

SERVICES FOR MISSION-CRITICAL OPERATIONS

MAXIMIZE THE VALUE OF YOUR
TECHNOLOGY ECOSYSTEM

WHITE PAPER



MOTOROLA SOLUTIONS

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For public safety agencies tasked with mission-critical operations, assuring peak system performance is critical. Efficient and cost-effective management of an ever-evolving technology ecosystem is complex, requiring the right set of expertise and tool sets.



DEALING WITH COMPLEXITY IS A 24/7/365 MANDATE

Many traditional communications and mission-critical systems are transitioning from being hardware to software-centric, expanding the IT footprint far beyond where it was even a few years ago. In addition, public safety agencies have experienced a rapid infusion of new technologies such as body-worn cameras, new software platforms and video analytics.

Agencies are saddled with legacy, outdated systems and insufficient IT resources, including both staff and budget. 40% of an agency's computers may be over seven years old and running decades old software.¹

Add it all up and agencies are struggling with increasing technology complexity, without the means to adequately manage it. The stakes for public safety organizations trying to keep up are only getting higher.

Natural disasters. Terrorism. Cyber attacks. In 2018 alone, there were 315 natural disasters globally that each caused billions of US dollars in damages.² In just one recent hurricane, Motorola Solutions tallied 500,000 system events in 48 hours from our customers' public safety systems that were in the path of the storm. In 2019, there were hundreds of mass shootings across the globe, with that number increasing at a rapid pace each year. Recent cyberattacks have held city governments' data hostage, costing them millions of dollars to get their systems up and running again. This is just a small sample of the threat environment public safety agencies must operate in.

When lives are at stake, you need to overcome these challenges and ensure the uninterrupted availability and peak effectiveness of mission-critical communication systems.

AGENCIES ARE SADDLED WITH LEGACY, OUTDATED SYSTEMS AND INSUFFICIENT IT RESOURCES, INCLUDING BOTH STAFF AND BUDGET.

OVERCOME COMPLEXITY. ACCELERATE PERFORMANCE. MANAGE COSTS.

Complexity, performance, and cost. Any plan to ensure mission-critical performance must start with managing these three critical factors. To do so, you need a unified management platform across your entire public safety technology ecosystem including networks, radios, software applications and video intelligence.

OVERCOME COMPLEXITY

Today's mission-critical ecosystem is a set of sophisticated IT-interdependent technologies, including command center software, video cameras, two-way radios, site controllers, routers, LAN switches, servers, dispatch consoles and more. Each component has its own unique level of complexity and lifespan.

When this ecosystem is comprised of disjointed pieces with differing management needs, it creates inefficiencies, makes updating overly complex and introduces multiple points of failure. Gaining operational efficiency and increased visibility into an ever-evolving technology ecosystem requires an integrated approach to system management.

70% of complex technology implementations fail or are challenged.³

Disconnected systems and multiple touchpoints create inefficiencies and multiple points of failure.

ACCELERATE PERFORMANCE

For mission-critical public safety agencies tasked with saving lives, accelerating performance starts with ensuring system availability, resiliency and responsiveness. Any downtime is simply too great a risk to the public and agency personnel.

As public safety systems become more software-centric and IP-based, downtime can be caused by any number of issues, including cyberattacks, software bugs, manual configuration problems and outdated software. Add in the possibility of physical harm to systems from storms or attacks and an "always-on, always-secure system" becomes an increasingly difficult task.

53% of network outages are caused by natural disasters.⁴

Increasing number and intensity of natural disasters are putting stress on the network like never before.

MANAGE COSTS

Overcoming system complexity and availability are essential, requiring the right skill set and expertise. Developing the right capabilities also requires budget levels that many agencies are challenged to meet. Increasing cost pressure continues to put relentless pressure on existing resources.

The budget constraints are driving the need for a predictable cost model to support and sustain the technology ecosystem. Not to forget, that lowering the total cost of ownership continues to be one of the top priorities for agencies.

40% of city CIOs cite insufficient budgets and IT resources as a significant barrier to their objectives.⁵

Agencies are facing relentless pressure to do more with less.

Given these obstacles, what's the best path forward for you to ensure peak performance for your mission-critical technology ecosystem?

The answer is clear. Your agency needs access to end-to-end mission-critical capabilities and expertise, from technical support, to system monitoring and management services, to cybersecurity solutions that span the entire technology ecosystem including radios, software applications, video analytics and security. You may already have mission-critical best-in-class technologies. However, the real value of your investments can only be unlocked with the right combination of in-house skills, managed and support services. Today, this combination of the right technology solution, paired with the right service delivery model, is the foundation of successful technology implementations.

