To be successful, we have designed typical automation and control architectures to seamlessly integrate intelligent devices that will assist you in optimizing your process.

Schneider Electric offers a complete solution from automation and control, power monitoring equipment to energy efficient drives to a common SCADA platform to monitor and control your process remotely.

Helping you to optimize recovery
From electrical distribution to MES

Beyond our products, our solutions integrate the highest performance software tools on the market. Developed by our R&D teams, they are designed to complement one another, simplify the work of your designers and improve your productivity at all levels of your mining process.

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Due to evolution of standards and equipment, characteristics indicated in texts and images in this document are binding only after confirmation by our departments.

Design: pemaco
Print:
System architecture

For artificial lift

OF1
OF1: our recommendation for artificial lift

1. Vijeo Citect SCADA
2. FactoryCast HMI Gateway ETG 30xx
3. ConneXium Ethernet Switch
4. Modicon M340 PLC
5. Variable Speed Drive Altivar 71
6. Motor Starter TeSys T
7. Vijeo Pocket PC
8. Pelco Security Camera
9. Xantrex Solar Inverter
10. Instrumentation 4-20mA
Optimize your field production equipment and avoid unexpected events
Remote SCADA system

Vijeo Citect can be used to monitor and control several telemetry oil fields (pump jacks, PCPs, ESPs, gas lifts...).

Vijeo Citect offers key user features such as graphical process visualization, advanced alarm management, historical and real-time trending, built-in reporting and statistical process control.

Vijeo Pocket PC provides an easy-to-use operator interface which gives operators, maintenance and plant managers maximum mobility to remotely monitor and control the site from the palm of your hand.

Remote telemetry management

The FactoryCast HMI Gateway ETG 30xx is an intelligent Web gateways that provide a cost-effective modular remote management solution for telemetry that can survive in temperatures of -25°C to +75°C.

The FactoryCast HMI Gateway ETG 30xx access remote devices via embedded modem (PSTN, GSM/GPRS) and powerful remote management resources for all widely distributed infrastructures and RTU installations.

The FactoryCast HMI Gateway ETG 30xx is equipped with Web server that is accessible from any PC or Thin Client terminal. The Web server has HMI/SCADA functions that can act as a standalone HMI that allow operators or plant managers outside the control room to access control system data such as pump speed in real-time.

Up to 1 GB of memory for data logging of critical variables such as the wellhead metering.

Pump drive control

Easy to set up, the Altivar 71 PFC is robust against changing mechanical conditions. It boasts a wide temperature range from -10°C to +50°C. It has a fully coated option to IEC 60721-3-2 class 3C2. It also has an IP54 option and is CE, UL and cUL approved.

The Altivar 71 ENA function controls the regenerated energy via dynamic brake resistors. It adjusts the speed to absorb the regenerative energy as kinetic energy in the moving mechanism (due to inertia caused by high speed). No additional equipment is required and no energy is wasted.

The inverter has the capability to analyze the torque value generated by the motor and change the output frequency according to the behavior of the system (inertia):

+ Stresses on the metal rod are reduced and twisting movements avoided.
+ Movement is smoother.
+ No motor inductances: short distance to the pump easy to set up, the Altivar 71 PFC is robust against.
Process control management

> The Modicon M340 PLC monitors and controls critical operations such as motor and valve control, data recording, interlocking and alarm generation.

> The Modicon M340 PLC has the capability to control one or several injection pumps and artificial lift equipment.

> Compact size and extended temperature range (-25°C to +75°C) is ideal for small enclosures located next to the equipment.

> The SD card enables application program to automatically backup eliminating the need for a backup battery. SD card can be used to install the same program to several identical machines. No programming skills required!

> Flexibility: processors has two integrated ports for CANopen, Ethernet or Modbus.

> Remote access via Ethernet: embedded Web server with user Web pages.

An alternative architecture

> The Altivar 71 controller allows you to develop your solution for your artificial lift equipment.

> The Altivar 71 controller reduces the complexity of the control system:
  + Reduce footprint of control panel.
  + Reduce overall cost of machine.
  + Improve scalability.
  + Improve increase interoperability.

> Altivar input/output extension optional modules is available.

