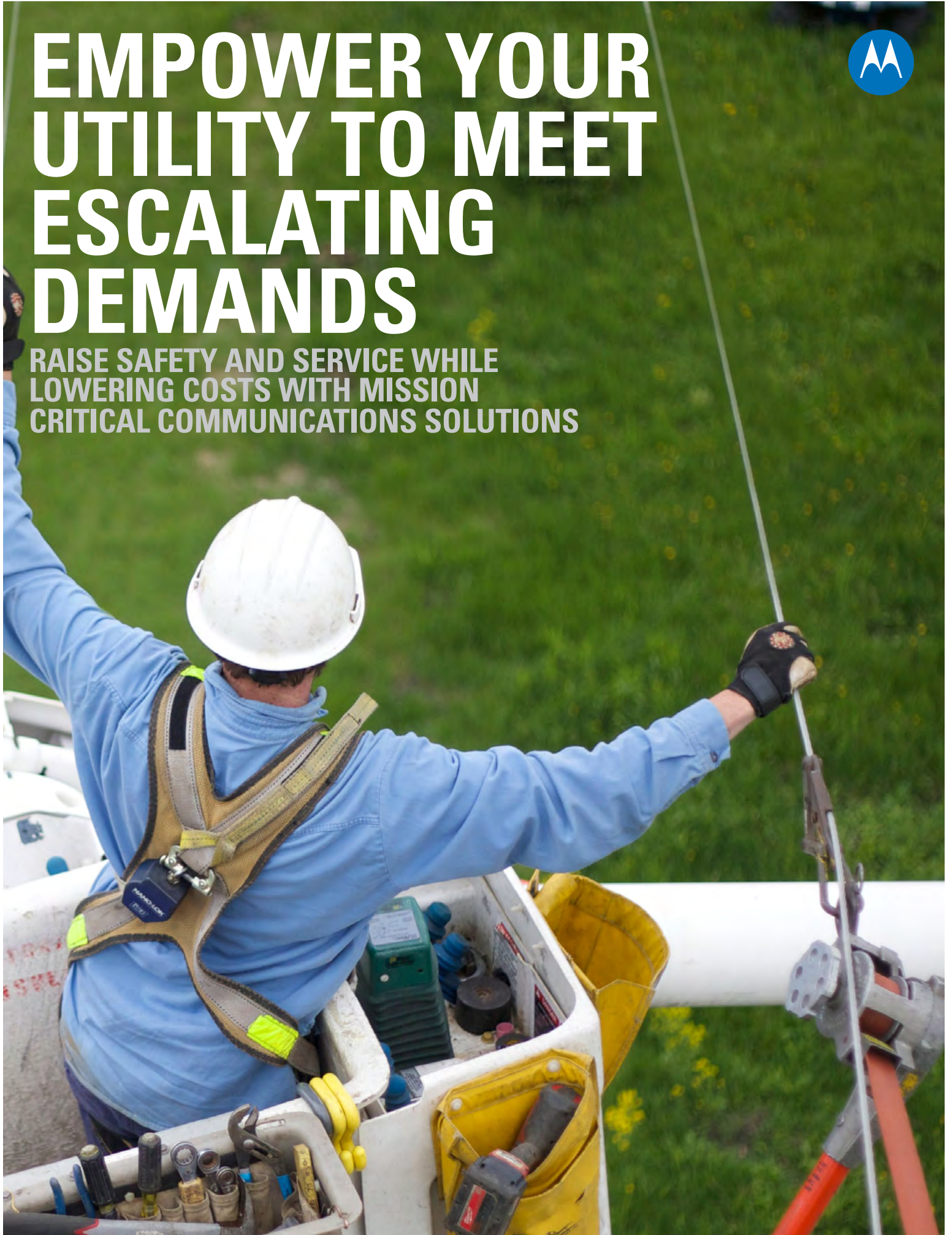


EMPOWER YOUR UTILITY TO MEET ESCALATING DEMANDS

RAISE SAFETY AND SERVICE WHILE
LOWERING COSTS WITH MISSION
CRITICAL COMMUNICATIONS SOLUTIONS



A PERFECT STORM OF PRESSING CONCERNS

Utility companies are heading into a perfect storm. They must keep the power on and the water flowing while keeping their employees and the public safe. While demand is growing and the industry is changing, they are being pressed to cut costs without compromising safety.

