



Totalmobile



GUIDE

Driving Innovation Through Mobile Working Within the Infrastructure Sector



Introduction

The Infrastructure sector is an integral part of the overall structure that supports our daily lives.

Since the old state industries were privatised during the 1990's, large capital sums have been committed to updating the infrastructure which needed substantial modification. Along with important modern engineering works and additions the industry has seen wide ranging technology advances.

The Infrastructure companies are now faced with the next wave of advances in technology required to facilitate a modern digital industry. Large Government initiatives such as Green Energy, electric vehicles and high speed transportation are creating new challenges for the way these organisations interact with the public and the efficiency required from their workforces.

The Infrastructure sectors alone employs approximately half a million people. Although this is lower in comparison to other sectors, it is actually one of the most productive in the UK economy. One of the major challenges the sector faces is the continual need for recruitment, and although there are several apprentice schemes providing excellent results, organisations are still tackling the continuous goal of enticing young engineers into the sector. Unfortunately, the workforce challenges don't end there. In addition to a lack of appropriate skills, the sector also faces "critical workforce renewal challenges" as an estimated 100,000 existing employees are set to retire, resulting in approximately a quarter of million vacancies to fill over the next decade.

These workforce challenges, along with a desire to take advantage of digital innovations within the sector, lead to a realistic opportunity for continually improving the industries efficiency with technology. However, this shouldn't be a sudden overhaul of Infrastructure that causes unnecessary disruption. Instead organisations should focus on providing the digital tools that will enable their workforce to improve service delivery, monitor assets and gain valuable data.





One - Maximising Productive Time

The Infrastructure Sector is a busy workplace. Every day field staff face a range of tasks, both scheduled and unforeseen, therefore it's paramount that their time is spent productively.

The key is maximising worker time by enabling them to complete more jobs and importantly, more of the right jobs. This combined with everyday working challenges, such as delays, traffic and lack of communication with contractors, means that the amount of time spent unproductively can quickly add up. Studies have found that productive time typically accounts for, on average, about 30 to 35 percent of an eight-hour shift, with a range between 20 and 50 percent. (https://www.strategyand.pwc.com/media/uploads/Lifting_the_Limits.pdf)

As assets continue to age and organisations turn their attentions to increasing the life span of assets, it's important that workers spend more time where they are actually required, while also being armed with all the relevant information that can aid them in completing work effectively.

Without clear systems of communication and visibility of important details such as asset information there is every chance that their work is not being undertaken to the standard required, resulting in second visits, long restoration times or work being left incomplete. Non-productive time has a knock-on effect for the rest of the day and the wider organisation.

How to resolve this?

It's simple, the best way to resolve this is to limit the number of interruptions to the working day. By enabling the

workforce with technology that improves manual processes not only are they quicker, but they are more efficient.

There are a number of areas that could see productivity improvements for the mobile workforce. Simply providing them with full visibility of their day can enable them to better prepare, and gather all relevant documentation and equipment. By surfacing key information on their devices, such as access and asset information, they are able to overcome difficulties that would have previously caused delays.

Paper based administration, such as compliance forms, can be completed and delivered digitally, directly to mobile devices, allowing staff to continue on with the job at hand with minimal down time.

By providing immediate access to historical job information and essential access data at the point of service, field staff will have all the information they need to access the site, complete the task and record real-time updates that can be communicated automatically with back office systems and third parties.

Not only is non-productive time reduced in their day, but the sharing of information between back office systems improves the communication between relevant departments and third-party contractors, as a result improving restoration times and maximising workforce efficiency.

Two - Demonstrating Compliance

Those who work in the Infrastructure sector manage a large quantity of compliance and regulations in order to evidence that the job they do has been completed to required safety standards.

The importance of safety compliance cannot be overstated.

These organisations undertake a large, varied range of tasks including the repairs and maintenance of assets and it is crucial that all this work can be evidenced. Unevidenced work presents serious risks for the organisation, and can leave them open to significant consequences and penalties if something was to go wrong. Proof that the correct work has been carried out is essential. Having the ability to view more in-depth details such as who completed the job, when the job was completed, what asset the repair was carried out on, as well as all supporting documentation such as signatures & photos, is key. In some cases technology has been incorporated to assist this but the process can be fragmented – meaning information can be captured but can prove difficult to evidence at a later date turning the need to evidence a simple repair into a much more complex process. Having multiple teams out in the field can often result in each developing their own methods and practices when completing tasks. This is something which can cause a headache for management as they try to maintain consistency for compliance standards, but without a workflow that is standardised and implemented it becomes difficult.

