

Optimized architecture for drive centric machines with Altivar Controller IMC

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Application Marketing



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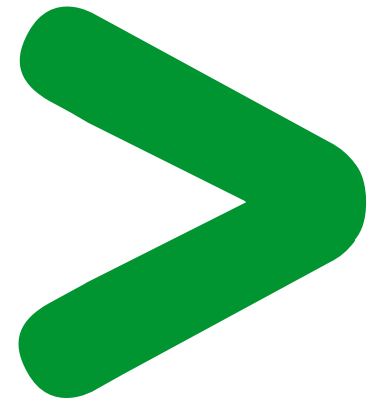
[Machines]

NOW!

Flexible Machine Control

a **Key & Unique** advantage...

...to achieve the **most
optimised control
solution** for your machine



100 % of flexibility and optimisation with Flexible Machine Control

- > 1 software environment
Simplify machine programming & commissioning with SoMachine suite



- > Multiple hardware Control Platforms
Embedded Intelligence where it is needed



HMI controllers



Drive controllers



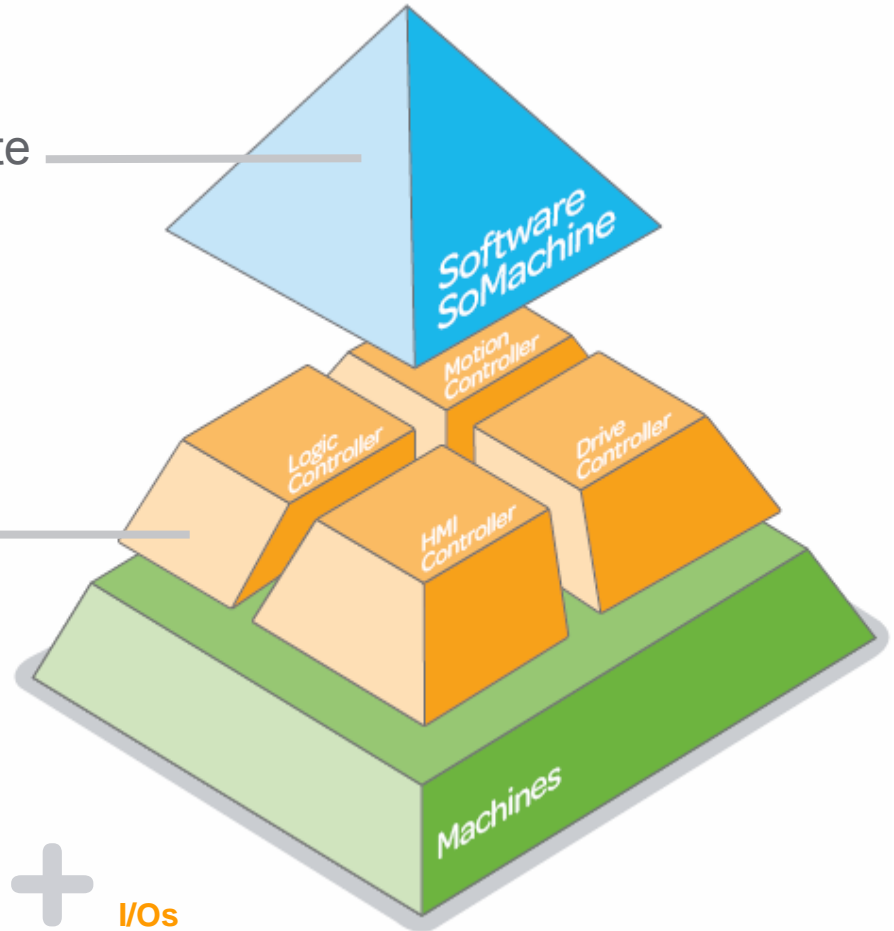
Logic controllers



Motion controllers



I/Os



Achieve greater intelligence in less space!

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Based on the concept of “Flexible Machine Control”, the Integrated Controller Card Altivar IMC improves the **expandability** of machines and satisfies OEM requirements for **performance**, installation **simplicity** and ease of machine **evolution**.



