



# White Paper **Powering Stellar Field Service in the Energy Industry**



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# Powering Stellar Field Service in the Energy Industry

## Executive Summary

The purpose of this white paper is to examine the field service process involved in the servicing and maintenance of energy providers' capital equipment. It will help companies think of the service delivery value chain and look closely at the points in the chain where efficiencies and improvements can be made, and demonstrate how a field service solution can help streamline the process. The paper will also offer tips, data points, and potential solutions that Ink IT Solutions Field Service Software specialize in to help power solutions providers better utilize technology to deliver outstanding field service.



## Introduction: Power Solutions Providers and the Rise of Servitization

Millions of households left without power. Incoming flights diverted, and outgoing flights cancelled and stranded. Across the city, traffic gridlocked as traffic signals switched off, and trams and metros stalled. This was the scene across Amsterdam in late March 2015 when a 5-hour power outage brought the city and outlying parts to a standstill. When power outages occur, everyone from consumers to businesses to civic entities is affected. The Amsterdam outage, however, was nothing compared to the Deep Horizon oil spill in 2010, and the Fukushima Daiicha Nuclear Plant disaster in 2011. Both of these extreme events show what asset failure can lead to.

For power solutions providers, the challenge is keeping capital equipment up and running reliably. It's not just about selling and installing the machinery, but ensuring its proper maintenance and the quick resolution should a breakdown occur. Welcome to the rise of servitization. In the energy sector, which is known for its volatility, regulatory pressures, and its asset-intensive nature, service is now more important than ever. It's not just a way to satisfy customers and provide the dependable service they expect, but it's increasingly seen as a profit center in its own right.

### Industry Drivers

Today, delivering stellar customer service has become more important than ever for power solutions companies that are driven by several trends impacting the entire energy industry including:

**Deregulation of the Energy Industry and Increased Competition:** Deregulation continues to have a profound impact on the energy industry. Around the world, deregulation has caused competition in the sector to ratchet up to higher levels as more players enter the market. Meanwhile, consumers are seeking cheaper, cleaner energy, and customer service that rivals the retail sector. Energy producers are seeking to compete by lowering their generation costs, reducing emissions, and mitigating any downtime that will impact their ability to offer a dependable, reliable service.

**Regulatory Challenges:** Governments are keeping a close eye on deregulated markets to ensure consumers are protected and that all providers abide by the same rulebook. As a particularly asset-intensive industry, power companies rely heavily on their equipment to provide dependable service. When critical assets fail, it not only results in unscheduled downtime and a halt in production, but also could lead to regulatory breaches, environmental issues, financial concerns, and impact on the consumer-facing brand. Regulators are also closely eyeing the level of service and customer churn and using this data as a metric to measure company performance and to determine sanctions or fines.

**Sector Volatility:** Fluctuating fuel prices and the constant volatility of the sector are driving energy providers to seek better performance and lower energy costs from their equipment to mitigate the risks of volatility.

**Customer Expectations of Energy and Their Providers are Higher Than Ever:** Customers want cheap energy, but there is also a growing concern for renewable and clean energy. Additionally, as more providers move into the market, customers have a heightened expectation that they will get the same level of service they demand of retailers.

Best-in-Class field service organizations saw a

9.6%

year-on-year increase in service revenue over the previous 12 months, compared to a

6.6%

increase for all others.

Source: Aberdeen Group 2013 Field Service Report





## Efficient Field Service Chain

For power solutions providers, implementing field service software will help companies deliver more responsive, efficient, and profitable service to their customers. A field service solution helps bring structure, rigor, accountability, and the ability to continuously ensure that best practices are followed. The data captured during the entire process can be mined and analyzed to improve products and processes, and to suggest opportunities for engineers to upsell additional products or services. The illustration on the right shows how a power solutions provider’s typical field service workflow can be improved with the use of a comprehensive field service solution.

### Product Purchase

When energy providers purchase equipment, they’ve made a sizable investment. Capital-intensive machinery usually comes with service level contracts. Given its expected lifespan, the relationship between power solutions providers and energy companies can last for years, if not decades.

To start the relationship correctly, it’s important to capture and record all the information surrounding the sale of the equipment. Field service companies should record warranty details, maintenance schedules, and service level agreements in a company history that can be easily accessed whenever an engineer or back office worker needs to see it.

