

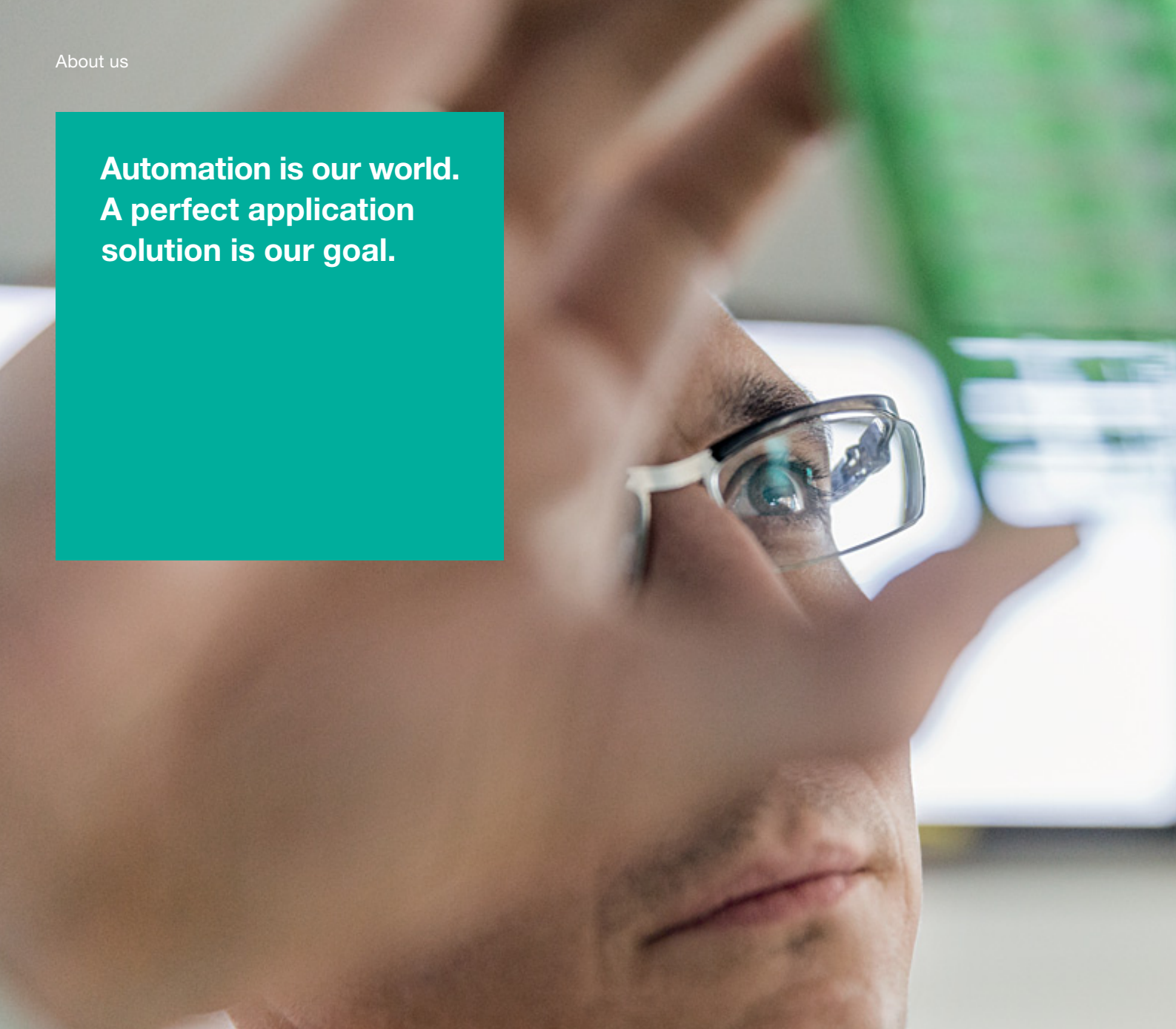
**Ensuring process availability.
Providing flexibility.
Challenging expectations.**

VisuNet HMI Workstations and Components
for the Pharmaceutical Industry



Your automation, our passion.

pf PEPPERL+FUCHS



**Automation is our world.
A perfect application
solution is our goal.**

A willingness to take entrepreneurial risks, a pioneering spirit, and a firm belief in their own inventive powers – these were the assets that Walter Pepperl and Ludwig Fuchs started out with when they opened their Mannheim radio repair shop in 1945. Their invention of the proximity switch a few years later proved their strength. It was also the starting point in a successful history defined by close customer relationships as well as innovative automation technologies and procedures.

Then as now, our focus is directed squarely on the individual requirements of each customer. Whether as a pioneer in electrical explosion protection, or as a leading innovator of highly

efficient sensors – the close communication with our customers is what allowed us to become the leader in automation technology. Our main objective is combining state-of-the-art technologies and comprehensive services to optimize our customers' processes and applications.

