

This is HMS Networks



Hardware Meets Software™



# Hardware Meets Software. All the time. Everywhere.

## HARDWARE AND SOFTWARE CONNECTED WITH HMS PRODUCTS



HARDWARE: Industrial robots  
SOFTWARE: Industrial Ethernet network



HARDWARE: Packaging machine  
SOFTWARE: Remote programming tool



HARDWARE: Navigation equipment  
SOFTWARE: Steering system



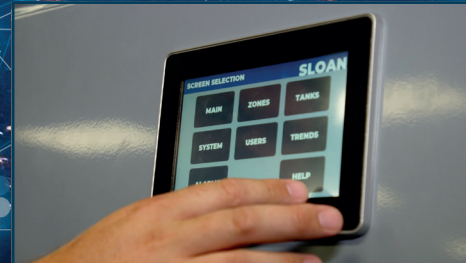
HARDWARE: CNC machine  
SOFTWARE: Functional safety



HARDWARE: Power generator  
SOFTWARE: Remote management system



HARDWARE: Mobile robot forklift  
SOFTWARE: Wireless network



HARDWARE: Lubrication machine  
SOFTWARE: HMI Visualization software



HARDWARE: Air conditioning unit  
SOFTWARE: Building management system



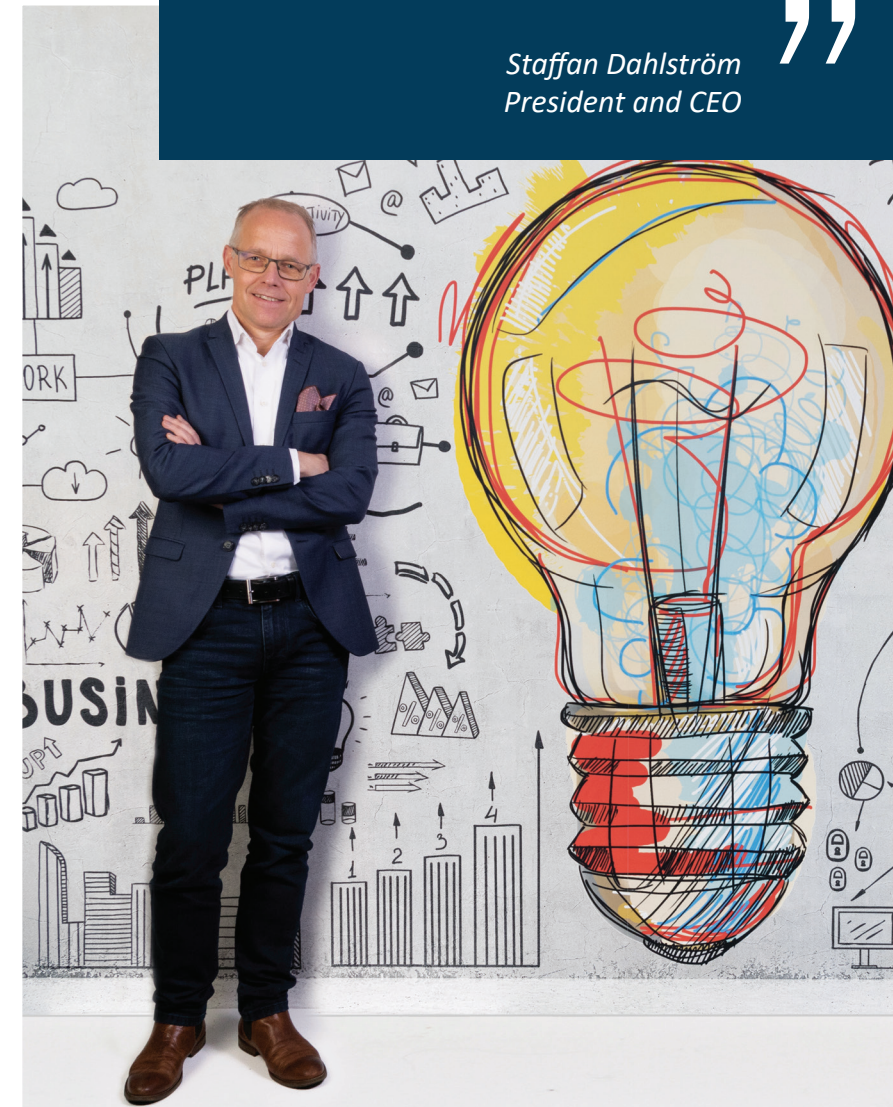
Founded in	1988
Sector	Industrial ICT (Information and Communication Technology)
What we do	Products that enable industrial equipment to communicate and share information.
Operations in	20+ countries
Employees	+1100
Top 10 markets	North America, Germany, Japan, France, China, Sweden, Italy, UK, Benelux, Spain.
Head office	Halmstad, Sweden
Product brands	Anybus, Ewon, Intesis, Ixxat, N-Tron, Red Lion (Owasys and Peak System are also part of the HMS Group)
HMS stands for	Hardware Meets Software™
Mission	We enable valuable data and insights from industrial equipment allowing our customers to increase productivity and sustainability.