Compliance can also involve meeting SLAs on repair times, something which isn't easy without access to real time information. As a consequence delays

become unpredictable and have knock on effects throughout the day.

How to resolve this?

Providing an ability for the workforce to capture all the required information via one solution meaning all forms, images and signatures residing in one place. In addition to this all information can then be updated to the relevant record systems in real time. Not only does this help aid compliance but also reduces the risk of human error. With an integrated mobile solution, information captured on the mobile device can be synced automatically to the back office system.

Creating automated workflows that can be followed from a field workers mobile device helps to ensure that each stage of the process is completed at the right time and to compliance standards. It does this through prompts, pre-filled details and clear information every step of the way, providing organisations with the confidence that each member of the team is completing their tasks consistently and to the standards expected.

Utilising mobile technology enables instant access to real time information. This provides field staff with all the information they need, when they need it, increasing first time repairs, reducing time delays and meeting SLAs.



Three - Utilising Asset Data

There are many different types of assets in the Infrastructure sectors such as buildings, pipes, transformers, machinery and equipment.

As such, making better use of asset data and improving situational awareness is key to effective service delivery. In today's ever-changing world there are a host of ways in which we can better capture data from a wide range of assets. An example of this are IoT sensors which can be used to continually measure a range of events, such as movement, temperature and volume to ensure all assets are performing at an optimal level.

This combined with other key information including operational performance, job history and any real time supporting information, means having the opportunity to develop a comprehensive understanding of the background of each asset. Ensuring that staff are equipped with this information at the point of service delivery not only enables them to increase their situational awareness of each asset but also enables them to do their job more efficiently.

Lack of visibility has a direct impact upon the efficiency and effectiveness of service delivery, meaning that staff often face the challenge of completing work to the required standard. This may mean second visits, or more importantly the risk of not meeting the organisations compliance standards.

With mobile working technology, field staff gain access to vital information, such as when the asset was last repaired or what issues there has been in the past, ensuring they have all required asset data that enables them to complete the job effectively. Automated scheduling can regularly allocate service time when required or, in the event of an issue reallocate work to ensure minimum downtime to service users and ensure that planned tasks are still carried out.

Integrating mobile technology with IoT unlocks the ability to utilise sensors which can be placed on assets and provide real time data on their situation and usage, providing organisations with a situational awareness of how things are operating in real-time. These sensors can automatically detect usage and begin to predict when an asset requires servicing or when a part is approaching failure; allowing staff to be more pro-active rather than reactive and provide a more consistent service delivery for customers.

With access to all this data, organisations gain access to actionable insights that enable them to make business decisions based on usage and the amount of capacity it requires to maintain. Organisations can plan future investments, reduce costs of expensive repairs and increase the capacity of their workforce as their time is spent more effectively.

How to resolve this?

To improve workforce efficiency and reduce the time staff spend unnecessarily managing assets requires investment in field service management technology that will improve the visibility of assets while also tracking historical information that can be used to predict and schedule maintenance.



Four - Creating a knowledgeable & optimised workforce

One of the major challenges the Infrastructure sector faces is in the workforce itself. Specifically, the risk of losing valuable knowledge.

As the current generation approaches retirement from the industry they take with them essential asset and industry knowledge. Attracting and retaining a younger workforce is essential, with many organisations implementing successful initiatives such as apprentice schemes. The most crucial risk falls with highly experienced staff retiring or leaving the profession, taking with them the invaluable knowledge they have gained such as specific assets or how best to undertake types of work. To bridge this potential gap organisations are starting to turn towards digital innovations.

Fortunately, a younger, technically efficient workforce are moving into the profession, who are in some ways more prepared, almost expectant of using digital innovations which empower them to undertake their jobs more efficiently. However, organisations that lack digital innovation may experience issues with retaining this generation.

How to resolve this?

Investment in technology that transforms manual working practices is the way forward. It's well documented that millennials and the emerging workforce are used to a more connected experience, therefore ensuring that they have the right tools to complete their work is essential. Not only do these new innovations enable the new workforce

to improve how they undertake their work, but it also helps bridge the knowledge gap between new and more experienced staff. Through improved capturing of information and availability to all required staff when undertaking a specific item of work, knowledge is better shared and kept within the organisation while also reducing the risks that can be associated with experienced members of staff leaving the workforce.