Add with the rise in cyber attacks and regular threats to network security, the potential for disruption is high. The reality is, utilities must be more responsive to customers, prepare for emergencies and disasters, comply with changing regulations and secure their assets. All while ensuring safety in the field, at facilities, and throughout the community.

40%

INCREASE IN CYBER
ATTACKS AGAINST THE
ENERGY SECTOR¹

\$10 BILLION

IMPACT OF THE LARGEST
BLACKOUT IN NE U.S.
AND CANADA⁵

67%

COMPANIES WITH ONE
OR MORE SECURITY
COMPROMISES CAUSING
DISRUPTION²

78%

LIKELY ATTACK ON SCADA
OR ICS SYSTEMS IN THE
NEXT 24 MONTHS³





OVERCOME CHALLENGES WITH **MISSION CRITICAL COMMUNICATIONS**

Utility companies are feeling the heat of another set of challenges. Energy provisioning is being consumerized as customers embrace green technologies, from solar panels to electric cars. Beyond renewables, customers are so comfortable with the online experience, they can switch energy providers with a click.

Environmental mandates to monitor greenhouse gas emissions mount. In less than five years, 20 percent of electric energy must be renewable for U.S. government agencies, the country's largest consumer.⁴ Utilities that don't comply pay serious fines. Then there's the frequency and severity of droughts, heat waves, storms and natural disasters.

That's why mission critical communications are imperative. Reliable, resilient and secure, an ASTRO® 25 radio network handles the full scope of daily operations and unimaginable disasters. It empowers utilities with greater safety and efficiency, while delivering the continuity of service their customers expect.



ASTRO 25 MISSION CRITICAL NETWORK LEVERAGE THE P25 PLATFORM FIRST RESPONDERS TRUST

ASTRO 25 is the robust, resilient, always available communication network relied on by public safety agencies worldwide. The leading mission critical platform in over 90 countries and 34 U.S. states, it streamlines interoperability among agencies and neighboring communities.

Because ASTRO 25 is a dedicated system, it helps ensure voice and data is available during emergencies and peak demand. It enables safety-focused applications like geofencing, GPS location tracking and siren alerting. And it minimizes response times with intuitive dispatch solutions and accurate record-keeping of critical communications. ASTRO 25 also paves the way for LMR and LTE convergence with a common platform that reduces complexity and cost.

For daily operations and disaster response, ASTRO 25 provides the interoperability you need to communicate directly with other agencies. If a broken water main requires police to close a road or a power outage needs public safety support, crews can respond more safely and efficiently.

