Next Generation.

Maximum Security and New
User Interface.
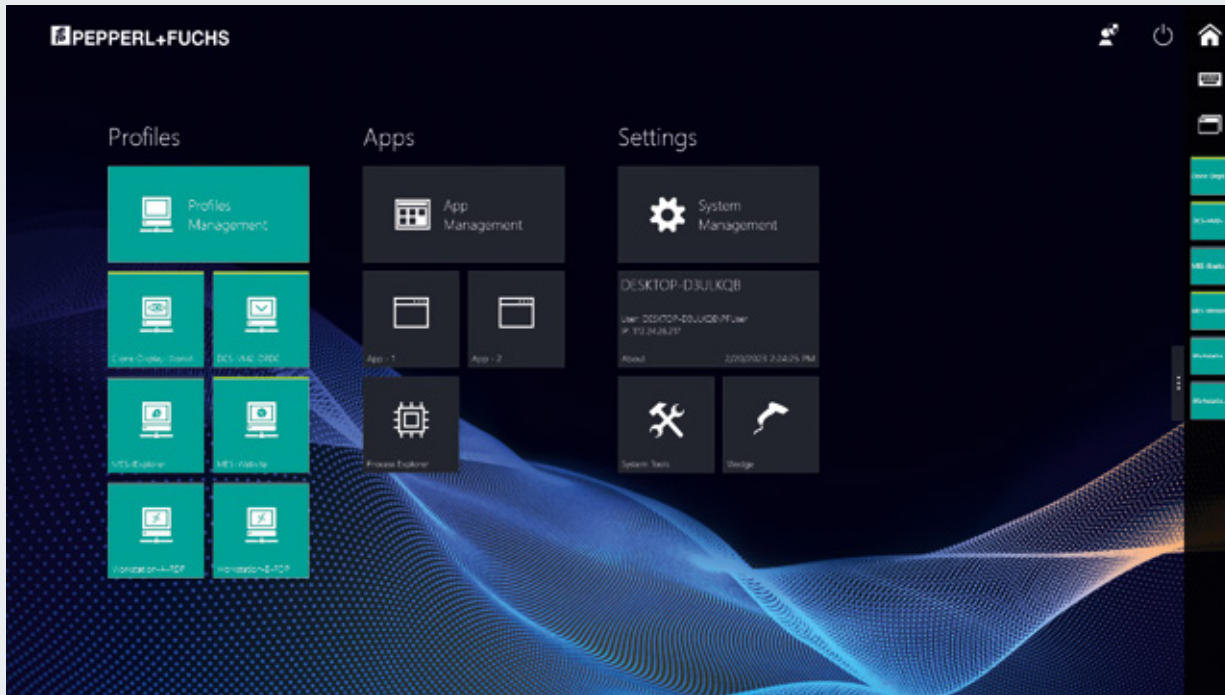
VisuNet RM Shell 6 for Thin-Client
Operator Workstations

Your automation, our passion.

Smart HMI Solutions for Industry 4.0

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

The most efficient thin-client solution ever: VisuNet RM Shell and the innovative Control Center enable future-driven remote monitoring of VisuNet Remote Monitors (RMs , Box Thin Clients and Tablet Thin Clients)—including configuration, maintenance, and support from a single centralized workstation. Ethernet technology makes communication possible within the production process and enables direct access right down to the sensor—across all hierarchical levels. This allows the opportunities and benefits presented by Industry 4.0 to be fully harnessed, all the way up to Zone 1/21.

Smart Thin-Client Solutions to Meet Future Demands

With the VisuNet RM Shell 6 , we present the next generation of firmware for VisuNet RMs, and thin clients that meets the demands of tomorrow in every detail: industrial thin clients that are tailored for virtual and conventional process control systems.

Proven Features with the Latest Generation of Operating Systems

The RM Shell 6 is based on the latest generation of the Microsoft® operating system Windows® 10 IoT Enterprise 2021 LTSC, and it supports the common protocol generations, such as RDP 10, and VNC. With the long-term servicing branch, the Windows® version offers long-term availability of security updates. A highlight of the latest versions of RM Shell is the innovative VisuNet Control Center software, which maximizes efficiency by making it possible to manage smart VisuNet RMs,BTCs and Tablet Thin Clients centrally. Configuration, maintenance, monitoring, support, and firmware updates are all carried out from a central workstation via convenient remote access. Hazardous areas and cleanrooms no longer need to be entered, saving time and reducing costs.

