

DIGITIZING THE FRONTLINE:

TRANSFORMATIVE TECHNOLOGIES
IN CRITICAL CARE



Welcome Note

In an emergency, every second counts. Whether first responders are hurrying to the scene of an accident or evacuating people amid dangerous weather conditions, they need fast access to data and reliable communications with team members. Waiting too long for critical information can make response and recovery efforts more difficult, especially when lives are at stake.

Technology should be empowering emergency service workers and streamlining their work. It should be replacing manual and error-prone processes. First responders should feel they can count on the technology they use to perform at the highest level, just as they are expected to.

SOTI's research reveals a gap between the promise of technology in the emergency services sector and how it is playing out in practice.

This report shows that digital transformation efforts have begun, but traditional ways of working are proving slow to change. The data also reveals that mobile devices and apps are often not meeting first responders' basic needs. These challenges have negative impacts on operations and employee wellness while jeopardizing patient care.



Shash Anand, SVP, Product Strategy

As emergency service organizations seek to accelerate digital transformation, this report offers key insights on where to focus in order to improve operational efficiencies.

Contents

Methodology

Time to Address the Global Technology Gap

Where Technology Is Failing First Responders

The True Impact of Technical Issues for Emergency Services

Conclusion

Methodology



From a sector perspective,



35% of respondents worked for an ambulance service.



24% worked for a police force.



21% worked for a fire and rescue service.



20% worked for search and rescue.



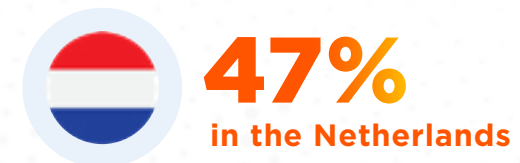
SOTI conducted research with emergency service workers in nine markets from across the world. Between January 26 - February 14, 2024, 900 self-completed interviews were completed with 100 respondents from each of the following countries: the U.S., Canada, Mexico, the UK, Germany, France, Sweden, the Netherlands and Australia.

Time to Address the Global Technology Gap

A clear technology agenda is urgently needed to help emergency service workers prioritize and improve response times while enhancing patient care.

For instance, mobile devices and apps should not require first responders to write down notes and risk losing paperwork. However, that is not the case, with **27%** of global respondents stating they use pen and paper methods between **60-79%** of the time.

This increased to:



The reliance on pen and paper remains prominent in the daily operations of emergency services due to widespread issues with technology, including poor battery health, uncharged devices and slow uploads of forms. Globally, these issues had a direct impact on stress levels.

