



## The Extreme Office:

# Why Rugged, Field-Ready Devices are Critical

When your workforce is subjected to extreme environmental conditions, their mobile devices should enable them to achieve anything, anywhere, no matter what.



KNOWING THAT EQUIPMENT IS DURABLE AND FIELD-READY—STRAIGHT OUT OF THE BOX—MEANS PEACE OF MIND FOR FIELD WORKERS, AS WELL AS FOR IT AND BUSINESS MANAGERS BACK AT HEADQUARTERS.

**FOR MANY PEOPLE, THE TYPICAL WORKING ENVIRONMENT IS NOT A COMFORTABLE, AIR-CONDITIONED HIGH-RISE BUILDING, A SUBURBAN BUSINESS COMPLEX, OR A HOME OFFICE.** It's outside in the searing summer heat or bitter winter cold, where there can be sudden exposure to rain, snow, high winds, dust, and other challenging conditions.

These workers might be toiling at the tops of turbines or utility poles, inside dusty crawl spaces, in mines or forests, or traversing rough-terrain roads. They are in industries such as telecommunications, alternative energy (wind, solar, hydro), mining, forestry, transportation, warehousing, oil and gas, and emergency services. As such, they are accustomed to harsh and unpredictable conditions.

But their computing devices might not be.

This paper examines the challenges of using mobile devices that are not rugged-built or field-ready for extreme environments. It also describes the features and capabilities companies should look for when they need rugged devices that can handle any kind of condition and circumstance.

## Risks of deploying inadequate mobile devices

Putting unreliable or delicate, consumer-grade computing equipment in the field can potentially risk:

- ongoing business operations
- productivity
- operational costs, including device repair and employee downtime
- the safety of workers

Out in the field, it's not easy to fix equipment that malfunctions, run diagnostics, or carry out upgrades. It's not likely—and sometimes not even possible—for an IT manager or tech support person to show up in a forest, mine, oil rig, or other hard-to-reach place when something goes wrong with a laptop.

If a company does need to send someone to a remote site to make repairs or look into a problem, it can result in higher costs and lost productivity for the workers in the field, extra time for the IT technicians, and costly delays for the business. Such disruptions could affect employees' ability to provide timely service to customers. Even the loss of a few hours can have a significant impact on a project's success.

There are also risks associated with having to deal with replacement devices—including time lost in shipping equipment back and forth to remote sites, and the potential for damage to or loss of the hardware while it's being shipped.

Perhaps most worrisome is that having inadequate computing equipment in the field can put worker safety at risk. For example, if something goes wrong with a user's mobile device, he might have to climb down a wind turbine or a cell phone tower to solve the problem, then climb back up again to complete the job. That doubles his chances of injury.

Devices in the field must be reliable and ready for use. Knowing that equipment is durable and field-ready—straight out of the box—means peace of mind for field workers, as well as for IT and business managers back at headquarters.

## Rugged device features & capabilities: What to look for

Workers in extreme conditions need devices that offer more than a protective rubber casing. Companies should look for several critical characteristics when they are evaluating mobile rugged devices.



## OUT OF THE BOX, INTO THE FIELD

Panasonic Premier Deployment Services ensures that every Toughbook arrives to your workers in field-ready condition and fully operational—taking the burden off your IT team.

These services provide 100% guarantee of functionality both before and after device shipment, including:

- ✓ Software is functional and tested
- ✓ Battery is fully charged and has a long life
- ✓ Asset tags are updated
- ✓ Latest factory upgrades are installed
- ✓ Latest images are cataloged
- ✓ Warranty and entitlements are reset for deployment date
- ✓ Wireless is activated
- ✓ Online service history is managed
- ✓ Disk images are cataloged and maintained
- ✓ Custom BIOS are created, as well as personalized security options

[CLICK HERE for more info and to download a Panasonic Premier Deployment Services brochure.](#)

### FIELD-READY

One of the most important criteria is that the devices be fully operational and ready for use as soon as they're delivered to workers in the field. That means they must arrive equipped with all the software and third-party accessories users need to do their jobs.

Any software loaded on the devices should be tested ahead of time to make sure it's functional. Devices should also ship with fully charged batteries designed for long life and come installed with the latest factory upgrades.

In addition, rugged laptops should have Wi-Fi that is built for immediate availability and connectivity. All users today demand mobile access, but for emergency personnel and remote workers, reliable connectivity is a requirement.

