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Transforming the front-line workforce

Enhancing efficiency and safety with next-gen technology

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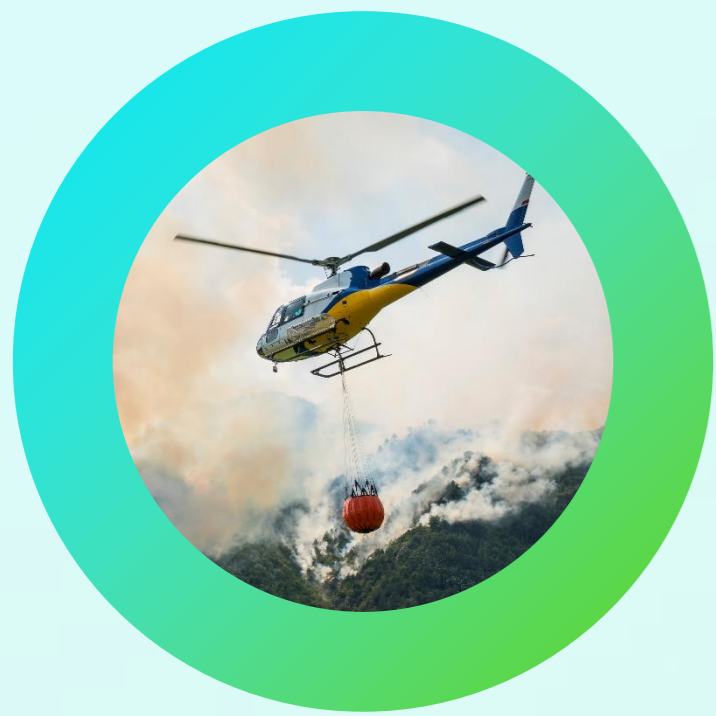
Content

How can you support those on the front-line, making their jobs safer, more efficient and fulfilling? Get in touch

Committing to connecting the front-line

Front-line workers play an essential role in our society. Not just limited to emergency responders, they contribute significantly across various sectors ranging from the retail environment to the justice service. Often, they act as the first point of contact for customers, clients, and the general public, making their roles essential to our daily lives as well as the operation and success of many industries. Globally, approximately 2 billion front-line workers, each serving as the backbone of their respective fields, ensure that key services are delivered efficiently and effectively.

Despite their clear importance, front-line workers are facing significant challenges caused by widespread labor shortages, leading to a cascade of issues that affect both their professional and personal lives. The scarcity of staff results in employees being overworked, contributing to elevated stress levels, and potentially causing work responsibilities to spill into private lives.

Inadequate staffing levels create environments where workers are resourced in potentially hazardous situations, compromising their safety. Moreover, the reliance on manual processes and highly bureaucratic systems further slows down operations, increasing the dissatisfaction front-line workers may already be experiencing. The lack of technological support exacerbates these issues, making the job more challenging and contributing to higher attrition rates.

Almost half (49%) of all front-line retail employees are considering leaving their jobs in the next few months. This isn't just impacting those on the first rung of the ladder. 63% of front-line retail managers are also considering walking off the job.

Learn more about retaining front-line talent amid the great attrition from McKinsey's blog article >

