Panasonic

TOUGHBOOK

Future Technologies and the Impact on Mobile Workforces and their Devices

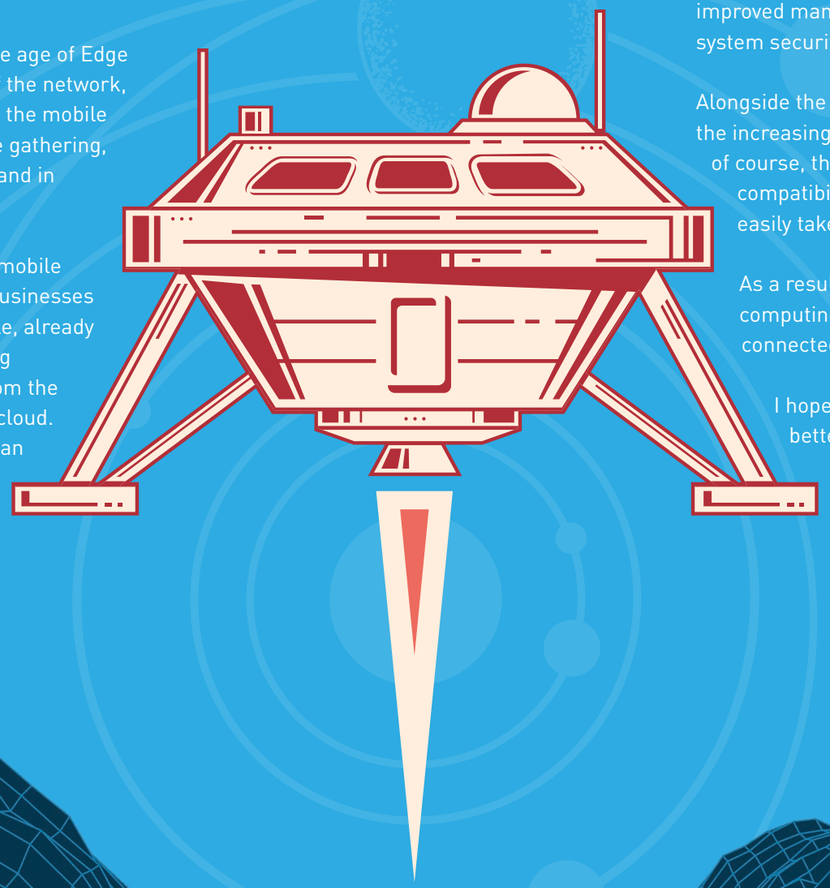
intel

Foreword

Although a wide range of exciting future technologies are being watched closely, there is clear evidence from this research that businesses are adopting and looking to capitalize on the benefits of Big Data, the Internet of Things and Sensor technology for their mobile workforces.

As these technologies are deployed, we move ever closer to the age of Edge Computing, where processing power is required at the edge of the network, much closer to where data is collected. This means the role of the mobile workforce computing device becomes even more critical in the gathering, analysis and communication of data, the provision of services and in improving productivity.

Panasonic Canada Inc. (PCI) is focused on evolving its rugged mobile computing notebooks, tablets and handheld devices to allow businesses to benefit from these technological leaps. We have, for example, already integrated sensor technology, such as heat and special sensing technologies into our devices to enable data to be collected from the field and seamlessly transferred into backend systems or the cloud. Our devices, with their extensive range of ports and sensors, can be used as IoT devices or to connect, monitor and maintain IoT equipment. In the Big Data area, we continuously upgrade the communication and processing capabilities of our rugged mobile devices to ensure they have the capability to meet these needs.



Importance of security
Buyers highlighted device and data security as the key improvement area in mobile computing devices over the next five years. As the importance of Android grows in this market, PCI is responding to these needs with improved management functionality and increased device and operating system security with Productivity+.

Alongside the adoption of these future technologies, buyers also predicted the increasing need for rugged devices for their mobile workforces. And, of course, the ever constant need for ergonomic design and long-term compatibility of peripherals will be required to allow workforces to easily take advantage of these future technologies.

