sumair Dutta of The Service Council...

Field service, as a discipline, is changing. The rate of change isn't as dramatic as the typical prognostications of technology-focused publications and outlets.

Yes, IoT is and will have a huge impact. So will wearable technology. But remember, this is an industry that isn't completely mobile.

Pen, paper, and the clipboard, are still considered useful tools. Technology is increasing the rate of change in field service, but the overall industry is one that is still quite cautious.

In early 2015, nearly 200 organisations participating in a field service study conducted by The Service Council highlighted the following as their top focus areas for 2015:

- Process control, review, and management
- Talent management
- Field service execution
- IT infrastructure for field service

These areas are similar to some of the priorities outline by survey participants in 2014.

What is different about 2015 is the increased focus by organisations to lay a strategic foundation for their field service businesses to support sustained business growth. Its not just about cutting field service visits, but more about maximising the value of necessary field service visits. With this in mind, we see a continued evolution of field service around these three major areas:

Service Model Integration:

Reactive field service isn't dead.

Organisations were more likely to see an increase in reactive field service visits in 2014 than they were a decrease in these visits. In 2014, 41% of organizations polled saw an increase in reactive field visits over the course compared to only 28% of organizations that saw a decrease.

While organisations are looking to eliminate unnecessary reactive field service visits with the aid of connected or self-service business models, their service portfolios are still comprised of a

heavy dose of reactive field service visits.

The primary goal with reactive visits is to increase efficiency so that the first reactive visit is the last reactive visit. However, organizations are also looking to enhance value delivered per service visit wherein an on-site visit is seen as an opportunity to share knowledge with, provide advice to, and improve relationships with the customer.

Eventually the hope is that this leads to better trust, increased retention, and continued customer spending. In looking at the overall service continuum, the objective is to eliminate effort and inconvenience in dispatch-less service models but to maximize value when a dispatch is required. This requires a focused integration of the service delivery models around the end outcome felt by the customer.

Talent:

While most organisations we poll are able to deal with their field service workloads with current resource levels, most are looking for new field service talent and are having a hard time a) finding this talent, and b) getting the talent trained and out of the door.

Our research shows that 46% of organisations had unfilled positions for field service technicians at the end of 2014. In searching for new agents, organisations are prioritizing customer management and communication skills so that these agents aren't only good at fixing things, but are also able to effectively communicate with customers.

Organisations are also looking to hire agents who are familiar with the use of mobile devices and applications adopted by the organization. We're also seeing a significant change in training philosophies when it comes to field service.

The overarching objective is to get new hires out in the field as soon as possible and so organizations are prioritizing online training, collaboration, and knowledge platforms, to provide field agents with an always-on and always updated mode of instruction while on the move.

Mobile:

Mobile will continue to be the most impactful technology for enterprise field service in the near future, more so than the Internet of Things.

The reason for this is that we are just scratching the service of what mobile can do for field service, especially when it comes to workforce empowerment.

While most organisations we poll have provided their agents with some form of mobile device, they have yet to fully empower their field agents with the capabilities of mobile technology.

We're still in the early stages of mobile maturity for field service wherein most investments have been made primarily to replace ineffective paper-based processes.

However, mobility presents the opportunity to provide richer information to field agents to allow them to effectively resolve customer issues.

It also offers field agents the opportunity to communicate and collaborate with broader groups across the organisation with the aim of improving productivity and enhancing customer satisfaction. Finally, mobility also allows organizations to create an army of data gatherers.

This data can be used to monitor service demand, improve customer relationships, and identify opportunities for service business growth.