For more information, please visit our website:
www.pepperl-fuchs.com

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VisuNet – Meeting the Needs of the Life Science Industry

Pharmaceutical, biotech, and research laboratories require strict environmental controls. Life sciences manufacturers measure time to market in millions of dollars per day. Reliability and performance are enormous assets that requires HMI workstations that fill a very unique niche – performance, durability, and quality are paramount. They must function in harsh, hazardous, corrosive environments and high-pressure, high-temperature washdown areas, and meet Good Manufacturing Practice (GMP) requirements.

Meeting GMP requirements, ensuring pharmaceutical quality

With years of experience solving unique applications, Pepperl+Fuchs' sealed life science HMIs are specifically designed and optimized for use in regulated areas and throughout the pharmaceutical and fine chemicals industries: from hazardous area process and batch control to hygienic cleanroom applications. They can be supplied as standalone solutions or as panel-mount units. The attention to detail, materials selected, design of the surface, finish, and architecture of the overall system impede the accumulation of fluids, dirt, and bacteria. The mechanical components are extremely easy to inspect, maintain, service, and clean.

Unparalleled service

Engrained with a spirit of innovation, partnership, and technical perfection, we design and build our own HMI pharmaceutical workstations at our own facility using state-of-the-art construction techniques and materials. They are truly 24/7 units that operate in the most demanding environments. Each unit comes with the superior quality you have come to expect from Pepperl+Fuchs.



**VisuNet –
the right prescription for your application**

The VisuNet family of industrial workstations is tailored especially for use in regulated industries. All materials are non-abrasive and tested to withstand a wide range of chemicals and cleaning agents. Stainless steel housings have no gaps or horizontal areas for easy cleaning. Resistive touchscreens in wide format displays are available, and the antimicrobial, chemically resistant keyboards are ergonomically angled for easy access.

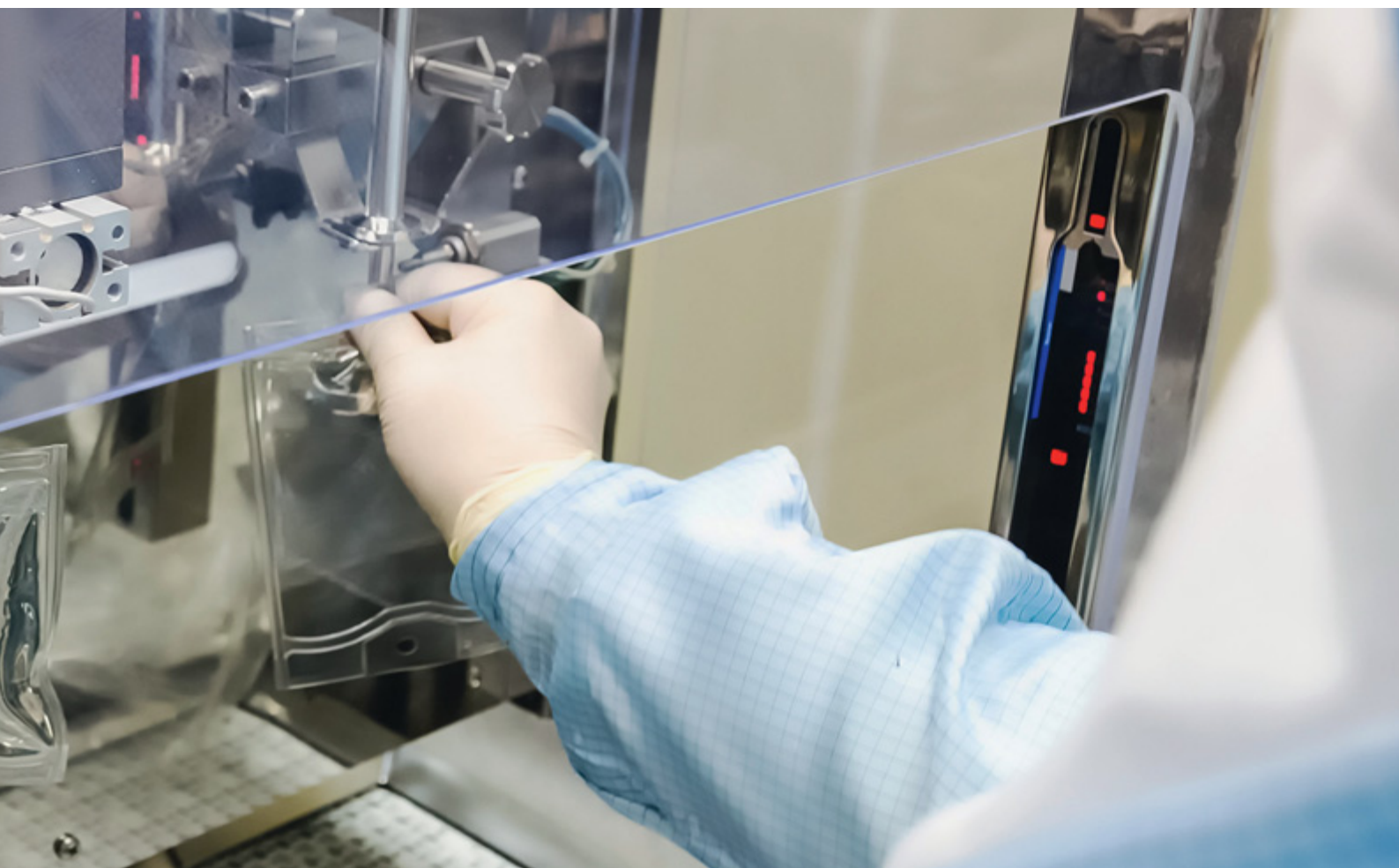
Workstations are available in a wide range of models that can be easily customized to meet your needs. Different display types, keyboard layouts for international use, and different mouse versions are available as well as a number of mounting options, and alternative data transfer methods. They are globally certified for Zone 1/21 and Zone 2/22, and Division 1 and 2.

