



**Panasonic**

The Rise of Digitalization and  
Rugged Devices in Oil and Gas



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# EXECUTIVE SUMMARY

Mobile devices and digitalization are growing in oil and gas. What is the value of mobile devices and digitalization for oil and gas workers? What role do these rugged computing devices play? This paper explores the ways that mobile devices—including rugged mobile laptops and tablets—along with increasing digitalization benefit oil and gas companies.

Zpryme asked nearly 160 people from oil and gas companies about their approaches to digitalization, mobile devices, and the opportunities for rugged devices.

## KEY FINDINGS

- **90% of respondents** expect the **digitalization of their mobile workforce to increase** over the next one to three years—with 39% expecting it to increase significantly.
- After operational efficiency, **benefits for mobile devices** center around the **ability to connect and share data**. Improved connectivity (48%), access to real-time information (40%), and data capture (32%) are top benefits respondents expect from mobile devices.
- **Less than of one-third** of respondents feel their current mobile devices and infrastructure are prepared for a real-time, connected environment.
- **Durability is a top factor** to consider for mobile devices for 43% of survey respondents.
- **The use of ruggedized devices**, such as laptops, tablets and handhelds, are **on the rise**. 40% of respondents expect to purchase rugged/semi-rugged computing devices in the next 12 months.

## RESPONDENT DEMOGRAPHICS

### Annual revenue

Below \$100 million:	40%
\$100 to \$500 million:	14%
\$500 million to \$1 billion:	17%
Over \$1 billion:	29%

### Business segments

Upstream:	60%
Midstream:	34%
Downstream:	21%
Oil field services:	31%
Other:	12%

### Respondent responsibility

Professionals:	37%
Managers:	30%
Directors:	12%
Executives:	19%
Other:	3%

### Respondent area of expertise

Engineering:	38%
Operations:	38%
Maintenance:	3%
Planning:	2%
IT:	7%
Finance:	6%
Executive:	4%
Other:	1%



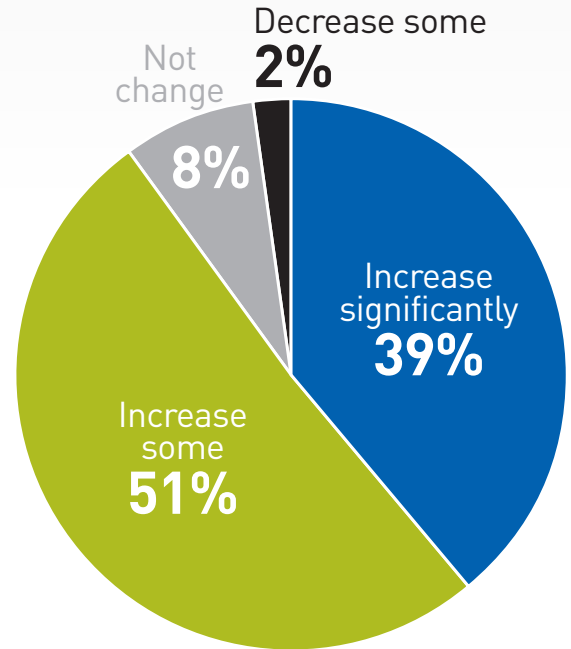
# DIGITALIZING THE OIL AND GAS MOBILE WORKFORCE

With today’s rise of big data, advanced analytics and smart sensors, oil and gas companies have an opportunity to increase their production and further reduce costs through digitalization—including for their mobile workforce. Our study reveals that 90% of respondents expect the digitalization of their mobile workforce to increase some over the next one to three years—with 39% expecting digitalization to increase significantly. (Figure 1)

