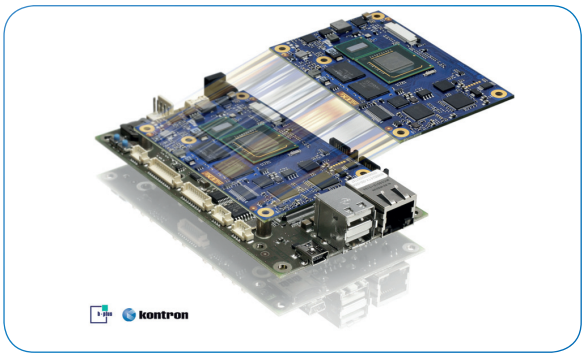
» Application Story «

nanoETXexpress in Industrial Automation

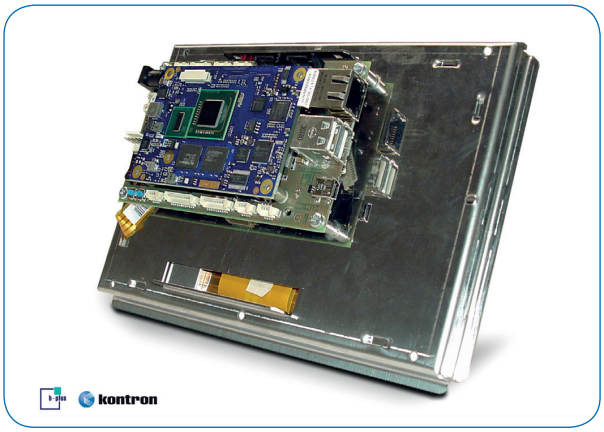
Paperback format, mobile Panel PCs with ZigBee interfaces

Mobile, wireless measurement data acquisition and visualization



The new eVISIO7 panel concept from b-plus which can be used in mobile and stationary applications is based on b-plus's own ePDA carrierboards with credit card-sized Kontron nanoETXexpress Computer-on-Modules for scalable CPU implementation. This makes panel PCs a flexibly scalable Open Frame solution for a wide range of applications. One specialized application area is wireless data acquisition for e. g. measuring air pressure, temperature or vibrations even of moving objects. Owing to the wireless and battery-driven sensors they can be installed on mobile devices and with this significantly reduce the number of cables required for complex test and measuring setups.

The previous versions of these Panel PCs were still realized with XScale® (RISC) CPU modules. For the new 7" system concept with bright touch TFT b-plus is implementing COM Express™ compatible, credit card-sized nanoETXexpress Computer-on-Modules with x86er Intel® Atom™ performance. For reliable data transmission a ZigBee based protocol is used. In applications such as shock absorber testing at garage test stations measurement data is synchronously transmitted from several sensors to a USB coordinator on the eVISO7. This data is then logged into a tagged memory and prepared and visualized on an Adobe Flash based application. The communication between tagged memory and visualization runs over TCP/IP, so that this approach is also suitable for remote data acquisition. By using Adobe Flash, the effort which has to be put into programming in comparison to natively programmed user interfaces is kept to a minimum and implementing customer specific features such as corporate design and usability can be put into practice more effectively.