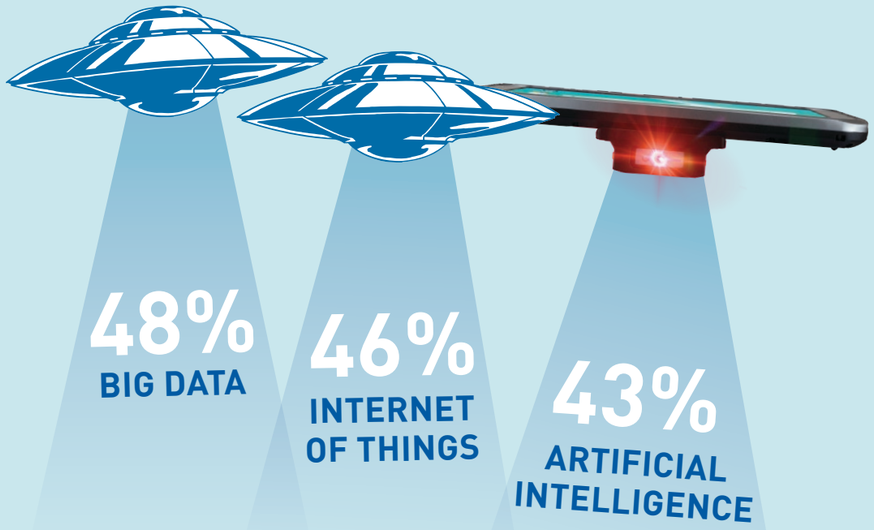
As a result, PCI will continue to develop a range of rugged mobile computing devices that are increasingly more powerful, more connected and with a widening range of integrated applications.

I hope you find our latest research valuable and that it helps you to better anticipate your future mobile workforce needs.

SUSAN BLACK
General Manager Enterprise Solutions Division
for Panasonic Canada Inc.

Executive summary

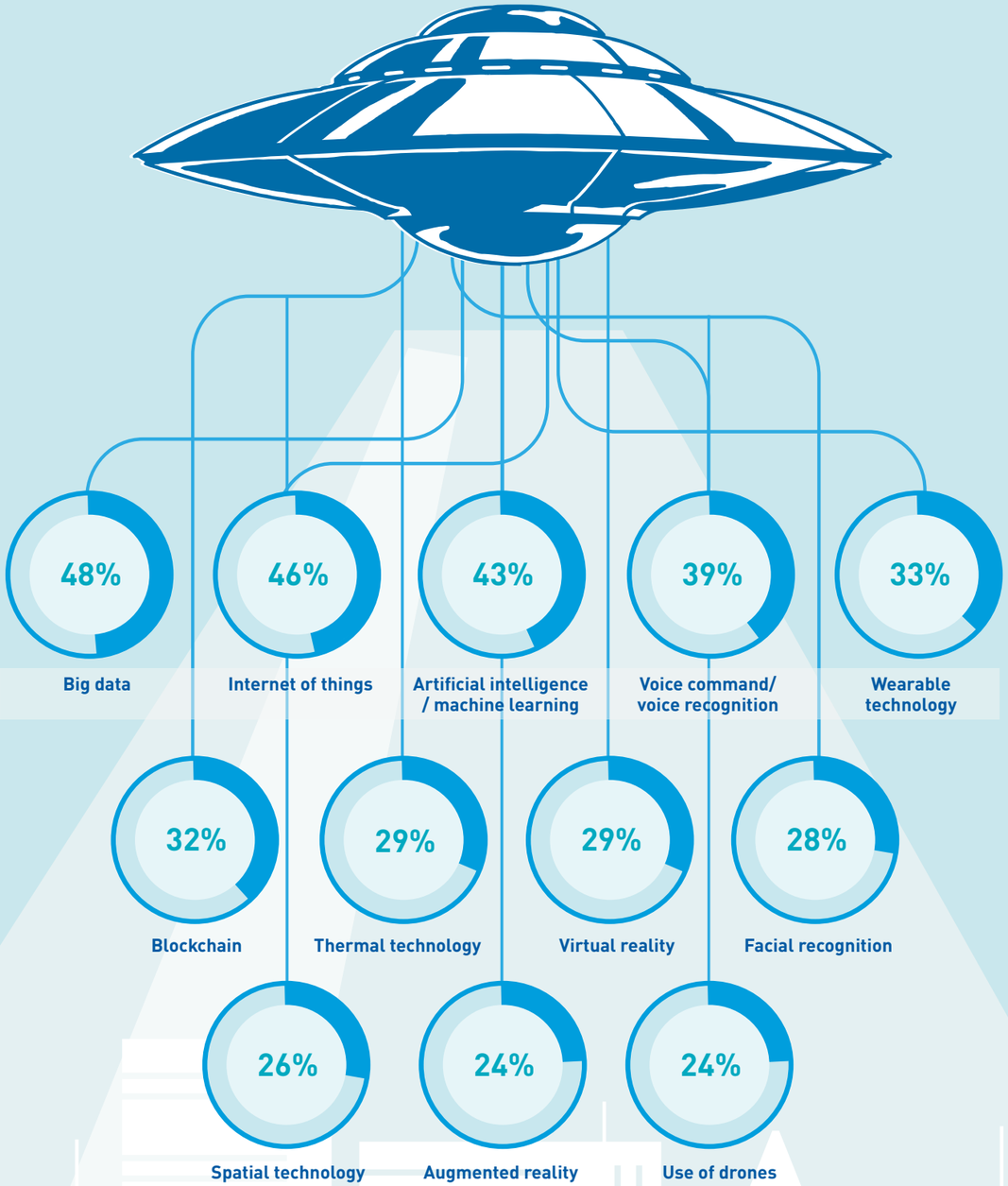
According to mobile technology buyers, Big Data, the Internet of Things (IoT) and sensing technologies will be the trends most impacting mobile workforces in the near future. The independent research, carried out by Opinion Matters and commissioned by Panasonic Toughbook, questioned 250 mobile technology buyers for businesses in Canada.