> FactoryCast HMI Gateway ETG 30xx module extended memory (up to 1G) seamlessly interfaces with the Altivar for added functionality such as data logging.
Xantrex offers a solar solution that converts solar energy into utility grade power that can be used as back-up power for remote enclosures.

Pelco ExSite™ explosion proof camera can be used not only for security purpose but also to monitor equipment such as a pumpjack.
System architecture
For Gas and Oil Separation Plant

OF2
OF2: our recommendation for Gas and Oil Separation Plant

1. Vijeo Citect SCADA
2. Factory Cast HMI Gateway ETG 30xx
3. ConneXium Managed Ethernet Switch
4. Modicon Quantum Safety PLC
5. Variable Speed Drive Altivar 61/71 VFD
6. Motor Starter TeSys T
7. LV Motor Control Switchboard
8. TSX ETG100 Modbus/Ethernet Gateway
9. Sepam Protection Relay
10. Vijeo Citect Client
11. Instrumentation:
   - Profibus
   - HART
   - Foundation Fieldbus
   - 4-20mA
Ensure safe and efficient operation of all your separation and treatment processes
A Gas and Oil Separation Plant (GOSP) has critical applications (operating temperature and pressure) that if not monitored closely, could result in a hazardous situation.

- Vijeo Citect’s redundancy will tolerate failure anywhere in your system with no loss of functionality.
- A full Hot Standby configuration is provided with complete I/O device redundancy.
- The impressive redundancy features of Vijeo Citect can be used in conjunction with network redundancy, file server redundancy, redundancy of the different tasks (I/O, trends, alarms, reports, display).

- Vijeo Historian is a powerful reporting analysis tool that bridges both the plant and corporate networks.
- Vijeo Historian also supports redundant control system links so that in the event of failure, the historian will request data from other links or servers.

The GOSP consist of many motors, pumps and valves to operate and control. The architecture provides an integrated solution with different types of motor controls to offer a basic and effective level of motor protection and measurement.

- The TeSys U starter controller is a direct motor starter with a capacity of up to 32 A/15 KW, that performs the following functions: protects and controls single phase or 3 phase motors, disconnects power, protects against over current and short-circuit, protects against thermal overload, performs power switching, application control, protection alarms, application monitoring: duration of use, number of faults, motor current values, etc.

- TeSys U is well adapted to control the motors of conveyors, bucket elevators and equipments of the different process steps of your plant.

- Altivar 71 offers a full range of variable speed drives (IP20, IP23 and IP54 enclosed) that meet the separation plant motors requirements.
  - 0.37 to 90 kW - 200/240 V.
  - 0.37 to 630 kW - 400/480 V.
  - 4 to 800 kW - 690 V.

- TeSys T offers the assurance to have complete motor protection and measurement even in the most critical process step such as flotation process.
- TeSys T motor management system with dual Ethernet TCP/IP ports provides a high level of reliability and faulty device (FDR) capabilities.

- TeSys T motor management system covers all advanced motor monitoring and protection needs in installations where productivity and a high level of availability is essential. It offers a wide range of current rating, a high level of protection and an all in one device with all main protection and control functions. Complementary protection functions are available with an expansion module.
In the GOSP, an industrial accident could have a catastrophic impact on workers, equipment and the environment. Safety is a major concern and every effort must be made to make the site as safe possible.

Modicon Quantum Safety System is SIL2 certified and IEC 61508 compliant. It was designed to be used in critical processes and ensure the safety of personnel, plant and production tools and the environment.

The safety PLC is programmed with the new, powerful Unity Pro XLS software package that includes a certified safety library, which reduces engineering costs.

Safety is integrated in the SIL-2 rated Modicon Quantum PLC by allowing standard wiring, cabling and programming. The offer includes extensive internal diagnostics at the I/O level, internal diagnostics at the CPU level and no voters, splitters or any additional hardware, wiring or logic are required. Features include:

- **Hot Standby**
  In addition to standard Quantum Hot Standby functions, the SIL2 Quantum PLC can be utilized to provide high availability for the central processing unit.

- **Redundant I/O**
  High availability for I/O using the safety I/Os in a redundant manner.

- **Diagnostics**
  The SIL2 Quantum PLC provides two shutdown paths, the CPU and RAM, and allows double code generation and execution to detect systematic errors in code generation.

