



THE STRONGEST LINK.

**STAHL**

# HMIs IN OIL & GAS APPLICATIONS

Device platforms SHARK and RAPTOR  
for hazardous areas and extreme conditions

# SHARK DEVICE PLATFORM



## EXTREMELY RUGGED HMIs WITH INNOVATIVE TECHNOLOGIES

The IP66-rated SHARKs are extremely rugged, and specifically designed to ensure fail-safe, reliable 24/7 operation even in the harshest environments:

- Shock and vibration resistance (up to 25 g / up to 5 g; 5 ... 1,000 Hz).
- Excellent corrosion resistance to seawater and corrosive gases.

Configured with innovative sunlight-readable display, multi-touch, Wi-Fi, Bluetooth, and camera functionality, these HMIs provide you with top-of-the-range HMI technology.

### **CERTIFICATES:**

ATEX, IECEx, EAC, NEC, CEC, CCC, KCC.

### **SHIP/OFFSHORE CERTIFICATES:**

ABS, DNV GL.

SHOCK AND  
VIBRATION  
RESISTANCE

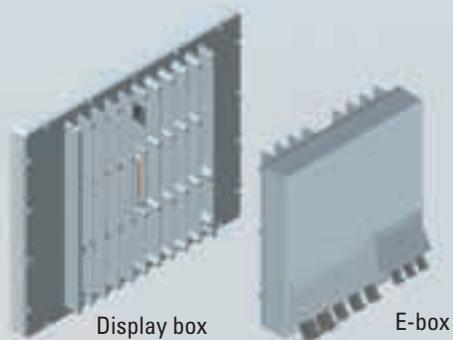
SUNLIGHT-  
READABLE  
DISPLAY

-40 °C  
...  
+65 °C

CORROSION  
RESISTANCE

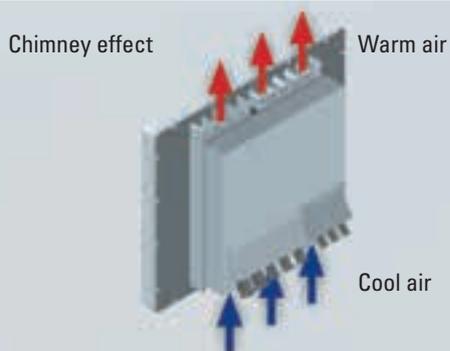


### Modular design



SHARK HMIs follow a modular concept: the display box with touch screen is separated from the CPU and power supply board, which are enclosed in a so-called E-box, thus making on-site maintenance much easier.

### Innovative heating/cooling concept



Our innovative application of the chimney effect makes it possible to run up to +65 °C. The integrated heater allows the start of the devices from -40 °C.

# SHARK DEVICE PLATFORM HIGHLIGHTS



## 21.5" DISPLAY MODULES

- ET-498 - 21.5" SHARK as Panel PC for Zone 1, 21
- ET-598 - 21.5" SHARK as Thin Client for Zone 1, 21
- ET-698 - 21.5" SHARK as KVM System for Zone 1, 21

## CAMERA

- 5 MP camera and Bluetooth for connection to headsets for video calls makes on-site maintenance and service easy.
- Integrated status LEDs signalize the status of power, heater, and CPU.

## DISPLAY

- Sunlight-readable displays in two sizes.
- 21.5", Full HD, 1920 x 1080, aspect ratio 16:9, brightness >1000 cd/m<sup>2</sup>.
- Projective capacitive multi-touch screen (PCAP), well protected behind hardened and non-reflecting glass.

## ENCLOSURE

- Powder-coated, salt spray- and water-resistant aluminum enclosure protects and cools electronics.

## RFID CARD READER

- The 21.5" version can be equipped with an RFID card reader for access control or user management.

## CAPACITIVE FUNCTION KEYS

- 8 capacitive function keys for global or softkey functions.