30% less costly than a conventional PLC-based solution

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Altivar IMC

Drives controller

The Altivar Integrated **M**achine **C**ontroller (**IMC**) for Altivar 61 and 71 drives is a, compact and optimized controller dedicated to Machine



- > • Compact & optimised
- Cost-efficient & economic solution
- Open & communicative
- Simple motion control
- Applicable for multi applications
 - Textiles,
 - Hoisting,
 - Pumping,
 - Wood-working

Why select the Altivar IMC drive controller



Designed with 2 criteria: Cost optimization and practicality

www.info.FLCC.net

- **Cost optimization:** the standard equipment for the Altivar IMC card comprises:
 - Sixteen discrete I/O
 - A built-in Ethernet port
 - Two analog inputs
 - Two analog outputs
 - A CANopen master
- **Practicality:** ideal for integration in Altivar 61 and 71 drives, and can therefore use:
 - Drive local I/O
 - Drive extension I/O card
 - Drive communication option card
 - Encoder interface card for high speed counter
 - Drive parameters (speed, current, torque, etc.)



NOW!

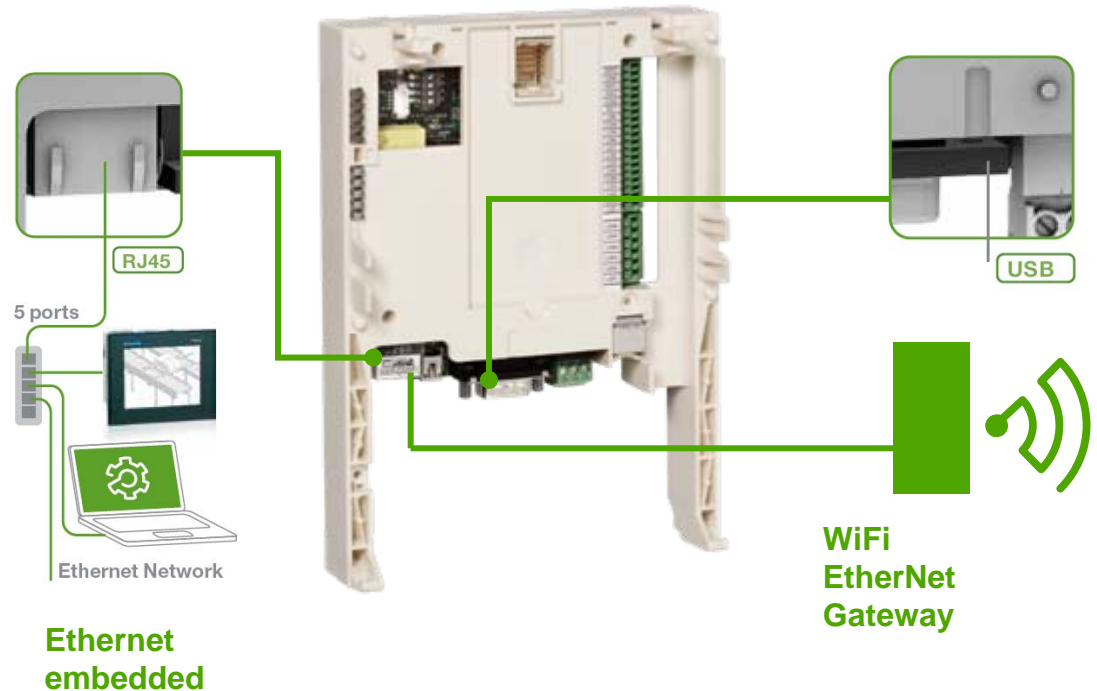
A more intelligent drive

- **Mini-B USB:**

- Reduces program loading time

- **Ethernet Embedded:**

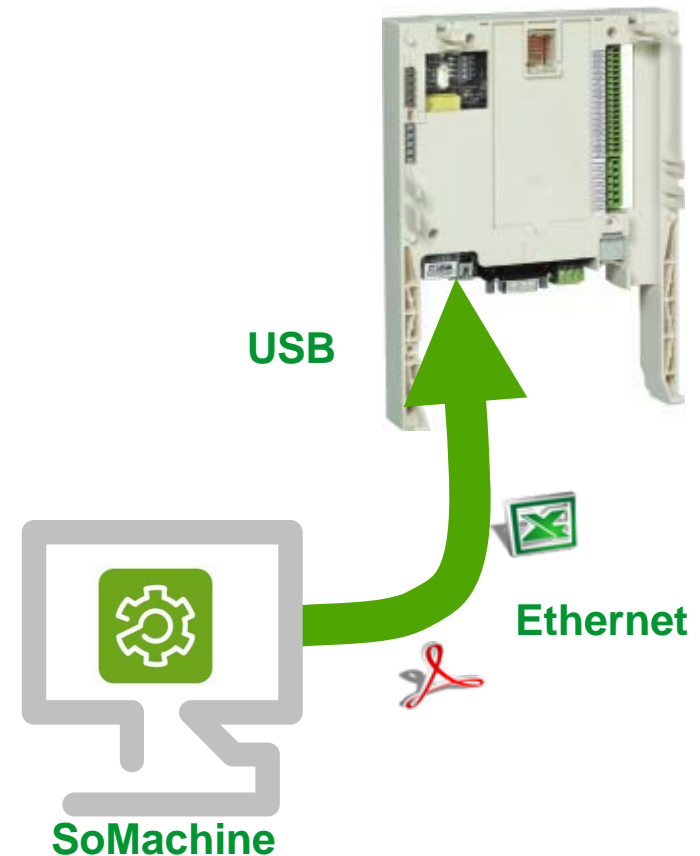
- Performance and Openness
- Performs 10/100 Mbits/s Ethernet Modbus TCP SoMachine Protocol
- FTP Server Embedded
- Web Server Embedded



> Simplify the access on your machine
Remote Controller with Wifi router

Flexibility all during life cycle of your application

- **ATV-IMC** can be connected to the PC using an **USB** or **Ethernet** connection
- **ATV-IMC** Integrate a **File System** used for
 - Store Machine Documentation
 - Store Template
 - Store Tutorial
- **ATV-IMC** support the **Upload** Application feature



Embedded communication for performance

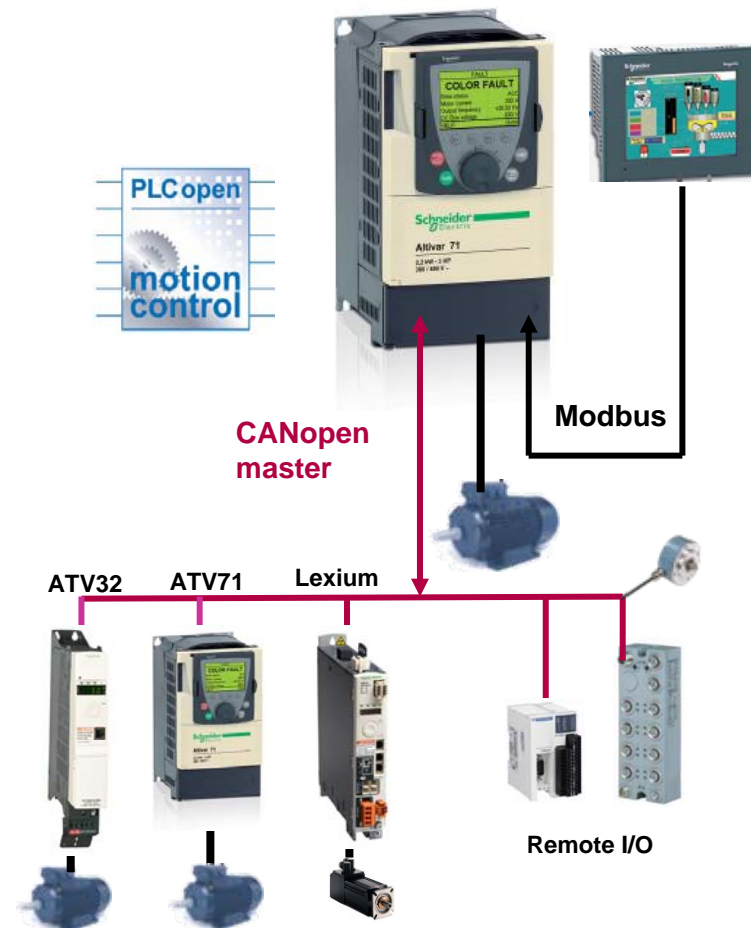
For drive centric machine needing smart devices