APX™ P25 PORTABLE AND MOBILE RADIOS RELY ON SERIOUS SAFETY TO WITHSTAND IT ALL

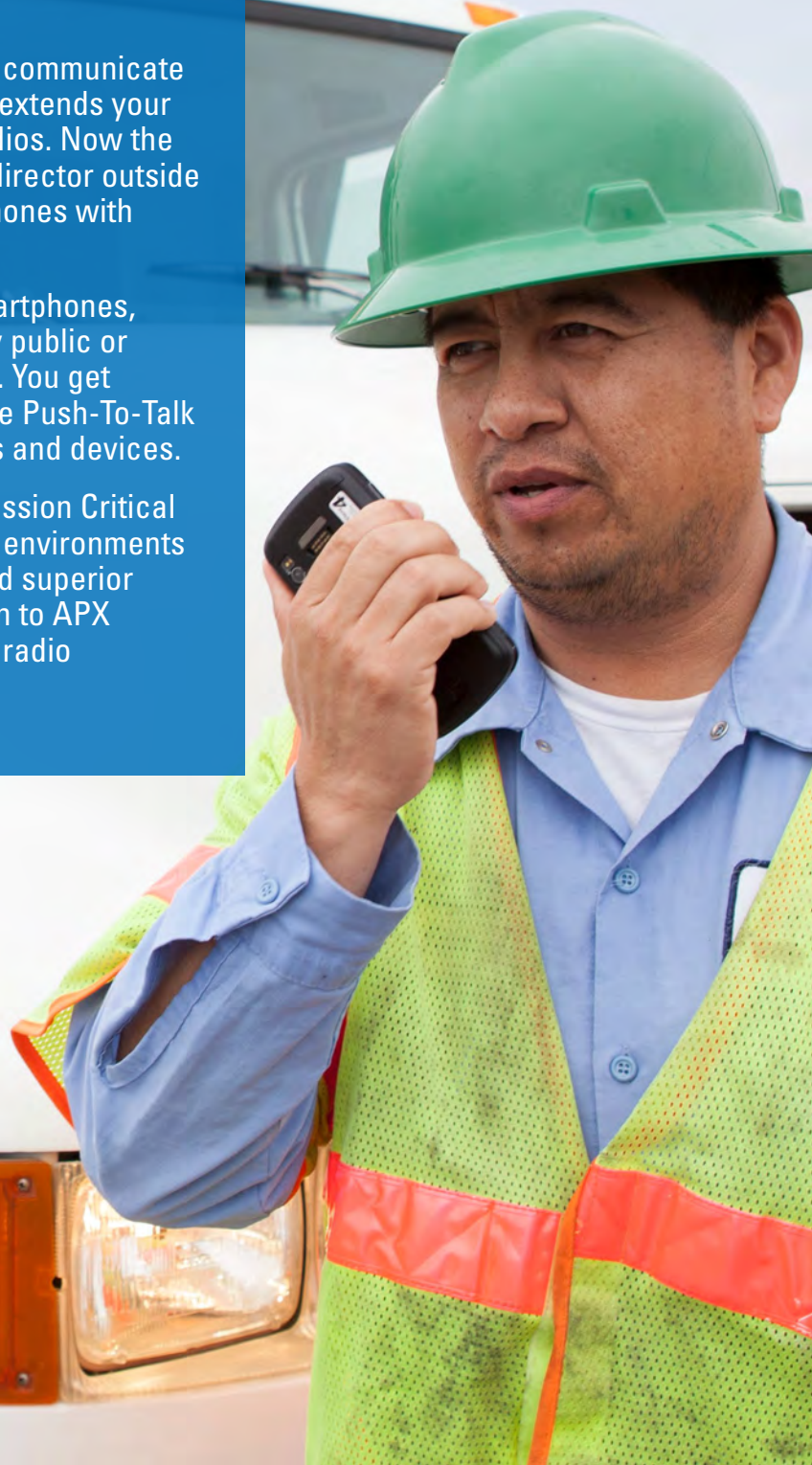
APX P25 two-way radios redefine safety in communication. Every innovative feature and function is designed with input from real users. From its rugged, easy to operate design to the loudest, clearest audio, your crews can hear and be heard distinctly above road noise, diesel engines and severe weather. APX stands up to the toughest conditions and most extreme environments to help your personnel and community stay safe.

WAVE™ WORK GROUP COMMUNICATIONS CONNECT ANY WORKER ON ANY DEVICE, ANYWHERE

Leverage the resources you already have to communicate with personnel on their own devices. WAVE extends your radio's reach to those who may not carry radios. Now the field supervisor away on business or the IT director outside the treatment plant can talk on their smartphones with radio users.

WAVE connects to virtually any device – smartphones, laptops, tablets, landlines and more – on any public or private mobile data network, including Wi-Fi. You get seamless and secure connectivity, affordable Push-To-Talk (PTT), and the freedom to keep service plans and devices.