## 15" MODEL

- 15", XGA, 1024 x 768, aspect ratio 4:3, brightness >1200 cd/m<sup>2</sup>.
- Same functionality as 21.5" version (without RFID reader option).



- ET-438 - 15" SHARK as Panel PC for Zone 1, 21
- ET-538 - 15" SHARK as Thin Client for Zone 1, 21
- ET-638 - 15" SHARK as KVM system for Zone 1, 21

# SHARK DEVICE PLATFORM

## DIRECT COMMUNICATION



If you need to clear up a specific issue, you can also use the SHARK HMIs for direct communication with internal and external sites: an integrated camera and Bluetooth interface can be used for video and audio conferences so that you can clear up matters

directly with those responsible. Both Bluetooth interface and the camera are optional extras.

### Advantages of Bluetooth technology:

- Supports onshore/offshore video conferencing.
- Communication under extreme conditions.
- Clear responsibility by face-to-face communication.

### Bluetooth options



High-resolution camera module



Example of a BT microphone



Example of a BT headset



## WI-FI AND RFID

The dual-band Wi-Fi antenna with 2.4 GHz and 5.0 GHz ensures a secure connection even under the most extreme conditions.

Our explosion-protected RFID card reader ensures clear user authentication, preventing unauthorized access.

### Advantages – Wi-Fi:

- No extensive cable installation.
- Easy retrofitting.

### Advantages – RFID:

- Authentication for DCS/software.
- Control of start/end operating time.
- LEGIC, MIFARE / DESFire / EV1, ASCII code.