“

Millions of industrial machines and devices use innovative HMS technology to communicate. Our solutions help them become more **connected, productive** and **sustainable**.

”

*Staffan Dahlström*  
President and CEO





# A tale of innovation and growth

“There must be an easier way to connect industrial devices to any industrial network.”

This is the innovative idea that propelled Nicolas Hassbjer's and Staffan Dahlström's start-up on a growth journey from a university project to world-leader in Industrial Information and Communication Technology.

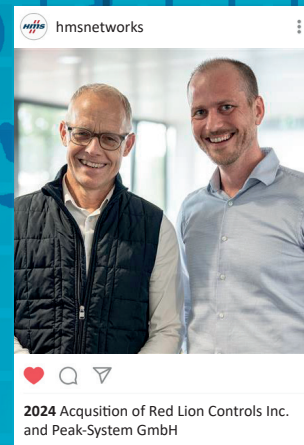
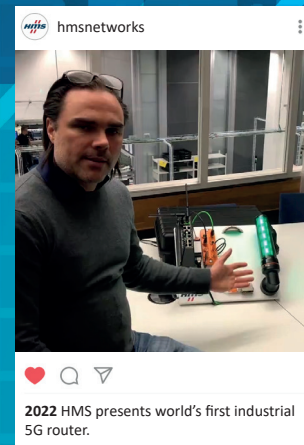
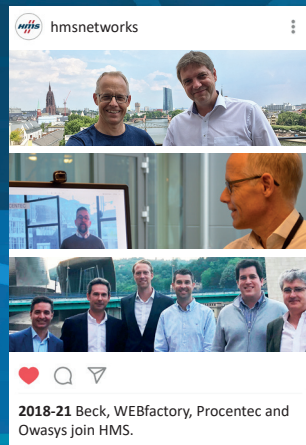
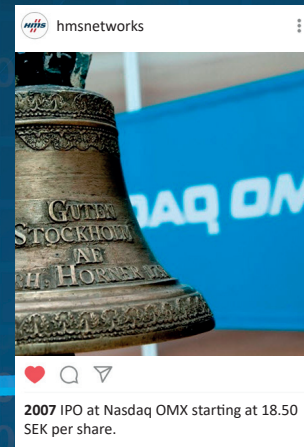
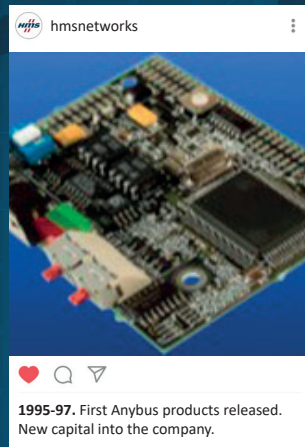
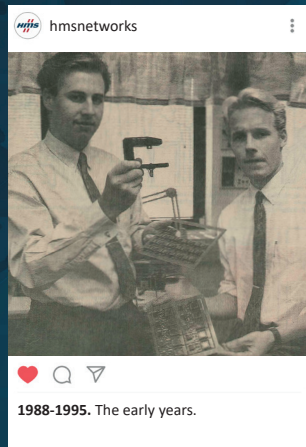
Today, HMS employs 1100 people in more than 20 countries and delivers communication technology to millions of industrial devices, machines and systems around the world.