HIRING AN EXTERNAL SERVICE PROVIDER CAN EMPOWER YOUR TEAM WITH HIGHLY SPECIALIZED TALENT, INDUSTRY-LEADING PROCESSES, ONGOING TRAINING AND CUTTING-EDGE TOOLS.

PARTNER WITH A TRUSTED SERVICE PROVIDER

The potential benefits of pairing your mission-critical technology ecosystem with end-to-end services can only be achieved by selecting the right provider—one that can demonstrate the value of seamless orchestration of people, processes and tools to successfully deliver on these capabilities. While it's possible to institute the right processes, hire the right people and secure the right tools in-house at your agency, it can be highly challenging and costly.

Your agency is rightly focused on its core mission, not the detailed upkeep of IT and mission-critical systems. Hiring an external service provider can empower your team with highly specialized talent, industry-leading processes, ongoing training and cutting-edge tools. Plus, partnering with the right service provider can help reduce the total cost of ownership for your mission-critical systems. There are key factors to consider when selecting a service provider.

DEEP MISSION-CRITICAL SKILLS AND EXPERIENCE

Having domain expertise around traditional two-way radio systems is a baseline requirement for any service provider. That expertise should extend to managing change, cloud-based solutions, new machine-learning and artificial intelligence technologies, security, software and video solutions and most importantly successfully managing integration across all of these platforms. The service provider should be constantly investing in knowledge sharing, training and communication of best practices to ensure that their skill set stays sharp and is always relevant.

ALIGNMENT WITH INDUSTRY-LEADING ITIL FRAMEWORK

Like any other IT system, your mission-critical ecosystem requires adoption of an ITIL-based approach to service management that focuses on aligning mission-critical services with the needs of an organization and adopts an agile approach to change management. Leveraging the principles of the ITIL framework your service provider should follow detailed processes, procedures, tasks, and checklists that can be applied towards service design, service transition, service operations and continual service improvement.

FLEXIBLE CONSUMPTION MODELS

A one-size-fits-all approach simply doesn't work for today's agencies. A service provider must have deep expertise across all delivery models, including in-house, managed services, and cloud-based or hybrid as-a-service consumption models. They should structure that expertise to uniquely meet your specific business needs.

VISIBILITY AND CONTROL

Working with a service provider does not have to mean losing control or visibility. The right service provider will partner with you to define and execute service-level agreements (SLAs) that align with your business outcomes. These can range from response times to system availability and capacity. Any provider should always allow you to have granular visibility into your system health including networks, radios, software applications and security. Service providers can offer this access through a secure web-based portal, giving you an easy to access, end-to-end view of your system.

AUTOMATION FOR SYSTEM MANAGEMENT

A forward-looking service provider understands that it is important to transition from a break/fix methodology to a proactive approach that emphasizes problem prevention and continuous improvement. Investing in sophisticated automation and analytics technologies can make system and security management more predictive and prescriptive, driving faster and more efficient resolution of system issues.

CENTRALIZED DELIVERY COUPLED WITH LOCAL EXPERTISE

A service provider with global capabilities can learn from diverse customers across the globe, constantly improving service delivery governance, platforms and processes. At the same time, local expertise and community presence ensures compliance with specific regulatory and legal requirements. You are best serviced by providers offering a combination of both. Global coverage also lays the foundation of a rich data lake that constantly helps improve machine-learning models driving automation.