### Wi-Fi and RFID modules

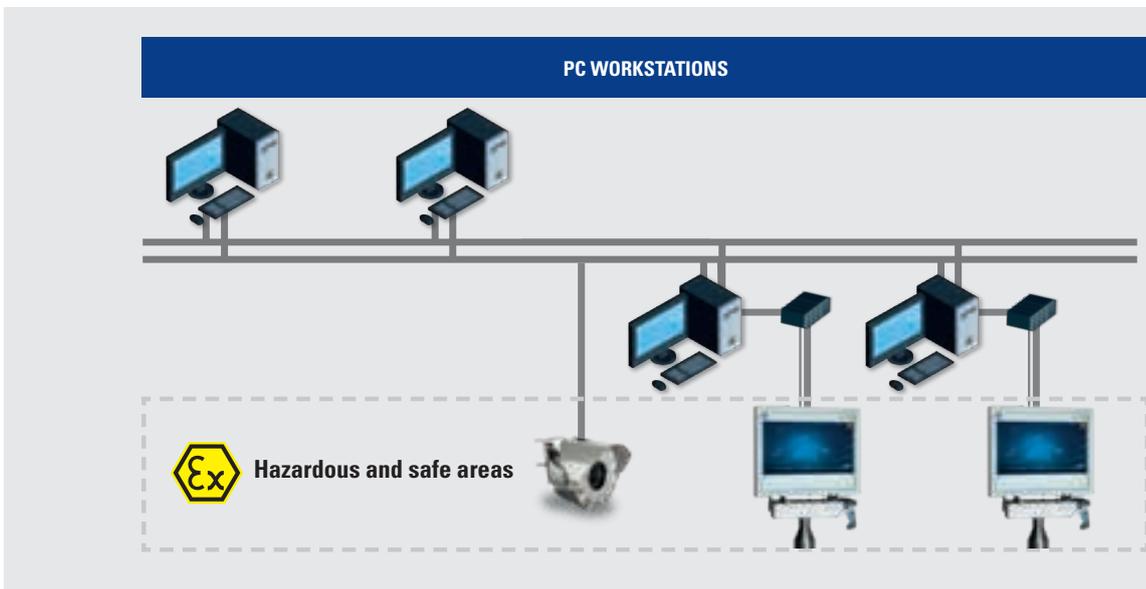
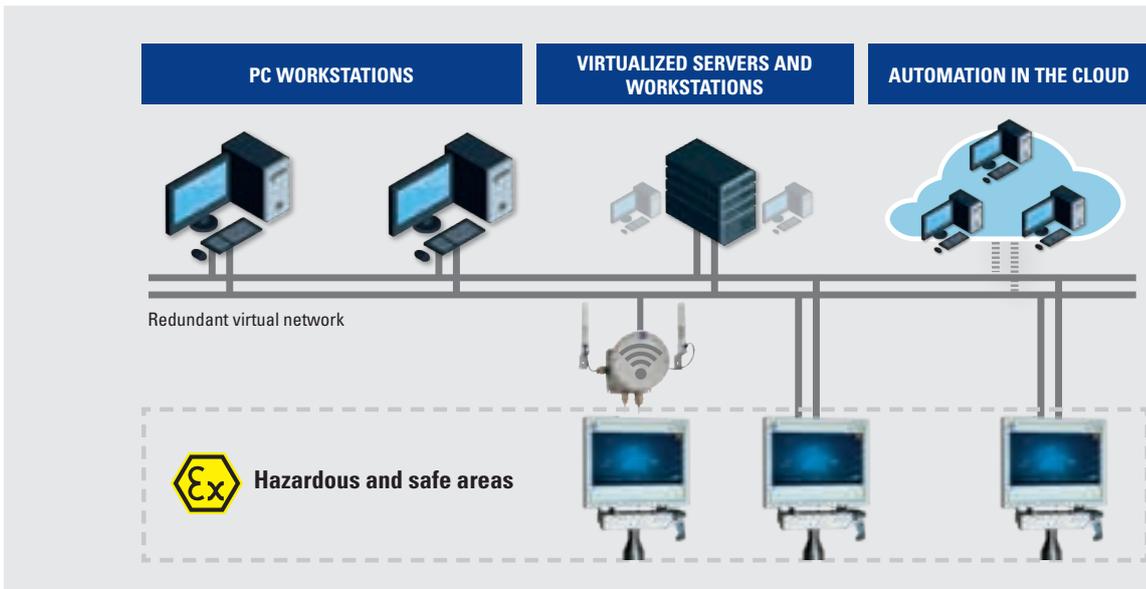
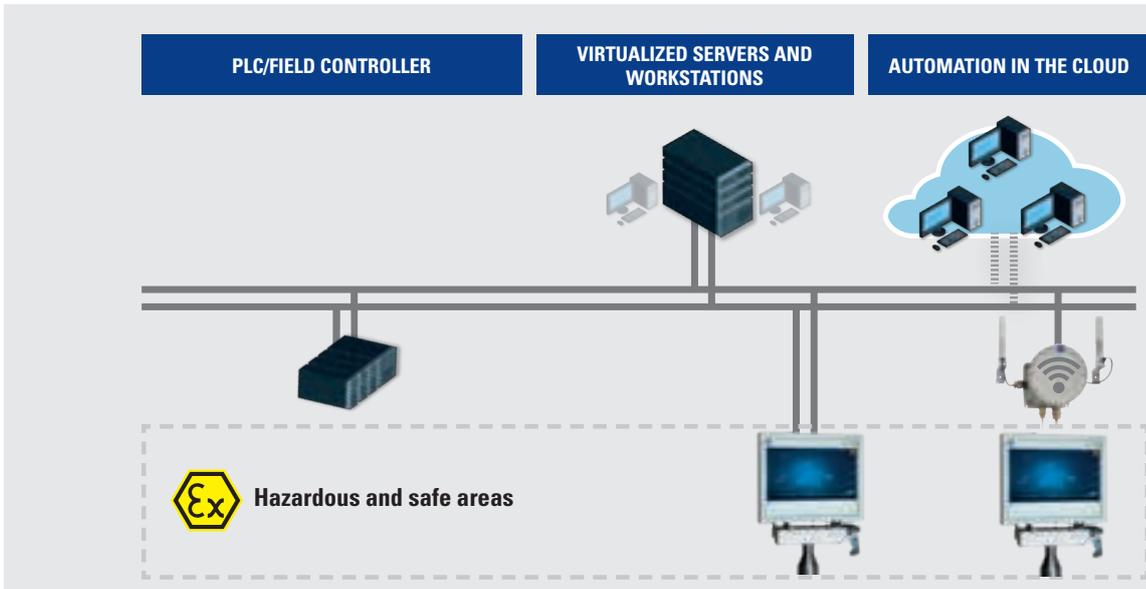


