THE STRONGEST LINK.

STAHL

CCTV SYSTEMS AND CAMERAS

For hazardous and safe industrial areas

CAMERAS AND CCTV SYSTEMS FOR HAZARDOUS AREAS

From the compact camera, the all-round camera, the autofocus zoom (AFZ), the pan-tilt-zoom (PTZ), the thermal imaging camera to the dome camera – R. STAHL offers a comprehensive portfolio of explosion-protected cameras for Zone 1, 2, 21, 22 and Division 2. Many of our cameras are certified according to ATEX, IECEx, NEC, CEC, EAC and Lloyd's.

R. STAHL cameras and CCTV components can be installed worldwide, even under extreme conditions.

Various camera types are even suitable for use in ambient temperatures ranging from -55 °C to +65 °C.

All-round camera
EC-910-AFZ

Compact camera
IC-930-AFZ for
safe areas

NEW

PTZ camera
EC-941

AFZ camera EC-940 with
Ex e connection box

HMIs and
CCTV software

CONTINUED DEVELOPMENT OF OUR PORTFOLIO

R. STAHL is constantly enhancing its product portfolio: our latest PTZ camera sets new standards for explosion-protected cameras with dynamic masking, electronic image stabilisation and direct FO connection.

The new EC-840S thermal imaging camera now features detailed temperature measurement and the separate detection of flame ignition.This reduces the number of false alarms to almost zero.

Thanks to ONVIF Q, S, T, both new product developments can be integrated into CCTV networks worldwide.

NEW

Thermal imaging camera EC-840S-TIC

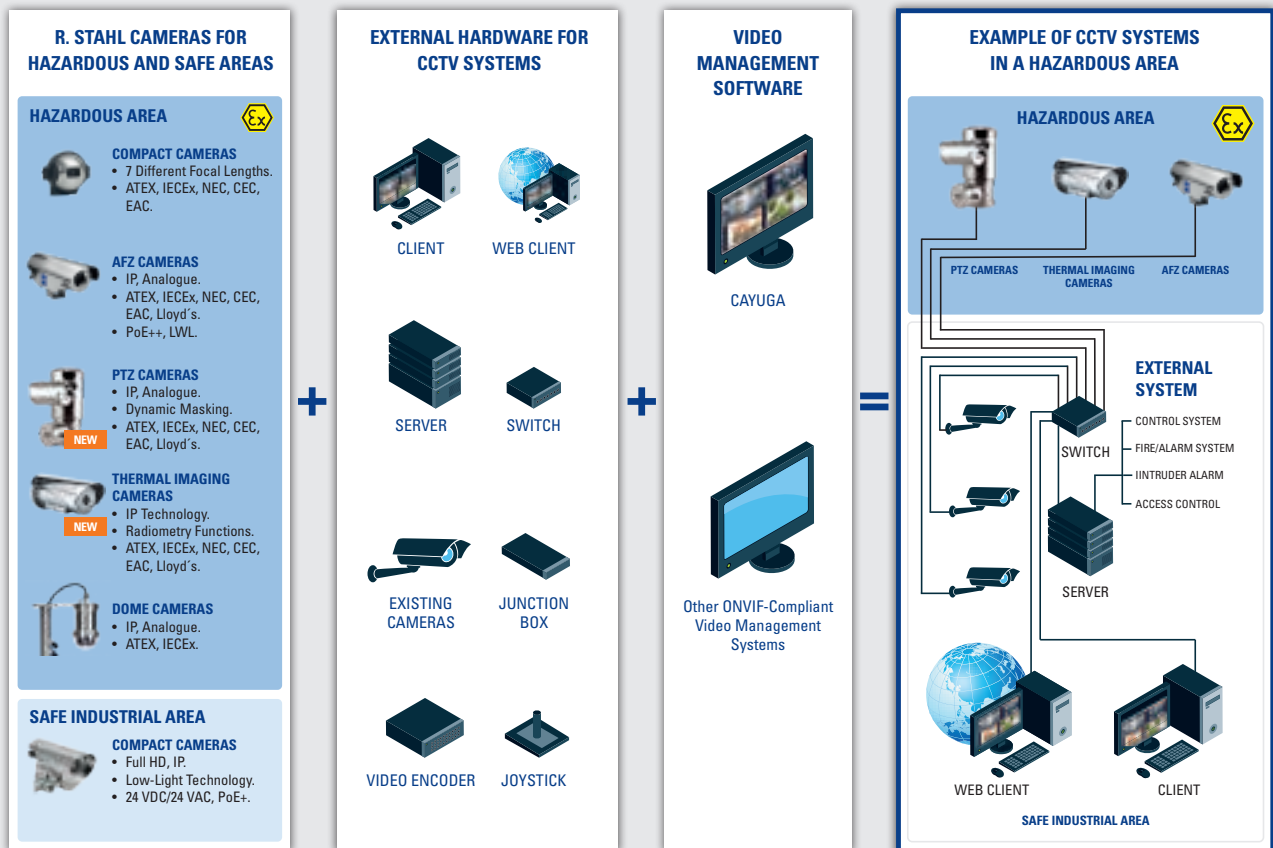**Compact camera EC-710**

Dome camera EC-750

AFZ camera EC-940S

OPEN CCTV SYSTEM FOR INDIVIDUAL CCTV SYSTEM SOLUTIONS

The OPEN CCTV SYSTEM is our hardware and software platform from which we configure your individual CCTV system solutions. Every component of this system has been comprehensively tested, including for extreme temperatures and temperature fluctuations.

All our cameras can be combined with switches, servers, clients as well as professional video management software packages.

R. STAHL CAMERAS FOR HAZARDOUS AND SAFE AREAS

HAZARDOUS AREA (Ex)

COMPACT CAMERAS
- 7 Different Focal Lengths.
- ATEX, IECEx, NEC, CEC, EAC.

AFZ CAMERAS
- IP, Analogue.
- ATEX, IECEx, NEC, CEC, EAC, Lloyd´s.
- PoE++, LWL.

PTZ CAMERAS
- IP, Analogue.
- Dynamic Masking.
- ATEX, IECEx, NEC, CEC, EAC, Lloyd´s.
NEW

THERMAL IMAGING CAMERAS
- IP Technology.
- Radiometry Functions.
- ATEX, IECEx, NEC, CEC, EAC, Lloyd´s.
NEW

DOME CAMERAS
- IP, Analogue.
- ATEX, IECEx.

SAFE INDUSTRIAL AREA

COMPACT CAMERAS
- Full HD, IP.
- Low-Light Technology.
- 24 VDC/24 VAC, PoE+.

+

EXTERNAL HARDWARE FOR CCTV SYSTEMS

CLIENT

WEB CLIENT

SERVER

SWITCH

EXISTING CAMERAS

JUNCTION BOX

VIDEO ENCODER

JOYSTICK

+

VIDEO MANAGEMENT SOFTWARE

CAYUGA

Other ONVIF-Compliant Video Management Systems

=

EXAMPLE OF CCTV SYSTEMS IN A HAZARDOUS AREA

HAZARDOUS AREA (Ex)

PTZ CAMERAS

THERMAL IMAGING CAMERAS

AFZ CAMERAS

EXTERNAL SYSTEM

SWITCH

- CONTROL SYSTEM
- FIRE/ALARM SYSTEM
- IINTRUDER ALARM
- ACCESS CONTROL

SERVER

WEB CLIENT

CLIENT

SAFE INDUSTRIAL AREA

R. STAHL – ONE-STOP CCTV SUPPLIER

▶ CCTV SYSTEM DESIGN

▶ PROJECT ENGINEERING

▶ SYSTEM CONFIGURATION

▶ DOCUMENTATION

▶ FACTORY ACCEPTANCE TEST (FAT)

▶ SITE ACCEPTANCE TEST (SAT)

▶ COMMISSIONING/TRAINING

▶ SERVICE/MAINTENANCE

As a ONE-STOP CCTV SUPPLIER we offer the full spectrum of services: from the system design, project planning and configuration to commissioning.

We also offer documentation and training, FAT/SAT, and a service and maintenance plan. With the exception of providing individual on-site installation services, our project managers will be at your side all the way.

In addition to new CCTV system designs, our cameras and software components can easily be integrated into existing CCTV systems, enabling you to modernise and extend your systems.

Our project engineers also carry out site inspections in order to customise the CCTV system design to perfectly fit with your system.