Technology trends

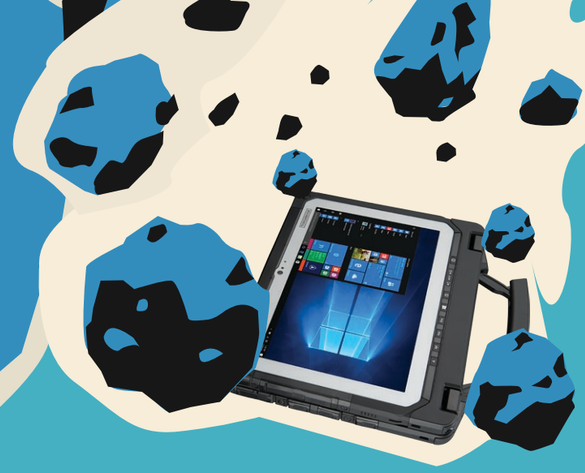
When asked to rate the importance of technology trends for use by their mobile workforce, buyers rated Big Data (48%) the most important, closely followed by IoT (46%) and Artificial intelligence / machine learning (43%).

When thinking about the immediate future (i.e. the next 12 months), how would you rate the importance of the following technology trends for your organization in terms of their use by your mobile workforce?



The main drivers for the technologies were improved business efficiency and productivity.

What do you think would be the main reasons for the mobile workforce in your organization to have this kind of technology in the immediate future (i.e. next 12 months)?



ARTIFICIAL INTELLIGENCE / MACHINE LEARNING

To improve:

- Efficiency 31%
- Productivity 28%
- Process 25%

BIG DATA

To improve business:

- 40% Efficiency
- 33% Process
- 30% Productivity

WEARABLE TECH

To improve:

- Productivity 30%
- Efficiency 29%
- Process 23%

SPATIAL SENSING

To improve business:

- Efficiency 28%
- Process 26%
- Productivity 25%

BLOCKCHAIN

To improve business:

- 38% Efficiency
- 26% Productivity
- 26% Process

USE OF DRONES

To improve:

- Efficiency 28%
- Process 27%
- Productivity 27%

INTERNET OF THINGS

To improve business:

