msc technologies
an Avnet Company

love Your work

MADE IN GERMANY

Innovative Systems
Driving Your Application

Max. 4-Week
Delivery

In-House
Manufacturing

150
Engineers

ISO
14001

Creativity and know-how are the basis for intelligent and functional technical solutions, simply "Living Innovation®"

MSC Technologies Vision Statement

Content

Our Work – Your Work

We see ourselves as a competent partner who listens to your requirements and understands the values you expect. You can trust in our services, experience, and product portfolio and rely on our encouragement while focusing 100% on **your core competences**.
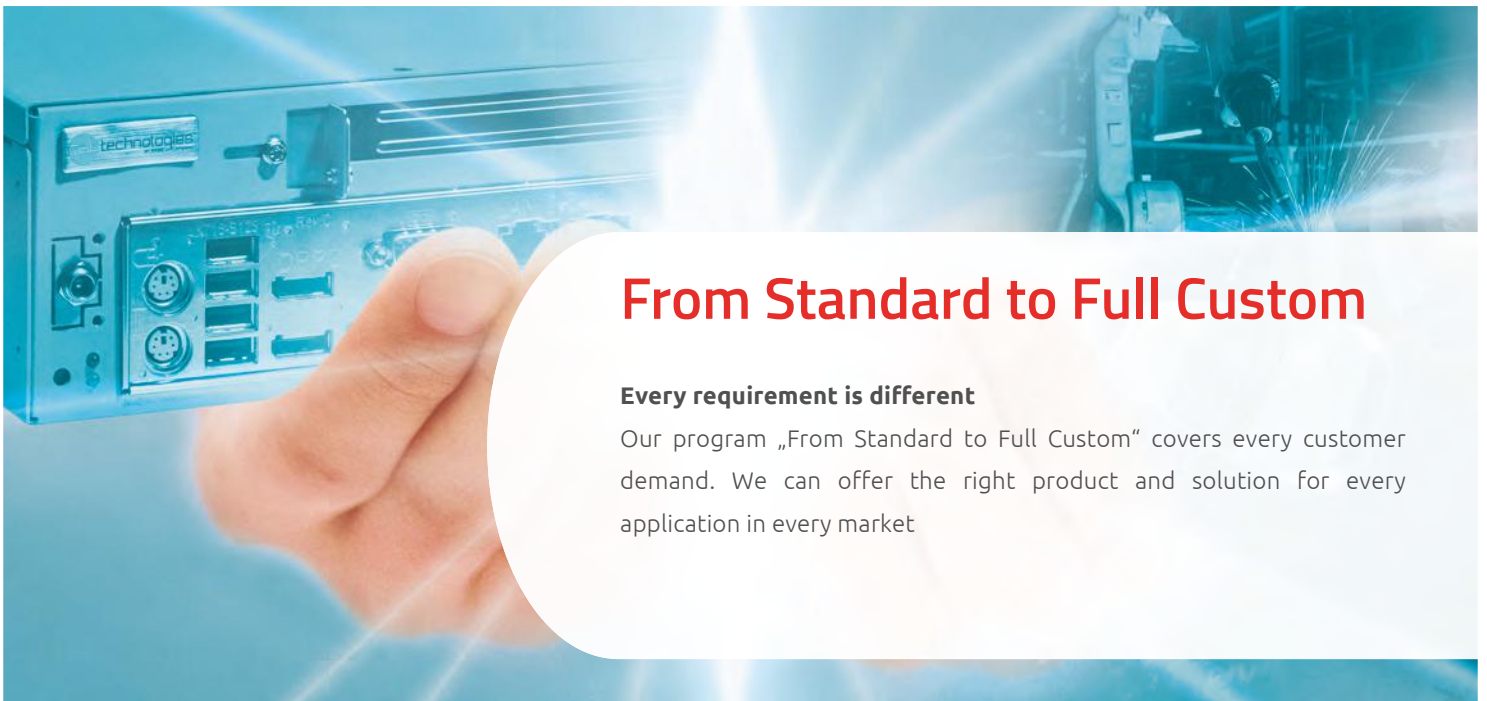
Innovative Systems – Driving Your Application

MSC Technologies has more than 30 years of experience in designing, developing, and manufacturing standard systems and customer specific solutions, thus providing you with innovative, high-quality products **made in Germany**.

