



RIGHTING THE RATINGS

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THE DANGERS OF EXCESSIVE PROTECTION FOR RUGGED TABLET PCS

When investing in a rugged tablet platform, a business must be confident that the assets can withstand varying weather conditions, wear-and-tear and even unexpected accidents. In particular, field service applications in more demanding environments need assurances that tablet PCs – which are often the one and only work computer for field service personnel – will still continue to function even if dropped from waist-high, left out in a rain shower or given a light dusting.

The *IEC standardised markings* for Ingress Protection (IP) clearly classify and rate the degree of defences that mechanical casings and electrical enclosures provide against dust and water. “IPxy” is the default system for showing which mobile tablet is built tough enough for the job at hand. The two numbers that follow “IP” to rate the level of protection guaranteed with each tablet PC, refer to the protection against solid particle and liquid ingress. The IP ratings seen most often in today’s top performing rugged tablets are IP54 and IP65.

Typically this is best understood when evaluating why a consumer grade unit may not be suitable for life in the field

or on the factory floor. Many businesses are already realising that consumer units simply cannot take the knocks of business use, even when they are placed in cases or shells.

Some consumer unit manufacturers have begun to use IP ratings as part of marketing material and this has further increased awareness of the issue of ruggedisation. As these consumer units have become more rugged, they have put pressure on “dedicated” rugged manufacturers to increase the gap between enterprise and consumer units.

But having too much of something can be just as expensive as not having enough. In the case of IP ratings, less can be more (in terms of both peace of mind and money) because excess protection can be very counterproductive for mobile workers.

This is far from a statement of the obvious. “Specmanship” throughout the procurement cycle in many enterprise mobility projects has led to the over-design of many rugged mobile computers, which has quickly led to the completely unnecessary predicament many field service organisations now face: too much or too little protection for the job at hand.

The push for ever more rugged extremes and the impact of BYOD has led to a swathe of examples at either end of the ruggedisation spectrum. Some projects have ended up with an expensive, heavy mobile tank of a tablet PC that is difficult to incorporate into workflows. Elsewhere, an army of consumer grade devices, such as an iPad, barely survive one month in the field.

This extremism is not just an operational concern. It has substantial impact on warranty discussions and as such affects procurement and finance.

There is however, a third way - a Goldilocks zone situation that can resolve the issues by having "just enough" ruggedisation without drowning in unnecessary specification and cost.

Getting this balance of ruggedisation, cost and productivity right is based in an honest assessment of "Which IP rating is right for this workflow?" This means an accurate consideration of two main factors:

- 1) How business critical is the process that is enabled by the tablet PC? *(The more critical the process, the greater the argument for ruggedisation that will protect the continuity)*
- 2) The actual environment(s) that the tablet will be deployed in *(and how the use of the tablet PC may change in those environments)*

Many applications substantially over-estimate the amount of ruggedisation needed. The vast majority of mobile work flows do not require a dust proof device as dust tight will suffice and offers several advantages over dust proof, including reduced thermals (which allows for higher tablet performance).

And when it comes to liquid, how much water is the tablet PC going to be exposed to? IPX4 exceeds even the heaviest of downpours. Think "buckets of water" equivalent to approximately 10 litres per minute, or a

litre every 6 seconds. The chances are this will cover 99% of all applications in an environment exposed to water. Liquid ingress is also a key issue for many markets that need to clean the tablet PC; for example healthcare. However again, IP54 is more than sufficient for the actual workflows in place.

Why does this matter? Firstly because "excess IP" is expensive. It not only adds to the upfront cost of the units but also means the device is heavy and bigger, meaning more accessories are needed throughout the workflow. In some cases this will then compromise the mobility offered by the unit and that threatens the entire mobility project being undertaken. This typically happens when concerns over the environment of the deployment overtake considerations of the process that the mobile technology enables.

But perhaps the biggest threat is that choosing a rugged tablet on its IP rating causes - in any business - a series of compromises elsewhere. This may then lead to the sacrifice of features such as input devices that a mobile team simply cannot afford to miss. Bulky, heavy units are not welcomed by teams in the field and even more so when those units cannot do the job demanded of them; not because the unit is not tough enough, but simply is not equipped with the right kit because of the weight and IP rating of the tablet itself.

Many procurement managers, IT teams and even manufacturers have made a fetish of the IP rating and the subsequent perceived "ruggedness" of a given design for different reasons. It is now time to correct this early error and realise that not every application demands the toughest possible tablet. Whilst it is clear that consumer units will not meet the needs of business users out in the field, there is now a clear case to evaluate the specific workflow and environment for a deployment and select a tablet accordingly. Just as a business would not equip its field service teams with armoured vans but finds the right vehicle; so it should issue tablets fit for purpose rather than excessively laden with unnecessary specifications.