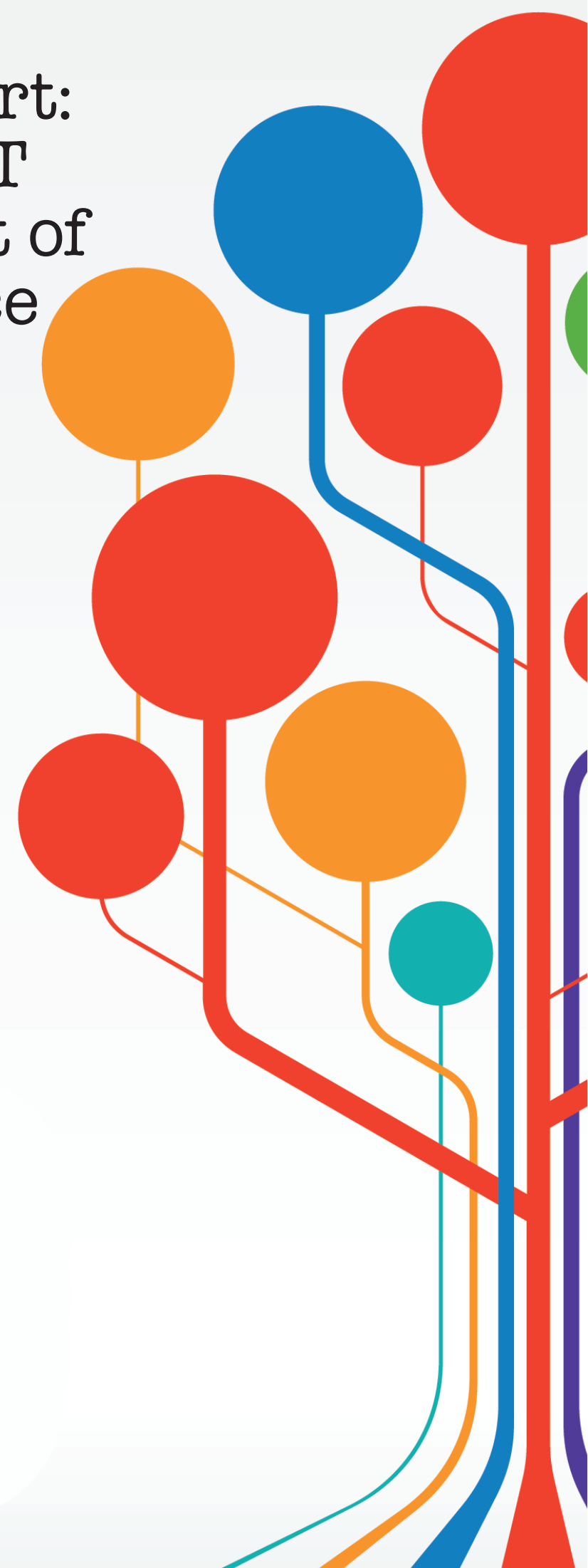
In our 2015 service big data research project, 40% of organizations identified mobile point-of-service solutions as the avenue of data collection that they most wanted to tap into.

Field service is changing. The speed of change is picking up with the aid of mobile technology. Yet field service is still a human discipline, and human empowerment and engagement is key to supporting field service growth.