Wi-Fi antenna for 2.4 GHz and 5.0 GHz



Card reader module 13.56 GHz

# TECHNOLOGIES



## HMI<sup>s</sup> AS PANEL PCs

R. STAHL provides state-of-the-art PC technology in a fanless, modular, and industrial design.

- Standard dual-core processor AMD GX or high-end Intel<sup>®</sup> Core™ i5, optional with “Trusted Platform Module” TPM.
- Windows<sup>®</sup> 10 IoT Enterprise 2016 LTSB / - 2019 LTSC.
- “Ready-to-run” system with integrated R. STAHL Device Control Panel, unique virtual keyboard button, Unified Write Filter (UWF), Hibernate Once/Resume Many (HORM), brightness control.

## HMI<sup>s</sup> AS HIGH-SECURE THIN CLIENTS

R. STAHL’s Thin Client with REMOTE HMI FIRMWARE is the smartest and modern visualization solution for real, virtual, and cloud-based workstations, and makes HMI solutions fit for the industrial Internet of Things.

- Secure, designed as a closed system running on Windows<sup>®</sup> 10 IoT Enterprise 2019 LTSC, and support of customer-specific security concepts.
- Simple and user-friendly surface with virtual keyboard, support of multisessions, and dual-monitor setups.
- Reliable with redundant Ethernet and automatic reconnect to support redundant server concepts.
- RDP and VNC is standard, but the unique app concept allows the integration of third-party applications in kiosk mode, such as browser, CCTV, Citrix,...

## HMI<sup>s</sup> AS KVM SYSTEMS – IDEAL FOR CCTV APPLICATIONS



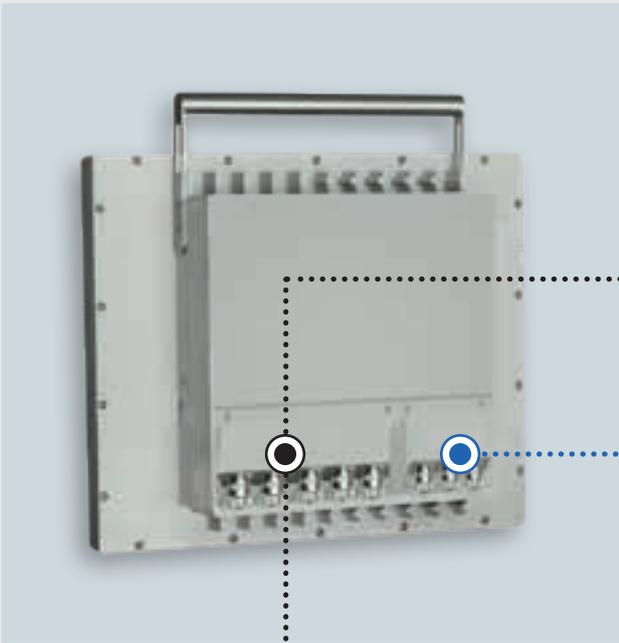
In HMI technology, KVM systems are ideal for CCTV applications.

- Fast and latency-free visualization.
- Simple and safe connection to DVI and USB (plug-and-play).
- KVM systems for extension of digital video signals and USB to up to 2 km with fiber optic, and up to 150 m with CAT7.
- Future-proof HMI: update possibilities for future hardware platforms.