For more information, visit
pepperl-fuchs.com/RM-Shell

VisuNet RM Shell 6
Virtualized Process Control Systems to Meet Future Demands

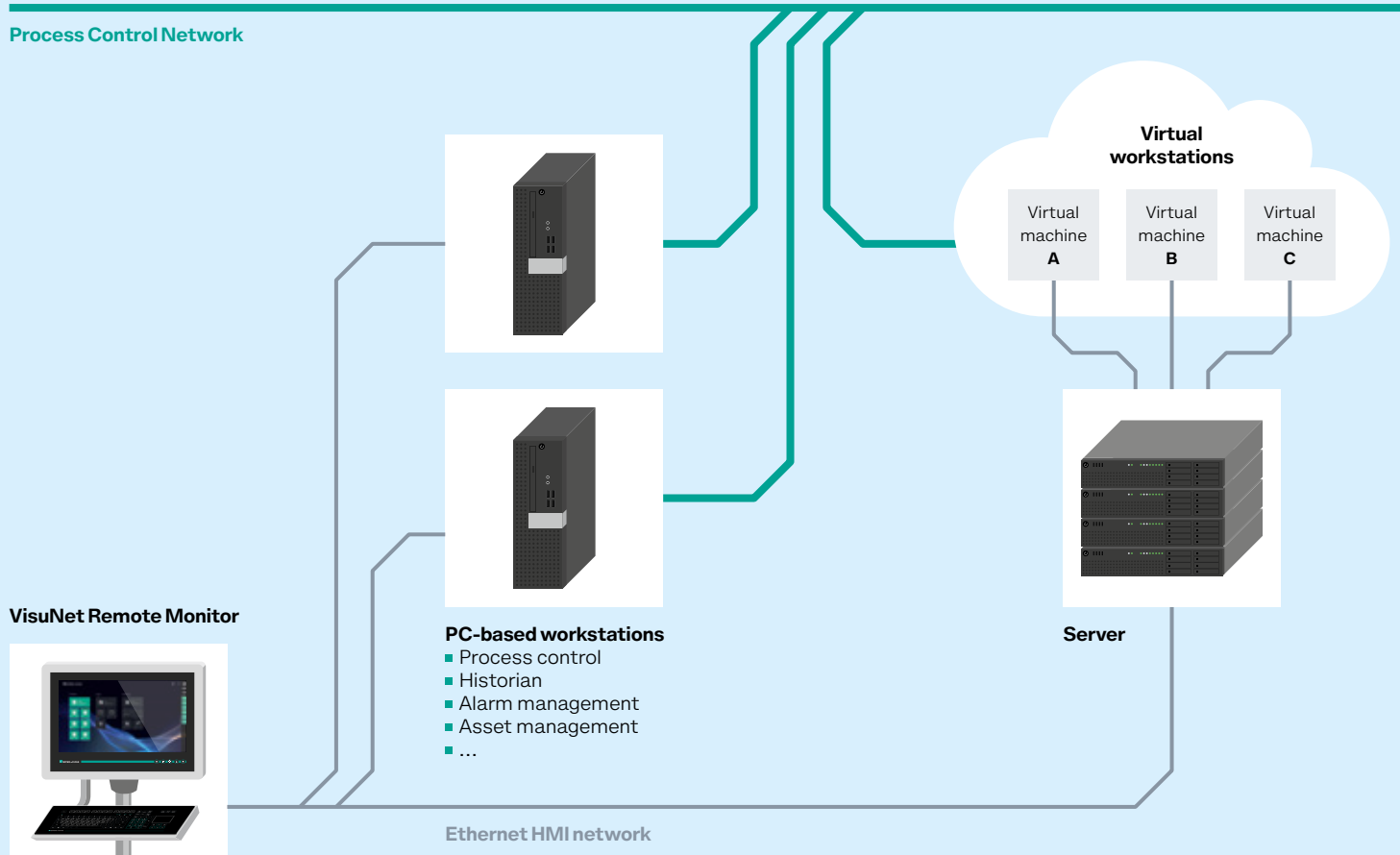### Fully Compatible with PC-Based and Virtualized Process Control Systems

VisuNet RMs use standard Ethernet networking to access process control host systems. With virtualization, only the hardware is subjected to the hazardous area; the application is hosted and data is secure in the safe area. The digital communication between the RM and the host system ensures consistent, perfect-picture quality, without the configuration headaches common to analog KVM systems.