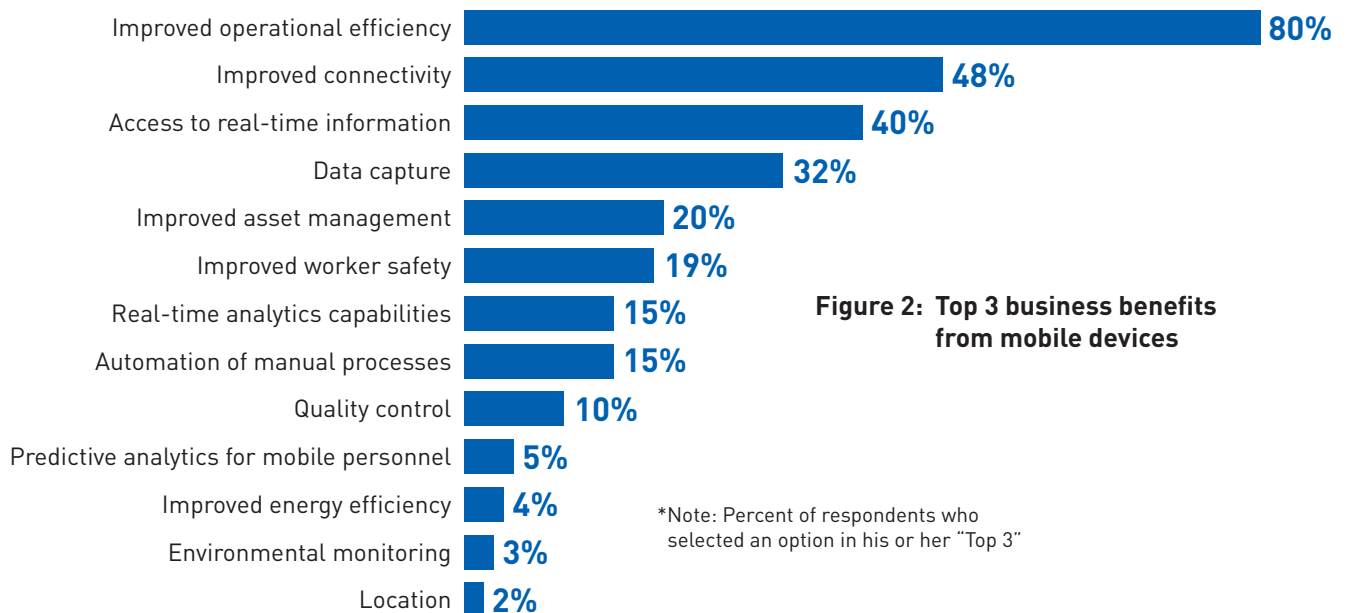
## HIGH EXPECTATIONS FOR MOBILE DEVICES AND DIGITALIZATION

A key component of oil and gas companies’ digitalization strategy for the mobile workforce includes the devices carried by their personnel. In the distributed world of oil and gas, organizations must be able to leverage increased data and analytics across their mobile workforce to ensure efficient, effective decision making in tough conditions. Upwards of 80% of respondents place greater operational efficiency in the top three benefits they seek from using mobile devices. (Figure 2)

**Figure 1: Over the next 1 to 3 years, the digitalization of our mobile workforce will...**



Right behind greater operational efficiency, the next set of benefits for mobile devices center around the ability to connect and share data. Improved connectivity (48%), access to real-time information (40%), and data capture (32%) sit at the top of benefits for mobile devices. These findings reveal the need to turn operations data into actionable insights in the field. Accessibility is key to discovering insights in industrial and operational data, and how easily the mobile workforce can obtain information directly impacts their ability to stay up-to-date on current operational conditions and improve productivity.