You are fully involved in the design phase, and use of our standard portfolio will help to reduce your workload significantly.

Get in touch with our pre-sales and after-sales support and benefit from our delivery performance. We will support you throughout **the entire life cycle** of our offerings. You will be informed proactively by us about delivery schedule, EOL notifications, and life cycle.

Profit from our motivation and enthusiasm that will drive your applications and business.

From Standard to Full Custom

Every requirement is different

Our program „From Standard to Full Custom" covers every customer demand. We can offer the right product and solution for every application in every market

MSC provides you with ready-to-go standard products up to full custom designs based on your specifications. Our highly motivated specialists will take care of all your requests.

Standard

- Max. 4-week delivery
- Multiple configurations
- Fully certified
- Excellent value for money

Modified Standard

- Your logo
- Your color
- Your configuration
- Proven building blocks

Semi-Custom

- Less NRE
- Application specific enclosures
- Frozen BOM
- One contact during development

Full-Custom

- Your system based on your specifications
- Fast time to market
- Developed by experts
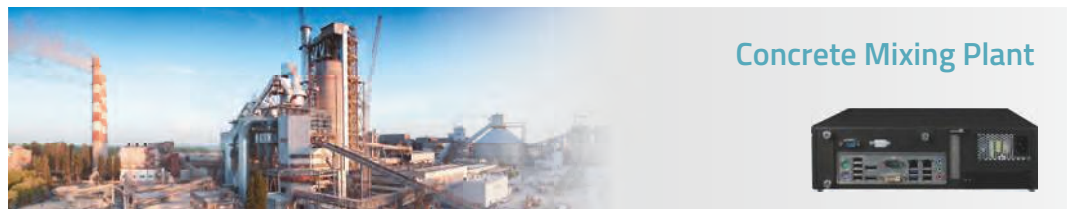- One contact during development

Control System

Success Stories

Semi-customized 19" computer as the control system

Interconnected traffic and information systems are a prerequisite in order to keep regional, long-distance, and cargo rail traffic competitive in the future. High-performance Infinity® industrial PCs in the control rooms handle switch and signal controllers and monitor the signal box.
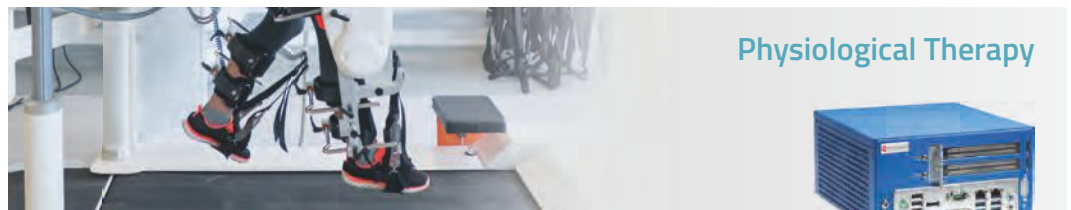
Concrete Mixing Plant

Using the MSC BookSize PC, your production flows can be controlled as reliably and efficiently as possible - especially with complex plants. Repeatedly tested - simple and reliable control!

Physiological Therapy

A customers application running on NanoServer® offers the most physio-logical gait pattern with constant feedback and therapy assessment. It improves patient outcomes by increasing therapy volume and intensity, providing task-specific training, and enhancing patient compliance.

Metering

Mixing and metering without compromising quality using machine technology for every conceivable (and sometimes inconceivable) application driven by MSC DIN Rail PC H1-A3.