Browser with Restricted Access to Web Applications

In addition to the remote protocols, RM Shell 6 also offers restricted web browsers based on Chrome and the Internet Explorer, which allow users to define fixed addresses to web applications like web-based MES. Operators can only access the predefined websites. This helps increase system security and reduce the risk of a malware infiltration from unauthorized websites.

With HTML5 support, the current version of the restricted web browsers is perfectly adapted to the latest generation of control systems, including DeltaV Live Operator Interface. The HTML5 browsers support rendering of highly dynamic websites and is permitted on every end device. Restricted access ensures maximum security and compatibility with new technology.

Process Control Network

Virtual workstations

Virtual machine **A**

Virtual machine **B**

Virtual machine **C**

VisuNet Remote Monitor

PC-based workstations
- Process control
- Historian
- Alarm management
- Asset management
- …

Server

Ethernet HMI network

With the RM Shell 6 , the latest remote protocols (e.g., Microsoft® RDP 8.0) are installed to allow easy connection to conventional (PC-based) workstations or modern, virtual workstations hosted on a server.

Smart, Secure, and Simple—the Basis for Reliable Connections with Cutting-Edge Features

VisuNet RM Shell 6 provides the highest security standards. A built-in firewall and USB lockdown reduce the risk of data, malware, and viruses from infiltrating the system. An intuitive user interface enables simple configuration and integration into the process control system.

Security by Design

Following the principle of "security by design", VisuNet RM Shell 6 was programmed according to international standardized security design processes such as IEC 62443.

As a new security feature, the result is user authentication at the Windows user level. This means VisuNet RM Shell 6 follows the basic security principle of "least privilege," which grants the user only a minimum of essential user rights.

As a consequence, there are two types of users with different rights: the admin with full configuration rights and the operator, who has only defined limited rights.

### Data Security Meets Adaptability

The latest RM Shell version was optimized for virus scanners, with Windows® Defender already integrated. Administrators can install third-party antivirus agents (such as McAfee Endpoint Security) on every device. The Unified Write Filter (UWF) also offers reliable virus and malware protection. A scheduler function even makes continuous use of the write filter possible by allowing periodic system reboots to be planned.

A dialog filter rounds out the innovative security features. It allows only administrator-defined app windows and blocks user access to the file system.

RM Shell 6 was optimized for MS Active Directory Integration. Overall, the firmware provides maximum security for data and the drive—while also enabling flexibility for individual requirements and streamlined, user-friendly operation.
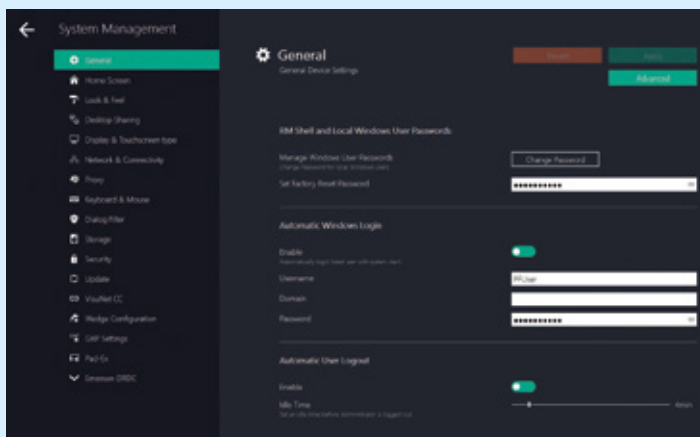
System settings. Consistent design of important VisuNet RM settings. Additional help texts ensure an intuitive navigation.
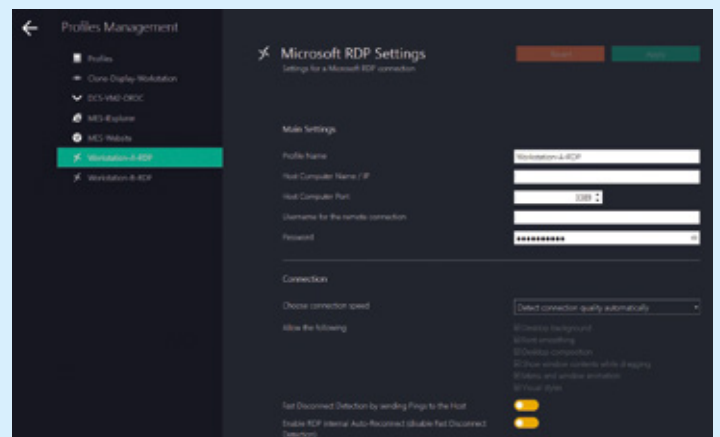
Profile management. A unified remote protocol editor for all profile connections (e. g., RDP 10, VNC).