#### To build a company and equipment history:

- Collect all installed product data upon initial sale, track all configuration or post-sales additions in one place. This will ensure everyone from your call center team; to your office staff to your engineers have the same information that they can all access easily and immediately.
- Record all warranty and entitlements for the equipment, along with expiration dates and the maintenance schedule. Within maintenance schedules, alerts can be set to notify staff when contracts are expiring or routine servicing needs to be scheduled.

### Service Request

For the capital equipment-intensive energy sector, it’s more important than ever to get a downed asset up and running, and to ensure that proper maintenance is being carried out. According to the Aberdeen Group, 57% of the 175 energy sector respondents surveyed identified their top risk as the “failure of critical assets.”

A successful service call starts the moment a request for maintenance or service is initiated. You need to ensure that the right information is captured in your field service solution, that the customer and equipment history is immediately available and up-to-date, and that the entire process is recorded to feed into future analytics. A field service solution will enable companies to easily assess and prioritize their requests, much like a doctor in an emergency room, and route the most important cases to the front of the line.

**Organizations that route all calls through triage experience a**

**86%**

**level of first-time fixes when compared to a**

**62%**

**level for those who have no triage at all.**

Source: Aberdeen Group 2013 Field Service Report

**To ensure you can document, track, and analyze service requests:**

- Automate the capture of service requests by machine-to-machine (remote sensors installed in equipment and integrated into your service system).
- Ensure that service requests made by phone or email are captured with detailed information, and that initial contact is documented.
- Perform a triage of the issue and assign a priority level to calls to properly route them.
- Categorize or tag customer issues as well as specific complaints about the machinery or equipment to feed future analysis.
- Should the customer phone in, call centers or customer service should have the complete history of both the customer and the piece of machinery that needs servicing.

**Preventative Maintenance**

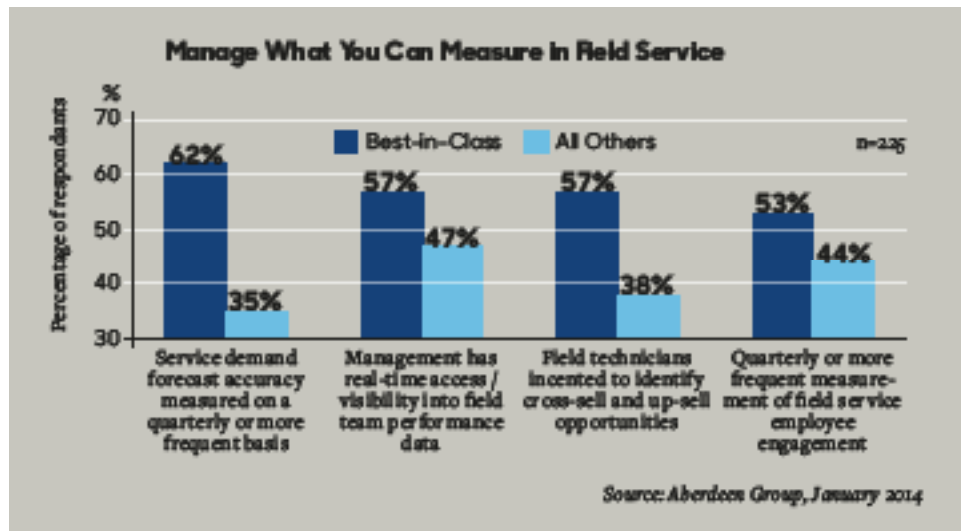
By capturing the data produced during the repair or maintenance process in your field service solution, companies can move towards one of the ultimate goals of service management: preventative and predictive maintenance.

With the right data, companies can begin putting together a preventative maintenance plan, and ultimately, cycle the information back to the research and development team to help improve the product. Power solutions providers can route their engineers more efficiently with a preventative maintenance plan that highlights the equipment that needs attention first. Ultimately, once analyzed, the data can flag product weaknesses that could be sent to research and development teams to refine future iterations of the equipment.

