

A soldier in camouflage gear is shown from the side, wearing tan tactical gloves and holding a ruggedized mobile device. The device screen displays a data visualization with a line graph and a red circle. The background is a blurred outdoor setting with trees and a clear blue sky. The overall image conveys a sense of operational readiness and the use of technology in a military or defense context.

Panasonic

MISSION CRITICAL: THE TRUE COST OF MOBILE COMPUTER FAILURE

How Device Failure and Down-Time Is
Affecting Your Defense/Civilian Agency



INTRODUCTION

When a mobile computer fails in the field, the resulting downtime can have an enormous impact. Failure costs money, requires valuable IT support time, results in reduced productivity, and in some cases, can lead to mission failure and even put the user's life in peril.

Analyst data shows rugged laptops and tablets deliver a higher return on investment than consumer-grade devices with a lower total cost of ownership¹. Devices that are purpose-built for the way they are intended to be used will better serve workers and their organizations over the long run. While consumer grade, off-the-shelf computers work for certain applications, they are not designed for the harsh conditions that many workers encounter in their everyday work lives.

As defense/civilian agencies evaluate mobile technology, it is essential to consider the true cost of a device over its lifetime and how its features and capabilities can impact performance and reliability on the job in the most challenging environments and mission-critical situations.

1. VDC Research (2010). Total Cost of Ownership Models For Mobile Computing and Communications Platforms, Third Edition, Track I, Volume I: Mobile Devices. http://www.vdcresearch.com/_Documents/tracks/t1v1brief-2566.pdf

CONSIDERING TOTAL COST OF OWNERSHIP (TCO)

Investing in a mobile solution requires evaluating more than merely the technology acquisition costs. Typical consumer grade devices are designed to work 1–2 years before having to be replaced, resulting in shorter lifecycles and higher support and maintenance costs. Any laptop or tablet downtime results in lost productivity and costly repair support expenses, so selecting the right device is key to a successful long-term solution. Below are some of the most important product features you should consider to maximize productivity and efficiency on the job and minimize costly downtime:



Battery Life

Mobile computers should be able to last a full shift to deliver true productivity. Some consumer devices do not provide the battery power or longevity found in superior rugged devices. Agencies whose users need their mobile computing technology to last longer than an 8 hour shift need replaceable batteries and should consider an optional second battery for optimal productivity. Most consumer tablets don't allow the user to replace the battery and when it reaches the end of its useable life, the device must be sent away for service or be completely replaced. Rugged devices with purpose built and user-replaceable batteries extend the device's useable life, reduce waste, and prevent this disruption to workflow.



Connectivity

A device that cannot connect in remote or challenging locations or wherever your workers need to connect, is ineffective. Government agencies need a reliable wireless device to deliver true value to their mobile solution. Capabilities like embedded Wi-Fi and optional mobile broadband that have been designed and tested with the most advanced capabilities and most experienced wireless engineers can help to ensure your device will connect in any environment you may encounter.



Hardware Durability

A third-party "rugged" case may look impressive but will not be enough to protect your device from harsh environments. Look at everything from internal components like hard drives and ports to doors, screens and hinges. Will your workers rely on touchscreens on the job? If so, it's important to look at how many touches per quadrant your device is rated for. A rugged device will have a significantly higher amount of touches per quadrant than a consumer device, which equates to higher performance and reliability over the life of the device.



Lifespan

What is the average lifespan of the device you are considering? If you need to purchase replacement devices in a few short years, despite an initial investment which may have been lower with a consumer grade device, this will likely cost you more in the end. Repurchasing and introducing new devices more frequently means more costly IT support, training and deployment services for your agency.



Service & Support

Look for a manufacturer that offers the level of service and support your agency needs when you encounter downtime or other challenges. Panasonic's call center offers a tier-one line for federal customers, providing 24/7 support from a center that is 32 percent veteran hired and is supplemented by a dedicated team of technical field personnel. Other device manufacturers do not offer anywhere near this level of support for federal government agencies. When a device fails, there are likely to be delays and hassles with troubleshooting and the return on investment your agency has in that device is destroyed.



End of Life/Disposal

Eliminating waste is especially important for government agencies—including technology waste. Consider what you will do with the devices that have been retired or you are no longer using. Look for a manufacturer like Panasonic who offers a free recycling program for federal government customers.



Usability

Does the screen on your device allow you to see it in all lighting conditions, from direct sunlight to pitch darkness without blinding you? Is there a full set of professional quality accessories for docking, charging, carrying, and connecting? Are all the ports, connectors and slots needed to be efficient in the field built in? Are the adjustable settings flexible enough to adjust the device's components to maximize battery life and improve ease of use? Does the touchscreen allow for use with gloves? Even a few small compromises in these areas can be the difference between a decent TCO/ROI and an outstanding one.

FAILURE IN THE FIELD

The true cost of downtime is felt when a user experiences failure on the job and analyst data shows that reducing device failure is a key contributor to lower overall TCO. Over the years we have heard many stories from defense/civilian agencies about device failures in the field and how these incidents impacted both job performance and overall costs.