Hybrid Management Mode

With the newly implemented Hybrid Management Mode in RM Shell 6, only an authenticated administrator has access to the Windows interface and system settings. This allows administrators to install third-party apps, such as virus scanners, Java Runtime, or drivers. Links and access to the installed apps can be managed.

To modify advanced settings, administrators can access the Windows® Control Panel and Settings. This allows administrators flexibility in configuring the functions available to the operator within the RM Shell, while keeping operator permissions to a minimum.

Complete Control with App Management

RM Shell 6 now allows the installation of third-party applications, with operator access defined by the administrator.

Everything in View with the New Smart Task Bar

The newly implemented Smart Task Bar provides users with a quick overview of the most important functions of RM Shell 6, allowing them to implement and manage complex application scenarios such as switching between multiple remote desktop connections—e. g. RDP to VNC—with a single click. The on-screen keyboard (OSK) can also be shown and hidden via the Smart Task Bar. This ensures that relevant process screens are always visible.

Easy Adjustment of Third-Party Apps

Third-party apps can be set to auto-start when an end device boots, and start parameters can be defined. The dialog filter then controls which windows are allowed to open. This keeps data secure and ensures ease of use.

## Additional Functions for Maximum Process Stability

VisuNet RM Shell 6 also helps improve process stability. Additional functions ensure a stable connection to the process control system host and an error-free display of the process images. Furthermore, the auto-connect function can be used to configure the RMs so that they automatically establish a connection to a defined host system after starting up without any further intervention on the part of the operator. This way, even connections that have been temporarily interrupted can be reestablished in a fully automated process. Backup host connections can be configured in the RM Shell to automatically connect the RM to a backup host if the primary host fails or is not accessible.

Highlights

- VisuNet RM Shell 6 —next-generation firmware for VisuNet RMs
- Maximum security due to the distinction between user and administrator at Windows level
- Developed within the Microsoft® Windows® 10 IoT Enterprise LTSC framework to support IT compliance
- Replaces Explorer and restricts operators from system access
- Simplified, touch-screen-optimized user interface to support easy system setup (plug and play)
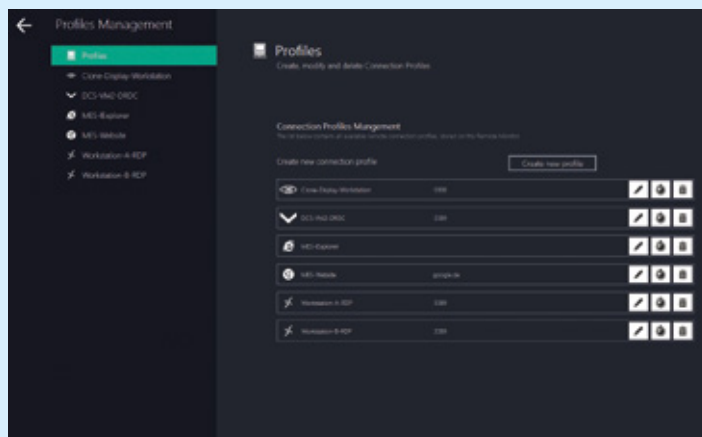
Consistent editors for all remote protocols, including access to advanced features like auto-connect.
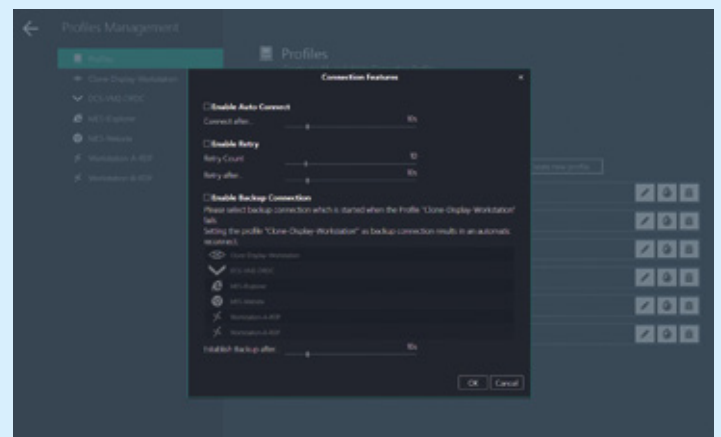
Backup connection and auto-connect. Backup connections allow users to specify alternate host systems in the event of a host failure.