**Solution Engineering Centers –
because sometimes you need more**

Our Solution Engineering Centers are here to solve your problems offering engineering and tailor-made system solutions for customers worldwide – all from a single source.

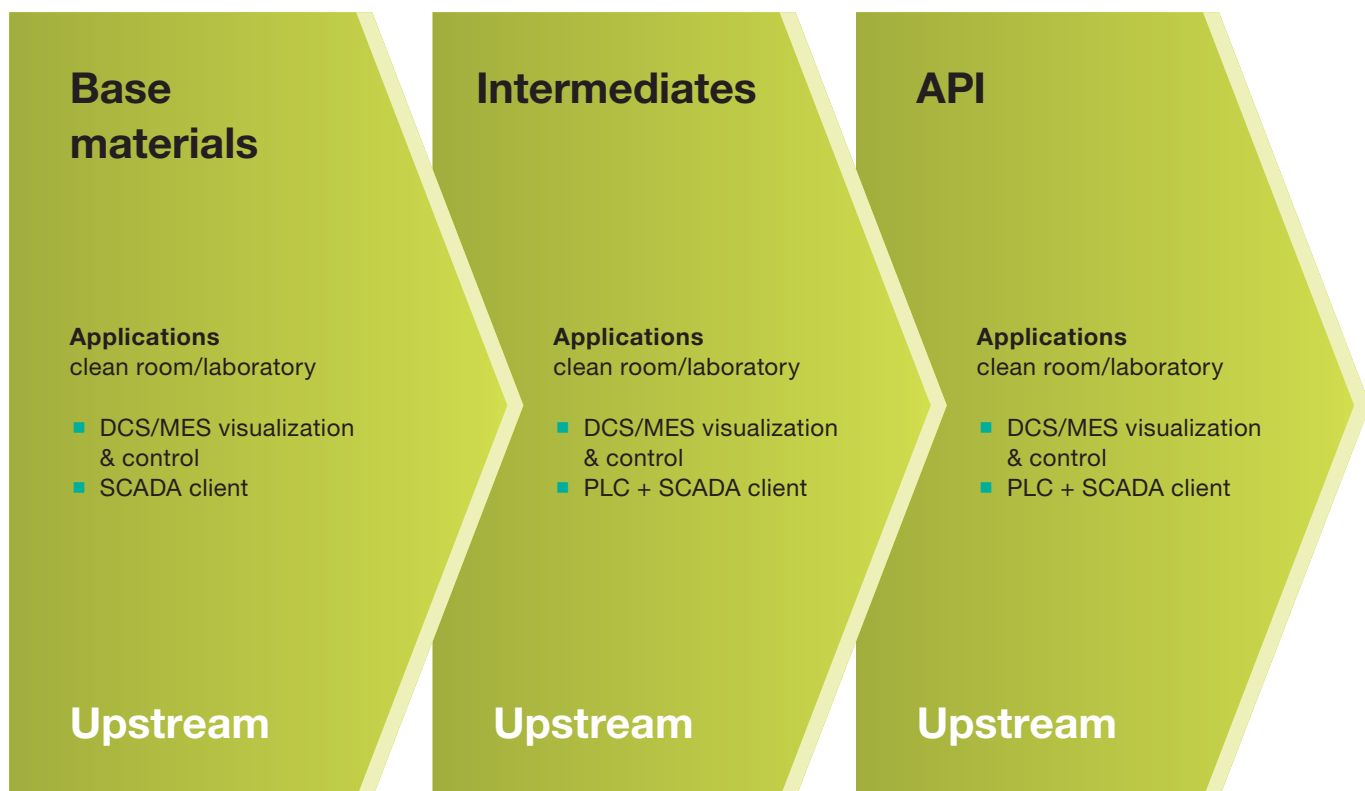
We have SECs in nearly a dozen locations all over the world. This gives us the ability to respond to local conditions and market requirements, and also to manage international projects locally across each phase and execute them in close collaboration with our customers.

