

ACCELERATING EFFICIENCIES ACROSS MANUFACTURING

OUR INTEGRATED COMMUNICATION SOLUTIONS
INCREASE UPTIME, PRODUCTIVITY AND SAFETY



A RENAISSANCE IN THE INDUSTRY IS UNDERWAY

Manufacturing is making a comeback following the economic crisis. A renaissance is in full swing as plants strive towards the vision of the Smart Factory outlined in Industry 4.0. Whilst the last few years have been focused on securing recovery and building a solid foundation, attention must now turn to how to build on this and changes are already being made.

Costs are down, productivity is up, and technology is becoming more automated and advanced. As the industry confronts these realities – and hires a new generation of workers with different skills and expectations – manufacturers must reinvent the way they create and innovate.

50%
OF
**MANUFACTURERS
PLAN TO INCREASE
PRODUCTION³**



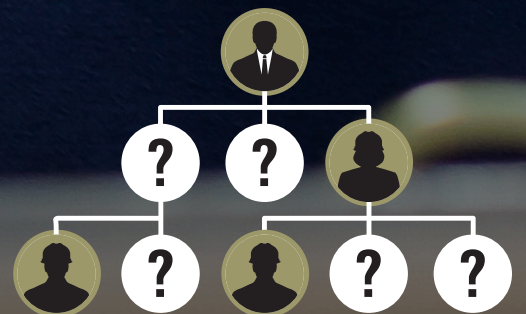
OVERCOME CHALLENGES BY INTEGRATING PLANT COMMUNICATIONS

Manufacturers face another set of challenges in this rebounding market. More companies are shifting from outsourcing overseas to “next shoring” their products closer to where they are sold to improve efficiencies. And consumers, emboldened by social media, expect instant gratification and faster delivery times.⁴

Whether it is filling job positions or filling customer orders, manufacturers need strategies to stay competitive. According to the 2015 Motorola Manufacturing Survey, companies are looking for an integrated communications platform to help them increase workforce productivity, improve worker safety and reduce downtime. They want plant communications to connect all workers and devices seamlessly, and expedite communications between machines and people automatically.



75% manufacturers have a **SERIOUS SHORTAGE** of skilled resources⁵



500,000

PREDICTED GAP of engineers by 2025⁷

INTEGRATED MANUFACTURING PLATFORM

WORK MORE EFFICIENTLY AND SAFELY THAN EVER

We understand the realities of manufacturing and we innovate advanced communications specific to the industry. Each year, we survey manufacturers to understand their needs and collaborate on improved solutions. In Motorola's 2015 Study, almost 45 percent of plant operators said "clarity and coverage of communications" is their top challenge.

The factory floor can be loud and chaotic. It's why the radios we produce for manufacturing businesses have the same specialised features as the radios we produce for fire and police first responders – such as noise-cancelling technology and Intelligent Audio. MOTOTRBO™ digital radios monitor background noise and adjust the speaker volume, so plant workers don't have to. Wireless accessories and noise-cancelling headsets enable them to interact freely, while protecting their hearing.

Unreliable communications can hurt safety and operational efficiency, but when you rely on MOTOTRBO, you have "always available" communications to help teams work more safely and efficiently than ever.



MOTOROLA
SOLUTIONS
INTEGRATED
MANUFACTURING
PLATFORM



MOTOTRBO DIGITAL COMMUNICATIONS OPTIMISE PRODUCTION WITH SEAMLESS COLLABORATION

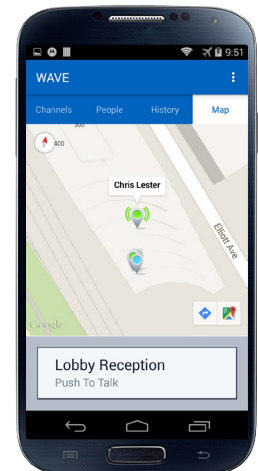
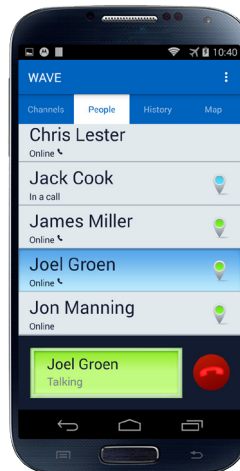
The backbone of integrated plant communications is the MOTOTRBO digital two-way radio platform. This complete, flexible and adaptable solution includes two-way digital radios, accessories, applications, systems and support services. MOTOTRBO interconnects personnel and equipment to help plants streamline production, automate processes, manage risk and respond to customers quickly.