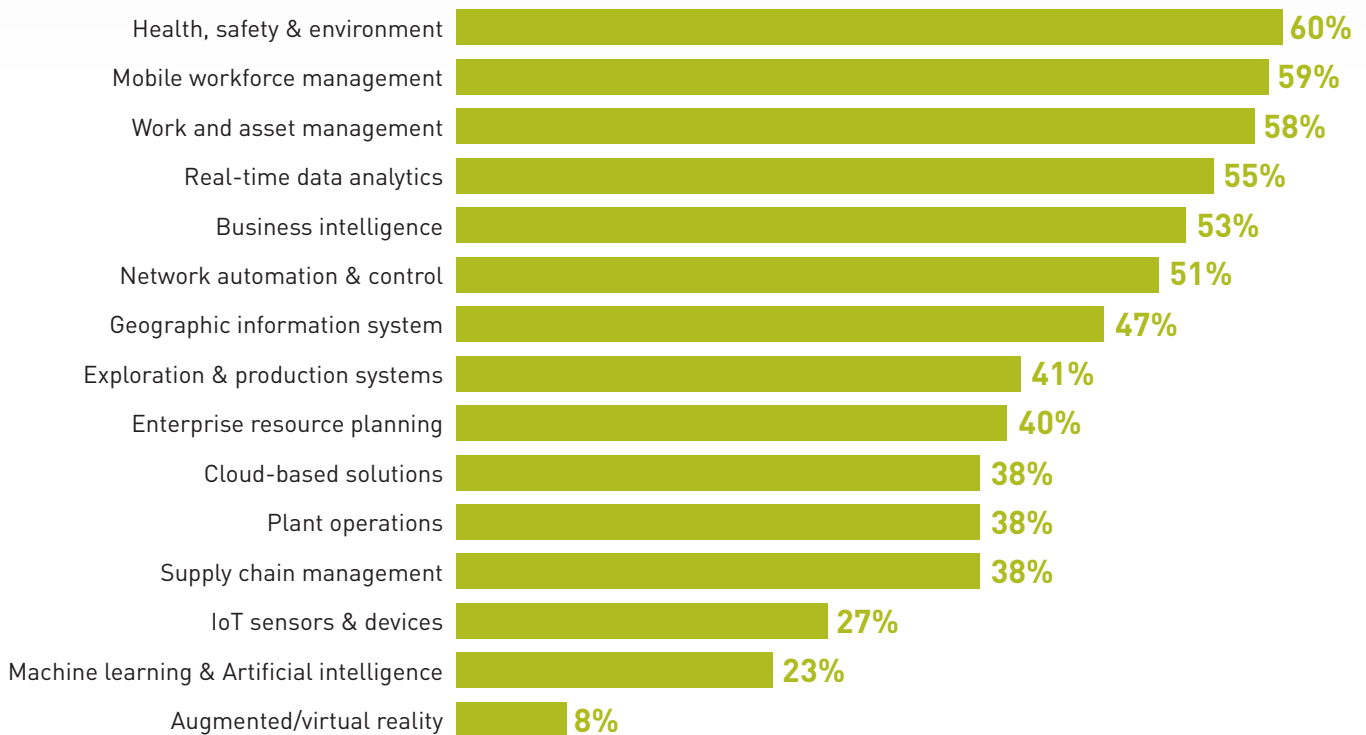
**Figure 2: Top 3 business benefits from mobile devices**

\*Note: Percent of respondents who selected an option in his or her “Top 3”



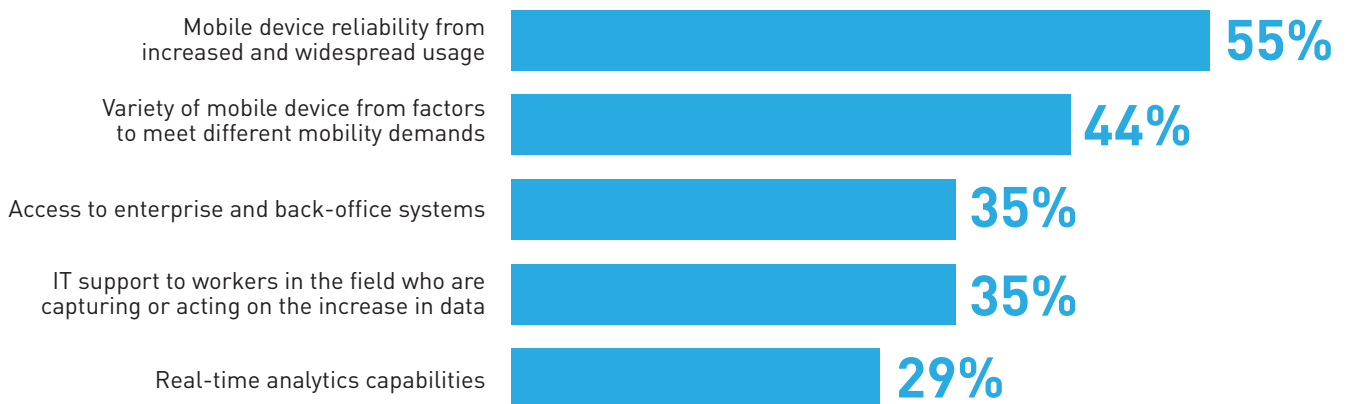
Oil and gas companies also expect their mobile devices to interact with many systems across the organization. Figure 3 demonstrates numerous applications that are important for mobile devices, including health, safety and environment (60%), mobile workforce management (59%), work and asset management (58%), and real-time data analytics (55%). Oil and gas operations must access multiple software systems to manage day-to-day tasks securely and effectively. These systems generate large sets of critical information that require timely collection and relevant visualization to deliver actionable insights to the mobile workforce. There is also a need for more secure communication between high-level decision makers and field employees.