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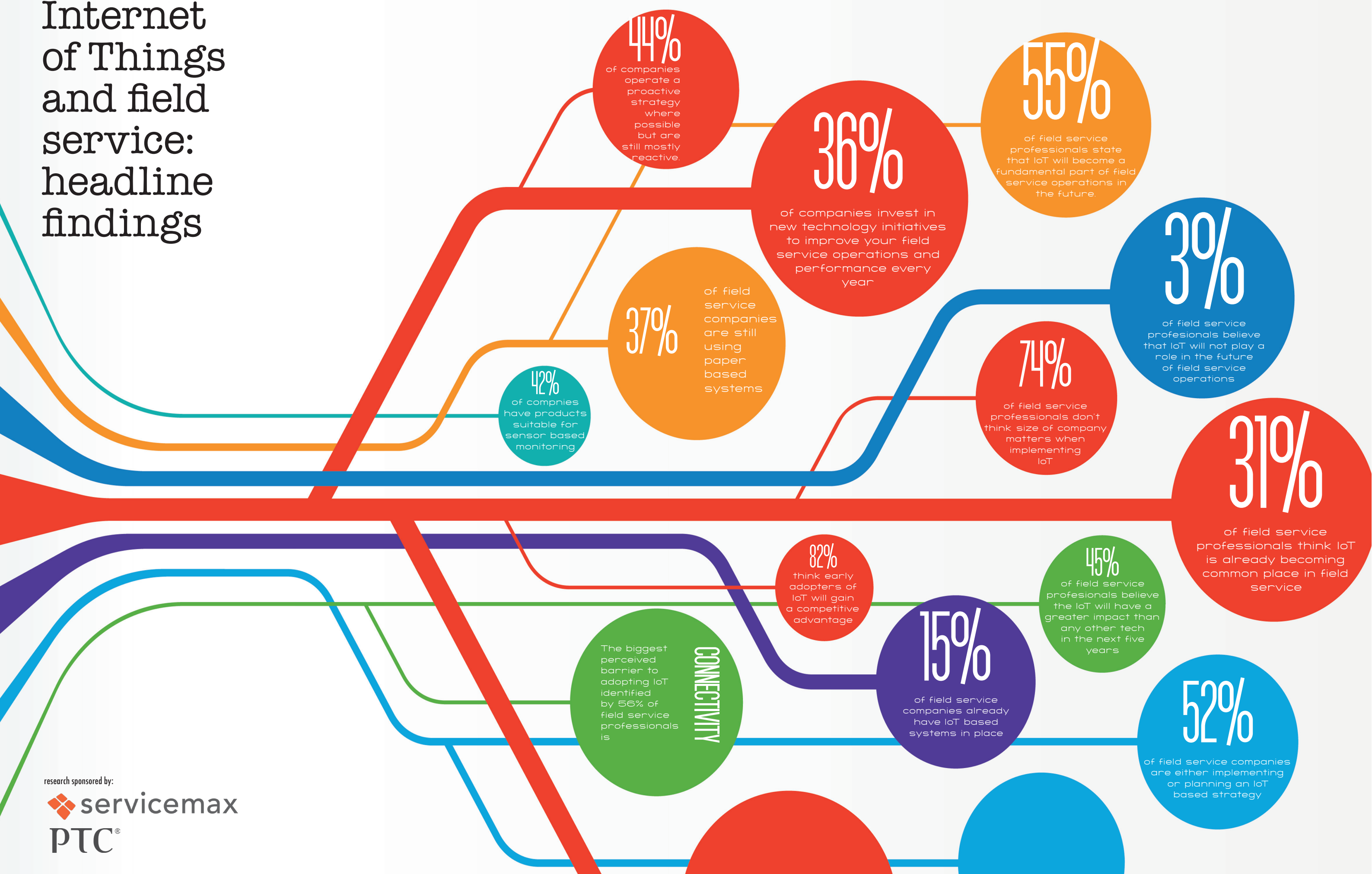
Research Report: Is it time for IoT to become part of the field service landscape?



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The Internet of Things and field service: headline findings



IoT: is it really going to change everything & are we ready for it?

The Internet of Things has been widely touted as being the ultimate game changer for field service companies but are we ready for it? Field Service News joined up with ServiceMax and PTC on a research project looking at the appetite for IoT in field service today...

We are seemingly blessed to be living in a time of such incredible advancement.

Technological trends such as Big Data, Enterprise Mobility and Cloud Computing have all pushed businesses forward and often we see these three coming together in the latest field service management systems, where data is easily collected, interpreted and distributed across a business eco-system.

Such systems give engineers instant access to knowledge bases, managers continuous overviews of the performance of their teams and most importantly of all, customers an ever improving customer experience.

However whilst the opportunity for improving business processes these technologies present is clear, when it comes to potential for real, genuine industrial revolution, there is another emergent technology that promises to be king and that is the Internet of Things.