In the healthcare sector, the implications of these issues are even more severe. Tired and overworked healthcare professionals endure significant emotional tolls amidst conditions that can impair their response times and critical thinking in emergency situations, increasing stress, and potentially jeopardizing patient care.
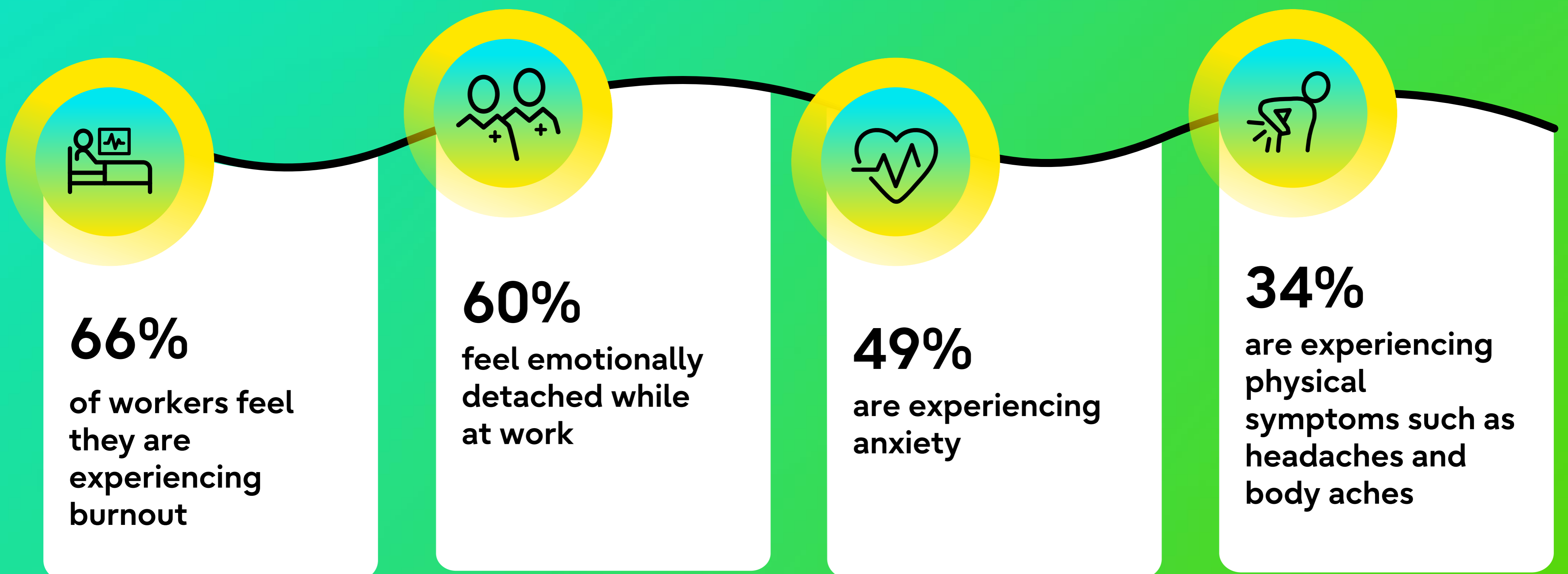
Who cares for the carers?

Take the NHS in the UK as an example, where over 52% of staff are focused on front-line service or directly involved in patient care. The reported level of sickness absence for the NHS in 2022 reached 27 million days, 6 million of which were due to mental health and well-being related reasons.

Medical leave related to anxiety, stress, depression, and other psychiatric illnesses increased by 26% in just three years. Absences which then jeopardize patient care and increase the likelihood of staff leaving for new roles, creating a vicious circle.

The person behind the numbers

When an organization is understaffed for an extended time, service levels drop, errors increase, and employees become frustrated, even resentful. Workers are bearing the brunt of understaffing, leaving them over-burdened, something which impacts not only their job performance, but also their mental health.

Ongoing labor shortages have a tangible, human impact:

66%
of workers feel they are experiencing burnout

60%
feel emotionally detached while at work

49%
are experiencing anxiety

34%
are experiencing physical symptoms such as headaches and body aches

Additionally, the work environment for front-line employees has become increasingly hostile, with nearly three-quarters of retail workers reporting instances of violence, making retail environments a less safe space for employees and customers alike.

Technology as a solution

To address these challenges, organizations are actively seeking innovative solutions to improve the experience for front-line employees, starting with assistive technologies which directly aid front-line workers in service delivery.

Front-line workers in essential services such as transport, logistics, and healthcare understand this need, and are demanding digital solutions to support work tasks, improve efficiency, and enhance public safety. The integration of technology, particularly those that directly support daily work activities such as predictive and automated solutions, offers significant potential to address these ongoing challenges, enabling a more streamlined, effective approach to service delivery.

Think about how video technology could provide early warnings or support accurate digital models to determine correct responses. This could involve spotting the initial signs of a violent encounter, identifying individuals loitering in prohibited areas, or attempted thefts that may otherwise go unnoticed. All of which allow front-line workers to focus their time on higher impact tasks, as well as perform them in a safer environment.

Innovation on the front-line

Addressing resourcing challenges through technological solutions not only benefits workers but can help improve society as a whole. By supporting resource allocation, automating routine tasks, and streamlining incident management, organizations can create a more supportive and efficient work environment that improves customer experience. The results here can be dramatic as companies that spend time ensuring their employees are engaged <u>outperform their competition by 147%.</u>

73% of all people surveyed point to customer experience as an important factor in their purchasing decisions.

<u>**View the full whitepaper 'Experience is everything: Here's how to get it right' from PWC**</u> **>**

1 Overcoming the pain points of the front-line worker

The ability to respond quickly, or even predict events before they occur, is crucial to address existing pain points. Often, these have been exacerbated by siloed or isolated organizational models that lack the necessary level of digital integration.

A common issue that affects all front-line workers – from retail and healthcare to the transport and logistics sectors - is the lack of interoperability and a heavy reliance on manual activities. This results in a disconnected, distributed experience, often involving numerous systems.