- **Flexibility**
  The SIL2 Quantum PLC is designed with safety modules, yet also supports TÜV Certified non-interfering modules, which allow the user to control the safety application and other related functions. An error in a non-interfering module does not affect the execution of the safety functions.

Process control management

Motor control management

The GOSP is a continuous process that involves the pumping of crude oil through vessels distributed among 3 different stations: gas/oil/water separator, sour gas sweetener and the desalter. Excellent electrical continuity throughout the plant is also vital.

Schneider electric proposes a complete offering from MV to LV:

- **Busways.**
- **EMCS (Electrical Monitoring and Control System).**
- **Choice between AIS and GIS (insensitive to the environment) solutions.**
- **SF6 and vacuum breaking.**
- **High short-circuit withstand (50 kA/11 kV).**
- **Natural ventilation at 4000 A.**
- **Type-tested equipment, with internal arc withstand on all four sides.**
- **Vibration and seismic tests.**
**Good to know**

**Manage your energy usage**

- The Power Logic Power Meter 700 and 800 Series provides all the measurement capabilities required for monitoring an electrical installation in a GOSP.
  - Improved understanding of electrical system loading and demand.
  - Improved understanding of entire electrical system.
  - Capability to troubleshoot system problems such as faults or harmonics.

**Maximize your network availability**

- ConneXium managed Ethernet switches with dual ring capability allow up to 3 breaks in the network before there is a loss of communication.
- ConneXview industrial Ethernet Diagnostic Software lets you monitor and troubleshoot your entire Ethernet network from your PC or anywhere you have network access.
System architecture
For pipeline pumping station

OF3
OF3: our recommendation for pipeline pumping station

1. Vijeo Citect SCADA
2. Factory Cast HMI Gateway ETG 30xx
3. ConneXium Managed Ethernet Switch
4. Modicon Quantum Redundant PLC
5. Variable Speed Drive Altivar 61/71 VFD
6. Motor Starter TeSys T
7. LV Motor Control Switchboard
8. AIS MV Switchboard
9. Variable Speed Drive Altivar 1000 MV VFD
10. FactoryCast Gateway ETG1000 Modbus/Ethernet
11. Sepam Protection Relay
12. Vijeo Citect Client
13. Instrumentation:
   - Profibus
   - HART
   - Foundation Fieldbus
   - 4-20mA
Avoid pressure head loss and increase energy savings
Crude oil pipelines are unique in size and layout depending on distance and terrain. The pipelines are in continuous evolution due to upgrades and expansions. Controlling the pump stations to keep the oil flowing during those evolutions from the control room can be challenging.

- **Vijeo Citect**’s system architecture features and scalability capabilities permit easy upgrades and expansions without having to modify existing hardware or software. Changes are implemented at a central point and are immediately updated at all Vijeo Citect stations. This ensures that uniform, consistent and latest plant information is available to all Vijeo Citect stations at any time.

- **Vijeo Citect**’s redundant servers continuously synchronize data by sending “heartbeats” between each other. If the primary server fails, the redundant server continues to collect data. As soon as the primary server begins operating again, the redundant server automatically backfills the data to eliminate the need for manual entry.

- Data gathered by **Vijeo Historian** will provide valuable information to analyze for future planning of demands brought about by domestic and industrial growth.

Crude oil pumping stations must take into account the complexity of hydraulic profile for a pipeline: viscosity of the oil, pipeline route and topography, range of pressures and temperatures, and environmental conditions along the route.

- **Modicon Quantum** is perfectly suited to complex processes. The power of its processor results in optimum cycle times, while integrating many more communication functions, diagnostics, memory flexibility and data storage.

- The **Hot Standby Modicon Quantum** processor is designed for your critical applications that require high control system availability and for which interruptions are unacceptable.

- **The Hot Standby Modicon Quantum** system offers remarkable computing and switchover performance that perfectly meets your requirements.

- **Modicon Quantum** has several Ethernet communication ports that allow you to connect it to dual a Ethernet Ring thanks to ConneXium managed switches.
Motor control management

A crude oil pump station contains a number of pumps, motors and valves that have to be managed and controlled. A high level of motor protection is required for advanced process such as controlling inlet and outlet pressure: current, voltage, power, earth fault and temperature sensors.