Expand communications with the LEX L10 Mission Critical LTE Handheld. It is ideal for those in outdoor environments with its integrated PTT button, loud audio and superior ruggedness. Use the LEX L10 as a companion to APX radios or for personnel who want to monitor radio communications without carrying a radio.



GAIN GREATER VISIBILITY AND CONTROL OF CRITICAL INFRASTRUCTURE

Mission critical technology is invaluable for driving greater efficiency, precision and control of critical infrastructure. Industrial Internet of Things (Industrial IoT) solutions enable the process automation and monitoring necessary to achieve greater levels of productivity while facilitating safer operations.

By connecting SCADA Remote Terminal Units (RTU) to the ASTRO 25 system, you gain precise control of the communications across your entire service area. There is also the potential of eliminating recurring commercial network charges and minimizing expensive hard-wiring. Industrial IoT Solutions offer the security, flexibility and resilience to maintain control of your critical infrastructure in the midst of chaos.

Ruggedized machine-to-machine (M2M) devices support communication for numerous data applications over the ASTRO 25 system so you see what is happening across your operations at all times.

Broadband LTE modems are ideal for vehicles in the field, enabling personnel to access work order tickets on their laptops, tablets or mission critical LTE handheld devices.

CommandCentral Inform offers a unified view of personnel, assets, surveillance cameras and more on one map. Now you can see if a power line is down, a pipe is failing or a worker is in distress.



REDUCE COMPLEXITY AND RISK WITH **MOTOROLA** MANAGED SERVICES

Focus on your expertise while we provide ours. Motorola manages a number of the largest, most complex mission critical communications networks in the world. We will handle any or all of the financial and operational risks and responsibilities to guarantee your system's performance.

DIFFERENT PEOPLE, LOCATIONS AND CONDITIONS **CONNECTED INSTANTLY**



A dispatcher watches a storm role in on **CommandCentral Inform**. He can see the **SCADA** system and what assets will be in harm's way. The dispatcher can see where the storm has caused a major outage in the city and what equipment needs to be repaired.



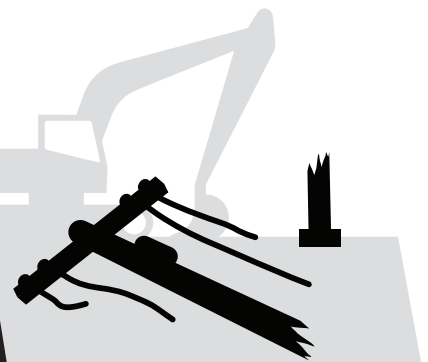
Workers in that area are alerted on the **APX radio** that there has been a major outage. All workers in that area are placed into a talkgroup using **Geo Select**, so they can collaborate and fix the outage quickly.