### BUILT TOUGH INSIDE & OUT

The devices should be designed and manufactured with toughness in mind, rugged enough to withstand any kind of environment. They should be built to military-grade specifications, engineered with enterprise-grade security, and designed to withstand the harshest conditions including:

- drops and bumps
- liquid spills
- dust and grime—and even sludgy mud
- extreme temperatures
- constant vibrations or jarring motions

### PERFORMANCE ASSURANCES

Given the rough conditions in which the devices will typically be used, they should arrive with a standard warranty of at least three years, protected from manufacturing defects.

Some providers, such as Panasonic, also include a priority parts exchange program and repair service at no cost. Other assurances should include:

- lifetime access to a technical support hotline
- online access to drivers, first-aid disks, BIOS updates, tools, utilities, and manuals
- free overnight delivery of parts and repaired units

Look for options like extended warranties to match equipment refresh cycles, and support services for organizations that operate in extremely challenging environments to minimize risk. These protections should cover all repairs, regardless of how many times a device is broken.

### BATTERY LIFE

Another important feature is extended battery life. Imagine a worker deep inside a mine, and his laptop's battery runs out. There's little chance of recharging it without having to leave the work site—a timely and costly journey. A rugged device should have a battery with a minimum life of 10 hours, with an option for longer-life batteries if needed.

Similarly, companies should seek capabilities for hot and warm swaps of batteries. This is made possible by a bridge battery configuration. A second battery enables a user to change batteries without having to turn off the device. This feature can also be used to extend the total battery life.

### SCREEN & KEYBOARD FUNCTIONALITY

Having a glove-sensitive touch screen is another important feature. For example, individuals working in freezing conditions or amid potential biohazards cannot afford to remove their gloves to interact with their devices.

Glare is another consideration. A utility technician outside in bright sunlight may struggle to view data on the device screen. The rugged device should be equipped with a screen that adapts and is viewable whether in direct sun or amid heavy rains.

Finally, the device's keyboard should be designed with versatility and toughness in mind. It should be resistant to liquid, dust, dirt, and grime. Consider rubberized or backlit keyboards and a lock to prevent the keyboard dock from accidentally falling off—a scenario that could potentially bring productivity to a standstill.

## Panasonic Toughbook: Rugged and ready

For organizations that have a workforce in the field, failure of mobile devices is not an option. Too much is at stake, including efficiency, productivity, cost, and worker safety. Smart businesses know that they can't use just any laptop or mobile device in challenging conditions. Their equipment must be tough, reliable, durable, and field-ready.



Panasonic Toughbook answers the challenges companies face when equipping their field workers with mobile technology. Toughbook offers all the features necessary for a rugged solution that's ready to go.

First and foremost, unlike most manufacturers, Panasonic designs and builds its devices, carefully selecting each component—from the memory chip and antenna to the mobile connectivity services and the casing.

### TESTING. AND THEN, MORE TESTING

As part of its process, Panasonic thoroughly tests the Toughbook. This enables Panasonic engineers to predict performance over the full life cycle of each component and correct any problems before the manufacturing process even begins.

The testing is extensive, which is why Panasonic Toughbook products have had the industry's lowest failure rate for the past 14 years straight. Each device must exceed military-standard requirements for durability. For example, the hinges on all Toughbook models are factory tested to survive 50,000 cycles, and keyboards must last for 25 million keystrokes.

The devices are also assessed for resistance against drop and shock, liquids, vibration, particles, temperature, pressure, humidity, and other extreme conditions. In all, each device is subjected to more than 500 checks and tests.

Panasonic also offers a unique replacement service: In the rare case that a worker's Toughbook suffers a failure, Panasonic can ship a replacement unit within 24 hours from its U.S.-based service center.

Finally, when it comes to development, Panasonic doesn't stand still: It is constantly evolving its products to meet tomorrow's needs. The company conducts ongoing research, gathering direct feedback from customers—including a deep understanding of the day-to-day conditions workers face in getting their jobs done, and why their devices must enable them to achieve anything, anywhere.

### The bottom line

No matter the environment or the industry, Panasonic Toughbook equips extraordinary workers with durable, adaptable technology for the most challenging and even dangerous jobs.

And by doing so, it offers a lower total cost of ownership and greater return on investment for the business, while easing daily IT management requirements.

Find out how  
Panasonic changes  
the way work gets  
done, and why  
**Toughbook** is the  
standard for mobile  
technology.