- The MotorSys and Model 6 iMCC solution combines the most dependable low voltage switchboards (IEC and NEMA standard), the most widely used motor feeders in the world, the latest generation protection and motor control systems.
- The Model 6 motor control center enclosure is built to be the backbone of most pump station plants. It allows you to reduce installation costs and centralizes equipment for access and maintenance by facility personnel.
- The MotorSys iMCC (IEC standard) with Okken or Blokset high-availability switchboard for large application allows you to optimize wiring, maintenance, and flexibility of your system.
- Motor control TeSys T, TeSys U, and Altivar variable speed drives can be used in Okken or Blokset switchboards.
- An Ethernet connection allows you to have a high level of diagnostic and performance.

Intelligent Instruments

- The control and monitoring of instruments such as temperature sensors, flow meters, and level measurements is possible thanks to a specialized Modicon Quantum Profibus DP module, which includes a Profibus interface. This module supports Profibus PA slaves on the network through DP/PA couplers or links, up to 125 slave devices with repeaters, and extended diagnostic data.
- Valves or other Profibus DP devices can be connected to the Profibus interface, thus increasing the openness of the solution.
- When required, Hot Standby is also available on the Profibus with Modicon Quantum.
  + Transfer of a primary application to the secondary is automatic.
Good to know

Reduce your MV energy cost

> The Altivar 1000 is a range of medium voltage PWM IGBT speed controllers designed for induction motors used in pipeline pumping station.
> + Power from 0.5 to 10 MW.
> + Output voltage: 3 300 V.
> + The basic offer includes the speed controller, transformer and, if required, the motor.
> + With this solution based on a robust and compact technology, you would optimize your investment and improve the productivity of your water plant, whilst reducing your energy costs. Furthermore, Altivar 1000 is designed not to have any adverse effects on the environment (supply system, processes, etc).

Optimize motor control wiring and maintenance

> iMCC Prisma Plus switchboard is a simple, quick and upgradeable solution to meet any requirement. The modular design of the Prisma Plus system and small size of the functional units (up to 36 feeders per enclosure) let you build cost-effective switchboards that perfectly match the needs of your application. Assembly and mounting is fast and easy.
System architecture
For crude oil storage facility

OF4
OF4: our recommendation for crude oil storage facility

1. Magelis IPC HMI
2. FactoryCast HMI Gateway ETG 30xx
3. ConneXium Managed Ethernet Switch
4. Modicon M340 PLC
5. Variable Speed Drive Altivar 61/71 VFD
6. Motor Starter TeSys T
7. Instrumentation 4-20mA
Benefit from scalable solutions with unparalleled functionality and flexibility
As demand for crude oil increases, storage facility’s system architecture must be flexible to accommodate the demand with minimal impact to production.

> **Vijeo Citect**’s true client-server provides a flexible architecture that utilizes different tasks level. Each task works as a distinct client and/or server module, performing its own role, and interfacing with the other tasks through the client-server relationship. Vijeo Citect has five fundamental tasks which handle: communications with I/O devices; monitoring of alarm conditions; report type output; trending, and user display.

> Each of these tasks is independent, performing its own processing. Due to this unique architecture, you have control over which computers in your system perform which tasks. For example, you can nominate one computer to perform the display, and report tasks, while your second computer performs display, I/O, and trends.

> By using individual tasks, the Vijeo Citect system can create separate server and client components across all available CPUs, resulting in improved performance and stability.

The initial phase of building a new oil storage facility may start off simple but as the plant matures through upgrades and expansions, the system architectures can become quite complex over time. It is important that the initial system design places emphasis on simplicity, flexibility and adaptability.

> **Modicon Quantum** is perfectly suited for the oil storage facility. The Modicon Quantum is built on Schneider Electric’s commitment to technologies that are open and flexibility. Its scalable, modular architecture can be configured to meet the highest performance application requirements, from a single rack system to a plant-wide architecture.