In many of these custom-built solutions, certification plays a crucial role. Pepperl+Fuchs offers you solutions that meet all applicable safety requirements and already have the necessary local, regional, or international certification, setting us apart from many other companies. Personalized, fully certified solutions not only help to shorten the time taken to commission a system, but allow you to focus on your actual core business, increasing efficiency and ultimately saving you money.



VisuNet – The Perfect Solution for Every Process Step

Pepperl+Fuchs provides solutions for every step in the process, from starter materials to the packaged product. Production in virtually all the life science industries can be divided into six main steps. They are grouped in upstream (active ingredient), downstream (final product), and packaging.



Physical processing

Applications

clean room/laboratory

- DCS/MES visualization & control
- PLC + SCADA client

Downstream

Formulation

Applications

clean room/laboratory

- DCS/MES visualization & control
- PLC + SCADA client

Downstream

Packaging

Applications

clean room/laboratory

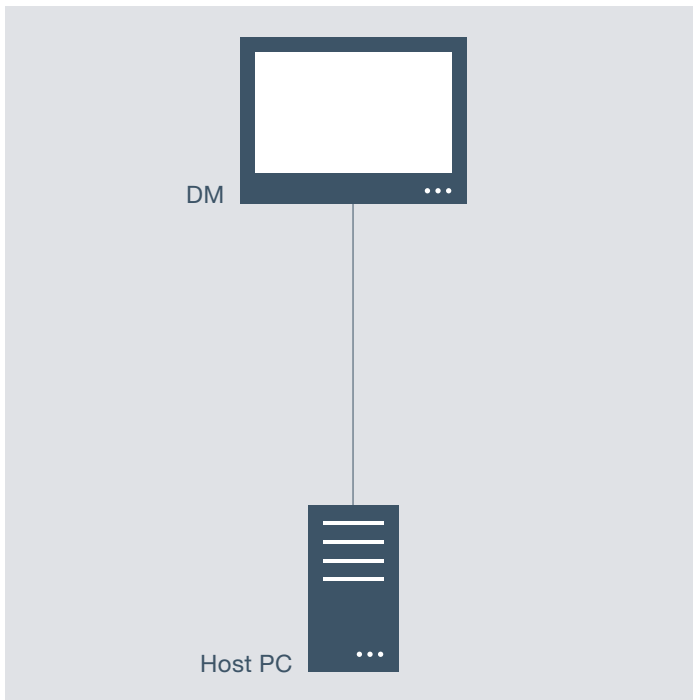
- DCS/MES visualization & control
- PLC client

Packaging

Insightful Solutions for Your Visualization Infrastructure

Depending on your facility and networking requirements, you can select a communication technology from our family of industrial solutions so that each workstation is a perfect fit for your HMI visualization infrastructure. At the core of VisuNet technology are four distinct communication and data transfer options.

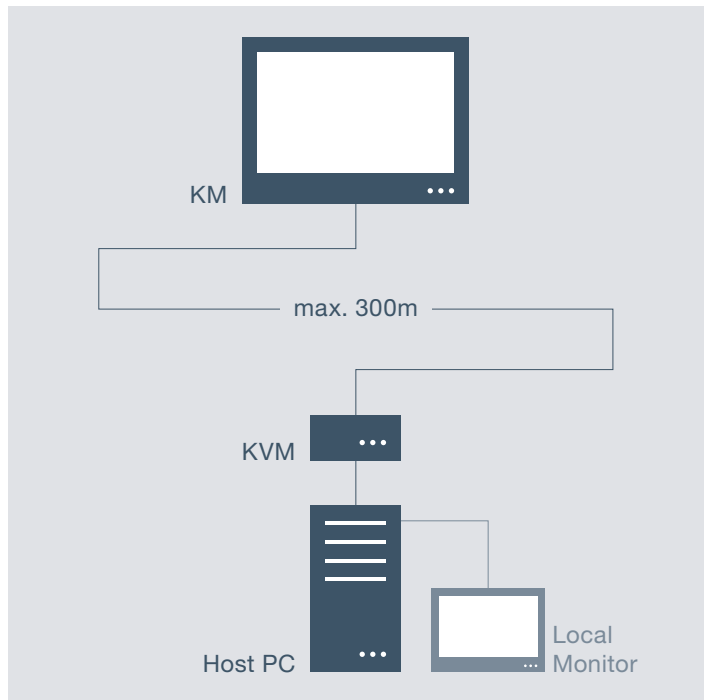
Monitors for direct connection



DM – Monitors

VisuNet DM industrial monitors are specifically designed to deliver reliable operation and long life in harsh application environments. Made with only industrial-grade components – no consumer-grade electronics – they are true industrialized monitors. Monitors are available for general-purpose or Class I/Div. 2, Zone 2/22 environments. Touchscreen and highbright options are available.