MOTOTRBO seamlessly integrates voice, data, text messaging and GPS to help resolve equipment issues and reduce unplanned downtime faster. Employees communicate and collaborate more efficiently and effectively, wherever they work. All while protecting their safety and enhancing overall productivity.

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

Leverage the resources you already have to communicate with employees on their own devices. WAVE extends your radio's reach to those who may not carry radios. Now, the IT director at a convention or the supervisor away from the plant can talk on their smart phones with radio users at the plant.

WAVE connects to virtually any device – smart phones, laptops, tablets, and landlines – on any public or private mobile data network, including Wi-Fi. You get seamless and secure connectivity, affordable push-to-talk, and the freedom to keep service plans and devices.



ALARM AND CONTROL SYSTEMS INCREASE UPTIME WITH PROACTIVE ALERTS

Industry 4.0 outlines the future as the connection of all networked devices for automatic transfer of intelligent information machine-to-machine (M2M). Just as important in this revolution is machine to human or human to human connectivity. All combine to ensure production lines are optimised. Connect your production line directly to your people. Alarm and Control systems allow you to see the status of your machines directly on your radio.

By monitoring manufacturing environments and proactively notifying key personnel of faults and potential issues, the right information is delivered to the right person at the right time. Problems can be prevented and unplanned downtime averted.

WHAT MANUFACTURERS ARE SAYING

52% WANT REAL-TIME MESSAGING BETWEEN MACHINES AND PEOPLE⁸

30% WANT SCADA SYSTEMS TO CONNECT WORKERS AND PLANT EQUIPMENT

46% SAY DIGITAL RADIOS CAN REDUCE DOWNTIME 10 TO 20%



"I know that we have reduced downtime. With the new MOTOTRBO system, manufacturing can get in touch with the maintenance guys quickly."

Plant Manager
McCain Foods Ltd.

MOTOTRBO INTEGRATES IT ALL SO YOU SPEED AHEAD



In the plant, a technician uses a rugged **MOTOTRBO DP4800** radio.



On the noisy production line, he wears an **XBT wireless headset** to work hands-free while protecting his hearing.



He receives a **text message** on his radio from the factory **Alarm and Control System** signaling low oil pressure in one of the machines.



When he goes to fetch oil, the **MOTOTRBO Indoor Location system** senses he is in a hazardous area and activates **Lone Worker** on his radio.




If he does not respond to periodic alerts, the system will send an **Emergency Alarm** to the factory response team.



Seeing a potential safety hazard, he uses his **DP4800 radio** to connect to the plant manager, who is away on business.



She communicates with him using the **WAVE Mobile Communicator** on her smartphone to resolve the issue before it causes downtime.



MANUFACTURERS TRUST MOTOROLA TO TRANSFORM OPERATIONS

From the production line to the loading dock, in the front office or off-site, Motorola Solutions is helping manufacturers work more efficiently, productively and safely in the most demanding environments.

Manufacturers worldwide are transforming their workplace with Motorola's integrated manufacturing platform and expertly-integrated systems, applications, accessories and services.

MOTOTRBO radios connect different teams, departments and machines together to keep operations running smoothly and keep manufacturers competitive at the speed of business today.

SOURCES

1. European manufacturing a 'powerful engine for growth', The Parliament Politics, Policy And People Magazine, Septmeber 2014 (<https://www.theparliamentmagazine.eu/articles/opinion/european-manufacturing-%E2%80%98powerful-engine-growth%E2%80%99>)
2. Manufacturing Our Future In Europe, EEF The Manufacturers Organisation, 2013
- 3 & 5. Accenture 2014 Manufacturing Skills and Training Study
4. Manufacturing Trends that will Shape the Market in 2015, www.businessweek.com, November 14, 2014
6. Costs of Downtime in the Manufacturing Industry, eMaint Enterprises, December 2014
7. Alarm over skills shortage in Europe, ft.com (<http://www.ft.com/cms/s/0/51dc6cca-c145-11e2-b93b-00144feab7de.html#axzz37Xopl0Qa>)
8. Motorola Solutions 2015 Study: Innovations in Plant Communications

To increase your efficiency, productivity and safety, visit
www.motorolasolutions.com/manufacturing

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