

» Application Story «

Customized Design in Transportation



Scania, Sunit and Kontron develop high-end PC for commercial vehicles

Development partnership with added value



Today, a company can't be successful by trying to cover all bases. Successful companies are those that concentrate on their core competencies and increase the customer benefits of their offers through complementary services from other companies. This effect, and the enhanced customer value, is shown by the successful cooperation of three technology companies, each of which is among the leading suppliers in its market. The Swedish truck and bus producer Scania, the Finnish vehicle PC manufacturer Sunit Oy, and Kontron AG, the market leader for embedded computer technology, have together developed one of the highest-performing on-board computers that currently exist for the market.

For drivers of Scania trucks as end-users, the result of the cooperation by Scania, Sunit, and Kontron is represented by a 10.4 inch touch panel on the dashboard which they can use to operate a high-performance PC with the characteristics of a modern laptop. The vehicle PC's, called Interactor 600 and 500, is seamlessly integrated into a DIN 2 dashboard slot (the standard radio slot) in the truck cockpit. The Interactor is a universal tool that supports the driver in every aspect of the job: it provides information about the functions and condition of the vehicle, directs the driver to the destination via satellite navigation (also with optional voice-control), allows communication with clients and central dispatching, helps with administrative tasks and also provides entertainment at the truck stop after work with DVDs (Interactor 600) and television.



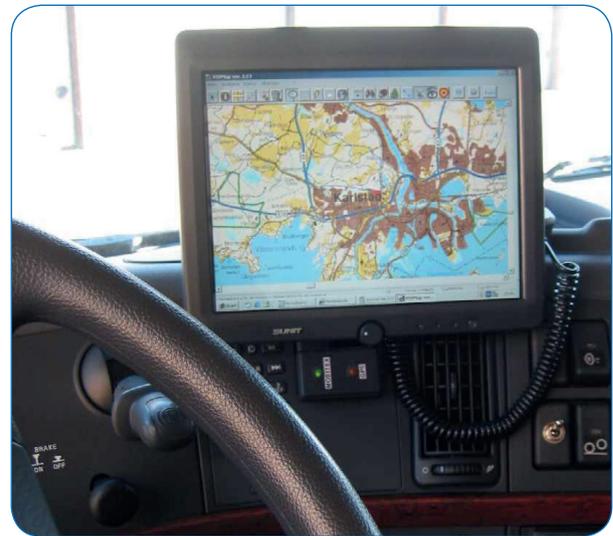
The Interactor as a management tool

Not only the driver benefits from the Interactors which Scania offers as an equipment option for its trucks. On-board PCs help the vehicle operators maximize the profit in their business. Via the computer in the dashboard, the transport companies receive all information about the technical condition of the vehicle in real-time, just as the driver does, and can thus plan maintenance intervals in advance. Positioning functions provide information at any time on where the truck is currently located, making scheduling significantly simpler and more flexible, preventing drivers from making unauthorized trips, and also helping to relocate stolen trucks. The data transfer between vehicle and headquarters even functions when the PC and truck are not in operation. This is ensured through an independent telemetry module. Scania offers a wealth of useful applications for the Interactors. The core of all these applications is the Fleet Management system, which supports the transport company in the efficient management of its fleet. As an additional service, the commercial vehicle manufacturer offers an Internet portal, allowing the owner to read the data from the computer in the trucks in real-time using a browser. The PCs are so generously designed that there is room for the transport companies to install their own solutions. Thus, they do not have to migrate to new applications in order to take full advantage of the system.

Core competencies that complement each other

With its vehicles, superior equipment and expanded services, Scania focuses on simplifying the work for drivers and vehicle owners, and maximizing the profit of the transport business. That is why the Swedish company left the development of the Interactors to their Finnish partner Sunit Oy who, in turn, concentrates on the development and production of vehicle information systems, which are nowadays based on PC technology.

