

SOTI[®]

ONE PLATFORM
CONNECTING EVERYTHING

**A CRITICAL INVESTMENT:
TAKING THE PULSE
OF TECHNOLOGY
IN HEALTHCARE**



WELCOME

Is the healthcare industry in good health?

The industry has been through a lot in recent years. The COVID-19 pandemic has pushed the limits of people and institutions, exposing areas that were already in need of an overhaul, further demonstrating a need for innovation.

Innovation, particularly in healthcare, is always a loaded topic. Very few sectors evolve and improve at the pace of healthcare when it comes to direct patient treatment – equipment, devices, medicines. Yet, when speaking with IT professionals across the global medical community, you do not immediately get the impression they are at the forefront of an out-of-the-box, blue-sky transformation.

Leveraging this research, SOTI sought to identify the gaps within the industry from a digital and mobility standpoint through the eyes of those who see the industries' strengths and weaknesses every day.

This year 1,300 respondents from across the Americas, Europe and Australia were asked about the digital devices and services they crave, the devices and services they are enjoying, the challenges brought on by new integrations and their long-term vision for their industry with a common goal of improving patient care.

The results present something of a paradox. Frustrations come from a lack of innovation and the integration of new technologies, most frequently in the form of downtime and security concerns. One thing they all have in common is they want more from the technology already in place.

There seems to be a realization that short-term hurdles will lead to a smoother journey for the industry if workload burdens are lifted. This can be achieved through improved remote monitoring. As always, it is not that simple – patient data being more accessible via interconnected devices or patient care communication being streamlined via IoT and telehealth tools will also help alleviate these issues.

As many countries escape the eye of the pandemic storm, those on the frontline remain concerned by short-term challenges brought on by digital intervention. Despite this, they remain more dedicated than ever to realizing the long-term benefits of digitization in healthcare. However, there is a long way to go and a lot of work to do before those benefits are realized.

Shash Anand

VP of Product Strategy, SOTI



“Frustrations come from both a **lack of innovation and the integration of new technologies**, most frequently in the form of downtime and security concerns.”

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A GLOBAL BREAKDOWN



INTERVIEWS WITH
1,300
IT DECISION-MAKERS

SOTI's research spanned 1,300 respondents across the U.S., Canada, Mexico, UK, Germany, Sweden, France and Australia.

26%

worked in a clinic across disciplines such as mental health, neurology and physiotherapy

36%

worked in a hospital providing frontline patient services

15%

worked for healthcare providers of direct-to-patient remote or telehealth services

23%

from general medical practices across specialisms such as general practitioners and family doctors



A regional breakdown of those surveyed can be found below, highlighting the balance of IT's current representation in the sector.



NORTH AMERICA
Opposing Trends

Only 26% of IT professionals come from hospitals in the U.S., exceeded by 32% from general medical practice. The data in Canada is similar.



MEXICO
The Most Clinical

Almost half of Mexico's respondents (49%) operate in frontline clinics (mental health, physio, etc.), while general medical practice has lower representation than even direct-to-patient services.



UK
An Even Spread

The UK has the smallest gap of representation across frontline hospital (24%), general medical practice (28%) and frontline clinic IT professionals (32%).



CENTRAL EUROPE
A Clear German Priority

Germany's 78% of IT professionals based in frontline hospitals was the highest of any standalone representation. Across Germany, Sweden and France, only France (18%) has more professionals in direct-to-patient remote or telehealth services beyond 10%.



AUSTRALIA
The Global Trailblazer

While still not the most prominent sector for IT, Australia's 23% of direct-to-patient remote or telehealth organizations is 5% more than the next highest nation, France.

KEY FINDINGS

98%

Almost all clinics providing frontline patient services have implemented IoT/telehealth medical device capabilities.

78%

More than three-quarters of IT professionals in organizations providing direct-to-patient remote or telehealth services agree their organization would benefit from heightened interconnectivity.

73%

Almost three-quarters of organizations provide data security training to all staff handling patient data, although this leaves more than one-quarter still not agreeing with this statement.

70%

Almost three-quarters of organizations have experienced a data breach or leak since 2020, emphasizing wider security concerns in play across the sector.

64%

Nearly two-thirds of healthcare settings have started to explore synchronous IoT/telehealth medical devices since the start of the COVID-19 pandemic.

53%

A current frustration around new IoT/telehealth medical devices is the regular downtime that occurs, resulting in delays to patient care for over half of healthcare organizations.

