



Field Service Management 4.0 – the Next Generation

The evolution of the field service
function and preparing your team
for the future

WHITE PAPER



A rapid evolution

We consider how developing the optimum combination of skilled human talent and powerful, digital technology will help the field service function to evolve, driving down costs, raising customer satisfaction and increasing productivity and profitability.

Casting our minds back just 25 years reminds us how little most of us could conceptualise the future.

Many jobs that exist now hadn't been conceived of pre-Millennium, including roles such as data scientist, user experience (UX) designer, Cloud architect, mobile app developer, electric vehicle charge point installer, and many more. Technology continues to evolve, driving requirements for new roles and skills, and even now, it is likely that some of the expertise that will soon be considered as standard employee requirements, are yet to be dreamt up.

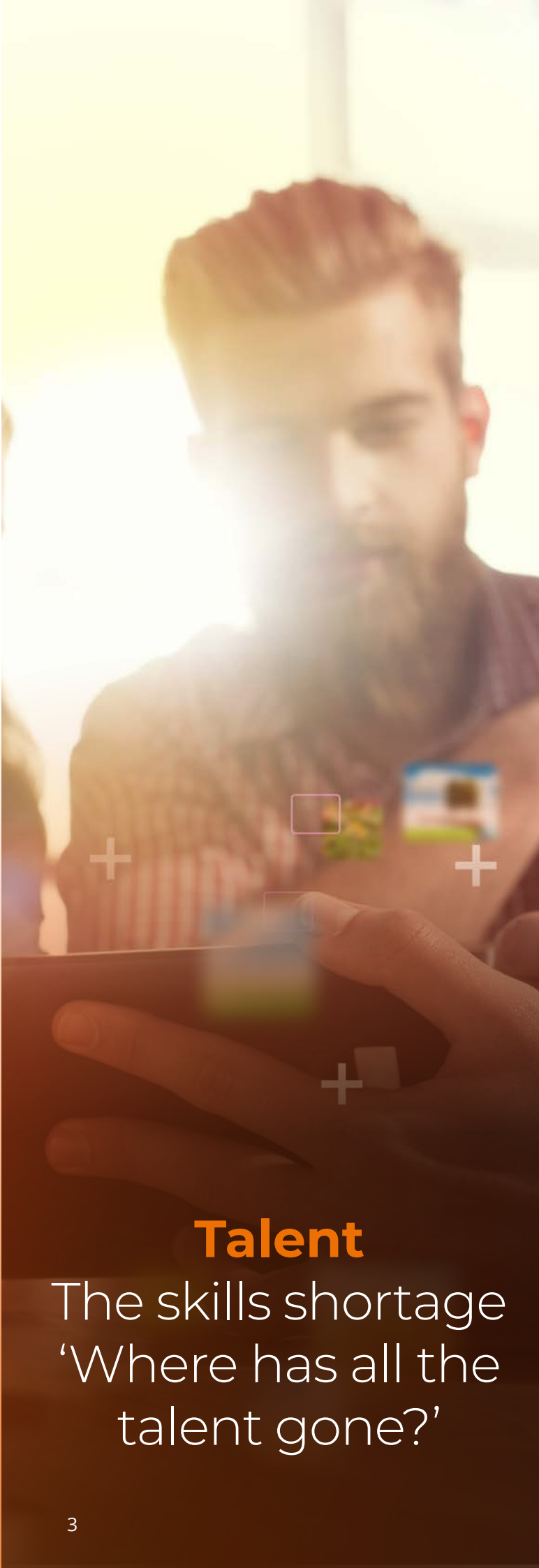
Field Service Management (FSM) has already evolved massively, accelerating over the last three years. The unprecedented circumstances of the global Covid-19 pandemic drove massive and unexpected changes. Forced to stay away from the workplace, new ways of working were established and embraced, and remote/hybrid is now standard practice in many sectors. Online meetings apps like Teams and Zoom have stepped up and pivoted quickly to cope with new demands for more seamless and productive remote meetings.

Many organisations have now closed some of their offices or have down-sized in reaction to fewer people in the workplace each day. This has brought some cost-savings for businesses. Even the housing market has been impacted by the rise in working from home, with growing demand for homes with suitable office space and estate agents declaring broadband speeds in property marketing details.