SYSTEM SOLUTIONS FOR THE OIL AND GAS INDUSTRY

EC-940-AFZ
NEW CAMERA TYPE WITH EX E CONNECTION BOX AND PoE++

The EC-940-AFZ features one of the most modern camera designs for hazardous areas. The integrated Ex e connection box considerably simplifies both commissioning and maintenance – "INSTALLATION MADE EASY".
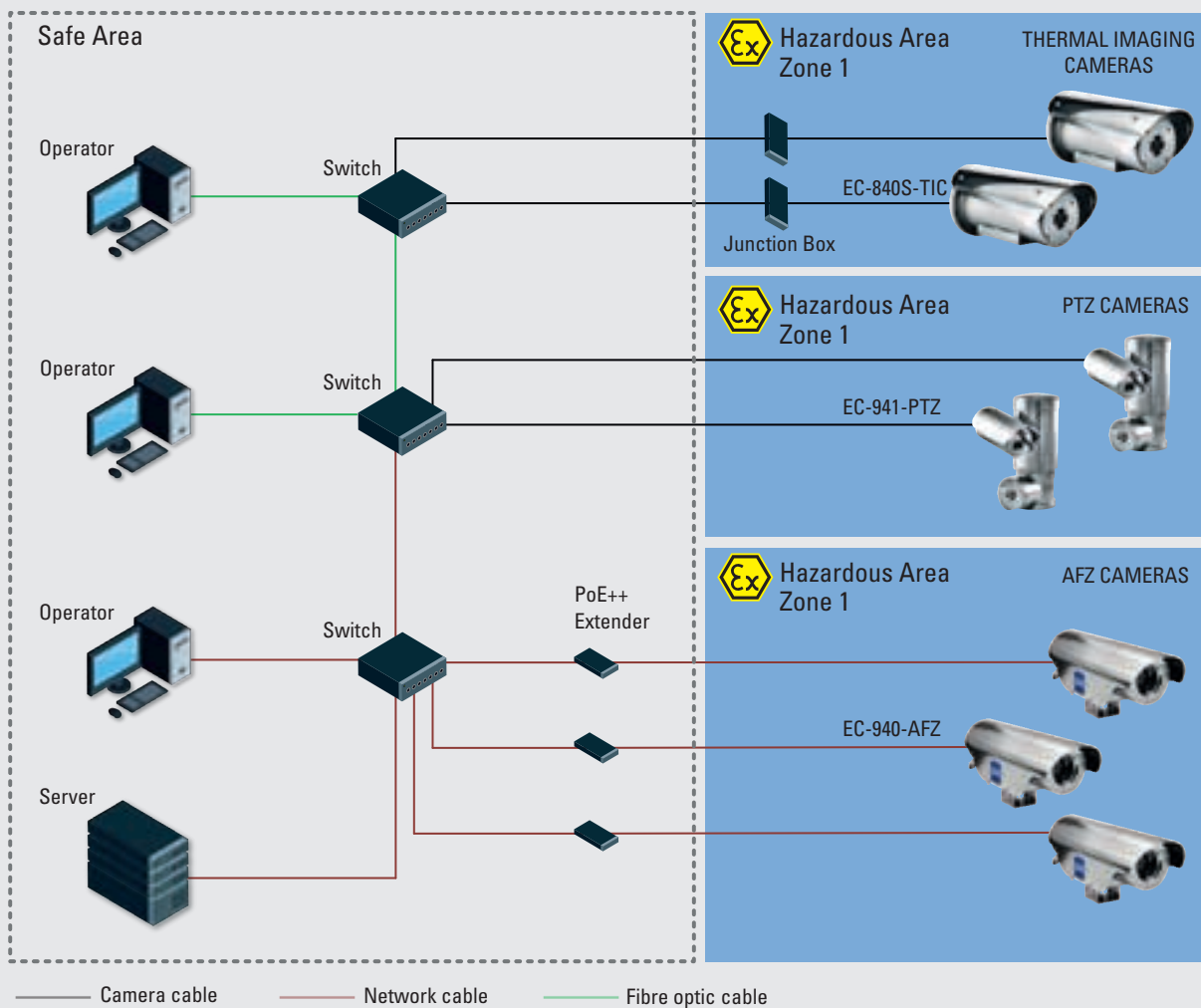
The PoE++ function enables the camera to be connected quickly and easily, since only one cable is required for data transmission and power supply. The enclosure contains state-of-the-art camera technology including full HD, WDR (Wide Dynamic Range), defog and ONVIF S function. Its suitability for extreme ambient temperatures ranging from -55 °C to +65 °C makes the camera ideally suited for oil and gas applications.

- Full HD, WDR, defog.
- Faster installation with PoE++.
- Ex e connection box.
- Available as FO or IP version.
- ONVIF S, can be integrated worldwide.
- Temperature range -55 °C … +65 °C.
- ATEX, IECEx.
- IP66.

EXAMPLE OF A SYSTEM SOLUTION
OFFSHORE CCTV SYSTEM IN THREE EX AREAS

Camera cable — Network cable — Fibre optic cable

CCTV REQUIREMENTS:
This CCTV system was specifically designed to withstand
the extreme temperature fluctuations and ambient conditions
on a drilling rig in Zone 1. The client required three different
areas on the drilling rig to be monitored with a separate
station each, but connected to each other for flexible access.
A video matrix tailored to this system ensures that all video
data can be stored and retrieved at any time.

R. STAHL CAMERA SYSTEM SOLUTION:
To ensure optimum results, a different camera type was
chosen for each task in Zone 1: high-resolution thermal
imaging cameras with temperature measurement in any point
of the image for man overboard detection, and fast revolving
PTZ cameras with dynamic masking, electronic image stabili-
sation and direct FO connection for monitoring the drill pipes.
Fixed AFZ cameras with PoE++ were used for indoor monitor-
ing. Via various cable types and switches, the cameras' video
data is stored on a server matrix for flexible access.

SYSTEM SOLUTIONS FOR THE OIL AND GAS INDUSTRY
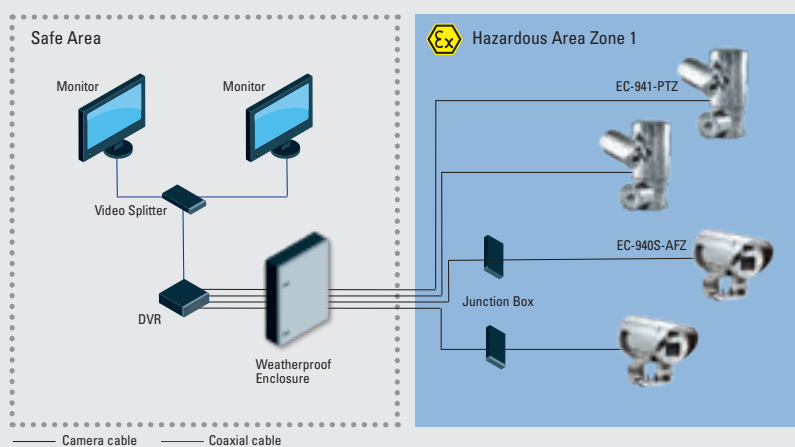
DYNAMIC MASKING

NEW

EC-941
NEW PTZ IP CAMERA

The new PTZ camera now integrates state-of-the-art camera functions: dynamic masking, electronic image stabilisation and direct fibre optic connection. Below an overview of all functions:

- Complies with data protection requirements via dynamic masking.
- Electronic image stabilisation.
- FO connection, directly above SFP slot.
- Extremely high repetition accuracy (+/- 0.02°).
- 100% corrosion-proof – shot-peened, electropolished surface.
- ONVIF Q, S, T, can be integrated worldwide.
- Temperature range -40 °C … +60 °C.
- ATEX, IECEx, NEC, CEC, EAC, Lloyd's.
- IP66.

EXAMPLE OF A SYSTEM SOLUTION
COMBINED DRILLING PROCESS AND AREA MONITORING

Safe Area

Monitor

Monitor

Video Splitter

DVR

Weatherproof Enclosure

Camera cable   Coaxial cable

Hazardous Area Zone 1

EC-941-PTZ

EC-940S-AFZ

Junction Box

CCTV REQUIREMENTS:
The client required this CCTV system to monitor in parallel on two screens and in real time the stand of the drill pipe as well as the surrounding rig area, in ambient temperatures ranging from -40 °C to +60 °C.