A lot has changed since HMS was founded in 1988, but our ambition still remains the same: we want to provide easy-to-use, sustainable communication solutions which save users time and money.

For thousands of industrial companies all over the world, HMS is a trusted partner for industrial communication supporting from first product specification to full-scale production, while assisting with technical services during the product life cycle.



# Some posts from HMS' growth journey



## Onwards!

From two-man startup to world leader within industrial ICT — we move forward in our endeavour to make the world more connected, productive and sustainable



# HMS mission



"We enable valuable data and insights from industrial equipment allowing our customers to increase productivity and sustainability."

**Hms**

The HMS logo is displayed in a bold, dark blue, italicized sans-serif font. It is flanked by two red double slashes (//) above and below it. The entire logo is overlaid on a semi-transparent orange rectangular background. The background image is a factory floor with workers and industrial equipment.



# Trends driving HMS business

## Deglobalization

An increasing number of manufacturing companies are moving their operations home (nearshoring). This means shorter supply chains but also higher demands on efficient, automated production with more communication between machines and systems.



## Data analysis

Access to data from machines and industrial systems is a prerequisite for being able to optimize and improve processes. HMS' products are often used to extract valuable operating data from machines for the purpose of analysis and decision-making.



## Sustainability

HMS is contributing to sustainability by supplying products that optimize energy usage at customers and reduce service trips.



## Network security

Connected machines go hand in hand with high demands for security. Attacks by hackers are becoming increasingly common, and our customers are therefore very careful to only select established, reliable and knowledgeable communication partners such as HMS.



## Energy efficiency

Connecting industrial and building equipment to IT systems is opening up new opportunities for energy savings.



## Operational reliability

Production downtime is extremely expensive and must be avoided at all costs. Using network diagnostics, it is possible to predict faults before they occur and to minimize downtime.



## Increased automation

The automation trend has been going on since the Industrial Revolution, and continues to increase as labor becomes more expensive and it is difficult to find qualified staff.



## Digitization

Factories and buildings are becoming increasingly digital, which places demands on communication between machines, systems and networks.



## AI

There is a great need to extract data from different machines and sensors, and then use this data in AI systems.





# What HMS does: Products for Industrial ICT



## Product brands for Information and Communication Technology

**Anybus**<sup>®</sup>  
BY HMS NETWORKS

Anybus gets any device connected to any industrial network. Fieldbus or Industrial Ethernet. Wired or wireless. Get connected and stay connected.

**Ewon**<sup>®</sup>  
BY HMS NETWORKS

Ewon industrial remote connectivity solutions allow machine builders and users to securely connect to their industrial equipment and visualize IIoT data.

**Intesis**<sup>®</sup>  
BY HMS NETWORKS

Intesis products make buildings talk. Network gateways enable building devices to communicate with any building automation system. Specialized HVAC gateways are available for all major AC brands.

**Ixxat**<sup>®</sup>  
BY HMS NETWORKS

Ixxat products for CAN, industrial Ethernet and functional safety enable networking and reliable communication for control, commissioning and maintenance.

**N-Tron**<sup>®</sup>  
BY HMS NETWORKS

N-Tron switches, media converters and POE devices are designed for rugged, industrial environments to enable secure and reliable connectivity.

**RedLion**<sup>®</sup>  
BY HMS NETWORKS

Red Lion Red Lion products enable data access, visualization, and control. Examples include HMIs, panel meters and controllers built for harsh industrial environments.

# How HMS is organized:

## Industrial ICT in three divisions

### Industrial Data Solutions (IDS)

Solutions to connect, secure, diagnose and visualize data in industrial applications.



**HMS delivers:** information and data from industrial processes, resulting in better decisions, higher productivity and increased sustainability.

### Industrial Network Technology (INT)

Technology for communication, control and security in industrial devices.



**HMS delivers:** real-time control, smart manufacturing capabilities and energy savings.

### New Industries (NI)

Industrial communication for niche applications in growing industries.



#### BUILDING AUTOMATION

**HMS delivers:** communication between, for example, air conditioning and building systems.

#### VEHICLE COMMUNICATION

**HMS delivers:** communication between vehicles, test systems, remote monitoring, etc.



# Industrial Data Solutions

Solutions to connect, secure, diagnose and visualize data in industrial applications.

