

# Rugged Laptops Deliver Reliability, Security in Harsh Work Environments



What factors do you consider when deciding if the time has come to upgrade your employees' laptop and notebook PCs? Beyond normal device wear and tear, organizations may evaluate the emergence of new security threats and requirements, the availability of new device designs and form factors, the features and functions that next-generation operating systems can deliver, and whether the old machines' processing power still meets user needs.

When IT professionals deploy laptops and other mobile devices in nontraditional, more extreme environments, they must consider an additional factor: the ruggedness and durability of the device itself.

To assess the needs of this "extreme use" subset of the laptop and notebook market, IDG Research Services recently surveyed more than 130 IT and business professionals working at organizations where employees sometimes use laptops in harsher than normal settings. Among other results, the survey identifies which environmental threats are most worrisome to these buyers, and which laptop purchasing criteria are most important.

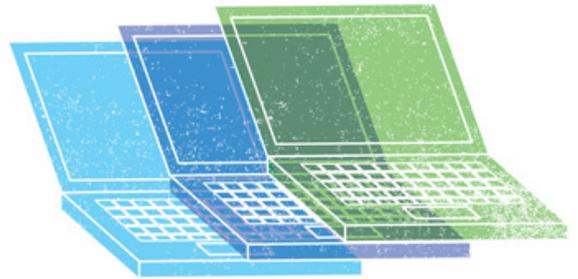
## Survey says: Harsh environments drive rapid laptop turnover

Not surprisingly, the survey results suggest that laptops deployed in harsher environments are more likely to have shorter lifespans than those used in typical office settings. Overall, about one-third of respondents using laptops in nontraditional settings retain them for more than three years. Half of the responding organizations, however, replace their laptops at the relatively rapid rate of every two or three years.

These extreme-environment users constitute a significant subset of the total survey base. Slightly more than half of the responding organizations deploy laptops in classroom settings, which — although not dissimilar from traditional business environments — can be tough on mobile devices. Beyond classrooms, the most common of the other nontraditional environments represented by the survey respondents are:

- Production/factory floor — 37 percent
- Vehicle-based — 32 percent
- Construction sites — 25 percent

The primary reasons for replacing laptops across the full survey base are common wear-and-tear issues, along with aging features and functions.



Looking beyond those more common replacement reasons, a significant subset of replacements is due to environmental risks and damage including: drops (cited by 30 percent of the respondents), liquid spills (18 percent), crushing (12 percent) and heat or cold exposure (10 percent).

A good example of these environmental challenges can be seen within the vehicle-based laptops deployed by linemen and other fieldworkers employed by Topeka-based Westar Energy. The largest electric utility in Kansas, Westar equips its vehicles with ruggedized laptops to serve as geographic information systems (e.g., to help drivers locate downed power lines) and to support a variety of troubleshooting and customer-service tasks, in what are often environmentally challenging conditions.

"The linemen may not air-condition the truck while they're up in a bucket doing work," notes Russell Dyke, manager of research and technology within Westar's IT department. "The ambient temperature today is going to hit 100, so it will probably be 120 to 130 degrees in the truck."

Thus, the necessities of competent laptops include sealed ports to keep out dust and dirt, and a sturdy design built to survive the impacts and temperature extremes that in-vehicle devices routinely encounter.

