



# Measure What Matters: The 2023 Medical Device Benchmark Report

Despite being relatively immune to the worst of the pandemic, the medical device service industry struggled with significant challenges, such as bridging the workforce skills gap and improving key metrics such as Time to Competency. However, top-performing companies got ahead — and stayed ahead — by investing in crucial technology initiatives like AI. They leveraged those systems to enhance knowledge and accuracy — and make more strategic, data-backed decisions.

**REPORT**

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**Part I:**

# **Introduction**

# The COVID-19 pandemic put the medical device industry front and center, especially with the demand for essential products like diagnostic tests, ventilators, and respiratory assistant devices.

Unlike other industries, where service demand dropped for a year or more, most service organizations that maintain or repair medical devices did not see a slowdown. They, more than any other industry, either maintained pre-pandemic service levels — or saw an increasing demand and service requests for everything from scheduled maintenance to repair. The data shows that the medical device service industry had a **6% increase in technicians and a 2.5% increase in field events.**

However, many companies still faced significant challenges this year. More-tenured technicians retired faster than their replacements could enter the workforce, even with the uptick in hiring. **Technicians completed 3.3% fewer work orders overall,** signaling that organizations struggled to upskill less-experienced workers quickly. While **service costs across the industry were down by nearly 4%,** in the bottom 20% of medical device service companies, **the knowledge gap between the most- and least-skilled technicians cost over 200% more.**

Top medical device service companies had key patterns in common. For one, they made more accurate fixes on the first try, resulting in **over a 4.5% increase in First Time Fix Rates.** They also provided more remote and simple fix-it-yourself options, leading to a **34% increase in Time Between Visits.**

Those improvements in critical metrics can be credited to the sum of small-but-mighty, purposeful, and consistent service habits. This included utilizing AI and predictive technology models to glean insights and make critical business decisions quickly. AI also allowed them to provide more resources for technicians. Top-performing organizations upskilled technicians more rapidly and were able to successfully distribute knowledge on demand to technicians on-site or off.

Successful organizations also used AI to optimize customer service journeys. AI offered personalized recommendations that were used to power other critical channels, like call centers and chatbots. It minimized downtime and created a unique, memorable, and flourishing service culture that prioritized customers — no matter what issues they needed help with. According to a recent Salesforce report, **nearly 80% of high-performing field service organizations use AI to drive productivity, cost savings, better employee experiences, and more.**

**The future of service is here. Does your medical device service organization have the right plans and tools to hit your business goals?**

