# BUILTWORLDS
## INSIGHTS

# Field Services in an Increasingly Impatient World

# INTRODUCTION

The technology revolution is hard to ignore in today's working environment. Innovation has drastically transformed our lives to a position where we can buy our groceries online with a single click or schedule a car to pick us up within minutes. The world is becoming better connected and as a result, owners and individual consumers are asking more of their service organizations (electricians, HVAC technicians, plumbers, etc).

Technicians must find new and innovative ways to **improve customer experiences while better connecting their own organizations**. Already, mobile devices can be found on most service technicians but they are rarely being used to their full potential. In order to do so we must first understand the technological ecosystem that has developed through field service management (FSM) software, cloud deployment, and connected infrastructure initiatives.

To achieve lofty goals like improving customer satisfaction, increasing worker productivity and solidifying servicing as a revenue driver, service organizations must educate themselves on this new landscape they are operating within. Customer needs are changing, data analysis capabilities have advanced, and the technology ecosystem can now provide an integrated view of customers, their equipment and the technicians available to service them. With the millions of service providers available to consumers and building maintenance, it is imperative for all consumers to understand how these companies can work **with them** to bring insights and connectivity to their busy schedule.

# FIELD SERVICES IN THE BROADER BUILT ENVIRONMENT

The concepts of installation, servicing, and maintenance of equipment and systems make up the DNA of the built environment. Electricians, plumbers, architectural engineers, and HVAC technicians all come together to construct a building. In fact, it takes **an average of 22 subcontractors to build a new home** typically making up 77% of the total cost of construction.[1] However, engagement post-build, is required to maintain sufficient usability of appliances, heavy equipment and systems. As such, the need for servicing equipment in the field spans the dispatch of technicians for repair and maintenance in residential homes and commercial buildings.

Most commercial buildings outsource their maintenance needs. Buildings often hold a number of **service contracts** with companies for mechanical, electrical, plumbing and carpentry servicing needs, among others. Building maintenance often gives up a significant amount of control over the parts and systems that make their building run in doing this, but it is necessary at times to ensure a building keeps running as it is supposed to. Selecting a service organization that best fits your needs and expectations will make sure there are fewer headaches when equipment fails. Wouldn't you want the technicians servicing your building to know what you have had difficulty with in the past? Shouldn't these service companies be aware of consistently faulty parts and installation guidelines to ensure the development of these parts for future use? These capabilities are possible with the solutions in the marketplace today, it's just a matter of finding a company that goes the extra mile to solve the many existing challenges within the service industry.

# CHALLENGES FACING OUR SERVICE COMPANIES: AN INDUSTRY PLAGUED WITH INEFFICIENCIES

According to a study conducted by Salesforce, **"92 percent of executives believe they need to adapt their service models in order to keep up with customers' needs"**. If this is in fact the case, then why are 52 percent of companies still using manual methods to handle their field servicing.[2] Perhaps, that 92 percent of executives know that something has to be done but don't know where to start. Let's break down a few of the greatest challenges facing our service organizations today and look at a few solutions while we're at it.

## 1. FAILED FIRST-TIME FIXES

A study by Aberdeen[3] found that **the average technician is scheduled for 3.7 jobs per day, but only 3.2 jobs are completed**, demonstrating a severe lack of productivity amongst our technicians. This disconnect between jobs scheduled and jobs completed can be explained by (1) missing spare parts, (2) insufficient skills to get the job done, and (3) poor communication to the technician prior to dispatch. All of this leads to a technician needing to make additional visits in order to close work orders which can become costly to a service organization's bottom line. In fact, according to ServiceMax[4], it can cost a company anywhere from **$200 to $300 to schedule a second roll out**. These second rolls can add up quickly when we consider that 'best-in-class' service companies have on average a first-time fix rate of 87% and 'laggards' falling all the way to 63%.[3] But the good news is that there are service companies out there making this a priority.