**What to consider when creating a preventative maintenance plan:**

- Ensure that data in your field service solution is correctly captured, classified, and clean.
- For large complex pieces of machinery or maintenance tasks that involve large amounts of data capture – and therefore have high margins of error – create a structured method to capture and classify the data, such as checklists or tables.
- Consider carefully the KPIs and other data points and metrics you will need to align with your business goals. Do you have the flexibility in your field service software to capture and add KPIs tailored to your company?
- Enlist your business analytics team to construct sophisticated reports based on the KPIs to indicate what is being done well and what needs to be improved.

«Traditionally, field service workers have been heavily dependent on their clients identifying that a service issue exists and then calling in to report the problem. M2M integration adds sensors and remote monitoring to take the place of the client’s eyes and ears, identifying issues before a serious equipment problem occurs and escalates.»



«The Best-in-Class are more likely to implement technologies to enable enhanced resource planning and manage through entire projects which enable field service excellence. Technologies that help to allocate resources and ensure they are in place when a technician needs them are imperative to complete a service task.»

Aberdeen Group 2014

### Work Order Creation and Planning

Creating a successful work order will help ensure the job goes smoothly, with the right parts, team, and managers in place. For power solution providers, the maintenance, servicing or replacement of the complex, industrial equipment used by energy companies needs to be carefully orchestrated. A project manager will need to create an overall work plan to identify the tasks, procedures, personnel, and parts necessary to service the equipment. Within each of these topics, the work order can be broken down into more detail. For example, the agreed upon procedure can include detailed plans for workflows during repair process. By breaking the work order into manageable tasks in wizards and templates, power solutions providers can ensure that tasks are carried out according to best practices and to proper regulatory standards. Moreover, the work order will be available to all team members and can be made available to customers for transparency and visibility.

#### To create thorough, transparent work orders that will keep the job on task, ensure your field service solution allows you to:

- Go through a wizard of defined tasks, task templates, checklist assignments, linked documents and other attributes to quickly construct the overall job.
- Reduce errors through a task configurator by allowing project managers access to defined tasks and best practices.
- Allow project managers to quickly assemble the right team based on availability and skills that they can see on screen.
- Ensure the overall work order is available to all parties via mobile device.

### Dispatch

Once the work order is created, power solutions providers need to ensure the smooth dispatch of large, multi-functional teams that may be travelling to projects in remote corners of the world. This can be facilitated by ensuring the complete visibility of the job plan at all times with all members, including the back office. With large projects, give your team or group leaders, as well as the back office, the ability to quickly find, assign, and manage engineers.

#### To manage the dispatch of large teams more effectively, your field service software should:

- Allow task leaders to split the project into multiple tasks and assign them to individual or group members.
- Give team leaders the ability to monitor activity and perform a group checkout after individual teams have completed and signed out of their task.
- Compile all assignments into one service call report, giving the entire team and customer visibility.

### Amongst the top reasons customers complain with regard to field service is the fact that:

86%

technicians did not resolve the issue

41%

the customer had to wait weeks until an appointment

29%

or a follow-up appointment

Source: Aberdeen Group 2014





**The Best-in-Class field service organizations had an**

**88%** first-time fix rate, compared to **80%** among the industry average, and **63%** for "laggard" firms.

Organizations with first-time fix rates **below 50%** saw their service revenue **decrease** by **2.8%** over a period of 12 months.

Source: State of Service Management Report, Aberdeen Group 2014

**Repair**

The goal of any repair or service is to get the job done right in the first visit. For power solutions providers, unscheduled downtime of their assets costs energy company customers money in lost revenue, brand impact and even regulatory censure. To increase first-time fix rates, power solutions providers need to empower their engineers with knowledge on-the-go. Whether this is the ability to easily access inventory levels, customer and part histories, contract details, or collaborate with the home office engineering team, mobile devices powered by software that works both on- and off-line can help engineers stay informed every step of the way.