Industrial Hallo DIN Rail
State of the Art Dust Proof Hallo
NanoServer Embedded
Infinity Fanless Size Innovative
Taylormade Customized
Hallo Book Global Hybrid Cooling
Systems Solution Rugged
Competence Galaxy
Reliable

MSC Standard System Portfolio

Our innovative system portfolio is the ideal platform to enable many different applications.

Our products are **designed for industrial environments** and characterized by a rugged and flexible design. All components deployed for the robust systems are chosen and verified to guarantee long-term availability and 24/7 operation. The open architecture enables flexible configurations with scalable performance.

Additional services and tools increase the value to your applications.

We Create Value for Your Business

Reduce your total cost of ownership by employing MSC valuable systems, solutions, and services

MSC offers additional services and tools to **increase your value**. With HW security as part of the trust pyramid, we make our systemssecure. Furthermore, the predictive maintenance tool ReDI 01 avoids downtime of your application and an extended warranty protects your investment.

Scalability

From Intel® Atom™ to 7th generation Intel® Core™ CPUs, chipsets, various housings, and form factors

Connectivity

From fieldbus devices to Ethernet-based services, WiFi, and Bluetooth

Embedded HW Security

Secure flash, BIOS write protection, secure boot code verification, integrity check, system validation, bootloader, images and data protection

Reliable Design

Designed for rugged environments and tested under worst case conditions, our standard systems are built for continuous operation in harsh environments.

Less Maintenance

Hybrid cooling, dustproof designs, fanless, hot swap dust filters, predictive maintenance to reduce TCO and increase MTBF

Services

Lifecycle management, extended guarantee, and SLAs

Embedded Systems

Overview and configuration examples

	NanoServer®		
	NN NEW	**N1** NEW	**N2** NEW
CPU	Intel® Core™ 6th generation	Intel® Atom™ E3800 series Intel® Core™ 4th/6th generation	Intel® Core™ 6th generation
Chipset	Intel® Q170	Intel® Q87 Intel® Q170	Intel® Q170
RAM (max.)	32 GB DDR4	8 GB DDR3L 16 GB DDR3 32 GB DDR4	32 GB DDR4
Slots	1 x Mini PCIe	1 x PCIe x1 1 x PCIe x16 1 x Mini PCIe	2 x PCIe x8 1 x Mini PCIe
Power	12/24V DC (automotive power supply) External AC power supply		
Drives	1 x mSATA 1 x 2.5" (int.)	1 x mSATA 2 x 2.5" (int.)	1 x mSATA 2 x 2.5" (int.)
Mounting	Desktop | Wall mount | Cabinet mount		
Highlights	**Supporting IEEE1588 Remote diagnostics (Q170 only) Extended warranty**		
Supported OS	Microsoft® Windows® 7 Microsoft® Windows 10 (for Q170 only)		
Dimensions (WxDxH) in mm	204 x 224 x 58	204 x 224 x 80	204 x 224 x 109

	BookSize	EN		DIN Rail PC
	B1 NEW	**EN-A3**	**EN-i1**	**H1**
CPU	Intel® Core™ 4th/6th generation	Intel® Atom™ E3800 series	Intel® Core™ 5th generation	Intel® Atom™ E3800 series
Chipset	Intel® Q87 Intel® Q170	SOC	Intel® Q87	SOC
RAM (max.)	16 GB DDR3 32 GB DDR4	8 GB DDR3L	16 GB DDR3	4 GB DDR3L
Slots	1 x PCIe x16 low profile 1 x Mini PCIe	2 x Mini PCIe	2 x Mini PCIe	1 x Mini PCIe
Power	internal AC power supply	external AC power supply	12/24V DC external AC power supply	24V DC
Drives	1 x mSATA 1 x 3.5"	1 x 2.5" (int.)	1 x mSATA 1 x 2.5" (int.)	1 x mSATA 1 x SD card
Mounting	Desktop 19" mount	Desktop / VESA Wall / Cabinet mount	Desktop Wall / Cabinet mount	DIN Rail
Highlights	Removable dust filter Passive CPU cooling Supporting IEEE1588	Fanless Compact housing Supporting IEEE1588	Fanless Compact housing	Fanless For electrical cabinet Supporting IEEE1588 2 x isolated RS485
Supported OS	Microsoft® Windows® 7	Microsoft® Windows® 7	Microsoft® Windows® 7	Microsoft® Windows® 7 Windows® 10
Dimensions (WxDxH) in mm	330 x 206 x 88	200 x 200 x 51	210 x 265 x 72	124.5 (7HP) x 90 x 41/55