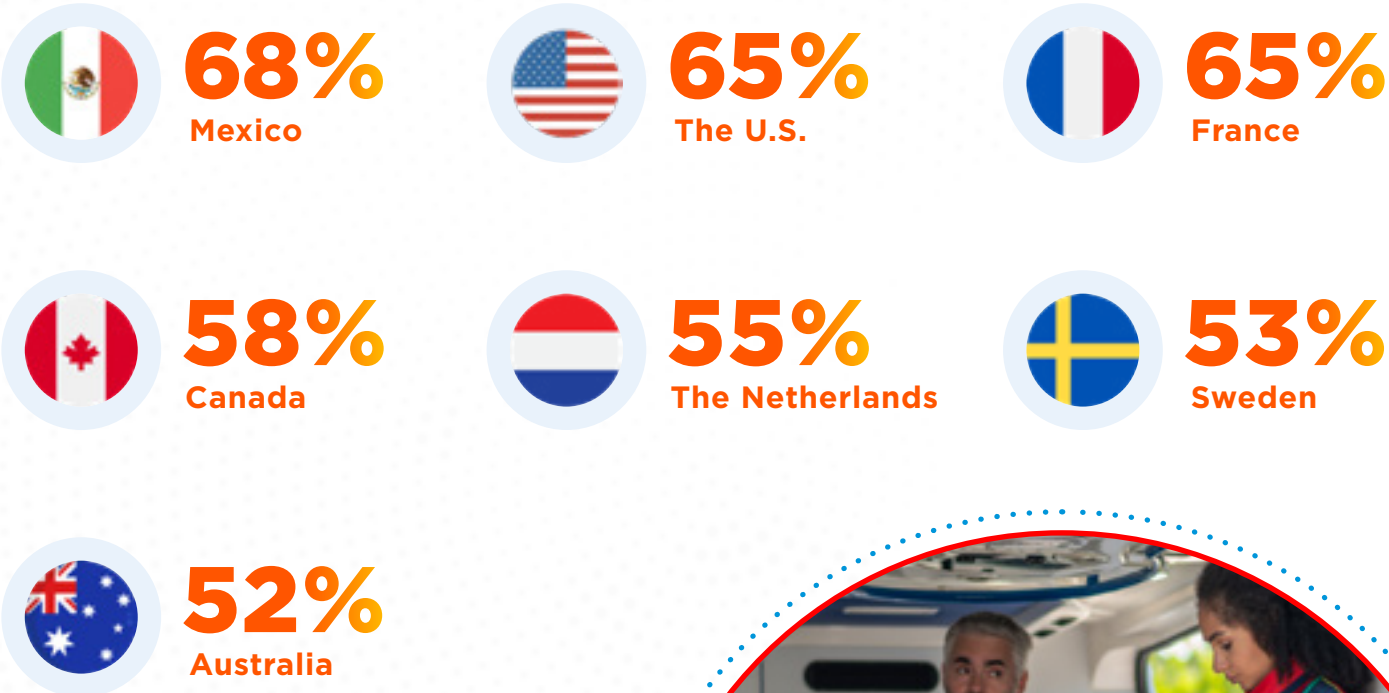


However, there are areas where paper and pen processes amplify challenges. This is connected to the device issues specifically cited around delays in accessing required information (**36%**), increased time waiting for digital records regarding the emergency (**34%**) and even delays in waiting for the location details of an event (**30%**).

Holding onto Pen and Paper

The report data shows manual information collection and management is still common, as **one in ten** first responders use pen and paper for **100%** of their cases.

Globally, **97%** still rely on traditional pen and paper methods and use them for an average of **58%** of cases. This is most prominent, and in some cases even higher, in the following regions:



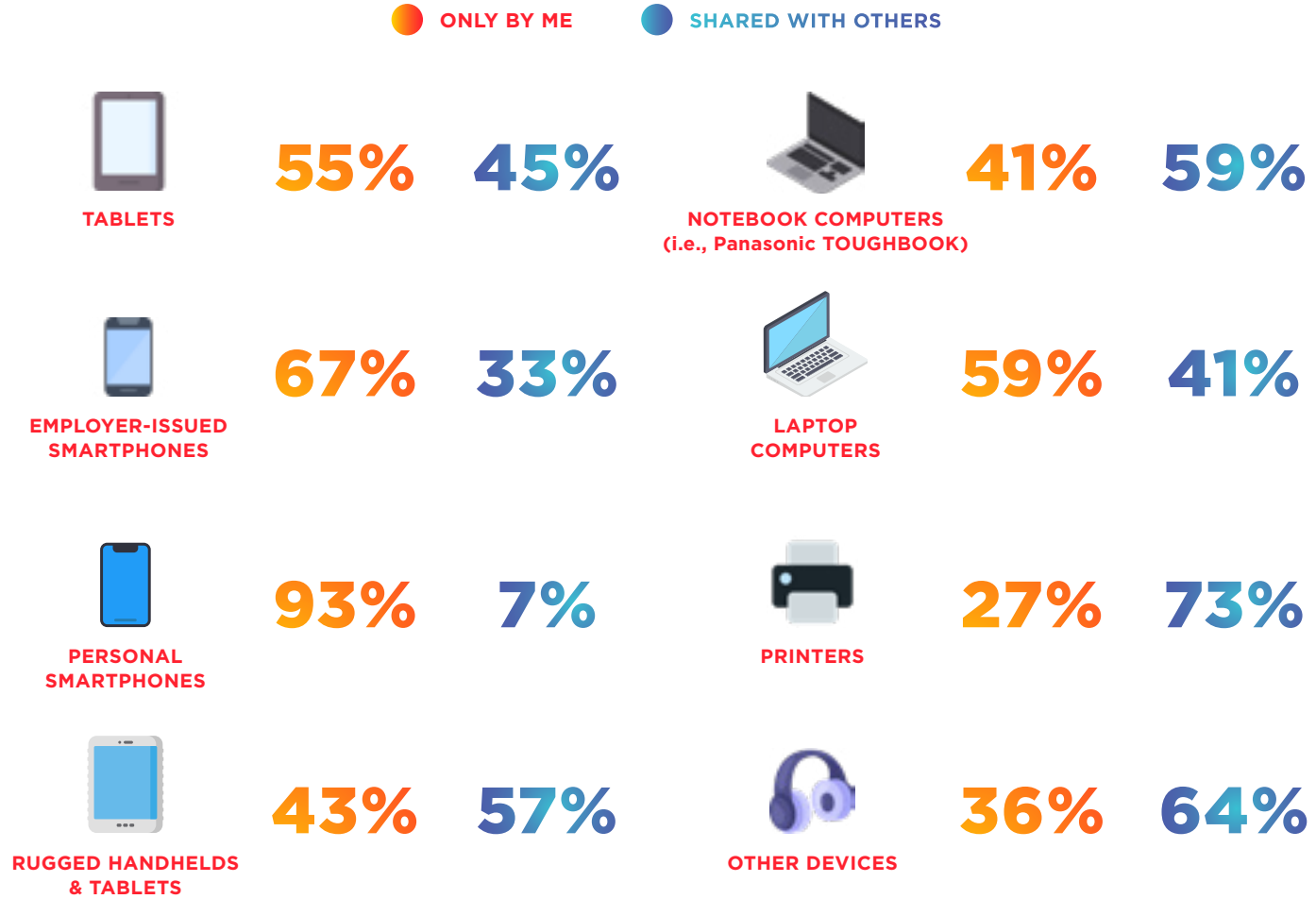
A lack of automation and digitization has risks, such as information being lost, outdated or impacted by human error. It is also more difficult to share paper files, particularly in emergencies, with team members spread across multiple locations.



Relying on Shared Devices

Too many first responders are relying on personal devices or having to share work devices with colleagues, as **20%** globally say there are not enough devices to go around their team or department, and **three-quarters** of these people experience this issue at least once per week.

Globally, the results below illustrate how each device is used:



Although an employer-issued smartphone was the most widely used device by **58%** of emergency service workers, personal smartphones were a close second at **53%**. Employer-issued smartphones were most widely used in Sweden (**68%**).

Even when devices are employer-issued, they are frequently changing hands:



First responders who share devices may be working on different cases where visuals, notes and other content must be instantly accessible and organized. If they are sharing devices, user profiling is essential to ensure necessary data is accessible and sensitive patient information stays secure. This raises security concerns given the high volume of lost and stolen devices reported.

Sharing devices exposes daily procedural challenges.

Globally, 26% of first responders say they start their shift and find a device uncharged. For two-thirds of these people, this is happening at least once per week.



Furthermore, locating shared devices is a challenge, as they may not be returned or stored properly. In fact, 15% of first responders globally say their mobile device gets lost or stolen, and more than half of them (53%) experience the issue each week.

Personal smartphones were the most used device in



By contrast, rugged handhelds and tablets were used by 67% of first responders in the Netherlands and 54% of those in the UK.

Major challenges can present themselves if personal devices are not managed by IT teams. Devices are susceptible to software vulnerabilities and cyber threats because of how difficult it is to provide manual software updates, troubleshoot issues when they occur or lock devices down if they are lost or stolen.



Where Technology Is Failing First Responders



Empowering employees with their own mobile devices and teaching them to adopt digital-first processes is only part of the necessary digital transformation journey for emergency service organizations.

When first responders arrive at the scene, they must trust that their devices and apps will perform as expected. Technical glitches consume time that could be devoted to patients and the provision of critical services.

