

Commercial Motherboards v Industrial Motherboards v Single Board Computers

We often get asked if a Commercial motherboard, Industrial motherboard or Single-Board Computer (SBC) based system is the best solution for a particular application. Here are some things to consider when making the decision on your next order.

Commercial v Industrial Motherboards

Commercial motherboards offer a wider variety of the latest technologies, i.e., slots, chipsets, I/O and processors, so if you want the 'latest and greatest' then that may be the solution you need. However a Commercial motherboard has a typical life-cycle of only 9-12 months before the manufacturer chooses to make the product obsolete. Frequently there is little to no warning when this might happen, making it very difficult for you to plan for spares/support and the potential cost implications of supplying and supporting a different platform in the field.

An Industrial motherboard however offers a wide range of different slot types and a lifecycle of 5+ years, helping to alleviate some of those ongoing costs. Our range of Industrial motherboards are supplied with not only longevity of supply but also with change notification information, so if you need to fix your configuration down to component and/or BIOS level then this type of product gives you that peace of mind. Industrial Computers Ltd also works closely with embedded products from Intel® giving us access to processors for 5+ years beyond the time when they are made obsolete for Commercial motherboards. In addition to this there is also a controlled end-of-life and last time buy process for our range of Industrial motherboards to allow our customers to order the spares they need to provide continuous support for their products.

A Commercial motherboard may be lower cost to begin with but you need to weigh up the upfront cost versus the ongoing support costs and product changes that this approach can bring.

Industrial Motherboards v Single Board Computers (SBC)

Having looked at the differences between Commercial and Industrial motherboards there is another alternative that we are often asked as to what is the best approach for product deployment, and that is a choice between Industrial motherboards and SBCs.

Single Board Computers:

The SBC is a host card that plugs into a backplane and we have a wide range of backplanes all the way up to 20 slots. These slots also vary by slot type; PCI and PCIe, and sometimes even ISA slots. Industrial motherboards commonly have a maximum slot count of 7. An SBC/Backplane combination provides a wider variety of slots so it is important to check not just the quantity of slots required but the slot type as well.

SBC-based systems also have a lower mean time to repair (MTTR) because the repair only requires that you unplug and replace the bad SBC or peripheral card, typically only taking 5 minutes or so. If there is a failure on a motherboard based system, this requires disassembly of the system to repair or replace the board, potentially resulting in hours of lost productivity.

Conclusion: It all comes down to Slots v Cost v Longevity of supply.

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