- 35% Efficiency
- 30% Productivity
- 30% Process

AUGMENTED REALITY

To improve:

- 24% Efficiency
- 22% Productivity
- 21.5% Process

VIRTUAL REALITY

To improve:

- Process 28%
- Efficiency 21%
- Productivity 17%

Who benefits

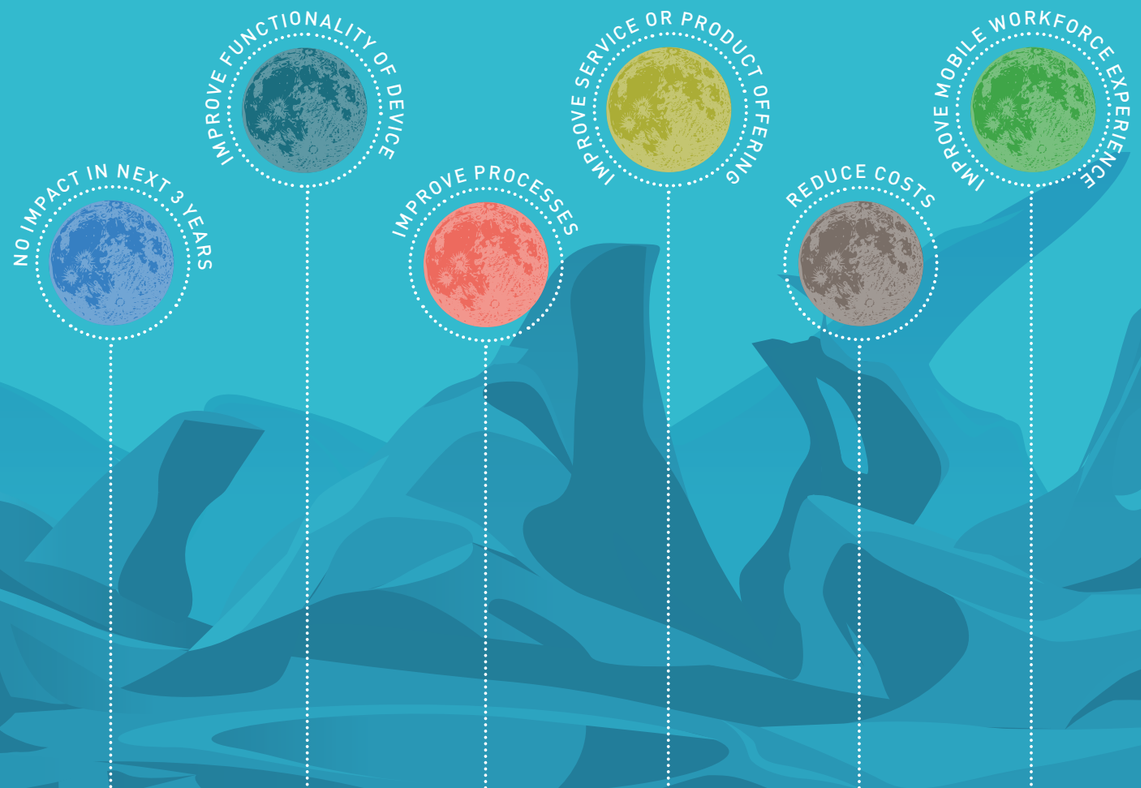
Unsurprisingly, the mobile device buyers thought that the IT Department would benefit most within the organization from every technology trend. However, looking at the second department to benefit most threw up some interesting insights.

Which teams in your organization do you think will benefit most from the following technology trends over the next 12 months?