Whilst the massive hype that surrounded Big Data meant that the early projects we are seeing today are perhaps a slight anti-climax, (BI on steroids - which is undeniably useful in business but just not quite the life changing scenarios that were being bandied about back in 2013) with IoT almost the opposite is true.

There seems to be less confusion around IoT, which given it's much more tangible nature makes sense, but have we grasped the magnitude of how big an impact it could truly have on field service industries?

There seems to be less confusion around IoT, which given it's much more tangible nature makes sense, but have we grasped the magnitude of how big an impact it could truly have on field service industries?

To try and understand a little more about the general attitude to and application of IoT amongst field service companies, Field Service News has partnered with ServiceMax and PTC on this research project looking to ascertain just how ready we are in field service for IoT.

About the research

The research was conducted across a period of 6 weeks during August and September this year. Over 100 field service professionals contributed to the research with respondents from both the operational side of business (field service directors/managers etc) as well as senior IT representatives (CIO/CTO etc.) participating alongside business leaders (MD,CEO etc.)

We had a variety of company sizes ranging from those with less than 10 field workers through to those with over 800 field workers, with a fairly even split across these groups so there was fair representation of opinions from companies of differing sizes.

Also whilst there was a slight UK bias in respondents, there were also respondents from India, Ireland, The Netherlands, Italy, Spain, Germany and the USA so there was a mix of nationalities amongst the respondents as well.

Before we began looking at the appetite for IoT amongst our respondents we first wanted to see if companies were actually well placed to benefit from adopting an IoT strategy.

To do this we needed to assess where the companies in our group were in terms of their approach to technology in general as well as how they approached their own service delivery

Of course with the introduction of any new technology there will always be laggards and there will always be bleeding edge adopters and if there was a bias amongst our respondent group either way this should be taken into account when exploring other responses and trends identified within the research.

Therefore the first question we asked our respondents was "How regularly does your company invest in new technology initiatives to improve field service operations and performance" and we gave our respondents the choices of every year, every two years, every three years, every five years or other.

It would seem our group was on average representing a slightly forward looking set of companies with 35% stating they would invest in new technology an annual basis. Meanwhile 13% stated they did so every two years, 17% every three years and 16% five years.

A number of respondents also commented that their company's investment in technology was slightly less strategic and on more of an ad-hoc basis although members of this group also stated 'recently the investment in new technology is being increased'

Predictive or reactive?

The next question we asked in this initial section was whether our respondents were working for a company that is either adopting a pro-active or reactive model in terms of their field service planning.

Again this will be a good indicator of how ready field service companies are to adopt IoT as one of the significant factors in why IoT is predicted to be such have such a major impact, particularly in field service, is that it can be the key for companies moving away from the traditional break-fix delivery of service to a more efficient preventative maintenance approach to delivering field service.

Indeed it seems that the majority of field service companies do see the benefits of moving towards delivering service in a proactive rather than reactive manner, in theory at least.

Whilst the same amount of companies (6%) stated they were either "Fully pro-active with a mix of predictive and preventive maintenance, enabled by remote monitoring and M2M diagnostics" or "We are mostly pro-active using both predictive and preventive maintenance strategies but still have a small percentage of reactive calls." The largest group of respondents by a long way (44%) stated they "operate a proactive strategy where possible but are still mostly reactive."

Meanwhile almost a third of companies (31%) state that their "service is half proactive and half reactive" whilst only a small fraction of companies (4%) were operating on a wholly reactive strategy.

This would suggest that the perceived wisdom that field service companies should be moving away from the traditional break-fix reactive approach to a more proactive approach, which is better for service providers and their customers alike, is being adopted by the industry at large.

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It also indicates that whilst this attitude is widespread, achieving a move away from break-fix models is harder to achieve than simply updating policies.

In fact responses to this question would certainly strengthen the case for Internet of Things being rapidly accepted and adopted amongst field service companies who can see the benefits of proactive maintenance but are unable to deliver it.