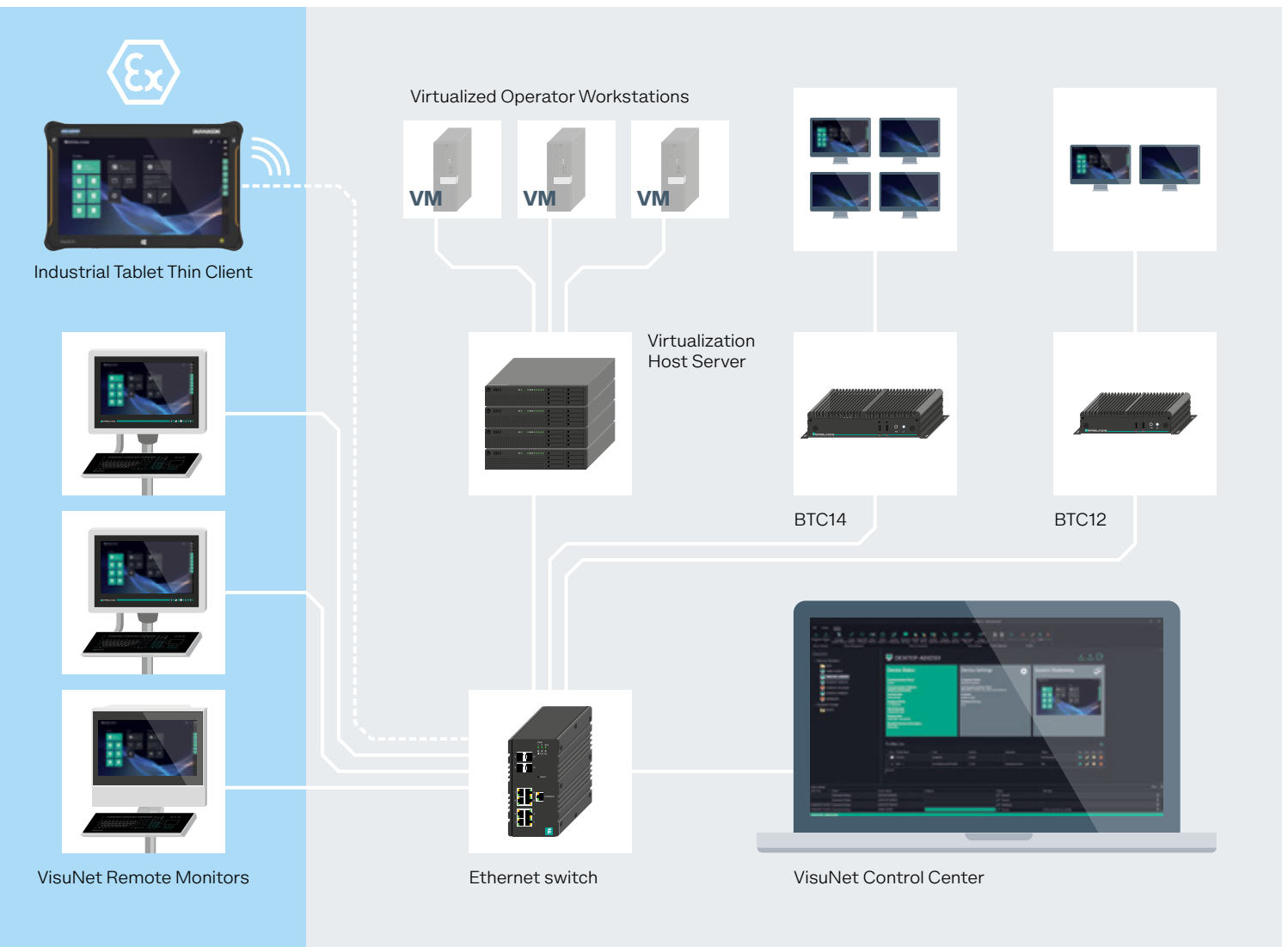# Efficient Remote Management from the Control Room up to Zone 1/21

Fast commissioning, efficient maintenance, optimal support: with VisuNet Control Center, smart VisuNet RMs, BTCs and Tablet Thin Clients are conveniently managed from a centralized workstation via remote access.