- Monitor only
- Direct connection to host PC graphics card
- Maximum range some meters
- No additional hardware required
- Keyboard, mouse and peripherals connected directly to the host PC

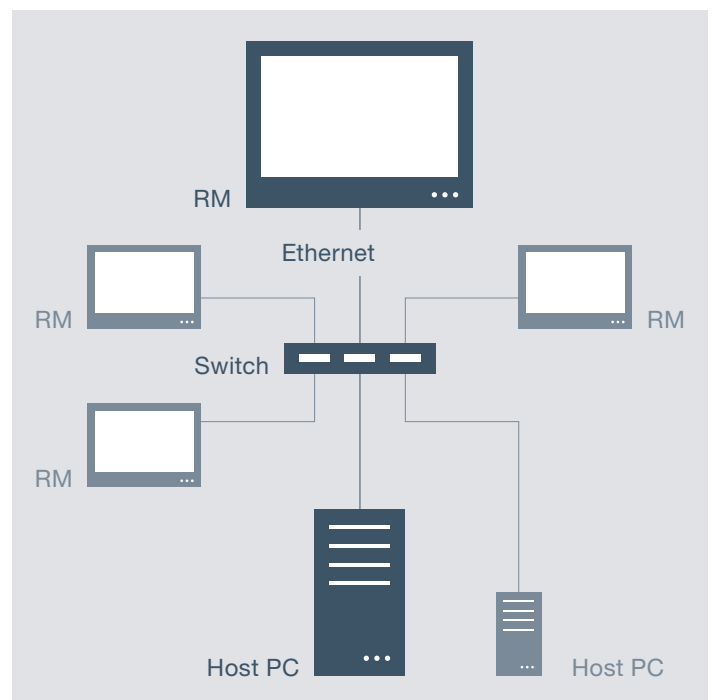
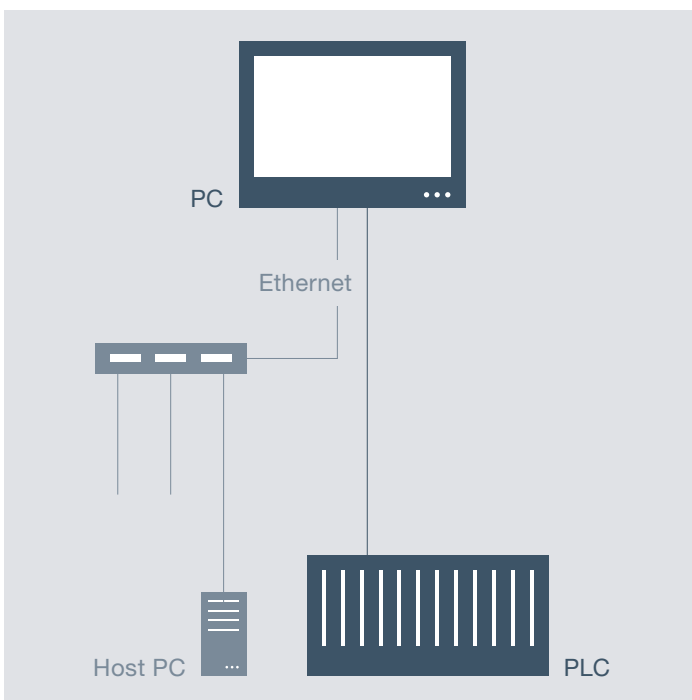


KM – Monitor with KVM extenders

KVM monitors use a set of KVM extenders that consist of a transmitter and receiver unit that give you the ability to send keyboard, video, and touchscreen or mouse signals over long distances while still maintaining high-quality VGA or DVI video resolution. KVM extenders provide hardware safety and protection by allowing you to place servers in a single centralized location, far away from any environmental hazards.

- Monitor with KVM extender
- Operation of remote host PC
- Maximum of some hundred meters between KM and host PC
- Suitable for applications where the host PC does not need to be positioned in the direct vicinity of the monitor

Network-based operator workstations



PC – Monitor with integrated PC

This is an industrial-grade PC and monitor with full PC computing capabilities operating as a standalone solution. The VisuNet panel PC uses standard Ethernet networking, USB, and serial connections. The high availability of the VisuNet IND is achieved by our rugged industrial designs and the high-performing Intel family of processors. Our fanless design increases system reliability and prevents premature failures from dust and corrosion. The Windows® 7 Professional operating system allows users to install software for plant control and operates without external processing power.

- Panel PC
- Monitor with integral industrial PC
- Suitable for combined system control and visualization
- Network compatible
- Can be used as a standalone solution
- PLC protocols can be used via serial interfaces

RM – Remote monitors for process control virtualization

Remote monitor (RM) is a network monitor with a dedicated thin client. The RM supports common remote protocols, such as Microsoft RDP 8.0, VNC, and others. With these protocols, the VisuNet RMs are fully compatible conventional, (PC-based) workstations or modern, virtualized workstations, hosted on a server. Remote Monitors connect to a host system automatically and function independently of other workstations. Advanced functionality ensures process stability by maintaining a stable connection to the host system and an error-free display of the process.