# SHARK CONNECTION TYPES

## STANDARD CONNECTION

Standard connection for VESA, wall and yoke mount with standard cable glands for permanent installation.



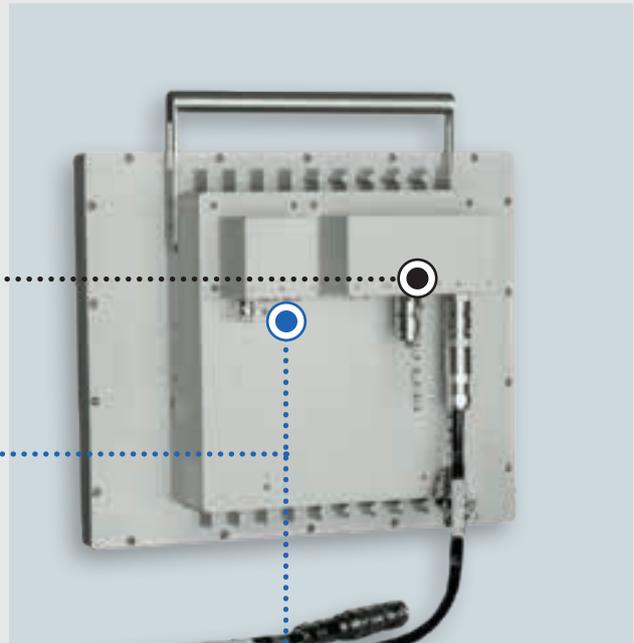
SHARK x98

## EX E INTERFACES

- Power supply 100 ... 240 VAC or 24 VDC (optional).
- Dual Ethernet 2 x 10/100/1000BaseTX, or 2 x 100BaseFX, or 10/100/1000BaseTX combined with 2.4/5 GHz Wi-Fi.
- Serial RS-232 / RS-422 / RS-485.
- High power USB 5 V / 500 mA.
- 12 V / 24 VDC output.

## TOP CONNECTION

Top connection for wall and yoke mount with blind plugs and separate connector variants with ROTA® plugs and sockets for a flexible, fast, safe, and mobile connection on site.



SHARK x98

## EX I INTERFACES

- 2 x low-power USB for keyboard and pointing device.
- High-power USB for USBi drive (Ex ib).
- Wi-Fi, 2 x antenna connectors Coax for 2.4 GHz and 5 GHz.
- Serial interface RS-232 with power supply for external barcode scanners.

# SHARK MOUNTING OPTIONS AND ACCESSORIES



Wall mounting with keyboard and sunshade



Yoke mounting with keyboard and sunshade



Rig floor



Keyboard options



Stand MPFL with barcode scanner



Panel-mount solution



Wi-Fi antenna



Sunshade

# DEVICE PLATFORM RAPTOR



Raptor ET-208 with 7" display, 800 x 480, sunlight-readable touch screen (PCAP) behind hardened glass.



## IDEAL FOR TANK-FARM AND MACHINE OPERATIONS ON OIL RIGS

The Operator Interfaces RAPTOR are certified for use in hazardous areas, Zone 1, 2, 21 and 22 (ATEX, IECEx, EAC), suitable for use in extreme ambient conditions, and salt spray and water resistant.

RAPTORs are extremely rugged, and specifically designed to ensure fail-safe, reliable 24/7 operation even in the harshest environments.

- HMI with integrated operating system and visualization software.
- For tank-farm and rig-floor applications.
- For machine and heat-tracing operations.
- IP69 rating.
- High vibration and shock resistance.
- From -40 °C ... +65 °C.
- MOVICON CE / SPSPPlus RT.
- Ethernet.
- RS-422.