The core competence of Sunit is in combining embedded PC components with telemetry systems, data transfer technology and positioning solutions in such a way that the robust end devices easily fit into any standard radio slot. Besides the Scania commercial vehicles, the Sunit PCs are also used, for example, in police cars in Finland, Holland, Sweden and Norway, Taxis in Finland or Ambulances in Scandinavia.



A foundation for individual applications

The d-series from Sunit with Pentium M or mobile Pentium III processors, which is the base for the Interactors, is designed for high-end applications in vehicles. They were created to serve as a reliable PC platform for all possible vehicle applications. Sunit adapts their basic computer to individual customer needs. Therefore, the PC functions in the narrower sense are isolated from the more customer-specific features such as interface layout, communication or navigation modules. That way, Sunit can react very quickly and very specifically to the customer requirements based on the PC core.

Kontron as a development partner: more than just technical know-how

Sunit's on-board PCs are confirmed valuable for Scania and other customers because the company concentrates on

understanding their requirements and satisfying them with tailored systems. In order to be able to dedicate themselves completely to the technical implementation of their customers' requirements, Sunit relies on a partner who understands the market very well. The embedded PC components are developed together with market leader Kontron Modular Computers GmbH, Kaufbeuren, Germany, a subsidiary of Kontron AG in Echingen, Germany. Kontron and Sunit have been partners since the foundation of the Finnish company in 1996. Back then, the German company contributed motherboards for its forestry machinery business. After Sunit succeeded in becoming the exclusive hardware supplier for Scania's Fleet Management system, the Finns submitted their current partners and other prospective suppliers to a strict evaluation process. The criteria of '100% supply security', 'quality', 'project management', and 'guaranteed technological future' were particularly important to Sunit. In the end, Kontron convinced Sunit that they were able to offer the best possible support for the Scania project. Kontron's technology won out because the company can very quickly implement any customer design. As a development service provider with a broad range of standard components for embedded computing, Kontron has a rich fund of basic components available in order to develop individual customer designs more quickly and economically than pure contract developers.



The rapid growing in-vehicle market

In keeping with the demands of its high-performance processor systems, standard Sunit PCs include an embedded 64 MHz multimedia processor, soldered DDR RAM from 256 up to 1024 MB, a heated 30 GB Automotive hard drive, GPS, GSM and GPRS. A special telematics module allows communication between the vehicle and remote headquarters even when the PC is in standby mode. An automobile interface bus connects the PC to the vehicle's electronic systems in order to monitor its functions, and control them if necessary. With the Sunit d, the challenge was to integrate all of the functions required by Sunit in the given form factor. With the CP306 CompactPCI® assembly, Kontron had a platform in its program that already fulfilled many of the system requirements for the in-vehicle

applications: Pentium M from 1.1 to 2 GHz, chipset 82855GME with integrated graphics controller, up to 1 GB soldered SDRAM, Gigabit Ethernet and Fast Ethernet interfaces, four USB interfaces, 4 RS232 interfaces, etc. Based on these 'building blocks', Kontron was then able to deliver the customer-specific CPU assemblies within a short period of time, and at relatively low cost.

However, Esa Suutari, Key Account Manager with Sunit, also gives other reasons for the long and successful cooperation: "When we started developing vehicle PCs, we were in a double starting position: the market was only just starting to emerge, and we had to develop new systems in order to access it while it developed. Therefore, we looked for a partner who would help us develop market and product at the same time, and who was just as convincing in terms of management, leadership and organization as in technical know-how." Thus, the Kontron management team was one of the key factors for the partnership's success. 'Realistic, never promising the moon, open, honest' – that is how Esa Suutari characterizes the cooperation with the engineers and managers from Kaufbeuren.

Kontron and Sunit have already planned their next mutual project: Kontron will soon develop a more economical version of the current board that works with Windows XP Embedded as its operating system. While the market of in-vehicle units is growing rapidly and is expanding even to the public cars, Sunit and Kontron provide cost-effective assemblies to respond to the challenges in this sector. The partners have the intention to keep their position as technology leader as provider of in-vehicle PC-technology. In two years, there will be a successor for the current CPU assembly, which will also work with Windows XP Embedded.

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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