Brands:  
Red Lion,  
Anybus Diagnostics,  
N-Tron, Ewon

## Data from machines

*We ensure that data from industrial equipment can be transferred to IT systems securely. Customers can collect, process and visualize data from sensors and machines, providing a better overview and easier decision-making. Data can be provided remotely via the internet, as well as via internal systems and machine displays on site. HMS is a market leader in remote access and data connectivity for machines.*

Alexander Hess  
Senior Vice President Industrial Data Solutions



## Customer example

MACHINE DATA MAKES AI POSSIBLE IN BRISBANE, AUSTRALIA

AI requires large volumes of machine data. By equipping a die cutter, a box cutter, and a sheet presenter with Ewon Flexy from HMS, CapitalAI was able to collect and analyze large volumes of data and create AI models to modernize and streamline decision-making.

*"We chose Ewon because of its robust connectivity solutions, ease of integration with existing systems, and reliable data transmission capabilities,"* says Dr. Mohanad Sarhan, Principal Technologist at CapitalAI.



DEGLOBALIZATION



DATA ANALYSIS



SUSTAINABILITY



NETWORK  
SECURITY



OPERATIONAL  
RELIABILITY



AI



DIGITIZATION



# HMS provides:

## Access & Visualization Solutions

Red Lion solutions deliver secure, scalable control from edge to cloud. With powerful HMIs and panel meters, you can acquire, manage, and visualize data onsite or remotely, enabling smarter decisions across your operation.

## Network switches

An industrial switch is a network device designed to connect machines, sensors and control systems in demanding environments. It is built to withstand harsh and often industrial extremes, where dust, temperature fluctuations, humidity, shock and vibration conditions are common.



**N-Tron**  
BY HMS NETWORKS

## Remote access and data for PLC-based machines

Ewon remote solutions from HMS was “Internet of Things” before the term even existed. Ewon gateways connect to PLC-based machines to provide remote access for troubleshooting and maintenance purposes and also provide data and information from the machine. All is done in an industrially certified and secure way.



## Network diagnostics in Factory Automation

Factory downtime is expensive. Anybus diagnostics solutions enable factories to monitor and diagnose their business critical industrial networks and ensure maximum uptime.



**Anybus**  
BY HMS NETWORKS



# Industrial Network Technology

Technology for communication, control and security in industrial devices.

Brands:  
Anybus Embedded,  
Anybus Gateway/  
Wireless,  
Ixxat Safety

## Real-time communication

*We facilitate real-time communication between devices, machines and systems in industrial automation. HMS' products connect different communication technologies – wired or wireless. This is HMS' core market and remains a large part of HMS' overall business.*



*Bartek S Candell  
Senior Vice President  
Industrial Network Technology*

## Customer example

THE 10-MILLIONTH ANYBUS UNIT DELIVERED TO SCHNEIDER ELECTRIC IN FRANCE  
Schneider Electric and HMS Networks have been collaborating for two decades on network solutions for Schneider Electric's popular variable speed drives. Integrating Anybus enables Schneider Electric to offer variable speed drives that can communicate on any network and can also be fine-tuned for optimum performance and energy efficiency.

*"Digitalization is happening all around us. Connectivity isn't just nice to have; it's an essential requirement,"* says Jean-Louis Guillou (center), Vice President for Schneider Electric Drives division. Flanked by Magnus Jansson and Peter Greenfort from HMS.



## DRIVING TRENDS:



DEGLOBALIZATION



DATA ANALYS



SUSTAINABILITY



NETWORK  
SECURITY



AI



DIGITIZATION



INCREASED  
AUTOMATION



# HMS provides:

## Multi-network connectivity for automation products

Anybus products are often integrated into the customer's machine, enabling it to communicate on any industrial network. As there are many different industrial networks depending on market or geographical location, this opens up new markets for manufacturers of industrial devices.

## Network-to-network integration in factories

Anybus gateways enable communication between different networks and machines on the factory floor, and are often used for retro-fitting- ie connecting older parts of a factory to newer.



