HOW TECHNOLOGY IS TRANSFORMING THE GOLDEN HOUR

REAL-TIME DIGITAL VOICE AND DATA EMPOWERS EMS TO IMPROVE PATIENT OUTCOMES WHILE INCREASING RESPONDER SAFETY

MAXIMIZE THE GOLDEN HOUR:
SAVING SECONDS MEANS SAVING LIVES

The "Golden Hour" typically refers to the time frame identified by medical and Emergency Medical Services (EMS) professionals as the crucial period in which beginning-of-treatment for heart attack and stroke victims should occur for greatest chance of survival. EMS professionals recognize that no matter what the emergency – whether heart attack or stroke or injuries due to accident, fire, street violence and more – every second is invaluable. The ability to arrive on scene quickly and immediately establish a bi-directional exchange of information between the incident scene, doctors and the hospital emergency department is critical in saving lives.

22%
INCREASE IN EMERGENCY DEPARTMENT VISITS OVER THE LAST DECADE
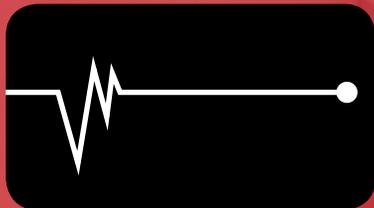
1,000
NUMBER OF LIVES LOST EACH DAY DUE TO SUDDEN CARDIAC ARREST

22 MILLION
PATIENTS TREATED BY EMS EACH YEAR

FORMIDABLE CHALLENGES

Today, in communities all over the country, from 9-1-1 calls to community welfare checks and medical follow-ups, greater demands are being placed on EMS at the very time budgets and workforces are shrinking. To speed response, improve outcomes and save more lives, the overarching challenge is to empower emergency medical first responders with real-time communications and information sharing with hospitals, doctors and other public safety agencies. And, patient health isn't the only concern. EMS must also provide for improved first responder safety; the sad fact is, emergency medical personnel are three times more likely to lose their lives in the line of duty than the national average.

ADD DATA TO MISSION CRITICAL VOICE

Successfully meeting these challenges means that while having public safety grade two-way voice communications remains essential, in many incidents, emergency medical responders also need immediate access to relevant data. When integrated with mission-critical voice, real-time data provides the incident and patient information needed to meet community expectations and improve response, treatment and responder safety.

MAXIMIZE RESPONSE EFFORTS

When the EMS dispatch center receives notification of an emergency, the challenge is to respond as quickly as possible. The center must be able to quickly determine the closest available unit with the types of equipment and personnel that are needed on the scene. That's where data makes the difference. Real-time status and GPS location information improves overall operational awareness for dispatchers and supervisors to speed the response to those in need.

REAL-TIME TREATMENT SUPPORT

EMS is also challenged to support emergency medical teams in every aspect of medical care. An essential factor in achieving higher levels of support is making information available to the right person, when and where they need it most. Responders can arrive at better decisions when they have fast, secure access at to a broad range of information at their fingertips to help identify the patient and their medical history.

SPEED TREATMENT WITH A VIRTUAL ON-SCENE PRESENCE

Certain situations require a higher degree of collaboration between onsite responders and doctors – collaboration which is difficult, if not impossible to achieve without real-time data capabilities. Voice, data and video all combine to give doctors a virtual onscene presence to better assess the patient's condition, access vital signs and guide treatment at the scene and during transport. This advance look also saves time by allowing a hospital to prepare resources, call in specialists and evaluate treatment options, all prior to patient arrival. Upon arrival, a more seamless hand-off from EMS to hospital saves additional precious seconds, leading to better patient outcomes.

FASTER, INFORMED RESPONSES
CREATE IMPROVED OUTCOMES

Public safety grade communications enable EMS to speed response and meet their goals of reducing the time for treatment to begin, resulting in improved outcomes and survival rates. Our Connected EMS solutions give your emergency medical responders real-time access to crucial patient information and situational conditions, empowering them to make faster, smarter decisions prior to arrival, on the scene and en route to the hospital.

PROCEED WITH INTELLIGENCE

End-to-end emergency response systems allow you to communicate directly with emergency responders wherever they are and with other jurisdictions for major event collaboration and support. They make it possible for your command and control center to provide information from a variety of inter-agency sources — law enforcement, fire, 9-1-1 calls, NG9-1-1 texts, streaming video from dashboard and body-worn cameras and many more. They enable the center to see vehicle capabilities and inventories to dispatch the most appropriate, available resources and distribute relevant data and video to enhance situational awareness and patient treatment. Medical facilities can provide current bed availability and available care specialties, reducing the time it takes to select the right hospital for treatment. Networks and sensors also help you meet the challenge of bringing together all the elements of an incident to deliver a common operational view for the entire EMS team.

