



# EVERY ORDER FULFILLED, SAFELY AND EFFICIENTLY

**MANUFACTURING TRANSFORMED WITH VOICE  
AND DATA COMMUNICATIONS**



# THE CONNECTED FACTORY. SAFER AND MORE EFFICIENT.

IN AN AGE BEYOND MASS PRODUCTION, CUSTOMERS ARE DEMANDING INDIVIDUALLY MANUFACTURED GOODS AND QUICKER TURNAROUND TIMES.

Made to order is one of the biggest challenges facing manufacturers who must respond rapidly in order to provide customers with what they want, when they want it. Without jeopardising the safety of workers, of course.

It's a tough challenge that requires seamless manufacturing processes where everyone is connected. If there's a fault on a production line, staff need to be aware immediately to minimise downtime. If a worker falls sick in a remote location, help needs to be on hand in moments. If machine settings are incorrect, they need amending before time and materials are wasted. But how can manufacturers streamline their processes to make this efficiency possible?

The secret is to provide staff with unified voice and data communications. One seamless and reliable network that instantly connects the people that matter, when it matters. With real-time information and communication, your entire operation works together as one team to meet order deadlines and safety concerns. No matter where they work, what they do or which device they use. Workers stay protected. Downtime is minimised. Production proceeds smoothly so customers receive the products they want, on time.

"45% OF PLANT OPERATORS SAY CLARITY AND COVERAGE OF COMMUNICATIONS ARE AMONG THEIR TOP CHALLENGES."

2015 MOTOROLA SOLUTIONS MANUFACTURING SURVEY



# MANUFACTURING TRANSFORMED, ORDERS PERFECTED

FROM SETTING UP ORDERS ON THE PRODUCTION LINE TO PACKING AND DISPATCH, MOTOROLA SOLUTIONS CONNECTS ALL YOUR STAFF AND GETS THEM COMMUNICATING INSTANTLY AS ONE TEAM.

A versatile range from basic radios to high productivity devices ready to take advantage of the added capabilities of applications, unlocks the power of communication across the factory floor. No boundaries. No confusion. No delays.

Real-time information flows seamlessly along your production lines so everyone can respond rapidly to orders and meet customer expectations. With secure, reliable voice and data communications, staff have the knowledge they need to work more efficiently, while you have the awareness you need to streamline processes and react to ever changing conditions.

A world leader in the development of communication technology for manufacturing, Motorola Solutions makes an ideal partner. Decades of expertise in radio design combined with unrivalled experience in productivity applications allows us to develop a solution that precisely meets your needs. No matter how demanding your customers, we'll help your production teams work seamlessly together to provide them with what they want, when they want it.



## SCENARIO: MAN DOWN, SAFETY CONCERNS

IF ONE OF YOUR WORKERS HAS AN ACCIDENT IN A REMOTE PART OF THE FACTORY, HOW READY ARE YOU TO RECOGNISE HIS PREDICAMENT AND PUT IN PLACE A RAPID FIRST AID RESPONSE?

Being connected with unified voice and data communications means you are always aware when things go wrong. You have full visibility of every worker and can monitor their health and progress in real time. Should a worker become incapacitated, a Man Down alert on the radio activates first aid responders

who you can track across the plant using the location app. Team Communications across multiple devices and networks keeps everyone aware of the response so the worker can receive the best possible care at the scene.

## SCENARIO: MACHINE FAULT, PRODUCTION DELAY

WHEN A MACHINE BREAKS DOWN ON THE PRODUCTION LINE, HOW QUICKLY CAN YOUR MAINTENANCE TEAMS DEAL WITH IT AND MINIMISE DOWNTIME?

Rapidly with unified voice and data communications. Operators are alerted by an auto alarm system and communicate the problem to management. Maintenance engineers are tracked with a location app and redeployed to the machine to carry out repairs using Work Ticket

Management. Supervisors keep staff away from the area until the issue is resolved, allowing engineers to work without disruption. The repair is made swiftly. Production is restarted. Delays have been minimised.

# RADIOS FOR EVERY PART OF THE PRODUCTION LINE

MANUFACTURING INVOLVES A VARIETY OF PEOPLE WITH DIFFERENT ROLES, CHALLENGES AND DEVICE NEEDS.

Motorola Solutions offers devices suitable for every worker and budget. Small, lightweight easy-to-carry devices for Managers. Rugged radios capable of withstanding knocks with long battery life that lasts a full shift for Supervisors and Maintenance Engineers. The MOTOTRBO™ digital two-way radio system includes a wide range of devices from simple voice-only to fully featured voice and data functionality to meet every user's needs.

MOTOTRBO radios deliver enhanced coverage to keep everyone connected across the plant, Push-to-Talk for instant group communications at the touch of a button, Intelligent Audio with advanced noise cancelling so staff can communicate effectively even over machine noise and rugged ATEX certified designs. Team Communications with WAVE connects everyone, no matter what device or network they're using.



## SCENARIO: SETTINGS INCORRECT, RESOURCES WASTED

SHOULD YOUR MACHINE SETTINGS BE INCORRECT, HOW QUICKLY CAN YOU SPOT THE PROBLEM, TAKE ACTION AND MINIMISE TIME AND RESOURCE WASTAGE?