Automating what can be automated

Logging manual case notes can be time-consuming for police officers introducing the possibility of issues relating to accuracy or reliability. Here, the use of Generative AI and real-time speech-to-text can be used to identify offenders immediately, as well as provide guidance. By augmenting an officer's approach with AI supported policy advice, we can ensure that communities are protected, and correct process is applied even in highly emotional situations.

Computer aided solutions have the potential to cut through these challenges, automating tasks wherever possible, and detecting problems earlier, thereby prioritizing incident response.

Think of video analysis being used to automatically detect concerning behavior, such as:

- Identifying potential shoplifters based on their behavior and movement
- Spotting scammers in an ATM environment
- Seeing an individual fraudulently slip or fall mitigating false claims
- Highlighting individuals entering restricted areas
- Observing the onset of physical altercations
- Noticing an individual in medical distress and administering treatment quickly.

By integrating technology solutions that incorporate elements of predictivity, organizations can overcome the limitations of existing models, enhancing operational efficiency.

Combining predictivity with reactivity

However, the value of such detection lies in its timing. Often, by the time an incident is detected, it is too late to prevent it.

If someone has fallen in a crowd, immediate intervention might be impossible. But accurate predictive technology can facilitate a quicker deployment of emergency services, potentially mitigating the impact of the incident.

In this context, the predictive and reactive elements of technology are intertwined. Not only can technology help prevent incidents from occurring in the first place, but it can enable a faster reaction time when they do happen.

Every second counts

The transport sector is one area where the value of immediate alerts is clearly visible when it comes to critical events. If a passenger or object is obstructing train tracks, this needs to be identified immediately. Saving seconds for this critical type of incident can literally save lives, either by dispatching an officer to assist, or by alerting the train to perform an emergency stop.

Additionally, the automation of processes helps eliminate human fallibility. Manual processes are prone to errors, and when it comes to ensuring citizen safety or improving customer service, these mistakes need to be mitigated. By leveraging assistive technologies, organizations can enhance their ability to respond to and even prevent critical incidents, thereby improving overall safety and efficiency.

A wider societal impact

Computer aided inspections can identify defects in infrastructure, generate remediation options, and run simulations for the selected solution. This reduces the burden on the individual to conduct time consuming research and manual iterations prior to formulating the required fix.

An energy company can spot issues in their infrastructure reducing the likelihood of outages. Or flood modelling and prediction solutions can determine insurance risks and actuate public safety responses. Put simply, these solutions are not just designed to support emergency services, but for essential workers operating everywhere, from shops, hospitals and the transportation sector to any public service.
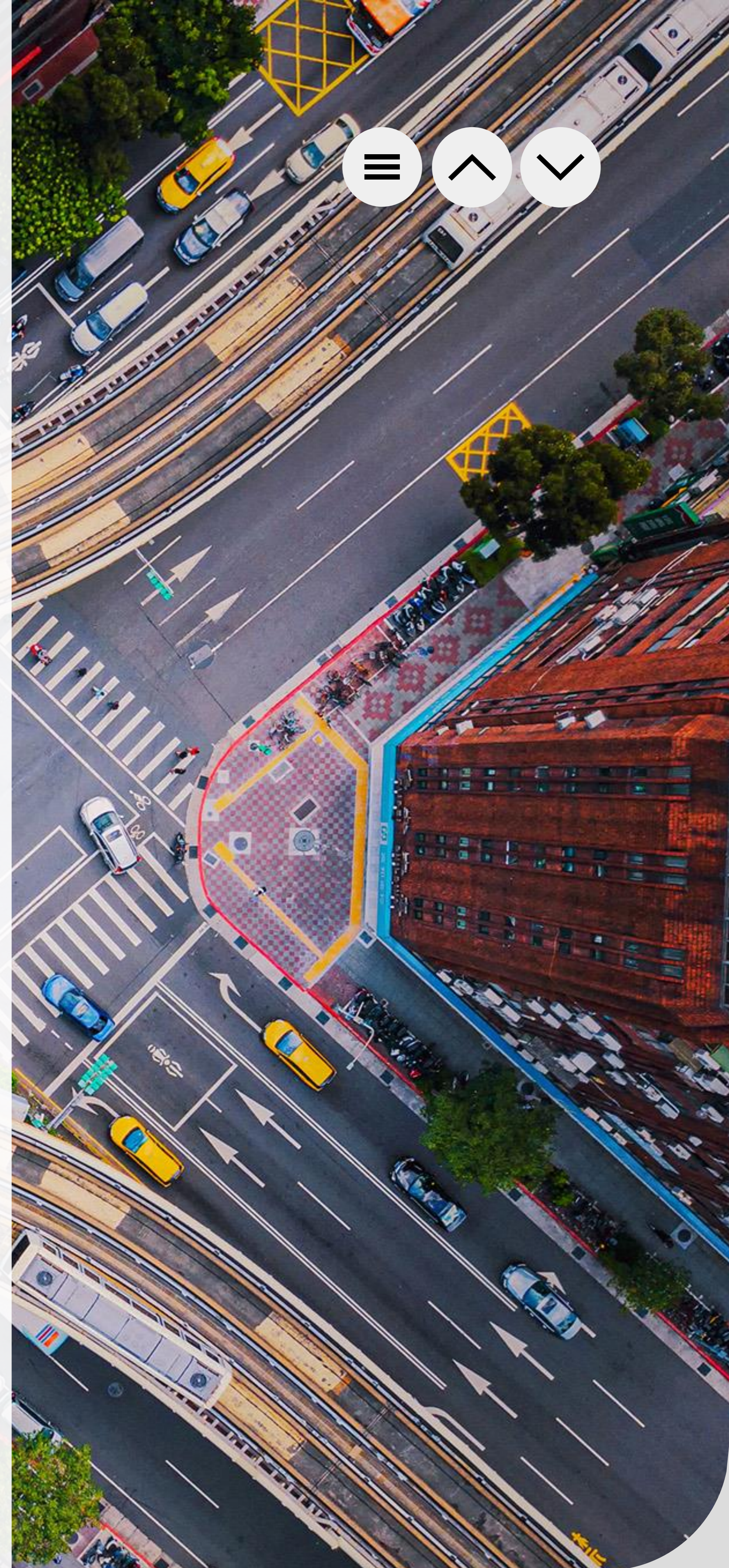
2 Introducing the Fujitsu Connected Front-line Worker portfolio