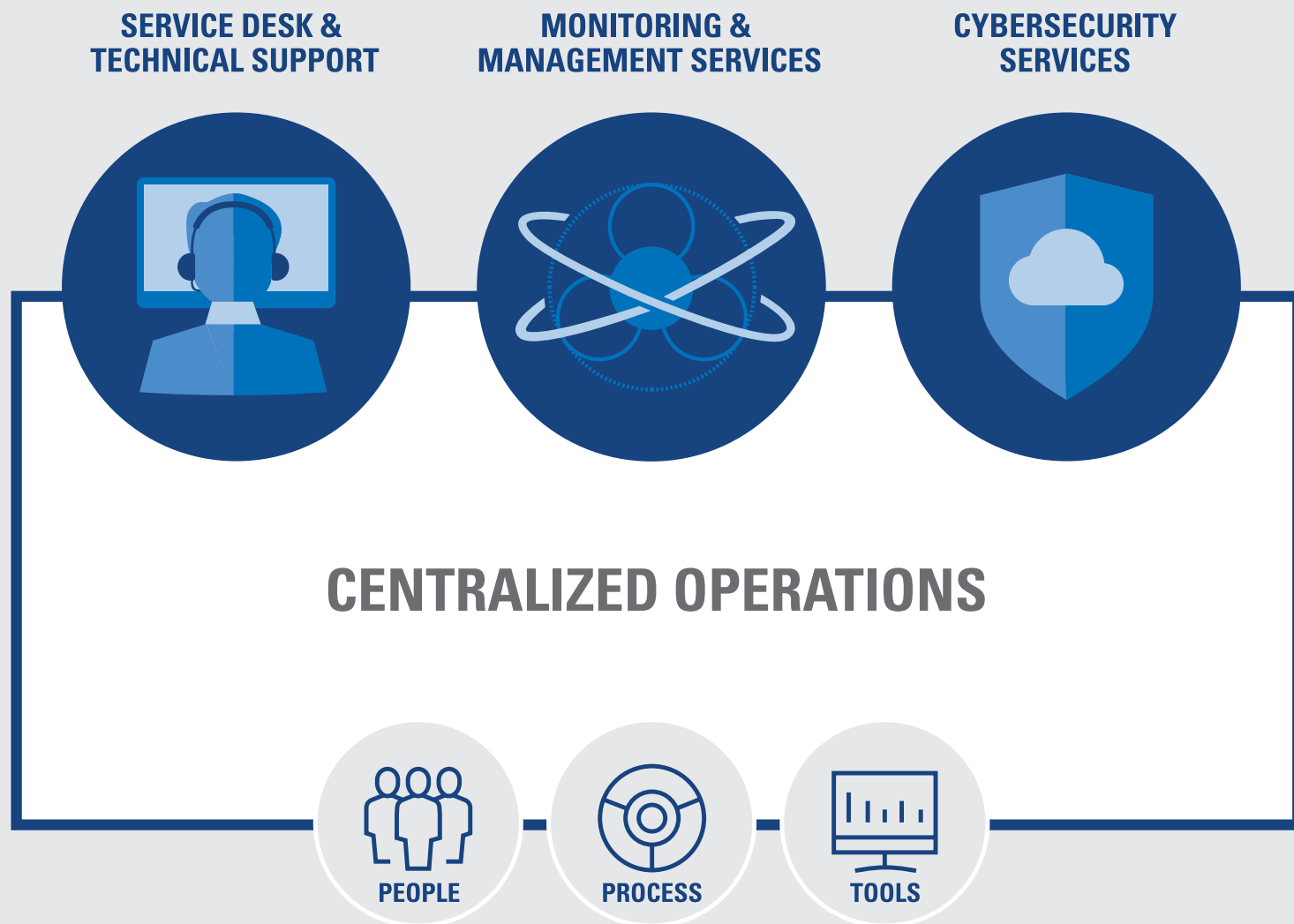
RESEARCH AND DEVELOPMENT DRIVING INNOVATION

Working with a service provider should be a long-term strategic partnership. You need a forward looking partner that continuously makes informed investments in new technologies and transformative strategies. These investments are what allow them to deliver the most innovative solutions that align to your business needs.

PARTNERING WITH THE RIGHT SERVICE PROVIDER CAN HELP REDUCE THE TOTAL COST OF OWNERSHIP FOR YOUR MISSION-CRITICAL SYSTEMS.

TRUSTED MISSION-CRITICAL SERVICES FROM MOTOROLA SOLUTIONS

Motorola Solutions manages your entire mission-critical ecosystem, with technical support, monitoring and management, and cybersecurity services, centrally delivered with the right combination of people, process and tools.



SERVICE DESK AND TECHNICAL SUPPORT

Motorola Solutions Technical Support services provide on-site and remote support for technical issues arising from devices, infrastructure, applications and video cameras. Our specialists offer specific troubleshooting capabilities, leverage a rich knowledge base and are skilled in diagnosis and swift resolution of system performance and operational issues. We provide industry-leading tools and have well-defined processes to record, monitor, escalate and report technical service issues.

With state-of-the-art diagnostic equipment, repair tools and replacement parts, you can receive the peace of mind that all of your agency's radio and infrastructure components are protected in the event of an unexpected failure and are back in operation as soon as possible. When serviced, all system components

are returned to you with original factory specifications and updated with the latest firmware. Plus, our service centers are certified to comply with ISO9001, ensuring the highest quality repairs. We also offer accidental damage coverage, so damage from water, chemicals or physical abuse are never a concern and your repair and replacement costs are fixed and predictable.

Preventive maintenance on your system components, including two-way radios and network equipment, ensures you can extend the life of your systems. From physical inspection and cleaning of radios to component alignment of the network equipment, we ensure that the system components remain in top condition with the latest firmware and updates.

MONITORING AND MANAGEMENT SERVICES

Motorola Solutions Monitoring and Management services include a wide range of capabilities that help you ensure mission-critical availability, responsiveness and resiliency.