> Modicon Quantum PLCs offer the widest selection of network options, including Schneider Electric’s Modbus®, Modbus Plus, and Modbus Ethernet TCP/IP, as well as seven other widely used protocols, giving users optimum flexibility when designing their control architecture.
Motor control management

Larger storage facilities such as terminals require a system that can interface with different vendors’ equipment: over-fill detection and spill containment, emergency shutdown, fire detection and fire suppression, tank heaters and access security.

Schneider Electric has adopted an open and non-proprietary approach to networks and communication. Schneider Electric’s products and solutions provide connectivity to many of the most popular fieldbus and device level networks. Just to name a few:

- EtherNet/IP, Ethernet IP
- Modbus, Modbus Plus IP, Profinet DP, DeviceNet and Interbus …
- CANopen, HART, Profinet PA, Foundation Fieldbus …

TeSys T motor management system covers all advanced motor monitoring and protection needs in the crude oil storage facility where productivity and a high level of availability is essential. In addition to monitoring a motor’s current, power consumption and voltage, data communications protocols like CANopen, DeviceNet, Ethernet, Modbus and Profinet are built into the TeSys T motor management controller and feed information back to centralized process control via on-board I/O. This allows facility management to make critical adjustments to maintain uptime.

For your storage tank applications, the TeSys T motor management controller monitors the current state of motors that pumps, and fans, and can alert centralized process control if there is a problem with a motor or if a problem is imminent.

TeSys T motor management system with dual Ethernet TCP/IP ports provides a high level of reliability and faulty device replacement (FDR) capabilities.
Good to know

> TeSys T motor management system with dual Ethernet TCP/IP ports provides a high level of reliability and faulty device replacement (FDR) capabilities.
> By placing the TeSys T within a ring, using ConneXium’s HIPER-Ring, communication is automatically re-routed in less than 0.5 seconds if there is a single failure. If the TeSys T should fail, simply remove the faulty device, set the new TeSys T rotary address to the same address as the faulty device and reconnect to the network.

> Cut cost and centralize control.
> Vijeo Citect has the capability to unify any number of control systems into a single clustered system providing users the perfect topology.
System architecture

For produced water treatment plant & water re-injection

OF5
OF5: our recommendation for produced water treatment plant & water re-injection
Optimize recovery and ensure a constant flow of treated water
Information management

Disturbances in the process of treating and disposing produced water must quickly be identified and corrected before it impacts operational cost and environment.

> Vijeo Citect’s Process Analyst helps both operators and process engineers find the root cause of a process disturbance and potentially save the user thousands of dollars in lost production time and maintenance costs by ensuring that it is avoided in the future.

> The Process Analyst optimizes production time by eliminating the need for engineers to build custom analysis screens: providing instead an integrated trend and alarm viewer. This means that, rather than having to compare a separate historical analog trend display with an alarm summary or log printout, users can simply view them all on a single integrated display.

Process control management

Different processes require different solutions. For example, produce water treatment plant requires a robust controller with high availability for continuous operations whereas the water injection control panel requires a rugged and compact controller to control and monitor flow, pressure and temperature.

> Modicon Quantum is perfectly suited to meet the requirements of continuous and semi-continuous industrial processes, and to control large infrastructure sites. Capitalizing on over 25 years’ experience in the redundancy field, Modicon Quantum is perfect for applications demanding a high degree of availability. This makes it exceptionally well aligned for critical applications such produce water treatment plant.

> Extremely powerful, rugged and compact, the Modicon M340 Programmable Automation Controller (PAC) provides cutting-edge features and high-end performance in a mid-range processor. Modicon M340 is also the ideal partner for Modicon Premium and Quantum to meet the automation requirements of industrial processes and infrastructures at the heart of Transparent Ready® architectures.
The Altivar 1000 is a range of medium voltage PWM IGBT speed controllers designed for induction motors used in produced water treatment plants. By employing sophisticated power monitoring equipment to analyze historical and real-time data, the water treatment plant managers can reduce the cost of electricity and improve its quality and reliability. With this solution based on a robust and compact technology, you would optimize your investment and improve the productivity of your process, whilst reducing your energy costs.