- Manage many smart devices with **Can Master**

- Up to 16 slaves

- Enter data with an advanced **HMI (XBT)**

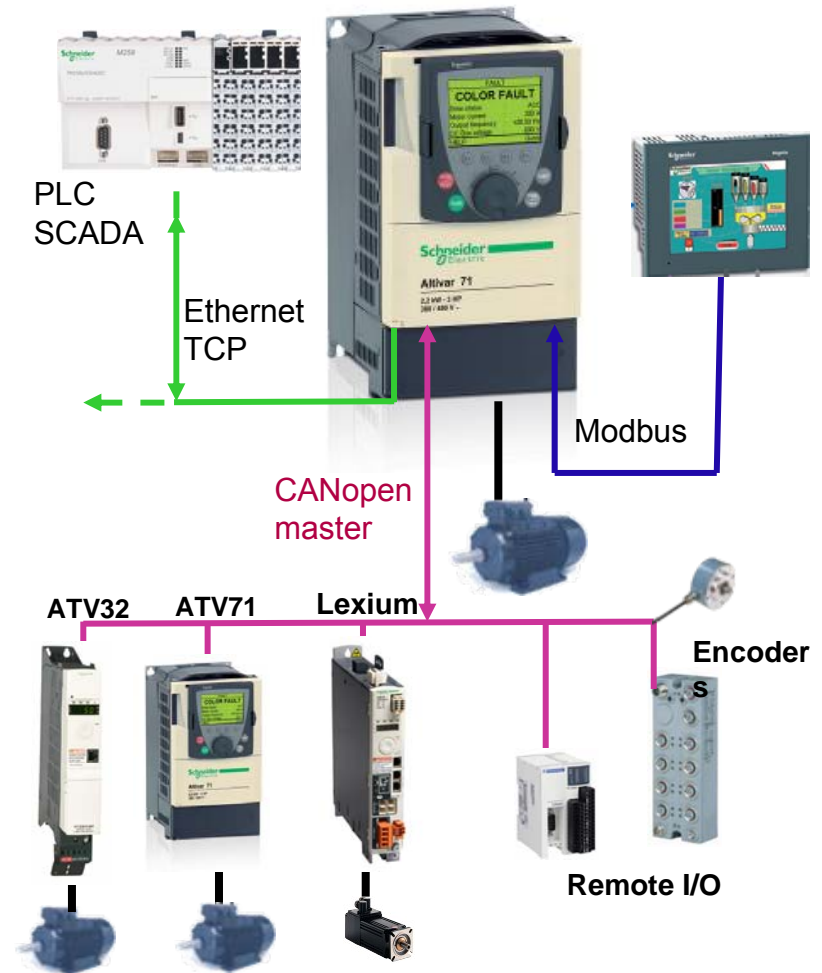
- Using embedded Modbus connection



Open to control & monitor your application

For drive centric decentralized machine

- Free the supervisor PLC from local tasks
- Use high end field buses
 - Ethernet option boards with web server
- Open to third parties protocols
 - Profibus, DeviceNet ...

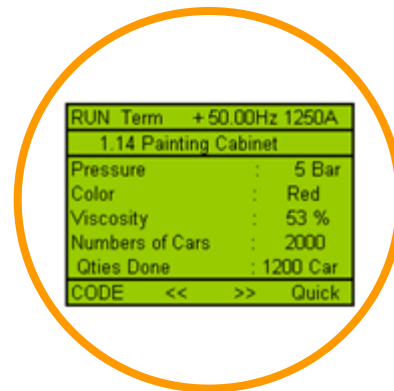
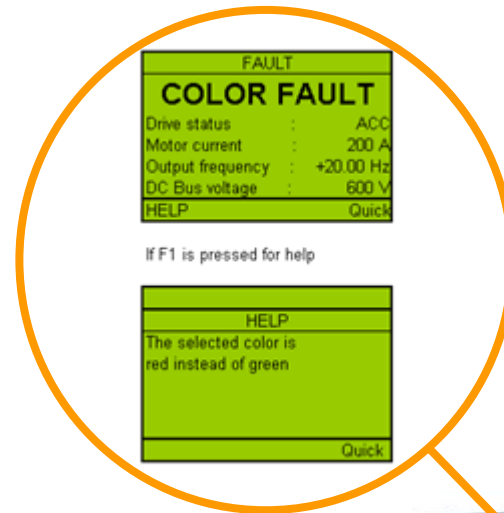


NOW!