R. STAHL CAMERA SYSTEM SOLUTION:
Two analogue AFZ cameras were used for real-time monitoring the drill pipe, and particularly light-sensitive PTZ cameras with dynamic masking and image stabilisation were used for indoor surveillance. Data was transmitted via a server matrix inside a weatherproof enclosure to two control screens.
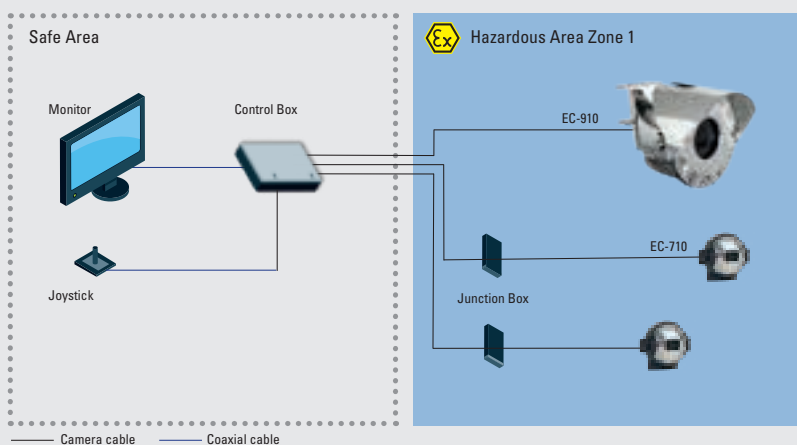
EC-910
MODERN AND COMPACT

The new all-round EC-910 camera has an excellent price-performance ratio: the camera comes in a compact, small size and incorporates a 3x/10x zoom.

The EC-910's functions include full HD, WDR, defog, and PoE+, and it has a number of international explosion-protection certificates.

- Efficient high-tech camera.
- ONVIF Q, S, T, can be integrated worldwide.
- Temperature range -40 °C … +65 °C.
- ATEX, IECEx, NEC, CEC, EAC, Lloyd's.
- IP66, IP67, IP68, IP69.

EXAMPLE OF A SYSTEM SOLUTION
DETAILED CRANE MONITORING

Safe Area

Monitor   Control Box

Joystick

Camera cable   Coaxial cable

Hazardous Area Zone 1

EC-910

EC-710

Junction Box

CCTV REQUIREMENTS:

The client required constant, detailed crane monitoring of all horizontal and lifting movements, as well as a combination of analogue and IP cameras, including real-time visualisation on a 12" screen.
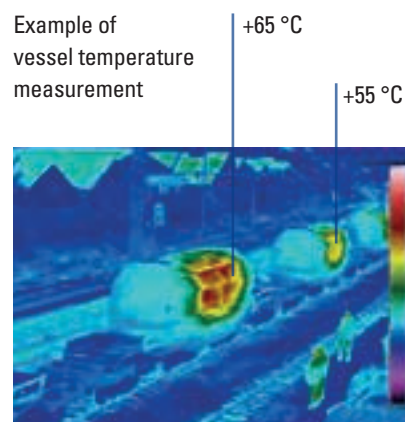
R. STAHL CAMERA SYSTEM SOLUTION:

This system consisted of an EC-910 full HD zoom camera with autofocus for the continuous monitoring of the crane movements, and two EC-710 compact cameras with fixed focus for the real-time visualisation of the surrounding area.

SYSTEM SOLUTIONS FOR REFINERIES

RADIOMETRY FUNCTIONS

NEW

Example of vessel temperature measurement

+65 °C

+55 °C

EC-840S HIGH-RESOLUTION THERMAL IMAGING CAMERA WITH RADIOMETRY FUNCTIONS FOR HAZARDOUS AREAS
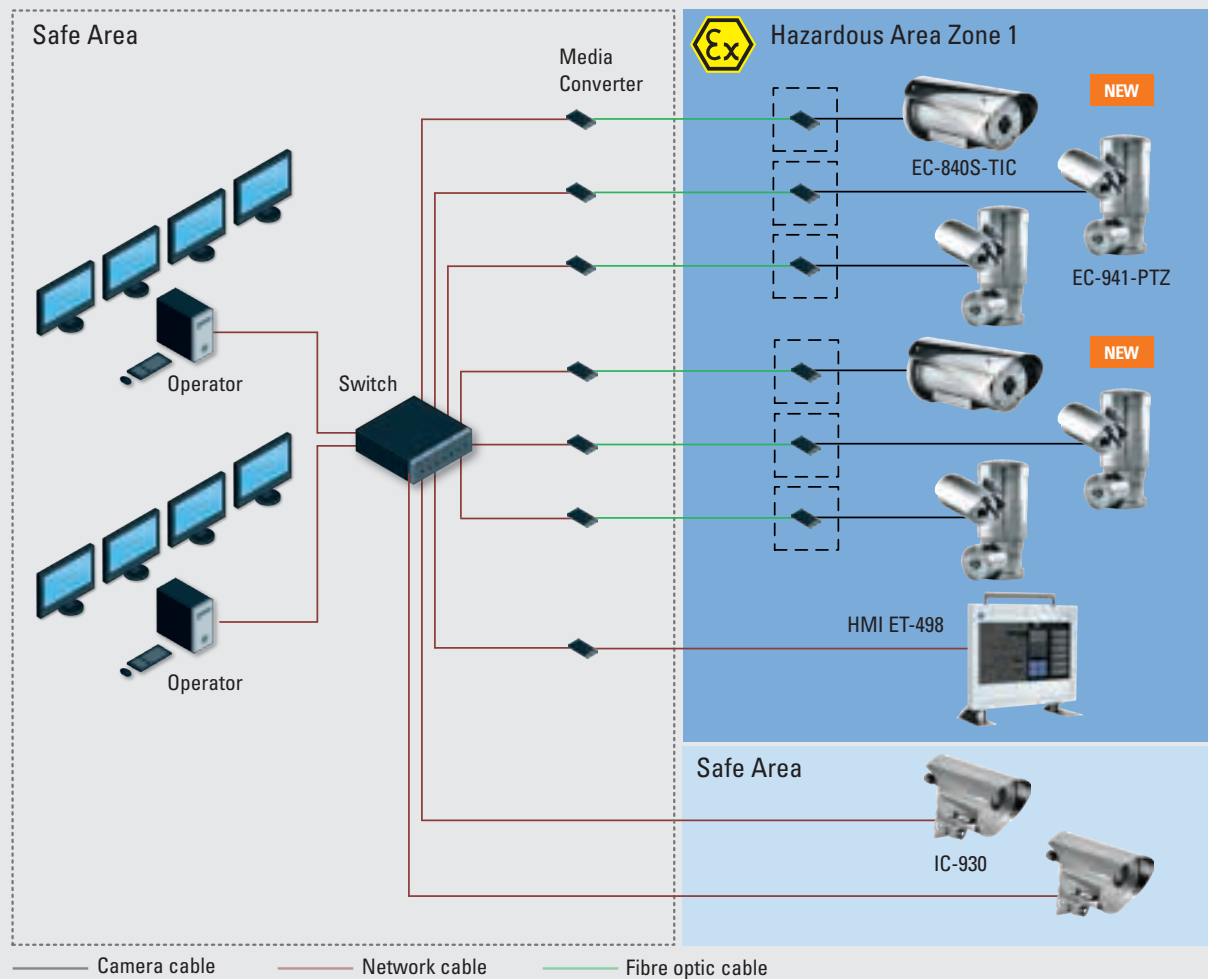
The EC-840C features extended radiometry functions to measure the temperature in any point of the image, resulting in unambiguous, safer and more effective temperature control of processes.

The thermal imaging camera can also distinguish between flame ignition and temperature, which reduces the number of false alarms to almost zero. These features make the new EC-840S one of the most modern thermal imaging cameras for hazardous areas.

- IP camera with temperature measurement in any point of the image.
- Distinction between flame ignition and temperature.
- ONVIF Q, S, T, can be integrated worldwide.
- Temperature range -50 °C … +65 °C.
- ATEX, IECEx, NEC, CEC, EAC, Lloyd's.
- IP66, IP67, IP68, IP69.

EXAMPLE OF A SYSTEM SOLUTION

PROCESS AND DETAILED SURVEILLANCE IN ZONE 1 WITH REDUNDANT CONTROL

Safe Area

Media Converter

Operator

Switch

Operator

Hazardous Area Zone 1

EC-840S-TIC   NEW

EC-941-PTZ

NEW

HMI ET-498

Safe Area

IC-930

— Camera cable   — Network cable   — Fibre optic cable

CCTV REQUIREMENTS:

The client required parallel (redundant) monitoring at two control stations and simultaneous monitoring and control via one HMI in the hazardous area.

The CCTV system should be able to exclude certain production areas from surveillance, and the thermal imaging cameras should be able to provide detailed temperature measurement in any point of the image of a specific area.