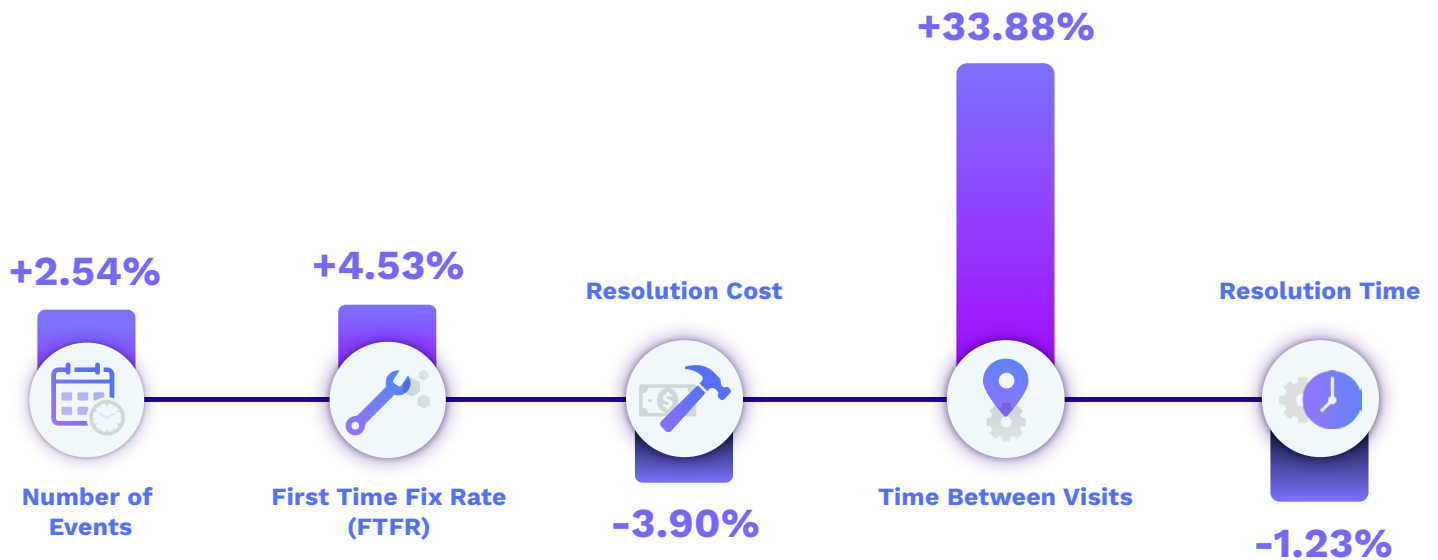
# Critical Findings

Through this year's data analysis, we learned:

- 1. Despite inflation and economic downturn impacting other sectors, medical device service is experiencing growth and cost-savings.** Many of those successes can be attributed to strategically leveraging technology.
  - a. With a **2.5% increase** in field events and a **6% increase** in technicians, the medical device service sector remains busy.
  - b. Resolution Cost was **reduced by nearly 4%**. This shows how many medical device service organizations steering away from traditional models and adopting remote- and self-service options.
  - c. First Time Fix Rates **increased by over 4.5%**, indicating that technicians are making more efficient fixes on the first visit — especially with the support of technology.
  - d. Time Between Visits **increased by almost 34%**. Companies are leaning into self-service options and remote tools, lessening the need for techs to visit assets in the field.
  
- 2. The knowledge gap continues to be an issue across the medical device service industry, especially when the labor shortage and upskilling challenges are factored in.**
  - a. On average, low-performing employees cost their organizations almost **86% more** than top-performing employees. However, in the bottom 20% of companies, the knowledge gap between the most- and least-skilled technicians costs **over 200% more**.
  - b. Even though there was an increase in technicians on the field, these techs completed **3.3% fewer** work orders. This illustrates Time to Competency and skills gap issues.
  - c. Companies with healthy field service operation practices can improve their metrics by measuring their progress and using the data to inform necessary investments in people, processes, and technology.
  
- 3. Trends show that thriving organizations are combating high service costs, increased Time to Competency, and other service delivery hurdles by:**
  - a. **Creating trust in data:** Hunches and intuition are no longer cutting it in today's data-driven world. This is why more companies are normalizing data sanitization — as well as making sure their data is in a state to pull vital stats, at any time.
  - b. **Prioritizing diversity:** Assembling a workforce with a diverse mix of soft and hard skills creates a better customer experience.
  - c. **Investing in relevant tools and training:** Leaders that invest in tools and training for their employees find that it leads to more excellent retention, career growth, and increased customer satisfaction. AI is an essential investment that equips teams to solve even the most complex problems. The incoming workforce, comprised of Millennial and Gen-X generations, sees new technological investments as career opportunities.
  - d. **Shifting to proactive service models:** Preemptive actions have a domino effect that can be felt across the board – through happier customers, empowered teams, and more. Technology powered by service data can surface relevant solutions during initial customer calls.
  - e. **Leveraging shared knowledge:** Collective knowledge drives collaboration, which leads to faster resolutions. AI tools combine service data, industry knowledge, and insights from subject matter experts to provide fast and accurate solutions.

## Service at a Glance

Time Between Visits increased exponentially over the last year—an optimistic sign for an industry that needs to maximize uptime on complicated and essential machinery. This indicates that medical device organizations use remote tech solutions, many of which were initially adopted during the pandemic. Remote solutions empower customers and organizations to diagnose—and sometimes even repair—issues without the help of a technician, which further reduces costs.



Changes in Percentage from 2022-2023

## The Opportunities

- **Identify** your organization’s core service problems by better understanding the patterns in your service data
- **Obtain** a comprehensive understanding of what’s working and what’s ineffective in your organization—then allocate your resources as needed
- **Use** data patterns to drive actionable service recommendations—for management-level decisions and in-the-field fixes, all of which trickle up into the customer experience
- **Make** more informed workforce training and hiring decisions to shrink the skills gap

## How We Compiled the Data

Aquant gathered and analyzed anonymized service data from leading medical device service companies. This report measures data from before an organization deployed Aquant's AI solution.