Other configurations and operating systems on request!

Infinity® 19" Industrial Rack Systems
Overview and configuration examples

	Infinity® I1	Infinity® I2	
	1U	**2U** NEW	
Platform	mini-ITX	micro-ATX	Slot CPU - PICMG 1.3 **available Q2/17**
CPU	Intel® Core™ 6th gen. Intel® Pentium®	Intel® Core™ 6th generation Intel® Pentium®	Intel® Core™ 7th generation Intel® Xeon® E3 | Pentium®
Chipset	Intel® Q170	Intel® Q170	Intel® C236
VGA	Intel® HD530 | HD510 (integrated in CPU)	Intel® HD630 | HD510 | HDP530 (integrated in CPU)	
RAM (max.)	32 GB DDR4	64 GB DDR4	32 GB DDR4
SATA	4 x SATA III mSATA (via SATA III)	6 x SATA III mSATA (via SATA III)	6 x SATA III
RAID	0, 1, 1+0, 5	0, 1, 1+0, 5	0, 1, 1+0, 5
Slots	opt. 1 x PCIe x16	2 x PCIe x16 2 x PCIe x8	1 x PCIe x16 1 x PCIe x1 2 x PCI
Racks	1 x 5.25" slimline 1 x 3.5", 1 x 2.5" (int.)	1 x 5.25" slimline 2 x 3.5"	1 x 5.25" slimline 2 x 3.5"
Depth	303 mm	380 mm	448 mm
Supported OS	Microsoft® Windows® 7/10 Linux™	Microsoft® Windows® 7/10 Linux™	
Article	I1-303-MBQ170	I2-380-MBQ170	I2-448-13C236

Other configurations and operating systems on request!

5.25" bay

Cages			
	• Slimline DVD • 3.5" SATA	• 4 x 2.5" SATA	• 1 x 3.5" SATA

	Infinity® I4		Infinity® S4
	4U NEW		**4U**
Platform	ATX available Q2/17	Slot CPU - PICMG 1.3 available Q2/17	ATX
CPU	Intel® Core™ 6th generation Intel® Xeon® E3 | Pentium®	Intel® Core™ 7th generation Intel® Xeon® E3 | Pentium®	2 x Intel® Xeon® E5
Chipset	Intel® C236	Intel® C236	Intel® C612
VGA	Intel® HD630 | HD510 | HDP530 (integrated in CPU)		ASPEED AST2400
RAM (max.)	64 GB DDR4	32 GB DDR4	512 GB DDR4
SATA	6 x SATA III mSATA (via SATA III)	6 x SATA III	10 x SATA III
RAID	0, 1, 1+0, 5	0, 1, 1+0, 5	PCIe x8 controller 0, 1, 5, 6, 10, 50, 60
Slots	2 x PCIe x16 1 x PCIe x8, 2 x PCIe x4 2 x PCI	1 x PCIe x16 2 x PCIe x4 8 x PCI, 2 x ISA	1 x PCIe x16 3 x PCIe x8 2 x PCIe x4
Racks	2 x 5.25" 1 x 2.5" (int.)	4 x 5.25" 1 x 3.5"	2 x 5.25" 1 x 2.5" (int.)
Depth	408 mm	508 mm	408 mm
Supported OS	Microsoft® Windows® 7/10 Linux™		Microsoft® Windows® 7/10 Linux™
Article	I4-408-MBC236	I4-508-13C236	S4-408-MBC612