- **INTERNET OF THINGS**
  - INFORMATION TECHNOLOGY 44%
  - MANAGEMENT 35%
- **BIG DATA**
  - INFORMATION TECHNOLOGY 42%
  - MANAGEMENT 36%
- **WEARABLE TECH**
  - INFORMATION TECHNOLOGY 29%
  - FIELD SERVICES - ENGINEERS 26%
- **VIRTUAL REALITY**
  - INFORMATION TECHNOLOGY 28%
  - RESEARCH AND DEVELOPMENT 22%
- **THERMAL TECH**
  - INFORMATION TECHNOLOGY 25%
  - FIELD SERVICES - ENGINEERS 22%
- **AUGMENTED REALITY**
  - INFORMATION TECHNOLOGY 30%
  - CUSTOMER SERVICE 18%
- **FACIAL RECOGNITION**
  - INFORMATION TECHNOLOGY 34%
  - MANAGEMENT 24%
- **USE OF DRONES**
  - INFORMATION TECHNOLOGY 21%
  - FIELD SERVICES - ENGINEERS 19%
- **SPATIAL SENSING**
  - INFORMATION TECHNOLOGY 27%
  - MANAGEMENT 20%
- **BLOCKCHAIN**
  - INFORMATION TECHNOLOGY 36%
  - MANAGEMENT 24%
- **VOICE COMMAND / VOICE RECOGNITION**
  - INFORMATION TECHNOLOGY 35%
  - CUSTOMER SERVICE 26%
- **AI / MACHINE LEARNING**
  - INFORMATION TECHNOLOGY 38%
  - RESEARCH AND DEVELOPMENT 31%

Business benefits

Looking further into the future, over the next three years, buyers could clearly see the impact on their mobile workforces of Big Data to improve processes, reduce costs and improve service offerings. With IoT, they saw the mobile workforce benefits as improving processes, improving service offering and helping to improve the functionality of mobile devices.



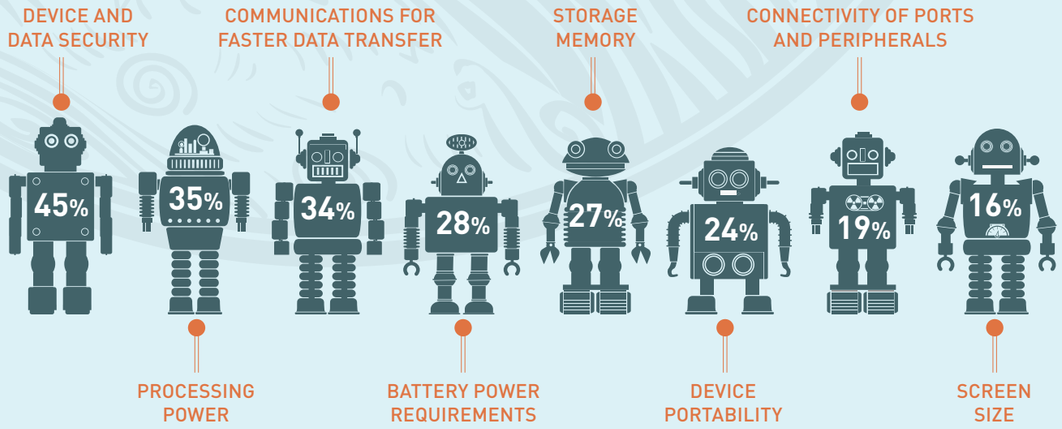
What do you think will be the main impact of each of the following for your mobile workforce in the next 3 years?

BIG DATA	Improve /streamline process	21
	Reduce costs	15
	Improve service or product offering	14
INTERNET OF THINGS	Improve /streamline process	18
	Improve service or product offering	14
	Improve mobile workforce experience	14
AI/MACHINE LEARNING	Improve /streamline process	17
	Improve functionality of device	14
	Improve service or product offering	14
BLOCKCHAIN	No Impact in next 3 years	16
	Improve mobile workforce experience	13
	Improve /streamline process	13
USE OF DRONES	No Impact in next 3 years	24
	Improve mobile workforce experience	13
	Improve functionality of device	12
WEARABLE TECH	Improve mobile workforce experience	19
	No Impact in next 3 years	14
	Improve service or product offering	12
SPATIAL SENSING	No Impact in next 3 years	18
	Improve /streamline process	14
	Improve mobile workforce experience	13
AUGMENTED REALITY	No Impact in next 3 years	22
	Improve service or product offering	16
	Improve functionality of deviceg	13
VIRTUAL REALITY	No Impact in next 3 years	22
	Improve service or product offering	12
	Improve functionality of device	12
FACIAL RECOGNITION	Improve functionality of device	16
	Improve mobile workforce experience	16
	No Impact in next 3 years	15
THERMAL TECHNOLOGY	No Impact in next 3 years	24
	Improve service or product offering	11
	Improve mobile workforce experience	11
VOICE COMMAND/ VOICE RECOGNITION	Improve mobile workforce experience	16
	Improve service or product offering	14
	Improve functionality of device	14