Five - Supporting Future Networks and Infrastructure

Future networks and Infrastructure will place more of a reliance on digital technologies and as these mature, we see the core business (IT) systems begin to converge with the usually ring-fenced Operational Technology (OT), including Telemetry and SCADA systems.

IT/OT convergence has been predicted as a 'game-changer' however, with new technologies such as Machine Learning, AI, Augmented Reality (AR), IoT, Robotics and Process Automation underpinning Digital 2.0, understanding how to select practical solutions that unlock the benefits associated with future networks and infrastructure is an increasing challenge.

How to resolve this?

Let's consider some specific examples: The 'Digital Substation'. Digital Substations offer many benefits to utilities managing energy networks as they use less copper cables, offer better interoperability of components and easier maintenance. These benefits are further reinforced when we consider how rich Asset Performance and Condition data can be made available through an IoT platform, making data widely available to Asset Managers, Operations and Mobile Engineers.

Future Networks. Presently, there are a range of Smart Network technologies such as Smart Meters, and Distributed Energy Resources (DER) in energy networks and a range of sensors to monitor pressure and detect leaks in water networks, that offer more insight than ever before into network performance. Over time, the use of specialist AI to monitor a variety of network sensors, will enable Proactive Maintenance through the early detection and warning of failures allowing interventions to be made by Mobile

Engineers to prevent failures and minimise the impact of any unplanned interruption.

Customers. Utilities have complex business systems to manage interactions with customers that have been extended to provide multi-channel communication through traditional phone and web-based routes and the newer social channels. Digital Transformation initiatives have had a lot of impact already in areas such as appointments, notifications and general communication. Unlocking the next level of benefits requires these successful digital initiatives to become more-integrated, further connecting operations with customers using near real-time communications to share the progress of, for example, a service restoration using status updates from Mobile Engineers.

Each of these examples can be compelling, but the real benefits are unlocked when customers and assets are brought 'closer' to an organisation's core business. Improving the proximity of your customers and assets helps to unblock inefficient processes, become more pro-active to prevent failures and keep customers informed in the event of interruptions. Mobile technology has been crucial to enabling the first stage of Digital Transformation. The next steps involve improving and introducing new digitally-enabled process to become more automated, more proactive and less reactive, supported by technologies like AI and IoT that help to provide better insights for Sites, Networks and Customers.

Conclusion

There is no doubt that the Infrastructure Sectors are complex and require a drive in digital transformation.

Balancing these challenges with minimal disruption to service delivery is a major concern, which is why mobile technology provides an ideal opportunity to embrace new ways of working and transform the field worker. By putting their needs first, they gain

the tools that will help them achieve greater efficiency and capacity, reduce costs for the organisation and improve compliance, all whilst improving service delivery for customers.

Digital transformation starts with field service management.

You may also find interesting....

Our online demo

Customise your own online demo now

<https://www.totalmobile.co.uk/demo/>

Our resource Centre

See our case studies, ebooks, research papers and more

<https://www.totalmobile.co.uk/resource/>



Totalmobile
GROUP

The Totalmobile Group are a leading innovator in field service management and mobile workforce software solutions. We enable our customers to maximise the potential of their mobile workforce by optimising field service management.

We provide our customers with a complete solution that empowers the mobile workforce, provides organisations with a real competitive advantage and customers with a great experience.

With offices in Belfast, London, Derby and Bury-St-Edmunds, the Totalmobile Group continue to grow and establish itself as the leading field service management software organisation in the UK.

Totalmobile

Pilot Point
21 Clarendon Road
Belfast BT1 3BG

T: +44 (0)28 9033 0111
E: info@totalmobile.co.uk
W: www.totalmobile.co.uk

CloudDialogs

Unit 22 Park Farm Business Centre
Fornham St Genevieve
Bury St Edmunds IP28 6TS

T: +44 (0) 1284 330 164
E: sales@clouddialogs.com
W: www.clouddialogs.com

TBS Mobility

Ironstone House
Kedleston Close, Belper
Derbyshire DE56 1TZ

T: +44 (0) 1773 596 900
E: info@tbsmobility.com
W: www.tbsmobility.com