**Figure 3: Importance of systems and technologies to interact with mobile devices**



\*Percent of respondents who selected "very important" or "extremely important"

**Figure 5: Organization's IT infrastructure preparedness for increased data**



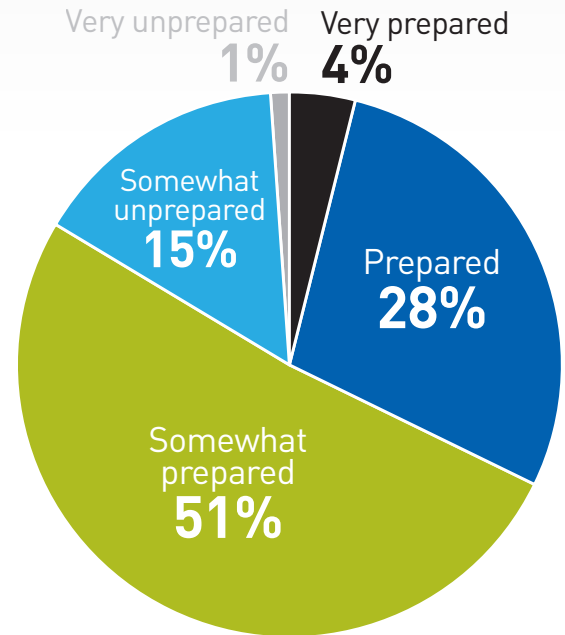
\*Note: Percent of respondents who selected "4" or "5" on a scale of 1 to 5 (1 = not prepared at all, 5 = very prepared)

# MORE WORK IS NEEDED FOR MOBILE DEVICES AND REAL-TIME CONNECTIVITY

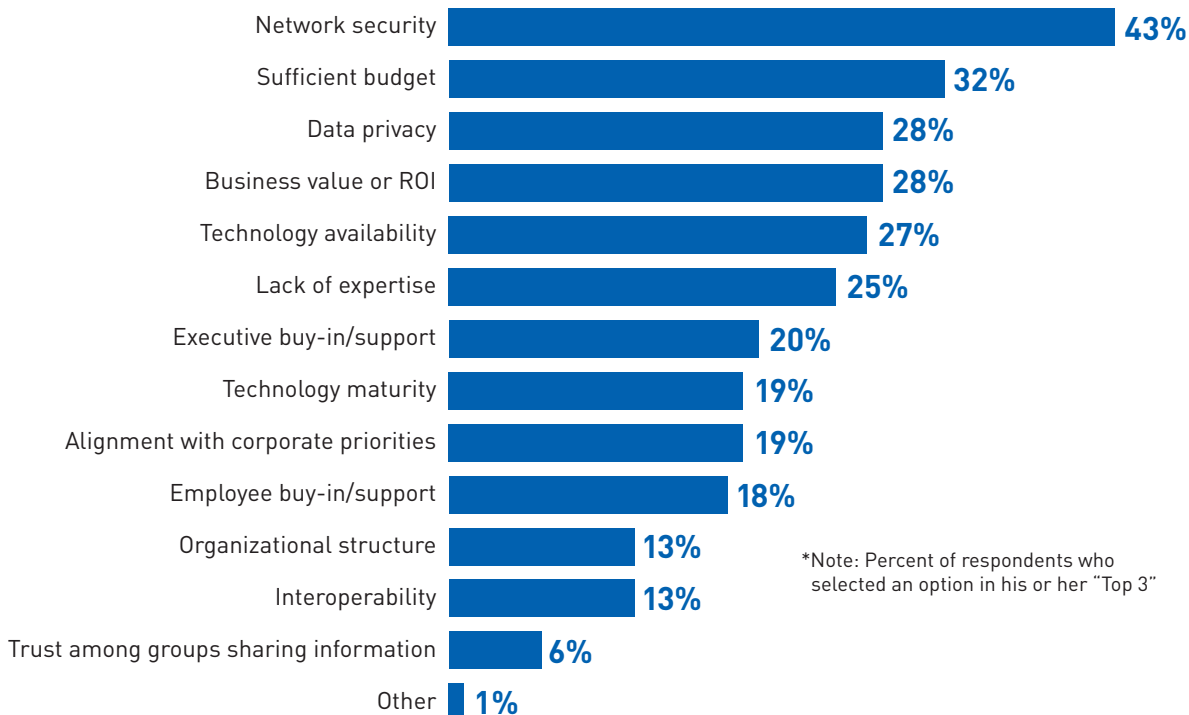
There are high expectations for digitalization, and high expectations for mobile devices. How prepared are mobile devices and mobile infrastructure to handle this emerging real-time and connected environment that will come with increased digitalization? Not as prepared as many oil and gas companies would like. Less than of one-third of respondents feel prepared, and 51% feel somewhat prepared. (Figure 4) In other words, oil and gas organizations need to be preparing their mobile devices for what's next.