**Anybus**  
BY HMS NETWORKS



**Anybus**  
BY HMS NETWORKS

## Wireless connectivity in Industrial Automation

Although physical wires are still the standard for industrial networking, more and more industrial machines are connected via Bluetooth, WiFi or cellular technology such as 5G. Anybus wireless solutions are especially suitable for connecting mobile robots and other moving equipment.

## Connection to safety networks

"Functional Safety" means preventing machines from harming people in industrial environments. Connecting to these highly specialized networks is possible using HMS' Ixxat products.



**Anybus**  
BY HMS NETWORKS



**Ixxat**  
BY HMS NETWORKS



# New Industries

Industrial communication for niche applications in growing industries. HMS operates in two areas – Building Automation and Vehicle Communication.

Brands:  
Intesis,  
PEAK-System,  
Owasys, Ixxat

## Building Automation

*Modern buildings contain highly advanced networks with thousands of devices and machines that need to communicate. Intesis products focus specifically on this, offering communication solutions that are designed for buildings, such as air conditioning, lighting, fire systems, meters, etc. Building automation is a rapidly growing market, where HMS enjoys excellent growth opportunities for the future.*



*David Garces  
Vice President  
Building Automation*

## Vehicle Communication

*The automotive industry uses specific communication protocols such as CAN, LIN and FlexRay. HMS' Ixxat solutions specialize in this area and the acquisition of PEAK-System gives us even greater expertise in vehicle communication. Examples of the challenges we solve include communication between test stations and vehicles, simulation tools and remote monitoring of heavy vehicles such as loaders and excavators.*



*Thomas Konz  
Vice President  
Vehicle Communication*

## DRIVING TRENDS:



ENERGY EFFICIENCY



DATA ANALYS



SUSTAINABILITY



OPERATIONAL  
RELIABILITY





# HMS provides:

## Multi-network connectivity for HVAC equipment

Buildings are accountable for more than 40 per cent of the world's energy consumption and Heating, Ventilation & Air Conditioning (HVAC) accounts for a large part of that. Intesis products enable HVAC equipment to communicate, which means that major savings are available for building owners and HVAC manufacturers.

## Protocol conversion in Building Automation

Smart buildings require a lot of communication between, lighting, heating, water systems and the building management system (BMS). Intesis gateways make this communication happen.



## Communication for different types of vehicles

CAN is a widely used communication protocol used in the automotive industry and many other fields. The HMS Ixxat team and the newly acquired PEAK-System, Germany are experts in this.

## Remote connectivity for mobile machines

Owasys is an independent company in the HMS Networks Group that provides remote communication solutions specially adapted for heavy vehicles.



**Ixxat®**  
BY HMS NETWORKS



**.PEAK**  
System



**owasys®**  
HMS GROUP MEMBER



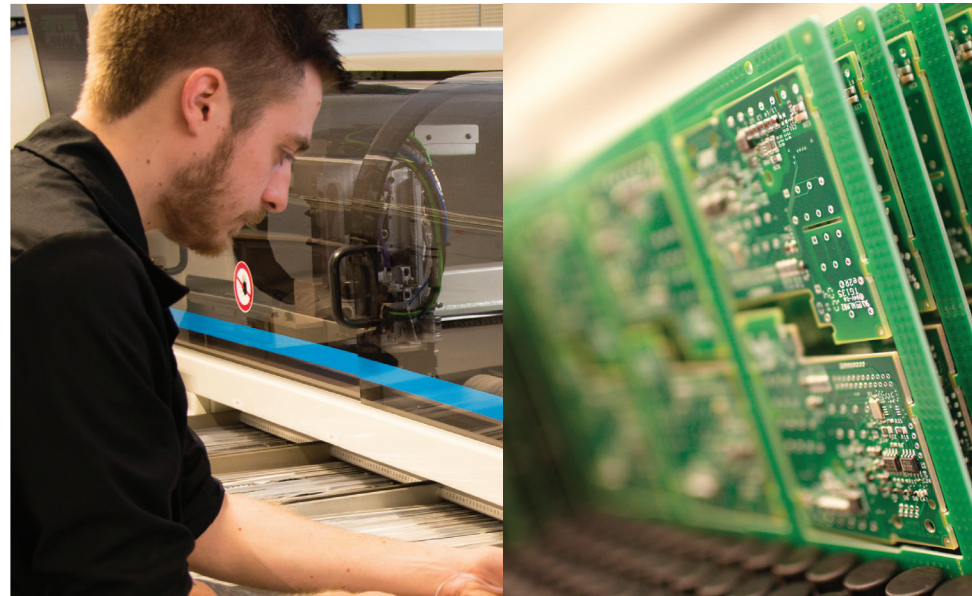
# Quality, productivity and sustainability at heart