Fujitsu expertise lies in supporting organizations to overcome critical pain points, particularly through Fujitsu Connected Front-line Worker solutions. These are specifically designed to empower front-line workers to perform their duties more efficiently, safely, and seamlessly. By utilizing these technologies, organizations can enhance public safety, promote digital engagement, and nurture the development of a more sustainable, digitally literate society.

Recognized as an industry leader with a proven track record of innovation, Fujitsu solutions are capable of accurately identifying human behavior. This expertise not only underscores our commitment to technological advancement but highlights our role in setting industry standards for safety and efficiency in front-line operations, ranging from response times in emergency situations to the development of more efficient public and private sectors.

"Front-line workers provide critical services, and enhancing their safety and well-being with innovative technologies can profoundly impact individuals and society. Responding a few seconds faster can save lives, enable earlier intervention, and prevent harm. This is why Fujitsu's Connected Front-line Worker solutions are so essential; we are fully committed to serving both the community and the dedicated individuals within it."

Nick Herbert
Head of Government & Public Safety,
Fujitsu

Case study

Creating safer living spaces with Misawa Homes

Under the concept 'living in 2030', Fujitsu and Misawa Homes have been focusing on the future of housing, where innovations like AI and biometric technologies will seamlessly integrate into living spaces.

This technology for continuous authentication can quickly sense and analyze the movement and actions of people. The newly developed technology uses multiple images to curate a set of non-identifying characteristics like clothing or a person's posture to uniquely tag individuals. All authentication processes run in the cloud, and results are sent to devices installed in a certain area.

By continuously authenticating people and their movements in the surrounding environment, the technology can help detect emergency situations – either injuries to residents or unidentified intruders - to ultimately contribute to safer housing.

In addition to application in living spaces, Fujitsu further aims to apply this technology to various solutions in public spaces, including real time detection of emergency situations.