Just as critical, digital voice and data technologies serve as a highly reliable communications lifeline for EMS first responders. For example, if responders become involved in a traffic accident while en route to the scene, telematics data such as crash notifications, airbag deployments, or GPS location data can help ensure a prompt response. Unfortunately, a disturbing but unavoidable fact of emergency medicine is that response teams have increasingly become at-risk targets of violence. Monitor situations through live video from body cameras while biometric sensors monitor responders' vitals and proactively warn of a responder in distress. Most important, first responders can instantly report possibly dangerous situations with the confidence that their voice communications will always be clear and understandable, and will never fail to get through to incident command, police and other public safety agencies who can respond with immediate backup.

CONNECT WITH THE COMMUNITY

Our solutions also help responders tap into their best source of intelligence, community-based data. Metrics from remote sensors, texts and posts on social media such as Facebook® and Twitter®, and video from citizen cell phones, street, parking lot and business cameras are all valuable, but with more data becoming available every day, the challenge is how you make sense out of the chaos that comes from disparate sources to better, anticipate, predict and respond. Motorola's multimedia solutions aggregate and analyze data, turning it into mission-critical intelligence that can be shared with everyone on the team, including law enforcement, fire, local hospitals and trauma centers, wherever they happen to be.

MANAGE THE COMPLEXITY

With more information comes new challenges. Advances in digitally-driven communications and data streams require a comprehensive approach. Networks, services, devices and applications all have to work together to help you overcome the complexity of this new and growing information environment.

Network operations must maintain the highest levels of performance, reliability and security to handle an ever growing need for information. Public safety works faster, safer and smarter with intuitive, purpose-built, secure devices with mission critical capabilities not available on consumer-grade smart-phones.

Integrated multimedia operations and command solutions ensure fast, thorough end-to-end emergency response… from allocating resources and optimizing routing to collaborative patient examination and treatment en route to seamless handoffs from the ambulance to the emergency department medical team.

> **"FIRST RESPONDERS CAN INSTANTLY REPORT DANGEROUS SITUATIONS AND GET IMMEDIATE BACKUP."**

IMPROVE OUTCOMES

Deliver information when and where it is needed. The continuous flow of life-saving communications, information and intelligence provided by today's mission critical communications leads directly to significantly improved responder safety, faster response times, more effective emergency treatment and better patient outcomes.