R. STAHL CAMERA SYSTEM SOLUTION:

These requirements were met with a combination of high-resolution thermal imaging cameras and high-precision PTZ cameras in the hazardous areas. The latest EC-941 PTZ cameras feature dynamic masking, where certain areas are blacked out during panning. Its WDR function and the user-friendly SFP slot make the camera ideal even for difficult light conditions and long transmission distances. The new EC-840 thermal imaging camera features detailed temperature measurement in any point of the image. All data is transmitted via fibre optic, media converter and switch to two control stations, for parallel data access and storage.

SYSTEM SOLUTIONS FOR CHEMICAL AND PHARMACEUTICAL INDUSTRIES

EC-910-AFZ
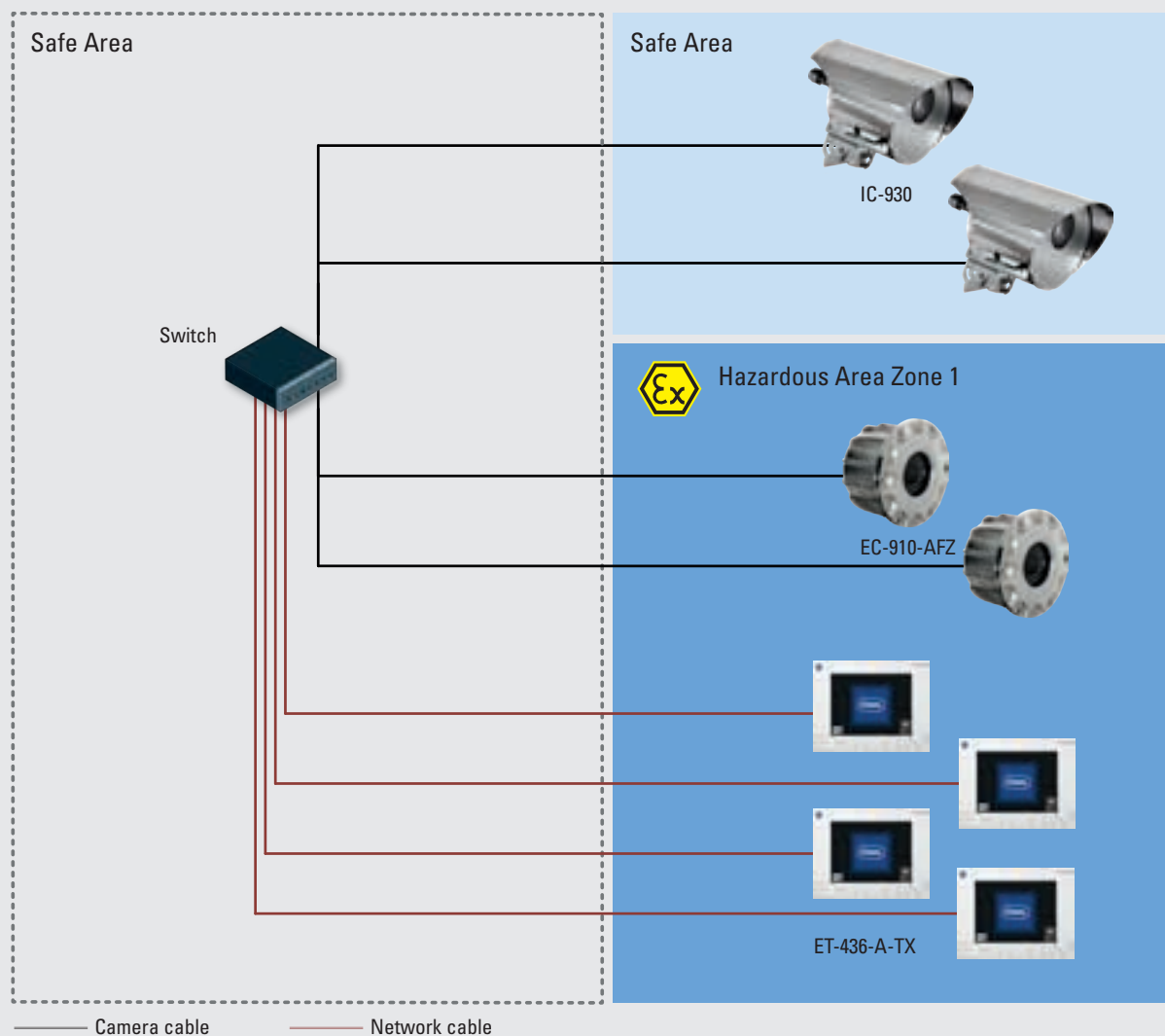## IDEAL FOR SIGHT GLASS MONITORING

The 90° viewing angle and an adaptive sight glass mount provide excellent images of the process inside the batch reactor.

The compact EC-910 AFZ camera with 3x/10x zoom combines state-of-the-art functions such as full HD, day/night mode, WDR and back-light compensation, making it ideally suited for sight glass monitoring.

- Highly light-sensitive.
- Requires little space.
- PoE+.
- ONVIF Q, S, T, can be integrated worldwide.
- Temperature range -40 °C … +65 °C.
- ATEX, IECEx, NEC, CEC, EAC, Lloyd's.
- IP66, IP67, IP68, IP69.

EXAMPLE OF A SYSTEM SOLUTION
SIGHT GLASS MONITORING VISUALISED AT ALL HMIS IN THE PROCESS AREA

CCTV REQUIREMENTS:

To be able to react swiftly to any abrupt changes in a batch reactor (e.g. foaming), sight glass monitoring was required for this CCTV project. In addition, a universally applicable camera was required for the safe areas.

R. STAHL CAMERA SYSTEM SOLUTION:

For the optimum control of any foaming that might occur in Zone 1, the EC-910 full HD AFZ camera is the ideal solution – its brilliant image quality and light sensitivity provide excellent images of the production medium inside the batch reactor. The safe area is monitored with an IC-930. HMIs as Panel PCs at various locations in Zone 1 are used for visualisation.

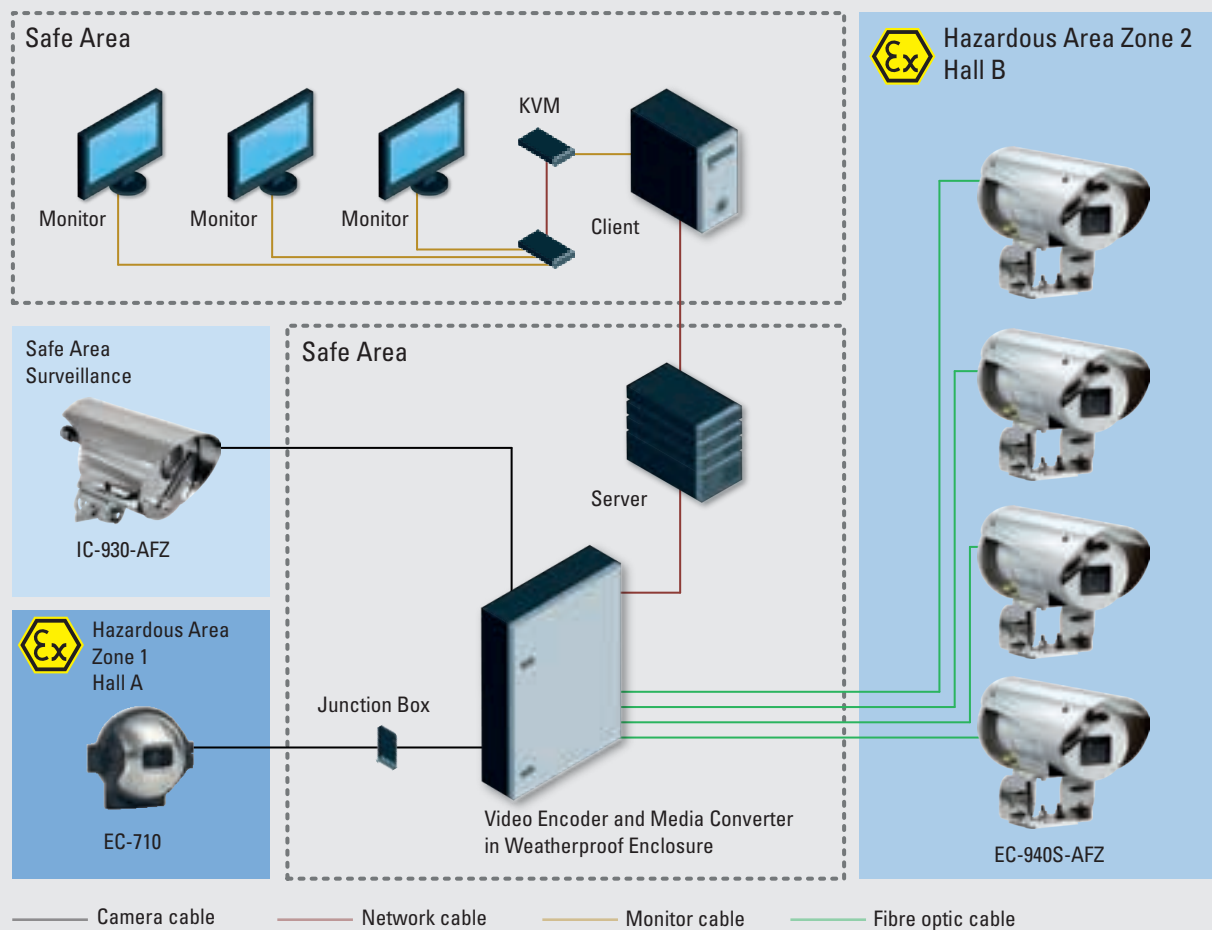# SYSTEM SOLUTIONS FOR CHEMICAL AND PHARMACEUTICAL INDUSTRIES

EC-940S
THE AFZ CAMERA FOR UNIVERSAL APPLICATION

The EC-940S AFZ camera is a universally applicable zoom camera with certifications for operation in nearly every country across the globe. The camera comes in various IP or analogue versions, and can be used for real-time monitoring or within networks.