- Industrial thin client
- Digital image transfer for crisp clear images
- Auto Connect and predefined back up host connections
- No range restrictions (due to network technology)

VisuNet RM Technology – HMI for Virtualized Process Automation Systems

All VisuNet Remote Monitors provide a simplified user interface to support the initial configuration and integration of an RM into the process control system. The firmware of a VisuNet RM, called VisuNet RM Shell, enables users to easily access the applications that run on process control systems via Ethernet.

The next generation software for thin-client systems

The Remote Monitor Shell 4.0 is the latest generation of software for our thin-client solutions with more built-in features for usability, safety, and maximum security for HMI systems. It supports the latest versions of all common remote protocols, such as RDP 8.0, VNC, and Emerson DRDC, making it fully compatible with modern virtualized and conventional, workstation-based process control systems.

Secure and reliable connectivity

The VisuNet RM Shell 4.0 provides the highest security standards by facilitating Microsoft® Enhanced Write Filter (EWF) mechanisms, a built-in firewall and USB lockdown. These mechanisms prevent data, malware, or viruses from infiltrating the system.

Simplified user interface for easy configuration

The RM Shell 4.0 makes the integration of an RM into the process control system environment simple: all VisuNet RMs provide a straightforward, modern user interface that simplifies the initial configuration of an RM. RM Shell 4.0 completely replaces the Windows® desktop and only shows the important system setup settings that are relevant for the first-time configuration of an RM. This is achieved via a consistent, touch-screen-optimized design.

Key benefits

Extremely secure

- Microsoft EWF avoids persistent storage of malware, viruses, and data
- Firewall enabled by default
- USB lockdown, prevents access to local connected storage devices (thumb drives)
- Password-protected user roles to restrict access to RM system configuration)
- Restricted Web browser (optional)

Enhanced functionalities

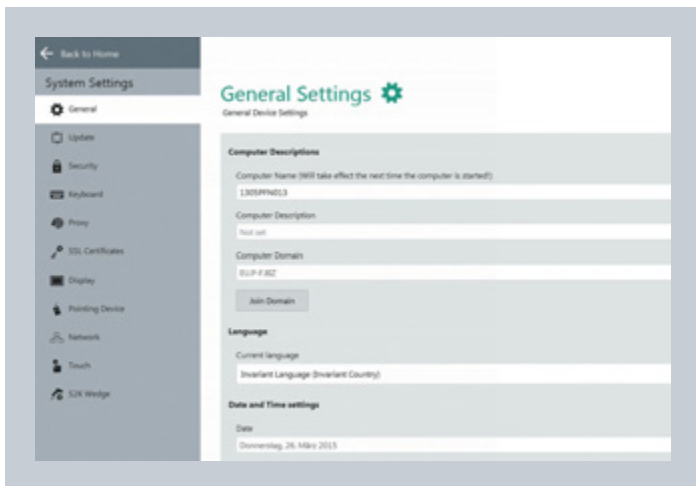
- Auto connect – RM automatically connects to a specified host when starting up and after power loss
- Connection loss detection – automatically connects to backup server in the event of communication problems
- Simultaneous login – automatically connect to different host systems in parallel
- Integrated, restricted web browser – restricts operators to predefined web addresses (web server of control and plant systems, MES, ...)

Highlights

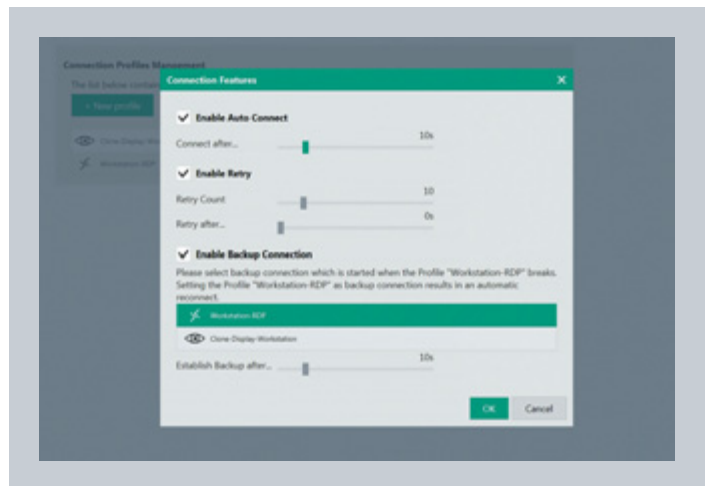
- Tailored solutions for process control with a wide set of security features and configurable profiles for reliable and easy access to process controls
- Simplified user interface makes HMI integration simple with support for the latest remote protocols (Microsoft RDP 8, Emerson DRDC, VNC) to work with the modern virtualized control systems
- Customizable – open for integration of other third-party remote protocols and applications



Home screen. All local remote protocols are listed on the home screen.



System settings. Consistent design of important settings of VisuNet remote monitors.



Backup connection and Auto Connect. Backup connections allow users to specify alternate host systems in the event of a host failure.

