THE STRONGEST LINK. **STAHL**

HMIs IN THE PROCESS INDUSTRIES

For hazardous and industrial areas

HMI PLATFORMS

For almost a century, R. STAHL has been technology leader in the area of safety technology for hazardous areas.

Our business unit HMI stands for innovative Human Machine Interfaces, available in all major technologies: KVM systems, Thin Clients, Panel PCs and Operator Interfaces.

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

MANTA, EAGLE, RAPTOR and SHARK have been developed to meet the requirements of every type of application.

PLATFORM	TYPE	INDUSTRY	TECHNOLOGY	DISPLAY
MANTA	Operator stations and panel-mount devices for the process industries	• Pharmaceutical industry • Fine chemicals industry • Life sciences industry	• Thin Client • KVM System • Panel PC	22" / 24"
RAPTOR	Explosion-protected, robust operator panels with integrated visualisation software, IP69	• Machine operation • Tank farm automation • Drilling rigs	• Operator Interface	7"
EAGLE	Explosion-protected, universally applicable HMIs, IP66	• Machine operation • Universal use	• Panel PC • Thin Client • Operator Interface	10" / 15" / 19"
SHARK	Explosion-protected, robust HMIs, extreme ambient conditions	• Outdoor applications, harsh environments • Oil & Gas industry	• Panel PC • KVM System • Thin Client	15" / 21.5"

MANTA PLATFORM

DEVELOPED FOR THE PHARMACEUTICAL, CHEMICAL AND LIFE SCIENCES INDUSTRIES

FDA 21 CFR PART 11

GAMP

Operator station CFR

Operator station FR

Panel-mount device

Operating devices with R. STAHL's MANTA platform are geared towards the requirements of the pharmaceutical, chemical and life sciences industries. They are suitable for use in cleanrooms, can display complex processes in brilliant image quality on wide-screens and have glass touch-screens. They can be flexibly configured and are available as panel-mount devices (PM) or Operator Stations (OS) inside enclosures. Security is ensured with RFID readers and corresponding software in the control system as these grant access to authorised staff only, which means that these HMI devices meet the requirements of 21 CFR part 11 and GAMP. Barcode readers connected via cable or Bluetooth can be used to simplify material entry in hazardous areas. Dual Ethernet and WLAN are further options.

VERSION	X67	X77	X87
Explosion protection	ET versions: Zone 1, 2, 21, 22, Class I Div 2 MT versions: Zone 2, 22		
Safe area	IT versions: Universally applicable in all areas of the pharmaceutical, chemical and life sciences industries		
Panel-mount device			
Display size	22"	24"	24"
Resolution	1680x1050	1920x1080 (Full HD)	1920x1200 (WUXGA)
Format	16:10	16:9	16:10
Touchscreen	Optional analog resistive foil or glass touchscreen (single touch)		
KVM System	DVI3	DVI3	DVI3
Panel PC	ATOM E3845, Quad Core	ATOM E3845, Quad Core	ATOM E3845, Quad Core
Thin Client	ATOM E3845, Quad Core	ATOM E3845, Quad Core	ATOM E3845, Quad Core
OS Operator station FR			
	Modular, complete systems consisting of display with functional technology (KVM, Thin Client or Panel PC), keyboard, pointing device and optional accessories (RFID / barcode reader, ...), integrated in a stainless-steel enclosure with front opening		
Materials	V2A (SS304) or V4A (SS316L) stainless steel		
Mounting types	Wall or ceiling mounting, wall bracket, stand pipe		
OS Operator station CFR			
	Modular, complete systems consisting of display with functional technology (Operator Interface, Thin Client or Panel PC), keyboard, pointing device and optional accessories (RFID / barcode reader, ...), integrated in a cleanroom-compliant stainless-steel enclosure with front opening		
Materials	V2A (SS304) or V4A (SS316L) stainless steel		
Mounting types	Wall or ceiling mounting, wall bracket, stand pipe		

MANTA PLATFORM GMP

OPERATOR STATIONS FOR CLEANROOMS IN SAFE AREAS

NEW

CLASS C CLEANROOM

MULTI-TOUCH SCREEN

Sophisticated MANTA GMP Operator Station for safe areas – with multi-touch display in 24'' widescreen format with Full HD resolution, suitable for Class C cleanrooms according to EHEDG and EU-GMP.

