



THE STRONGEST LINK.

**STAHL**

# HMIS IN OIL & GAS APPLICATIONS

For hazardous areas and extreme conditions

R. STAHL, the explosion-protection expert – with more than 80 years' worth of experience and as an international company we are the technology leader with our explosion-protected products.

R. STAHL HMI stands for innovative Human Machine Interfaces, available in all major technologies: KVM system, Thin Client, Panel PC and Operator Interface.

The different technologies in turn contain various device platforms that meet the particular requirements of different industries.

SHARK, EAGLE, MANTA and RAPTOR are customized for the respective application.

The SHARK platform in particular contains a number of state-of-the-art functions and was specially developed for the oil and gas industry.



# HMI DEVICE PLATFORMS

DEVICE PLATFORM	TYPE	INDUSTRY	TECHNOLOGY
SHARK	Rugged HMIs, also for extrem conditions, fully IP66	Oil & Gas, other industries with rough conditions	Panel PC KVM System Thin Client (soon)
EAGLE	Industrial HMIs, fully IP66	Machinery and similar industries	Panel PC Thin Client Operator Interface
MANTA	Industrial HMIs, IP66 front	Process industries, pharmaceutical / fine chemical industry	Panel PC KVM System Thin Client
RAPTOR	Rugged HMIs, IP69	Oil & Gas upstream / midstream, machine operation, loading / filling	Operator Interface

# THE NEW SHARK HMIs

## FOR HAZARDOUS AREAS

The SHARKs are certified for use in hazardous areas, Zone 1, 2, 21 and 22 (ATEX, IECEx). The IP66-rated SHARKs are extremely rugged, and specifically designed to ensure fail-safe, reliable 24/7 operation even in the harshest environment, at ambient temperatures ranging from -40 °C to +65 °C [-40 °F to +149 °F].

They have an enhanced shock and vibration resistance (shock levels up to 25 g; vibration levels up to 5 g; 5...1000 Hz), and an excellent corrosion resistance to seawater and corrosive gases.

The modern, powerful Intel® Core™ i7 or AMD GX-Series processors fitted behind the display ensure fast data processing. Data communication is realised via redundant Ethernet ports, or an intrinsically safe WiFi module (802.11a/b/g/n).

To ensure that only authorised users can operate the HMI, the 21.5" unit is optionally available with an RFID reader mounted behind glass for fast operator identification. To enable video conferencing, both HMI versions can optionally be configured with Bluetooth® interface and front camera.



### HIGHLIGHTS

- ZONE 1 / 2 / 21 / 22 (ATEX, IECEx), (NEC, CEC PENDING)
- HIGH SHOCK AND VIBRATION RESISTANCE (25 G / 5 G)
- RESISTANT AGAINST SEAWATER AND CORROSIVE GASES
- -40 °C...+65 °C [-40 °F...+149 °F]
- SUNLIGHT-READABLE DISPLAY WITH MULTI-TOUCH FUNCTIONALITY
- INTEL CORE I7 / AMD GX-PROCESSORS
- DUAL ETHERNET
- INTRINSICALLY SAFE WIFI OPTION
- OPTIONS LIKE FRONT CAMERA (VOIP), RFID READER, BLUETOOTH®

# RUGGED & HIGH-TECH SYSTEM SOLUTIONS



# MOBILE RIG FLOOR PCs

Many upstream oil and gas operations on the rig floor require fast and easy to install Panel PCs. Our mobile Rig Floor PCs of the SHARK platform have been specially designed for use in environments requiring a high level of flexibility.

Features such as outstanding resistance to shock and vibration, or the sunlight-readable display with multi-touch technology make the units ideally suited for these operating environments. The standard VESA 200 mount, the handle and the stands allow fast and flexible installation and removal.



