



**MOTOTRBO**  
**ION**

# GO ALL **ION**

SEE THE NEXT GENERATION OF RADIO IN ACTION  
FOR **MINING**.

THE MINING INDUSTRY HAS ACCELERATED THE ADOPTION OF DIGITAL TECHNOLOGIES IN ORDER TO KEEP THE OPERATIVE CONTINUITY, BETTER ITS PROFITABILITY AND SAFETY, AND PROWER THE AGILITY WITHIN THE ORGANIZATION, ENABLING INFORMATION ACCESS FOR ALL OF THE MEMBERS IN THE CHAIN OF VALUE AND SUPPLY, WHENEVER THEY NEED IT.

MOTOTRBO™ Ion is the first smart communications device that has been adapted for businesses and includes all the data capabilities for voice and broadband, which makes it ideal for mining operations in all of their environments. This includes the renowned PTT (Push-To-Talk), an Android-based open-source app environment, as well as the unified technology environment of Motorola Solutions; mobile connectivity (LTE/4G, 3G), Wi-Fi, Bluetooth, comprehensive network interoperability with WAVE PTX, DMR (MOTOTRBO), seamless voice handover, analytic and video solutions, the best network security in its class, and powerful new software and technology services such as smart virtual assistants.

MOTOTRBO™ Ion is the unmatched work tool for keeping yourself connected at all times in any environment within within or outside of your mine and even while transferring your minerals since it was planned for such tough and

extreme environments. It is designed for an improved handling with gloves and built with ultra-rugged materials inside and out, from its hull up to its Gorilla Glass 3 screen, which allows for withstanding drops; it is entirely dust and water-tight, and has the best audio quality in the industry and batteries that last up to 25 hours. It integrates a photo and video camera. Besides, it is the only intrinsically safe, convergent radio certified to meet UL TIA-4950 safety standards.

Transform the way you operate and interoperate with smart connectivity solutions that will help you incorporate end-to-end services that will stablish the communications among processes, systems, machinery and staff, generating a great collaboration for improving the supply and value chain.



# HYPER-CONNECTED AND SECURE MINING OPERATIONS 4.0

## APPLICATIONS IN ACTION

USING NEED-SPECIFIC SOLUTIONS IS PARAMOUNT FOR UNDERSTANDING DATA AND SEIZING IT TO FORECAST RESULTS. GATHER, ANALYZE, AND SHARE REAL-TIME INFORMATION IN ORDER TO HELP YOUR ORGANIZATION TO MAKE BETTER CHOICES AND ENSURING YOUR PLATFORM IS READY AND CAPABLE OF ENDURING THE IMPROVEMENTS OF TOMORROW.



### LOWER OPERATIONAL RISK WITH TELEMETRY APPS

Make real-time reports of the machinery or ground movement in order to prevent tunnel collapsing and receive a radio alert and image or video evidence of the situation so you can take immediate action. Control your autonomous trucks with the power of hiperconnectivity.



### TRANSFER AND RECEIVE INFORMATION QUICKLY AND EFFICIENTLY

Gather data and photo or video evidence with the integrated camera, mark your zones of interest in maps or geofences, incorporate all of your observations immediately in the knowledge bank of your work group, feed your databases in real time and share information immediately.



### EASILY LOCATE YOUR MINE'S ASSETS

Enable the bar code-scanning feature for managing your stock and assets within the warehouse or the mine itself, which provides immediate information and traceability.



### MAKE USE OF ARTIFICIAL INTELLIGENCE

Exploit the full potential of analytics by using facial-recognition apps and people data-search, improving the safety of your miners, intrusion detection, and absence of protective gear.



### INCORPORATE APPS IN AN OPEN-SOURCE ENVIRONMENT

Work with the Android OS 10 apps and with the MOTOTRBO applications environment. Incorporate your own applications to achieve excellence in your operative efficiency, and work from home with Wave PTX.