Mobile priorities

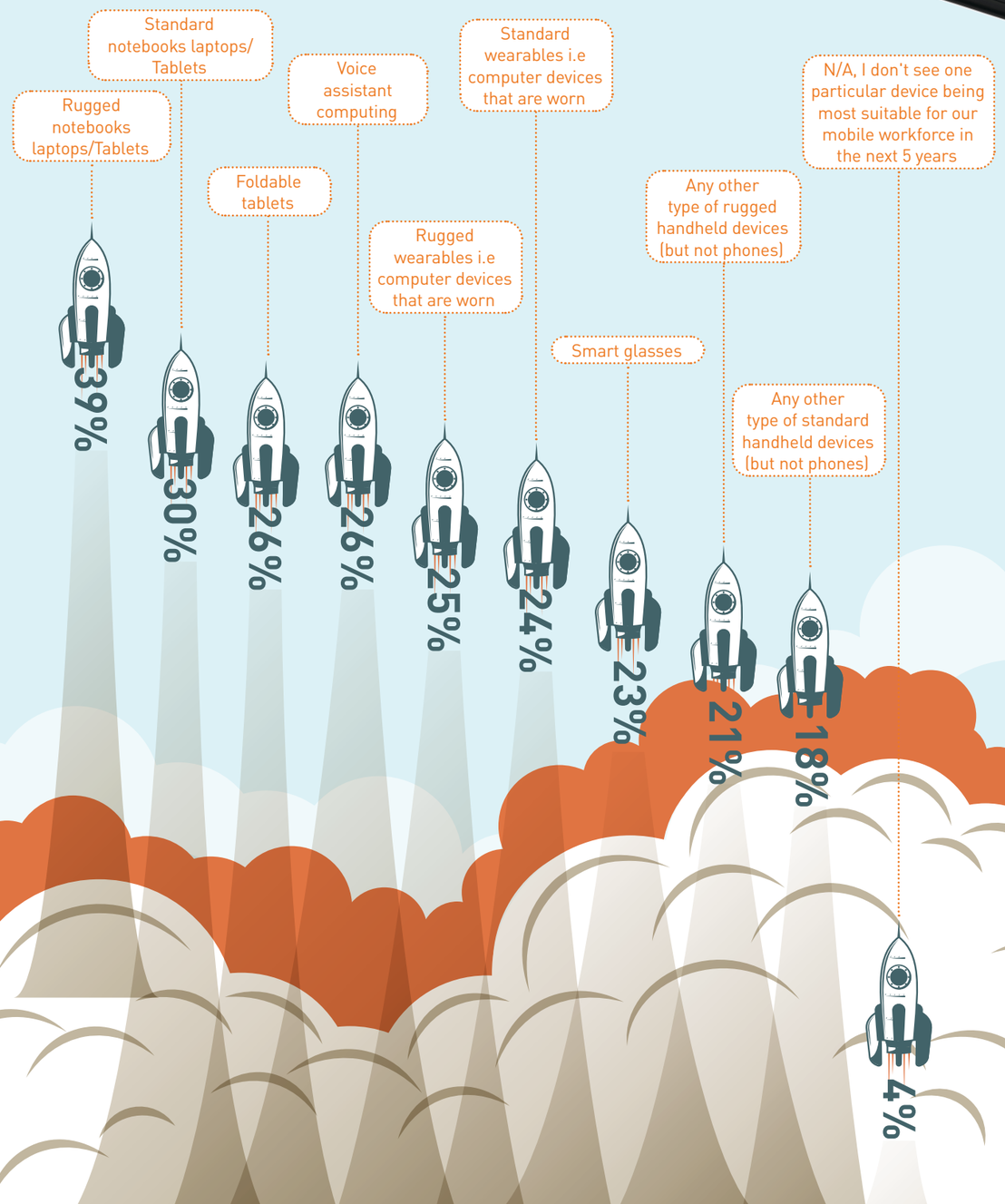
Considering how mobile devices will need to change over the next five years to take advantage of these new technologies, buyers prioritized improvements in device and data security (45%), processing power (35%) and communications for faster data transfer (34%).