Below are true stories from Panasonic customers who had poor experiences with consumer grade devices or other technology claiming to be equally reliable, reinforcing their decision to choose rugged Panasonic Toughbook and Toughpad products.

DEFENSE AND CIVILIAN EXAMPLES



Overheating

Overheating is a common problem for many mobile devices. One of Panasonic's federal agency customers decided to switch to a different "rugged" device due to a lower price. However, the agency found that their new laptops were overheating and melting their users' Common Access Cards (CAC) when they were inserted into the device. Common Access Cards serve as their ID badge to authentic a user's laptop. Workers are unable to do their job if they can't use their CAC and damaged cards resulted in a lengthy process to get them replaced. A simple overheating issue like this had serious productivity consequences and put a stop to work as users could not access their devices. A manufacturer may claim to be rugged, but it is important to consider potential issues like overheating as well as performance and reliability during exposure to both high and low temperatures.



Durability

Foreign Object Debris (FOD) is any object located in an inappropriate location in the airport environment that has the capacity to injure airport or air carrier personnel and damage aircraft. This is a continuing concern at airports across the nation. A customer using a claimed "rugged" laptop during plane overhauls found that parts of the laptop were falling off on the flight line causing FOD. This is a major problem as it can cause a shutdown of flights. Delays in flights and overall productivity drove this customer to turn to Panasonic Toughbook laptops for better performance and uptime and lower FOD risks. In order to avoid downtime, you need to select a device that works the way you do. For this agency, it was important to look for features like sealed screws and durable doors and screens to prevent breakage.



Failure Rates

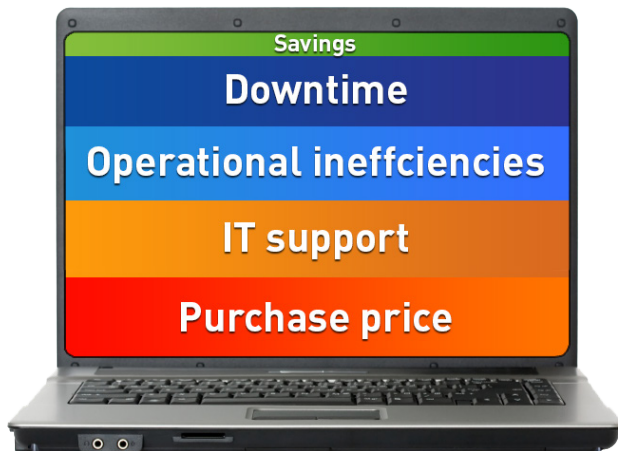
Carefully examine manufacturers' failure rates to ensure you will not need to continuously repair or replace devices because they are failing on the job. When a long time Panasonic customer made a switch to a consumer device for budgetary reasons, they quickly realized it was time to go back to rugged. In eight years of using rugged Toughbooks, they had never experienced more than a 5 percent annual failure rate. Within only nine months of using the consumer off-the-shelf device, they had experienced a twenty-five percent failure rate, underscoring the importance of selecting a device that will stand the test of time and truly deliver good return on your investment. Failure during a mission can have serious impacts. For defense personnel who rely on technology to keep them safe and complete their job, reliability is key.



Wireless Performance

Unreliable wireless connection can sometimes be a matter of life and death on the job for civilian agencies. For emergency responders, connecting to other professionals out in the field or back to a command station is critical to safely and effectively managing incoming 911 calls. Emergency responders recently faced an issue where their device failed to communicate via the wireless mobile terminal. This failure caused a 28-30 minute delayed response which ultimately resulted in a loss of life. When considering technology your workers will rely on out in the field, it is important to evaluate features like wireless connectivity and reliability to ensure you can count on your mobile device when you need it most.

A CLOSER LOOK AT FAILURE RATES: RUGGED VS. NON-RUGGED



While it may sometimes seem consumer devices enclosed in a “rugged” case might be good enough and might truly be less expensive from an initial acquisition standpoint, the cost and performance of these devices over the life of the device can actually be equal to or higher than a purpose-built rugged device designed specifically for your agency’s needs.