The MANTA GMP platform operator stations have been developed for installation under cleanroom conditions in hygienically sensitive areas. The new MANTA GMP for cleanrooms of cleanliness Class C is available in two versions – as Thin Client and as Panel PC – for remote access to distributed control systems from the safe area. The MANTA GMP operator stations meet the construction requirements for cleanroom-compliance according to EHEDG and the EU-GMP for cleanliness Class C cleanrooms.

TAILOR-MADE SOLUTIONS

As double monitor

As mobile solution with loudspeaker

EAGLE PLATFORM

OUR ALL-ROUND TALENTS

Panel-mount device

The operating devices of the EAGLE device platform are R. STAHL's all-round talents for operating machinery and processes, tank farms and filling stations. Thanks to their robust design they are certified for world-wide operation in hazardous areas and onboard ships: resistant to corrosive gases (ISA 71.04 G3), vibration- and shock-proof, IP66. As a standard, all models are equipped with touchscreens.

The flexibly configurable Operator Stations (model types OS) are mounted inside enclosures and are suitable for temperatures ranging from -30 °C to +50 °C, the panel-mount devices (PM) are suitable for operation in temperatures ranging from -20 °C to +55 °C.

ISA S71.04 G3

-30 °C UP TO +55 °C

IP66

DEVICE OVERVIEW

VERSION	306	406 / 506	x16	x36	456 / 556
Explosion protection	ET versions: MT versions:	Zone 1, 2, 21, 22, Class I Div 2 Zone 2, 22, Class I Div 2			
Panel-mount device					
Display size	10"	10"	10"	15"	19"
Resolution	640x480	800x600	800x600	1024x768	1240x1024
Format	4:3	4:3	4:3	4:3	5:4
Touchscreen	Analog resistive foil touchscreen (single touch)				
Operator Interface	ATOM E3815, Single Core		ATOM E3815, Single Core	ATOM E3815, Single Core	
Panel PC		ATOM E3845, Quad Core	ATOM E3845, Quad Core	ATOM E3845, Quad Core	ATOM E3845, Quad Core
Thin Client		ATOM E3845, Quad Core	ATOM E3845, Quad Core	ATOM E3845, Quad Core	ATOM E3845, Quad Core
OS Operator station FR					
	Modular, complete systems consisting of display with functional technology (Operator Interface, Thin Client or Panel PC), keyboard, pointing device and optional accessories (RFID / barcode reader, ...), integrated in a stainless-steel enclosure with front opening				
Materials	V2A (SS304) or V4A (SS316L) stainless steel				
Mounting types	Wall or ceiling mounting, wall bracket, stand pipe				
OS Operator station CFR					
	Modular, complete systems consisting of display with functional technology (Operator Interface, Thin Client or Panel PC), keyboard, pointing device and optional accessories (RFID / barcode reader, ...), integrated in a cleanroom-compliant stainless-steel enclosure with front opening				
Materials	V2A (SS304) or V4A (SS316L) stainless steel				
Mounting types	Wall or ceiling mounting, wall bracket, stand pipe				

SHARK PLATFORM

FOR OUTDOOR APPLICATIONS AND ROUGH AMBIENT CONDITIONS

IP66

-40 °C
UP TO
+65 °C

SHOCK- /
VIBRATION-
PROOF

SUNLIGHT-
READABLE

Operator station

IDEAL UNDER ADVERSE CONDITIONS

Rugged – that sums up R. STAHL's operator stations with device platform SHARK. We have designed these HMI systems to be ideally suited to the most adverse ambient conditions. They are shock-, vibration-, seawater- and salt-spray-proof, have IP66 and ensure reliable operation in temperatures ranging from -40 °C to +65 °C, thanks to the integrated heater and our innovative application of the stack effect.

The display and additional function keys are located underneath a chemically hardened, non-glare glass pane. The standard versions with their multi-touch screens and sunlight-readable, dimmable displays use state-of-the-art technology; the 21.5" models have card readers for access control as an option, and further options include Bluetooth and an integrated front camera.

