

# The magic of TCO

## Buying a cheaper mobile computer for more money

When going out to purchase new mobile computers, most businesses may be tempted to base buying decisions solely on a product's purchase price. But because the purchase price does not reflect the real cost of the unit, this could turn out to be a costly mistake. To truly evaluate what a product costs, we need to look at the cost over the life of the product. This is known as the product's total cost of ownership (TCO).

Even if we do not know the term TCO, we often apply it in other areas of our life. When we are buying a new car, most buyers will do at least some research to find out about the vehicle's repair record. A cheaper car that spends half the time in the repair shop is no bargain.

The same concept applies with mobile computers. Computers taken outside of a safe office environment are going to be subjected to a lot of rough treatment. Drops, vibration, water, dust and extreme temperatures are only some of the conditions a computer may face in the field. It seems logical that you would not take a delicate piece of electronic equipment into a rough environment, but that is what happens more often than you would think.

Why? Because many buyers of mobile computers are lured by the lower initial purchase price into buying non-rugged or minimally ruggedized equipment solely because of the cheaper purchase price, failing to take into account the higher costs of actually using this equipment in the field. By failing to purchase the right kind of unit for the job and the environment, they will be paying a lot more in the long run than if they had purchased a more rugged, but more expensive, piece of equipment initially. In other words, the more expensive unit is actually the cheaper unit.

## A higher initial investment can most often give you a lower total cost

TCO takes into account all the actual costs incurred during the entire life of the product. TCO is comprised of hard costs (like purchase price, development, replacement, and deployment costs) and soft costs (training, repair costs, and downtime costs). As more organizations become more dependent on their mobile workforce, downtime costs have become increasingly important and costly. If a field service rep has a device failure at the start of his day, the lost service revenue and customer goodwill from all the missed service calls can be substantial.

Mobile computers are often defined in one of four categories:

- commercial
- durable
- semi-rugged
- fully rugged

A commercial unit has little or no protection against the environment. Durable computers generally have only rubber bumpers and perhaps a shock-mounted hard drive. Semi-rugged computers are tested to some MIL-STD-810F/G and IP specifications, and fully rugged units are generally fully tested to MIL-STD-810F/G and often totally resistant to both water and dust.

So what is the difference in the total cost of ownership between a commercial device and a fully rugged one in a reasonably tough environment? The Venture Development Corporation (VDC) is a notable independent research firm that focuses on rugged computers. They have performed TCO computations across the 4 levels of rugged computers across a number of common mobile applications. VDC computed the total cost for each level of rugged over a 5 year lifespan and then annualized the costs. These costs (broken down into hard costs and soft costs) are shown in figure 1 below.



Handheld is a world wide supplier of rugged PDAs and handheld computers. All our products are ruggedized and can withstand water, dust, drops and vast temperature changes. Handheld and its partners deliver complete mobility solutions to businesses in industries such as logistics, forestry, public transportation, construction, military and security.

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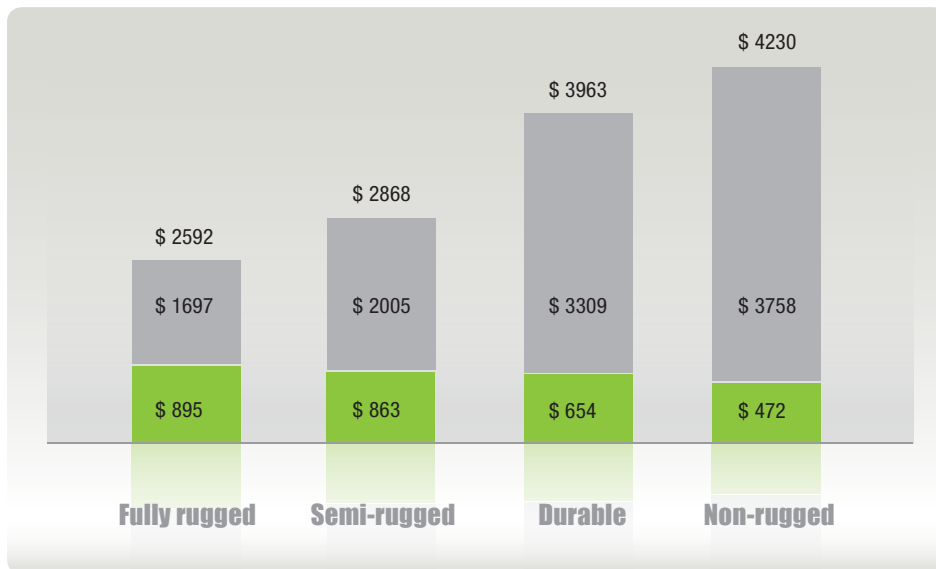
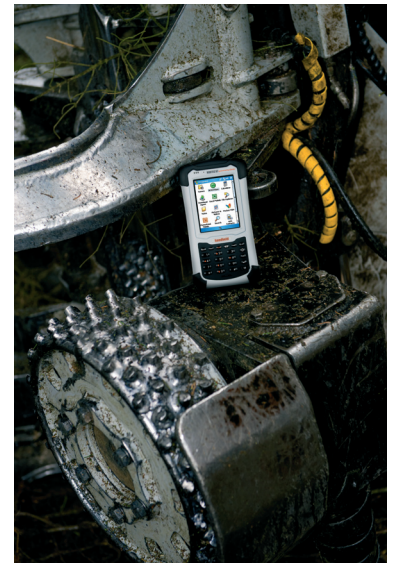


Figure 1 - Annualized 5 Year TCO Costs

From the figure, it becomes clear that using a commercial or non-rugged device will cost you a lot more in the long run; about 65% more per year than using a fully rugged device.

How is that possible? It makes sense if you think of all the things that could happen to a non-rugged device in the field. For example, if we have a look at replacement costs. A fully rugged unit will often last at least 5 years. So if you purchase 100 fully rugged units, at the end of 5 years you will still have most of them still in operation. If you purchase 100 commercial devices and put them into a rugged environment, chances are that none of the original units will be operational at the end of 5 years. And some of those units will need to be replaced multiple times over the course of the 5 year period.

How many commercial devices do you need to buy before you have equaled the purchase price of a rugged unit? And that does not even include some of the other costs we discussed like downtime costs, the cost of deploying a new unit, and the cost of re-acquiring lost data. Ultimately, you need to carefully evaluate your own working situation to determine what your own total costs of ownership are going to be. If your mobile computer will not be working in rough environmental conditions, a fully rugged unit may be more rugged than you need. But buying the right level of rugged for the job to be done and the working environment is guaranteed to be the most cost effective in the long run.



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