To prevent network outages, we offer robust and proactive network infrastructure monitoring and incident management services from our Network Operations Center. Our network management capabilities can automatically detect and identify network issues in minutes. Our automated network monitoring, coupled with a seasoned team of network engineers and technicians, ensure that complex network issues are resolved as quickly as possible. Advanced reporting services provide near real-time visibility into network performance and capacity while continuous data analysis improves ongoing system management, preventing issues by addressing their root causes before they impact network performance and end users. We are looking to adopt a similar approach for monitoring the health of video cameras and two-way radios.

Our Network Operations Center plays a critical role during an emergency or disaster-related major event, such as political conventions, natural disasters and catastrophes that have a direct or potential impact on customers' systems. In these instances, multiple teams within Motorola Solutions are activated for real-time, hands-on support and communication.

We also specialize in Lifecycle Management services that help you maintain and secure your systems. These services address technology refreshes, while enabling security and ongoing system availability and resilience. They include software maintenance, system upgrades and ongoing lifecycle management. Periodic technology updates are provided for base stations, site controllers, routers, LAN switches, servers,

dispatch consoles, operating system software and more, so your system stays current and future-proof.

In addition, our Device services ensure all your two-way radio communication needs are met, with a full range of device programming and provisioning services. These services include radio management software licensing, on-site set up and training, database hosting and access to a management portal that helps you maintain visibility into your devices. With constant technology, software and security feature updates, you maximize the performance of your radios.

Our expert teams of field service engineers are always ready for all on-site incident restoration efforts utilizing sophisticated service fault diagnostics and resource management tools to manage service restoration. Our technicians will ensure that the network performance sustains operational standards, with guaranteed restoration times adhering to established service level agreements.

OUR NETWORK MONITORING CAPABILITIES CAN AUTOMATICALLY DETECT AND IDENTIFY NETWORK ISSUES IN MINUTES.

CYBERSECURITY SERVICES

Our Cybersecurity services approach follows the National Institute of Standards and Technology (NIST) Cybersecurity Framework, to help you manage your cyber risk awareness, detection, response and recovery. We closely follow leading governance and oversight strategies throughout the product development, implementation and operational support lifecycle.

We help your agency assess risk by inventorying critical assets and systems, then providing a thorough risk analysis and vulnerability assessment. Next, we develop a roadmap and strategy to deploy new policies and procedures, introduce protective tools and implement appropriate access and auditing controls.

It is well known that security patching is the first and best defense against cyber attacks. We work with you to identify the gaps around your system patches. All hardware and software assets, network and communication flows and dependencies are identified, mapped, classified and managed according to criticality. As new patching needs arise, they are tested and deployed within the network.

WE CLOSELY FOLLOW LEADING GOVERNANCE AND OVERSIGHT STRATEGIES THROUGHOUT THE PRODUCT DEVELOPMENT, IMPLEMENTATION AND OPERATIONAL SUPPORT LIFECYCLE.

Our continuous 24x7x365 security monitoring capabilities can automatically detect system abnormalities, allowing you to take action faster. Our security experts assist in restoring functionality with recovery plans uniquely tailored to your organization and use lessons learned to inform the process from the start.

INDUSTRY-LEADING NIST CYBERSECURITY FRAMEWORK



IDENTIFY



PROTECT



DETECT



RESPOND



RECOVER

Assess risks

Inventory critical assets and systems

Provide a thorough risk analysis

Develop safeguards

Develop policies and procedures, introduce protective tools

Implement appropriate access and auditing controls

Make timely discoveries

Continuous monitoring 24/7/365

Enable auditing capabilities

Take action

Establish a robust response plan

Create, analyze, triage and respond to detected events

Restore functionality

Institute a recovery plan

Create improvements to prevent future attacks

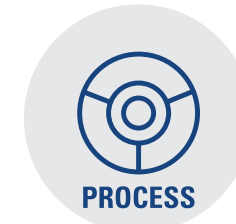
EXPERTS TO HELP BUILD IT RIGHT - TOOLS TO PROTECT THE MISSION - SERVICES TO SUPPORT THE LIFECYCLE

CENTRALIZED OPERATIONS

Our service delivery model is enabled by seamless orchestration of people, process and tools.



PEOPLE



PROCESS



TOOLS

We bring years of mission-critical expertise with personnel that stay sharp through comprehensive, ongoing training, knowledge sharing and communication of best practices. Project Managers, Service Delivery Managers, System Technologists, Network Engineers, Security Specialists, Data Analysts and Field Service Managers hold top industry certifications and work hand-in-hand to ensure system availability, performance and security.

We have unparalleled experience working with agencies around the globe to design service delivery strategies that successfully support mission-critical operations. We are aligned with the principles of industry recognized ITIL management practices, Service Design, Service Transition and Service Operations within our public safety service delivery framework. This methodology further brings a culture of continuous improvement to service delivery and performance.

