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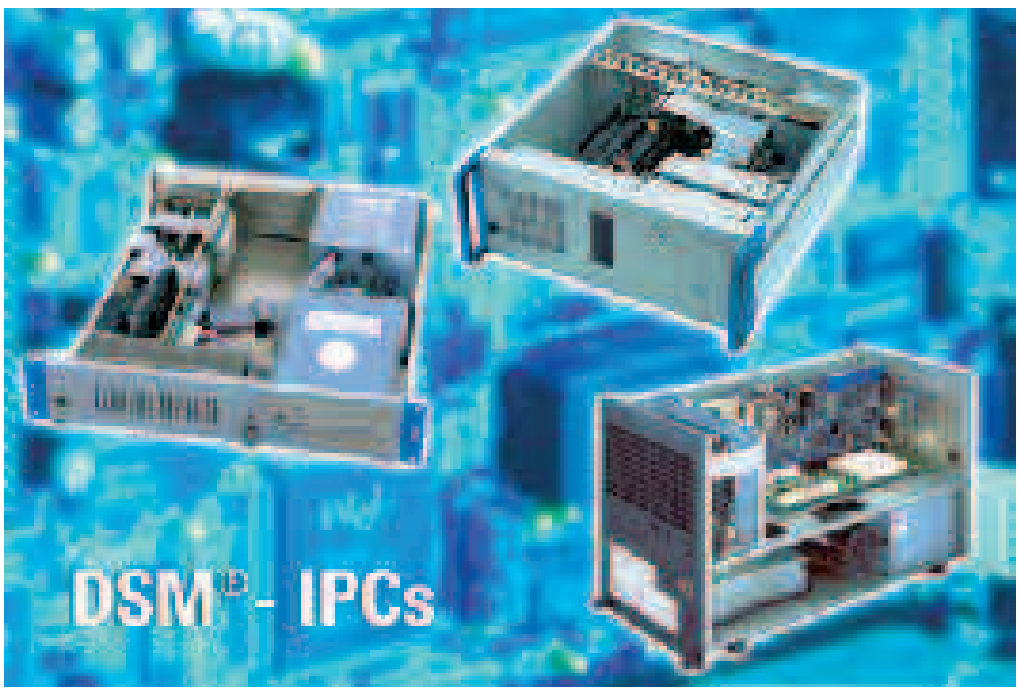
IPCs - more than a costly alternative to desktop PCs

Application examples for modular IPC technology

The modular Industrial PC concept from DSM Computer allows to upgrade even highly complex systems to the latest technology.



IPCs have a long-established place in industry. Thanks to their versatility they are almost universally applicable. Modular industrial computer systems are among the most innovative and sought-after equipment of their kind, worldwide. These 19-inch systems are chiefly used in automation, control, measurement, robotics and telecommunications.

The modern industrial PC is significantly more than a costly alternative to a normal PC. In combination with modular technology it offers numerous new perspectives which enormously extend the limits of what was previously possible, from both the technical and the economic aspects. Even highly complex systems can be upgraded to the latest state-of-the-art with this proven technology, without problems and with minimal maintenance. Specifically in automation technology, a higher standard has been established based on modular IPCs.

IPCs are robust, mature, and extremely reliable thanks to many years of development.

A significant commercial trend is that competitive pressures in industry continually get harder. The sharp price reduction in electronics puts the industrial systems manufacturer under pressure to offer even complex hardware developments cost-effectively.

The industrial PC in 19-inch construction offers the most varied solutions for automation, robotics and control. Its application range extends from relatively limited requirements in process control to highly demanding requirements in production engineering. An existing system can be automatically integrated into the latest technology thanks to the building-block principle.