The powerful IP version features full HD, ONVIF S and Q, a wide ambient temperature range of -50 °C to +65 °C, and 30x zoom. The analogue versions feature 36x zoom.

- Universal application.
- Low-light technology.
- IP/analogue.
- ONVIF Q, S,
  can be integrated worldwide.
- Temperature range
  -50 °C … +65 °C.
- ATEX, IECEx, NEC, CEC, EAC ,
  Lloyd's.
- IP66, IP68, IP69.

EXAMPLE OF A SYSTEM SOLUTION

COMBINED ANALOGUE AND IP SYSTEMS

Safe Area
Monitor   Monitor   Monitor   KVM   Client

Hazardous Area Zone 2
Hall B

Safe Area
Surveillance
IC-930-AFZ

Safe Area
Server

Hazardous Area
Zone 1
Hall A
Junction Box
EC-710

Video Encoder and Media Converter
in Weatherproof Enclosure

EC-940S-AFZ

——— Camera cable   ——— Network cable   ——— Monitor cable   ——— Fibre optic cable

CCTV REQUIREMENTS:

For this CCTV system the client required explosion-protected cameras to monitor two large production halls and several batch reactor sight glasses. In addition, a safe outdoor area also needed to be monitored. For simultaneous control at different screen stations, all video data had to be collected in a server-client matrix.

R. STAHL CAMERA SYSTEM SOLUTION:

For monitoring the area outside Hall B we used the EC-940S AFZ camera as a fast zoom camera, certified for installation in ambient temperatures ranging from -50 °C to +65 °C and, due to its inbuilt wash & wiper system, ensuring a clear view. The EC-710 is used as a fixed camera for sight glass monitoring in Zone 1, whilst the safe areas are monitored with the IC-930 full HD camera.

THE LATEST IN CAMERA TECHNOLOGY FOR EVEN THE MOST EXTREME CONDITIONS

Our comprehensive portfolio of explosion-protected and industrial cameras includes the smallest Ex-camera in the world, full HD, IP, and dome cameras as well as highly sensitive thermal imaging cameras.

Together with other hardware and software components, these cameras are an integral part of any individual CCTV system tailored to meet specific system requirements.

Camera versions certified for ambient temperatures from -40 °C to +75 °C or from -55 °C to +65 °C are available for use in extreme environments.

EC-710 Compact Camera

- Diameter of only 55 mm.
- 7 versions with different fixed focal lengths.
- High-quality stainless-steel enclosure.
- Temperature range -40 °C … +75 °C.

- Zone 1/2/21/22
- IP68, IP69K
- ATEX
- IECEx
- NEC, CEC
- EAC

All-round EC-910-AFZ Camera

- Compact IP camera, full HD (1920 x 1080).
- 3x or 10x optical zoom.
- PoE+, 24 VDC or 24 VAC.
- Stainless-steel enclosure, electropolished.
- Including wall- and ceiling-mount bracket.
- Optional sight glass mount.
- ONVIF Q, S, T, can be integrated worldwide.
- Temperature range -40 °C … +60 °C.

- Zone 1/2/21/22
- IP66, IP67, IP68, IP69
- ATEX
- IECEx
- NEC, CEC
- EAC
- Lloyd's

EC-940-AFZ Camera

EX e CONNECTION BOX

- IP camera, full HD (1920 x 1080).
- Ex e connection box for simple installation.
- Stainless-steel enclosure, electropolished.
- ONVIF S, can be integrated worldwide.
- Temperature range:
  -55 °C … +65 °C (Standard IP, PoE++),
  -25 °C … +55 °C (FO).

- Zone 1/2/21/22
- IP66
- ATEX
- IECEx

EC-940S-AFZ Camera

- Analogue or IP version.
- IP camera, full HD (1920 x 1080).
- High-quality stainless-steel enclosure, electropolished.
- 30x optical zoom (IP version), 36x optical zoom (analogue version).
- ONVIF Q, S, T, can be integrated worldwide.
- Temperature range -50 °C … +65 °C.

- Zone 1/2/21/22
- IP66, IP68, IP69
- ATEX
- IECEx
- NEC, CEC
- EAC
- Lloyd's

EC-940-PTZ/EC-941-PTZ Camera

NEW

- Analogue or IP version.
- IP camera, full HD (1920 x 1080).
- Dynamic masking.
- Electronic image stabilisation.
- Stainless-steel enclosure SS316L, shot-peened and electropolished.
- ONVIF Q, S, T, can be integrated worldwide.
- Temperature range -40 °C … +60 °C.

- Zone 1/2/21/22
- IP66
- ATEX
- IECEx
- NEC, CEC
- EAC
- Lloyd's

EC-840S-TIC Thermal Imaging Camera

NEW

- IP camera.
- Pixel accurate temperature measurement.
- Distinction between flame and temperature.
- Stainless-steel enclosure SS316L, shot-peened and electropolished.
- Resolution: 640 x 512 or 336 x 256.
- ONVIF Q, S, T, can be integrated worldwide.
- Temperature range -50 °C … +65 °C.

- Zone 1/2/21/22
- IP66, IP68, IP69
- ATEX
- IECEx
- NEC, CEC
- EAC
- Lloyd's

EC-750 Dome Camera

- Analogue or IP version.
- High-quality stainless-steel enclosure.
- 360° endless.
- 18x optical zoom (analogue version), 18x or 40x optical zoom (IP version).
- Temperature range -20 °C … +60 °C.

- Zone 1/2/21/22
- IP68
- ATEX
- IECEx

IC-930 Compact Camera

Safe Industrial Areas

- IP camera, full HD (1920 x 1080).
- Stainless-steel enclosure, electropolished.
- Low-light technology, 30x optical zoom.
- PoE+, 24 VDC or 24 VAC.
- Wash & wiper system, optional.
- Including wall- and ceiling-mount bracket.
- ONVIF Q, S, can be integrated worldwide.
- Temperature range -40 °C … +65 °C.