We have invested in industry-leading tools that apply analytics, accelerate machine learning and drive automation. These tools, together with a rich data set, make the management system more predictive and proactive while augmenting decision making. From network operations, to system updates or security operations, automation and analytics accelerates service response and scales operations so they can manage the peak load of a catastrophic event such as a hurricane.

INDUSTRY-DEFINING TALENT

“Our job is to ensure that the first responders are able to respond and rescue to minimize any damage to life and property. We prepare our field teams with the right ammunition to face the next big thing during a crisis. And when the next big thing does not happen, is when we know that we were well-prepared.”

Kevin Sweet
Motorola Solutions NOC Manager

With 15 years of experience developing and managing mission-critical systems, Sweet supported Hurricanes Katrina, Harvey, Barry, Irma and Sandy, California Wildfires, Las Vegas and San Bernadino Shootings.

INDUSTRY LEADING ITIL FRAMEWORK

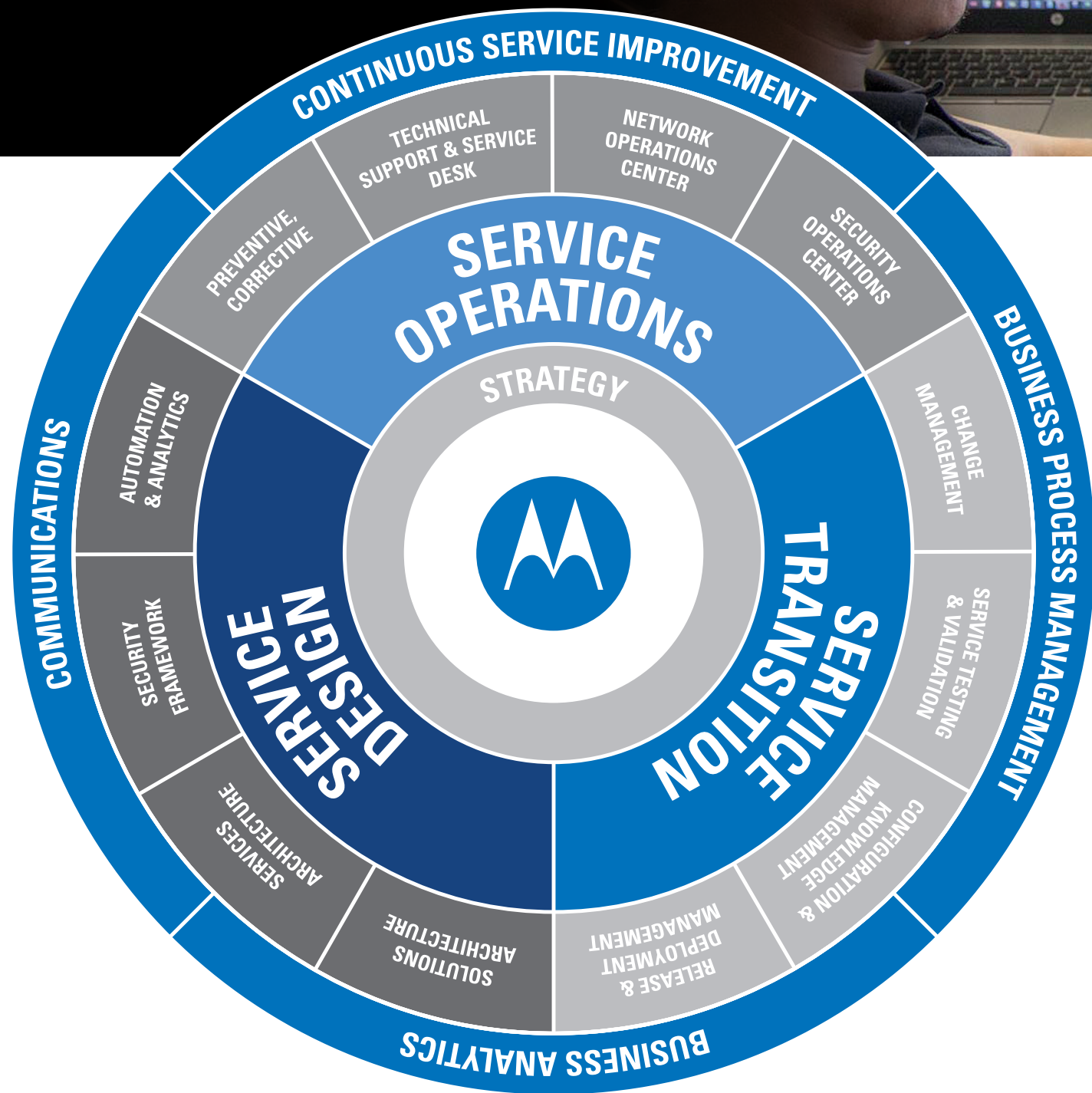
- Fully managed operational risk and service performance
- High service availability meeting mission-critical requirements
- Centralized service management across the entire technology ecosystem
- Intelligent performance analytics for proactive troubleshooting
- Predictable, cost-effective methods of maintaining and evolving the system

AUTOMATION AND ANALYTICS

- Predictive and prescriptive analytics for system monitoring
- Machine learning to continuously optimize system performance
- Chatbot for self-service and enhanced end-user experience
- Sensor-based diagnostics to proactively monitor ecosystem health and resolve issues

MISSION-CRITICAL ITIL FRAMEWORK

Motorola Solutions delivers high service availability with a well-defined framework.



