INTEGRATING MISSION CRITICAL NETWORKS

INTEGRATION SERVICES

We have supported virtually all types of Public Safety and security agencies and many companies in delivering hundreds of mission and business critical networks. The systems range from small private to rural, regional and national networks and include dedicated digital radio networks for Public Safety, two-way analogue networks and more.

THE MOMENTS THAT MATTER

Your teams work in demanding situations. They need communications they can rely on; that work first time, every time; that connect them with colleagues and real-time intelligence to make better decisions. As the global leader in the delivery of Public Safety networks, we can help you build the robust, reliable and secure network your teams need. Our integration experts work with and manage other vendors to design, build and deploy new systems: systems proven to ensure that, whatever they face, your people always have the lifeline of continuous communications with them.

We can also help you simplify the complexity of new technology. For instance, there's growing demand to connect your organisations' radios with radios or mobile phones on other networks. And in the future there may be a case for deploying LTE for broadband services to support video services and the use of a wider range of devices including tablets, biometric readers, in vehicle computers and more.
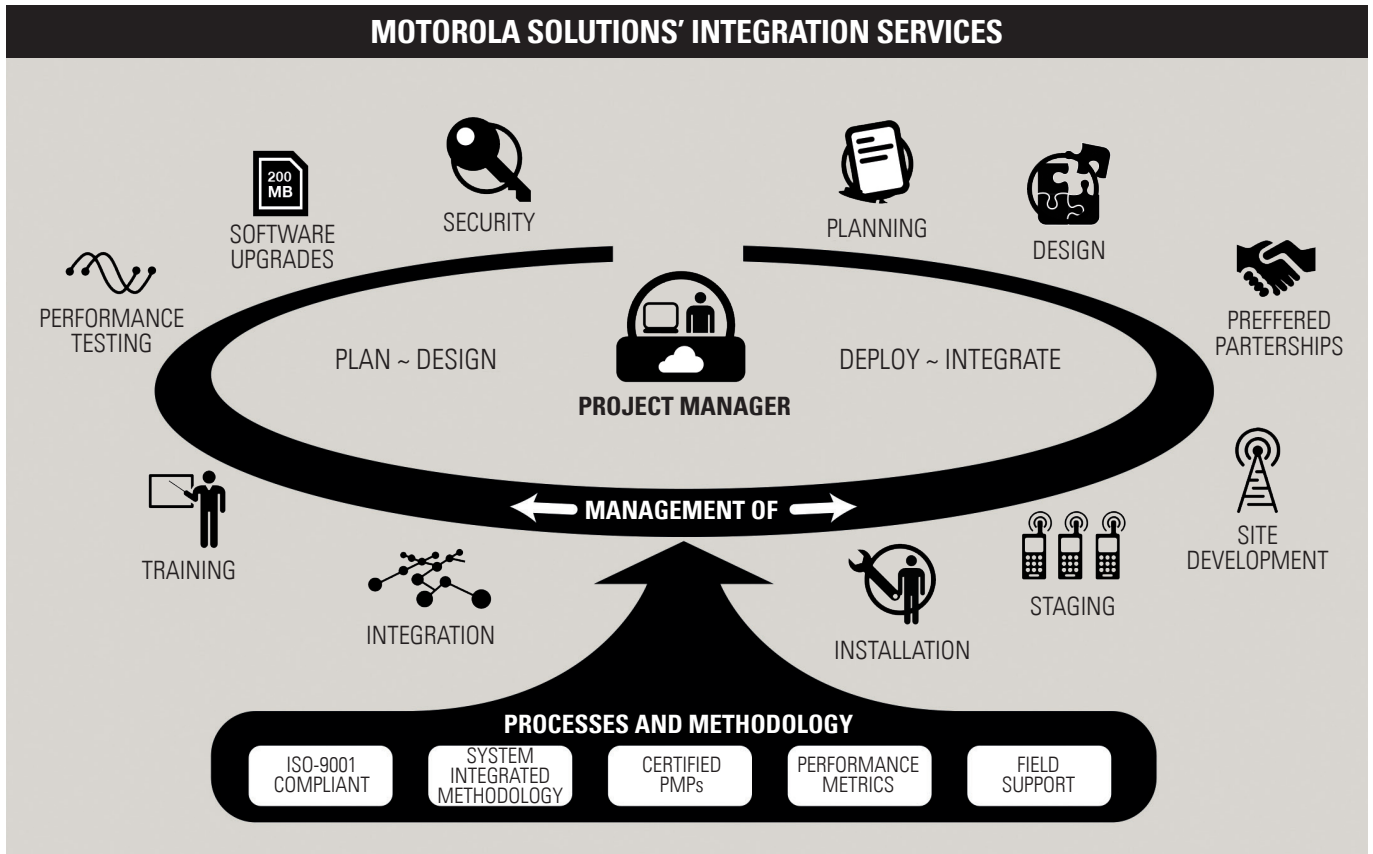
With these demands in mind our all-IP network makes it easy to combine any number of systems, devices and apps into a unified infrastructure. It helps you get the most out of your existing technology while seamlessly integrating new services. And it turns multiple streams of voice and data into intelligence that your teams manage through a single command console.