SHARK PLATFORM	Zone	15" (1024 x 768)	21.5" (1920 x 1080)
PANEL PC	Zone 1	ET-438	ET-498
	Zone 2	MT-438	MT-498

## HARDWARE

- High shock and vibration resistance (shock levels up to 25 g / vibration levels up to 5 g, 5...1000 Hz)
- Brilliant sunlight-readable colour displays
- Capacitive multi-touch screen behind hardened glass front
- Robust, seawater-proof, powder-coated metal enclosure (IP66)
- Extreme temperature range from -40 °C up to +65 °C [-40 °F up to +149 °F] (with integrated heating option)
- Panel PCs with high-performance Intel® Core™ i7 or AMD GX-processors
- Panel PCs with Windows® Embedded Standard 7 / Windows® 7 Ultimate (others on request)
- ATEX / IECEx certified (Zone 1, 2, 21, 22), (NEC, CEC pending)

## OPERATING SYSTEM FOR PANEL PCs

- Windows® Embedded Standard 7
- Windows® 7 Ultimate
- Driver support for other operating systems (on request)

# FIXED MOUNTING OPTIONS FOR RIG FLOOR HMIs

The Panel PCs of the SHARK platform also offer a vast range of fixed mounting options for rig floor environments.

Features such as outstanding resistance to shock and vibration, or the sunlight-readable display with multi-touch technology make the units ideally suited for these operating environments.

The standard product range spans from the VESA 200 mount, extremely robust wall or yoke mounts, to the floor stand, thus suiting almost any kind of mounting requirements.

We also develop site-specific solutions on request.



SHARK PLATFORM	Zone	15" (1024 x 768)	21.5" (1920 x 1080)
PANEL PC	Zone 1	ET-438	ET-498
	Zone 2	MT-438	MT-498
KVM SYSTEM	Zone 1	ET-638	ET-698
	Zone 2	MT-638	MT-698
THIN CLIENT (available soon)	Zone 1	ET-538	ET-598
	Zone 2	MT-538	MT-598

## HARDWARE

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- Robust, seawater-proof, powder-coated metal enclosure (IP66)
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- Panel PCs with high-performance Intel® Core™ i7 or AMD GX-processors
- Panel PCs with Windows® Embedded Standard 7 / Windows® 7 Ultimate (others on request)
- ATEX / IECEx certified (Zone 1, 2, 21, 22), (NEC, CEC pending)

## OPERATING SYSTEM FOR PANEL PCs

- Windows® Embedded Standard 7
- Windows® 7 Ultimate
- Driver support for other operating systems (on request)



# HMI's FOR DRILLER'S AND CRANE CABINS

Mission-critical HMI systems in drilling rig control rooms, for example in driller's cabins or crane cabins are of particular importance: they ensure that all relevant processes are continuously displayed. Features such as outstanding resistance to shock and vibration, or the sunlight-readable display technology make the units ideally suited for these operating environments.

The standard VESA 200 mount allows for fast and easy installation at almost any location; we also specialise in customised solutions tailored to individual customer requirements.



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- Robust, seawater-proof, powder-coated metal enclosure (IP66)
- Extreme temperature range from -40 °C up to +65 °C [-40 °F up to +149 °F] (with integrated heating option)
- Panel PCs with high-performance Intel® Core™ i7 or AMD GX-processors
- Panel PCs with Windows® Embedded Standard 7 / Windows® 7 Ultimate (others on request)
- ATEX / IECEx certified (Zone 1, 2, 21, 22), (NEC, CEC pending)

## OPERATING SYSTEM FOR PANEL PCs

- Windows® Embedded Standard 7
- Windows® 7 Ultimate
- Driver support for other operating systems (on request)

# WIDESCREENS FOR CONTAINER APPLICATIONS

R. STAHL HMI is the only provider of widescreen monitor solutions for container applications in hazardous areas, Zone 1.

Even in the event of an explosive atmosphere the widescreens are capable to remain functional and ensure optimal visualisation and operation.