21 days

The average number of working days lost to device downtime per employee annually.



KEY TERMS

TELEHEALTH Connecting patients to vital healthcare services through videoconferencing, remote monitoring, electronic consultations and wireless communications.

IoT IN HEALTHCARE Remote patient monitoring through connected devices.

SYNCHRONOUS HEALTHCARE

Real-time, virtual, direct-to-patient appointments or consultations.

mHEALTH WEARABLES Smart watches or fitted devices that continuously monitor health metrics including sleep, heart rates, menstrual cycles, etc.



CHECKING FOR VITAL SIGNS OF DEVICE ADOPTION IN 2 CRITICAL AREAS

Before deliberating on how the healthcare industry could be doing more to digitize operations and improve patient care, it is important to understand the current state of the industry. The extent of device implementation across the entire medical field is a strong indicator of digital maturity, and it seems there have been two key target areas for the industry recently.

Remote health monitoring and digital recordkeeping represent both sides of the healthcare workload. Being able to, in real-time, transfer patient health information while also giving individuals a sense of control and visibility over their well-being is a game-changer and a top priority.

The pandemic highlighted the need for such insight and forewarning when not sitting directly opposite a patient. Recent journals have affirmed remote monitoring helped combat COVID-19 itself, reducing the need for those that were ill to enter medical spaces if their progress was being tracked digitally.

Perhaps more COVID-agnostic is the topic of digital recordkeeping. Ensuring ease of access, information security and connectivity of patient records across devices and locations relies heavily on seamless data flows. And yet – potentially because of security fears – widespread device uptake is still not being seen.

Ultimately, the extent of device use is an indicator of any organization's digital intentions. Therefore, it is promising to see 98% of healthcare providers are improving internal and external communications by turning to IoT and telehealth solutions. It is the pace of change that differs across these two critical areas.



REMOTE HEALTH MONITORING

- 70% use devices for remote health monitoring.
- 68% of both hospitals and general medical practices and 66% of clinics providing frontline patient services conduct sessions remotely.



DIGITAL RECORDKEEPING

- 57% of clinics providing frontline patient services have digital recordkeeping, compared to 52% of hospitals.
- Only 40% of general medical practices store patient records digitally.

98% of healthcare providers have implemented IoT/telehealth medical device capabilities.

DIAGNOSING DIGITAL MATURITY: HEALTHCARE'S 3 STAGES OF SERVICE DEVELOPMENT

MATURE SERVICES

66% of organizations provide synchronous IoT/telehealth medical devices including video call or live chat software.

Leading Exponents Sweden (83%); Mexico (77%); Australia (77%); U.S. (71%)

63% of organizations use store-and-forward IoT/telehealth devices, allowing data to be collected, securely stored in the Cloud and retrieved remotely.

Leading Exponents Mexico (81%); Sweden (81%)

55% of organizations provide patients with wearables for remote patient monitoring (RPM).

Leading Exponents Sweden (79%); Germany (66%)

BURGEONING SERVICES

49% have invested in mHealth wearables for specialized health services, which feed into patient records.

49% document all patient records digitally.

46% offer RPM through non-wearables such as apps.

SERVICES GETTING STARTED

36% use mHealth self-diagnostic apps to track mental well-being or specific daily symptoms.

36% provide digital medical imaging systems.

29% utilize radio frequency identification (RFID) readers to store and retrieve data across devices.

Digitized services are at varying stages of use across the healthcare sector and we see blueprints in place indicating more widespread adoption in the future. Sweden has set a tone for improved communication between carer and patient and within the medical ecosystem itself. Being able to remotely monitor patient health, manifest data and securely store that data across disparate devices is an example other nations should follow, regardless of the sub-sector.



WAS THE PANDEMIC A CATALYST FOR DIGITIZATION?

SOTI's research sought to gauge the pace of change when it comes to digitization and mobility in healthcare. It would be remiss not to explore the role of the COVID-19 pandemic as a potential catalyst or accelerator.

64%

While most other digitized services had been put into commission before the pandemic, synchronous IoT/telehealth medical device provision has jumped from 35% pre-2020, to almost two-thirds (64%) since COVID-19 struck.

50%

Momentum of RFID adoption since the pandemic has also remained consistent, with 50% deploying globally, both before and after COVID-19. A heightened ability to store and retrieve data across devices, through RFID, has been most pronounced in Sweden, with 88% of adoption occurring since early 2020.

