

**MOBILE VEHICLE AND HEAVY
EQUIPMENT REPAIR SERVICES –
THE NEW SERVICE MODEL**

TOUGHBOOK®

TOUGHPAD®

Automotive and Large Equipment Service professionals need to be mobile - in the field diagnosing and solving customer equipment operation issues – fast. These highly skilled technicians and mechanics need reliable, quick access in real time to vehicle and customer information and service diagnostics systems. They need to be able to seamlessly diagnose, order parts, supplies, contact other technicians from remote, industrial locations, in the grimy, dusty, service bay, under the hood of a vehicle in nasty weather, or from a tow truck at a remote highway breakdown location. This requires mobile technology that works as hard and as long as the professionals that use them.

This whitepaper explores the challenges that equipment and vehicle dealerships and service pros face, and how the right Mobile Computing Technology solution creates operational efficiency, helps enhance equipment performance and provide greater customer service.

THE CHANGING FACE OF SERVICE

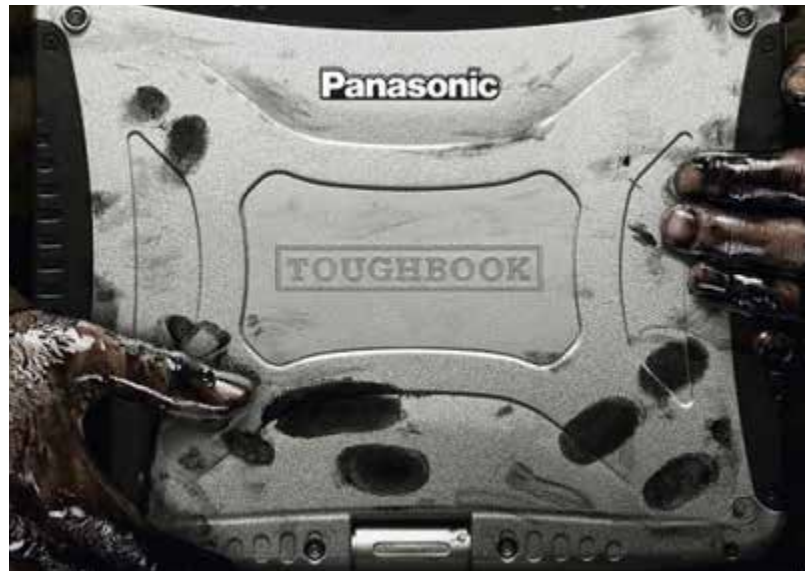
The acceleration of technology is perhaps no more evident than in vehicles and/or heavy iron equipment. The awe of “smartphones” have yielded to ‘drive by wire’ smart vehicles, where controls and pedals are connected to circuitry instead of mechanically to accelerator, brake pedal or lever. Data on the Internet of Things (IoT) amplifies the phenomenon – research firm Gartner projects that by 2020 there will be nearly 21 billion connected devices in the world – many in our vehicles.

As a result, yesterday’s tools increasingly just don’t work on the technology in modern fleets and autos. Furthermore, the speed and accuracy in the service and maintenance operations has become a critical factor for bottom-line competitiveness.

Service isn’t limited to the garage or dealership service bays any longer. As mobile technology and communication is becoming the norm so is on-site support by service technicians. Today vehicles and equipment are expected to be serviced or at least diagnosed from a job site whether that be in a forest or farm field, in a shipping port or terminal, or at a construction site.

DEALERS, MANUFACTURERS AND THE NEW SERVICE MODEL

Because technology is evolving, technicians need to be connected in new ways to capture critical vehicle data in real time under a variety of operating conditions. Techs have an increasing need for speed – productivity in the service bays or job site can make the difference between profit and loss for a service department or dealership. Just as timing lights were obsoleted by electronic ignition, plug-in telematics is evolving to wireless transmission of vehicle performance data. But a full transition to wireless-enabled fleets or equipment is still years away. So for maximum productivity service technicians need to be equipped with mobile devices that are agile and can support multiple types of connections – serial or USB ports, Wi-Fi or cellular. And these mobile devices need to be powerful enough to perform a broad range of computing functions such as running the service diagnostics software, programming fobs, and updating in-vehicle navigation, computer and entertainment systems.



SOLUTIONS MATTER

Increasing global consumerization of technology means that customers’ expectations for service are also increasing. Customers expect that service providers of all kinds deliver immediate – even proactive – service, solving problems before the customer even knows they exist. That has led to the emergence of innovative systems from companies such as Snap-On® and Bosch® – that are driving new technician productivity, and enabling performance goals that are higher than ever before.

To be most effective, these service applications need to integrate with other systems at the dealership or manufacturer including customer information, vehicle and fleet information, maintenance schedules and manufacturer recalls to name but a few. But as portability goes beyond the service bay and becomes more important, so does the need to go beyond traditional RS232 connectivity to also support the various wireless connectivity modes that have untethered the technician and his devices to speed diagnostic and system programming tasks.

WHAT'S IN A MOBILE SERVICE DIAGNOSTICS SOLUTION?

For all these reasons, choosing the right mobile computing device can make or break service automation. Here are the “Must Haves” and why they are important when selecting the mobile devices that advance your service solution performance.

Reliability: Satisfied customers and productive technicians depend on diagnostic solutions that work when you need them to, without exception. That means devices that offer the highest levels of performance to support a growing array of applications, with the stability of a proven platform and top-flight wireless and cellular connectivity performance under less than optimal operating conditions.

Durability: Consumer-grade laptops average an 11 percent annual failure rate, compared to less than 2 percent for industry-leading enterprise-grade devices. Are consumer-grade devices less expensive? The better question is, will a five times higher failure rate change the ROI equation?