Technology now enables remote working even within Field Service Management. Although it would be naïve to say that all customer problems can be solved using technologies such as Augmented Reality (AR), Artificial Intelligence (AI), Geographic Information Systems (GIS) and the Internet of Things (IoT); highly-trained and experienced field engineers, using these technologies, can address the main challenges facing all FSM businesses.

These include, securing enough highly skilled, motivated and experienced talent, increasing customer satisfaction for better feedback and more repeat business, and reducing operational costs to achieve greater efficiency, sustainability and profit.

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Talent

The skills shortage
'Where has all the
talent gone?'

Talent

The UK skills shortage has been growing for some time and there is no sign that things will improve quickly. Quite simply, older technicians are retiring and leaving the sector and there are not enough skilled, motivated and experienced recruits taking their place. Many traditional hands-on trades such as electrician, plumber, joiner and bricklayer are in very short supply, a situation exacerbated by Brexit and the loss of many European workers.

Digital skills are also in short supply, and the UK government has published its 2022 Digital Strategy, recognising that "more needs to be done" in order to develop "the digital skills that the real economy actually needs". As field service organisations are being transformed by digital technology, they will require a raft of strategies to help them fill the existing skills gap, enabling them to optimise their operations, increase profit and position themselves as leaders in their sector from both a customer and employee point of view.

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Apprenticeships

Technology undoubtedly enables businesses to achieve more with a dwindling experienced workforce, but there is also a pressing need to train the next generation of employees to step into their shoes. The Skills and Post-16 Education Act 2022 was introduced as part of the UK government's commitment to effectively tackling the skills shortage. It aims to help education providers to deliver a workforce that is fit for the future, with equal opportunities for all adult learners to prosper across the UK. The bill places increased legal requirements on providers to work with employers to develop training plans that meet the needs of businesses in the local area, ensuring a more relevant skills development programme and higher employability, post-study.

The apprenticeship training sector has itself been transformed with the introduction of designed-for-purpose digital solutions that help them manage the entire apprenticeship journey. This includes using online portals to engage with learners, helping to motivate them and support them through to end point assessments and employability.

They also include educational software that utilises AR and AI to enhance the training and learning experience. Integrating digital software into learning makes a lot of sense for the digital native generation who already turn to their mobile phones for information, communication, social interaction and much more. For many, completing a short quiz using their phones feels more natural than having to write answers on paper and educators can leverage that inclination to great effect.

Many virtual tools are available that allow learners to do things like dismantle a car engine or to safely design and build complex electrical circuits.

Apprenticeships

These projects can be completed repeatedly without any material waste and can be accessed remotely as apprentices practice their problem-solving and troubleshooting skills.

There is a lot of focus on achieving 'functional skills' across the core subjects of Maths, English and now also, IT, for learning providers. Apprenticeships must build on this attainment in order to produce a skilled workforce that is ready for the challenges ahead. Technology can help with delivering relevant learning opportunities for students, for example demonstrating the real-world requirement for a good grasp of maths for construction or joinery work, ensuring the learner remains engaged. The same is true for digital skills as they become more necessary and relevant within many sectors and jobs, requiring specific training in industry-standard digital solutions to fully prepare learners for their future roles.

Recent decades have seen a strong shift in the minds of parents, students and education providers that has prioritised exam achievement with university study as the goal. Reduced opportunities for graduates, along with the burden of student debt and disillusionment with remote university teaching during the pandemic have all contributed to increasing numbers of school leavers considering more vocational study. This presents a real and exciting opportunity for employers to attract talented apprentices and train them to be the next generation of expert operatives that the FSM sector so desperately needs.

One way to do this is to ensure that the quality of training and on-the-job experience positions that business as an employer of choice, presenting an attractive future career path for new entrants. Leaders must therefore take a long-term view of the way that the sector is evolving and ensure that apprenticeship course content and delivery matches current and future requirements. By understanding what the future of the field service function might look like, they can establish which skills will be essential. So, for example, many FSM businesses are already digitising their operations, implementing more two-way communication with customers, intuitive online interfaces and smart operator and job management. Training must incorporate all of these digital solutions.