Easy to customize www.infoPLC.net

With optimized HMI local keypad

- Customize with your brand
 - With bmp file create your banner
- Make an end user menu
 - Dedicated menu
 - User's vocabulary
 - User's units



Speed up machine design with SoMachine software suite

- **6 Programming** languages (IEC 1131-3)
- **Ready-to-use** Function Blocks
- Tested, Validated, Documented (**TVDA**) Architectures included
- **Maximise** Operation and **reduce** Maintenance
- **Diagnosis** through **transparency** and remote access



With the Altivar IMC

- > Achieve greater intelligence in less space
- > Optimize for a drive controller open & communicative
- > Speed up machine design by using SoMachine



**30% less
costly than a
conventional
PLC- based
solution**

NOW!



Altivar

IMC drive

controller

selection guide

Let choose before to embed All in One ATV IMC + One option module in ATV71 / ATV61



Integrated
Controller Card



Altivar 71 / 61



I/O modules

or



Communication
modules

| | |
|---------------|------|
| AI | 2 |
| AO | 2 |
| DI | 10 * |
| DO | 6 |
| * 2HSC 100Khz | |

CANopen Mast
Ethernet TCP

| | |
|-------|---|
| AI | 2 |
| AO | 1 |
| DI | 6 |
| Relay | 2 |
| PWR | 1 |

CANopen Slave
Modbus Slave

| | |
|----------------------|---|
| AI | 2 |
| AO | 2 |
| DI | 4 |
| DO | 2 |
| Relay | 1 |
| PTC | 1 |
| RC | 1 |
| (freq control input) | |

- Profibus
- Ethernet Modbus TCP
- DeviceNet
- EtherNet IP
- Modbus Plus
- Fipio
- Uni-Telway
- InterBus
- CC-Link

NOW!

> Altivar IMC

Application Example

You want to reduce the
design time of our
machines...

...to give you a competitive
advantage



Hoisting solution

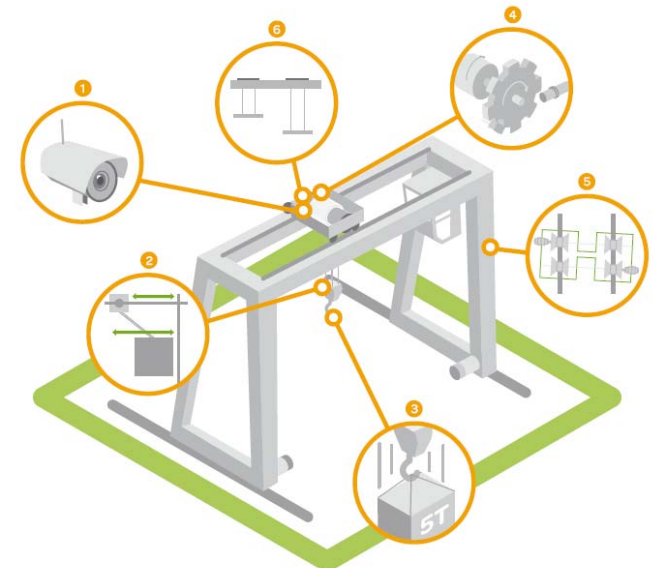
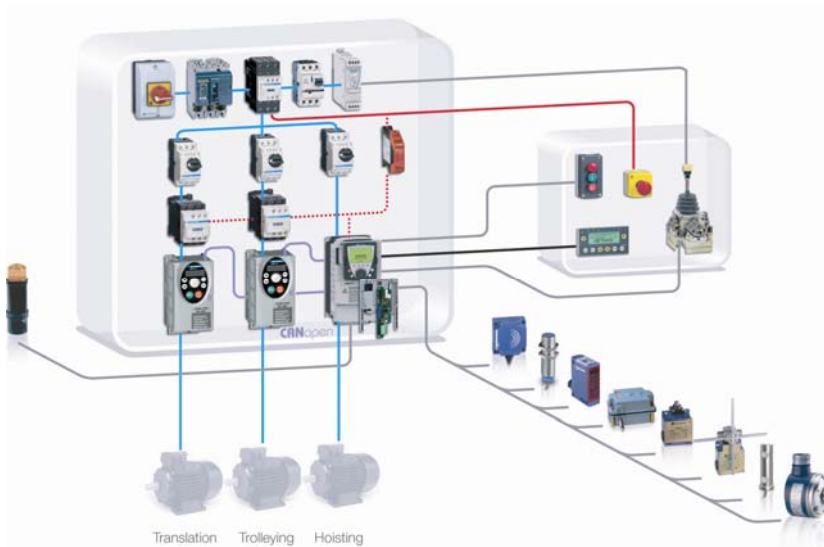
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Overhead travelling crane - Gantry crane with cabin

