

AN UNRIVALED ADVANTAGE:

Survey Reveals Why Rugged Tablets are Preferred Mobile PC Form Factor among Global Professionals

INTRODUCTION

The value of rugged tablet PCs may not be widely recognized among consumer audiences, but they often play a direct role in the manufacturing, delivery, installation, and maintenance of goods that impact both our personal and professional vitality, such as food, natural resources, appliances, automobiles, and airplanes. These ruggedized mobile computers play an influential role in the sustainment of public safety, contribute to the success of worldwide military operations, and enable healthcare providers to extend lifesaving medical services to those living in remote and rural areas. And, every day for the last 20 years, rugged tablets have aided in the reliable delivery of power, water, and telecommunications services to millions of residential and commercial customers worldwide. But they've also had a much more significant – and direct – impact on the advancement of global business throughout the last two decades.

Rugged tablets have validated the capacity for pen and touch mobile computers to meet business' operational demands amidst the most hazardous working conditions on Earth. They've also facilitated the expansion of the now 1.2 billion-strong mobile workforce¹ by removing the operational risks and back-office compatibility issues that have been barriers to entry – and roadblocks to success – with other portable PC form factors. In fact, rugged tablets powered by Intel® processors were the first mobile computers to prove that organizations of all sizes could securely extend accessibility to mission-critical workflows and sensitive data systems beyond the office and beyond the vehicle, the only “in field” location where notebooks could feasibly add value. Indeed, rugged tablets were the first to reach field-based employees who spent their days working on foot, either above or below ground. And they remain the only mobile PC platform able to do so without compromising on computing functionality, a challenge still encountered with handhelds today.

UNCOVERING CUSTOMER PERCEPTION ABOUT RUGGED TABLETS' ROLE IN THE MODERN MOBILE WORKPLACE

Rugged tablets' still unmatched mobile computing capabilities are often attributed to manufacturers' (OEM) unique willingness to accommodate customized design and feature requests from customers. This is counter to the business models followed by many off-the-shelf brands that first design their PC technologies for the consumer market then expect business users to force-fit the platform into a number of vastly different corporate environments. It's also one of the reasons why rugged tablets have exclusively defied the odds during volatile economic, environmental, and technology market conditions to sustain two decades of growth. It's also why the once-niche mobile PC platform, originally fine-tuned for utilities and public safety professionals, has increasingly gained mass market applicability among all industries as other computing and communications technologies have come and gone – or proved incompatible with the specialized workflows of industrial sectors.

But even though industry analysts will confirm that rugged tablets have passed both the test of time and customers' rigorous performance assessments to solidify a place in the mobile computing market for years to come, it's important to understand how rugged tablets fair in comparison with today's competing form factors. Rugged and non-rugged manufacturers alike are trying to diversify their platforms with niche features and powerful computing capabilities that appeal to a combined consumer and professional audience. So Xplore and Intel® – both highly invested in enterprise-level mobility solutions – wanted to see if the rugged tablet indeed remains the preferred mobile PC today in multiple vertical sectors. The secondary goal was to understand the motivations behind companies' loyalty – or lack thereof – to certain form factors as business demands evolve and ancillary technology systems begin to be redefined by the Internet of Things (IoT) and Industry 4.0.

¹ GLOBAL MOBILE WORKFORCE SOLUTIONS MARKET 2015-2019, Technavio, <http://www.technavio.com/report/mobile-workforce-solutions-market>

EXECUTIVE SUMMARY

Intel®-Powered Rugged Tablets Still the Mobile PC of Choice, Despite Feature Expansions in Other Rugged Form Factors and an Increase in Business-Grade Tablet Competition

Xplore and Intel recently conducted a survey of 225 mobile workers and 68 mobile computer resellers worldwide, asking them “Which Computer is Right for You (or Your Customers)?” The results clearly show that 10-12” rugged tablets are still the best-suited PC form factor for mobile workers and preferred more among global companies than notebooks or handhelds. However, investments in rugged tablet solutions are no longer motivated solely by the 3-5 year reliability of their internal and external components. There are multiple business trends and employee demands now influencing mobile PC buying decisions among those in the utility, manufacturing, energy, military, mining, public safety, warehousing, transportation, insurance, construction, retail, and other professional field service sectors.