### The data was gleaned from:

- 44 organizations
- More than 4.6 million work orders
- More than 15,000 technicians
- Over \$3.4 billion total in service costs
- An average of 3.5 years of service data per company

The data was analyzed using Aquant's Service Intelligence Platform, which includes **Service Language Processing (SLP)**, a unique engine designed to read service language and identify observations, symptoms, and solutions described in free text.

With this technology, Aquant digs into data ranging from CRM and parts inventory to service tickets, handwritten records, and other information that lives in the minds of subject matter experts. Our method of SLP allows us to draw out patterns and recommendations based on raw data.

*“Historically, manufacturers and service businesses thought about operational efficiencies as a primary metric of success.*

*But now, manufacturers are thinking about using customer-centric metrics to drive outcomes, such as improving the service experience for customers more quickly, solving problems more quickly, or looking at a closed loop of innovation.*

***Service data can inform decisions within the business and [help] rethink what is good.”***



**Aly Pinder,**  
Program Director, Service  
Innovation & Connected Products,  
IDC

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**Part II:**

# **Service Benchmarks Across 4 Key KPIs**



## FTFR - First Time Fix Rate

### What is it?

**First Time Fix Rate** measures how often a technician can fix an issue on the first try.

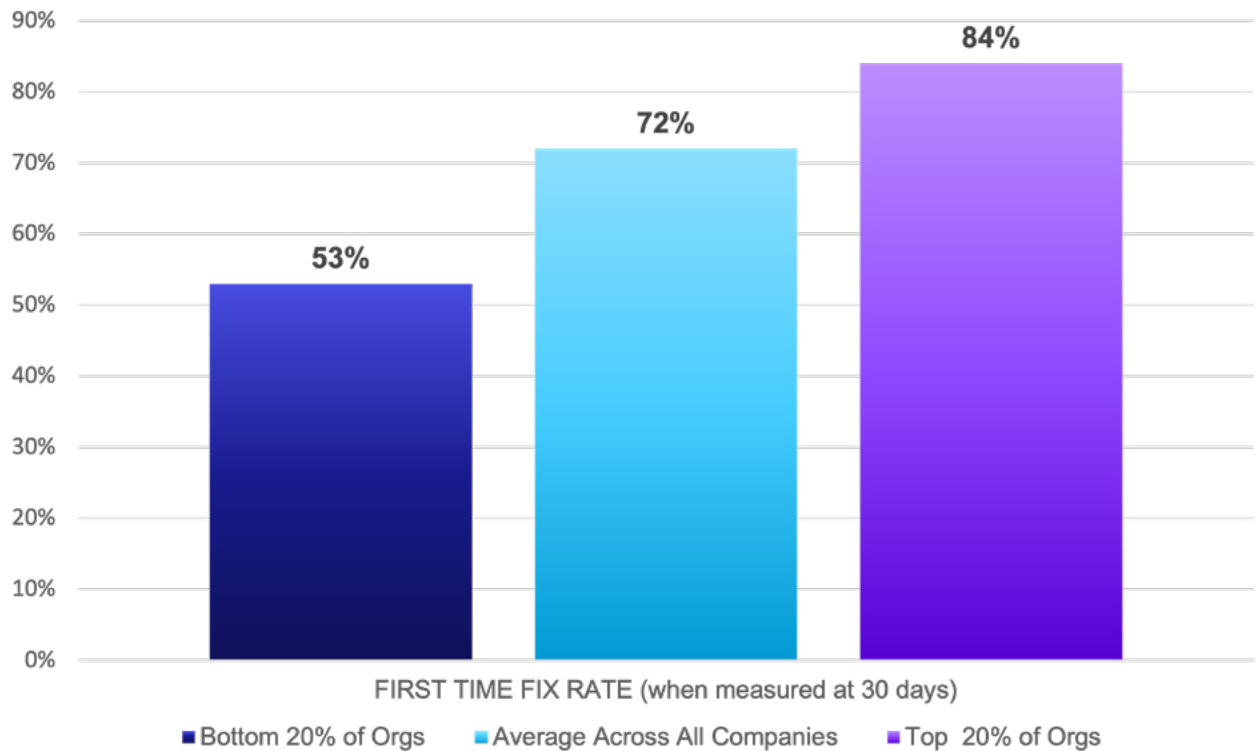
### Key Observations:

First Time Fix Rates have **increased by 4.53%** since 2022.