VERSION	X38	X98
Explosion protection	ET version: Zone 1, 21, 2, 22, Class I Div 2 MT version: Zone 2, 22, Class I Div 2	
Display size	15"	21.5"
Resolution	1024x768 (XGA)	1920x1080 (Full HD)
Format	4:3	16:9
Touchscreen	Optional: projected capacitive (PCAP), multi-touch	
KVM System	DVI3	DVI3
Panel PC	AMD GX, Dual Core Core i7, Dual Core	AMD GX, Dual Core Core i7, Dual Core
Thin Client	AMD GX, Dual Core Core i7, Dual Core	AMD GX, Dual Core Core i7, Dual Core
Mounting types	VESA 200, yoke mount, wall mounting	VESA 200, yoke mount, wall mounting

RAPTOR PLATFORM

R. STAHL's RAPTOR device platform provides robust and versatile Operator Interfaces, for example for drilling rigs, tank farm automation or the pharmaceutical and life sciences industries. They can withstand temperatures ranging from -40 °C to +65 °C, are impact resistant with IP69 – and can be operated as conveniently as a smartphone.

The sunlight-readable 7" widescreen display with capacitive touchscreen shows processes with great contrast and in brilliant colours.

Options include RFID readers for access control and the Movicon software (compliant with 21 CFR part 11 and GAMP).

For material entry, barcode readers connected via cable or Bluetooth can be used in hazardous areas. The Operator Interfaces are available as panel-mount devices or as operator stations with enclosure.

Panel-mount device

IP69

SUNLIGHT-
READABLE

-40 °C
UP TO
+65 °C

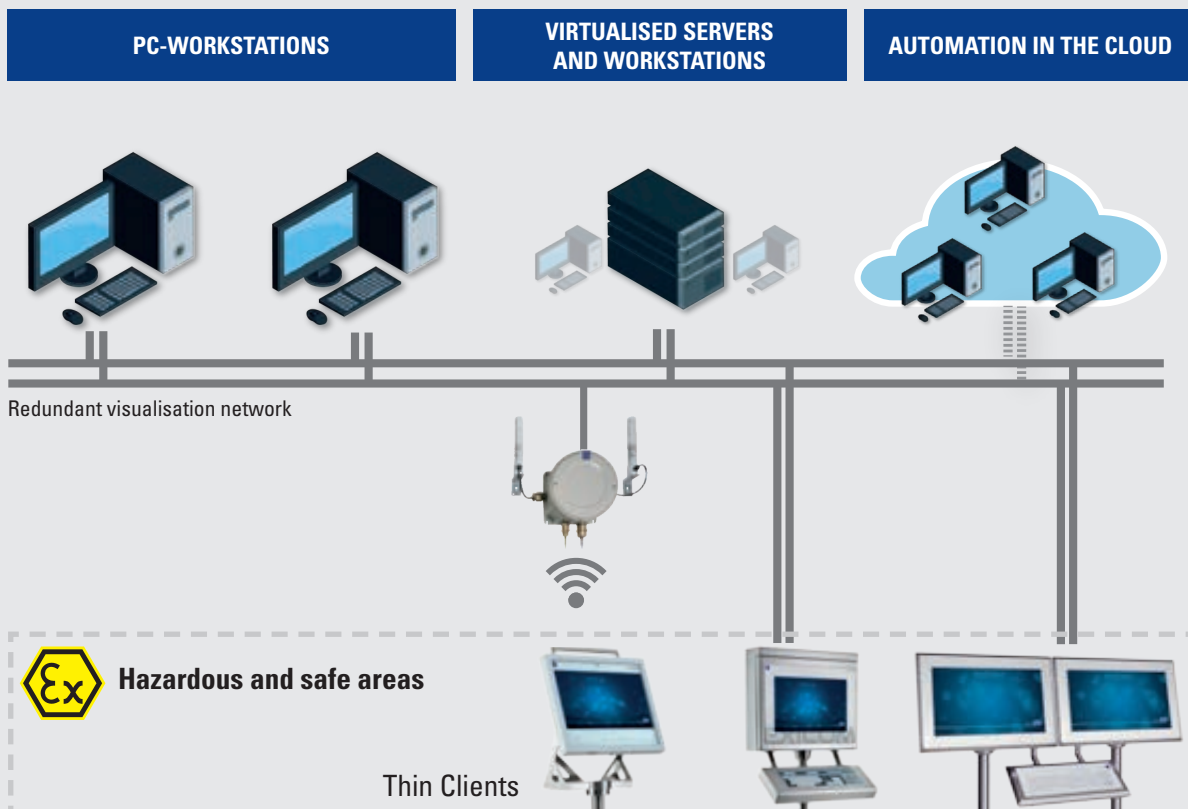Operator Station with stainless-steel keys