The tech being used today

So as we begin to form a picture of our respondent companies we can see that on the main they have moved towards a proactive approach that IoT could quite certainly improve and on the whole they are either regularly investing in technology to improve their field service operations or are open to doing so.

I mentioned in the beginning of this report that technologies such as Big Data, Enterprise Mobility and Cloud Computing have evolved together at a similar time to become highly complimentary and the core of what many modern field service management solutions are today.

Our next question was included to see what types of technology our industry has already adopted and once again, as has been seen in previous Field Service News research projects there seems to be two clear and distinct groups within field service -

the Haves and Have-Nots.

For while over half of all companies (51%) are now utilising Field Service Management Software, with nearly a third (31%) utilising Dynamic Scheduling tools, and just over a fifth (21%) using telematics to manage their field engineers, still almost two fifths (37%) are using paper based systems.

However, the one clear area where companies have made investments in is within mobile computing devices with over two thirds (67%) of companies already utilising some form of mobile computing device for their engineers whether it is a PDA, Smart Phone, Tablet or Laptop.

So returning to a perspective of whether as a whole field service companies are ready to turn to a new technology such as the Internet of Things, then it would seem that for many the bedrock of technology required to allow them to truly capitalise on such an implementation is in place.

However there is still a large section of the industry that could be viewed as technologically immature, so whilst the implementation of IoT isn't necessarily dependant on other technologies, one would imagine that the likelihood of a company investing in an IoT strategy without having already implemented a field service management solution is probably relatively slim.

Yet as the technology continues to evolve, as partnerships such as that of ServiceMax and PTC working together continue to evolve and as disparate platforms become ever more integrated then we will certainly start to see field service management platforms that are built to incorporate IoT become more prevalent, which may give those companies that are currently viewed as laggards a potential quantum leap forward in the way they are utilising technology to deliver service.

Sensor based monitoring

Of course perhaps the most important question when assessing whether field service companies are ready for undertaking an IoT strategy is whether or not they believe they have a product line and install base that opens themselves to sensor based monitoring.

The majority of respondents which was just

over two fifths (42%) believe that they do have a product line which would be suitable for sensor based monitoring. This would suggest that there is indeed already a large potential market for IoT amongst field service companies.

However it is also interesting to note that of those companies that didn’t feel they had products that opened themselves up to sensor based monitoring, there were more companies who were not sure if their install base was suitable (26%) as opposed to those who simply stated their product line didn’t open itself up to sensor based monitoring (23%).

This opens up an interesting question as to whether there is still a requirement for further education of what is required for Internet of Things to be successfully implemented. How much is possible via retrofitting for example or is IoT wholly reliant on new product development?

Such questions certainly provide opportunities for vendors and consultants to help educate those companies who are uncertain about whether the Internet of Things could be of value to them. However, if we bring together the results of the above questions, the opportunity for IoT to become an integral part in the way many field service companies operate is certainly apparent.

So having established that there are a sizeable number of field service companies that could potentially be suited to implementing an IoT strategy, the next big question is of course what is the general perception of IoT amongst these companies – do they see the potential match themselves or will IoT fail to live up to the significant hype surrounding it today?

To help us understand how big the appetite for IoT was amongst field service companies we asked our respondents “which of the following technologies do you think will have the biggest impact on field service operations within the next five years?” Giving them the options of ‘IoT’, ‘Big Data’, ‘Smart Glasses’, ‘Augmented Reality’, ‘Connected Vehicles’ or ‘Other’.

Here there was a clear winner and it was indeed IoT which 45% of our respondents stated would have the biggest impact. In fact this was more than double the second most popular option which was Big Data (19%) closely followed by Connected Vehicles (cited by 15%). Interestingly Augmented Reality, which like IoT could also have a significant impact on field service beyond simply improving efficiencies was only cited by 10% of our respondents as being the technology most likely to have the largest impact on field service, perhaps due to the relative immaturity of the technology on display to date.