### Recommendation:

To keep First Time Fix Rates on track, prioritize closing the skills gap through:

- **Upskilling the workforce:** Hire technicians and get them up to speed faster with the help of tribal knowledge, applicable coursework, and more.
- **Reducing parts shotgunning:** Select the right parts for fixes on the first try.
- **Getting things right the first time:** Solve all issues reactive and proactive in one visit by giving technicians access to best practices, user-generated tips, and manuals when they are out in the field.



### ***Eliminate a substantial contributor to poor CX!***

*When FTFR is measured in ranges of less than 30 days, organizations open themselves up to a vast customer experience gap — all stemming from false-positive rates. Use 30-day windows to nix the possibility of imprecise measurements.*

# Resolution Cost

## What is it?

Resolution Cost, also known as Cost Per Resolution or Cost Per Success, measures the total amount required to close a service ticket successfully.

Some organizations measure Cost Per Work Order, but that metric leaves out cases that always assign experts to the most complex (and expensive) jobs. Additionally, it does not account for cases where multiple work orders are related to the same core issue.



### Key Observations:

Resolution Cost has **decreased by 3.9%**.

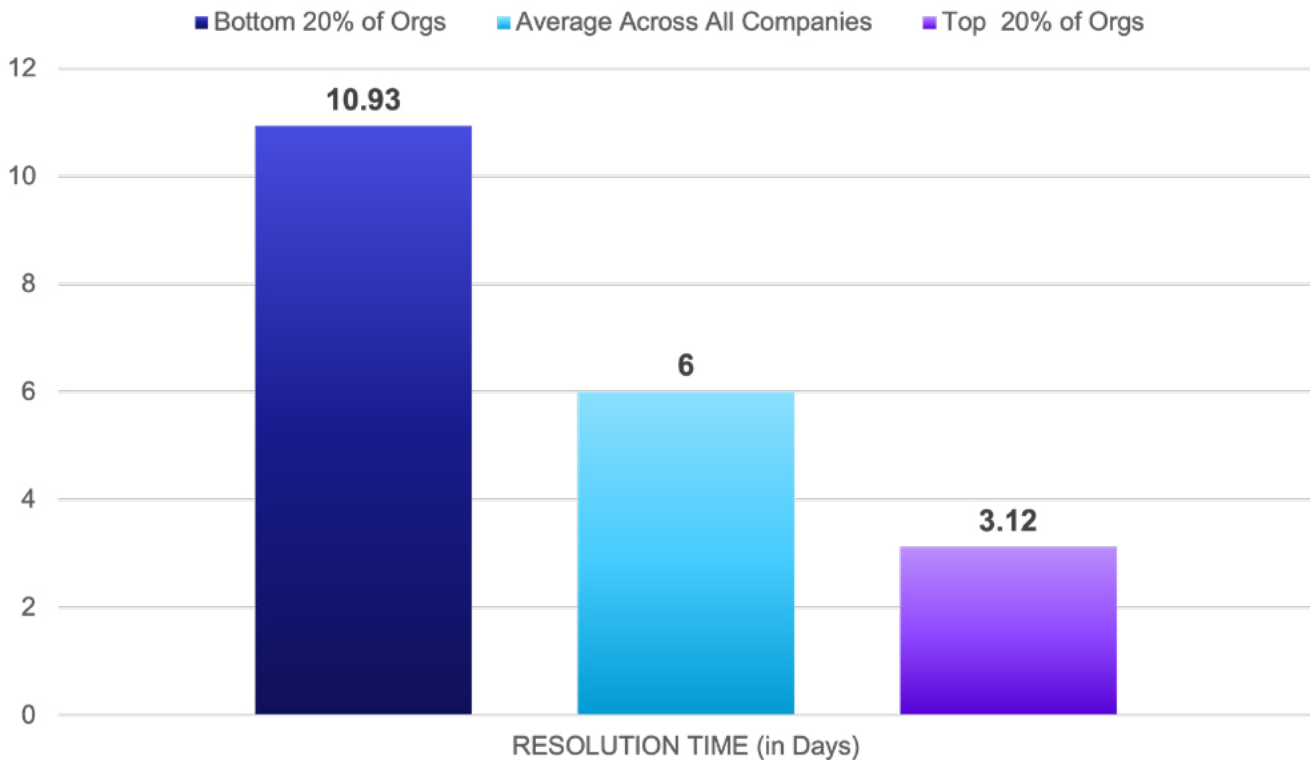
### Recommendation:

Tracking First Time Fix Rates in windows of less than 30 days results in miscalculated Resolution Cost. Inaccuracies can occur when multiple tickets related to the same issue are not grouped.