The data shows that **92%** of emergency service workers report mobile device issues, and for most, these issues happen at least once per week. These include:



Device crashing (i.e., device operates but then freezes and/or shuts down):

23%
Less than
once per week

63%
At least once
per week

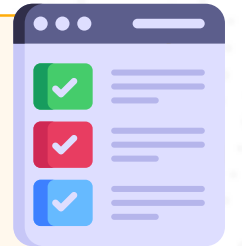
14%
Randomly

Digital forms not working:

26%
Less than
once per week

60%
At least once
per week

14%
Randomly



Applications not working (apps/web apps):

17%
Less than
once per week

68%
At least once
per week

15%
Randomly

Devices Crashing

Globally, of those experiencing mobile devices freezing or shutting down, **63%** do so on a weekly basis.

Crashing devices cause first responders to lose touch with a colleague or their location during a search and rescue operation. A device crash can interrupt communication with a command center and prevent police services from requesting backup when an emergency gets worse.



Applications & Web Forms Not Working

Emergency service workers rely on apps to increase their situational awareness and to support the tracking of people, assets and changing conditions. They also use web forms to record incident data that assists in recovery efforts and prevents future emergencies. Yet, **60%** are having problems with these forms, and **68%** say they experience issues with apps not working each week.

Much of the data first responders collect, such as video and images, must be shared with centralized systems for analysis, but **73%** globally experience slow uploads each week. This means emergency service workers risk being unable to capture necessary data, causing delays in attending to patients in need or receiving critical information in a timely manner.

Globally, of the 16% experiencing problems reporting information, 70% had this issue at least once per week.

Insufficient Wi-Fi and cellular coverage impact device functionality by:



Poor Battery Health

Dealing with an emergency can take a long time, and the report shows that first responders frequently worry about their devices not having enough battery power. Poor battery health is the most common issue reported by **29%** of first responders, which impacts them as often as two or three times per week. Additionally, beginning a shift with an uncharged device impacts **26%** of global respondents at least once per week (**31%**). These are the most common basic device issues.

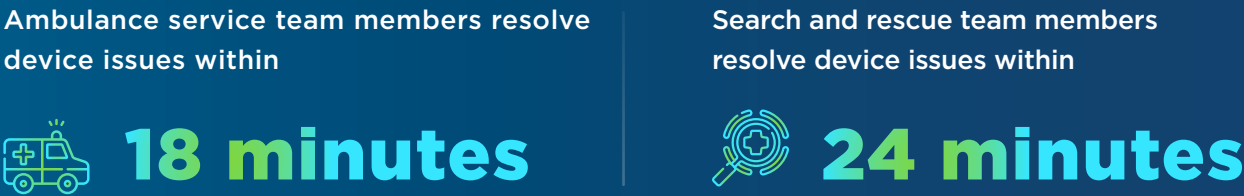
At a regional level, battery health heavily impacts:



Uncharged device issues at the start of a shift impact:



These device issues are also taking valuable time to troubleshoot. Globally, **20%** say resolving mobile device issues takes 30 minutes or more. This can have a huge impact on events where the speed of decision-making and action is needed to mitigate worst-case scenarios and save lives. The report data shows significant differences depending on the type of service involved. On average:



Emergency service organizations should benchmark this area to determine how severe issues are impacting response and recovery times.

The True Impact of Technical Issues for Emergency Services

A lack of basic device functionality and management is disrupting business operations. Security and data are at risk, and this negatively impacts the well-being of first responders globally.



Decision-Making Becomes Harder

First responders need to quickly assess emergencies and act fast, but globally, **36%** say technology issues cause delays in accessing the information they need. Knowing the precise location of the emergency is crucial, but **30%** say technical issues resulted in delays in receiving data related to location details. For fire service teams, paramedics and others, this represents a major hurdle.

First responders also need to go beyond what they see at the scene. Their decisions should be built upon analyses of previous events and background details. Yet, **34%** say device and app issues increased their waiting time for digital records relating to an incident.