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**Remote service for
talent retention**

Remote service for talent retention

The pressures of working in the field, interacting with customers and juggling disparities between what the job was supposed to entail, and what is actually required, can make it a stressful way to earn a living. Organisations that can offer their employees the latest digital tools that help them do their jobs more easily, with less stress, can help to them retain the talent they need, which is crucial in this competitive market for skilled workers.

FSM businesses that have already embraced new technology, replacing disparate legacy systems with digital solutions that enhance operations across the entire business are finding that drawing them together with centralised data improves service across all functions.

Training and upskilling are crucial for making sure that employees learn how to use digital solutions in the optimum way, and part of that is ensuring they understand its capabilities and fully appreciate how the tools can help each of them in their day-to-day roles. That way they can use the solution to the full and also be part of the next steps, helping pre-empt the next developments and requirements they can envisage for the system, before it becomes a pressing need. Investing time and other resources into an individual's learning and development is also a useful strategy for building more engagement with the employee and letting them know they are valued and appreciated by their employer, in turn supporting increased loyalty and longer-term retention.

It is important to offer employees what they want, in order to encourage and enable high-quality entrants to succeed within their roles. By integrating more remote service, FSM organisations can enable operatives to work from home more often, so they can avoid the frustrations of sitting in traffic and can complete more jobs in a day. This can lead to greater job satisfaction and less day-to-day work-induced stress. People also benefit from having more agency over the way they work, and as the pandemic demonstrated, can be more productive when offered a more flexible approach to when and where they work.

Remote servicing is invaluable for helping trainees and new recruits to learn faster and get up to speed more quickly. By amassing more experience in a shorter period, with a greater variety of situations and problems, they are then better placed to work more independently of supervision sooner, allowing employers to achieve more with fewer employees.

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Using technology strategically to dominate competition

Anesco is a global leader in renewable energy. Anticipating significant growth in its sector, leaders recognised that it had outgrown its existing in-house system that ran alongside Excel sheets, Word documents and a calendar. The business, that works with major energy utilities, needed a more powerful, streamlined solution that was intuitive to use and enabled more effective working. They selected Advanced's Field Service Management software, a full suite of solutions that could optimise efficiency and productivity, helping the business maintain its position as the market leader for solar and battery storage in the UK.

"The functionality and scalability of Advanced's software, as well as the consistent investment in their product development, means we can stay at the forefront of our field here at Anesco."

- Calum Morrison, Head of O & M Business Systems with Anesco

Dynamic Resource Scheduler (DRS) offers the flexibility that Anesco field service teams need, complementing the multiple different ways they work, and allowing them to plan work effectively. Another solution within the suite, Job Manager, offers real-time updates that help teams make instant decisions around progressing jobs, creating follow-up appointments, and ordering spare parts. InfoSuite allows the Anesco team to report on "an almost endless number of metrics relating to our teams, customers, and investors." It allows them to assess what is happening in the field, utilise the information and drive the business forward. Because Advanced is always developing and enhancing its products, it is providing its customers with solutions that help them stay ahead of their competition.





Customer service

Surpassing customer expectations

Customer service

Meeting the fast-response expectations of the customer has been a growing theme for FSM businesses during the pandemic and beyond. The rise in next-day, and same-day deliveries by online retailers has impacted all service delivery and customers now expect a quick response and resolution to their problems or delivery of services and goods. Technology enables automated replies that can make sure initial contact with the customer is recognised, with an immediate response that sets a benchmark for the speed of next steps.

As well as proving popular with employees, technology that enables remote working allows staff to be available more flexibly to meet the needs of customers, such as in the evenings and at weekends. When working this way is the employee's choice, it not only helps support a positive working environment where they have more autonomy, it is great for the business too. A remotely-accessed service can be much more convenient for customers, who welcome 24/7 availability that fits in with their own busy lives. Remote service and diagnostic tools are becoming increasingly important for enhancing the customer experience too. The last thing people want is to have to take time off work to allow access for a repair or maintenance job that could be carried out remotely.

Technology is facilitating greater use of cashless and contactless payments, which in the majority of cases is more convenient for customers. It is also more convenient and secure for the operative, who no longer needs to carry cash or handle cheques. It is also more efficient for the FSM company. With payment at time of delivery, there are no invoices that may later need chasing up, and payment is immediate, helping cash flows that in turn fund operating costs and also facilitate better planning and business projections. Customers can enjoy a more seamless experience

with automated processes, such as follow-up visits, that are automatically prompted. In more traditional approaches, customers may have to pursue a number of different conversations with different operatives, or make themselves available for multiple repeat visits because of inefficient operative and materials assignment. This invariably leads to frustration for the customer and a sense that they have wasted precious time making phone calls. Just as the banking sector has been transformed with online self-service, the FSM function is embracing more automated self-service portals that enable customers to book their own visits, and amend appointments online.