	3.5" bay		2 x 5.25" bay
Cages			
	• 2 x 2.5" SATA	• 3 x 3.5" SATA	• 2 x 3.5" SATA • RAID 0,1 with display

Predictive Maintenance

The strategy that predicts when machinery will require maintenance

Damage can always be prevented if appropriate steps are taken in due time.
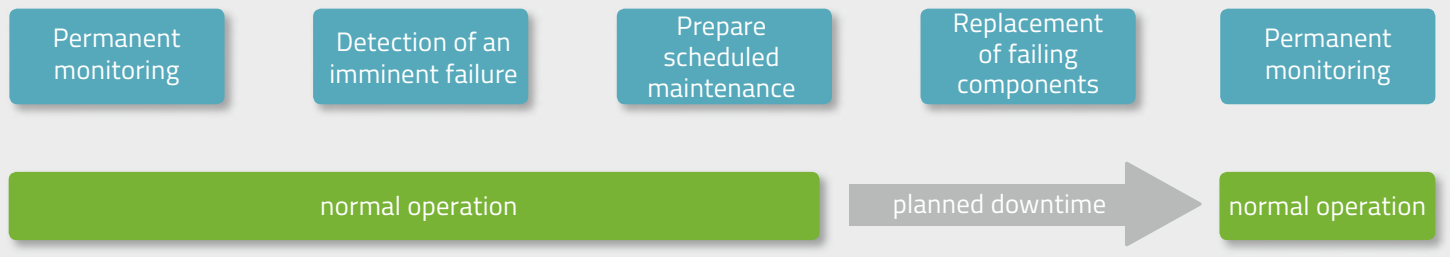
The principle is based on three pillars:

1. Permanently monitoring the condition of a "healthy" system to detect wear or variations from the normal condition at an early stage.
2. If a variation is detected, in the simplest case only an alert is issued, but a better option is to determine and output the remaining service life of a component or a subsystem.
3. Based on this "system condition", costly downtime can now be reliably avoided and inexpensive maintenance scheduled.

Without condition monitoring ReDi 01

Unexpected system crash

| Root cause analytics | Sourcing material | Exchange defective parts |

normal operation | unplanned downtime | normal operation

With condition monitoring ReDi 01

| Permanent monitoring | Detection of an imminent failure | Prepare scheduled maintenance | Replacement of failing components | Permanent monitoring |