In which of the following areas do you predict your company's mobile devices will need to change most over the next 5 years to take advantage of technologies such as Internet of Things, Big Data, Virtual Reality, Augmented Reality, Wearable technology, Drones and Sensors?



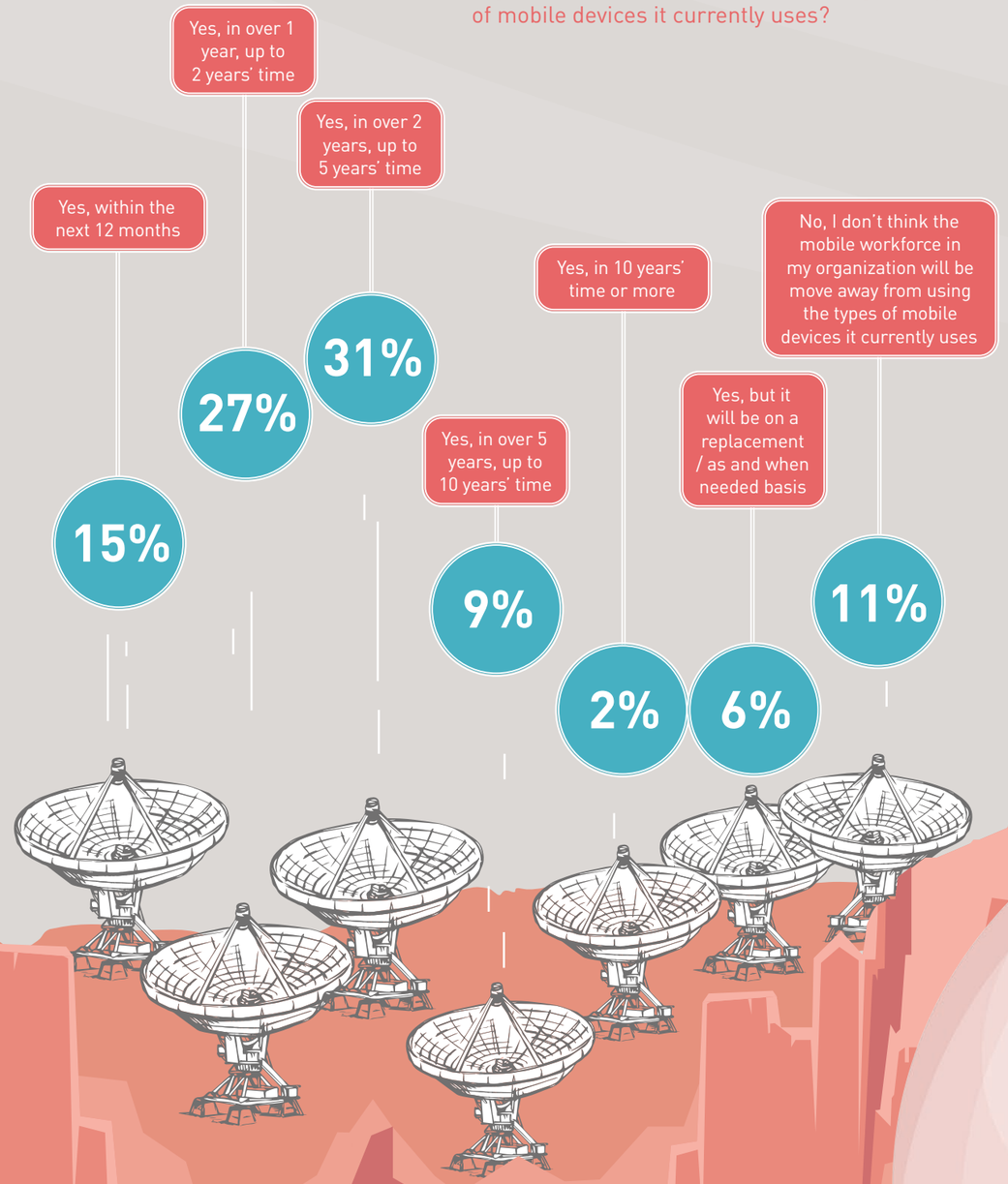
Mobile device buyers also predicted the continued rise of rugged devices as critical tools for mobile workforces.