VisuNet Workstations – The Right Solution for Every Application

Pepperl+Fuchs provides HMI workstations for the most complex applications in process technology, especially fitted to your regulated and clean room application. All products are designed for use under challenging industrial conditions.



GMP – constructed to meet the visualization needs of the regulated industry

Key features

- Designed for safe area and Zone 2/22
- 304 stainless steel housing
- $RA \leq 0.8 \mu m$
- IP65
- 19" (48.3 cm) and 22" (55.8 cm) displays

Key benefits

- Conforms with Good Manufacturing Practice (GMP) regulations
- Stainless steel design with no gaps or horizontal areas means easy cleaning
- Resistant to chemicals in all common detergents
- Ideal for demanding production area conditions and hazardous locations

Typical applications

- Clean rooms
- Interstitial areas
- Fill and finish areas

Ex1 – designed for use in harsh and hazardous environments

Key features

- Certified for ATEX and IECEx Zone 1/21
- 15" (38.9 cm) and 19" (48.3 cm) displays
- Robust stainless steel cabinet
- Special cabinet door mechanism for easy maintenance
- Intel® Core™2 Duo dual-core processor

Key benefits

- Ideal for harsh and hazardous industrial environments
- Optional antimicrobial keyboard with glove-friendly touchscreen for clean room use
- Versatile solution for rigorous requirements in pharmaceutical production control
- PC and RM options allow the host system/server to remain in the safe area

Typical applications

- Clean rooms
- Harsh industrial environments
- MES and Scada operator workstation

Looking for an HMI solution and not quite sure of your options?
Our quick-select tool will guide you to the right products! Visit
www.visunet.com



IND – A universal solution that combines one of our four core communication technologies within our sleek housing

Key features

- Globally certified for ATEX Zone 2 and Class I, Div. 2
- Slim, 3" (86 mm) deep enclosure
- Fanless design
- 316L stainless or painted mild steel
- 15" (38.1 cm), 19" (48.3 cm), or 22" (55.8 cm) displays
- Extended temperature range supports a broad range of industrial applications

Key benefits

- Ideal for high-temperature environments
- Design with angled surfaces means easy cleaning and proper drainage
- Withstands dirty, dusty conditions in hazardous and non-hazardous areas

Typical applications

- High-temperature and indoor/outdoor use
- MES Workstation in hazardous and harsh locations

VisuNet Edge – our most adaptable solution

Key features

- Safe area, Div. 2/Zone 2 and Div.1
- Sloped enclosure
- Field maintainable
- Available in 19" (48.3 cm) and 22" (55.8 cm) displays
- Supports user-specified PCs and thin client and other peripherals

Key benefits

- Easy customization
- Simplifies networking between processing and IT infrastructures
- Design with sloped angle means easy washdown and proper drainage

Typical applications

- Hazardous and harsh locations
- Batch management and dosing control
- MES Workstation in hazardous and harsh locations

VisuNet Panel Mount Solutions and Components

VisuNet panel mount solutions are a versatile and modular portfolio of flat-panel displays. Our rugged industrial displays are hazardous rated and well suited for process monitoring and control. You can order a single display or create an operator panel with additional hardware to create a panel PC, thin client, or KVM-based network monitor.



Touchscreen Displays

Dual-rated Div. 2/Zone 2 Industrial grade touch screen LED-backlit LCD monitors with options for an intrinsically safe Class I, Division 1-rated touchscreen or High bright LCD display

Portfolio features

- Globally certified for ATEX and IECEx Zone 1/21, Zone 2 and Class I, II, Division 2
- Sizes range from 10" (26.4 cm) to 22" (55.8 cm) wide-screen
- True industrial LCDs – provide brighter screen, wider viewing cone, and true colors

Dual-rated Div. 2/Zone 2 Panel Mount

Dual-rated, Class I, Division 2, and Zone 2 panel products feature a broad temperature range using industrial-grade, LED-backlit LCD monitors coupled to optional KVM extenders or PC or network connectivity.

Key benefits

- Both general-purpose and dual-rated Class I, Division 2, and Zone 2 panel products offer a broad temperature range for high-temperature applications
- Zone 1/21, ATEX, and IECEx panel PC and RM network clients are ideal for harsh and hazardous industrial environments
- Compression fit touchscreen ensures reliable continuous use



General-Purpose Panel Mount

Industrial panel products feature a broad temperature range using industrial-grade LCD displays that can be easily coupled with a KVM, dedicated thin client, or PC.

Zone 1 Panel Mount

Panel PC and RM network clients are designed for use in harsh and hazardous industrial environments. They are certified for operation in Zone 1/21, ATEX, and IECEx.

Typical applications

- Batch management and dosing control
- Tablet and filling machines
- Flavors and perfumes products

VisuNet Wall Mount and Inwall Units

This patented flush mount operator workstation is designed for use in MES, batch/process control, and HR functions located in sterile pharmaceutical environments. The unit installs in less than 60 minutes and features a flush 316L stainless steel faceplate, an ergonomically angled aseptic keyboard, and an industrial-grade LCD monitor with an FDA-grade silicone gasket that eliminates the need for RTV after installation.