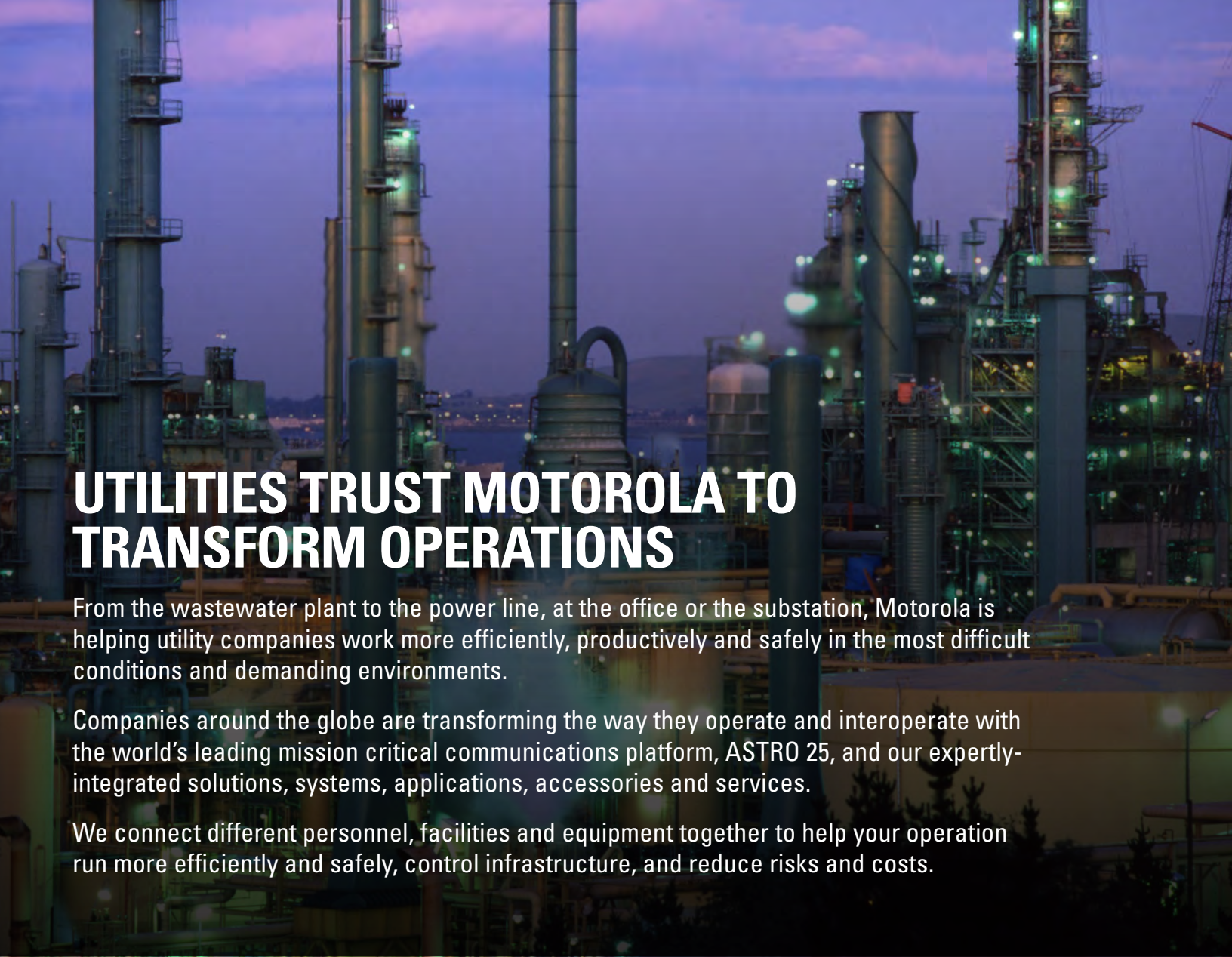
The supervisor sends work order tickets to the team using **Work Order Management**.



Using his **LEX L10**, a worker takes a photo of where the outage occurred and sends that photo back to his supervisor via the **LTE hotspot** in the truck.



The supervisor uses the **WAVE Work Group Communications** application on his LEX L10 to push to talk with the remote worker who's using their APX radio to repair equipment and restore power.



UTILITIES TRUST MOTOROLA TO TRANSFORM OPERATIONS

From the wastewater plant to the power line, at the office or the substation, Motorola is helping utility companies work more efficiently, productively and safely in the most difficult conditions and demanding environments.

Companies around the globe are transforming the way they operate and interoperate with the world's leading mission critical communications platform, ASTRO 25, and our expertly-integrated solutions, systems, applications, accessories and services.

We connect different personnel, facilities and equipment together to help your operation run more efficiently and safely, control infrastructure, and reduce risks and costs.

SOURCES:

1. 2014 Energy Market Review, Willis
2. "Cyber Attacks Up By 60 Percent At Water Utilities," Water Online, December 10, 2013
3. Critical Infrastructure: Security Preparedness and Maturity, Ponemon Institute and Unisys, 2014
4. Presidential Memorandum - Federal Leadership on Energy Management, www.whitehouse.gov, 2013
5. "Facing the Heat," Electricity Today, September/October 2014

To raise safety and service while lowering costs,
visit motorolasolutions.com/utilities.

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