Although digital solutions are a powerful tool for increasing first-time fix rates, using software that ensures the most appropriately skilled operative attends with the right materials and tools, repeat visits are sometimes a necessity. It really helps improve customer satisfaction when these are arranged promptly and at a convenient time. AI and machine learning are designed to build on existing data around jobs to become more predictive and intuitive, further improving the customer experience with automated processes.

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Remote service

Remote service

The Internet of Things (IoT) is a growing area, enabling devices in the home to be connected to others, inside and beyond the home via the internet. Smart meters are already demonstrating how data from a customer's home can be automatically relayed to the energy provider for more accurate billing, as well as helping the consumer understand their own usage and make changes to reduce use and bills.

There is noticeable growth in technology solutions that enable remote repairs and machine status assessments, greatly reducing the frequency of physical visits. As previously suggested, this is often much more convenient for the customer, driving a better customer experience and feedback. It is also an effective cost-saving strategy for the business. The cost of running a fleet is reduced, with fewer vehicles requiring less fuel and vehicle maintenance. It also allows the business to achieve more with fewer expert operatives, who can complete many more jobs remotely than they could if they were travelling from site to site.

Predictive maintenance and remote repairs also use data communicated over the internet, so for example, a housing association can keep track of what is going on with heating boilers or solar panels. If there is a fault, the business can organise an engineer to assess the problem and make repairs online, often before the resident has even realised there is a problem. Self-reporting machines that communicate directly with a landlord can ensure scheduled checks and maintenance are carried out on time, ensuring regulatory compliance, and signalling when repairs are urgently needed. Field service management is moving towards a self-service model, empowering customers to manage their own customer journey online.

Many customers will welcome this as it is more flexible and fits into their own busy schedules. However, this must be highly intuitive, easy experience. Many customers would still like to talk to a person, and older people in particular may struggle with new technology. This has to feel like an improvement in service for them, not a retrograde step put in place to save the business money. We only have to look at the public backlash against the ways that GP practices are trying to use telephone and video consultations as a way to reduce waiting times to see that just because technology can enable more efficient working, people may not be ready for the change. Implementing the right digital solutions makes handling and assigning jobs easy, giving telephone teams more time to speak with customers who require the human touch. In future, it will allow planners to move more easily between departments and employers, as the need for in-depth local knowledge, for example around road systems, or the specific skills required for a particular repair or maintenance visit, will no longer apply.

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Controlling costs

Improved spend management

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As the UK teeters on the brink of a recession, and one that many analysts predict will last until at least the middle of 2023, every business is taking steps to ensure the most efficient spend management processes are in place. They are cutting unnecessary costs to ensure optimum return on investment (ROI). Those that have implemented digital field service management solutions are best placed to be able to provide high levels of service, using well-trained operatives and achieving the greatest ROI in all areas of the business.

These include being able to:

Focus on better response time.

Dynamic Resource Management helps optimise the working schedule for each operative, so they aren't doubling back on journeys or making unnecessary miles, reducing fuel costs and helping keep everyone on time, even as changes happen through the day.

Collect and analyse data.

This enables businesses to see where costs can be reduced, or changes need to be made, such as a need to recruit more employees with a particular skillset, or to identify challenging geographical areas and locations.

Increase communication and collaboration.

Enhancing customer relations with better communication, ensuring they view the business as reliable and transparent when inevitable delays occur.

Give the sales team a view of field operations.

There is no need for operatives to check-in, when the sales team and managers can use tools like Job Manager to have visibility of progress at any time.

Optimise workflows.

Automated processes greatly reduce the space for human error and ensure that important steps are not being missed.

Identify patterns for forecasting.

Data gives a powerful view of the entire business, from procurement and spend management to operative deployment and catalogue of skills, making planning easier and more effective.

Schedule preventative maintenance.

Automating preventative maintenance visits results in fewer breakdowns and repairs, making better use of employee time.