MOTOROLA SOLUTIONS

THE PROFESSIONALS' CHOICE

Motorola Solutions is the most trusted vendor worldwide to deliver mission critical digital networks including P25, TETRA and Digital Mobile Radio (DMR) systems. Our customers, which include major nationwide Public Safety networks, recognise that using our expertise is a cost-efficient and low-risk way to design, build and integrate their networks. It's delivered to pre- agreed service levels so your team can focus on its core tasks while we build the network. As technology gets more complex the need to offer applications that work across systems, platforms and networks increases and as a result demand for integration services is rising.

Our integration teams deliver robust networks that provide the assurance of continuous communications from day one. Key offerings are shown in the following table and described in more detail below:

MOTOROLA SOLUTIONS' INTEGRATION SERVICES

SOFTWARE UPGRADES

SECURITY

PLANNING

DESIGN

PERFORMANCE TESTING

PREFFERED PARTERSHIPS

PLAN ~ DESIGN

PROJECT MANAGER

DEPLOY ~ INTEGRATE

SITE DEVELOPMENT

← MANAGEMENT OF →

TRAINING

INTEGRATION

INSTALLATION

STAGING

PROCESSES AND METHODOLOGY

| ISO-9001 COMPLIANT | SYSTEM INTEGRATED METHODOLOGY | CERTIFIED PMPs | PERFORMANCE METRICS | FIELD SUPPORT |

PROJECT MANAGEMENT

We are experienced at coordinating the delivery of large-scale networks involving numerous vendors. Our project managers use best practice frameworks such as ISO 9001, TL 9001 and ITIL and use Service Integration and Management (SIAM) to share best practice and ensure that multi-vendor teams work as one. We also apply Six Sigma – the quality standard created by Motorola Solutions – to further optimise efficiencies.

ENGINEERING

Our engineering team oversees network planning, design, and deployment:

- **PLANNING:** Our broad experience integrating multi-vendor and multi-technology solutions allows us to address security and convergence at the network, operations, services and device layers. This helps you design the network for efficient implementation and minimal disruption to existing systems. Services include:
    - Assessing end user needs including evaluation of existing services and future needs
    - Defining the capacity needed to meet service expectations from 'go live'
    - Planning ways to extend the life of your existing systems while planning for future expansion.

- **DESIGN:** We apply proven methodologies to optimise network design and avoid unforeseen costs. Services include:
  - Security performance – security assessments to protect the network
  - Performance design – use of proprietary tools for system analysis, spectrum assessments, mapping, capacity modelling and co-channel interference analysis to ensure that your new integrated system performs as expected on switchover
  - Performance planning – extensive field testing and verification processes including interference mitigation, intermodulation and coverage protection.demand for integration services is rising.

- **DEPLOYMENT:** Communications are mission critical for Public Safety teams. So your systems have to provide continuous, reliable and robust performance from the moment they are switched on. We help you deliver through:
  - Pre-testing – working from the principle of doing it best and doing it once we pre-build, test and optimise your entire system including hardware and software at one of our integration centres. It's then taken apart, packed up and shipped to site for installation
  - Careful cutover planning – to avoid any costly disruptions to the new or existing networks
  - Complete installation of every aspect of your new network including integration with your existing systems
  - Site inspections – to ensure compliance with project requirements and industry standards
  - Performance verification – extensive testing using proprietary tools and drive analysis to validate service performance and handovers/ integration points with your existing network.

