



Business-Critical Communications: Benefits of Selecting Two-Way Radios over Cellular Phones

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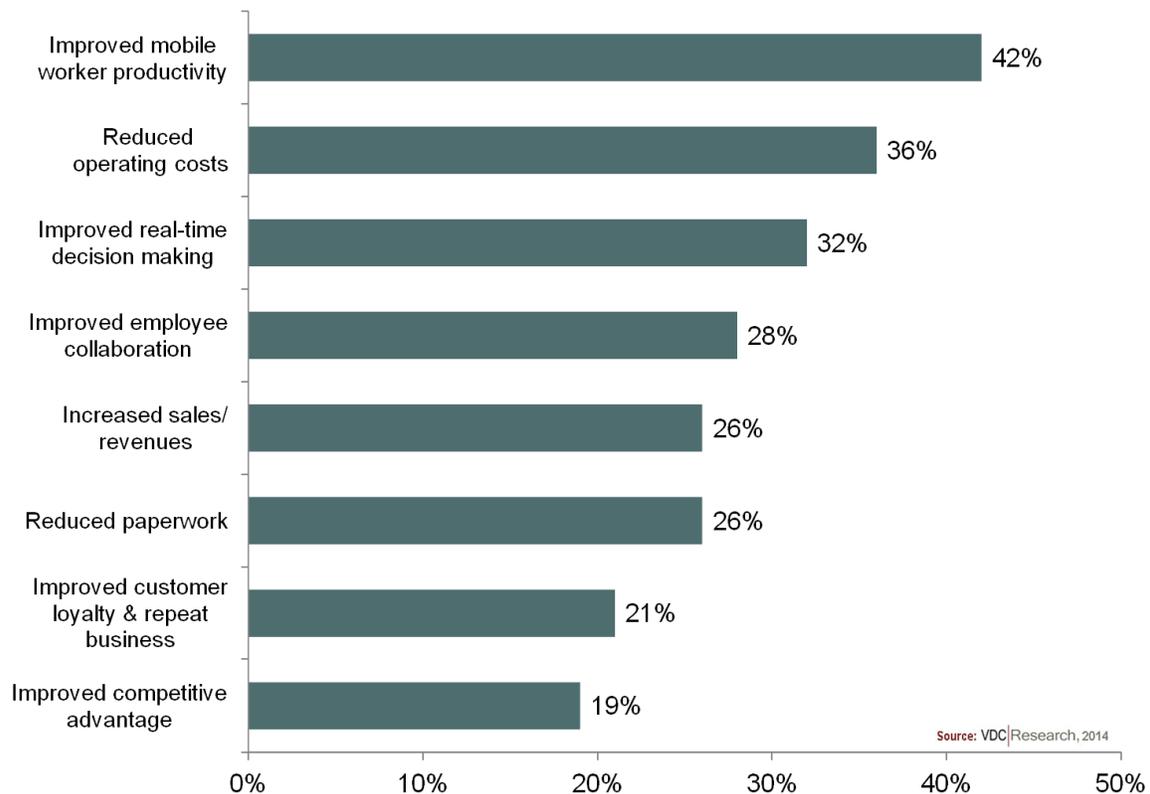
Executive Summary

From production pressures in manufacturing to safety concerns in education and customer service demands in hospitality, a diverse list of issues is challenging organizations' operations today. What connects these diverse industries and organizations are their needs and priorities when addressing critical mobile communication solutions. With today's increasingly distributed and remote mobile workforce, there is a great need to connect these workers with high-performance and cost-effective solutions. The technology options available to organizations to address their communications needs are as broad as they have ever been. However, when weighing these options, decision-makers are clear in their "no compromise" requirements around a robust, reliable, and secure mobile communications solution. For many, the two-way digital radio often represents the best-fit solution.

Better Preparedness, More Efficient Decision-Making, Reduced Costs Lead Mobile Investments

Advances to mobile computing and communications solutions are enabling organizations to exceed benchmarks in productivity, customer service, collaboration and decision-making. According to a recent VDC survey of 816 IT decision-makers, 2014 mobile budgets to support frontline mobile workers are expected to grow by 10.3% over 2013. Organizations are realizing strong returns tied to overall productivity and operating cost improvements. In addition, the ability to collaborate better and make decisions faster – especially in times of emergency – are areas where organizations greatly benefit from mobile solutions.

Exhibit 1: Greatest mobile investment benefits realized



However, not all mobile solutions are created equally, and 45% of respondents were only “somewhat satisfied” or “dissatisfied” with the ROI they were realizing from their mobility investments. While the challenges experienced are broad, including interoperability with existing systems and mobile security concerns, many had to do with the overall functionality and capabilities of the mobile solution, and more specifically, the mobile device. For business-critical communications, this often translates to issues with reception and coverage, audio quality, network access and availability, and the physical performance of the device. For example, one in five organizations today state that they

are limited as to where they can communicate clearly or have gaps in coverage or trouble challenging effective communication.