**To empower and enable the best out of your engineers and capture valuable repair data for analytics:**

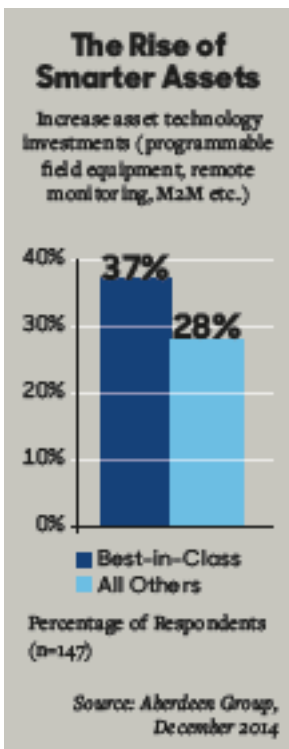
- Ensure that your field service software works both online and offline to let engineers sync their work and update records.
- Structure tasks or assignments through checklists or dynamic forms. These tools can guide the engineers through pre-defined scenarios, in which all the required actions – data inputs like measurements, recommendations, photos and other attachments – are recorded in a structured manner.
- Use tables or forms to capture detailed data to eliminate errors and to provide clean data to analyze the breakdown.
- Compare first-time fix rates by region, issue or by tracking repair KPIs to zero in on pain points and further improve service.

**Inventory and Equipment Management**

Effectively managing an inventory supply chain is at the heart of a successful field service offering. Visibility into stock levels and availability dates can improve first-time fix rates, and ensure technicians don't waste their time. For power solutions providers, managing large industrial machinery inventory requires careful management. Separate, complex parts should be maintained as autonomous pieces, with their own service histories and checklists.

**To better manage inventory and particularly industrial equipment:**

- Identify each part of the equipment, and allow the parts to be maintained as autonomous pieces with service histories, checklists and managed tasks attached to them.
- Install remote sensors and integrate remote monitoring into your inventory management solution.
- Collect performance data on the equipment to analyze where failures are occurring and under what circumstances. Performance data can also help show the impact the failure has on other parts.
- Use remote sensors and set up direct alerts when equipment fails or needs servicing.





## Fact

**Among capital equipment manufacturers the number three complaint from customers was regarding issues surrounding the improper billing for service.**

Source: Aberdeen Group 2014

## Approximately

**89%**

**of oil and gas companies noted that leveraging more analytics capabilities would add more business value.**

Source: Microsoft and Accenture "Oil and Gas Digital and Technology Trends Survey 2015," conducted by PennEnergy Research.

## Close

Closing a work order is much easier when a customer report can be compiled immediately from the data and documentation captured by engineers during their work. It's simple to compile even the lengthiest, and most detailed report with a field service solution. On site, the project leader can easily go through the details of the report, and obtain the approval for the job, confirming that the work carried out solved the issue, obtain the customer signature and release it to invoicing.

### **Closing the work order and sending it to invoicing can be expedited by:**

- Compiling thorough service reports that include detailed documentation on the work carried out.
- Obtaining your customers sign off – usually a digital signature – while your engineers are still on-site.
- Ensuring that the signed-off report is uploaded to the customer's job history and sent to invoicing.
- Giving customers any certifications or maintenance history updates for their records.

## Analyze

Service performance data captured at the point of service has the potential of radically changing the efficiency of the service your organization delivers and future product development. Given the intense competition among energy providers, power solutions providers are in an eternal quest to deliver better products that are cleaner, more energy efficient, and safer to their customers. Analyzing the data captured during service can help research and development teams understand patterns of customer use, where products are most stressed, and the point where products break down first. This can lead R&D to improving products, redesigning better ones, or introducing entirely new lines.

### **How to start and build out a successful analytics program:**

- The program does not need to measure everything at once. Prioritize your goals and tailor your data capture and analysis to meet them.
- Ensure that data is captured during the point of service by including data fields in the checklists that engineers use during the repair process.
- Make sure all data is tagged or captured and classified with an ID.
- Alongside the KPI's and customer request data, add data points from the engineering team to capture valuable product data.
- Create a conduit between specific data captured in the field to the engineering and product team to give them instant visibility into the serviced product.