Key Findings:

- Rugged tablets remain the top choice in mobile computing devices among mobile professionals or companies responsible for a highly mobile workforce (64%). They’re also the most requested mobile computing form factor through multi-platform resellers. However, approximately half (52%) of end-users indicated that their employers also preferred notebooks for some workflows, with handhelds only preferred by 26% of respondents’ employers – indicating their limited workflow support may not be conducive in many mobile environments.
- End users say mobile devices with either a 10” screen (28%) or 12” screen (31%) hit the “sweet spot” for mobile workflows, with resellers indicating that decision-makers agree. Customers typically cite readability as most important (79%) when selecting the right screen size, with in-vehicle ergonomics and usability on foot also important considerations.
- Rugged handhelds and notebooks still lack critical computing and/or mobility capabilities required to become a suitable – and sole – PC solution that can be utilized by all mobile workers in all environments.

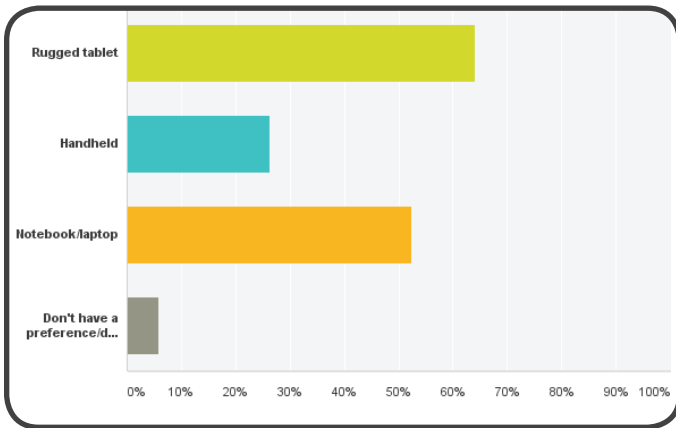
- When shopping for mobile devices, companies are prioritizing those that are compatible with current software or legacy equipment (49%). In fact, compatibility was deemed more important than connectivity, price, security, outdoor viewability, and scalability (listed in their end-user ranked order).
- Resellers indicated that more than half of customers are still mobilizing their workforces using multiple PC platforms (also known as a mixed model), though the survey did not inquire into the reasons why.
- More than two-thirds (68%) of companies are now reliant on platform-based and device-driven workflow management systems, indicating a shifting trend away from cloud-based solutions.
- Both resellers and end-users confirmed that more than half of companies offer at least some employees a BYOD option.

FEEDBACK FROM THE FIELD

An In-Depth Look at the Survey Results Shows Rugged Tablets Stand to Gain Traction in Mobile-Centric Industries for New Reasons

Businesses of all sizes are beginning to understand that, to maximize the entirety of their technology investments, they have to consider the preferences of both employees and IT when determining which PC platform will be conducive for all mobile work environments and workflows. They also have to strike the right balance between data accessibility and security; device mobility and rugged suitability; I/O, wired and wireless connectivity; and backwards and forwards compatibility with business systems and specialized applications.

Each of these factors will dictate the Total Cost of Ownership (TCO) – the tangible and intangible costs of mobile hardware, software, and peripherals – and return on investment (ROI) that can be expected from their mobile PC selection. And all of these factors can be credited with influencing the majority of respondents’ (64%) beliefs that the rugged tablet is the right device form factor for their business’ mobile workflows.

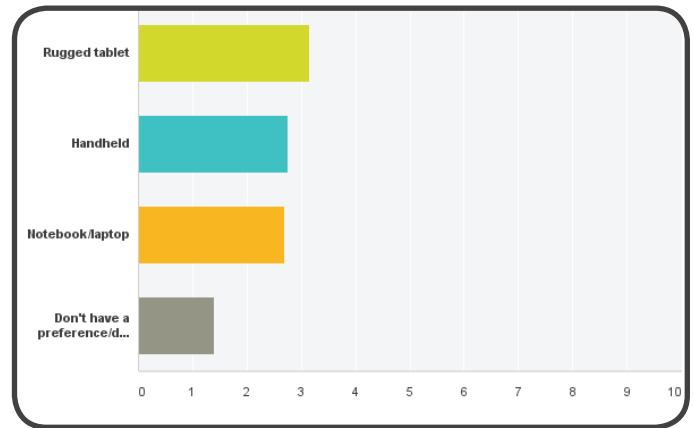


End Users: Which mobile PC form factor does your company prefer? (select all that apply)

When trying to understand why the rugged tablet continues to be embraced more than notebooks or handhelds – which each have their own advantages – it’s important to remember that businesses must select the platform best equipped to serve worker, IT, and business interests without compromise. Perhaps that’s why today’s businesses are more apt to give weight to factors beyond rugged durability or price alone when making their decision, as the survey suggests.