Automate time-consuming manual tasks.

All employees benefit from spending less time filling out forms with repetitive information. Letting automation take care of it leaves them more time to devote attention to the higher-value task in hand.

Maintain compliance.

Changes to legal requirements are integrated so that compliance is met, for example updates to requirements to include low or zero-carbon features in new housing and related servicing for things like solar panels, EVCPs and heat pumps for social housing providers.

Reduce carbon footprint.

Smart spend management also enables businesses to achieve Environmental, Social and Governance (ESG) goals, which is important for employees, customers, suppliers, investors and other stakeholders, while helping the business to be more sustainable and resilient to future challenges.



The future face of FSM

A mobile future

The future face of FSM

Companies all over the globe are embracing moves to allow their workforces to become partly or even fully mobile, and this trend looks set to grow substantially. This is not surprising, with many businesses who are already encouraging their employees to work from home (or any place other than the conventional office) noting improved productivity and overall happiness of their workers as a result. Just as the rise in remote and hybrid working challenged preconceived ideas around being present in the workplace and productivity, the shift to more mobile ways of working requires a mindset change for employers and workers.

The same technologies that have enabled successful remote working are being developed to provide more accurate data and other benefits to the fully mobile workforce. As they become more widespread and embedded in standard practice they will become more trusted, encouraging more employers to consider allowing workers to operate remotely. By implementing the use of virtual technologies, apps and Cloud-based solutions to complete day-to-day work-based tasks, managers are able to gain a clear insight into the performance of their employees, even without overseeing them in the physical environment.

The shift to a more mobile future is being driven by data and analytics. Big Data, using huge amounts of digital information to provide actionable insights that drive improved business success, is one of the significant global growth areas. It can have an impact on every area of an organisation's operations, from measuring worker performance and identifying customer behaviour, to improving efficiencies in the supply chain and delivery models, and simulating profit forecasts.

Many of the initiatives and practices that support greener and more ethical ways of doing business can also save costs. Paper-less processes not only save money on paper and printing costs, but reduce waste and recycling charges. Remote service appointments keep operatives off the road, reducing vehicle fuel costs and contributing to better air quality and less congestion on local roads, benefitting communities and local residents.

Being able to demonstrate improved ESG measurements is essential in other ways too. Although currently only the largest corporations in the UK are legally required to publish carbon impact reports, it seems highly likely that this will become mandatory for more, if not all, UK businesses as the government seeks to stay on track towards its net-zero target by 2050. Scope 3 emission reporting involves all of the businesses in a supply chain, so it makes sense that customers and suppliers are seeking to work with others that can demonstrate they are actively working towards reducing their carbon footprint. And customers, investors and other stakeholders are placing increasing value on greener practices, so businesses that voluntarily publish an ESG report may well gain a competitive edge.

The shift towards mobile working will require a mind-set shift for corporate culture too. One of the benefits of new digital technologies, particularly in the way they have been implemented to enable hybrid working, is that they have resulted in a breaking down of departmental barriers. Simple employee engagement tools have

increased collaboration and dissolved silos, giving employees a better view and understanding of what their colleagues do, and how the overall business operates.

This is invaluable both for increasing employee engagement that drives more loyalty and higher levels of retention, but also for individual career development. It facilitates sideways moves into other functions that utilise the same skills, or gives people the opportunity to demonstrate unused skills, that allow them to build a longer-term career in the company. Encouraging more collaboration between teams is also an excellent strategy for helping them work together more effectively. Understanding the day-to-day challenges that one team faces can encourage others to work in new ways that make life easier for everyone.

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Head to the Cloud

Head to the Cloud

The development of the Cloud, and Cloud-based computing has revolutionised many businesses. Without the need to pay for a highly valuable, physical hard drive, storing files and running programmes on the Cloud is saving companies a large amount of money as well. Investments made in on-site systems can soon become obsolete, even with available software updates, and there is a requirement for dedicated in-house IT experts to manage and troubleshoot problems.

The Cloud provides immense levels of computing power that enable easy remote access to real-time documents and data that allow businesses to operate at the next level of competence and success. It also offers a fully scalable environment – as the business and its operations grow, the abilities of the Cloud to host and work with data will grow too.