These things just have to work

HMS products handle business-critical data that keeps production lines, factories, telecommunications and industrial machinery running. This puts very high demands on quality and reliability.

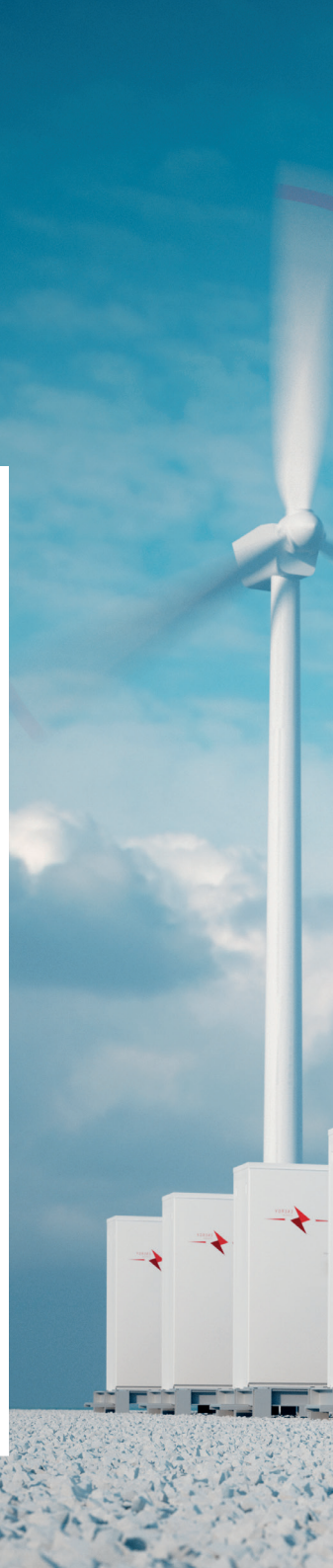
Quality, productivity and sustainability has always been at the heart of HMS and everything we do, from selecting suppliers through product development, manufacturing and customer service.

According to our customer surveys, it is the high quality and the longevity that customers appreciate most about our solutions. This solid quality enables us to offer unique services such as free technical support and long product guarantees.



## HMS Production

Main site:	Halmstad, Sweden
Additional production:	Subcontractors (EMS) in Europe and Asia
Quality goal:	200 PPM (0.02% errors)
Quality Management system:	According to ISO 9001:2015
Deliveries:	100,000 products each month
Product traceability:	Down to PCB level





# Minimizing climate impact in our operations

“

“The environment is one of the three focus areas in our 2025 strategy.

As a company, we can offer a lot of sustainability gains for our customers as they can use our products to reduce service trips and optimize energy use.”

”

*Richard Skog  
Chief Operating Officer*







Always at the  
forefront  
of technology



### 5G Connectivity

Safer, flexible and more efficient manufacturing systems will be possible thanks to the ultra low-latency and reliability of 5G connectivity.



### Cloud and Edge solutions

Cloud and Edge solutions are both used to realize Industrial IoT. Edge solutions cater for more industrial, time-critical demands thanks to decentralized data processing.



### Functional Safety

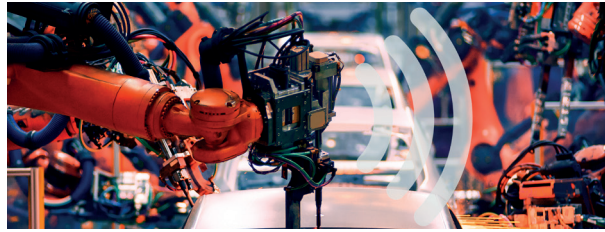
Products and services for a faster and easier safety implementation – either using communication modules or with highly flexible protocol stacks.





