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WHITE PAPER

# Drive Field Service Excellence through AI, Automation and Data

# Content



CHAPTER 1

# Introduction

**Automation and artificial intelligence (AI) have a large and growing role to play in the modern field service industry. Over the years, industry leaders who kept a persistent focus on driving field service excellence have put forward ambitious plans to harness advanced technology in ways that help frontline agents deliver quicker and more efficient resolutions to customer issues.**

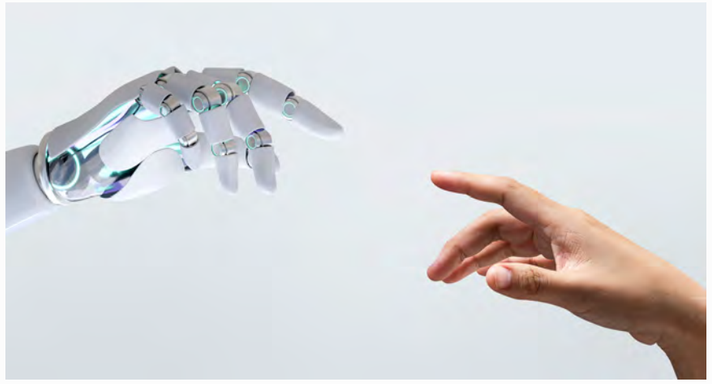
Although technicians who are in the field are on the front line of your business, back office processes remain critical by assisting your day to day field operations via connected, mobile, customizable and scalable back office solutions that are seamlessly integrated. From issuing work orders and immediate invoicing to up-to-the-minute reports on inventory and quick dispatching, a two-way flow of information and real-time data allows for improved workflow, better consistency and less opportunities for errors.

Most field service organizations have had to limit in-person visits to customer premises or close temporarily for on-site work to reduce the exposure to health risks. These changes have prompted a sharp rise in service call volumes, forcing field service organizations to search for alternative ways to serve customers. Almost overnight, field service delivery has changed radically as organizations of all sizes invested heavily in automated self-service portals and intelligent assistants to resolve service calls from a safe distance.

Field service looks very different today but not everything has changed. Agent-assisted service is still a critical piece of the field service puzzle. However, organizations will continue to seek assistance from AI-based and automated devices. As talent shortages remain prevalent, field service leaders seem focused on expanding their use of new tech-







**Field service looks very different today but not everything has changed.**

nology to enhance frontline staff"s ability to perform more complex tasks than previously required. Moving forward, customer-facing agents without deep technical knowledge can utilize technologies like AI and automation to act on vast volumes of data and expertly resolve customer issues in the field. Ultimately, how well industry players leverage their data will determine their ability to deliver field service excellence.

**This white paper provides insight into:**

- **What makes AI-augmented field customer service departments unique**
- **What challenges field service professionals may be currently facing**
- **How new technology assists organizations in responding to field service difficulties**
- **Why a sound data strategy is key to field service excellence**

# Organizations Powered by AI-Driven Field Service Hold a Favorable Position in the Market

The improved reliance on automation and AI technology is taking the role of the customer service representative in a new direction. Now that technology is used to augment the capability of non-technical agents to respond to field service requests, organizations can deliver quality experiences without a field force that possesses deep technical aptitudes. But the expectations must be realistic.

Here is a rundown of the most important strengths that organizations investing in AI-augmented field service need to build on as well as the key opportunities and challenges they may face.

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## Opportunities

**Accelerate and support field service execution**
AI can analyze huge volumes of new and historical data, assisting customer-facing agents in making split-second decisions and resolving field service calls. For complex problems that require technical assistance, service agents utilizing intelligent systems can rapidly dispatch a more experienced technician with the proper qualifications and tools to the customer's location. New advancements in technology also make it possible to auto-dispatch a preferred technician for specific and more complex service orders.

**Provide service support 24x7 and in real time**
AI can simultaneously service multiple customers on a 24x7 basis. For the most part, bots have the potential to resolve simple customer issues automatically, which allows frontline staff to focus on higher-level cases. AI-powered technology also arms customer service representatives with the necessary resources as they step in to analyze, diagnose, and fix issues in real time.