Learn more about Fujitsu and Misawa Homes in the Fujitsu press release >

Case study

Enhancing traffic safety in busy locations

According to a [2022 study report compiled by the World Health Organization (WHO)](#) 50 million people are seriously injured and 1.35 million die annually from traffic accidents. Hexagon and Fujitsu are therefore working together to improve traffic safety through an application that identifies areas where heavy traffic and road design heighten the risk of accidents. This allows city planners and road administrators to develop safer, more resilient transportation networks.
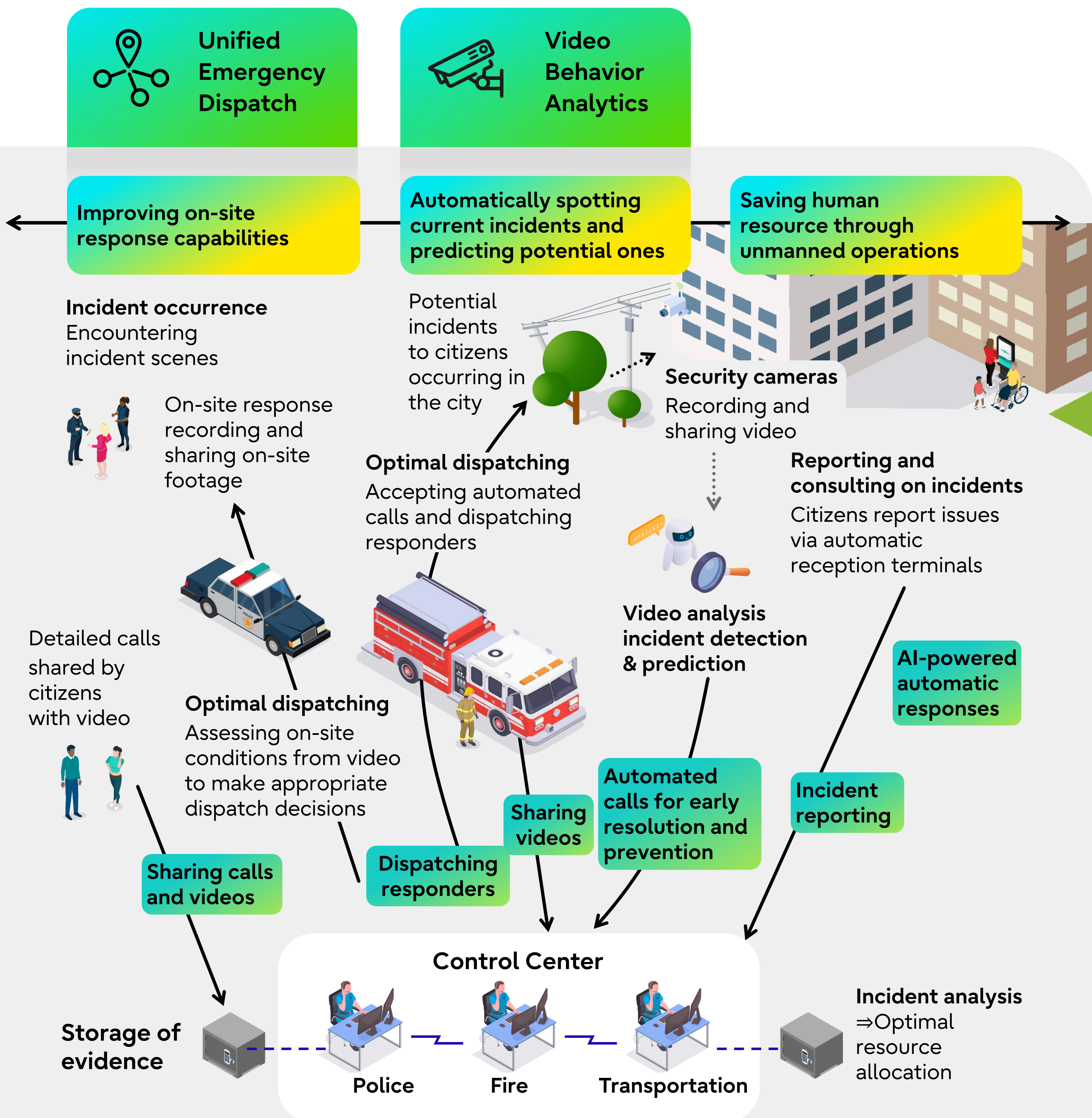
The application visualizes areas with high levels of traffic accidents; analyzing traffic volumes, road design, signs and other factors, to then provide recommendations. For example, in a spot where traffic volume is low, but accidents frequently occur, several improvement measures, such as speed control, installation of warning signs, and separation of traffic routes between pedestrians and vehicles by guardrails, are presented together for a cost-effective solution.

This is being put into practice in Stuttgart, where the Civil Engineering Office will use a SaaS solution to visualize and analyze data from IoT sensors across the city to promote sustainability and enhance quality of life for 600,000 residents. It will provide a common operating picture for monitoring sensor values, such as water quality, flood levels and parking space occupancy, enabling the city to derive insights for optimizing operations and allow them to make more informed decisions.

[Learn more about Fujitsu and Hexagon support to Stuttgart's digital twin platform in this press release](#) >

3 Understanding the Fujitsu Connected Front-line Worker solutions

The central ethos of our solutions is to enhance the security and safety of front-line workers in the field, address labor shortages, and contribute to a more positive work environment. We deliver on these goals through process automation, reliable and early response, safe and secure supervision, and a reduction in incidents and accidents, all of which are delivered through our solutions, which include:

Unified Emergency Dispatch

Video Behavior Analytics

Improving on-site response capabilities

Automatically spotting current incidents and predicting potential ones

Saving human resource through unmanned operations

Incident occurrence
Encountering incident scenes

Potential incidents to citizens occurring in the city

On-site response recording and sharing on-site footage

Security cameras
Recording and sharing video

Optimal dispatching
Accepting automated calls and dispatching responders

Reporting and consulting on incidents
Citizens report issues via automatic reception terminals