- IP66, IP67, IP68, IP69

OUR CAMERAS IN DETAIL

	Product code	Certificates	SAP no	Poduct type	Connection box	IP rating	Wash & Wiper
COMPACT CAMERA							
	EC-710-0XX	ATEX, IECEx, NEC, CEC, EAC		Fixed-focus analogue camera, 7 focal lengths available. see www.r-stahl.com for details.		IP68, IP69K	
ALL-ROUND CAMERAS							
	EC-910-AFZ-I03-P00	ATEX, IECEx, NEC, CEC, EAC, Lloyd's	264963	Autofocus Zoom IP Camera, Full HD		IP66, IP67, IP68, IP69	
	EC-910-AFZ-I03-P04	ATEX, IECEx, EAC, Lloyd's	265897	Autofocus Zoom IP Camera, Full HD		IP66, IP67, IP68, IP69	
	EC-910-AFZ-I03-P10	ATEX, IECEx, EAC, Lloyd's	265898	Autofocus Zoom IP Camera, Full HD		IP66, IP67, IP68, IP69	
	EC-910-AFZ-I10-P00	ATEX, IECEx, NEC, CEC, EAC, Lloyd's	264964	Autofocus Zoom IP Camera, Full HD		IP66, IP67, IP68, IP69	
	EC-910-AFZ-I10-P04	ATEX, IECEx, EAC, Lloyd's	265900	Autofocus Zoom IP Camera, Full HD		IP66, IP67, IP68, IP69	
	EC-910-AFZ-I10-P10	ATEX, IECEx, EAC, Lloyd's	265921	Autofocus Zoom IP Camera, Full HD		IP66, IP67, IP68, IP69	
AFZ/AUTOFOCUS ZOOM CAMERAS							
	EC-940-AFZ-HDI-O4H	ATEX, IECEx	266895	Autofocus Zoom IP Camera	Ex e	IP66	
	EC-940-AFZ-HDI-O5H	ATEX, IECEx	266897	Autofocus Zoom IP Camera	Ex e	IP66	
	EC-940-AFZ-HDI-O6H	ATEX, IECEx	266898	Autofocus Zoom IP Camera	Ex e	IP66	
	EC-940-AFZ-HDF-O4I	ATEX, IECEx	266893	Autofocus Zoom IP Camera	Ex e	IP66	
	EC-940-AFZ-HDF-O5I	ATEX, IECEx	266894	Autofocus Zoom IP Camera	Ex e	IP66	
	EC-940S-AFZ-HFI-W24-56-B	ATEX, IECEx, EAC, Lloyd's	271547	Autofocus Zoom IP Camera		IP66, IP68, IP69	✔
	EC-940S-AFZ-HFI-W2F-55-B	ATEX, IECEx, NEC, CEC, EAC, Lloyd's	271548	Autofocus Zoom IP Camera		IP66, IP68, IP69	✔
	EC-940S-AFZ-3PA-W24-56-B	ATEX, IECEx, EAC, Lloyd's	257722	Autofocus Zoom Analogue Camera		IP66, IP68, IP69	✔
	EC-940S-AFZ-3PA-W2F-55-B	ATEX, IECEx, NEC, CEC, EAC, Lloyd's	257723	Autofocus Zoom Analogue Camera		IP66, IP68, IP69	✔
	EC-940S-AFZ-3NA-W24-56-B	ATEX, IECEx, EAC, Lloyd's	257724	Autofocus Zoom Analogue Camera		IP66, IP68, IP69	✔
	EC-940S-AFZ-3NA-W2F-55-B	ATEX, IECEx, NEC, CEC, EAC, Lloyd's	257725	Autofocus Zoom Analogue Camera		IP66, IP68, IP69	✔
NEW PTZ/PAN/TILT/ZOOM CAMERAS – NEW: WITH DYNAMIC MASKING							
	EC-941-V1C02T0M000	ATEX, IECEx, NEC, CEC, EAC, Lloyd's	278310	Pan/Tilt/Zoom IP Camera		IP66	✔
	EC-941-V2C02T0M000	ATEX, IECEx, NEC, CEC, EAC, Lloyd's	278701	Pan/Tilt/Zoom IP Camera		IP66	✔
	EC-941-V3C02T0M000	ATEX, IECEx, NEC, CEC, EAC, Lloyd's	278702	Pan/Tilt/Zoom IP Camera		IP66	✔
	EC-940-PTZ-A3P-W10-01	ATEX, IECEx, EAC, Lloyd's	279820	Pan/Tilt/Zoom Analogue Camera		IP66	✔
	EC-940-PTZ-A3P-W20-01	ATEX, IECEx, EAC, Lloyd's	279911	Pan/Tilt/Zoom Analogue Camera		IP66	✔
	EC-940-PTZ-A3N-W30-01	ATEX, IECEx, NEC, CEC, EAC, Lloyd's	279913	Pan/Tilt/Zoom Analogue Camera		IP66	✔
	EC-940-PTZ-A3N-W20-01	ATEX, IECEx, NEC, CEC, EAC, Lloyd's	279912	Pan/Tilt/Zoom Analogue Camera		IP66	✔
NEW THERMAL IMAGING CAMERAS – NEW: NOW ALL CAMERAS WITH RADIOMETRY FUNCTIONS							
	EC-840S-TIC-35I-DR2-456-B	ATEX, IECEx, EAC, Lloyd´s	278869	Thermal Imaging IP Camera		IP66, IP68, IP69	
	EC-840S-TIC-35I-DR2-F55-B	ATEX, IECEx, NEC, CEC, EAC, Lloyd´s	279759	Thermal Imaging IP Camera		IP66, IP68, IP69	
	EC-840S-TIC-35I-IR2-456-B	ATEX, IECEx, EAC, Lloyd´s	279862	Thermal Imaging IP Camera		IP66, IP68, IP69	
	EC-840S-TIC-35I-IR2-F55-B	ATEX, IECEx, NEC, CEC, EAC, Lloyd´s	279863	Thermal Imaging IP Camera		IP66, IP68, IP69	
	EC-840S-TIC-19I-UR2-456-B	ATEX, IECEx, EAC, Lloyd´s	279866	Thermal Imaging IP Camera		IP66, IP68, IP69	
	EC-840S-TIC-19I-UR2-F55-B	ATEX, IECEx, NEC, CEC, EAC, Lloyd´s	279867	Thermal Imaging IP Camera		IP66, IP68, IP69	
	EC-840S-TIC-19I-ZR2-456-B	ATEX, IECEx, EAC, Lloyd´s	279868	Thermal Imaging IP Camera		IP66, IP68, IP69	
	EC-840S-TIC-19I-ZR2-F55-B	ATEX, IECEx, NEC, CEC, EAC, Lloyd´s	252762	Thermal Imaging IP Camera		IP66, IP68, IP69	
	EC-840S-TIC-09I-HR2-456-B	ATEX, IECEx, EAC, Lloyd´s	279760	Thermal Imaging IP Camera		IP66, IP68, IP69	
	EC-840S-TIC-09I-HR2-F55-B	ATEX, IECEx, NEC, CEC, EAC, Lloyd´s	279861	Thermal Imaging IP Camera		IP66, IP68, IP69	
	EC-840S-TIC-09I-QR2-456-B	ATEX, IECEx, EAC, Lloyd´s	279864	Thermal Imaging IP Camera		IP66, IP68, IP69	
	EC-840S-TIC-09I-QR2-F55-B	ATEX, IECEx, NEC, CEC, EAC, Lloyd´s	279865	Thermal Imaging IP Camera		IP66, IP68, IP69	