TECHNOLOGIES

THIN CLIENT SYSTEMS

R. STAHL's Thin Clients are the most modern type of process visualisation in virtual networks. Each Thin Client, via IP addressing, provides flexible access to process automation, MES, ERP and other functions, providing a wide range of information on site. Software installation, upgrades and administration are carried out centrally and thus cost-effectively – and can easily be performed during ongoing operations.

Data communication uses Ethernet or WLAN via various protocols, such as RDP and VNC. Our innovative REMOTE HMI FIRMWARE has been developed for process automation. It acts as an extra safeguard for data communication, supports redundancy concepts, simplifies administration and contains powerful diagnostic functions.

- Flexible access from one operator station to one or more virtual or real workstations in a network
- Easy commissioning of Thin Clients due to driverless "Plug and Play" on the host system
- Maximum security and easy parameterisation with our proprietary REMOTE HMI FIRMWARE

PERFECT SYSTEM INTEGRATION

| PC-WORKSTATIONS | VIRTUALISED SERVERS AND WORKSTATIONS | AUTOMATION IN THE CLOUD |

Redundant visualisation network

Hazardous and safe areas

Thin Clients

PANEL PC SYSTEMS

R. STAHL provides state-of-the-art PC technology in fanless, modular and industrial design. Because these HMI systems consist of carefully selected components, they fulfil the most challenging requirements – permanent functionality in temperatures ranging from -40 °C to +65 °C, shock-, vibration- and seawater-proof, sunlight-readable displays, multi-touch screen, GMP-compliant fronts and operator stations, state-of-the-art dual and quad core processors, Dual Ethernet and many more. These systems can be stand-alone or installed as part of a client-server system. They communicate with automation systems and distributed control systems via Ethernet, WLAN or serial interfaces, and have additional interfaces for peripherals such as keyboards, pointing devices, RFID readers, barcode readers for material inventory or EM-STOP switches.

- Robust Panel PCs for hazardous areas Zone 1, 21, 2, 22 and Division 2, as well as for safe areas
- Modern dual and quad core processors up to Core i7
- Comfortable HMIs with modular panel-mount devices and operator stations for flexible configuration

KVM SYSTEMS

In HMI technology, KVM systems are ideal for operating a workstation from an on-site operating station. The KVM terminal communicates directly with the PC in the safe area via the KVM box. The KVM systems of the MANTA platform have been developed specially for the process industries and meet the universal and hygienic requirements for GMP areas. SHARK devices, available with 15” and 21.5” screen sizes, have been designed for rough ambient conditions, are temperature-resistant (-40 °C to +65 °C) and weather-proof and can withstand the most adverse conditions.

- KVM systems for the extension of digital video signals to up to 10 km with fibre optic and up to 150 m with CAT7
- Future-proof HMIs: updates for future hardware platforms
- Simple and safe connection to DVI or VGA and USB (”Plug and Play”)

OPERATOR INTERFACES

Because R. STAHL's Operator Interfaces with EAGLE and RAPTOR device platforms consist of carefully selected and validated components and make use of state-of-the-art technology, they fulfil the highest requirements – permanent functionality in temperatures ranging from -40 °C to +65 °C, shock-, vibration- and seawater-proof, and, of course, explosion-protected. We provide these compact HMI systems with GMP-compliant fronts and operator stations, as well as with various displays ranging from 7” widescreen to 15” XGA, optionally sunlight-readable. Serial interfaces and TCP/IP Ethernet interfaces are provided to connect all major automation devices. Thus, an ideal solution is provided for all applications.

- Robust Operator Interfaces for hazardous Zone 1, 2, 21 and 22 and Division 2
- HMI SERIES 200 and 300: Visualisation systems under Windows Embedded Compact 7, MOVICON 11 CE or SPSPlus RT
- Modular panel-mount devices and operator stations for flexible configuration