Detailed calls shared by citizens with video

Optimal dispatching
Assessing on-site conditions from video to make appropriate dispatch decisions

Video analysis incident detection & prediction

AI-powered automatic responses

Sharing videos

Automated calls for early resolution and prevention

Incident reporting

Dispatching responders

Sharing calls and videos

Control Center

Storage of evidence

Police   Fire   Transportation

Incident analysis
⇒Optimal resource allocation

Unified Emergency Dispatch

Fujitsu next-generation technology supports emergency command and dispatch operations at control centers through automatic detection and prediction of emerging incidents. This reduces the reliance on individual operators, promoting a more consistent response that can be analyzed and optimized, enabling quicker, more accurate reactions that decrease call times.

Additionally, it provides clarity of information in emotionally charged situations, improving user experience and helping put people's minds at ease. Unified Emergency Dispatch also aids in call taking, analysis, routing, and coordination of emergency responses, alleviating the cognitive burden on dispatch coordinators, allowing them to focus on adding value during emergencies.

Example in action – A dispatch coordinator knows where the nearest fire truck with specific equipment is located to attend to a car accident.

With our Unified Emergency Dispatch solution, dispatchers can locate emergency vehicles, removing the responsibility on responders, meaning the right people are in the right place to make a difference during emergencies. This leads to a more efficient emergency service, reducing costs and taxpayer expenditure, allowing funds to be allocated elsewhere in the community without compromising the quality of emergency services.

Video Behavior Analytics

Fujitsu Video Behavior Analytics software provides actionable alerts on safety and security threats using existing security cameras. Unlike other AI-powered safety technology, it tracks human movements, protecting privacy and identifying only those unique behavioral sequences that have been established as being a risk.

Use cases here may include:

- Protecting students and staff within an educational setting
- Reducing physical assaults on healthcare staff
- Tackling theft and improving public safety in retail, transport or entertainment venues

By actively monitoring camera footage, Video Behavior Analytics reliably identifies, analyzes, and alerts security teams to situations that demand their attention, providing them with essential, tactical information and improving situational awareness. Fujitsu unique behavioral analysis gives security teams the insight required to assess incidents, take preventative action and perfect their response on the ground, as well as the historic analytics to optimize everyday processes and procedures.

Example in action – Within a school environment, Video Behavior Analytics is trained to alert security personnel to behaviors of concern such as violence, intruders, or medical emergencies. When security teams simply can't have eyes everywhere, Video Behavior Analytics can reduce the opportunity for crimes to be committed, increase visibility into what matters, and allow early intervention to help prevent incidents from escalating.

Support for improved school safety

Ensuring school safety has become increasingly critical due to incidents involving violence, bullying, and other forms of threats. In response to societal and legislative mandates, both public and private school districts bear a heightened responsibility to implement comprehensive emergency management and threat prevention strategies. These measures are aimed at safeguarding students and staff, emphasizing early detection, prompt notification, and effective crisis response.

Fujitsu has teamed up with a leading public school district in North Texas to integrate its behavioral analytics technology into the district's existing camera network. This innovative approach enables proactive identification of potential threats, empowering security teams to intervene swiftly. Our technology not only enhances incident detection but also facilitates real-time alerts, generates detailed reports, categorizes video incidents for easy retrieval, pinpoints problematic areas, automates compliance documentation, and suggests enhancements. This holistic solution revolutionizes security strategies by equipping security teams with a user-friendly, ready-to-deploy system that supports on-site first responders.

4 Supporting the planet, encouraging prosperity, benefitting people

As the world continues to become more technologically advanced, the solutions used in an intelligent city or venue need to have benefits that extend beyond the immediate setting.

We are witnessing both business and society being transformed by the rapid and constant evolution of technology. At the same time, sustainability has become an increasingly critical global challenge, adding further complexity to the working world.

No single organization or industry can overcome these problems alone. Instead, it is important to create and define a broader ecosystem of partners that supports greater collaboration between governments, companies, and those working on the front-line.

Tackling global environmental issues

Front-line workers are the first people to respond when disaster strikes. With the number of wildfires set to continue rising in coming years, and an estimated 1.81 billion people facing significant flood risk worldwide, the risk to these responders is only set to increase.

Advanced detection technology therefore plays a crucial role by enabling precise identification and modeling of potential flooding events. By integrating meteorological data with real-time information from sensors in rivers, these technologies provide critical insights that inform and improve disaster response protocols.