# Resolution Time

## What is it?

Resolution Time, also known as Mean Time to Resolution, measures the time it takes to resolve a customer issue. Minimized Resolution Time increases positive customer experiences and reduces service costs.



## Recommendation:

Decrease Resolution Time by resolving tickets quickly and accurately. Successful companies achieve this by:

- **Prioritizing fast first responses:** Re-evaluate queue management systems, adjust case routing, and examine existing customer support strategies.
- **Providing a surplus of training and resources:** Teams with access to knowledge bases, scripts, manuals, and playbooks can provide more accurate fixes and answer customer questions quickly.
- **Offering self-service customer support:** Some issues are easy fixes that don't require a technician on site. For instances like these, offer step-by-step help guides to customers.

## Time Between Visits

### What is it?

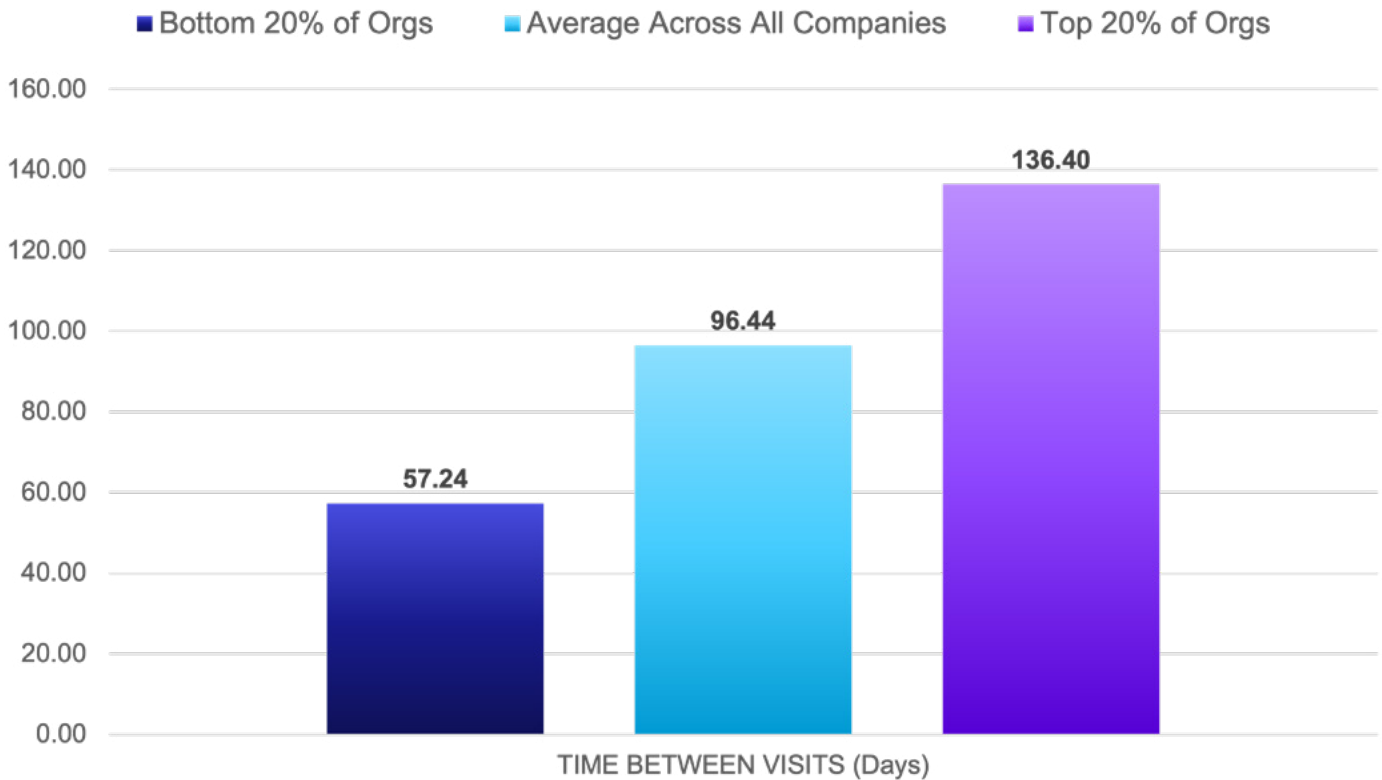
Time Between Visits, also known as Mean Time Between Visits or Mean Time Between Events, accounts for both uptime and service performance. It measures every visit made to an asset or customer instead of only tracking the time between failures.