# THE FIX

First, service organizations must identify what is causing their disappointing first-time fix rates. Is it not having the appropriate tools or spare parts to complete the job? Is it a lack of time in the day? Do your technicians not have the skills needed to get the job done? Let's explore a few best practices that separate the good from the bad:

**1. Improved inventory and customer visibility.** By connecting inventory management systems and customer data with those in the field, technicians can be best prepared to solve client problems with ease. In the Connected Manufacturing Service Report put out by Salesforce Research in 2016[5], surveying over 200 executives nationwide, **"78% of executives said their field service agents have mobile devices in the field for managing service activities… [but] a staggering 65% of executives say agents still print out their service tickets."** Choosing a software solution that connects your technicians' mobile devices to the databases of knowledge already in the office such as CRM, ERP, customer histories and inventories in real time, can clean up the wasted time that stems from not being informed. Additionally, technicians can use their mobile devices to record services performed and close out orders through digital signatures and documentation getting them to their next job faster.

**2. Effective dispatching of technicians.** Many smart dispatching automation systems consider real-time information when coordinating dispatching technicians. This typically will take into consideration the skill level of technicians in the field, what spare parts they have on hand, and their current location which can minimize the chance of technicians arriving late and without the correct parts for the job. Even such a simple innovation like a connected mobile-first platform where dispatchers push assignments to mobile devices can allow for real-time changes to be made as speed bumps occur throughout the workday. By reducing wasted time spent on the road, technicians increase their time spent with customers building relationships.

**3. Collaborate, collaborate, collaborate.** By emphasizing the availability of knowledge sources while on the road, technicians can easily obtain the information they need for a specific job. Through cloud-based systems and mobile access, information is just a few clicks away, whether it be a library of educational videos or real-time face-to-face conferencing with expert technicians. This brings a wealth of knowledge to any location at times marking the difference between fixing a problem during the first visit versus needing to roll a second truck.
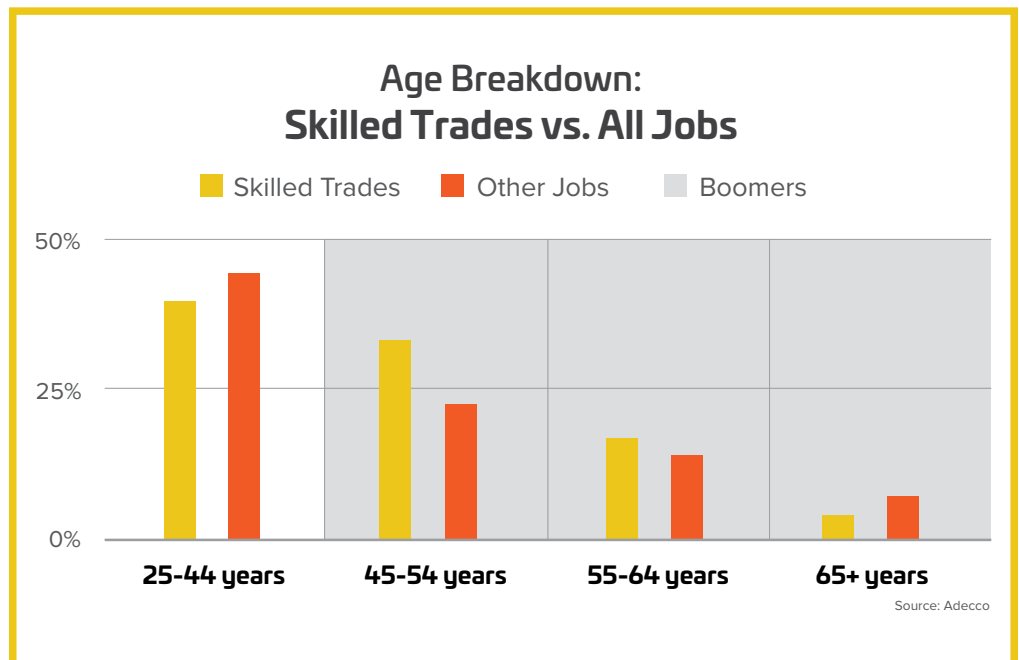
The higher the first-time fix rate, the greater capacity a service organization can take on, and the more confidence customers and building maintenance can have in regaining functionality in their equipment sooner.

# 2. AN AGING WORKFORCE

The built environment and the industries within are facing an important turning point. Baby Boomers, the largest group of vocational-skilled workers are retiring and leaving their jobs in construction, manufacturing and engineering passing them down to a younger generation largely uninterested in these careers. Adecco[6] estimates that **31 million skilled-trades positions will be left vacant by 2020 due to Baby Boomer retirement**.