Additionally, video-based technologies offer a proactive approach to disaster management by identifying wildfires at their incipient stages. Closed-Circuit Television (CCTV) cameras equipped with advanced detection capabilities can spot potential fire incidents early, facilitating timely interventions through early warnings.

The deployment of such technologies significantly reduces damage to property and infrastructure, safeguards communities, and saves lives, both of the citizen and the front-line worker. By leveraging these technological advancements, we not only enhance disaster preparedness and response, but also contribute to the broader objectives of environmental sustainability and resilience.
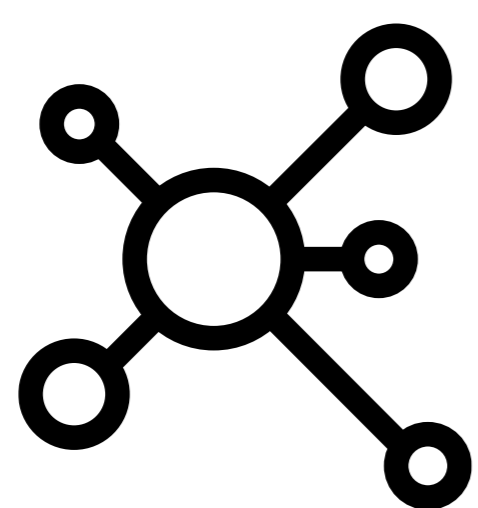
In recent Fujitsu research, 44% of the 'Change Makers' say they use interconnected data, combined with advanced technology, to simulate and predict future scenarios.

Learn more about the 'Change Makers' in Fujitsu SX Survey 2024 – Charting a course for change >

Reducing emissions by smoothing traffic flows with AI analysis

Montréal is deploying a Fujitsu intelligent city AI solution to analyze the traffic flow of around 2,500 traffic lights to make informed decisions, helping the city take quick and decisive action to proactively reduce traffic-related issues before they occur. The result is smoother traffic flows, less congestion, and reduced air pollution. It also helps the city plan service maintenance routes for snowplows and other vehicles more effectively during extreme weather events.

To learn more about how we use AI analysis with the City of Montréal read our case study >

Developing a digital society

At Fujitsu, the future we envision aligns with the goal of a sustainable society where no one is left behind. It's a world where people, regions, organizations, and devices are connected and where innovation thrives.

But achieving this must be done while securing the integrity of data, ensuring the ethical use of AI, and closing the digital divide. By providing equitable access to government systems, individuals can receive essential services regardless of their location, promoting inclusivity and fairness. A significant consideration in this endeavor is the ethical deployment of AI and automation. This involves rigorous testing to identify and mitigate potential biases, such as inadvertent discrimination against wheelchair users in transportation settings.

Solutions must be designed to benefit everyone, necessitating transparency from organizations about their processes and methodologies. By prioritizing inclusivity in design and implementation, we can ensure that technological advancements serve the diverse needs of the entire population, contributing to a more just, equitable society.
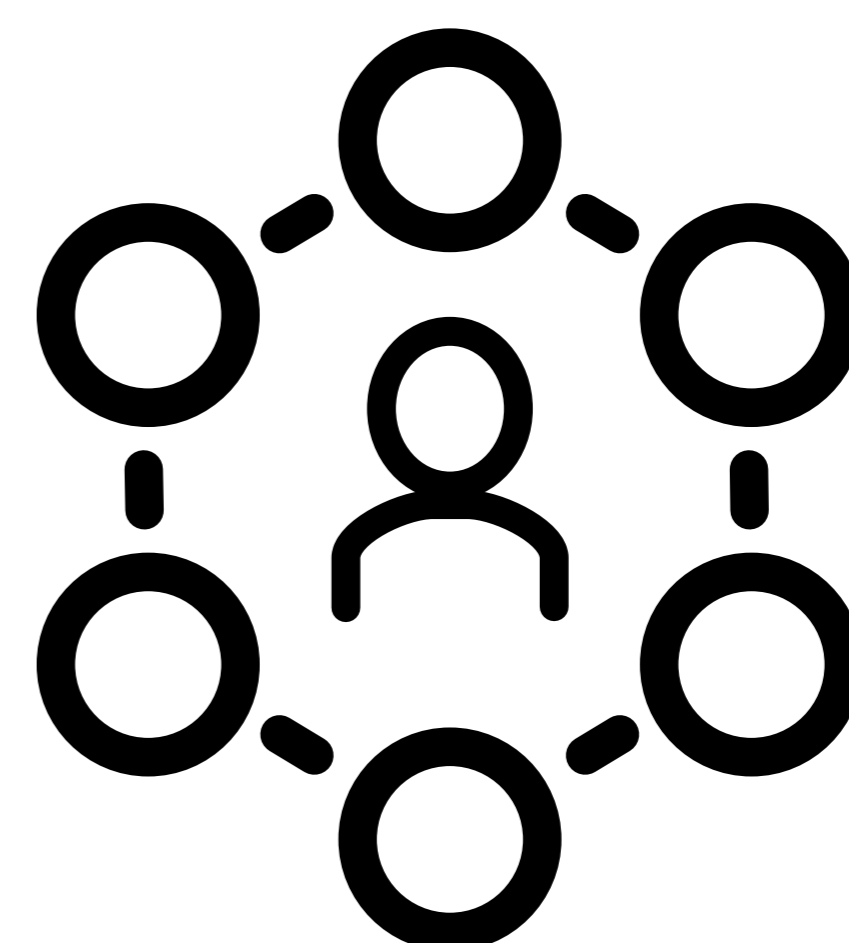
Our ethical approach to innovative technology