Just over half of respondents feel that their mobile device is prepared for increased data. Two-thirds of respondents feel under-prepared for accessing enterprise and back-office systems, and 71% feel under-prepared for real-time analytics capabilities with their mobile devices. (Figure 5) Additionally, network security tops the list of challenges for oil and gas companies when it comes to integrating their mobile devices. (Figure 6) Since the data transmitted among the mobile workforce is often extremely valuable, ensuring the data is secure as it is transmitted and stored is a top priority for many organizations.

**Figure 4: Mobile devices and infrastructure preparedness for real-time/connected environment**



**Figure 6: Top 3 challenges integrating mobile devices into mobile workforce**

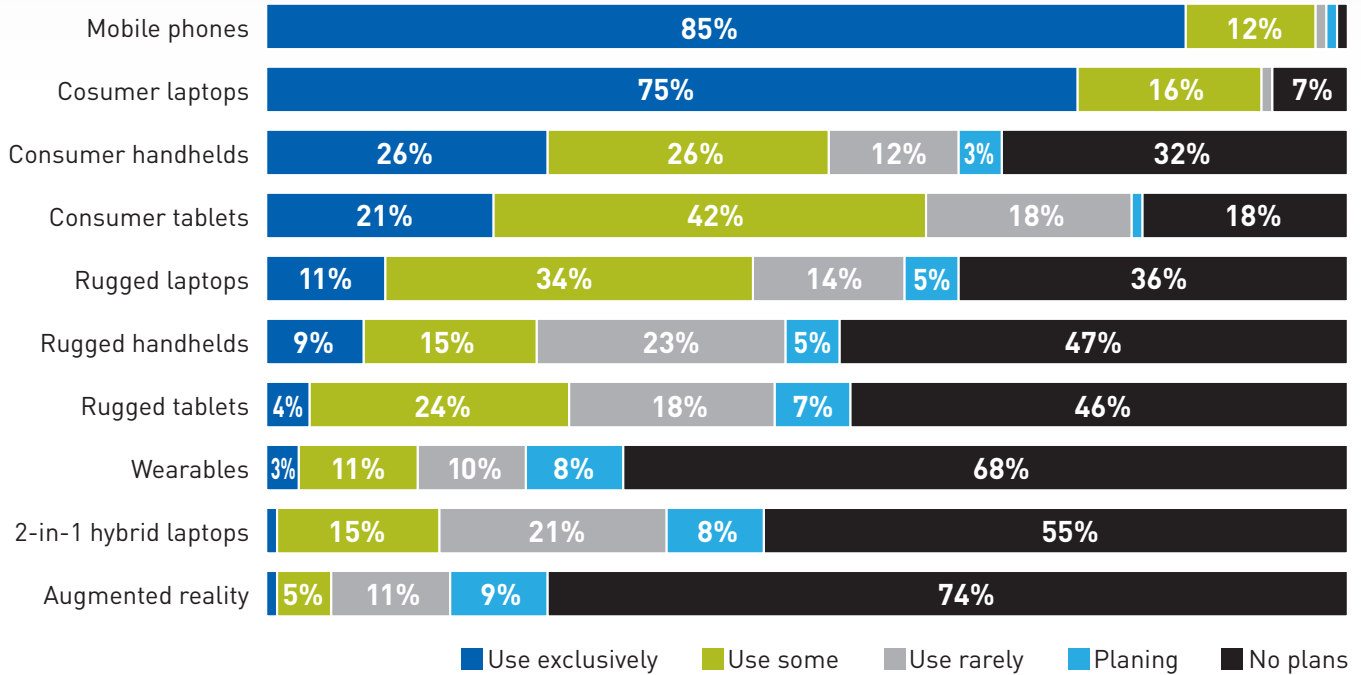


\*Note: Percent of respondents who selected an option in his or her "Top 3"