72%

Almost three-quarters of professionals believe new technology investments are necessary to prepare for future crises.

The pandemic sparked an acceleration in the adoption of some devices, but perhaps it is more reassuring that most solutions were already in the crosshairs of the sector prior to 2020. This suggests a more sustainable approach to digital transformation, but more is required.

Respondents earmarked further new technology investments to enhance patient care levels (68%) and prepare for future health crises (72%). On the "patient care" front, 82% of Germany's respondents – and majority of respondents from other countries except for Sweden (approximately 70%) – agreed investments in tech could help improve patient care. In a major anomaly, only 28% of Swedish professionals agreed that new tech investments could enhance patient care levels. More than being an alarming aversion to digitization, it seems more likely that this affirms the country's already established maturity.

When it came to future health crises defense, a similar trend was found, where 33% of Swedish respondents agreed, far below the norm and average, while Germany (88%) seems most determined to add further investments in the fight against unforeseen health challenges.

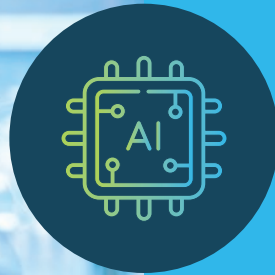


TECH AMBITIONS POINT TO 3 CLEAR PRIORITIES

Nearly three-quarters (73%) of healthcare IT functions said their organization increased its annual technology spend since 2020, but where are the funds being targeted? The resultant devices are one thing, but what are the core goals behind these investments? SOTI unearthed three upshots and advantages the industry is seeking through new digital devices and services.

INTERCONNECTIVITY

- 75% of IT healthcare professionals agree services will benefit from more interconnected medical devices.
- 78% of those offering direct-to-patient remote or telehealth services would benefit from enhanced device interconnectivity.



ARTIFICIAL INTELLIGENCE (AI)

- 72% of IT professionals agree the use of AI in patient care enables medical staff to treat more patients.
- 75% of those in general medical practices agreed using AI in patient care has simplified tasks, allowing medical staff to treat more patients.

DATA MANAGEMENT

- 94% agree digital patient recordkeeping will either save time, improve recording or enhance data sharing.
- 76% believe digital recordkeeping improves data security or reduces the likelihood of a breach.



DEALING WITH DOWNTIME: THE CONSTANT BATTLE AGAINST TIME

Where is productivity being lost? Is outdated tech to blame?
Are new devices seen as a fix or a contributor?

60%

Almost two-thirds of IT professionals in general medical practices/clinics say their organization experiences downtime with IoT/telehealth medical devices, leading to patient care delays.

92%

Overall, more than 9 in 10 have experienced an issue of some kind, with 58% citing systems not integrating effectively and 52% noting frequent technical issues.

3.5 hours

On average, technical or system difficulties lead to each employee losing around 3.5 hours per week, with 36% experiencing between three to five hours of downtime.

3.6 hours

Both the UK and Australia reported downtime above the global average at 3.6 hours per week.

5.1 hours

Sweden experiences the highest average downtime per week at 5.1 hours.



AN OVERLOOKED CRISIS?

Amid the conversation around the pandemic, the issue of downtime has perhaps been overlooked, or at least underdiscussed. In total, 97% of IT professionals reported time lost to downtime, and only 11% lost less than one hour on average per employee per week. Sweden appears to be struggling the most, given its comparatively high adoption rates of the technologies referenced. Initial integration challenges are possibly to blame here, but perhaps they indicate why the rest of the world has been slow to adopt new innovations. If the highest adopter is experiencing the most downtime, it could dissuade others from following suit as a result.

Weekly downtime affects three countries the most:

- **Sweden** – 240 hours of downtime lost per year¹
- **UK and Australia** – 166 hours of downtime lost per year

This equates to approximately 30 full workdays lost each year for Sweden and just under 21 for the UK and Australia.

One reassuring statistic derives from the fact that these same professionals are still craving further investments, regardless of current downtime frustrations. **Delays with integrations are not putting organizations off from the long-term goal of improving patient care with better technologies (68%).**

¹Calculations consider the average number of working weeks per country, e.g., 47 in Sweden and around 46 in both the UK and Australia and assume a working day of eight hours in each country.



A (LACKING) SENSE OF SECURITY



86% of IT healthcare professionals are concerned about patient information being revealed, lost, accessed or not adequately backed up. A shift to electronic recordkeeping, more frequent app usage, improved security of interconnected devices and higher levels of training are being called for as a result.