Digital solutions are driving a move towards a low or no-code environment, requiring component-based systems that non-developers can easily spin up, modifying applications or tools to fit their own specific needs, without requiring full software development skills. Legacy and on-site systems just don't allow this, requiring more IT expertise that is becoming harder to find, as systems age and become defunct.

Again, we go back to ESG and the requirement for all businesses to work towards carbon zero operations. The Cloud enables a more efficient use of resources, with data running from huge information centres that utilise their own environmentally-friendly practices. On a global scale this is a far more efficient use of energy and other resources than individual organisations each running multiple on-premise servers. Companies that use the Cloud can measure this element of their business operations under Scope 3 emissions, helping them ensure their ESG reports demonstrate that they are getting closer to carbon zero.

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Security on the move

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Although the Cloud has huge benefits for use in remote working, with members of staff being able to send, receive and work on files and documents seamlessly, understandably there are security concerns.

The technology industry is responding, with big Cloud service providers such as Google automatically encrypting any data that is stored with them.

Again, as these developments continue and the Cloud comes more secure, companies will have no reason not to embrace the advantages that using Cloud computing and file management systems can bring when enabling a remote workforce.

The world appears to be becoming increasingly focused on mobile solutions, such as the rise of smart payment apps where people can pay for a coffee using their smartwatch or phone. Many schools and colleges encourage students to complete assessments and log homework using personal devices.

The workplace is embracing the trend towards mobile too, and increasingly companies are allowing employees to use their own devices to access corporate files and to complete work-based tasks. This enables employees to be much more flexible, making remote working even more convenient in the future.

One concern for field service management may be around the security of increased reliance on mobile, and even personal, devices for work functions.

Solutions now offer protection, allowing employees to make use of multi-layered security technology.

If this is in place, it shouldn't matter if an employee is using a work tablet or their own smartphone to upload or access data, the security is in-built.

Other practical issues with the use of digital devices on site include durability and resistance to damage. We expect to see an increase in the availability of more rugged devices that are suitable for more challenging and hostile working environments.

The developments that have taken place in smartphone technology in the first quarter of this century indicate that long-term compatibility should not be an issue, and devices will continue to evolve to provide ever-better adaptable and flexible solutions for users.

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Digital, or die

The modern Field Service Management function has outgrown legacy systems. Businesses that continue to persist with legacy systems are holding themselves back. Running organisations inefficiently, spending too much for too little return, wasting time on processes that can and should be automated, frustrating employees who end up feeling disenchanted and leave for a more 'on the ball' employer', and most of all, underdelivering for customers.

The power of the Cloud is required to provide high-quality services to customers in the most efficient and effective ways. Achieving good feedback and higher customer satisfaction ratings is a goal for all companies with a FSM function, so getting ahead of the curve, anticipating the evolution of the sector and understanding the skills that need to be developed now, is crucial. Being reactive, rather than proactive, is not an option for any FSM operations that want to hold onto and develop market share, operate at optimum efficiency, and garner higher customer satisfaction ratings.

Field service employees are changing too, with some under pressure to upskill in order to stay relevant and in demand. There will need to be an overhaul of training and skills to ensure that operators are equipped for the future, in areas such as Augmented Reality to aid customers in virtual self-service fixes. At the moment, we might predict that manual trades such as electrician, plumber, plasterer, bricklayer, carpet fitter and joiner will always have a function in the physical world. But how much they will also need to be able to operate virtually, remains to be seen. The need for employees to be able to understand and use more powerful technology is inevitable, although the best solutions are intuitive and require no more technical knowledge than operating personal smartphones. Professionals in charge of training a future-ready workforce must keep their minds firmly open to all developments.

We don't have a crystal ball, but we know that FSM in all sectors, from local authorities and housing associations to retailers and utility providers, will rely increasingly on digital solutions to drive greater efficiency, ensure better service for customers and reduce operational spend. With cost efficiencies at the forefront of all field service provider's minds, it seems that businesses must go digital, or die.



Making life easier in changing times

Advanced's suite of innovative, market-leading Field Service Management solutions helps our customers deliver services in the most efficient and effective way, transforming the organisation and increasing customer satisfaction levels. Contact us to see how Dynamic Resource Scheduler, Job Manager, Works Management and Infosuite can elevate your field service delivery.

[Find out more](#)



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