Low-light technology	Cable	Temperature range	Power input	Optical zoom	Viewing angle	Signal/Protocol	Resolution
	5 m multicable	-40 °C … +75 °C	12 VDC	–	7 camera variants: 12°. 23°. 33°. 44°. 52°. 70°. 81°	FBAS	550 TVL PAL/NTSC
	–	-40 °C … +65 °C	24 VDC/24 VAC or PoE+	3x	90° (W) – 32° (T)	TCP/IP, 100BaseTX, ONVIF Q, S, T	1920 x 1080 Full HD
	4 m cable	-40 °C … +65 °C	24 VDC/24 VAC or PoE+	3x	90° (W) – 32° (T)	TCP/IP, 100BaseTX, ONVIF Q, S, T	1920 x 1080 Full HD
	10 m cable	-40 °C … +65 °C	24 VDC/24 VAC or PoE+	3x	90° (W) – 32° (T)	TCP/IP, 100BaseTX, ONVIF Q, S, T	1920 x 1080 Full HD
	–	-40 °C … +65 °C	24 VDC/24 VAC or PoE+	10x	67° (W) – 7.6° (T)	TCP/IP, 100BaseTX, ONVIF Q, S, T	1920 x 1080 Full HD
	4 m cable	-40 °C … +65 °C	24 VDC/24 VAC or PoE+	10x	67° (W) – 7.6° (T)	TCP/IP, 100BaseTX, ONVIF Q, S, T	1920 x 1080 Full HD
	10 m cable	-40 °C … +65 °C	24 VDC/24 VAC or PoE+	10x	67° (W) – 7.6° (T)	TCP/IP, 100BaseTX, ONVIF Q, S, T	1920 x 1080 Full HD
	–	-40 °C … +65 °C	230 VAC	32x	62.8° (W) – 2.23° (T)	TCP/IP, 100BaseTX, ONVIF S	1920 x 1080 Full HD
	–	-55 °C … +60 °C	24 VDC	32x	62.8° (W) – 2.23° (T)	TCP/IP, 100BaseTX, ONVIF S	1920 x 1080 Full HD
	–	-55 °C … +65 °C	PoE++ (with extender)	32x	62.8° (W) – 2.23° (T)	TCP/IP, 100BaseTX, ONVIF S	1920 x 1080 Full HD
	–	-25 °C … +55 °C	230 VAC	32x	62.8° (W) – 2.23° (T)	TCP/IP, 100BaseFX, Ex op is, ONVIF S	1920 x 1080 Full HD
	–	-25 °C … +55 °C	24 VDC	32x	62.8° (W) – 2.23° (T)	TCP/IP, 100BaseFX, Ex op is, ONVIF S	1920 x 1080 Full HD
✔	4 m armoured cable	-50 °C … +65 °C	12 – 24 VDC/24 VAC	30x	61.6° (W) – 2.50° (T)	TCP/IP, 100BaseTX, ONVIF Q, S	1920 x 1080 Full HD
✔	4 m cable set	-50 °C … +65 °C	12 – 24 VDC/24 VAC	30x	61.6° (W) – 2.50° (T)	TCP/IP, 100BaseTX, ONVIF Q, S	1920 x 1080 Full HD
	4 m armoured cable	-50 °C … +65 °C	12 – 24 VDC/24 VAC	36x	57.8° (W) – 1.7° (T)	FBAS	550 TVL PAL
	4 m cable set	-50 °C … +55 °C	12 – 24 VDC/24 VAC	36x	57.8° (W) – 1.7° (T)	FBAS	550 TVL PAL
	4 m armoured cable	-50 °C … +65 °C	12 – 24 VDC/24 VAC	36x	57.8° (W) – 1.7° (T)	FBAS	550 TVL NTSC
	4 m cable set	-50 °C … +55 °C	12 – 24 VDC/24 VAC	36x	57.8° (W) – 1.7° (T)	FBAS	550 TVL NTSC
✔	–	-40 °C … +60 °C	230 VAC	30x	61.6° (W) – 2.50° (T)	TCP/IP, 100BaseTX & SFP slot, ONVIF Q, S, T	1920 x 1080 Full HD
✔	–	-40 °C … +60 °C	24 VAC	30x	61.6° (W) – 2.50° (T)	TCP/IP, 100BaseTX & SFP slot, ONVIF Q, S, T	1920 x 1080 Full HD
✔	–	-40 °C … +60 °C	120 VAC	30x	61.6° (W) – 2.50° (T)	TCP/IP, 100BaseTX & SFP slot, ONVIF Q, S, T	1920 x 1080 Full HD
	–	-40 °C … +60 °C	230 VAC	36x	57.8° (W) – 1.7° (T)	FBAS	550 TVL PAL
	–	-40 °C … +60 °C	24 VAC	36x	57.8° (W) – 1.7° (T)	FBAS	550 TVL PAL
	–	-40 °C … +60 °C	120 VAC	36x	57.8° (W) – 1.7° (T)	FBAS	550 TVL NTSC
	–	-40 °C … +60 °C	24 VAC	36x	57.8° (W) – 1.7° (T)	FBAS	550 TVL NTSC
	4 m armoured cable	-50 °C … +65 °C*	12 – 24 VDC/24 VAC	–	9.3° (H) x 7.1° (V)	TCP/IP, 100BaseTX, ONVIF Q, S, T	640 (H) x 512 (V)
	4 m cable set	-50 °C … +65 °C	12 – 24 VDC/24 VAC	–	9.3° (H) x 7.1° (V)	TCP/IP, 100BaseTX, ONVIF Q, S, T	640 (H) x 512 (V)
	4 m armoured cable	-50 °C … +65 °C*	12 – 24 VDC/24 VAC	–	9.3° (H) x 7.1° (V)	TCP/IP, 100BaseTX, ONVIF Q, S, T	336 (H) x 256 (V)
	4 m cable set	-50 °C … +65 °C	12 – 24 VDC/24 VAC	–	9.3° (H) x 7.1° (V)	TCP/IP, 100BaseTX, ONVIF Q, S, T	336 (H) x 256 (V)
	4 m armoured cable	-50 °C … +65 °C*	12 – 24 VDC/24 VAC	–	17° (H) x 13° (V)	TCP/IP, 100BaseTX, ONVIF Q, S, T	640 (H) x 512 (V)
	4 m cable set	-50 °C … +65 °C	12 – 24 VDC/24 VAC	–	17° (H) x 13° (V)	TCP/IP, 100BaseTX, ONVIF Q, S, T	640 (H) x 512 (V)
	4 m armoured cable	-50 °C … +65 °C*	12 – 24 VDC/24 VAC	–	17° (H) x 13° (V)	TCP/IP, 100BaseTX, ONVIF Q, S, T	336 (H) x 256 (V)
	4 m cable set	-50 °C … +65 °C	12 – 24 VDC/24 VAC	–	17° (H) x 13° (V)	TCP/IP, 100BaseTX, ONVIF Q, S, T	336 (H) x 256 (V)
	4 m armoured cable	-50 °C … +65 °C*	12 – 24 VDC/24 VAC	–	35° (H) x 27° (V)	TCP/IP, 100BaseTX, ONVIF Q, S, T	640 (H) x 512 (V)
	4 m cable set	-50 °C … +65 °C	12 – 24 VDC/24 VAC	–	35° (H) x 27° (V)	TCP/IP, 100BaseTX, ONVIF Q, S, T	640 (H) x 512 (V)
	4 m armoured cable	-50 °C … +65 °C*	12 – 24 VDC/24 VAC	–	35° (H) x 27° (V)	TCP/IP, 100BaseTX, ONVIF Q, S, T	336 (H) x 256 (V)
	4 m cable set	-50 °C … +65 °C	12 – 24 VDC/24 VAC	–	35° (H) x 27° (V)	TCP/IP, 100BaseTX, ONVIF Q, S, T	336 (H) x 256 (V)

* Cold start temperature -40 °C

OUR CAMERAS IN DETAIL

	Product code	Certificates	SAP no	Poduct type	Connection box	IP rating	Wash & Wiper
DOME CAMERAS							
	EC-750-PA-VI-PE	ATEX, IECEx	168166	Dome Analogue Camera		IP68	
	EC-750-NT-VI-PE	ATEX, IECEx	249537	Dome Analogue Camera		IP68	
	EC-750-PA-IP-PE	ATEX, IECEx	168168	Dome IP Camera		IP68	
	EC-750-PA-IP-PE-40	ATEX, IECEx	241491	Dome IP Camera		IP68	
COMPACT CAMERAS FOR SAFE INDUSTRIAL AREAS							
	IC-930-AFZ-W00	–	271549	Autofocus Zoom IP camera, Full HD		IP66, IP67, IP68, IP69	
	IC-930-AFZ-W01	–	271550	Autofocus Zoom IP camera, Full HD		IP66, IP67, IP68, IP69	✔

- Management of all video feeds.
- On-site or remote operation via Clients.
- Multi-vendor capability.
- Integration of existing and new systems.

Low-light technology	Cable	Temperature range	Power input	Optical zoom	Viewing angle	Signal/Protocol	Resolution
	5 m multicable	-20 °C … +60 °C	24 VDC	18x	48° (W) – 2.8° (T)	FBAS	550 TVL PAL
	15 m multicable	-20 °C … +60 °C	24 VDC	18x	48° (W) – 2.8° (T)	FBAS	550 TVL NTSC
	5 m multicable	-20 °C … +60 °C	24 VDC	18x	48° (W) – 2.8° (T)	TCP/IP, 100BaseTX	550 TVL IP/4 CIF
	5 m multicable	-20 °C … +60 °C	24 VDC	40x	60° (W) – 1.6° (T)	TCP/IP, 100BaseTX	550 TVL IP/4 CIF
✔	–	-40 °C … +65 °C	24 VDC/24 VAC or PoE+	30x	61.6° (W) – 2.5° (T)	TCP/IP, 100BaseTX, ONVIF Q, S	1920 x 1080 Full HD
✔	–	-40 °C … +65 °C	24 VDC/24 VAC or PoE+	30x	61.6° (W) – 2.5° (T)	TCP/IP, 100BaseTX, ONVIF Q, S	1920 x 1080 Full HD

CAYUGA
VIDEO MANAGEMENT SOFTWARE

The Cayuga software is our standard software. It can be used in a great variety of applications that go beyond the classic security field, and is thus one of our preferred video management systems.

A great many modules and interfaces result in highly professional individual and scaleable video management solutions for every conceivable area of application. Our project team will be happy to assist you with further software solutions.

Other ONVIF video management systems can be installed on request.

- Open design, unlimited compatibility.
- Variable and scaleable.
- Integration of third-party and existing devices.
- Intuitive, without the need for extensive training.
- Video analysis with intelligent analysis routines.
- Clearly structured user interface.
- Live, archive and configuration modes.
- Native Client, Web Client, Mobile Client.
- Citrix-/Remote Desktop and Multi Installation Login.