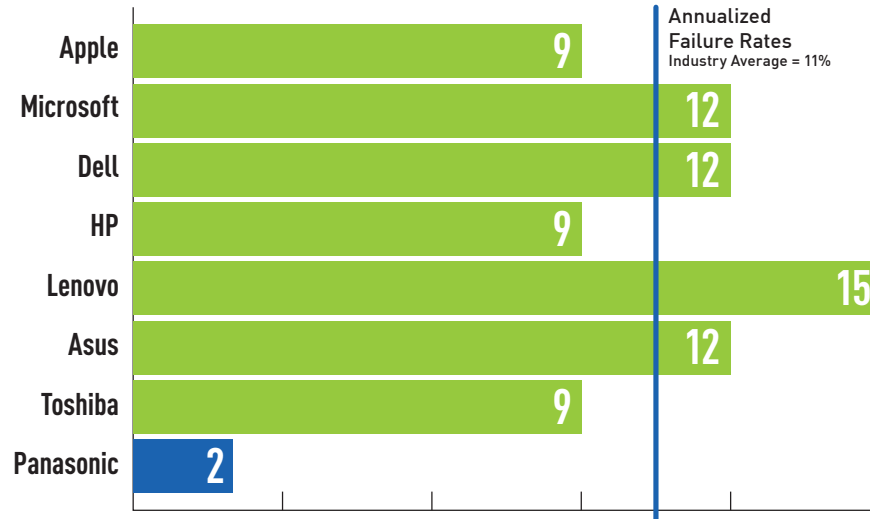
On average, the initial purchase price of a laptop is only 30 percent of the total cost; whereas lifecycle costs account for 70 percent of the total cost over the life of the device. When evaluating the true cost of a mobile device, agencies should look beyond acquisition costs. Analyst data shows that lower failure rates translate to less downtime, fewer repair expenses and a lower total cost of ownership. Over the life of a typical mobile computer, that can add up to substantial savings, because any time the computer doesn’t perform as needed it will impact costs for your agency and computer downtime is the biggest cost for any organization in the field.



Investing in a truly reliable and rugged device reduces downtime and ultimately less IT support time. These devices will save enormous costs compared to a mobile computer that won’t work where it is needed, is in need of constant repair or one that cannot be repaired at all. Look for a rugged device designed to meet the specific needs of your mobile workers to get a greater return on your investment.

Look closely at failure rates to determine the most reliable device for your workers’ needs to achieve a lower TCO.

Laptop Reliability



Toughbook Environments



Competitor Environments



BUYER'S GUIDE

There are many factors federal agencies should take into consideration when investing in a mobile solution to achieve the best performance while enjoying a lower TCO. Below are important questions you should be asking as you evaluate potential mobile computing products for your needs:

- **Where and how will your device be used?**

Whether you will use your device for security checkpoints or on the battlefield, it's important to consider all of the ways and places your device will be used on the job. If it will be used outdoors, it will be important to look for a rugged Mil-Spec certified device that can withstand rain, sand, humidity, or whatever weather environment your workers may encounter. If it needs a full shift battery life or your workers will need to read the screen in direct sunlight or use a touchscreen with gloves, these are all important features to consider. Any device that doesn't work the way your workers do can actually slow down efficiency and be a hindrance on the job. Investing in a solution that can be used without issue in the field will increase productivity and efficiency and save your agency valuable time and costs.

- **Will you deploy a device to each person or will the device be shared??**

As you evaluate a mobile solution for your agency, consider how a device will be best used. Will you purchase devices for everyone in your agency or will you swap them out during a shift change? If a device is being used constantly by everyone in your agency, it needs to have the battery life to last and the durability to handle drops, bumps and other accidents throughout the day. If everyone in your agency is getting a device, you want to keep IT costs and support time to a minimum by ensuring the device can last for years to come. This will also save you valuable support and training costs in the long run if your solution is built to stand the test of time.

- **What is your organization's policy on life cycle management?**

A thorough life cycle management program maximizes mobile workers' uptime and helps increase productivity. Look for a manufacturer that comes equipped with a comprehensive service and support program to help manage the entire life cycle of your devices. Panasonic works with customers on everything from technical training to hardware integration to deployment management and everything in between. Having a manufacturer that understands the product and the way your agency works will make your mobile solution rollout a smooth process and save you valuable time and resources, ultimately lowering your total cost of ownership.

- **How much does your organization typically spend on IT support?**

If your devices are constantly failing or in need of repairs, IT support costs can add up quickly. While consumer grade devices may require a lower initial investment, damage, repairs, shorter device lifespans and ongoing replacement costs will quickly add-up and may prove to be unexpected substantial expense for which you may not have planned. Investing in rugged technology ensures that you have a reliable device to keep your IT support costs down and your workers more productive on the job.

- **What is the impact of downtime if your mobile device fails?**

All types of federal government agencies count on technology to share and receive critical data, and sometimes even rely on devices in the battlefield. Beyond the costs associated with a broken device, the impact of failure or device downtime can be reduced productivity and efficiency, the delay of a critical mission or even the compromise of critical data. Consider how your agency will use their devices and what you risk if your technology fails. When evaluating a solution, look for features that will ensure your device can stand up in all your potential work environment and provide a reliable solution when it matters most.

CONCLUSION

The true cost of a mobile computer is more than the sticker price. Downtime can have an enormous impact on the productivity of your agency and, depending on the task at hand, can sometimes be a matter of life and death. Evaluating devices for their durability and reliability is key in lowering your total cost of ownership, and ensuring your device will perform when it matters most.

To learn more about Panasonic's line of rugged Toughbook computers and Toughpad tablets, including the world's first fully rugged detachable laptop, visit <http://business.panasonic.com/toughbook/2-in-1-hybrid-detachable-laptop-toughbook-20.html>.

