APPLICATION STORY

REDESIGN WITH ETX® IMPLEMENTED EFFICIENCY

LOWEST POWER CONSUMPTION WITH ETX® 3.0
LONG TERM SUPPORT

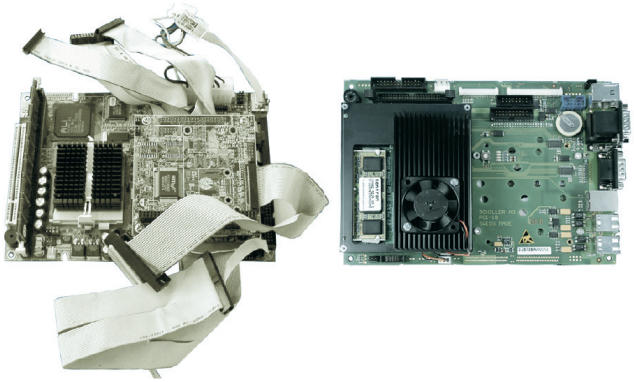
POSSIBILITIES START HERE kontron

KONTRON PLACES A LOT OF FOCUS AND EMPHASIS ON OFFERING THE CUSTOMERS COMPATIBLE AND SCALABLE BOARDS, WHICH ULTIMATELY EQUALS A LOT LESS EFFORT FOR THE CUSTOMER.

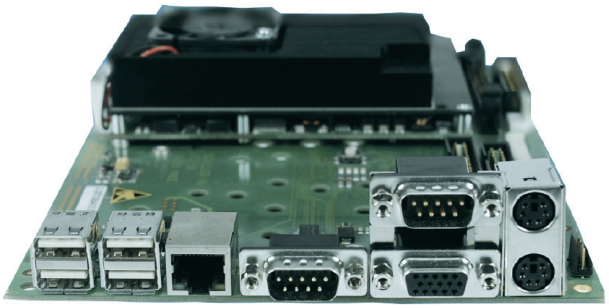
Costly redesigns of the electronics in existing products are rare, but they do happen – particularly in products with long-term demand.

The situation is constantly changing with regard to users' requirements on the one hand and to the most useful processor technology on the other hand. Therefore, devices intended for long-term availability must be designed with particular care and precision. This brings us to the actual problem: the choice of the appropriate embedded form factor able to provide for all of these processors in the long term, with the least possible design cost for the OEM.

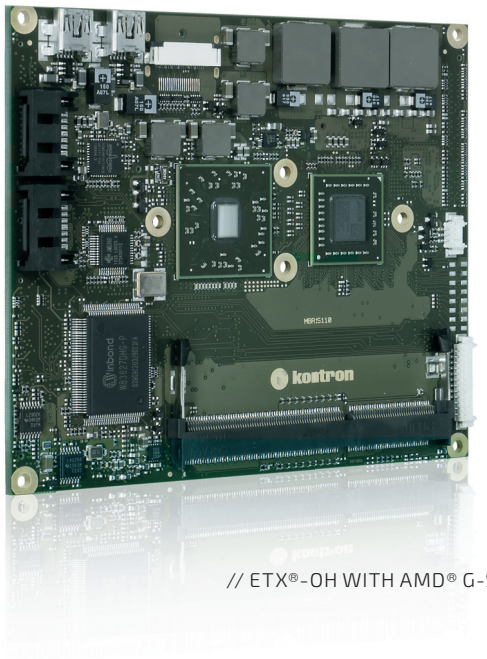
So, depending on the design a new board, its cabling might not fit in the new system. Expensive cabling is a cost factor that can be avoided if the external interfaces are directly available onboard.