**In Best-in-Class Field Service companies,**

**48%**

**of field technicians are incented to identify cross-sell and up-sell opportunities.**

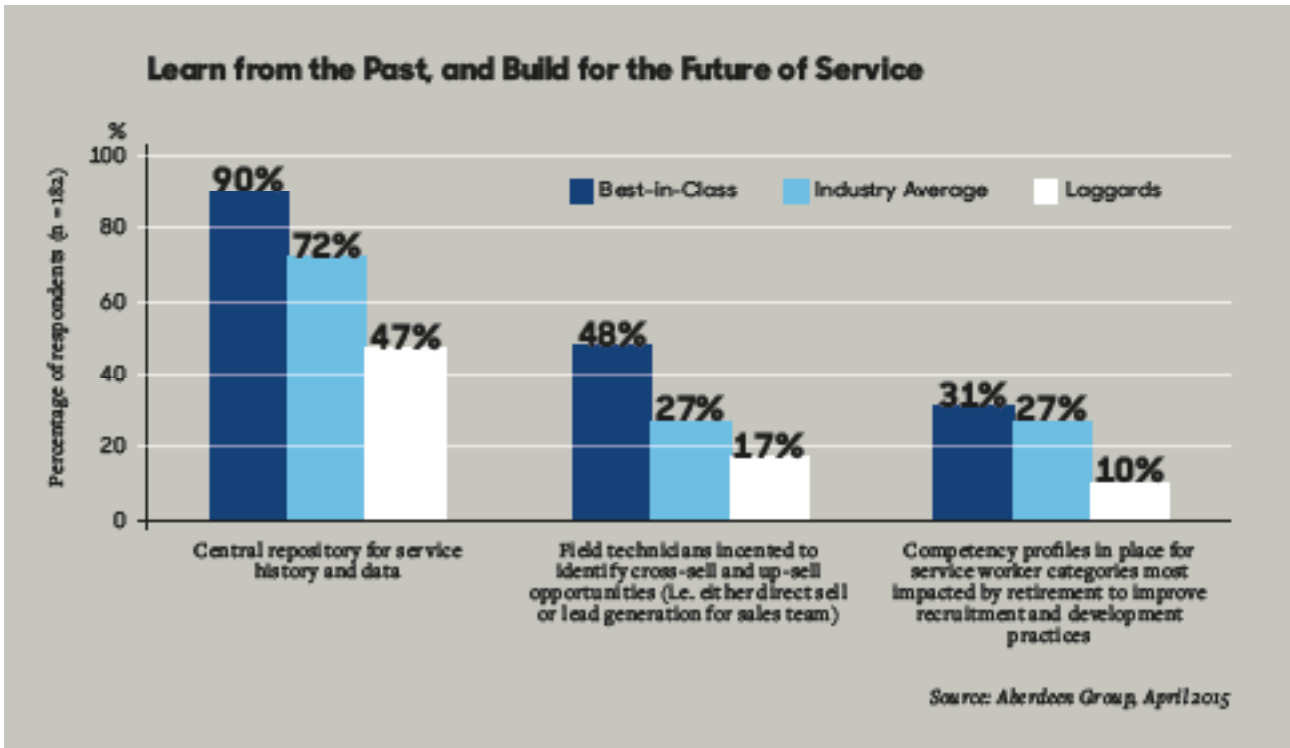
Source: Aberdeen Group, 2015

**Market and Sell**

Your engineers are your frontline in sales. When they provide a customer with service or maintenance at the customer’s location, they are well placed to explain, demonstrate or showcase additional products or services. This is particularly true of power solutions providers, where complex services or products are best showcased by a knowledgeable source – your field service engineer.

**To help engineers sell additional products or services:**

- Create suggestions of available replacement products, consumables or additional services for each customer as your engineer closes out a work order.
- Give them the ability to create a work or purchase order to close the new deal.
- Incentivize engineers who up-sell products.



«Our aim is to provide mobile support to all service processes as soon as possible and to integrate them into the existing IT landscape. With cloud synchronization, the technicians' inspection results can be transmitted much more quickly. The back office can make decisions straight away and send the on-site service technicians the information they need immediately»



Gert-Jan den Boer  
IT Manager Global Projects  
GE & Alstom

## GE & Alstom Switzerland: Using Field Service Software to Keep Large, Cross-Functional Teams Focused



A healthy proportion of Alstom's sales in Switzerland are generated from the regular inspection and maintenance of the vast power plants built for its global customers. These industrial plants are complex and require cross-functional teams of Alstom service engineers who may take a few days to several weeks to complete the inspection. Guided by detailed plans and instructions, the service engineers disassemble and reassemble machine components, take measurements, conduct testing and record all of the results with meticulous care.