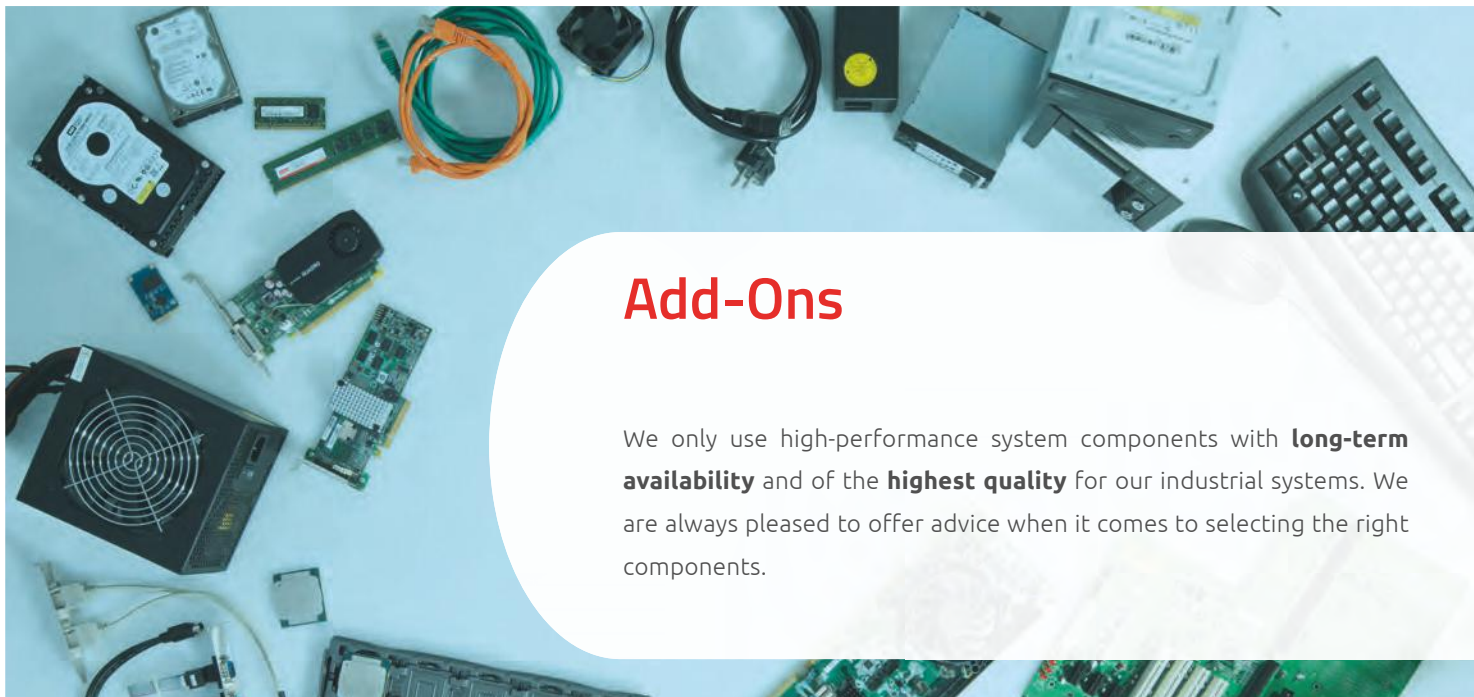normal operation | planned downtime | normal operation

ReDi 01 is an intuitive user friendly remote diagnostics tool enabling predictive maintenance running under Microsoft® Windows® on Skylake based MSC systems. It minimizes the time the equipment is being maintained, the production hours lost to maintenance, and the cost of spare parts.

ReDi 01 at a Glance

Predicts when maintenance should be performed

Monitoring the vital data:	Notifications by:	Key features:
• Temperatures	• SNMP	• Recording of historical data
• SMART status	• E-mail	• Remote access to the monitored system
• Voltages	• Locally	
• Fan status	• Sound	• Warning and alarm thresholds
• Others on request		

Add-Ons

We only use high-performance system components with **long-term availability** and of the **highest quality** for our industrial systems. We are always pleased to offer advice when it comes to selecting the right components.

SBC

- PICMG 1.0 | PICMG 1.3 (PCI Express)
- Mini-ITX | Micro-ATX | ATX
- Intel® Core™ processor up to 6th generation