Detailed documentation is prepared for the network. And prior to the handover of the system we can provide full training for your technology teams in how to monitor, run, troubleshoot and optimise the system.
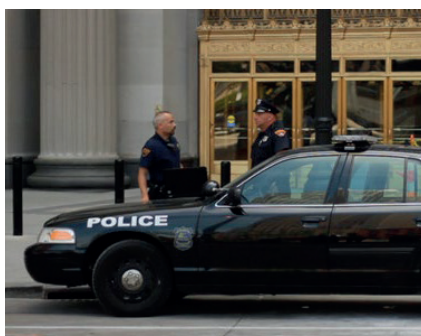
SUPPORT SERVICES

Once your network is up and running we offer a comprehensive array of support services. The services help you reduce operating costs while keeping your network, devices and systems working at peak condition with high availability. Solutions range from service packages to provide rapid device replacement and repair; warranty support (we work with all vendors involved in the network to oversee all warranty agreements); operations and maintenance; network optimisation; security and network management. We tailor our service packages to your needs and can deliver them to key performance indicators – agreed with you – so that you can predict and rely on the performance of your network. In addition, we also offer a Managed Service offering where we build, own and operate the network.
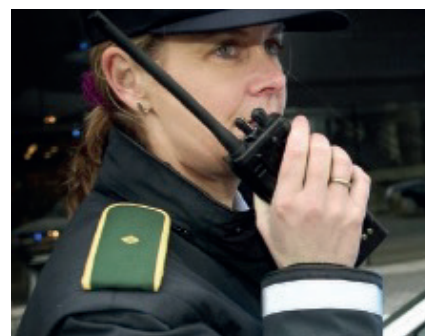
CUSTOMER EXAMPLES

BUILDING NORWAY'S NATIONWIDE NETWORK

Motorola Solutions is building Norway's nationwide Public Safety communications network. This includes the installation of base stations in remote and mountainous regions involving multiple switch locations, 2,100 base stations, 80 fire and police control rooms, and 250 regional control rooms to support local paramedic and emergency teams.

PROTECTING THE CITY OF CLEVELAND, U.S.

The city of Cleveland is using a Motorola Solutions wireless broadband network to monitor CCTV cameras. Should an officer press their emergency button, cameras zoom in to that area. In future video feeds will be streamed to officers using smart handheld devices such as the LEX 755 The cameras 'force multiply' – helping officers understand what they're about to face and take better decisions to protect themselves and the public.

BUILDING DENMARK'S NATIONWIDE NETWORK

Motorola Solutions oversaw the roll-out of the entire network design, build and integration of Denmark's nationwide TETRA network. By consolidating public safety and other government agencies onto a single nationwide communications system, crisis response has also been improved with intra-agency communications and collaboration now possible.

READY FOR TOMORROW

The DNA of our networks is all IP. So they are ready for expansion. Some of our customers are now adding LTE systems into their networks. LTE is generally being used to provide broadband data in large cities and our system platform is LTE-ready to support modular expansion as and when required.

COMPLETE CAPABILITIES

Our integration teams are experienced at delivering end-to-end networks. To complement our core expertise in building Public Safety radio networks and command centres we work with a range of best-in-class vendors to provide the build and integration of every aspect of a Public Safety network. This includes:

- Fully scalable Public Safety networks such as P25, TETRA and DMR of any size
- Microwave and wireless backhaul
- Unified all-IP network cores
- Incoming emergency telephone systems
- Computer aided dispatch
- Real-time command and control
- Information technology
- Mobile data and applications
- Video conferencing systems
- Video and CCTV systems

REAL-TIME COMMAND AND CONTROL

Motorola Solution's Real-Time Command and Control Centre converts the endless flow of data available in today's world into meaningful insight that it presents to officers. It integrates existing agency records with new databases and information sources, shares streaming video between dispatchers and responders, and enables the full command of situations through encrypted, mission-critical dispatching capabilities with the radio console.

QUALIFIED PEOPLE USING QUALITY SYSTEMS

Our integration teams bring experience of building thousands of digital radio networks worldwide to your project. They are highly qualified people using proven industry standards to deliver results to predefined service levels. They help you get to value more quickly, de-risk your project and ensure that it delivers on time and within budget.

For more information about our Integration Services, contact your Motorola Solutions representative or visit **motorolasolutions.com/integration**

MOTOROLA SOLUTIONS