Applications examples in robotics and control

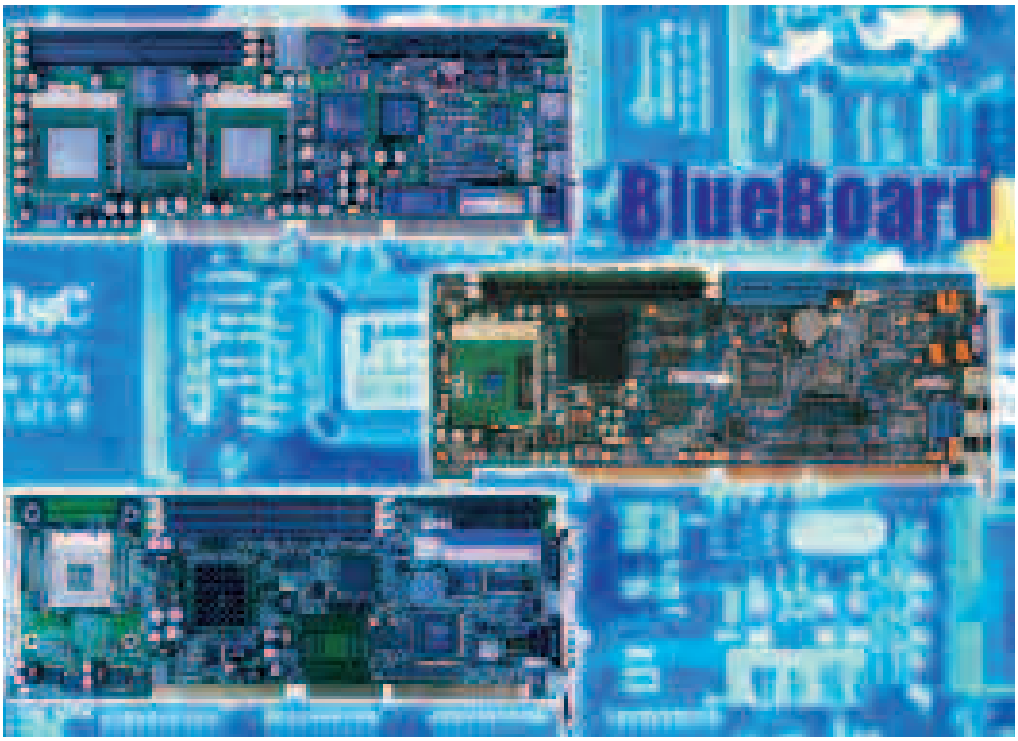
In the seventies and eighties service robots in industry were not conceivable. Today the modern and fully-automated plants of major industries are not conceivable without them. Automotive production lines for example or large computer centres for data storage are constructed with modular technology. In the past data retrieval was generally very time-consuming. Contemporary modular control enables optimal data management along with short retrieval time. A further competitive factor is apparent in the automotive field. Development cycles for new models continually get shorter and so production schedules get tighter. Robotic controls also serve in households, offices and hospitals. Such applications depend for one thing on hardware stemming from the proven 19-inch technology, and for another on highly manoeuvrable robot platforms and their positioning systems. The necessary flexibility is achieved with modular controls for the robotics. The chief application here lies in environmental sensing, whether visual or non-visual, along with the execution of redundant mobile actions in the operational area under consideration.

Application examples for measurement

A light source transmits light through a duct to the object to be recognised. The reflected light is directed to a prism and analysed for its red, green and blue spectral components and brightness. The intensities of the individual components depend on the colour of the object. The 19-inch IPC evaluates the colour components and controls the sorting equipment correctly according to the colour. In medical technology these systems find their principal use in taking and recording measurements from optical evaluations. Such equipment must strictly comply with directives setting for example norms for IP protection and electromagnetic compatibility.

Application example for telecommunications

This relates to what is better known as CTI, Computer Telephony Integration. Here the application arises because modern undertakings wish to unify their computer and telephone



systems, but for a long time no unified standard was available that could be implemented with up-to-date expandable technology. Future-oriented undertakings reject classical telephone equipment because a computer-supported solution achieves competitive advantages more efficiently.

These application examples for the modular IPC technology of the 21st century can be extended indefinitely. Supported by proven 19-inch technology based on building blocks, a large number of modular elements are already today available to the developer. In the face of ever-increasing competitive pressure and the need for cost-reduction, project solutions can be found in the short term. The tedious and cost-intensive development process can be increasingly avoided.

DSM Computer AG draws on many years of experience in the manufacture of industrial systems. In-house developments in the fields of slot CPU technology (BlueBoard) and high-end server technology (Infinity) support the complex demands of system technology in the new millennium. ■