Defining Effective Mobile Communication Devices

There is no one-size-fits-all when it comes to enterprise mobile computing and communications solutions. Factors ranging from target user and usage environment to form factor and device functionality all contribute to determining the best-fit solution. In today's organizations – from commercial enterprises to education and government municipalities – a multitude of mobile devices including smartphones, tablets, handheld devices, and two-way radios are used.

The role of the two-way radio is unique in many ways in that it serves a very specific purpose – leveraging a private network to provide immediate and reliable voice-based communication and specialized data services. Conversely, smartphones and tablets represent multi-purpose devices

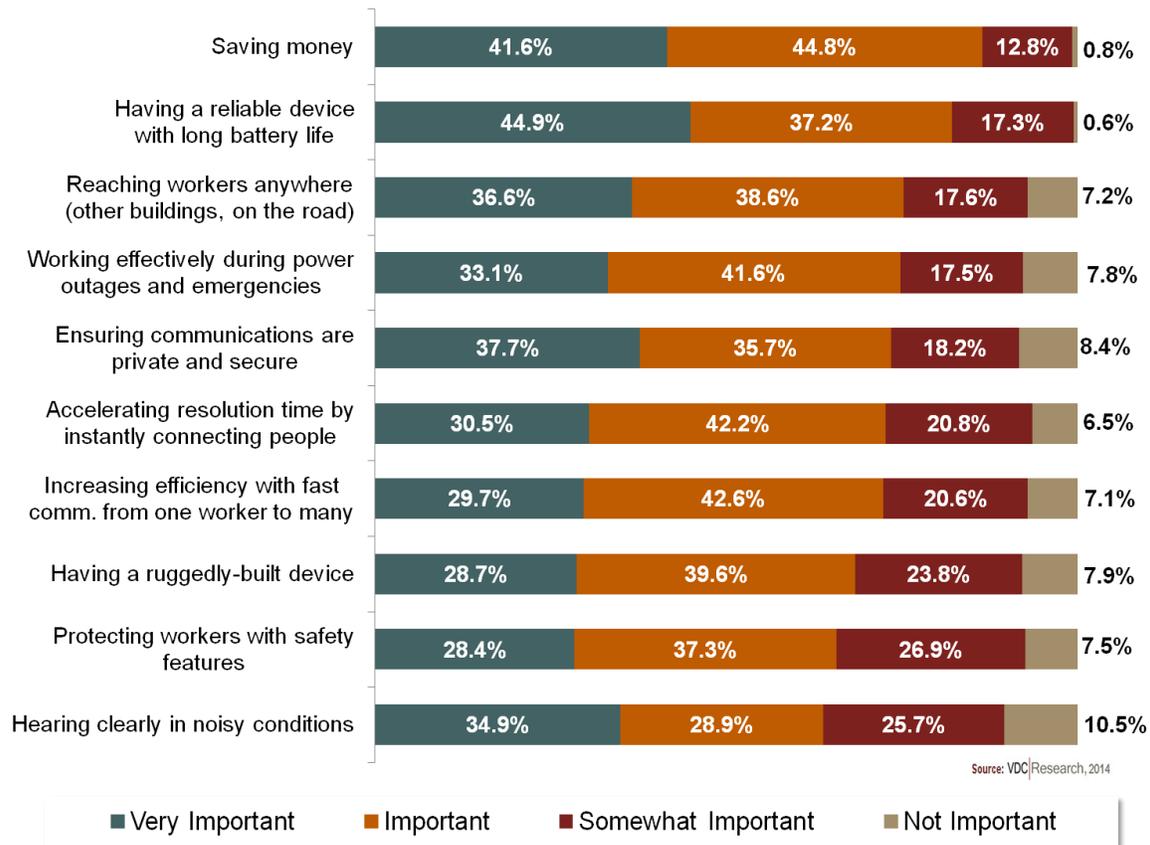
The role of the two-way radio is unique in many ways in that it serves a very specific purpose - leveraging a private network to provide immediate and reliable voice-based communication and specialized data services.

that, while highly functional, often cannot be relied upon to support the business-critical communications required in many line-of-business workflows. Moreover, during natural disasters and other emergencies, cell tower overload renders public cellular networks unreliable, making private radio networks the only viable critical communications option.

Price notwithstanding, when specifying requirements for mobile communications devices, end users are especially focused on the overall quality and reliability of the devices, long battery life, and embedded security features. Design

elements, such as ruggedness and especially the ability to hear clearly in environments with high ambient noise, are particularly important when considering the unique use cases of these devices. In addition, two-way radios enjoy a substantially lower total cost of ownership over smartphones, which have ongoing network service fees. This is fundamental to maximizing communications across numerous industries and in highly diverse situations and workflows. Consider for example, the benefit of seamless communications in manufacturing to minimize worker downtime and its serious repercussions, or in education, where radio communications can instantly connect diverse staffs across different locations to ensure student safety, or in hospitality environments, where responsiveness of the staff is akin to customer loyalty.

Exhibit 2: Regarding your communications systems for mobile workers, how important are the following?