# DEVICE PLATFORM RAPTOR

## INTERFACES

### RAPTOR interfaces



#### EX E INTERFACES

- Power supply 24 VDC or 85 VAC ... 250 VAC.
- Serial interface RS-422 / RS-485 for connecting to PLCs and other controllers (heat tracing).
- Serial interface RS-422 for direct connection to RFID reader or barcode scanner.
- Fast Ethernet 10/100BaseTX for connection to PLCs and other network-based controllers.
- USB interface or 5 V power supply for RFID reader.

#### EX I INTERFACES

- Keyboard matrix for up to 32 push buttons, configurable as function keys, softkeys, or alphanumeric keys.
- USB interface to connect a USB drive to recover or update a configuration.



## ACCESSORIES AND HOUSINGS

### BARCODE SCANNER



Our scanners process 1-D barcodes (series IDM 160), 2-D barcodes (series IDM 260) and stacked codes and can be connected with a cable or wirelessly with Bluetooth. Supply modules for power supply and data communication are available suitable to all of our device platforms and with different interfaces.

### CARD READER



The new UB03 is a universally applicable RFID card reader for hazardous areas, certified for Zone 1, 2, 21, 22 acc. to ATEX, IECEx. The reader can be operated as a stand-alone device in hazardous areas or together with RAPTOR devices (using MIFARE CLASSIC, DESFIRE, LEGIC MIM, LEGIC ATC, SONY FELICIA, INSIDE SECURE and many other protocols).

### HOUSINGS AND ENCLOSURES



-40 °C  
...  
+65 °C

Raptor ET-208 in enclosure with integrated heater. The devices can start from -40 °C, and run up to +65 °C.

# YOUR PARTNER FOR HAZARDOUS AREAS

## HMI PRODUCT FINDER AT R-STAHL.COM

The screenshot shows the R-STAHL website's HMI Product Finder tool. The navigation bar includes the STAHL logo and menu items: PRODUCTS, SYSTEMS, INDUSTRIES, SERVICES AND SEMINARS, and SUPPORT. The main content area is titled 'HMI PRODUCT FINDER' and contains three steps for user selection:

- 1. We have designed this product finder to enable us to offer you the best possible Human Machine Interface for your application. Do you want to operate the HMI in a hazardous or an industrial (non-Ex) area?**
  - HAZARDOUS AREA →
  - INDUSTRIAL AREA →
- 2. In which zone or division do you want to install the HMI?\***
  - Zone 1
  - Zone 2
  - Zone 21
  - Zone 22
  - Class I, Division 2
  - Class II, Division 2
  - Class III
- 3. Which certificates do you need for the region where the HMI will be installed?\***
  - ATEX
  - ECE
  - NEC
  - CBC
  - EAC

On the right side of the interface, there are icons for a search function and a contact center (phone and chat).



# THE QUICKEST WAY TO YOUR HMI

## Personal contact



### Our experts at your service

R. STAHL's team of experts is always available to help you. Benefit from our years of experience and contact us via e-mail or phone.

**+49 221 76806-1200**  
**sales.dehm@r-stahl.com**

## Online support and product finder



We have designed this HMI finder to enable us to offer you the best possible Human Machine Interface for your application. Specify your HMI here on [r-stahl.com](http://r-stahl.com)

On the Support page, under Downloads, we provide you with solutions for almost any technical question you might have.

**r-stahl.com**

# #STAHL4AUTOMATION MORE THAN YOU EXPECT

## AUTOMATION

**SAFETY  
BARRIERS**  
INTRINSIAK

**ISOLATORS**  
ISPAK

**REMOTE I/O**  
IS1+

**FIELDBUS**  
ISbus

**NETWORK  
PRODUCTS**

**ZONE 2**



**ZONE 1**



## FIELD DEVICE



ISA100.11a

# STAHL

## LEVEL

SYSTEMS & SOLUTIONS

HMI

EXICOM

CAMERA SYSTEMS



CONTROL STATION



GROUNDING MONITOR



## LEVEL

WirelessHART



EtherNet/IP™  
conformance tested

Modbus  
TCP

Modbus  
RTU

ONVIF®

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