STAY IN FRONT OF
PATIENT CARE

In emergency medicine, patients' medical conditions from initial first responder assessment to transfer to the ambulance to transport to the trauma center – are subject to rapid change. High-speed public safety grade voice and data communications enable the entire emergency team – including first responders, doctors and hospital personnel – to monitor and understand the inbound patient's status and participate in treatment every step of the way.
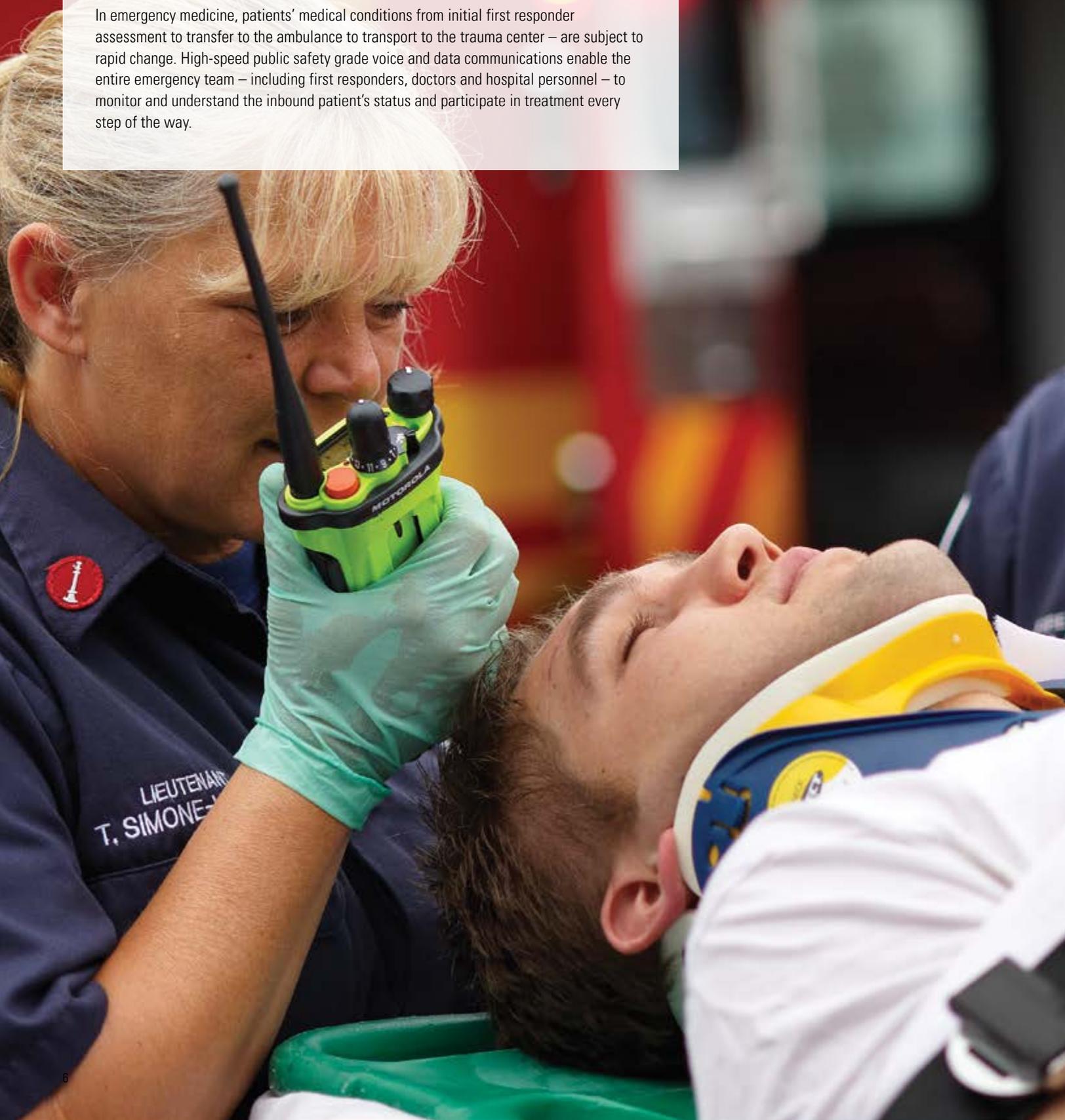
SAFER, MORE EFFECTIVE RESPONSE SAVES LIVES

As your trusted partner, Motorola supports EMS with powerful solutions that provide the entire emergency medical team with real-time, actionable intelligence. Our innovative, highly reliable networks and devices are purpose built to deliver EMS-centric solutions, empowering emergency medical teams to save lives under the most difficult, pressure-ridden, life-and-death situations.

Our EMS connectivity technology streamlines integrated, inclusive real-time mobile communications with every member of the response and treatment team. Team members can be located anywhere and everywhere – in the command and control center, in ambulances and other vehicles en route or on-scene, in the emergency department of the hospital, and, in the case of doctors and specialists, wherever they happen to be at the moment. Our solutions create a virtual on-scene presence focused on saving lives, where team members collaborate by accessing and sharing information on easy-to-use multi-function radios, smartphones and other advanced hardware and software solutions.

APX RADIOS FOR RELIABLE EMS LIFELINES

When you're responding to an emergency call, your radio is your patient's lifeline to life-saving treatment. It's also your lifeline to safety and security. That's why in emergency medicine every two-way radio conversation is crucial. Motorola APX™ portable radios provide leading-edge noise suppression technology, so that every responder can be sure that his or her calls will be clear and understandable even under chaotic, noisy conditions. APX radios are ergonomically designed to be easy to use even in difficult environments. They're also ruggedized to withstand the hazards of field use from drops to excessive heat or cold to immersion in water. APX radios also enable EMS to utilize voice and data, and offer interoperability for communications with agencies in other communities and jurisdictions.