ITIL process has various stages each focused on a specific phase of the service lifecycle.

STRATEGY

We develop a deep understanding of our customers' operating procedures that directly informs our service strategy. Our experienced team draws on intimate knowledge from our customers to develop the service delivery model, ensuring that the service architecture, policies and processes meet your needs. A robust governance model ensures secure data management and information flows.

SERVICE DESIGN

Motorola Solutions designs and implements a comprehensive solutions and services architecture with built-in security. Automation, analytics and other leading-edge technologies are included as a part of the service design.

SERVICE OPERATIONS

Well-defined procedures and processes ensure that all the day-to-day management and support activities are running smoothly, such as network and security operations and service desk. Escalation handling processes are also documented.

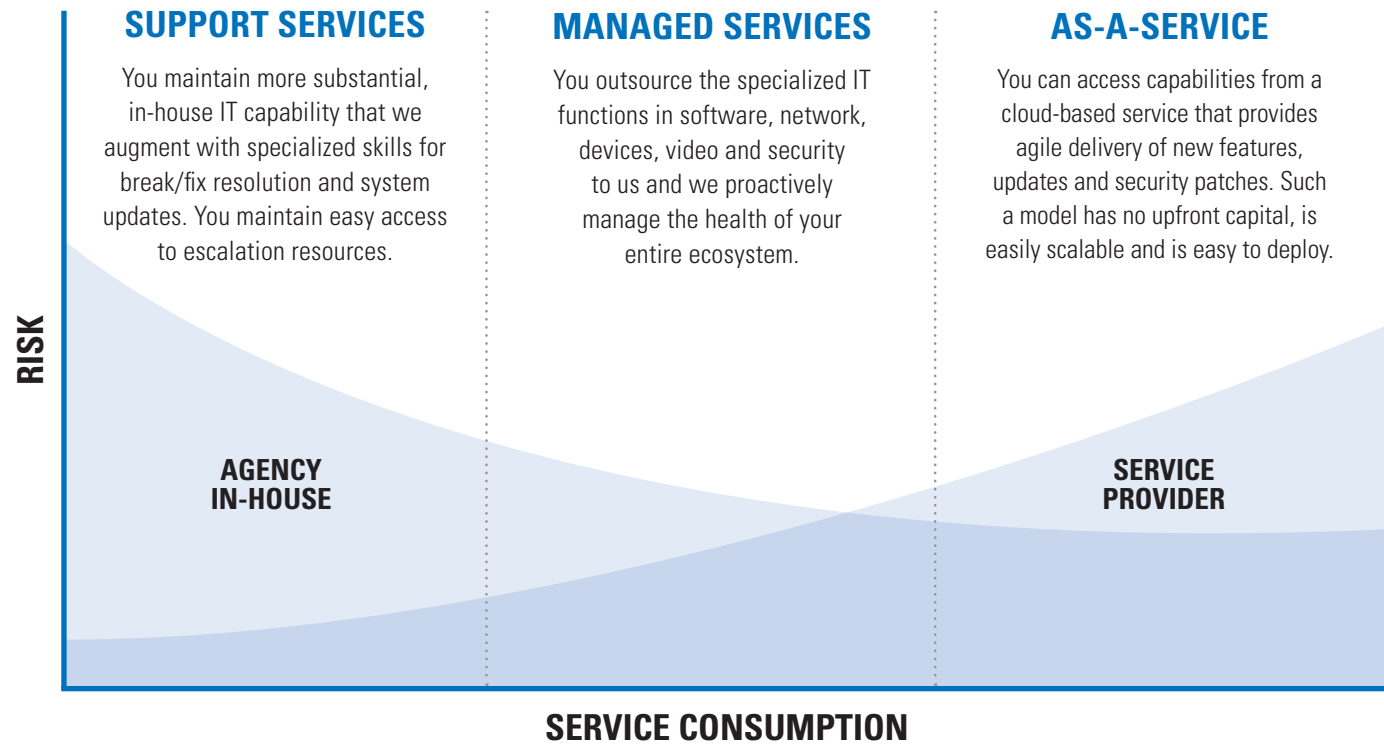
SERVICE TRANSITION

We help you with onboarding, documenting SLAs while ensuring you are comfortable with the processes, procedures and changes. All services are tested and validated before release. With change management, we control any changes to configurable assets or system activities, ensuring that they are implemented with minimal disruption and risk. Configuration management verifies that system change requests are expeditiously fulfilled while managing comprehensive records and accurate views of release information.