It was also interesting to see that despite some very interesting potential applications being produced that again could lead to huge potential savings for field service companies, that smart glasses registered with only 3% of our respondents. A large factor here being the perceived failure of Google Glass perhaps?

Interestingly of those respondents that added additional comments within the ‘other’ section there were a number of respondents who admitted that they remain unsure as to what technology will have the most impact with one respondent commenting “I’m not convinced that the industry yet knows what the next big thing will be. Our industry is still coming to terms with the improvements in smart phones and understanding the tangible benefits that can be gleaned from modern apps and lowering data costs.”

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This adds some interesting further insight into the fact that whilst for some field service and technology are becoming increasingly entwined, for many companies in the market there is still a cautious approach to allowing technology to redefine the way we do business.

Belief in the power of IoT
Given then the fact that the majority of our respondents believe that IoT will be the most important technology to impact the way field service companies operate within the next five years, just how critical do companies feel that IoT will be?

Again our respondents showed a significantly positive approach to the importance of IoT when we asked them “What are your thoughts of the Internet of Things and how it can be implemented in Field Service?”

Over half (55%) of our respondents stated they thought “IoT will become a fundamental part

of field service operations in the future” whilst a further 21% went further stating that “IoT is critical to any field service organisation’s strategy”.

The same amount of respondents (21%) stated that they felt that whilst ‘IoT is an interesting technology and I can see potential applications for it I don’t think it is ready yet.”

This means that 97% of respondents felt that they could at the very least see the potential of the Internet of Things in a field service environment compared to just 3% who stated ‘I don’t see it playing a part in our field service operations’.

Such figures indicate a truly overwhelming belief that IoT is indeed set to lie at the heart of field service as our industry continues to evolve.

Does size matter?
Of course one of the biggest challenges any emerging technology faces in terms of gaining traction and widespread adoption is whether it is accessible for companies of all sizes.

Often it is the case that when a significant new technology arrives it is cost prohibitive for those smaller companies (and often even mid-sized companies as well) to adopt. In field service this has often been negated by the fact that as well as delivering the opportunity to deliver better service for customers, very often technology in field service management can yield significant cost savings as well.

It has long been a key argument for the implementation of dynamic scheduling, tablets and smart phones and telematics for example that x implementation will have paid for itself within y months.

Of course similar arguments can be put forward for the introduction of IoT but for companies that would be looking to retrofit their assets in the field, such an implementation could have a potentially large initial outlay. So has this impacted on whether field service companies believe that IoT is a technology that could work for companies of all sizes?

We asked our respondents “do you think that IoT is more suited to larger companies or accessible to companies of all sizes?” And it seems that on the whole such challenges are not considered sizeable enough to be prohibitive for smaller companies with almost three quarters of respondents stating they ‘don’t think size matters when implementing IoT’.

What is particularly interesting is that when we drill down further into the data to look at responses from those representing companies

with 50 engineers or less, this figure remains high at almost two thirds (65%) and in fact the number of respondents from this group who state IoT is ‘more suited to larger companies’ remains almost the same as the group as a whole (15% of respondents when looking just at smaller companies vs. 16% of the group as a whole) with a larger percentage of respondents stating they ‘don’t know’.

So it would appear that even amongst those companies with smaller field service teams, the majority believe that IoT could be suited to their business, again further reinforcing the belief that IoT will be part of the field service landscape across companies of all sizes.

When will IoT be common place?
So it seems that there is a general agreement amongst field service companies that the Internet of Things will become a staple part of field service operations. However, where opinions remain somewhat divided is when we will start to see this happen on a pervasive scale.

We asked our respondents “when do you think IoT will become common place within field service operations?” And the results were both varied and relatively evenly spread.