LTE CONNECTIVITY WITH LEX HANDHELD DEVICES

In today's world, it's a necessity that emergency medical responders have mobile access to high priority LTE broadband data. This enables the team to stream real-time video, provide urgent updates to dispatch and command and control, and have interoperable push-to-talk capability. Motorola's LEX L10 handheld is designed to help you take maximum advantage of multimedia-rich applications that provide efficient, productive, collaborative mission support en route to the site, on-scene and in transport to the hospital or trauma center. Advanced video capabilities provide a shared view of an incident with high-quality streaming video, hardware-accelerated 3D graphics. LEX devices are powered by a dual-core processor, and feature a long-lasting battery that lasts through the entire shift.

WAVE WORK GROUP COMMUNICATIONS

Our WAVE™ technology is a breakthrough communication interoperability and broadband solution that enables simple, secure and affordable push-to-talk (PTT) capabilities. WAVE empowers every member of the response team across the continuum of care to instantly connect with each other, or with specific work groups via PTT. It eliminates boundaries and delivers real-time voice and data securely over any network using any device, including two-way radios, smartphones, laptops, tablets, rugged handhelds and landlines. Members of your emergency medical team can use devices they already have and networks to which they already subscribe to have PTT connectivity with hospital staff, specialty doctors and other individuals, both inside and outside your radio communication system.

COMMANDCENTRAL INFORM

EMS first responders in the field want the ability to get information without the need to switch between multiple applications. Our CommandCentral Inform solution is a cloud-based mobile application that enables you to deliver relevant information to EMS personnel in the ambulance or on scene, no matter what smart device or network they're using. It gathers and organizes contextual information from multiple databases, and enables you to organize and map the data. Using its layer approach, you can have a single view of an incident that shows the location of people, resources, events, alerts and developing situations, fostering better decision-making, streamlining multi-agency collaboration and improving patient outcomes.

TURN DATA INTO SAFETY

Smart Public Safety Solutions transform your ever-growing data sources into a force multiplier enabling fast, accurate emergency response. Realize new ways to keep workflows simple and intuitive while improving situational awareness and patient safety and survivability. From answering thousands of emergency calls and text messages to processing video and patient records, Smart Public Safety Solutions integrate your command center, field EMS personnel and citizens for streamlined operations at an affordable cost.

CRITICAL COMMUNICATIONS SOFTWARE HELPS AIR EVAC LIFETEAM DELIVER FASTER AND MORE RELIABLE CRITICAL CARE IN RURAL AMERICA

Air Evac Lifeteam is the largest independently owned and member-supported air medical service in the U.S. The physical limitations of their radio network were becoming a liability, with multiple stations, consoles and dispatchers in play, and no inter-service interoperability or system survivability. Big issues were at risk: critical patient care and the organization's financial health. WAVE Work Group Communications helps Air Evac Lifeteam affordably achieve near-unlimited scalability, greater efficiency, extensive communications interoperability and system redundancy.

INSTANT DISPATCHER ACCESS

Flight crews use their radios to communicate directly with the initiators of emergency calls and receiving hospitals (on radios, cell phones and analog phones), ensuring the direct transfer of information to improve patient outcomes.

IMPROVED DISPATCH OPERATIONS

Air Evac Lifeteam established a 1:1 ratio of dispatchers to consoles. Every dispatcher can instantly access any helicopter and their radio from a single PC console, improving operations while minimizing costs.

NETWORK SURVIVABILITY

Implementation of a new network architecture allows for a redundant dispatch center that ensures far-reaching continuity of operations.