# HYPER-CONNECTED AND SECURE MINING OPERATIONS 4.0



## RELIABILITY IN ACTION+

PROVIDE MISSION-CRITICAL TOOLS TO YOUR WORKFORCE THAT WILL ALLOW FOR REAL-TIME CO-WORKING ENSURING OPTIMAL PERFORMANCE, EVEN IN HOSTILE ENVIRONMENTS, IN ORDER TO PROVIDE THEM WITH THE SECURITY THEY DESERVE AND COMPLIANCE WITH THE STRICT SAFETY STANDARDS OF THE INDUSTRY.



### BE SAFE IN DANGEROUS ENVIRONMENTS

Trust your communications knowing you are completely safe and secure with MOTOTRBO™ Ion in the explosion or ignition-hazard zones since it is intrinsically secure and UL TIA-4950 certified.



### WORK IN THE HARSHTEST ZONES WITHOUT WORRYING ABOUT GEAR DAMAGE

Be confident that your MOTOTRBO™ will keep working in optimal conditions if it falls to the ground or water, or if it faces a dusty or snowy environment since it has an ultra-rugged, IP68-certified Gorilla Glass 3 screen that can withstand up to 1.22m falls towards concrete and water submersion for up to 2 hours.



### SHARE INFORMATION AT ANYTIME WITHOUT TAKING YOUR GLOVES OFF

The Gorilla Glass 3 touchscreen allows for working in the harshest conditions. It's immune to false actuation from water, snow, dirt, and grease, and it works with or without gloves.



### HEAR AND BE HEARD CLEARLY IN NOISY OR WINDY ENVIRONMENTS

Thanks to the industry-leading volume, clarity, and noise suppression features and to the advanced dual microphone, you can transmit and receive your communications uninterrupted and over wind noise.



### TAKE CARE OF YOUR HEALTH WITH THE RIGHT ACCESSORIES

Shelter yourself from the annoying noise with long-term, comfortable earpieces with superior audio quality that withstand hostile environments.

# HYPER-CONNECTED AND SECURE MINING OPERATIONS 4.0

## CONNECTIVITY IN ACTION

FROM EXPLORATION, EXTRACTION, AND UP TO TRANSPORTATION, IT IS PARAMOUNT THAT THE RIGHT INFORMATION REACHES THE RIGHT HANDS AT THE RIGHT MOMENT BY USING A SMART DEVICE FOR ACCESSING DATA INTELLIGENCE WHEREVER YOUR WORK TAKES YOU.



### **REMAIN CONNECTED AT ALL TIME, REGARDLESS OF THE NETWORK, AND WITH THE SAME DEVICE**



Now your work groups can remain connected through any network with a dedicated PTT, thanks to MOTOTRBO™ Ion's onvergence, which allows for voice transference, keeping your communications while switching to broadband automatically when your radio signal fades. Seize the WiFi to stay connected with your Management and Operations Integrated Center and use LTE for open-field zones that other services won't reach.

### **EXPLOIT CONVERGENCE TO ITS FULL POTENTIAL**

Connect your MOTOTRBO™ Ion among different devices, networks and systems for traceability and trackability. Set up video-conferences anywhere using broadband along with the integrated camera. Review and reply to your emails instantly. Share digital reports and digitalized monitoring records.

### **SEIZE THE INTEGRATED GPS**

MOTOTRBO™ Ion is ready for activating its real-time GPS locating services that allow for tracking the staff in the open pits, following up and tracking trucks, or adding apps for locating third parties or other groups.

### **TRANSFER DATA QUICKER WITH BLUETOOTH 5.0**

The integrated Bluetooth allows you to easily locate workers within the mine or in the subterranean tunnels and, being 5.0, delivers a higher speed and reach in data transference. You can save time, energy and costs this way, as well as maintain your staff safe.