The most popular response was that in fact ‘it is already beginning to happen’ which just under a third (30%) of respondents stated. However, the second most common answer was within the next five years which just under a quarter of respondents (24%) stated. “Within the next three years” and “within the next two years” were the next highest answers with 19% and 18% opting for these responses respectively, whilst 5% felt it would happen within the next twelve months.

Of course varying factors such as industry verticals, company sizes and more will impact when we actually see a widespread adoption of IoT so perhaps such differing opinions may be expected here but what is clear is that again the majority do expect to see IoT become common place in field service. In fact just 3% of our respondent stated they ‘don’t think it will happen at all’.

Actual implementations
In fact we can look further within our data to help us better identify when we will see field service companies embracing IoT on a widespread level by looking at how many companies have indeed already implemented an IoT strategy and how many are currently planning to do so.

Indeed over two thirds (67%) of companies are at the very least ‘actively planning an IoT strategy’,

with 15% of companies actually ‘having an IoT based system in place’ and 14% currently in ‘the process of implementing an IoT strategy or solution.’

This would indicate that whilst those who stated that they felt IoT was already becoming widespread may be slightly optimistic, in reality we are perhaps three to five years away from IoT becoming a truly common place tool within field service management with only just under a third of companies (32%) not currently planning to use an IoT strategy or solution as part of their field service operations.

Main reasons for adopting IoT
So what are the key drivers for what is seemingly a large appetite amongst field service companies to adopt and develop their own IoT strategies?

In fact there were three key reasons that were cited by our respondents that stood out in our findings. The largest of these was to ‘Improve customer loyalty by improving the service levels we deliver to our customers’ which 68% of our respondents identified as being a major reason for adopting an IoT strategy.

Over two thirds (67%) of companies are at the least currently actively planning an IoT strategy...

This was closely followed by ‘increasing the efficiency of a field service division’ and ‘reducing costs by moving to a more preventative service model’ which were cited by 62% and 59% respectively. Indeed these three options could be identified as the holy trinity of drivers for investment in field service technology and are quite rightly identified as key drivers regardless of the technology.

However, the next group of responses which again were all identified by similar amounts of respondents are perhaps much more specific to IoT. These were ‘increasing market share by delivering proactive service before the competition’ (43%), ‘IoT enabling companies to change our business strategy to a servitized, outcome based solutions model’ (42%) and ‘Increasing profits by moving to a more service oriented business model.’

With high proportion of our respondents backing each of these statements we are also

seeing perhaps further evidence of the growing movement towards servitization which is of course often heavily reliant on remote monitoring that comes via the Internet of Things.

Barriers to adoption
Of course we must also explore the barriers to adopting IoT as well and here it seems clear that there are again three major concerns for field service companies looking to develop an IoT strategy.

The first is the perennial fear of twenty first century technology, security. Much like the Cloud there is a worry about being so heavily reliant on the internet especially as it becomes fully ingrained within business critical tools and 46% of respondents stated this was a major barrier to implementing an IoT strategy.

Tied heavily to this of course is connectivity. Whilst for some companies fears around the security of connected devices is a worry, for many others, especially those operating in rural areas actually connecting devices to the Internet in the first place is also a significant challenge and this was flagged up by 56% of respondents.

Finally there is of course the question of the customer. Again security worries remain and 55% of companies believe that their ‘customers would be reluctant to have their devices connected sharing data.’

Conclusion
However, as mobile broadband continues to improve at a rapid pace, connectivity issues will surely subside and whilst the perception of the IoT being a security threat remains, online security is also continuously improving with the likes of Amazon Web Services and recent PTC acquisition Axeda continuing to reinforce online security.

So given that these major fears are likely to fade with time and that there is already a significant groundswell of approval for the use of IoT in field service it seems that it is now perhaps a matter of time before we stop talking about IoT as the future of field service and start seeing it as an integral element within field service operations.

Indeed, the big question for most field service companies is no longer if you will move to IoT but when and what will happen to those who get left behind?

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