Extremely quickly when you have unified voice and data communications. Order supervisors are alerted to the problem and contact the production manager to stop machines and redeploy resources. Work Ticket Management allows rapid adjustment of job

priorities so the machines can be reprogrammed at speed. Real-time communication provides continual monitoring of the situation with customers informed of revised leadtimes if necessary.

# APPLICATIONS FOR PRODUCTIVITY AND SAFETY

ENHANCING THE RADIO ARE A VARIETY OF APPLICATIONS DESIGNED TO SIMPLIFY COMMUNICATIONS, STREAMLINE WORKFLOWS AND IMPROVE SAFETY.

These applications can be integrated within the Motorola Solutions ecosystem, allowing staff to focus less on their communication system and more on the job at hand. Popular applications for manufacturing include:

### Control Room Solutions

- Provides a real-time view of voice and data so order supervisors can make the right decisions quickly and adjust production to meet latest conditions

### Voice Dispatch

- Controls your workforce from a central location - supervisors can quickly and easily optimise production

### Personnel Safety

- Increases the safety and accountability of staff with features such as Man Down and Lone Worker

### Email and Text

- Enhances productivity and streamlines workflows by connecting your radio network with your text and email system

### Location

- Tracks staff across the plant for improved safety, security and operational efficiency

### Work Ticket Management

- Improves efficiency and accountability on the production line using text-based issue management software





# WORK AS A TEAM, COMMUNICATE AS ONE

IMPROVE PRODUCTION EFFICIENCY WITH TWO-WAY RADIOS



## STAY IN TOUCH

ENHANCED RADIO COVERAGE CONNECTS WORKERS ACROSS THE FACTORY



## HEAR AND BE HEARD CLEARLY

INTELLIGENT AUDIO KEEPS TEAMS TALKING EVEN OVER MACHINE NOISE



## GO FURTHER

LONG BATTERY LIFE EXTENDS SHIFTS AND BOOSTS EFFICIENCY



## BE PROTECTED

RUGGED ATEX CERTIFIED RADIOS ENSURE SAFE COMMUNICATIONS IN HAZARDOUS AREAS

## CONNECT EVERYONE

TEAM COMMUNICATIONS WITH WAVE™ WORK GROUP COMMUNICATIONS CONNECTS ANY DEVICE, ANY NETWORK, ANY APPLICATION



# UNIFY COMMUNICATIONS, STREAMLINE INFORMATION

## PRODUCTION LINE

- HEAR AND BE HEARD CLEARLY OVER FACTORY NOISE WITH INTELLIGENT AUDIO
- ACHIEVE GREATER OPERATIONAL CONTROL AND REMOTE MONITORING OF PROCESSES USING SCADA
- SEE A COMPLETE REAL-TIME VIEW OF INFORMATION AND MAKE MORE INFORMED DECISIONS WITH COMMAND AND CONTROL
- USE VOICE DESPATCH TO CONTROL AND COMMUNICATE WITH PRODUCTION LINE WORKERS FROM A CENTRAL LOCATION

## ENGINEERING

- HANDLE PROJECTS EFFICIENTLY BY CONNECTING RADIOS WITH EMAIL AND TEXT
- USE ADVANCED WORK TICKET MANAGEMENT SOLUTIONS TO STREAMLINE THE FLOW OF INFORMATION BETWEEN MANAGERS AND ENGINEERS

## MAINTENANCE

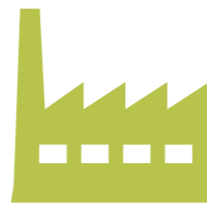
- KEEP SERVICE STAFF SAFE IN REMOTE LOCATIONS USING PERSONNEL SAFETY FEATURES SUCH AS MAN DOWN AND LONE WORKER
- SEE WHERE YOUR STAFF ARE WORKING INSTANTLY WITH LOCATION APPLICATIONS
- USE WORK TICKET MANAGEMENT TO QUICKLY PRIORITISE TASKS AND DEPLOY RESOURCES

## WAREHOUSE

- WORK TICKET MANAGEMENT SOLUTIONS ALLOW YOU TO NOTIFY CUSTOMERS THAT COMPLETED ORDERS ARE ON THE WAY

## MANAGEMENT

- SEE THE BIG PICTURE – FEATURES SUCH AS EMAIL AND TEXT, SYSTEM MONITORING AND INTEROPERABILITY ALLOW YOU TO MONITOR RESOURCES AND OPTIMISE PRODUCTION
- STREAMLINE YOUR PRODUCTION LINES AND IMPROVE EFFICIENCY ACROSS THE PLANT BY CONTROLLING COSTS AND BUILDING A FUTURE PROOF SYSTEM THAT EVOLVES WITH YOUR NEEDS



# £6.7 TRILLION

CONTRIBUTION OF MANUFACTURING  
TO THE GLOBAL ECONOMY

THE MANUFACTURER, UK MANUFACTURING STATISTICS

# 2.1 MILLION

MANUFACTURING ENTERPRISES  
ACROSS THE EU IN 2013

EUROSTAT, MANUFACTURING STATISTICS NACE REV 2



# 29.7 MILLION

PEOPLE EMPLOYED IN MANUFACTURING  
ACROSS THE EU IN 2013

EUROSTAT, MANUFACTURING STATISTICS NACE REV 2





For more information, please visit: [www.motorolasolutions.com/manufacturing](http://www.motorolasolutions.com/manufacturing)



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