At least 57% of IT professionals believe patient data security is more at risk than ever before, while almost half (46%) agree their organization does not spend enough money on patient data security. It is something of a vicious cycle being unlocked, where a lack of patient data protection is likely to result in reduced confidence among patients when sharing their data, ultimately harming the effectiveness of the devices being implemented or the level of personal care provided.

The specific concerns listed by IT professionals highlight why more safe and secure technologies are a must moving forward. These include:

- Patient records being stolen in a cyberattack or hacking (39%)
- Patient information being revealed without patient consent (36%)
- Patient information being lost (36%)

73%

Almost three-quarters of organizations provide data security training to all staff handling patient data, although this leaves more than one-quarter still not agreeing with this assertion.

56%

More than half of IT professionals believe some of their interconnected devices are not adequately secure.

32%

Almost one-third did not agree staff have immediate access to IT support or training apps when IoT/telehealth devices need fixing.

SECURITY WEAKNESSES CAUSE DATA BREACHES

A staggering 70% of organizations have experienced a data breach since 2020, proving security concerns are not without reason. Understandably, IT professionals in healthcare fear history will repeat itself, especially with a rise in new integrations or unfamiliar technologies. However, their hope is these technologies instill confidence rather than detract from it and that integrations become more efficient and robust.

33%

ACCIDENTAL DATA LEAK
FROM AN EMPLOYEE

31%

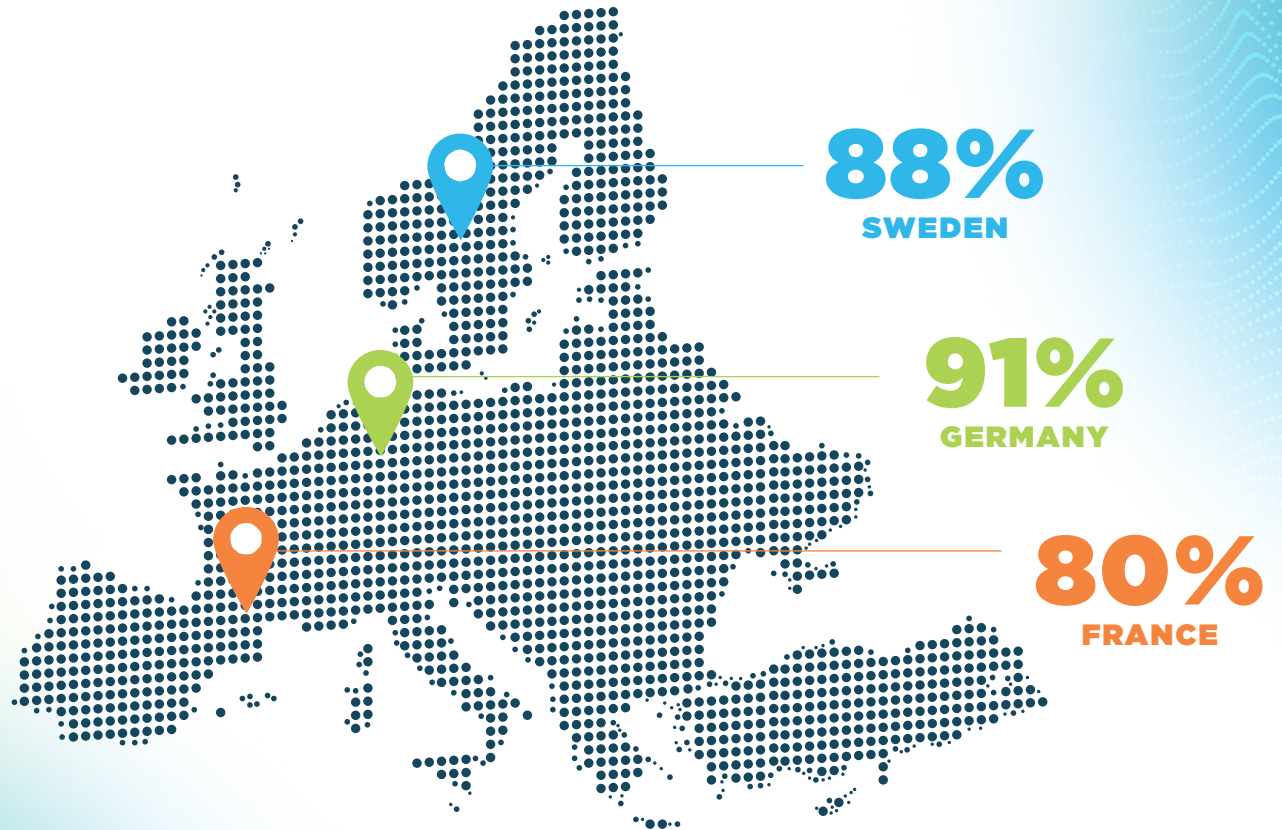
DATA BREACH FROM
AN OUTSIDE SOURCE

29%

DDoS RANSOMWARE
ATTACK

25%

PLANNED DATA LEAK
FROM AN EMPLOYEE



Germany (91%), Sweden (88%) and France (80%) have experienced the most attacks from either accidental employee leaks, data breaches from an outside source, a DDoS ransomware attack or a planned leak from an employee. Hospitals (75%) have been slightly more susceptible than general medical practices/clinics (73%).

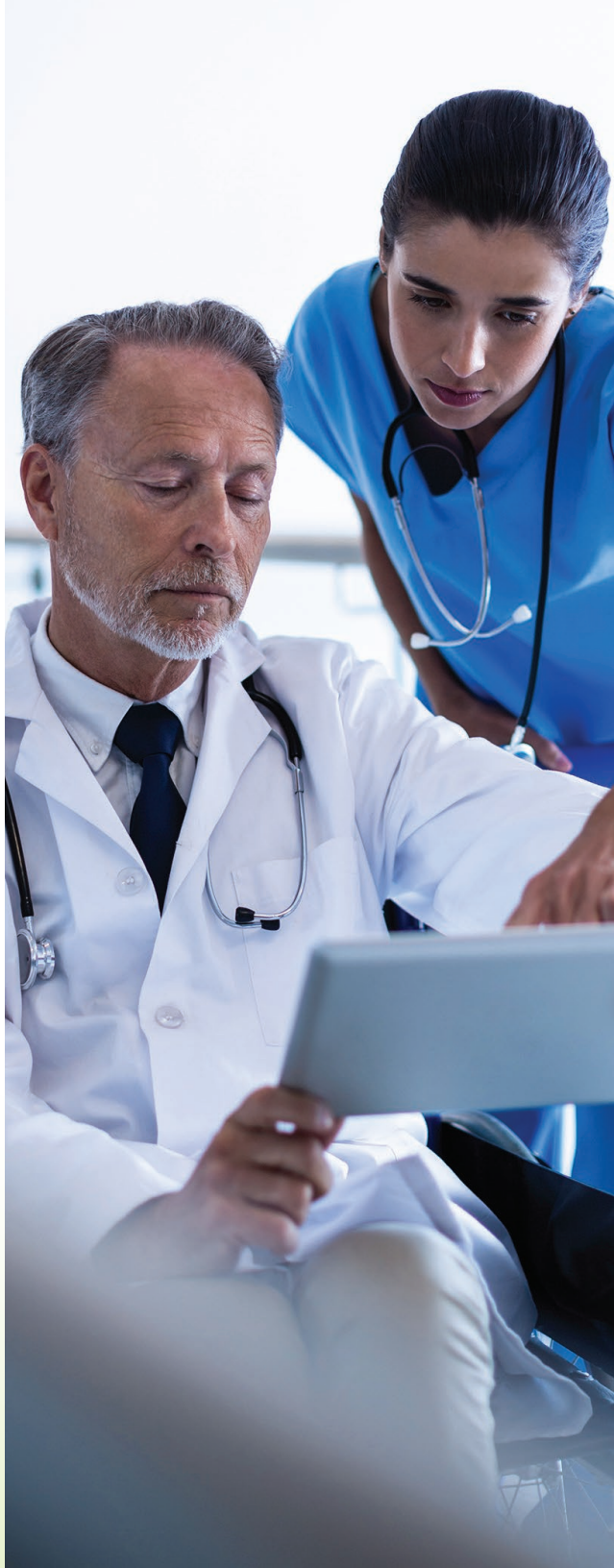
DO RESOURCES ALIGN WITH INTENT?

Data security is understandably a major concern for IT healthcare professionals. The risk of a breach is not slowing down the desire and need for innovation, but it may be reducing confidence in the technologies, devices and services being deployed. Frustrations around downtime, unsuccessful integrations or security lapses are not instilling confidence.

The answer, therefore, is not to curtail this drive for innovation but to ensure the providers being partnered with and the devices being adopted are fit for purpose.