The majority of respondents are currently utilizing a Windows operating system (OS) in their back office, and many have plans to upgrade their operating systems in the next 12-24 months. It can be assumed that they would appreciate the flexibility to conduct such necessitated actions without needing to rip and replace their workers’ devices or – worse – all of the accompanying software, peripherals, and IT infrastructure in favor of something more compatible with their new PC platform. Others are eager to keep pace with evolving customer demands and strive to anticipate future technology requirements that may emerge as they expand their service models and introduce new revenue generating streams.

Still, most companies have previously indicated that mobility motivations stem from the bottom line goals of increased worker productivity, improved business process efficiency, and greater IT cost savings. That’s why they likely to seek out devices, such as rugged



Resellers: Which mobile PC form factor do your customers request

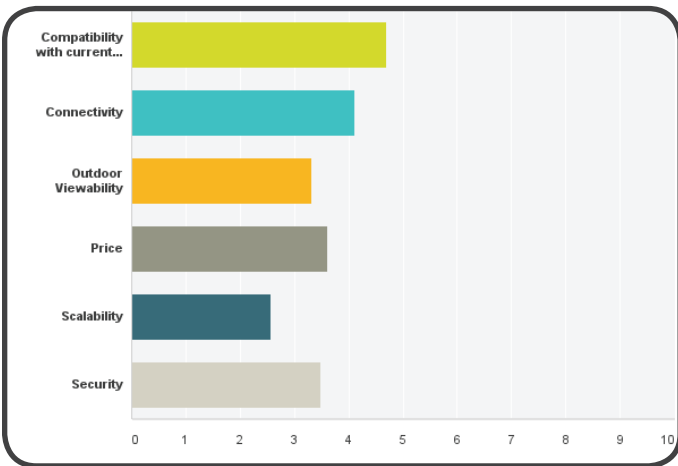
tablets, that fulfill all criteria within a single platform, enabling workers can seamlessly transition from the office to the vehicle and into the field without interruption. However, that doesn’t mean that all companies are completely comfortable yet transitioning from their mixed-model – or multi-device – mobility environment (54%) to the single-device mobility model utilized by 35% of their peers or competitors. It just shows that rugged tablets are engineered to support wide range of workflows and are well-matched to facilitate the mobility needs of many global industries – often solving the business challenges created, or unresolvable, by other rugged and non-rugged mobile computer form factors.

TOP THREE REASONS WHY MOBILE-CENTRIC COMPANIES PREFER RUGGED TABLETS OVER HANDHELDS, LAPTOPS

Specialized Workflows Require Mobile Device Compatibility with Specialized Technology Systems, Software

Though companies may be trying to architect future-ready mobility solutions with modern-day technologies, they’ve made it clear that they’re also not ready to abandon their past. In fact, what they want most is a mobile computing device that’s compatible with current software or legacy

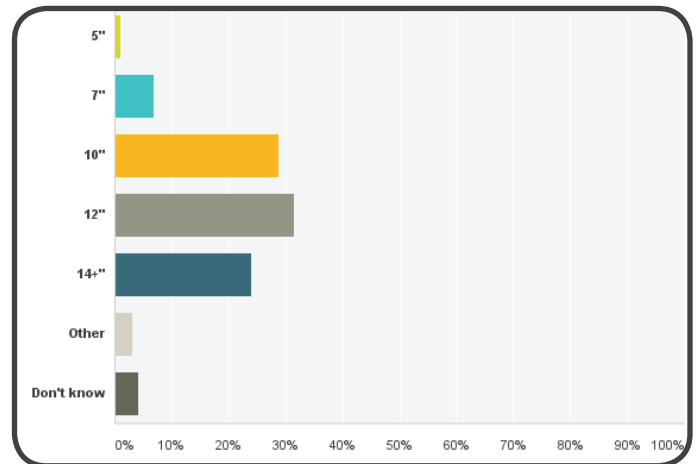
equipment. Nearly half (49%) of those surveyed said it is the primary factor influencing their device purchase decision. Connectivity was the second ranked majority factor, followed by price – both of which are closely related with the compatibility requirement.