There is also the question of battery performance – devices used by service technician need batteries that can last for the whole shift, and be easily swapped out for a freshly charged battery when devices are used in multiple shifts by multiple technicians.

Finally, the more durable a device is, the less frequently it will need replacing. Longer life equates to less IT resources required to keep the service bay operations humming.

Any Environment: As if the environment of the service bay isn't bad enough with grease and coffee spills and frequent drops, today a service techs mobile device has to handle the whole gamut of environments – from desert hot to arctic freezing or arid dry to rainforest wet – without fear of water damage, screen fogging, or component (or device) failure.

Legacy AND 21st Century Connectivity: Agility and adaptability are paramount, and even though wireless is king today, plenty of vehicles and systems still require an RS232 serial port. Devices should support multiple modes of communication from Wi-Fi, Bluetooth, and all major cellular protocols in our age of IoT and fleet connectivity. Additionally, connectivity must be built-in, without external antennas or dongles that can break off in remote locations or maintenance garages.

Usability: You can't use what you can't see, so mobile devices must be visible, readable and operate in all conditions from stormy wet dark nights to scalding hot, bright sun under a desert sky, to freezing cold where using gloves, because if you work with gloves on and it doesn't work you waste time and even risk safety.

Ease of Use: Nobody in IT wants to re-train technicians just because of new hardware. New hardware should be intuitive, easy to get started with, and simple to use in the shop or on the road. Think lightweight, touch screen, familiar features and functions for minimal onboarding time.

A CLEAR CHOICE

There is a complete line of mobile devices designed for Field Service enterprise applications, the Panasonic Toughbook Family of mobile devices. Available in a number of form factors for nearly every need, Toughbook laptops and tablets deliver for service technicians and the organizations they support. Some of the top benefits of adopting Panasonic Toughbook as your mobile computing platform include:

- Panasonic custom designs and builds Toughbook devices and their key components, rather than rely on consumer-grade, off-the-shelf parts that don't deliver optimal performance or can't take the punishment so you get reliability that won't quit – leading to a lower TCO and a higher ROI than the competition. For example:
 - o An all-magnesium case to assure superior resistance to drops and applied pressure.
 - o Shock-mounted hard drives with proprietary foam technology developed by Panasonic to protect against drops and vibration, which can lead to data loss.
 - o Environmental seals keep every port, switch, key and socket clean and dry under the harshest conditions – even the antennae are integrated to prevent breakage or loss.
- Every Toughbook is put through a series of rigorous tests to ensure the reliability your techs need – up to 5 times more reliable than average consumer-grade devices, according to tests by PC Magazine and the Panasonic Service Center in 2016. And, that lower failure rate translates into lower support costs, higher productivity, happier customers and fewer repairs or replacements of your technicians' equipment.
- Lifetime of cost savings – Studies show the purchase price represents only 30 percent of total device cost, the other 70 percent is in keeping it running. Higher reliability and fewer failures further reduces TCO.
- Connectivity for vehicles and devices new and old, from RS232 ports to USB, Bluetooth, multi-carrier cellular to WiFi.
- Panasonic Mobility Solutions address the challenges both IT and line of business organizations face. These products provide a foundation for IT departments which are stressed and depleted. IT's mantra has evolved from “do more with less” to “do everything with nearly nothing”. Panasonic is committed to easing the IT burden involved in mobile field service automation.
 - o Vertical market expertise and deep relationships with critical software partners such as NetMotion®, Absolute®, SOTI®
 - o A broad range of devices including handheld, tablet, laptop and convertible – all ruggedized as much as needed for your environment
 - o Pre- and post-deployment services to ensure a smooth transition and maximum ease of use
 - o Accessories including mounts, docks, holsters and hand-straps to keep your technicians working at peak efficiency.

MORE THAN DEVICES

We don't just deliver rugged mobile devices. Panasonic experience, partnerships, services and support dovetail to reduce the complexity of deploying AND managing every device for every technician. Here's what some users and IT managers have experienced:

- A luxury automaker deployed roughly 650 Toughbook laptops and 100 Toughpad tablets in service bays, dealership parking lots and by on-the-road techs. What did they find? "This solution has enabled us to

increase service bay productivity and better diagnose issues the first time around. In turn, we can focus on providing proactive quality service to our customers instead of dealing with broken equipment," said the manufacturer.

- A major US motorcycle manufacturer found the consumer-grade laptops weren't durable enough for the service bay environment, and switched to Panasonic Toughbooks. Their result? Boosted efficiencies in the service bay, improved overall bike maintenance experience for its riders, fewer laptop failures – all leading to a lower TCO and a higher ROI.
- A large heavy equipment dealer had deployed mobile devices from a competing manufacturer, but they showed a high failure rate after a few years. They switched to Toughbook laptops for their field workforce to address both failures and unreliable wireless connectivity in the field. The results were dramatic. "The Toughbook computers have been a great help for dealing with vibrations and EMF on big generator sites. Easier portability with daylight viewable screens and integrated handles are also a big hit with our guys", said their IT manager.

KEY TESTS

Every ruggedized Panasonic device must conform to these MIL-STD-810G tests before we ship it to you:

- Transit Drop Test
- Blowing Rain Test
- Vibration Test
- Altitude Test
- High Temperature Test
- Low Temperature Test
- Temperature Shock Test
- Sand and Dust Resistance Test
- Humidity Test

NEXT STEPS

To find out how Panasonic Mobility Solutions can reduce your IT burden, drive efficiency up and overall costs down, visit them at www.panasonic.com/toughbook.

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