**Improve engineer utilization rates and reduce costs**
Those who invest in intelligent technology systems already keep costs low. Technology provides automated, around-the-clock, and efficient support to customers at

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reduced costs and it helps the technicians to spend time in engaged service work for a client, versus “idle” non-client time. Given the record pace at which labor costs continue to soar, organizations who can prevent seeing customer service as a cost center will likely gain a great competitive advantage.

**Combine AI with IoT to shift from reactive to predictive field service**
Pairing AI with IoT technology will let frontline staff evaluate and act upon vast troves of intelligent data, and that helps predict issues that might affect service delivery and resolve problems ahead of time. The synergy of AI and IoT can also increase worker utilization.

**Bolster field service offerings**
Rather than making customers wait for assistance, organizations everywhere can use automated and intelligence-driven capabilities to provide effortless self-service support that leads to faster resolutions. Self-service experiences will not just minimize customer effort, but also considerably reduce call volumes.

## Challenges

**Balancing in-person field service visits**
New generations of AI-enabled robots that move past basic automation to perform higher-level tasks could prove invaluable for customer service professionals. Robots may soon be making their way into all areas of field service to aid non-technical staff, but they will never fully replace technicians as technology lacks context and out-of-the-

box thinking. Therefore the deployment of technologies that facilitate the screening process of service jobs to assist with prioritizations become business critical in order to balance internal resources and minimize unnecessary onsite visits whilst maintaining customer satisfaction and machine uptime.

**Onboarding Field Service staff to change**
Field service professionals appear more ready than ever to go all-in on AI and automation, but some remain skeptical. AI will not be well understood and trusted by all frontline workers since it is still a new concept in field service delivery. For that very reason, many field service leaders might struggle to get buy-in for AI and automation within the organization. Change will always take time, and showcasing the upsides to real-time customer data and improved workflow should be the incentive to manage onboarding and erase doubts of the value of data.

**Showcasing value of made investments**
Empowering frontline agents to deliver excellent field customer service might sometimes require investments in custom-made AI and automation systems. However, technology customized to company-specific requirements could carry a hefty price tag compared to off-the-shelf tools. That challenge can be overcome by building an internal business case backed by the right service KPIs. By capturing data such KPIs can be closely monitored and will indicate improved performance and profitability.

**Questioned outcomes**
Bias in AI is an ongoing concern across many AI- based applications. This is from the Machine learning models being created with inherent bias which therefore results in biased outcomes This is one of the reasons why a solid data strategy is of critical importance to AI-fueled organizations.



## What Makes These Organizations Stand Out?

Most view the service function merely as a tool to resolve customer problems. Field service leaders powered by cutting-edge AI and automation think—and act—differently. These organizations go beyond delivering on customer needs and seek constant service innovation.

AI-fueled organizations are always on the lookout for opportunities to create entirely new services for customers and reinvent business models—and that makes them more successful in acquiring new clients and retaining the existing ones. Compared with traditional service-sector agents, they are also uniquely positioned to adapt to market changes in real time.

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CHAPTER 2

# What are the Current Challenges Facing the Industry?



## Technology Adoption


If successful, investments in specialized technology like enterprise service or field service management platforms set the scene for field service excellence. Field service digitization is not inherently complex, but this undertaking may inevitably expose organizations to technology adoption difficulties and scaling.

**Investments in specialized technology set the scene for field service excellence.**

Many are the benefits and added business values of upscaling your technological capabilities, especially long term, but that also means, short term, that the organization will have to go through a period of change to make it out stronger on the other end.

### Top challenges to manage:

**The complexity of system implementations and integrations**

Organizations might attempt to invest in technology without considering all the potential risks involved. Plans to depart from legacy systems are bound to fail before they get off the ground when organizations do not fully understand how new technology will benefit field service staff, what risks it presents, or how it will integrate with existing systems.

**Managing change resistance**

The adoption of new technology is vulnerable to pushback from field service workers. Some worry intelligent technology will put their jobs at risk. But most feel overwhelmed because they are uncertain, feel left behind etc. This requires that the organization adhere to these uncertainties by being honest about potential problems and negative impacts instead of sugar-coating issues. Most change resistance can be avoided through preemptively cultivating trust, respect and transparency.