Utilities and Telcos require I/O ports such as RJ-45 and True Serial RS232 to interface with their network testing equipment without issue. Manufacturers also benefit from True Serial port connectivity to specialized equipment in their factories, while those in public safety still need antenna pass-thru capabilities to interface with industry-specific communications equipment. These connections, which are a mainstay feature with rugged tablets, are no longer offered as options with many other form factors. In fact, several mobile device manufacturers are stripping their devices of all ports, except for possibly a headphone jack or single USB. Fortunately, some rugged tablet OEMs are beginning to offer up to eight built-in I/O ports as part of their standard feature set. This should be well-received given survey respondents' indication that compatibility capabilities can make or break a buyer's decision.

Rugged tablets' unique ability to interface with either legacy, current, or future equipment as workflow demands evolve, will also help companies avoid significant financial and productivity losses that would otherwise occur if they had to rely on workarounds. After

all, rugged tablets' ability to also provide workers with secure, real-time connectivity to mission-critical data and applications contributes to overall efficiency. Rugged tablets' platform stability is also a key contributor to their overall value, because most customers will be able to use the same docking and carrying case accessories as they upgrade to newer tablet generations in 3-5 years. Their overall size rarely changes because there's no need. Today's rugged tablets boast the larger, brighter screens that workers prefer when trying to complete data-intensive tasks in the field, vehicle, and office. In fact, survey respondents indicated that the 10-12" tablets hit the "sweet spot" for their most detailed tasks involving GIS applications, schematics reviews, and other visually-intensive data sets. Handhelds often limit their ability engage with such data because of their inability to support imaging formats or the challenges of reading fine print on a small screen.



End Users: Which mobile PC screen size is currently seen as the "sweet spot" for your workflows?

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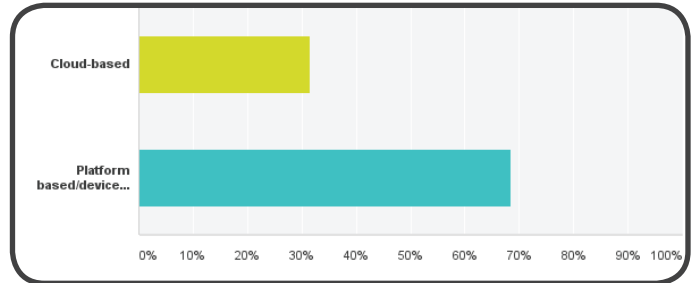
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COMPANIES ARE COMING DOWN FROM THE CLOUD, FINDING GREATER WORKFLOW CONTINUITY WITH PLATFORM-BASED/DEVICE-DRIVEN WORKFLOW MANAGEMENT SYSTEMS

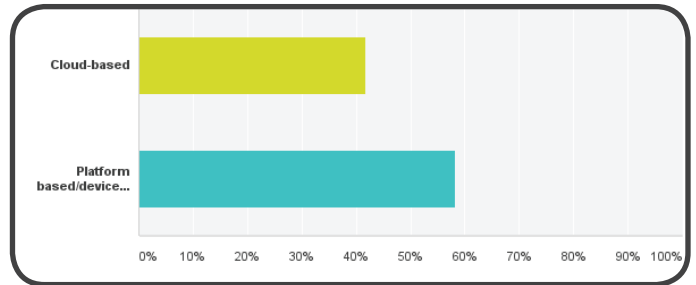
Although the utilization of cloud-based solutions may be advantageous for workers in close proximity to a network connection, a cloud-only mobile workflow system could hinder productivity among field-based personnel. That's why, contrary to popular belief, operating in the cloud does not have as many perks for mobile workers or their employers as first believed. The dependency on a wireless signal or wired broadband connection can actually disrupt communications between the device and cloud-based data systems more frequently than realized.

Many field workers are dispatched to remote job sites where wireless signals are weak or non-existent, despite the most advanced mobile communications technologies available today. Others workers mobilized indoors, such

as in a factory or warehouse, will complain that the density of the surrounding four walls challenges their ability to maintain a constant wireless signal. Perhaps that's why survey results indicated a shifting trend away from cloud-based workflow management systems and towards platform-based/device-driven solutions.



End Users: Is your company relying more on workflow management systems that are cloud-based or platform-based/device-driven?

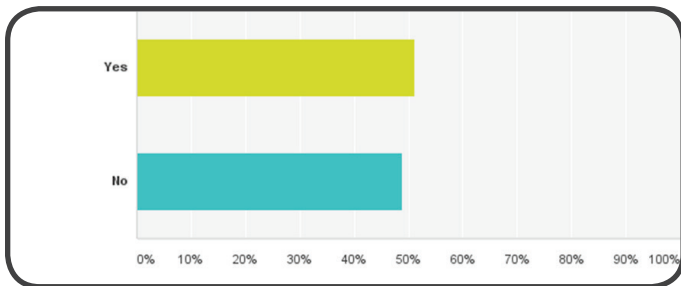


Resellers: Are your customers relying more on workflow management systems that are cloud-based or platform-based/device-driven?