Response Efforts Take Longer

Moments between decisions and actions can make all the difference in terms of effective patient care during an emergency. However, the difficulties first responders face with their devices can hinder their ability to follow standard emergency response policies and procedures.

Globally, 31% stated it takes up to 10 minutes to resolve a device issue.

Additionally, **28%** say that when tech issues occur, they must wait for authorization before taking action to help during an event. Even if they get the go-ahead, **28%** say device issues have caused a delayed start to work.

This was the biggest challenge noted among 38% of first responders in the UK.

One-quarter say technical hiccups are hindering them to the point that they are not able to access equipment or medication.

This issue was even more pronounced in the Netherlands, where 44% cited it as a problem.



First Responders' Stress Increases

First responders know going into an emergency that they will be under intense pressure and unexpected conditions that put their skills and emotions to the test. When the technology they are given does not perform as it should, it prevents them from bringing their best selves to the job.

Even though **74%** globally felt adequately trained on the technology they use, **four in ten** emergency service workers say the issues they experience are increasing stress levels for them and/or their team.



Globally, first responders stated:



They and their teams experience more stress when there are device issues.

38%



Device issues cause delays in accessing required information.

36%



They spend more time waiting for digital records relating to an incident or emergency when there are device issues.

34%



They experience a delay in receiving location details when there are device issues, which is crucial for knowing where to head in an emergency when every minute counts.

30%

Emergency service workers experience:

	Any device issue	Apps/web apps not working
Delays in accessing my required information	36%	47%
Increased stress levels for me/my team	38%	43%
Increased time waiting for digital records relating to the incident	34%	40%
Delays in data arriving for location details	30%	37%
Delays to the start of working at the incident/emergency	28%	36%
Having to wait for authorization	28%	35%
Delays in my/my team's ability to spend time on care	24%	32%
Delays to accessing required equipment/medicines	25%	27%

CONCLUSION:

Unlock the Digital Future of Emergency Services



Emergency service workers recognize that the digitization of their sector is continually evolving. Within the digital transformation journey, **72%** believe using mobile devices makes them more efficient at their job, a stat that is even higher in Mexico (**84%**) and Australia (**83%**). The majority (**70%**) also believe their organization is committed to providing the best technology.

The report data shows that some degree of digitization is progressing but has much further to go. Similarly, some issues hamper first responder response times and effectiveness, which should be top priority for organizations. It should be easy to add or remove apps, push out operating system and firmware updates, and monitor and troubleshoot device fleets remotely from anywhere in the world.

First responders should not have to look at their mobile devices or apps and ask themselves, “What now?” The public puts its trust in emergency service workers to come to their aid swiftly, strategically and with their care top of mind. First responders and their teams must be able to put the same trust in the technologies they use at every stage of an emergency.