With consumer mobile devices making inroads into many enterprise and government environments, they are being evaluated as a potential alternative to specialized enterprise devices, such as two-way radios. While consumer devices have a role to play among mobile enterprise workers, in scenarios where the mobile device is relied upon as a key facilitator to doing one’s job, the compromises that consumer devices introduce are often too high to overcome.

One of the biggest challenges of consumer devices used for critical enterprise workflows is that they do not hold up to the rigors of the workflows and are failing at a high rate. Comparatively, rugged mobile devices such as two-way radios realize annual failure rates of 4-8%, while failure of consumer devices used to support comparable business critical workflows can reach 18-20% on an annualized basis. Each time a mobile device is not functioning properly or is damaged, a mobile worker is losing between 60 and 120 minutes of productivity; thus, the impact of device failure on downtime is substantial. Moreover, the mobile device does not have to physically break for it to be rendered ineffective. Issues relating to dead spots, battery performance, network outages, or audio performance can all contribute to downtime and ineffective communications.

Making the Case for Two-Way Radios

Two-way radios continue to represent the communication lifeline for millions of mobile workers today. From manufacturing plants to transportation companies, from municipalities to school campuses, two-way radios embody and characterize the rigorous reliability, durability, and availability expectations prevalent in a broad range of environments. Requirements for business-critical mobile communications devices include the following:

- ▶ **Cost of ownership.** Without monthly service fees, two-way radios offer a significantly lower total cost of ownership when compared directly to smartphones and other cellular connected devices, which carry monthly service fees.
- ▶ **Enhanced worker safety.** For scenarios where worker safety is critical, the always-on capabilities of two-way radios are invaluable, especially during emergencies. According to VDC's research, 65% of enterprise respondents view the ability to protect workers with safety features as a critical requirement when selecting communications systems for mobile workers.
- ▶ **Battery Life and Management.** A major requirement for business-critical communication solutions is a strong all-shift battery performance without significant design implications. The desired target is between 10 to 12 hours continuous operation. According to VDC's research, 65% of enterprise mobile users today indicate that their cell phone batteries "frequently" or "occasionally" do not last the full shift. Two-way radios can continue to function well into the second shift.
- ▶ **Durability and reliability.** Based on their design and portable use cases, the risks of damaging a consumer mobile device are great, increasing the premium for durability. Annual failure rates of consumer mobile devices supporting target applications was recently measured by VDC Research at 18-20%, substantially higher than the 4-8% of rugged two-way radios. Consequences of consumer mobile device failure, especially for highly optimized mobile applications and workflows, include a significant disruption to workflows and lost productivity as well as the negative impact on customer service and employee safety.
- ▶ **Audio quality.** The level of ambient noise – especially in environments like manufacturing plants – can render many mobile communications devices ineffective. More than six in ten organizations state the need to "hear clearly in noisy environments" as an important communication system feature. Voice quality on two-way digital radios is further enhanced by sophisticated software algorithms and background noise suppression which ensures that clear voice is delivered in even the most extreme scenarios.
- ▶ **Support of specialized mobile workflows.** Restrictions by the US DOT limit use of cell phones by commercial drivers but permit the use of two-way radios for mobile

communications. In addition, safety capabilities of two-way radios addressing lone worker and man-down situations for field workers represent a critical lifeline for these individuals.

- ▶ **Group communications.** With the need to improve employee collaboration and significantly accelerate resolution time, a key benefit of two-way radios is the “one too many” group communication function and the ability to instantly connect people. According to VDC’s research, more than seven in ten organizations identify this capability as a critical communication system requirement.
- ▶ **Value adding features and functionality.** Many modern two-way digital radios offer additional integrated features such as GPS and text messaging. In addition, other innovative workplace applications, such as location tracking and providing instant notifications when assets malfunction, are adding to the overall value proposition of two-way radios.
- ▶ **Enterprise-class accessory ecosystem.** Providing a variety of accessories – from mounting brackets to hands-free data collection solutions and carrying cases, two-way radios offer a broad accessory portfolio closely aligned with enterprise use cases and target applications.

Conclusion

Although two-way radios are most commonly associated with public safety workers and first responders, their value extends well beyond these segments. From manufacturing shop floor workers to guest services in hospitality and school bus drivers, two-way radios offer a no-compromise, cost-effective solution to support business-critical communications. In addition, the functionality of next-generation digital radios extends well beyond voice communications and includes value-adding location and text alert applications integrated into a rugged and reliable device. In comparison to consumer-friendly smartphones, two-way radios are often the only viable option to support today’s frontline mobile workers’ business-critical communications requirements.

Methodology

VDC Research was commissioned by Motorola Solutions to conduct research among enterprise and government IT and operations decision-makers to assess their critical communications requirements. To support the research, VDC fielded a survey in March and April of 2014 that was completed by 816 qualified respondents. The respondents consisted of individuals representing various commercial enterprises and government organizations in North America and Europe with direct responsibilities for enterprise mobility and critical communications solutions for their organizations.

About this Report

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