Companies can't afford for entire workflow management systems to be "offline" when a wireless signal goes down. That's why nearly two-thirds of companies are relying more platform based – or device driven – workflow systems to provide anytime, anywhere application access and facilitate ongoing worker productivity in these dark zones. Workers can still collect and store data in real-time during inspection or maintenance workflows, for example, and then automatically transmit data back to the server once a signal is re-established. This platform-based method also discourages workers from reverting to error-prone pen-and-paper data capture methods – or stopping work altogether – as they would traditionally have to do when offline in a cloud-only environment.

MOVING BEYOND BYOD CAN BE A WIN-WIN FOR EVERYONE, EVEN THE WORKERS WHO PREFER GREATER DEVICE CHOICE

Though 51% of companies are still offering BYOD programs in some capacity, it's hard to manage platform-based/device-defined workflow solutions across multiple operating systems. It's even more challenging to secure and optimize back-office modules and workflow applications across multiple OS versions that may or may not be professional grade and may or may not have the right security capabilities to enable proper provisioning. So, as the complexities of managing multiple devices continues to grow, businesses who first embraced BYOD may start to look beyond such strategies in an effort to standardize on a single, centralized company-issued mobile computer platform.



End Users: Does your company allow you to BYOD (bring your own device)?

Of course, such organizations will likely want to sustain the benefits they had hoped to garner from a BYOD program: cost savings, lower IT burden, and employee satisfaction resulting from the ability to choose a device that is familiar, easy to use, and apt to increase productivity. At the same time, they'll want to standardize on more secure workflow management solutions that require multi-authentication access and grant greater IT control over device and data systems to protect customer and company privacy.

Fortunately, rugged tablets are engineered to offer unmatched compatibility with enterprise-level systems, security, and workers. Rugged tablets are professional-grade PCs that can support both Windows and Android mobile device management solutions. They can facilitate remote device and software upgrades, security policy updates, and container configurations designed to set access parameters for enterprise applications.

Many rugged tablets are also capable of serving as detachable 2 in 1 or "all in one" PCs, meaning they can become a notebook or desktop with the addition of a wireless keyboard. Unlike notebooks or handhelds, rugged tablets also come standard with the many data input tools field-based personnel prefer, such as touch, pen, voice, and camera enabled actions. This flexibility often incentivizes skilled workers to embrace rugged tablets in the field with enthusiasm. Their familiarity with the tablet form factor in their personal lives also reduces the device learning curve and aids in faster onboarding.

CONCLUSION

In the 20 years since rugged tablets were first purpose-built for business, an immense amount of mobile technology innovation has occurred. Yet, at the most fundamental level, rugged tablets still remain the only mobile computing platform able to consistently replicate and extend business' most complex workflow systems in the field without disrupting the flow of operations or creating worker dissention about PC performance in the process. Considering that mobile workers are now being asked to capture, analyze, and apply unprecedented volumes of data with complete accuracy while in the field, perhaps it should be no surprise that companies are still favoring the "right size" 10-12" rugged tablets for mobile workers that benefit from bright screens in outdoor sunlight. But what may intrigue industry stakeholders is that the survey shows a potential shift in motivation for choosing rugged tablets.

As businesses start to move beyond BYOD and cloud-based mobility solutions they will look beyond the MIL-STD-810G certifications and Ingress Protection ratings of mobile devices to identify those best engineered to serve as their single platform mobility solution. And as they upgrade to Windows 10 or other OS options to prepare for future business demands, they will remain dependent on certain legacy technologies and require a PC that can accommodate that dependency.

Fortunately, the survey confirms what Xplore and Intel have long known: Rugged tablets are exclusively equipped with the internal and external feature sets that allow for platform stability and, therefore, increase the tangible and intangible ROI of an organization's entire mobility solution. Rugged tablets are the only truly mobile PCs that have proven capable of adapting "on demand" to the variations encountered in rapidly changing business and environmental climates. And that is why they are still the preferred mobile PC form factor despite aggressive attempts by notebook, handheld and hybrid manufacturers to disrupt rugged tablets' track record.

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