NEXT GENERATION TECHNOLOGY IMPROVES EMERGENCY SERVICES FOR ORLEANS PARISH COMMUNICATION DISTRICT

Orleans Parish Communication District (OPCD) is the emergency call administration center for New Orleans, Louisiana, a city with approximately 370,000 citizens and host to millions of tourists each year. OPCD handles more than 1 million 9-1-1 calls annually, routing requests to police, fire, and emergency medical services (EMS) personnel in the field. OPCD decided to implement a CAD system with NG9-1-1 integrated call control. The new integrated PremierOne™ CAD system consolidates multiple police, fire and EMS data streams into a single 9-1-1 call system. It features a data warehouse for quick access to incident history and pulls everything together into a single application data display. The system automatically routes incident reporting to the most appropriate dispatchers, and continually updates situations as they progress, pushing data to the field on tablets and mobile computers.
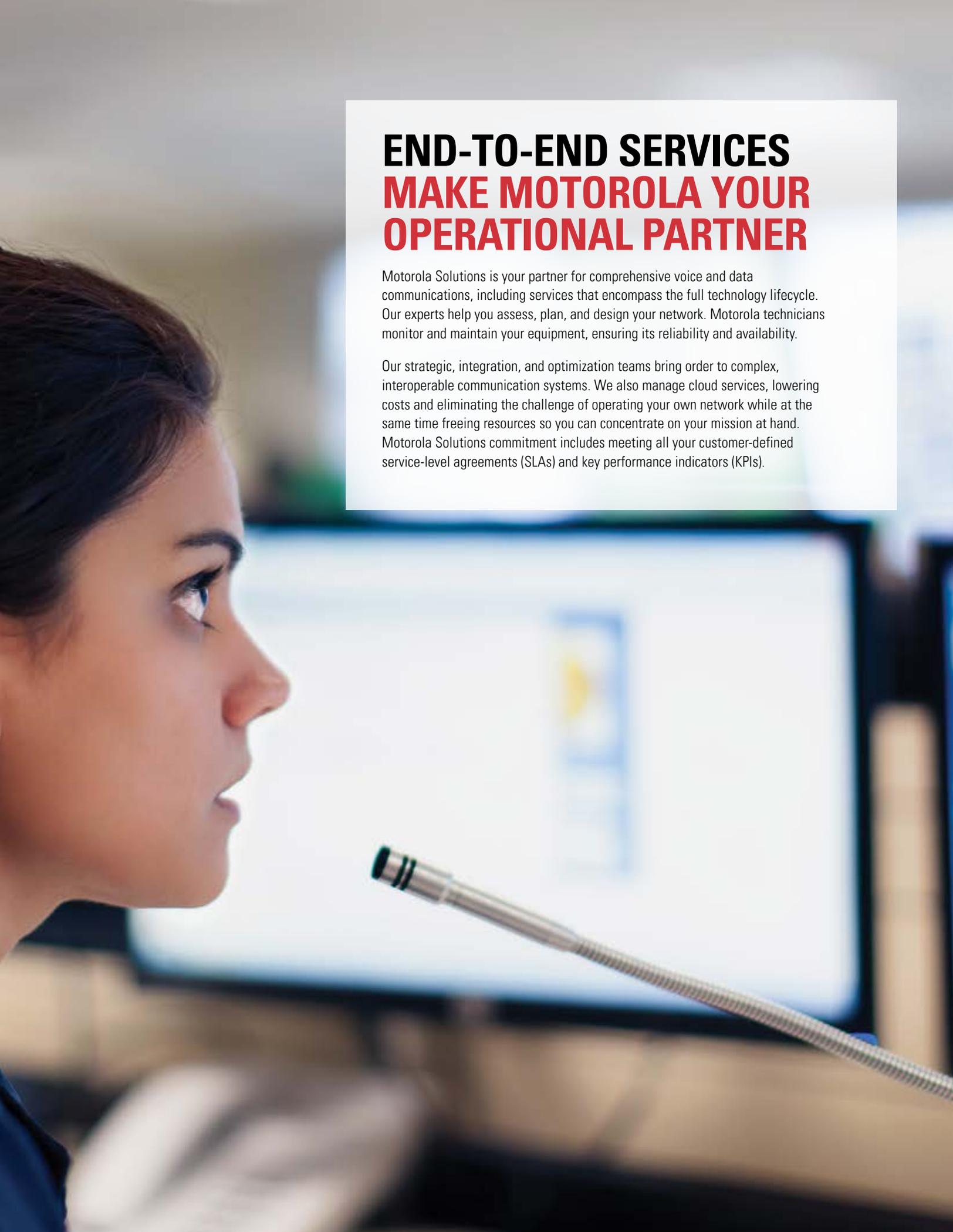
END-TO-END SERVICES
MAKE MOTOROLA YOUR OPERATIONAL PARTNER

Motorola Solutions is your partner for comprehensive voice and data communications, including services that encompass the full technology lifecycle. Our experts help you assess, plan, and design your network. Motorola technicians monitor and maintain your equipment, ensuring its reliability and availability.

Our strategic, integration, and optimization teams bring order to complex, interoperable communication systems. We also manage cloud services, lowering costs and eliminating the challenge of operating your own network while at the same time freeing resources so you can concentrate on your mission at hand. Motorola Solutions commitment includes meeting all your customer-defined service-level agreements (SLAs) and key performance indicators (KPIs).

To learn more about how Motorola Connected EMS solutions can improve patient outcomes and increase responder safety visit **motorolasolutions.com/fireems**.

MOTOROLA SOLUTIONS