**Bridging a growing knowledge gap**
Finding the right talent to undertake the transition to advanced technology is increasingly troublesome. The shortage of skilled field workers is frequently mentioned as one of the main concerns for organizations going forward. On top of that, technicians generally work alone or have only limited interactions with fellow team members. Best practices are left undocumented, and training courses or certifications are solo events rather than group experiences. Therefore organizations have to rely on technology and the greater field service team including call center, back office service agents and remote support agents to bridge that knowledge gap and capture that valuable data.

Technology adoption comes with a variety of concerns. However, that should not stop organizations from pressing ahead with plans to digitize field service.

## Communication Optimizes Field Service Delivery

Communication is the mainstay of any successful field service operation. Now, as the prevalence of work-from-home setups grows steadily, concerns are rightly raised about potential miscommunication among field workers.

Lack of efficient communication between remote or office-based service agents and field technicians may have far-reaching implications as both departments are forced to deal with:

- Restricted access to service appointment details and order status updates,
- Limited view of field resource locations,
- Reduced ability to share relevant customer data and history and estimate service completion times,
- Increased scheduling conflicts and dispatch problems,
- Unexpected delays and missed service appointments,



Interdepartmental communication matters more than ever. Keeping the lines of communication open and consistent is a vital part of avoiding costly service mistakes and coordinating quality and on-time experiences in the field.

This is also an effect of too many data sources that can be overwhelming for the organization to digest. By setting a clear data analytics strategy that will align data in a streamlined way can help prevent some of the most basic miscommunications.

**Investing in new talent and training is the most powerful tool to bridge the knowledge gap.**

# Warranty Issues Put Organizations In a Tight Spot

Issues arising in warranty management are a cause for alarm among field service workers. A good part of the problems stems from outdated and manually-driven warranty processes.

Manual warranty management is still an integral part of many field service organizations, but this process is highly inefficient and, perhaps more worryingly, riddled with data errors. Incomplete, erroneous, and duplicate data entry can result in warranty issues and hinder the quality of service.

Another reason of concern related to faulty data input is the possibility of incorrectly tracking and reporting on the status of warranty contracts or invoice payments.

The other thing to consider is the warranty claim experience. No customer wants to go through long warranty claim processes or deal with unresponsive service centers. Clients have come to expect quick and easy warranty registration processes—something many organizations are not yet prepared to offer.

**Keeping track of the warranty and service claims data will allow organizations to improve the quality of service delivery.**



**Warranty and Service Claims data are vital to a complete data analytics strategy and integral to gain actionable insights and make informed business decisions.**

Warranty claims forecasting has come to play an increasingly important role not only financially but also for optimizing warranty policy and improving after-sale services. In the case of new products, an important feature is that the new generation of products often has a close connection with the previous generations of products it replaces. Thus, the warranty claims data of the previous generations of products can be used for extracting reliability information of new products.

## Organizations Are Under More Pressure to Establish Field Service As a Profit Center

Field service operations have long been associated with costly investments that do not generate profits. Sometimes, they have been the prime targets of cost-cutting within most organizations. But that is not the case anymore. At long last, a slew of organizations has begun embarking on an ambitious plan to turn field service into a revenue-generating function.

Until recently, progress has been slow and steady. But moving forward, pressure will mount on organizations to make the pivot from managing field service as a cost center.

Field service is a direct opportunity to earn customer trust, deepen relationships, and grow profitable revenue. So there is no shortage of ways to make service a profit center. Generally, those who operate field service as a profit center are committed to offering reliable and high-quality services to their customers. They are also devoted to making strategic investments in technology to support employees in their work.

## Customer Self-Service Shows Promise, But Difficulties Exist

Customer self-service has been at the forefront of the first pandemic-induced changes in the field service industry. Soon, what was originally born out of necessity has become a table-stakes expectation among field service customers. Though many organizations designed well-functioning self-service experiences to offer faster support and more autonomy, difficulties have also built up around self-service—most of which remain unaddressed.



### Among the difficulties facing field service professionals at present are:

**Data accessibility and usability**
The information available through self-service portals is sometimes out-of-date, disorganized, not accessible through all channels, or insufficient to inform customers on how to address problems.

**Hard-to-navigate portals**
Customers interested in self-serving expect faster problem resolution. Still, many organizations have yet to build easy-to-use self-service platforms that allow clients to find quick answers.