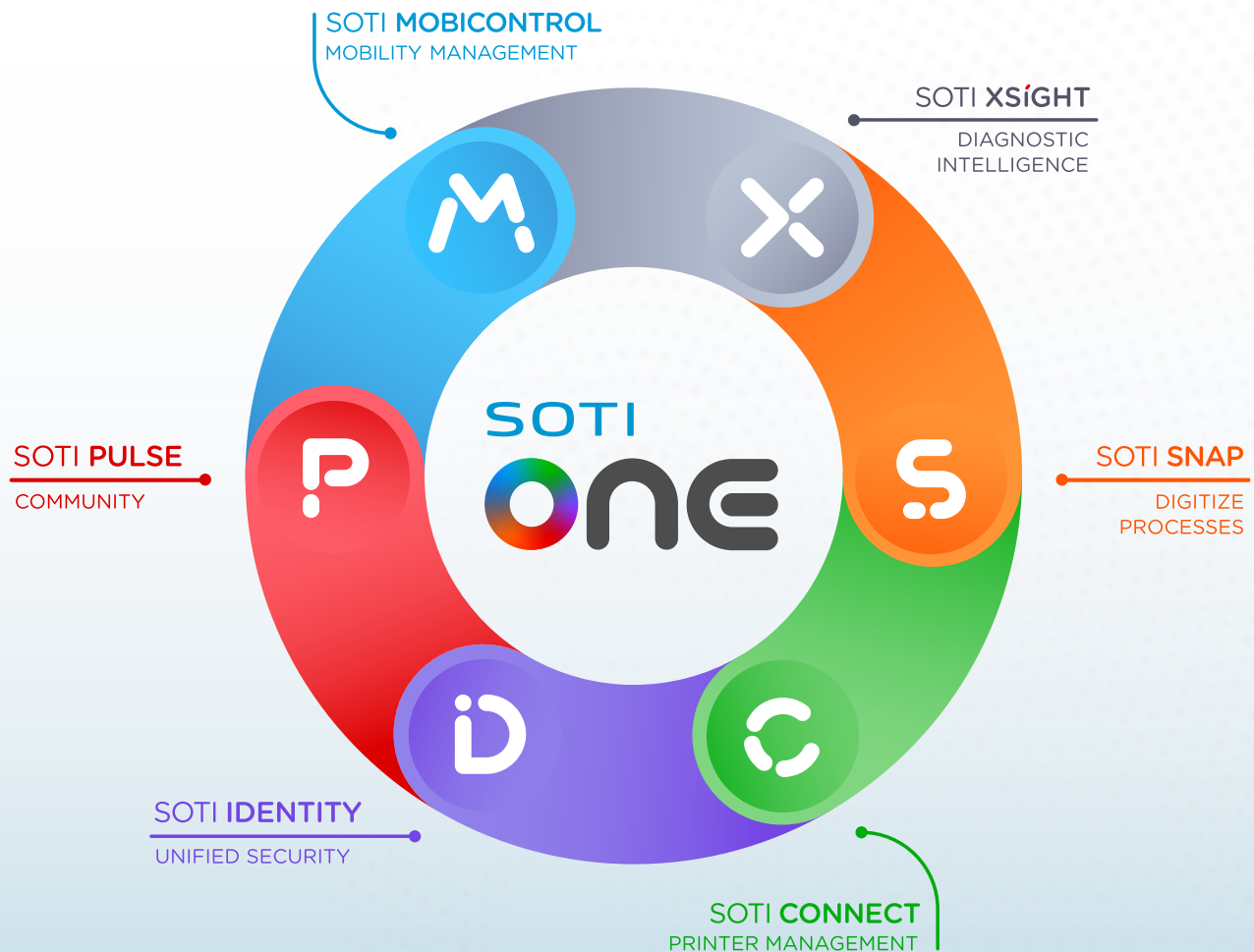
Technology adoption is enabled by the effectiveness of the devices and apps being used, and its success is determined by how they empower and prepare teams to perform in their roles. Emergency service organizations have a major opportunity to get the technology basics right, leverage operational intelligence and make advancements in device capabilities.

Incorporating intelligent functionality into emergency service operations will provide them with real-time visibility and pre-empt potential issues in the field. Now, IT departments in emergency services can provide remote assistance, monitor device battery health and analyze application data in real-time, ultimately enhancing first responders' ability to respond swiftly and effectively to incidents. This will support the digital transformation journey and enhance both employee support and public service.



ABOUT SOTI

SOTI is a proven innovator and industry leader for simplifying business mobility solutions by making them smarter, faster and more reliable. With SOTI's innovative portfolio of solutions, organizations can trust SOTI to elevate and streamline their mobile operations, maximize their ROI and reduce device downtime. Globally, with over 17,000 customers, SOTI has proven itself to be the go-to mobile platform provider to manage, secure and support business-critical devices. With SOTI's world-class support, enterprises can take mobility to endless possibilities.



TO LEARN MORE:

For additional information on how SOTI can set your business up for success, [click here](#).

To learn more about the SOTI ONE Platform, [click here](#).

To find out how SOTI can help with your mobile investments, contact us today at sales@soti.net.

SOTI is a proven innovator and industry leader for simplifying business mobility solutions by making them smarter, faster and more reliable. SOTI helps businesses around the world take mobility to endless possibilities.

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