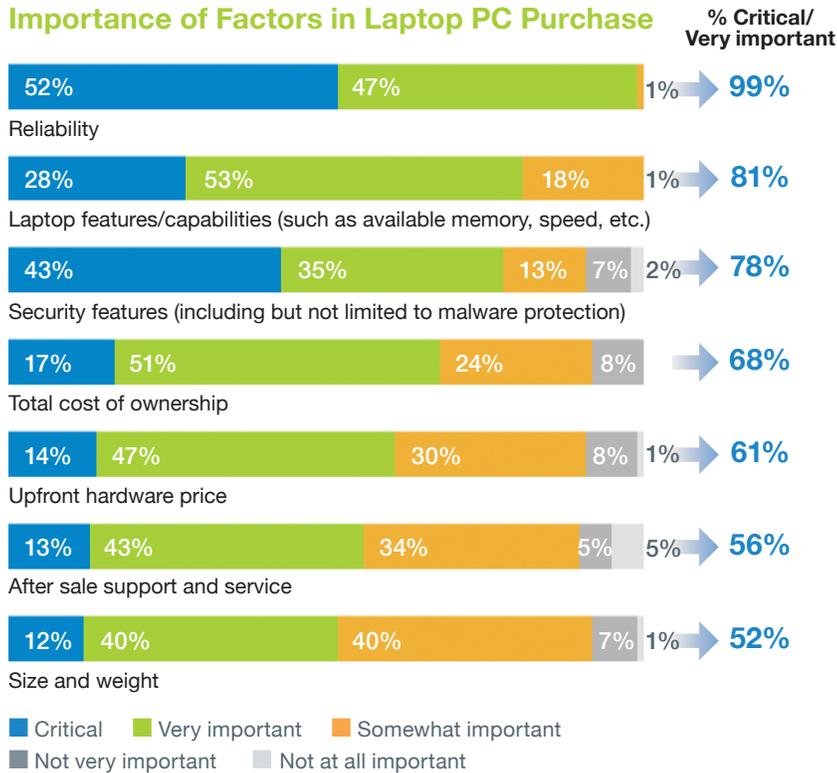
## Laptop reliability tops purchasing criteria

Whether laptops are used in normal office settings or in more extreme environments, their reliability is always a top priority. As such — and not surprisingly

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### Importance of Factors in Laptop PC Purchase



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— the majority of the IDG Research Services survey respondents concur that laptop reliability is a critically important purchasing criterion, making reliability the No. 1 selection factor.

As shown in Figure 1, reliability is not the only top contributor when making a decision on a laptop purchase. Security features rank as critically important by 43 percent of the respondents. Another top purchasing consideration is the laptop’s features and functions, rounding out the top three concerns.

A laptop’s reliability and its security are inter-related on some levels, and both factors have hardware as well as software dependencies. Combined with a laptop’s physical ruggedness, hardware-based security features can range from integral fingerprint readers to encrypted hard drives.

For functional reliability, distinct from physical ruggedness, laptops require robust software that also delivers security features ranging from user authentication and authorization to the ability to lock down and remotely wipe data and applications from lost or stolen devices.

The laptop’s operating system plays a critical role in both reliability and security. Improvements delivered by successive OS generations help drive the decision to upgrade laptop and notebook PCs. Thus, organizations using Windows XP, for example, are upgrading to Windows 7 Professional or Windows 8.1 Pro in order to increase security and

reliability. Equipped with the latest security features, Windows 8.1 Pro is six times less likely to be impacted by malware than Windows XP. Moreover, Microsoft’s latest Windows platforms offer features such as kernel patch protection, service hardening, Windows Defender protection against spyware and malware, BitLocker Drive Encryption and many other security enhancements — all points of note regarding those impactful security considerations.

### Turning to Dell for rugged and secure notebooks

Dell offers a number of rugged and “semi-rugged” notebooks to address a wide variety of nontraditional use cases and work environments. (For details about Dell’s ruggedized notebooks, go to [www.dell.com/rugged](http://www.dell.com/rugged).) Among their environmental capabilities, the notebooks address reliability head-on by providing impact-resistant cases, glare-reduction screens, long battery lives, fully sealed fan-based thermal management systems, and protection against dust, dirt and moisture. They also incorporate high-performance Intel Core processors, solid-state drives and other proven and reliable components.

Taking into consideration the top concern of security, Dell notebooks deliver strong protection via a combination of hardware and software features. Among the hardware-based security features are steel-reinforced cable lock slots, SmartCard readers, fingerprint readers and Dell ControlVault, which provides a hardened and secure bank for storing and processing user credentials. On the software side, all of the Dell notebooks are available with Window 8.1, and its many built-in security functions.

Ruggedized computing devices sell at premium prices, but provide inherent value considering longer lifetimes and lower repair rates, both of which result in lower total costs of ownership (TCO).

Operating laptops and notebooks in nontraditional and extreme environments calls for a very specific set of considerations in order to retain full computing functionality, reliability and security levels required to help end users thrive at their daily tasks. Thus, IT professionals need to carefully assess the reliability and security offerings of considered devices alongside the likely TCO of standard versus rugged devices. Many managers will find that physically rugged and operationally secure laptops and notebooks with modern Windows, such as those sold by Dell, are their best long-term option to meet the heightened demands of computing in harsh environments.

To learn more, visit [www.dell.com/rugged](http://www.dell.com/rugged)