**Security of information**
The benefits of transitioning to digital data with field service management solutions, are substantial, but they do present unique and critical challenges. Not all field service solutions are created equal. From mobile devices to

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cloud-based storage, it is essential to find solutions that take a thorough and detailed data governance approach to meet security needs.

**Disconnected experiences**
Organizations can offer multiple self-service channels to support customers. However, they stand to lose clients if experiences are disconnected across different channels.

Spurred by COVID-19 lockdowns, field service organizations had no choice but to act quickly—perhaps too quickly. Many have rushed headlong into the booming self-service market, meaning the deployment of technology systems was likely hasty and potentially even played by ear. But for those organizations who have managed to harmonize the flow of data and systems integrations the benefits and competitive advantages are many.

Organizations can offer multiple self-service channels to support customers.



## Connected Data in Field Service enables transformation from a costly break-fix model to a pro-active, predictive service model.

Combine IoT diagnostic, ticket triage data, scheduling, asset maintenance and inventory onto one, unified platform:

— Leverage device and service maintenance data to make intelligent decisions around parts identification and technical expertise prior to technician dispatch,

— Reduce downtime by connecting to IoT devices to diagnose problems before customers are aware of an issue,

— Address issues faster by remotely monitoring devices and keeping customers in the loop.

# Field Service organizations Struggle to Fill Skill and Knowledge Gaps

Organizations everywhere were operating at reduced staffing levels just a few weeks into the first COVID-19 lockdowns. A large number of businesses have reopened months later, but millions of workers opted for staying out of the labor force. The shrinking skilled labor force is, for many, the most worrying concern to address in the post-COVID-19 world. Many organizations struggle to this day to fill the skills gap left by the premature retirement of experienced field service workers.

## Where does this leave the field service industry?

The dwindling supply of skilled workers has largely transformed field service work. In the past few years, organizations have focused principally on hiring temporary workers and redeploying existing staff into different and higher-demand field service roles to make up for the lack of talent. Despite the efforts, shortages still haven't eased completely. Part of the reason is that COVID-19 is not likely the underlying cause of talent deficits; the pandemic only added more urgency to a problem that has disrupted the service sector for years.

Inevitably, problems with staffing backup with highly competent field service workers hurt business growth and recovery. organizations must rethink workforce management practices and devise long-term plans to respond to widening talent shortfalls and fill knowledge gaps.



**All AI Service Optimization platforms include intelligent triage to enable workers to have rapid access to the right information to quickly resolve call center or field service related problem incidents.**

# Workforce Performance Management Improves Efficiencies

Inefficient performance management strategies impede an organization's progress towards identifying, engaging, and retaining the best performers. The lack of clear work expectations and well-defined roles repeatedly affected workforce performance and, more than anything, field service delivery.

More recently, issues in workforce performance have begun to challenge field service organizations in much more profound ways, **drawing attention to main areas to combat:**

**Improved collaboration**
Service agents and field technicians must work together to provide valuable and timely service to customers. Working in silos restricts the flow of data, which is imperative in responding to field-related problems quickly and efficiently. Typically, those who operate in a siloed environment find it hard to avoid duplicated work, resulting in low productivity and worker performance.

**Establish priorities**
Setting correct priorities is vital to ensuring proper task completion. The lack of efficient prioritization may leave urgent tasks unattended, and that might lead to negative field experiences and disastrous consequences in customer satisfaction.

**Capture employee feedback**
Using an ongoing and actionable feedback system can help organizations increase field worker retention. The best feedback does not criticize; it aims to consistently clarify expectations, help workers grow, and maintain open communication in the workplace.

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CHAPTER 3

# Can AI-based Technologies Fill the Gap?



**There are innumerable ways in which advanced AI and automaton technologies can help solve the challenges in the field service sector. Modern field service organizations leaning on AI and automation, for example, likely take more practical steps to mitigate industry-specific risks, finding themselves best equipped to:**

**Build collaborative field service teams**
Field service happens in real time, and remote service staff must stay in communication with field technicians to pass along information on new assignments or work orders that unexpectedly take priority. Intelligent systems support a real-time flow of information between remote and mobile workers, helping them exchange knowledge and relevant work data. Through technology, workers can automate and adjust field service schedules according to last-minute changes, from anywhere and at any time, and offer faster and AI-informed resolutions to problems.