Which type of devices do you see being most suitable for your mobile workforce in the next 5 years?



However, the largest group of buyers did not expect to change the type of mobile devices they were buying until two-to five years out.

Do you think the mobile workforce in your organization will move away from using the types of mobile devices it currently uses?



Smart watches

Smart wristbands

Drones

Smart fabrics/ clothing

Smart gloves

Smart glasses/contact lenses

Smart Technologies

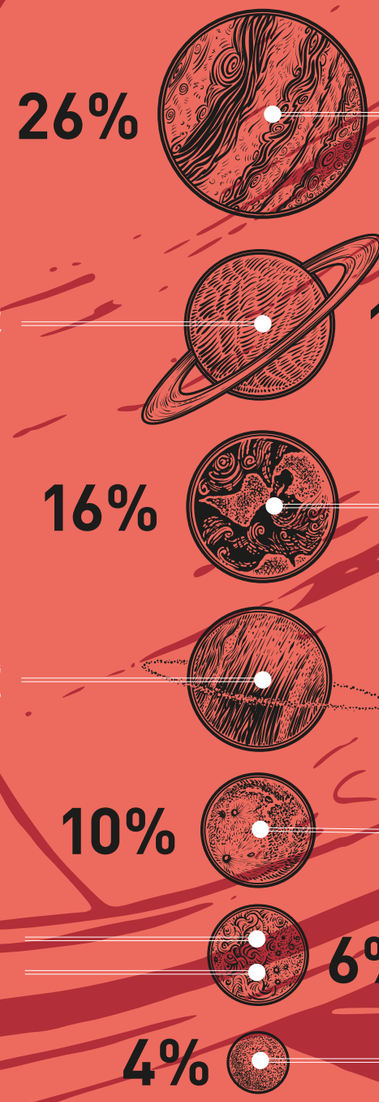
The adoption of smart technologies for mobile workforces already looks well underway. Many buyers said that the implementation of smart watches, wrist bands and drone use had already been completed or was imminently planned for mobile workforces.

Do you think the mobile workforce in your organization will be using any of the following devices in the future?

Barriers to adoption

Cost and reliability were the biggest issues preventing organizations from adopting new technologies faster.

What do you think would be the main thing preventing your organization from adapting to technologies such as Internet of Things, Big Data, Virtual Reality, Augmented Reality, Wearable technology, Use of drones, Sensor technology?



26% COST

THE TIME AND COST OF TRAINING TO USE NEW TECHNOLOGY **17%**

16% RELIABILITY OF NEW PRODUCTS

COMPATIBILITY WITH EXISTING HARDWARE / SOFTWARE / SYSTEMS **14%**

10% THE APPETITE TO EMBRACE CHANGE

N/A, I DON'T THINK THERE IS ONE MAIN THING THAT WOULD PREVENT OUR ORGANIZATION FROM ADAPTING TO THESE TECHNOLOGIES

HUMAN RESOURCES/EXPERTISE **6%**

4% NOTHING WOULD PREVENT OUR COMPANY FROM ADAPTING TO TECHNOLOGIES

Panasonic Computer Product Solutions help mobile workers improve productivity with its range of TOUGHBOOK rugged notebooks, business tablets, handhelds and electronic point of sales (EPOS) systems.

Take a look at our full range of rugged devices and resources:

https://na.panasonic.com/ca/computers-tablets-handhelds

*(VDC Research, March 2018)