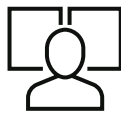




# HYPER-CONNECTED AND SECURE MINING OPERATIONS 4.0

## ACTIVE TIME IN ACTION

FOSTER OPERATIVE OPTIMIZATION THROUGH AUTOMATION, DATA ANALYSIS, AND TELEWORKING, GIVING WAY TO OPERATIVE EXPANSION AND ORGANIC GROWTH BY MITIGATING LONG-TERM OPERATIONAL COSTS AND TRANSFORMING THE WAY YOU WORK.



### IMPROVE YOUR MINES'S PRODUCTIVITY BY ENABLING INFORMATION

Since MOTOTRBO™ Ion comprises a whole voice, video, analytics, software and services environment, it allows you to connect your organization with technology and sharing it instantly with your team members, provides you with the intelligence required for improving productivity, simplifies the work flows and improves your enterprise's efficiency.



### LONGER BATTERY LIFE MEANS BETTER PRODUCTIVITY

MOTOTRBO™ Ion's standard batteries last for a whole shift so you can keep your devices in the field for longer, with the capability of working in temperatures as low as -4 °F (-20 °C) and as high as 140 °F (60 °C). They are also interchangeable, so you can switch batteries between shifts and retrieve your devices in the field without waiting for them to charge.



### OPTIMIZE MAINTENANCE IN A STRATEGIC WAY

Apply the IIoT to get early warning notifications that will allow you to identify an issue, the root cause analysis, and diagnose failures to determine the severity of the case and the actions to be taken. This way, you will target the difficulties before they become problems that could significantly affect your operations. This turns assets from costly to being a means to power business' profitability.



### SUPERVISE AND SOLVE YOUR FLEET'S PROBLEMS REMOTELY

With RadioCentral and your mobile device management solution, all data you provide through these services will help you diagnose and solve issues with a minimal idle time. And our data transmission and device-management service analyzes the performance data to help you take better decisions over your devices and network, from powering a better use to evolving them periodically.



## HYPER-CONNECTED AND SECURE **MINING OPERATIONS 4.0**

### **SECURITY IN ACTION+**

SAFETY IS A KEY ELEMENT FOR MINING ENTERPRISES, BOTH FROM THE MINING STAFF, PREMISES AND SENSITIVE INFORMATION. WITH MOTOTRBO ION YOU HAVE THE POTENTIAL OF PREVENTING AND LOWERING THE RISK ACTIONS, KNOWING THE SITUATION IN ORDER TO RESPOND IMMEDIATELY AND ENSURING SENSITIVE INFORMATION REMAINS WHERE IT BELONGS.

- + Remote activation for emergencies.
- + Transmission and reception of event evidence.
- + Interoperability with other Private, Emergency and Public Safety networks with WAVE PTX.
- + Aerial suite with site-monitoring drones which enhances the security of your staff.
- + Video safety for perimeter control.
- + Inbound and outbound vehicle and staff control.
- + Data analytics to know and anticipate situations.

Besides, your information will always be protected since MOTOTRBO Ion prevents malware, phishing and other malicious activities with at-rest and in-transit stored encryption, protection of all connectivity interfaces (LMR, WI-FI, LTE/4G, 3G) and separated user profiles (work / personal).



- + DEVICE SAFETY**
- + APP SAFETY**
- + DATA SAFETY**

MOTOTRBO™ Ion keeps you connected with the best of two worlds. Discover how you can seize the millions of data that your mine generates daily, with just one device. Get a competitive advantage by seizing the information for your own benefit. Change the way you operate and interoperate with smart connectivity solutions for Mining and with the end-to-end integrated solutions environment, which allows for remote and custom optimization in the whole chain of value, allowing for the mining operations to be more efficient, sustainable and safe as for keeping on with your operations uninterrupted.

**With MOTOTRBO Ion, your manufacturing operations are ALWAYS ON.**



MOTOTRBO  
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# MINING OPERATIONS TOTALLY ION

Para obtener más información, por favor, visite  
[motorolasolutions.com/ion](http://motorolasolutions.com/ion)



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