**Optimize the warranty management process**
Automating the management of warranties prompts revenue growth. An automated system greatly streamlines warranty management as it improves data accuracy, makes the invoicing process more efficient, and reduces turnaround time. It also plays a role in reducing warranty costs, boosting customer satisfaction, and increasing service revenue.

**Operate as a profit center**
The profit center approach works when technology lies at the heart of it. Making good use of automated and AI systems to empower field workers for better service outcomes is key to moving to a more profitable model that delivers valuable results.

**Build better customer self-service experiences**
AI-powered search has received considerable attention recently, and for a good reason. Intelligent search bars can provide instant and precise answers that customers can use to make better-informed decisions on their own. Conversational AI is another way to offer connected, intuitive, and more personalized assistance across multiple channels to leave no customer problem unresolved.

**Close the skills gap**
AI offers one of the best tools to address the current skills shortage affecting the service sector. Implementing an AI-based skill-mapping system is important for identifying where workers are lacking and also where AI should step in. While AI is able to take over customer interactions, it is also useful for arming customer-facing agents with more actionable insights to speed up service response time.

**Transform workforce performance**
Advised by AI, field service professionals have the opportunity to predict worker performance. In addition to flagging and helping mitigate bias in performance management, smart technology provides a way for field service managers to offer objective feedback.

## Data Analytics Drives Field Service Excellence

Field service leaders vying for excellence have achieved profitable growth as they delivered service experiences that are intuitive, automated, and more personalized at the speed of smart technology. The real time insights that are provided through the data collected from automated and AI-powered systems is the fuel for that growth. But for some, data does not always translate into value.

**Data that powers excellent service experiences needs to be easily accessible and available for field workers.**

Data that powers excellent service experiences needs to be easily accessible and available for field workers. As it often happens, though, workers are caught flat-footed—on and off the field—with no access to critical data. That is partly because many have yet to undertake the journey from data silos to data lakes—or, more precisely, centralized data locations that promote friction-free access to information.

In these instances the most powerful tool to overcome such challenges is to rely on real time data insights and recommendations that will enable better informed decisions. An AI-based service optimization platform will optimize the field service operations by:

- helping to identify the root cause of issues before arriving on-site,
- prioritizing jobs based on customer needs and preferences, KPIs, longer-term business goals, and even technicians' skills,
- ensuring the right tech is dispatched to jobs with the right parts on the first visit.

More than anything, organizations need a sound data analytics strategy to be able to fully leverage the insights and real time information provided by making better informed decisions on the path to field service excellence. —

**Real time data access, drives real time insights to make better informed decisions.**



## Key Elements to Success for Customer Service:

**— Define Your KPIs (FCR, Margin, ROI, Call Deflection, CSAT score),**

**— Review, define and/or optimize business processes across the value chain,**

**— Create a comprehensive data analytics strategy with a focus on data driven insights,**

**— Deploy an AI-based service optimization platform that leverages automation, customized conversational AI and cognitive search.**

# About HCL

HCL IntelliService is a customizable AI Service Optimization Platform that automates and optimizes product support operations.

Developed by the Industry Software Division of HCL Technologies, HCL IntelliService provides faster time to resolution for both service agents and on-site field technicians. With the intelligent triage capability leveraging AI, agents quickly gain actionable insights from various knowledge bases across enterprise systems.

With HCL IntelliService, organizations quickly realize improved First Contact Resolution (FCR) rates and reduced mean time to resolution (MTTR) which improve customer satisfaction and reduce operational costs.

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# About Copperberg

Herbert Spencer once said: “The great aim of education is not knowledge, but action”.

Copperberg creates physical and digital platforms bringing together the manufacturing community in order to grow and build relationships globally. During the recent global pandemic, we have been focusing on virtual events and digital content—ensuring our community remains connected. So, how do we actually do that?

On a daily basis, we work hard to improve, develop and innovate our concepts and original content in order to ensure the best hands-on, real-life strategies for all our community members. Our ambition is to provide ideas, networking, and industry exchange between peers, that inspires and leads to action.

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