Backplanes

- PICMG 1.0 | PICMG 1.3 (PCI Express)
- 3 -19 slots
- ISA | PCI | PCI Express

Bulk Memories

- HDD | SSD (Solid State Drive)
- mSATA | M.2
- RAM

Expansion Cards

- Graphic cards
- Network controller
- I/O controller

Power Supplies

- ATX power supplies
- DC / DC converter
- UPS

Cables and Consumables

- Interface cables
- Power cables
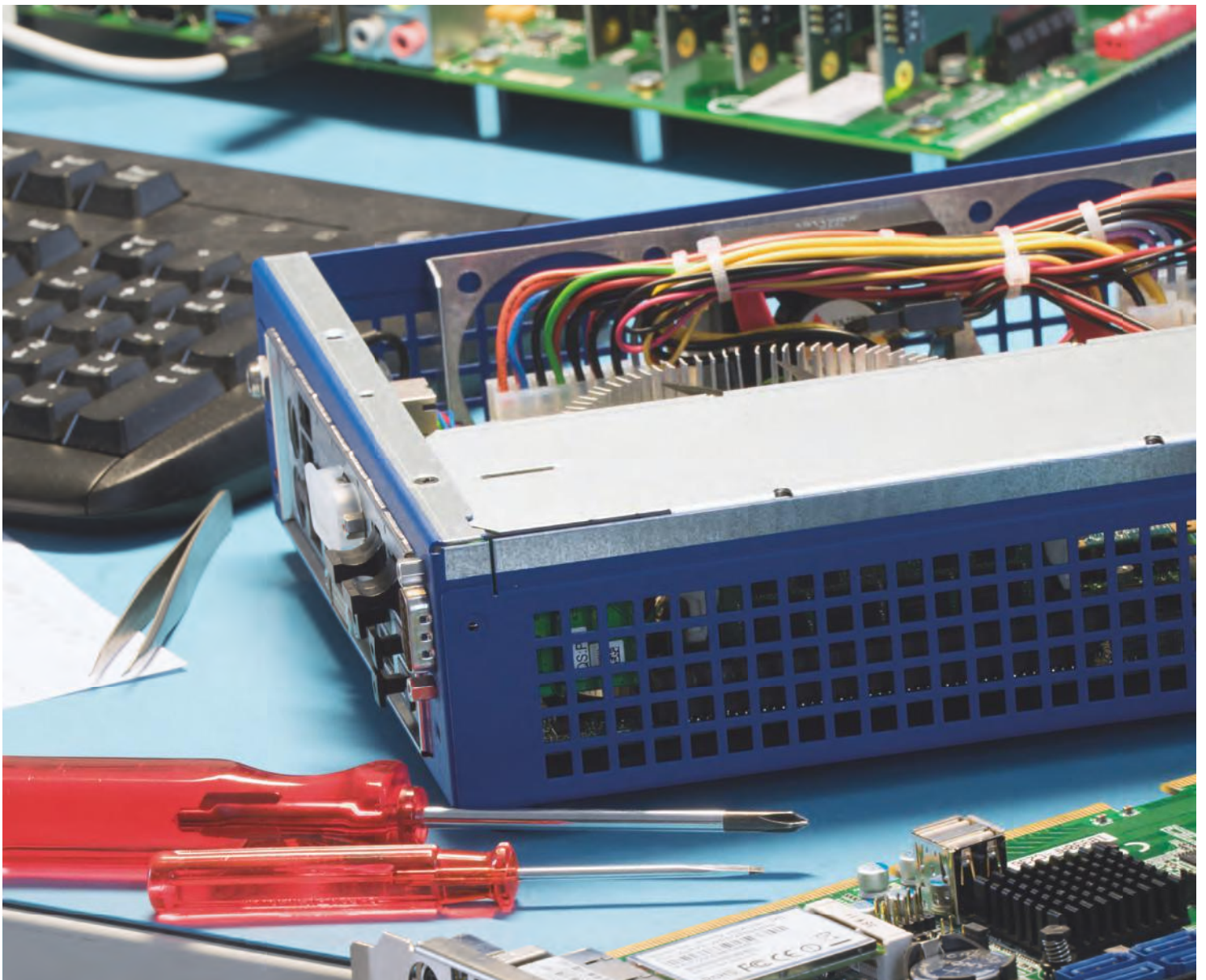- Keyboards, mice

Cooling Solutions

- Heatpipes
- System cooling
- CPU cooling

Operating Systems

- Microsoft® Windows®
- Microsoft® Windows® IoT
- Linux™

Technical Support

If you encounter technical problems or have any questions about our products, feel free to contact our support team:

Telephone: +49 8165 906 300
E-mail: support.systems@msc-technologies.eu
Internet: On our support website www.msc-technologies.eu you will find detailed information on MSC standard products. This includes data sheets, user manuals, BIOS updates, and drivers for multiple operating systems, as well as PCN/EOL information.

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