### Key Observations:

Time Between Visits increased **nearly 34%**. In addition to signaling more assets being serviced remotely, improved Time Between Visits demonstrates accurate and longer-lasting fixes.

### Recommendation:

Continuously investing in technology that facilitates remote diagnostics and repair can further reduce truck rolls and site visits.



*“When Sysmex added Service Intelligence into their ecosystem of service efficiency tools, the combined toolset significantly reduced employee training time.”*



**Peter Tregarthen,**  
Customer Care Systems Associate Director,  
Sysmex America, Inc.

**Part III:**

**Industry Snapshots:  
The Workforce Skills Gap**

## Industry Snapshots – The Workforce Skills Gap

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The skills gap, also known as the knowledge gap, is a significant barrier to medical device companies looking to achieve KPI goals. It is also expensive: **on average, an organization’s lowest-performing employees cost 86% more than the top-performing employees.**

Significant knowledge gaps result in uneven technician performance, inevitably impacting the customer experience. When teams are equally-knowledgeable about equipment and service best practices, as well as conscious of customer preferences, the service experience becomes a memorable one.

Read on to visualize the percentage difference between top-performing technicians (heroes) and bottom-performing technicians (challengers).

We divided it into:

- **Above-average organizations (the top 20% of companies)**
- **Average-performing organizations**
- **Below-average organizations (the bottom 20% of companies)**

*“When I think about overcoming the challenges we face today, I think first and foremost about talent—like having the right people in the right role, with the appropriate training. Being more efficient on-site depends on properly-trained field service engineers.*

*We want to ensure they have the right part, at the right place, at the right time. **Predictive outcome technology helps ensure that we are sending technicians into an environment where they are being enabled for success.**”*



**Mark Horvath,**  
Corporate Vice President of  
Global Services, *Hologic*

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# A Snapshot of High-Performing and Low-Performing Organizations

Higher-performing organizations have a better distribution of knowledge among employees.



## Did you know?



Boosting low-performing employees closer to average performers would decrease service costs by 7%. **But if everyone had the knowledge and skills to perform like the top 20% of the workforce, service costs would be reduced by nearly 30%.**

# The Skills Gap - A Snapshot of Individual Technicians

The following is a snapshot of the workforce.



**TOM** HERO

FIRST TIME FIX RATE:

**76.9%**

RESOLUTION TIME:

**3.12 Days**

RESOLUTION COST:

**\$839.21**



**GREG** CHALLENGER

FIRST TIME FIX RATE:

**59.28%**

RESOLUTION TIME:

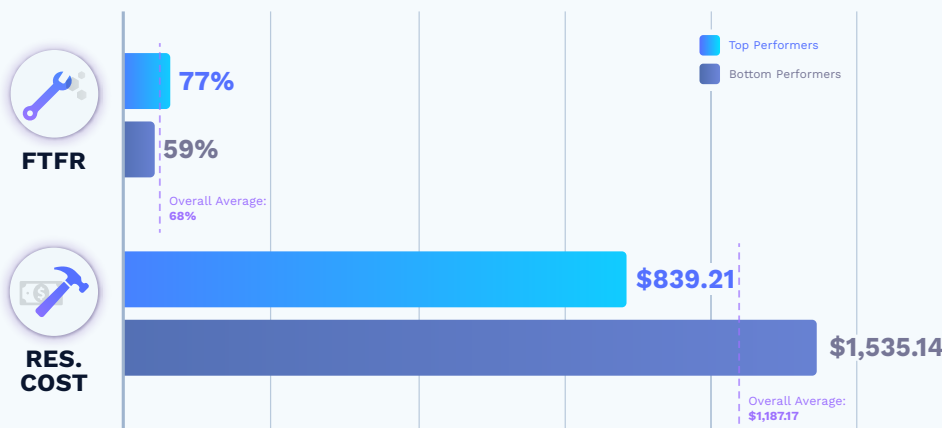
**10.93 Days**

RESOLUTION COST:

**\$1,535.14**

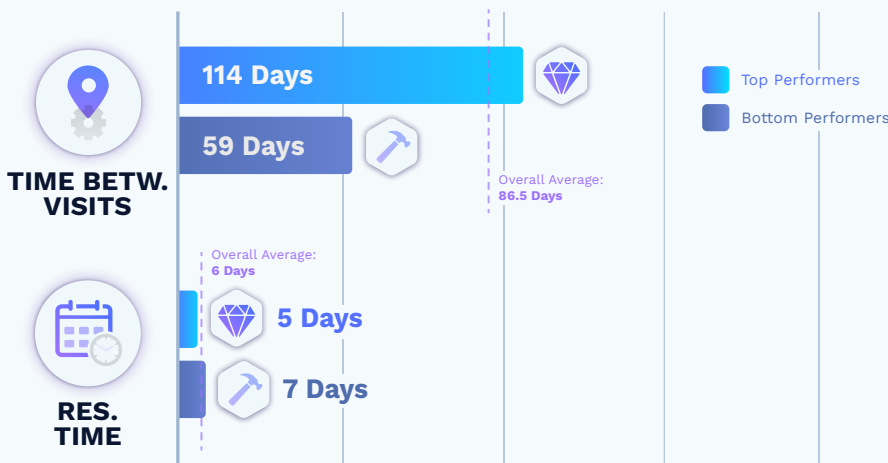
## Key Observation:

A holistic comparison of your organization will give you the best insight into your service landscape.



In the case of First Time Fix Rates, there is a nearly **18% gap** between heroes and challengers. But, when measured against Resolution Cost, it becomes evident that this moderate gap can lead to skyrocketing costs, with almost a **59% difference** in costs between heroes and challengers!

## Hero Vs. Challenger Performance: At a Glance



This example illustrates how relying on FTFR alone creates blindspots for service leaders. When FTFR is measured in isolation, organizations struggle to measure the true impact of the workforce skills gap—mainly because they can't visualize how this KPI drives up service costs and negatively impacts customer satisfaction.



**Part IV:**

# **The Way Forward**

# The Way Forward

Successful medical device service organizations are leaving behind traditional methods and looking towards a new future—one that reflects the on-demand and consistent uptime that customers expect.

Start by looking at your organization’s data to see patterns and opportunities. [Baseline your company’s performance using standard service KPIs.](#)

Then, look at your business model to find potential areas to adjust. You should also explore your customers’ journeys and segment them further to understand their behaviors.

Lastly, prepare to act on your analyses by investing in the right tools to take your

business to the next level. Innovative tools such as [Service Intelligence](#) can confirm if your org is on the right track, surface what’s not working, and provide laser-focused recommendations to improve specific areas of your business.

For example, Service Intelligence can provide customer-facing teams with automated recommendations to close service tickets quicker, and offer customers self-service solutions when applicable.

Then, create a detailed plan using [Aquant Service Insights](#). Once you have critical information about every aspect of your organization, start making data-based decisions that bridge the skills gap, improve customer experiences, and drive growth.

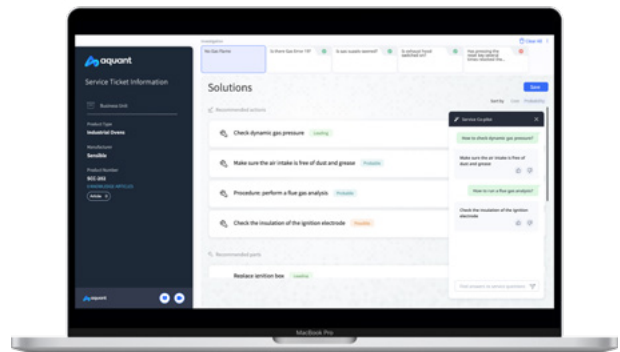


### [Lead service transformation with confidence!](#)

*Align your plans with more significant corporate priorities and utilize technology to achieve demonstrable results quickly.*

## Leverage the best of business intelligence AI with Service CoPilot.

Aquant’s [Service Co-Pilot](#) platform is built specifically for service and is available at every point of the cycle. Anyone—including customer service agents, field technicians, service leaders, and customers—can find the best answers to any service issue. Improve remote resolution; give every tech access to the best fixes; analyze workforce performance, customer risk, product quality trends, and more—all in one system.



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