Preparatory schools have emphasized four year colleges as opposed to vocational schools, leaving a major gap between the skills that employers need and those that workers possess. As we approach this mass retirement from skilled-trades positions, service companies must adapt to engage with this new, potentially less-skilled workforce. Companies must understand how to entice a new generation of less-skilled workers and how to get them educated to meet an increasing service need.

### Age Breakdown: Skilled Trades vs. All Jobs

Skilled Trades | Other Jobs | Boomers

| | 25-44 years | 45-54 years | 55-64 years | 65+ years |
|---|---|---|---|---|

Source: Adecco

## THE FIX

Service organizations have access to connectivity like never before. Those that take advantage of newer technologies like wearable cameras and video capabilities, hold a significant advantage when it comes to the training of new workers. Demonstrations and education sources can be obtained while on the job, including real-time video consultation with experts in the office making your company's best technician available for more jobs than ever before. Newer workers do not have the same skills that they had previously, so with real-time consultation and 'how-to' videos for common fixes, the pressure of recruiting from a non-skilled pool of applicants is diminished. The adoption of new technology not only helps educate new workers with ease, but attracts a younger generation of workers into a previously paper-based industry.

# 3. EVOLVING CUSTOMER EXPECTATIONS

One of the most significant problems facing service industries is consumers changing expectations. Our mobile devices now save credit card history for faster purchasing, know our favorite orders from our most visited restaurants, and predict future purchases through targeted advertising. We receive updates on tracking information in real-time and can even talk with a representative face-to-face through the camera on our phones. As immediate and connected services are becoming standard in our personal lives, individuals and businesses have become less patient with the services they use, expecting more, and expecting it faster. The point is, the digital landscape has changed to where we can access all of our information in one place on any device. Brand loyalty is fleeting if at all existent today and our service organizations must adapt to retain and attract customers.

# THE FIX

According to Oracle's *New Rules of Field Service Management*[7], **44% of U.S. customers are taking their business elsewhere as a result of inadequate service.** PV Kannan, the CEO of the customer experience software and services company, [24]7.ai stated, "Companies that fail to prioritize the customer experience risk falling behind." Service companies can do just this with a few common themes available today with most software solutions. Time and information are our greatest assets, so why not give them back to those that matter: consumers. The best service organizations understand this and as such, implement a few key initiatives:

**1. Dynamic service schedules.** By staying flexible, service companies can help optimize technician schedules to reduce wait times or condense servicing windows. It is unacceptable, today, to offer a window of service ranging from 10:00 am to 4:00 pm, and it isn't necessary either. Our businesses and our lives need electricity, air conditioning and internet, so when these functions are not working, we need them fixed as soon as possible.

**2. Personalized experiences.** When technicians have access to previous service history and typical pain points associated with systems and equipment failures, they can arrive on site better prepared to solve the problem fast. Not only will this simple exercise lead to quicker, more efficient servicing, but customers will feel understood and acknowledged. Many companies that integrate with forms of video like wearable smart glasses or body cameras bring an additional level of customer satisfaction. With video and integrated customer portals, companies can bring visual satisfaction to their customers showing them how it looked when the technician arrived, how the problem was fixed and how it was left.

**72% of consumers** blame their bad customer service interaction on having to explain their problem to multiple people from dispatchers to technicians[8]

**3. Constant connection.** According to Cisco's Internet Business Solutions Group (IBSG) predictions, **there will be 50 Billion internet-connected devices on the planet by 2020.**[9] That's more than 6x the amount of connected devices than estimated people on the planet. As such, smartphones and tablets and connected devices will continue to transform the way customers and businesses shop, access information, and interact with their service providers. If a field technician is delayed due to a current job running late or traffic en route to their destination, customers receive real-time updates, keeping them informed and confident that they have not been forgotten. However, this is not a one way street, the busy lives of customers and building maintenance require last minute reschedulings and as such, customer portals bring the power to reschedule at a moments notice to the customer.

# LEADERS IN THE INDUSTRY

According to Stratistics[10], the global field service management market is expected to reach $4.45 billion by 2022. The opportunities for innovation are endless but all focus on the same goal: **improve the customer experience.** With a unified platform, technicians can communicate with the back office as speed bumps occur throughout the workday. Conversely, the back office can update tickets as new information becomes available changing the way that managers, service workers, and customers interact. Let's break down a few of the leading companies aiming to better connect service organizations and their customers:

**ServiceMax,** acquired by GE in 2016, has risen to the top of the field service industry as one of the most utilized softwares. The platform includes a mobile app for field technicians that schedules work orders, manages the need for parts for a given job, and reports back customer and job information to the rest of the organization. Its industrial IoT devices harness machine data and predictive analytics to better predict maintenance needs prior to a device malfunctioning.