OUR EXPERIENCED TEAM DRAWS ON INTIMATE KNOWLEDGE FROM OUR CUSTOMERS TO DEVELOP THE SERVICE DELIVERY MODEL, ENSURING THAT THE SERVICE ARCHITECTURE, POLICIES AND PROCESSES MEET YOUR NEEDS.

SERVICE CONSUMPTION MODELS

We provide flexible options in-line with your business and IT needs.



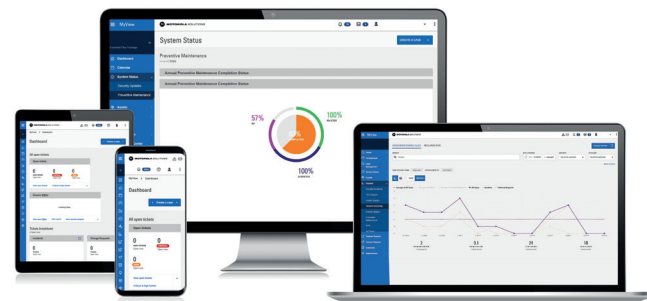
SERVICE MANAGEMENT PORTAL

Get visibility into your system with a web-based portal.

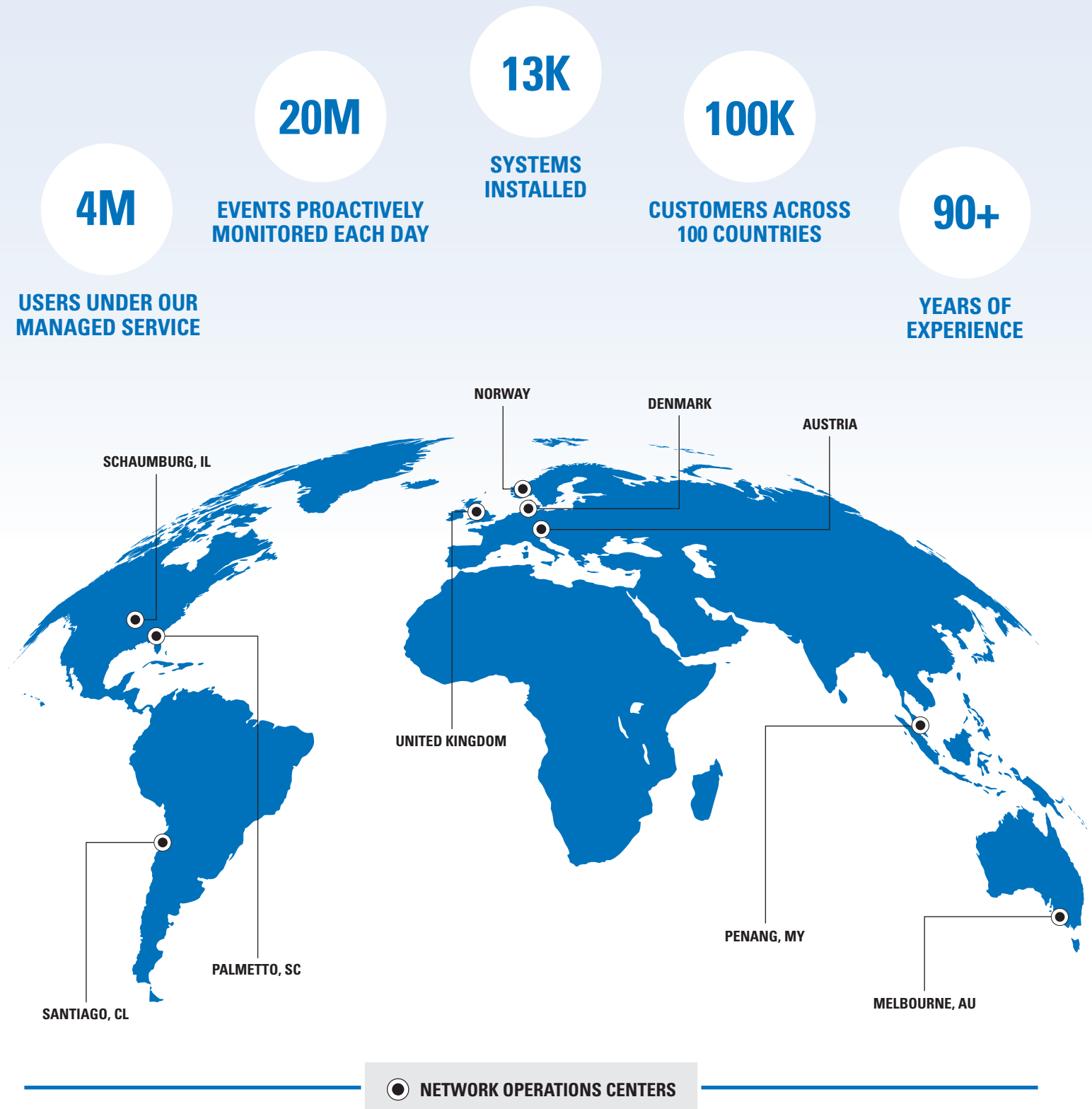
We understand that it is critical for you to have full visibility into the performance of your entire technology ecosystem. Our web-based management portal, MyView, provides actionable insights into your system status and health, allowing you to keep an eye on the health of your mission-critical ecosystem. MyView provides quick, easy insight into your network, devices, security, software and services delivery status.