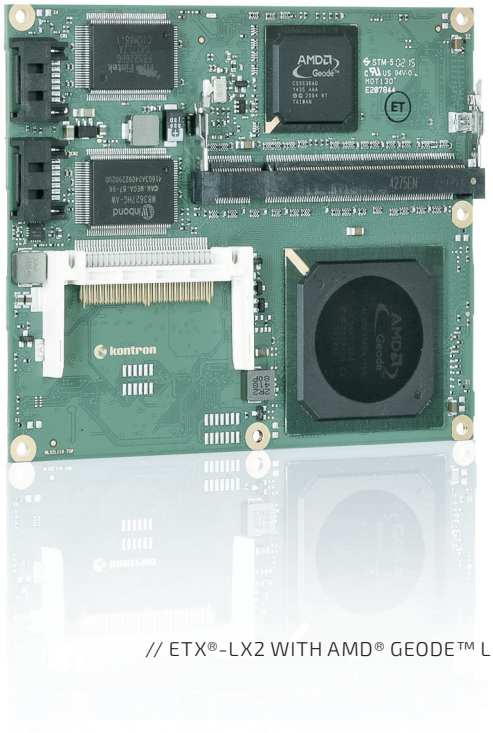
ETX® was officially introduced in 2000 and was known only to a few developers. Today, COMs are an established part of the market and leading manufacturers included them in their product portfolios. Kontron introduced the ETX® that has become the leading COM standard worldwide in 2000. The trademark is licensed by Kontron exclusively for members of the ETX® Interest Group (www.etxig.com) and is available in version 3.0. This made it possible to replace numerous whip connectors with directly soldered interfaces, without having to modify the mechanical design of the casing. In addition, performance upgrades can be achieved simply by replacing the ETX® module. This adds longterm investment security to the individual baseboard. Customers greatly appreciate the value of this unique advantage provided by the free positioning possibilities on the baseboard.



In contrast, with COMs like ETX® and the matching baseboard, a custom design is always possible with a minimum of internal wiring required. Depending on the model, customers don't even need a cable for the hard disks or power supply because they can design these directly into the baseboard as necessary. Therefore another important application of COMs, that previously received little attention, becomes apparent: small, compact forms whose design of the peripheral interfaces so often seen in medical technology, for example, can be highly customized. In this respect, COMs are not only ideal for all types of custom design and for applications whose developers possess special expertise in I/O integration, but they are positioned quite clearly in this large segment of custom, compact design with a level of performance scalability suitable to the given need. From technical point of view the Kontron ETX®-LX2 with AMD® GEODE™ LX800 and ETX®-OH with AMD® G-SERIE are the best solutions to support legacy interfaces and Operation Systems to be backward compliant. And the success story of the customer-specific interfaces PCI and ISA-based COM standards will not end here, as underscored by the latest ETX® 3.0 specification and the many supporting providers that are members of the ETX® Interest Group.



// ETX®-OH WITH AMD® G-SERIE



// ETX®-LX2 WITH AMD® GEODE™ LX800

ETX® 3.0

Two SATA interfaces were among the significant additions to the previous specifications. ETX® 3.0 computer-on-modules are 100 percent backwards compatible with the preceding ETX® specifications. The integration of 2 x SATA was even implemented by placing SATA connectors on the ETX® module so that existing baseboard designs did not have to be modified to support SATA hard disks. ETX® 3.0 also handles USB communications via the existing ETX® connector.

ETX® FOR MEDICAL DEVICES

The ETX® form factor was not designed specifically for medical devices. However, it is a component that has been found to successfully fulfill the prerequisites of customers, which are certified in accordance with EN60601-1 and EN 60601-1-2. DIN EN 60950 is the standard manufacturing specification for most PCs, permitting up to 3.5 mA earth leakage current. This means that a system made up of PC, monitor and printer may produce up to 10.5 mA leakage current. In comparison, EN60601-1 permits only 0.5 mA (normal case) or 1 mA in the first case of error. As such, medical devices are more expensive to develop, and in ideal circumstances, they must also offer an additional balance of connection options. The power supply must also exhibit a 4 kV dielectric strength. Depending on requirements, isolation transformers should also be used in the infrastructure to decouple IT from the medical devices in close proximity to the patient. If a medical PC is developed with its peripherals to comply with EN60601-1, it can also be directly combined with medical electrical devices to make one system in close proximity to the patients.

About Kontron

Kontron, a global leader in embedded computing technology and trusted advisor in IoT, works closely with its customers, allowing them to focus on their core competencies by offering a complete and integrated portfolio of hardware, software and services designed to help them make the most of their applications.

With a significant percentage of employees in research and development, Kontron creates many of the standards that drive the world's embedded computing platforms; bringing to life numerous technologies and applications that touch millions of lives. The result is an accelerated time-to-market, reduced total-cost-of-ownership, product longevity and the best possible overall application with leading-edge, highest reliability embedded technology.

Kontron is a listed company. Its shares are traded in the Prime Standard segment of the Frankfurt Stock Exchange and on other exchanges under the symbol "KBC". For more information, please visit: **www.kontron.com**

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