**Clicksoftware Technologies,** at its core, provides dispatch solutions and scheduling optimization for service companies. Additional capabilities include mobile integration, contractor management, and predictive field servicing through machine learning to anticipate service fluctuations and automatically adjust the duration of tasks.

**Oracle,** has developed a browser-based mobile app that emphasizes worker collaboration including knowledge sharing and equipment tracking in the field. Other capabilities include a live view of field employee locations that can compare the autonomous route optimizations with actual routes taken, leading to greater visibility into efficiency.

**ServicePower,** has taken a unique view on the industry by offering a fully managed network of third party service providers to enable rapid and high-quality on-demand "spill-over" servicing at peak times and in hard-to-reach locations. This provides a solution for many smaller service organizations that struggle with the volume of workers needed to service clients.

**Key2Act,** is built around four main tenets; task-based maintenance, proactive dispatching, equipment tracking, and demonstrative ROI. This approach emphasizes the customer experience as technicians are better prepared for the job at hand while customers are informed throughout the process.

## Solution Spotlight
## Embracing digital technology to improve the customer experience

XOi's cloud-based platform equips field technicians with the ability to capture and share the right visual information with the right people at the right time. With the XOi Vision™ platform, technicians are empowered to put their best foot forward when communicating with the rest of their organization as well as the customers they are servicing. Not only does Vision™ allow technicians the ability to communicate in real-time with expert technicians for consultation on the job at hand but integrates seamlessly with FSM providers to encourage a smooth documentation process to keep customers informed along the way.

Given today's rising customer expectations and shrinking workforce, it is more imperative than ever before for technicians to find new ways to build trust and transparency with their customers. Vision integrates with wearable smart glasses and the smart phone in your pocket to bring a greater level of connectivity to the field. This has been a huge benefit for Vision™ users as technicians can log the work performed while incorporating video or photos of broken equipment alongside a service ticket to give the customer a full understanding of the work completed.

However, even before getting on site, Vision™ is a powerful platform for training with technicians continually creating and saving videos adding to a shared knowledge base accessible by anyone within the organization. This was an unexpected benefit to XOi customer, Arista Air's Vincent Eckerson. Vincent noted, *"Every time we bring someone in we have lost opportunity in the overall cost to just bring them in to one location to train them. Where now we have the ability to send out to everyone a video and hold them accountable to understanding the information. So we're able to reach out and train others for continued education with little to no effort."* Herein lies an additional benefit of the connected ecosystem FSM software provides.

# WHERE DO WE GO FROM HERE?

Despite a myriad of technology solutions in the marketplace today, 52% of service companies continue to use manual methods like paper processing.[2] The largest step to be taken is to get field service companies on board with new technologies like field service management software and broad utilization of mobile devices when in the field. This connects the customer, the back office and technicians, improving the customer experience and allowing technicians to perform at their full potential. The Internet of Things is only becoming more prevalent across all industries and as this develops, predictive analysis capabilities will only become greater. We saw the use of such data collection for use in predictive maintenance needs for equipment, meaning your electrician and cable technician can repair your systems before you lose access.

In Microsoft's State of Global Customer Service Report[11], surveying over 5,000 consumers across the globe, Millennials marked their top frustration as **"not being able to resolve their issue or find the answers they needed online as the most frustrating aspect of a customer service experience."** Newer generations are leading a "do it yourself" ('DIY') revolution seen through the growing popularity of YouTube and other video channels. The modern consumer is becoming significantly more self-sustaining, with the appropriate guidance of course. Could this be the next evolution of field services? Could it be customer live conferencing with a field technician, or a database of "how-to's" available to customers requiring fewer roll outs? Most building maintenance staff have the skills for basic equipment maintenance, so this could be a significantly more cost effective opportunity for commercial buildings than outsourcing completely to a third party.

No matter the direction of the next generation of advancements within the servicing industry, one concept will remain true: the field service industry flourishes when customer expectations are met.

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## INSIGHTS

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