## Industrial Internet of Things

Connecting industrial hardware and software (e.g. IoT systems) is exactly what HMS stands for. Hardware meets software when cloud and Edge solutions get machines connected.



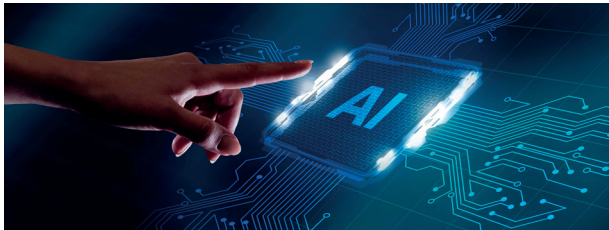
## Wireless solutions

Wireless technology such as Bluetooth and WiFi/WLAN are increasingly used also in demanding industrial applications. HMS leads the way.



## Industrial Ethernet networks

Enable any industrial device to communicate with any Industrial Ethernet, fieldbus network or industry cloud, wired, or wirelessly.



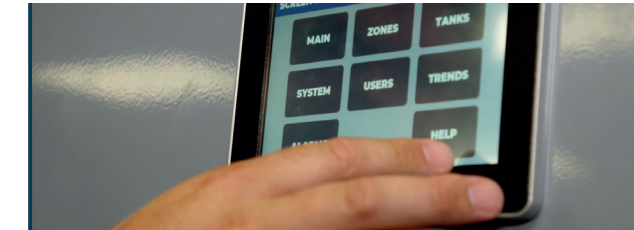
## Artificial Intelligence

Artificial Intelligence will help industrial automation become more effective. Information from machines is key. This is where HMS can help.



## Industrial security

Protect your data and your industrial systems with HMS' advanced security features and discover best practices for securing your IoT systems.



## Machine data visualization

Whether it is on-machine HMIs or, remote monitoring services, HMS leads the way in visualizing machine data.



## Network Diagnostics

HMS pioneers network diagnostics solutions for industrial networks that minimize costly downtime in factories.



## TSN – Time Sensitive Networking

TSN is a new set of standards specifying real-time Ethernet-based communication.



Hardware  
Meets  
Software™



# The HMS World

With offices in more than 20 countries and distributors in a further 50, HMS is represented on all major industrial markets. HMS' products are installed all over the world, although they are mainly found in countries that have a strong manufacturing industry.

## Head office ●

HMS NETWORKS GROUP

HALMSTAD, SVERIGE

Head office for HMS' operations with staff functions such as IT, accounting/finance and HR.

## Divisions — Product development ●

### INDUSTRIAL DATA SOLUTIONS

Nivelles (Belgium), Ravensburg, Buchen, Wetzlar (Germany), York, Mobile (USA), Delft (Netherlands), Sibiu (Romania)

### INDUSTRIAL NETWORK TECHNOLOGY

Halmstad (Sweden), Ravensburg (Germany)

### NEW INDUSTRIES

#### **Building Automation**

Igualada (Spain)

#### **Vehicle Communication**

Ravensburg, Darmstadt (Germany), Bilbao (Spain).

## Local Sales ●

Beijing | Chicago | Coventry | Dubai | Hedel |  
Ho Chi Minh-City | Igualada | Karlsruhe | Milan |  
Mulhouse | Melbourne | Pune | Seoul | Shanghai |  
Singapore | Tokyo | Wetzlar | York







# HEART, MIND AND SOUL IN WHAT WE DO

Although HMS is a truly international company, we like to think that we share a common culture. Heart, Mind and Soul is a summary of how we do things (makes for a pretty good abbreviation too).



Heart is about engagement, dedication, passion about our work.



Mind is our analytical side, constantly learning, innovating, and looking for ways to work smarter.



Soul is about the HMS shared culture, our ethics and our teamwork.



At the HMS head office in Halmstad, you will find corporate functions such as management, Supply Chain, Group HR and IT. And also the INT Division







Hardware Meets Software™



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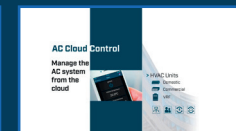


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BY HMS NETWORKS

**Ewon®**  
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