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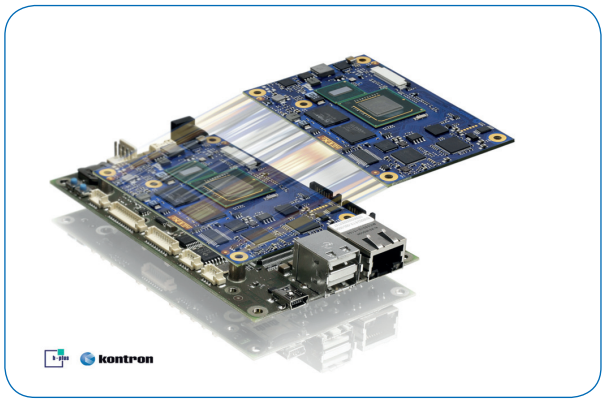
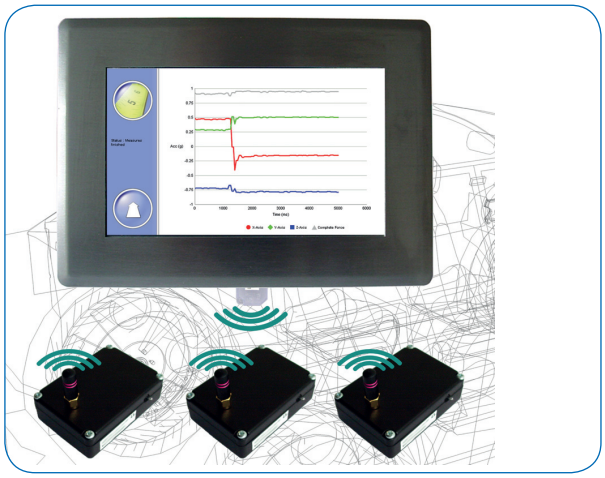
With this concept after porting, it would also be possible to use the new Microsoft Windows Embedded CE 6.0 R3 release with native Adobe support for Adobe FlashLite 3.1.0. Kontron demonstrated this release just one day after its launch on the COM Express™ compatible nanoETXexpress Computer-on-Module and in doing so underlined the extremely fast response time for implementing new operating system functions. Apart from Windows CE, Kontron's nanoETXexpress-SP Computer-on-Modules support all other relevant operating systems from the hard real-time OS right up to GUI-based operating systems like VxWorks, QNX Neutrino, Linux (including real-time kernel) and the Windows OS family. Consequently there are solutions to fit all application areas and vertical markets.

Besides its high software compatibility, the Intel® Atom™ processor Z530 based eVISIO7 concept from b-plus also exploits the advantage that data logging and visualization can be run simultaneously - and not have any influence on the other task - thanks to hyper-threading. Furthermore, when sourcing the right module for the Panel PC carrierboard, PICMG compatibility and the robust design along with low power dissipation of the Atom™ based module were of importance.



Kontron nanoETXexpress Comptuer-on-Modules offer scalable CPU performance.

b-plus also offers the carrierboard with customer-specific interfaces and ones designed especially for mobile industrial applications: Next to the nanoETXexpress Computer-on-Modules b-plus also implemented a smart battery system based on the Smart Battery Management System MARS (Mobile Application Platform Platform for Rechargeable Systems). With Kontron's MARS system, developers can add pre-designed layout and circuit diagrams for Smart Battery systems simply by copying & pasting them into their own carrierboard layouts. The applied building blocks have already been tried and tested: so hardware evaluation, circuit diagram design and the otherwise painstaking collecting of different components become much more simple. Besides this, the application developer does not have to first complete the entire, application-specific hardware in order to programme the corresponding software. With the Kontron MARS reference board, the software development can be launched straight away and tested on the development platform. Due to this "in-the-loop" development, he immediately knows which components will be employed and can optimize the programming code parallel to the hardware configuration. By combining Computer-on-Modules and MARS developers can concentrate on their core competencies and save precious development time.



Thanks to hyper-threading wireless data logging and visualization can be run simultaneously without influencing the other task.

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About Kontron

Kontron is a global leader in embedded computing technology. With more than 40% of its employees in research and development, Kontron creates many of the standards that drive the world's embedded computing platforms. Kontron's product longevity, local engineering and support, and value-added services, helps create a sustainable and viable embedded solution for OEMs and system integrators.

Kontron works closely with its customers on their embedded application-ready platforms and custom solutions, enabling them to focus on their core competencies. The result is an accelerated time-to-market, reduced total-cost-of-ownership and an improved overall application with leading-edge, highly-reliable embedded technology.

Kontron is listed on the German TecDAX stock exchanges under the symbol "KBC". For more information, please visit: **www.kontron.com**

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