Innovative Profile Management with Remote Configuration

The remote configuration function offered by VisuNet Control Center ensures maximum efficiency. The administrator can connect to a VisuNet device to create a new profile without leaving the central workstation. This eliminates the need to enter hazardous areas and cleanrooms. The profile can then be conveniently transferred to any number of monitors: an extremely simple and economical way to manage profiles.

RM Shell to Go—Industrial Tablet Thin Client

All functions of the RM Shell 6 can also be used on our new mobile industrial tablet thin client which is suitable for use in explosion-hazardous areas. It is based on the ruggedized Pad-Ex tablet series from Pepperl+Fuchs brand ecom, comes with preinstalled RM Shell 6 and can easily and fast be integrated into the thin client network. This allows users to connect to remote monitors, support staff in the field or just check on the different processes from anywhere in the plant. This provides great flexibility.

Industrial Tablet Thin Client

Virtualized Operator Workstations

VM   VM   VM

Virtualization Host Server

BTC14

BTC12

VisuNet Remote Monitors

Ethernet switch

VisuNet Control Center

Session Shadowing: Maximum Transparency, Optimal Support

VisuNet Control Center provides extensive possibilities for support and monitoring using session shadowing. The dashboard function displays all monitors in an overview, ensuring any errors are immediately recognized. If problems occur, the process engineer can immediately connect to faulty VisuNet devices and support the user from their central workstation. If no employees are on-site, the process engineer can take control through password-protected remote access. VisuNet Control Center provides fast and cost-effective repairs and delivers maximum process transparency.

Central Management and Control Using Remote Command

Using Remote Command, VisuNet RM Shell devices can be managed in the field from a centralized workstation. This approach offers a significant advantage with fault prevention and maintenance, as all VisuNet RMs, BTCs and Tablet Thin Clients can be shut down and restarted remotely. If a server needs to be rebooted in a controlled manner for maintenance, the smart monitors and thin clients can be connected to an alternative server via remote access. In this way, VisuNet RM Shell 5 and the Control Center ensure maximum process reliability and efficiency during maintenance.

Efficient Remote Management— For Individual Devices and Groups

Smart VisuNet RM Shell devices can now be managed remotely from the convenience of a centralized workstation via the Control Center. Configuration, networking, and firmware updates can all be performed via remote access in a quick and efficient process, as opposed to separately for each individual device. Entire monitor groups can be managed on demand in a single work step, saving time and reducing costs.

Smart HMI System: Harnessing the Benefits of Industry 4.0

VisuNet RMs and Thin Clients paired with the innovative remote monitoring systems offered by the Control Center illustrate the incredible range of opportunities that are now possible with Industry 4.0. Smart HMI systems enable communication within the process for the very first time and have direct horizontal and vertical access to the information from the production system— all the way down to the sensors in explosion-hazardous areas and across all hierarchy levels. It is the perfect solution for harnessing the powerful benefits of Industry 4.0 for the process industry, all the way up to Zone 1/21.

Your automation, our passion.

Explosion Protection

- Intrinsic Safety Barriers
- Signal Conditioners
- FieldConnex® Fieldbus Infrastructure
- Remote I/O Systems
- Electrical Explosion Protection Equipment
- Purge and Pressurization Systems
- HMI Systems
- Mobile Computing and Communications
- HART Interface Solutions
- Surge Protection
- Wireless Solutions
- Level Measurement

Industrial Sensors

- Proximity Sensors
- Photoelectric Sensors
- Industrial Vision
- Ultrasonic Sensors
- Rotary Encoders
- Positioning Systems
- Inclination and Acceleration Sensors
- Vibration Monitoring
- Industrial Ethernet
- AS-Interface
- IO-Link
- Identification Systems
- Displays and Signal Processing
- Connectivity

Pepperl+Fuchs Quality
Download our latest policy here:

www.pepperl-fuchs.com/quality

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