Fujitsu prioritizes safety and security when it comes to our AI systems. Our External Advisory Committee on AI Ethics provides valuable recommendations. Before deploying AI solutions, we assess their ethical impact using our AI Ethics Impact Assessment tool to ensure we can offer a commitment to trustworthy AI.

To learn more about Fujitsu AI Ethics and Governance visit our webpage >

Improving people's well-being

Technology must serve as a net-positive force, enhancing well-being across society. By equipping, connecting, and making front-line workers more responsive, we can significantly improve societal outcomes. An important aspect of this is the support for upskilling, such as enabling police officers to gain experience and understanding in biometrics and facial recognition technology, thereby enhancing community safety.

The citizen-centric nature of these solutions is paramount, ensuring they provide reliable, consistent, and effective value to the community. The primary motivation behind developing and designing these technologies is to benefit people, making their communities safer, more enjoyable, and more prosperous. By focusing on these goals, technology can truly enhance the quality of life for all members of society.

Designing proactive digital services

Helsinki is developing enhanced data capabilities, to identify different life situations and deliver proactive services and information, as well as stimulate business activity and growth. This will support the development of new services to effortlessly anticipate and meet the particular needs of the residents, enabling the city to see and deal with problems before they happen. As people feel more connected and involved, the city and all who live in it will see greater advances in prosperity, education, health, and sustainability.

Fujitsu is built around connecting people, technology and ideas, so working with the City of Helsinki team was an ideal fit. When the Digitalization Program was set up in 2019, Fujitsu was a core partner in giving Helsinki the solid digital foundations it needed to grow. This created a new kind of service organization, with centralized information security, infrastructure, and network services, as well as common IT support for all the city's businesses and industries. Working with Fujitsu, the City of Helsinki is showing how digitalization can help cities be connected on a more human level.

Read our City of Helsinki case study to learn more >

5 What does the next-generation of the front-line workforce look like?

Presently, the world is at a tipping point, one where the AI revolution, the sustainability challenge, and the role of the individual intersect. Within this intersection however, there is a unique opportunity for us to build a different future, one that supports workers rather than replaces them, one that empowers them rather than restricts them.

The convergence of human expertise and technology presents unparalleled opportunities for value creation within organizations. This synergy between human intelligence and next-gen technology is set to transform productivity and creativity, fostering a society where the individual comes first, well-being is prioritized, and personal creativity flourishes.

For front-line workers, technology presents a transformative opportunity. By automating routine tasks, it allows workers to focus on higher-value, more engaging responsibilities. This shift not only enriches the professional experience but also fosters a more thoughtful and creative work environment. Embracing these innovations paves the way for a sustainable, digitally inclusive, and safer future, where the relationship between worker and technology maximizes the potential of both.

Creating a more sustainable society

The central benefits of innovative technology extend to both workers and society, driving increased community safety and well-being, improving public services, and enhancing digital capabilities. These advancements pave the way for a more digitally literate and sustainable society.

Predictive simulations empower front-line teams to anticipate and adapt to changing circumstances swiftly, enabling real-time, flexible responses. Furthermore, management and support functions are evolving to provide better data-driven coaching and oversight, encouraging personal development, and limiting churn. By understanding and addressing these front-line challenges, we can foster greater autonomy and effectiveness among workers, turning what may have once been considered a job into a career opportunity.

Embracing this future requires a commitment to continuous learning and adaptation. Yet, the rewards are immense: a more resilient, innovative, and responsive workforce capable of driving sustainable value creation and addressing the pressing challenges of our time. The path forward is not without its hurdles, but the potential for generational impact is boundless, promising a future where human and technological collaboration leads to unprecedented progress and prosperity for the individual, and society as a whole.

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How can you support those on the front-line, making their jobs safer, more efficient and fulfilling?

Get in touch with Fujitsu to get started.

Learn more about our solutions:

Connected Front-line Worker >

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