# THE RUGGED OPPORTUNITY

The value is clear for mobile devices in the increasingly digitalized world of oil and gas, but so are the challenges associated with many of the devices in use today. What does the current mix of mobile devices look like, and what are the opportunities going forward? How do oil and gas companies best prepare their mobile infrastructure for what's next with digitalization?

**Figure 7: Current use of mobile devices in mobile workforce**

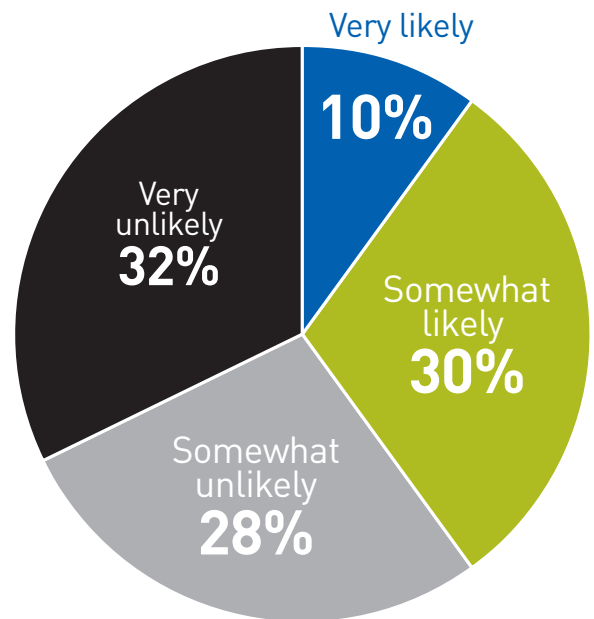


Right now, oil and gas companies make extensive use of consumer-grade devices, including mobile phones and laptops. (Figure 7) Ruggedized devices, such as laptops, tablets and handhelds, however, are on the rise. (Figure 8) This trend is reflected in the fact that although oil and gas professionals consider a variety of factors when looking to purchase mobile devices—including interoperability, total cost of ownership and form factor—durability is one of the top factors considered for mobile devices. Durability is a very important factor to consider for 43% of survey respondents. (Figure 9)

Rugged computing devices meet the durability needs of oil and gas companies, which includes products that thrive in harsh environments of salt, chemicals, machinery and moisture. They can also address many of the other issues facing oil and gas companies as they look at their mobile device portfolio. Beyond durability, rugged devices can offer:

- **Network security and data privacy.** Rugged devices can help companies alleviate concerns of integrating real-time data and analytics into the increasingly connected environment of mobile workforces.
- **Greater reliability.** For accessing and sharing real-time information in the field.
- **A variety of form factors**—including laptops, handhelds and tablets to meet the specific needs of the workforce.
- **Safety.** For example, if rugged devices are certified UL 1604, Class I, Division 2, they won't emit dangerous sparks in hazardous work environments.

**Figure 8: Likelihood of purchasing rugged/semi-rugged devices in next 12 months**



**Figure 9: Top factors for purchasing mobile devices**



\*Note: Percent of respondents who selected "4" or "5" on a scale of 1 to 5 (1 = not important at all, 5 = very important)

## CONCLUSIONS AND RECOMMENDATIONS

Digitalization is on the rise, and mobile devices must stay ahead of the rapid changes happening in the world of oil and gas. Opportunities to take your mobile device strategy to the next level include:

- **Ensure that your mobile computing devices are rugged, providing security, efficiency and reliability to handle the increasing demands placed on mobile workforces.**
- **Consider the specific needs and use cases for your mobile workforce to best understand how different form factors will best serve their needs.**
- **Mobile devices should operate with a reliable sustainable digital infrastructure and communications networks. Ensure that mobile devices are connected to a reliable wireless network to strengthen all communication among mobile workers and the broader organization.**



For more information about your mobile device strategy, please contact:

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