Alstom needed software that was mobile, reliable, and flexible. Flexibility was especially important as each job required a number of detailed tasks to be completed and recorded, and Alstom wanted to capture very granular data on the job to conduct deep analysis that would improve the process and efficiency.

### What goals did our client want to achieve by implementing Ink IT Solutions Field Service Software?

Alstom needed its chosen field service software to meet goals it set out in a 50-page catalogue of requirements. The software had to be easily adaptable to its existing IT systems and to allow the quick syncing between back office staff and the front line field service engineers. For example, given the complexity of the machines being inspected, engineers and back office staff needed the ability to share and see the same information to make quick, critical decisions.

### Fostering Team Work, Happy Customers and Constantly Improving Process

With field service engineers equipped with iPads and connected to the back office, Alstom was able

to foster close collaboration with its large, cross-functional teams of engineers and back office support and to increase the efficiency of the entire process.

For example, if a technician finds spots of rust on key sections or components, they are documented with a photograph that is added to the relevant checklist. The photograph can be taken either with the iPad itself, or with a special camera in inaccessible spots such as inside a tube. The tablet can also receive external images via WiFi. Highlights and comments can be added to the images. Before a component is changed, the on-site service technicians may need to consult with the back office. The pictures serve as a basis on which the specialists in the back office will make a decision.

### Using Ink IT Solutions Field Service Software Alstom was able to:

- Support mobile service on- and offline. Engineers could safely inspect plants in “flight mode,” but still capture relevant data and synchronize immediately with back office once re-connected to the Internet.
- Create detailed checklists for cross-functional teams to meticulously follow during inspections of complex machinery.
- Capture and record granular data for detailed analysis and continued improvement of the inspections.
- Standardize final reporting compiled from the data recorded on field service inspections allowing service technicians to produce, print out, and discuss the report with customers and get final approval quickly.



## Ink IT Solutions: Powering Stellar Field Service in the Energy Industry

Let Ink IT Solutions complete mobile and cloud-based field service solution help your company:

- **Optimize the Service Process:** Standardized processes based on best practices and locked into checklists allow field engineers to carry out service calls in a uniform manner no matter where they are.
- **Reduce Response Times and Improve Quality:** Improve response times – from the minute an order comes in to on-site execution – with pre-defined checklists, procedures, and planning templates. Reduce reporting time and improve the quality of reports by using standard report templates that are automatically populated.
- **Reduce Costs and Increase Profits:** Reduce costs and wastage by increasing and improving back-office efficiency and reducing administrative work, speeding up work order resolution, and reducing planning and reporting time.
- **Improve Data Quality:** Improving the data quality and quality assurance starts with entering the correct data. Offering a limited, selected list of potential answers at the point of entry will improve the data quality, shorten the time needed for data entry time and ensure data consistency.
- **Capture Data for Continuous Improvement and R&D:** Valuable data that your field service technicians capture throughout their maintenance can be fed back to R&D teams for continuous improvement of products and future services.
- **Increase Visibility to All Stakeholders:** Provide access to the same information for all stakeholders, support employees with state of the art tools, strengthen the ambassadorship of employees.
- **Increase Service Revenues:** Give field technicians the tools to monetize their unique upselling capability to extend on-site services. Technicians can instantly produce quotations and seal service orders by capturing a customer’s digital signature.
- **Satisfy Your Customers:** Proactive, transparent, visible field service will satisfy your customers by ensuring their valuable time and production runs reliably and efficiently, letting them satisfy their customers. Our automation can reduce your paper trail and ensure your customers have all the information they need for documentation and analysis. Happy customers are loyal customers.

### About Ink IT Solutions

Ink IT Solutions is a leading provider of mobile and cloud-based field service and workforce management software for mid-sized and large enterprises’ field service organizations. Since Ink IT Solutions’ founding in 2006, more than 190,000 users across the world have utilized Ink IT Solutions’ innovative, real-time field service management software to improve their business and field service processes. Ink IT Solutions has also pioneered “crowd service” – which allows customers to leverage an Uber-like platform to find available field service technicians in real-time. Ink IT Solutions is headquartered in Switzerland with international offices in San Francisco, Miami, Berlin, Freiburg, Shanghai, São Paulo and London.

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