ACCESSORIES

Wash & Wiper system

- Permanently clear view even during rain (e.g. on drilling rigs) thanks to the optional wash & wiper system.
- Including spray can and water tank for Zone 1.
- Designed for the EC-940/941-PTZ and EC-940S-AFZ camera versions.

Sight glass mount

- Sight glass mount made of high-quality stainless steel for batch reactors in the process industry.
- Including folding mechanism, designed according to standard.
- For the EC-910 all-round camera and the EC-710 compact camera.

Camera mounts

- Simple, sturdy camera mounts made of electropolished stainless steel (AISI 316L).
- Different wall and ceiling mounts, depending on type and model.
- Various mounting accessories for pole and corner mounts.

Ex d enclosures

- Explosion-protected enclosures for installation of non-explosion-protected components.
- Large selection of stainless-steel or aluminium enclosures.
- Customised enclosures possible where technically feasible.

Ex e terminal boxes

- Ex e terminal boxes for connecting cables in hazardous areas.
- Direct connection at the Ex d enclosure for connecting individual components inside the enclosure.
- Large selection of stainless-steel or glass fibre reinforced plastic enclosures.

Video surveillance even under extreme conditions – xx8 SHARK Panel PCs (15"/21.5")

- Powerful 15"/21.5" Panel PCs with Intel© Core™ i7 dual-core processors.
- Developed for network-based video surveillance.
- Featuring high-brightness display, multi-touch functions, brightness sensor, Bluetooth® and camera interfaces.
- IP66, can be operated in temperatures from -40 °C to +65 °C.

SHARK KVM systems in drilling rig surveillance – xx8 (15"/21.5")

- 15"/21.5" KVM systems with access to separate, data-providing PCs for video surveillance.
- SHARK HMIs are shock-, vibration-, seawater- and salt-spray-proof.
- IP66, can be operated in temperatures from -40 °C to +65 °C.

9721 Media converter

- For the conversion of electric signals into explosion-protected "op is" signals.
- Allows installation and maintenance work on fibre optics without the need for downtime (hot swap/hot work).
- Especially suitable for the Ethernet-Remote I/O system IS1+.

9721 Unmanaged switch

- For linking electrical Ethernet networks with optical 100 Mbit/s Ethernet networks.
- 4 FO ports in "op is" for operation in hazardous areas.
- Conventional fibre optic cables can be used in hazardous areas (hot swap).

Multicable – armoured or standard

- Wide range of cable types, from armoured Ethernet multicables for full HD IP cameras to standard multicables for analogue cameras.
- The ideal cable type from a combination of insulation, shielding and coating for every area of application.

R. STAHL AUTOMATION –
MORE THAN YOU ⟨EX⟩PECT

AUTOMATION

SAFETY BARRIERS
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ISbus

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ZONE 1

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PROFIBUS

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SYSTEMS

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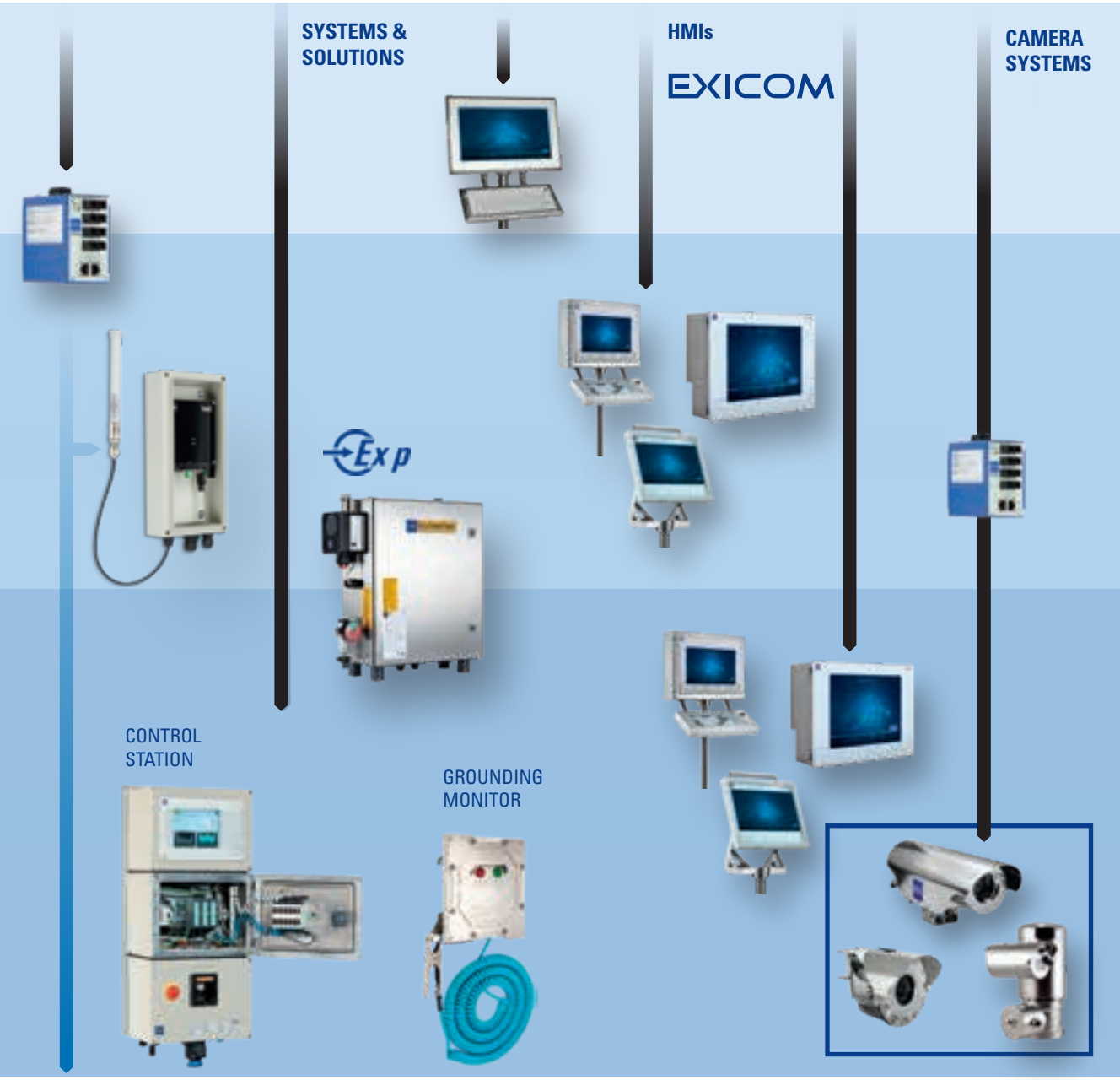
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CCTV planning

In addition to individual components, R. STAHL offers specific CCTV solutions. Our experienced engineers cooperate with you to design the ideal solution for your application in a timely manner.

Project engineering and on-site training

From a new CCTV plan to production, quality control and on-site training, you will be talking to one R. STAHL project manager who will advise you competently on all questions concerning the project.

Factory Acceptance Test (FAT) / Site Acceptance Test (SAT)

Do you wish to conduct the tests at our production sites or on-site at your factory? Whichever option you choose, our experts will be available to answer any questions and take note of any change requests.

Support

Our support will continue beyond the delivery of your system. Our support team is available during the initial on-site commissioning and over the entire operating life.

R. STAHL AUTOMATION – MORE THAN YOU EXPECT

R. STAHL was founded as a family-run German company in 1876 and has been actively involved in explosion protection since the 1940s.

AUTOMATION has been firmly established in the company for 50 years, and has resulted in significant pioneering work, for example, in explosion-protected remote I/O systems and intrinsically safe fieldbus solutions.

We actively cooperate in **future topics**, such as NAMUR Open Architecture (NOA), the Open Process Automation Forum (OPAF), Ethernet APL (Advanced Physical Layer), and Cyber Security, so that our customers can digitalise their process plant of the future.

Nowadays, R. STAHL is one of the world's three largest providers of components and solutions for electrical explosion protection.

We are the the number one company for **system solutions**, including for the most extreme ambient conditions. R. STAHL actively supports standardisation in accordance with ATEX, IECEx and NEC/CEC for its customers in order to ensure a high safety standard within Germany and internationally.

From development through to production and operation in systems, we act true to the **"Made in Germany"** seal.

R. STAHL places great importance on the safety, quality and durability of its products. This is why we have been certified since 1993 in accordance with ISO 9001 and are one of the first manufacturers to be certified in explosion protection in accordance with IEC EN 80079-34.

1700

280 M EUR

80 WORLDWIDE

75 YEARS EXPERIENCE

INTERFACE

NETWORK

HMI

SYSTEMS

CAMERAS AND CCTV

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