Inwall workstations

This cleanroom workstation is designed for easy installation in shallow- or modular-wall cleanroom designs. It is compatible with Grade A to Grade D spaces.

Wall mount workstation

No room for an inwall workstation design in your cleanroom? Try our stand-alone wall mount workstation. This industrial workstation features a dual-seal FDA-grade silicone gasket that forms an air/ bacteria seal between the shell and the door of the workstation.

Key features

- Versatile wall tabs

Key benefits

- Easy installation
- Hidden wire and airways for a clean, professional installation
- No RTV makes maintenance simple and saves valuable downtime

Typical applications

- Clean room MES, batch/process control, and HR functions
- Interstitial areas

VisuNet Mounting Hardware

Numerous mounting solutions are available for each of our HMI workstations. Select from pedestal mount, wall mount, yoke mount, motion arm, or pole-mounted motion arm. Each solution provides several advantages, including hidden wire and airways for a clean and professional installation.



Arm or Pole Mounts

Adjustable arm mounting solutions in powder-coated and stainless steel are available for our HMI workstations. These adjustable arms are designed for areas where maximum adjustability is preferred.

Pedestal Mount

Several pedestal mounting solutions are available for our HMI workstations. You can select a pedestal mount with a fixed or swivel mount.

Wall Mount

Low-cost wall mount solutions are available for our HMI workstations. Wall mount solutions range from wall tabs to specific VESA pattern wall brackets at an attractive price. Inwall units have patented spring-loaded wall clamps anchor the housing without deforming the wall, and the door mounts to retractable hinges.

Key features

- Versatile wall tabs
- Specific VESA pattern wall brackets

Key benefits

- Hidden wire and airways for a clean, professional installation
- Cost-effective
- Easy installation

Peripherals

We offer a comprehensive range of hazardous-location handheld barcode readers and keyboards, as well as flexible networking equipment KVMs and fiber-optic converters. The peripherals are well-suited for use with VisuNet operator workstations or custom standalone solutions.

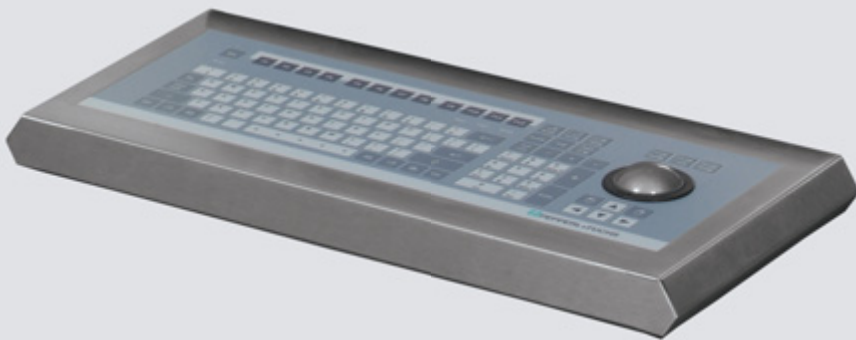


Hazardous location barcode readers

Industrial-grade wired and wireless barcode scanners are suitable for use in ATEX Zone 1/21 environments.

Division 2 KVMs

Pepperl+Fuchs is an exclusive manufacturer of Division 2-rated KVM extenders. Extenders are available in both fiber and CATx copper types. These KVMs transmit video (either VGA or DVI), keyboard, and mouse signals via USB or PS2, audio, and serial touchscreen information.



Hazardous location keyboards

Rugged industrial keyboards with antibacterial/chemically resistant keyboard foils and various pointing options are certified for use in ATEX Zone 1/21 and Class I, Division 2.

Key features

- Division 2 CAT5 or fiber KVM extenders
- KVMs transmit video (either VGA or DVI), keyboard, and mouse signals via USB or PS2, audio, and serial touchscreen information
- Hazardous location barcode readers and keyboards

Key benefits

- Industrial-grade barcode scanners are suitable for use in ATEX Zone 1/21 environments
- Rugged industrial keyboards with antibacterial/chemically resistant keyboard foils and various pointing options are certified for use in ATEX Zone 1/21 and Class I, Division 2

Typical applications

- Process monitoring and control
- Validation
- Raw materials and production traceability

Your automation, our passion.

Explosion Protection

- Intrinsically Safe Barriers
- Signal Conditioners
- Fieldbus Infrastructure
- Remote I/O Systems
- HART Interface Solutions
- Wireless Solutions
- Level Measurement
- Purge and Pressurization Systems
- Industrial Monitors and HMI Solutions
- Electrical Explosion Protection Equipment
- Solutions for Explosion Protection

Industrial Sensors

- Proximity Sensors
- Photoelectric Sensors
- Industrial Vision
- Ultrasonic Sensors
- Rotary Encoders
- Positioning Systems
- Inclination and Acceleration Sensors
- AS-Interface
- Identification Systems
- Logic Control Units