MyView Portal provides technical support details on your open cases and repairs, available software updates, and recent orders. You can view proactive notifications on upcoming events, and secure messages between you and your Motorola Solutions contact.

With a friendly user interface you can get access to graphical reports showing your current and historical data for network availability, coverage, capacity, security and network monitoring cases, average resolution time for all cases and more. Graphical case reports are also available for technical support, returned material authorizations and on-site dispatch.



GLOBAL SCALE AND EXPERIENCE



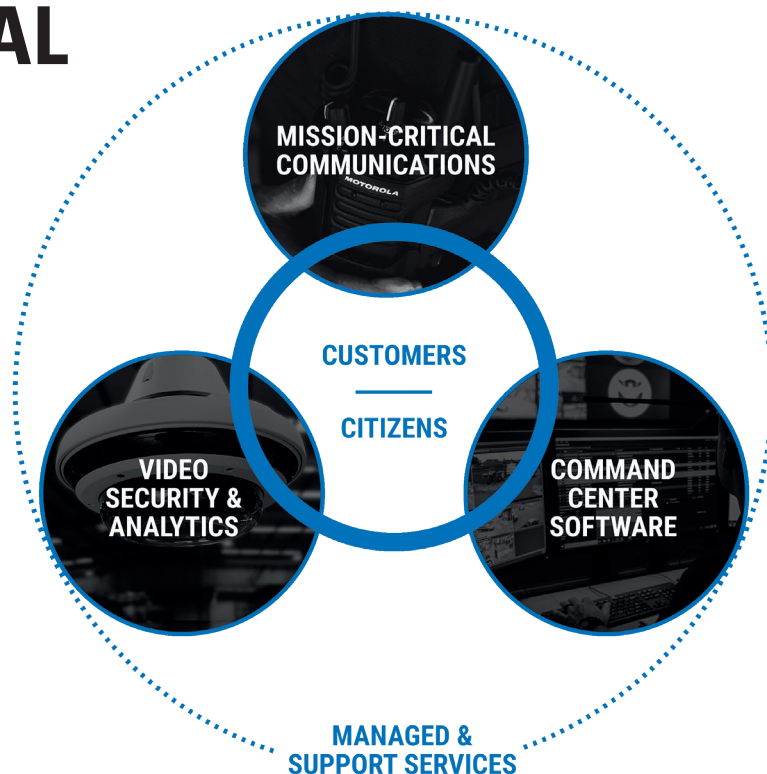
MISSION-CRITICAL ECOSYSTEM

Complexity managed.
So your technology is 'always on'.

Whether managing everyday routines or major disasters, your technology must be ready. Our mission-critical rigor to people, process and tools centralizes operations so you can stay focused on your mission and not the technology.

From everyday technical support, to 24/7 monitoring and management, and cybersecurity, your technology ecosystem is assured for resiliency, availability and responsiveness, secure from threats and always current with technology advancements.

The complexity of managing networks, devices, software, video and security is unified, and your total cost of ownership is predictable. And in an environment of sophisticated threats, you can shield your operations to identify, prevent and respond to cyber attacks, and make sure your system is always on and never failing.



**AT MOTOROLA SOLUTIONS,
WE CONNECT AND CREATE A SAFER WORLD.**

NOTES

1 Bloomberg Businessweek, 2-28-19

2 Reliefweb, 6-21-19

3 https://pmiwdc.org/sites/default/files/presentations/201703/PMIW_LocalCommunity_Tyson_presentation_2017-02.pdf

4 <https://ussignal.com/uploads/general/Documents/General/misc/IT-Resiliency-Infographic.pdf>

5 2019 CIO Agenda: A Government Perspective, Gartner

For more information, visit www.motorolasolutions.com/services



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