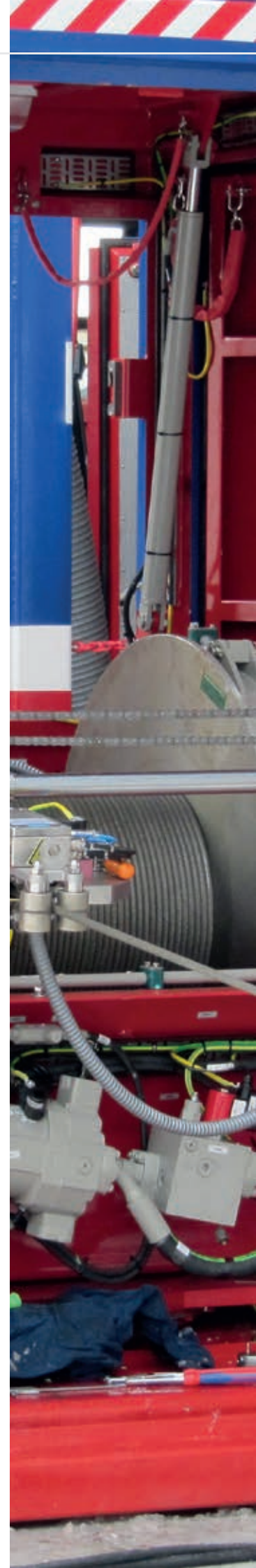
The high brightness widescreens, that can also be arranged in a dual-monitor setup or in monitor walls, allow comprehensive monitoring of processes, analyses and applications such as the Workover Control System. The intrinsically safe keyboard and mouse module meet ergonomics standards (EN ISO 9241-400) and help to minimise fatigue while working in the container.



MANTA PLATFORM	Zone	22" (1680 x 1050)	24" (1920 x 1080)	24"WU (1920 x 1080)
PANEL PC	Zone 1	ET-467	ET-477	ET-487
	Zone 2	MT-467	MT-477	MT-487
KVM SYSTEM	Zone 1	ET-667	ET-677	ET-687
	Zone 2	MT-667	MT-677	MT-687
THIN CLIENT	Zone 1	ET-567	ET-577	ET-587
	Zone 2	MT-567	MT-577	MT-587

## HARDWARE

- Widescreens with LED backlighting
- Standard or touch screen
- Supports dual-monitor setup
- Compact, flat design
- VESA and many other assembly options
- Suitable for worldwide use, at temperatures ranging from -20 °C up to +55 °C [-4 °F up to +131 °F]
- ATEX, IECEx, NEC, CEC certified (Zone 1, 2, 21, 22, Class I, Div 2)



# HMI's FOR WIRELINE / SLICKLINE APPLICATIONS

In wireline applications permanent monitoring and control of the cable routing in the drilling hole is of particular importance – any distracting reflections and glare could affect the monitoring and control process.

The new, innovative sunlight-readable display and its intelligent pole filter technology blocks out distracting reflections and glare, thus ensuring best readability even in direct sunlight. The operator has everything under control and is able to quickly respond to any critical event that might occur during drilling operations.



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## HARDWARE

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- Capacitive multi-touch screen behind hardened glass front
- Robust, seawater-proof, powder-coated metal enclosure (IP66)
- Extreme temperature range from -40 °C up to +65 °C [-40 °F up to +149 °F] (with integrated heating option)
- Panel PCs with high-performance Intel® Core™ i7 or AMD GX-processors
- Panel PCs with Windows® Embedded Standard 7 / Windows® 7 Ultimate (others on request)
- ATEX / IECEx certified (Zone 1, 2, 21, 22), (NEC, CEC pending)

# HMI's IN TANK FARM AUTOMATION

With tank farm and terminal operations such as loading/unloading processes becoming more and more complex, there is an ever increasing demand for bigger display sizes and advanced functionalities – with the SHARK platform we provide a product line that meets all of today's application demands.

Features such as outstanding resistance to shock and vibration, or the sunlight-readable display technology make the units ideally suited for these operating environments.



The Panel PCs (SERIES 400) are fitted with top-of-the-range Intel® Core™ i7 or AMD GX-Series processors.

Features such as dual Ethernet, optional video camera, Bluetooth®, RFID reader, and two flexibly designed built-in junction

boxes that allow for many different types of cable connections make the SHARK the most innovative HMIs for applications in the oil and gas industries.

The KVM systems come with our latest DVI3 version fitted behind the display.