Maximise your system **performance** whilst **optimising** automation and control by using...

Hoisting Industry Optimized CANopen Drive Control ATV IMC



6 out of 17 available Hoisting AFBs

- ① – Monitoring data storage
- ② – Anti-sway
- ③ – Overload control
- ④ – Load overspeed control
- ⑤ – Anti-crab function
- ⑥ – Hoisting position synchronization

Hoisting solution

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Overhead travelling - Gantry complex crane

- Reduce risks and increase equipment protection of your cranes
 - Prevent risk conditions due to...
 - ...overloading with **Overload control**
 - ...load slipping with **Load over speed**
- Implementing our automation solutions for a **preventive** and **efficient maintenance**
 - Acquiring and recording alarms on all relevant and critical issues with **Monitoring data storage**
 - Keeping the parallelism between bogies independently of load position with **Anti-crab**
- Reliable machines for **increasing the productivity** of your customers
 - Improve load positioning accuracy and crane efficiency **with Anti-sway**
 - Synchronise two movements to handle a load at the same time with **Hoisting position synchronisation**



AFB, Application function Block

• AFB

- Pre written machine functions
- Standardization of software functions
- Reduces the complexity
- Easy to use Drag & drop
- Designed by applications engineers
- Online Help

> Make design easier & faster

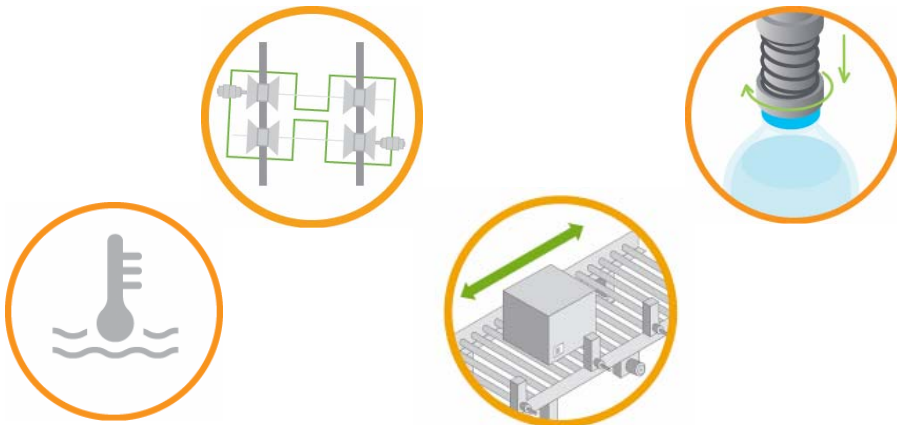
- Ready to use
- Operating mode, Diagnostic
- Tailor-made

> Save installation time

- Speed up design, commissioning, & troubleshooting

> Embedded inside a Library

- Hoisting library
- Packaging library
- Conveying library
- Your own library with your AFBs



Live Demo on SoMachine



Save time from design to commissioning
thanks to our...

www.infoPLC.net

Tested, Validated & Documented solutions



- Lab tested by **experts**
- Validated for functional **compatibility** of devices
- Fully documented, including complete **system user guide** with example code, predefined CAD panel designs & wiring diagrams

Save 50%
in design time and
installation cost by
using our **System
User Guide**



NOW!

Main messages



Risk management

- “Reduce risks and increase equipment protection of your cranes”



Maintenance

- “Implementing our automation solutions for a preventive and efficient maintenance”



Productivity

- “Reliable machines for increasing the productivity of your customers”



Services and Support

- “A team of specialists provide you with application design, support and co-engineering.”

NOW!
You know!