Altering internal mindsets towards improved agility, enhanced training and more widespread adoption will also facilitate an end situation where technology:

- Makes employees' lives easier
- Makes data more secure and accessible
- Allows for improved remote monitoring to reduce time and cost burdens on healthcare institutions
- Ultimately improves the level of day-to-day treatment thanks to a more connected and intuitive network of care.



SUFFICIENT BUDGETS

With all the above in mind, the final obstacle cited by almost one-quarter (24%) of IT healthcare professionals relates to budget restraints. Given the bottlenecks in play, rethinking investments may be the difference between the success or failure of healthcare's future of digitization and mobility.

24% Almost one-quarter believe IT teams spend too much time on minor issues such as fixing printers rather than focusing on larger, more expensive projects - a figure which rises as high as 37% in Australia and 28% among general medical practices/clinics.

21% A further fifth have earmarked technology to overcome a current backlog of patient appointments caused by the pandemic. This is most pronounced in Germany (39%).

13% For some, there is still a lack of investment in overcoming issues surrounding legacy technology. While the industry attempts to find the best way to optimize new technologies, some are only beginning the digital transformation journey.

CONCLUSION

PRESCRIBING TECH AS A LONG-TERM TREATMENT: INNOVATION IN SMALL DOSES IS NOT ENOUGH

Based on this year's findings, a concerted leap of faith is necessary across the global healthcare industry. Issues of downtime and security are clearly linked to integration issues brought on by new innovations. Ironically, it is these same innovations that will help fight against crises of productivity, efficiency and security in the longer term.

It is a leap IT professionals in the sector are more than willing to take. They are the most impacted and presumably the most frustrated by current integration bottlenecks, yet the consensus is they want more technological disruption, not less. The only anomaly on this front is found in Sweden.

Across the board, respondents know what their roles are lacking:

- More seamless interconnectivity.
- Heightened levels of automation.
- Improved data management and recordkeeping.

They know which technologies and devices can improve the situation:

- IoT/telehealth medical devices in the form of video and live chat software.
- Data collection and storage technologies in the Cloud to enable remote access.
- Wearable technologies to facilitate remote patient monitoring for specific, short-term diagnoses.
- mHealth wearables to continuously monitor chronic conditions or well-being metrics.
- Self-diagnostic apps to track specific daily symptoms, including mental health.
- Digital medical imaging systems for enhanced, quicker diagnosis and monitoring.
- RFID to better store and retrieve data across devices.
- Device and data security.





The test now is for decision-makers and the C-Suite to look beyond current integration or downtime challenges, seemingly caused by the introduction of innovations, and instead look to the longer term benefits new technologies can bring. Such frustrations can be navigated by leveraging an Enterprise Mobility Management (EMM) solution. Only when the right technologies and expertise are in place can companies build on investments in mobile technologies and expand capabilities in areas such as data security and device monitoring. Once in place, a future of more precise, secure, productive, data-driven, autonomous, efficient and interconnected processes awaits.

We can already see the benefits of remote health monitoring, mHealth wearables, synchronous telehealth communications and more accessible and transferable patient records. These benefits came in small doses, and occasional injections of pace, such as throughout the pandemic, have helped, but more needs to be done.

The healthcare sector is far from the forefront of digital transformation with growing concerns about a lack of innovation and downtime, as well as security issues. The industry needs to build on the benefits forced upon it during the pandemic and continue to overhaul and innovate its technological solutions if it is to improve patient care. However, as mentioned above, it is not only about implementing technological solutions to improve practitioner and patient care.

It is imperative to have the framework in place to support this technology, particularly in device management, to ensure privacy and security and avoid device downtime.

Now is the time for the healthcare industry to be prescribed a more sustainable course of treatment, a treatment at the hands of technology.

ABOUT SOTI

SOTI is a proven leader at creating innovative solutions that reduce the cost and complexity of business-critical mobility and the IoT. Thousands of companies around the world depend on us to secure, manage and support their mobile operations.

The company's two decades of success has built strong partnerships with leading mobile platform providers and device manufacturers. These relationships give us unparalleled insight into new technology and industry trends before they happen.

A proven innovator, SOTI's clear vision, laser focus and a commitment to R&D has made it the market leader at delivering exciting, new business mobility solutions. SOTI helps businesses 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 and IoT solutions by making them smarter, faster and more reliable. SOTI helps businesses around the world take mobility to endless possibilities.

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