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#### HARDWARE

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- ATEX / IECEx certified (Zone 1, 2, 21, 22), (NEC, CEC pending)

#### OPERATING SYSTEM

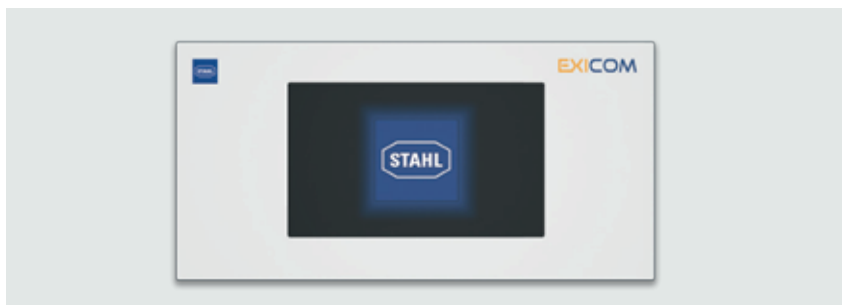
- Windows® Embedded Standard 7
- Windows® 7 Ultimate
- Driver support for other operating systems (on request)

# OPERATOR INTERFACES IN TANK FARM AUTOMATION

The product design of the 200 SERIES integrates high technology into a very robust construction – making this 7" operator interface ideally suitable for tank farm automation. For optimum display readability, the luminous 7" wide-screen display visualises process images of high contrast and in brilliant colours.

The specially hardened glass front (across the entire front of the device) with capacitive touch-screen makes this industrial HMI as easy to operate as a smart-

phone. Unique in its class, the 200 SERIES has been designed for temperatures ranging from -40 °C to +65 °C [-40 °F to +149 °F], making it suitable for operation world-wide. Its robustness is evidenced by tests for resistance to seawater, shock and vibration.



RAPTOR PLATFORM	Zone	7" (1024 x 768)
OPERATOR INTERFACE	Zone 1	ET-208
	Zone 2	MT-208

## HARDWARE

- Brilliant 7" colour display with 800 x 480 pixels (aspect ratio 15:9)
- Capacitive touchscreen with hardened glass front
- Compact design, compatible with the cut-out dimensions of all FALCON devices
- Robust, seawater-proof metal enclosure (IP69 front / IP54 rear side)
- Extreme temperature range from -40 °C up to +65 °C [-40 °F up to +149 °F] (without additional heating/cooling)
- ATEX / IECEx / TR-EAC certified (Zone 1, 2, 21, 22)
- Windows® Embedded Compact 7
- Driver support for other operating systems (on request)
- Runtime Software
- SPSPPlus firmware (compatible with the FALCON and EAGLE)
- Movicon CE 4096 I/O Bytes
- Open for integration of third-party software for WEC7 and Cortex A8 platforms
- Engineering Software
- SPSPPlusWIN up from 5.3 (for all operator interfaces with SPSPPlus Runtime)
- Movicon™ 11 (for all devices with Movicon Runtime)



# OUR EXPERTS



R. STAHL HMI experts will be happy to help.

## CONSULTING SERVICE

Rig floor, refinery, or tank farm applications require special expertise.

Our team of highly skilled experts is focused on the design and development of HMI solutions that best suit your site-specific requirements, including software and accessories.

### HEADQUARTERS GERMANY

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# R. STAHL: YOUR GLOBAL PARTNER

## FOR THE SAFETY OF YOUR EMPLOYEES AND YOUR GLOBAL PROJECTS





We are at your service around the globe: with seven production sites, subsidiaries in 24 countries and 60 agencies. Our international employees understand your needs and offer you R. STAHL quality – no matter where you need it.

Thanks to this global presence, we realise international joint projects that include customers, planners, installation companies and operators from various countries. And we take care of the needs of everyone involved in the project – right on site. At the same time we ensure compliance with the various legal stipulations relevant for each project since we have international certifications and approvals available worldwide.



## OUR PRODUCTION SITES

### R. STAHL

- |   |  |
|---|--|
|  Headquarters    |  Subsidiary |
|  Production site |  Agency     |



Germany - Waldenburg

Germany - Cologne

Germany - Weißenfels



mar

Netherlands

Norway

India

USA



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