*Power from 0.5 to 10 MW.*
*Output voltage: 3,300 V.*
*The basic offer includes the speed controller, transformer and, if required, the motor.*

**Meter Series 700 and 800** offers all the measurement capabilities required for monitoring an electrical installation in a water plant. By employing sophisticated power analysis equipment to analyze historical and real-time data, the water treatment plant managers can reduce the cost of electricity and improve its quality and reliability. With this solution based on a robust and compact technology, you would optimize your investment and improve the productivity of the entire electrical system, such as faults or harmonics.

Energy monitoring

+ Better understanding of electrical system loading and demand.
+ Improved understanding of electrical system.
+ Troubleshoot system problems such as faults or harmonics.

Motor control management
Good to know

“All-in-one” easy to use software

Unity Pro is a single software package needed for IEC61131-3 programming, debugging and operating Modicon M340, Premium and Quantum PLCs, Unity Pro simplifies the management of all.

No battery required

Modicon M340 automatically backs up data into an internal flash memory. No battery is required so you avoid the associated maintenance.
System architecture

For central control station

OF6
OF6: our recommendation for a central control station
Increase productivity and reduce capital and operating costs
Centralized control station

A typical oil field can extend hundreds of miles and comprise thousands of sensors, valves, pumps and controllers. A major challenge faced by the oil and gas companies is to connect all of these devices to regional or headquarters control rooms, and to monitor them remotely 24 hours a day through an efficient remote monitoring and control system. As a world leader in industrial automation, we are ideally positioned to offer you proven, reliable solutions to these challenges.

> Centralized monitoring and control of remote production and transport facilities are assured with our Vijeo Citect software. It enables you to reduce your costs by optimizing your operational efficiency.

> Vijeo Citect’s mobility solutions also provide greater flexibility, decreased downtime, increased productivity and a lower total cost of ownership by allowing your employees to be mobile and giving them the freedom to observe operations first hand. The mobility solutions allow Vijeo Citect to be viewed over multiple hardware systems, such as thin-client terminals, PDAs and even mobile phones. Our mobility solutions can enhance your operations by creating a system that is truly tailored to the demands of the oil and gas industries.

> Vijeo Citect software responds to all types of production automation, infrastructure or electrical distribution solutions requiring HMI/SCADA. In addition, it meets the requirements of stand-alone control stations as well as redundant supervision systems. The software gives you a permanent and upgradeable investment since its unique scalable architecture allows a system to develop over time without the risk of becoming outdated. Users can resize their system up or down without having to modify existing system hardware or software, thus reducing costs.

> Vijeo Citect’s redundancy will tolerate failure anywhere in your system with no loss of functionality. A full Hot Standby configuration is provided with complete I/O device redundancy. The impressive redundancy features of Vijeo Citect can be used with redundancy of network, redundancy of file servers, redundancy of the different tasks (I/O, trends, alarms, reports, display).

> The Vijeo Historian module connects to redundant HMI/SCADA systems and provides a high-performance, high integrity storage repository for large volumes of plant floor data. With sub-second data acquisition rates from most SCADA systems and OPC quality stamping, the quality and accuracy of stored information is higher than ever.

> Additionally, the Historian module will backfill from SCADA trends to acquire data that it could not acquire in real-time. For example, data that was recorded by the SCADA system before the Historian was deployed, or if the network between the Historian and the SCADA system failed. The combination of redundant failover connectors, and backfilling ensures that data acquisition and continuity problems are virtually eliminated.

Cluster control

> With the current economic climate of looking to cut costs and centralize control, the ability of Vijeo Citect to unify any number of control system into a single “clustered” system provides users the perfect topology. With each local site able to view either its own control system, global control clients can be implemented that can view across the whole control system complete with unified alarm lists and the ability to compare trended data across the multiple systems.

> Provide a combination of control (including alarms, reports and trends), local to the process, paired with a central standby server.

> Support additional processing for expansion requirements by simply adding a new server to the control system.

> Segment your control system to ensure changes in one business unit do not affect the others.

> Connect to multiple control systems to analyze the alarms and trend data directly from the SCADA systems.

> Use cluster swapping to re-use graphics screens between matching systems or for simulation or replay.
Total transparency of your oil field operation is required from the MES system all the way down to the device.

- Schneider Electric’s Transparent Ready is an open Power and Control framework based on internet technologies that provides seamless communication between oil field and business systems: from sensor to control room, from power control to energy efficiency.
- Transparent Ready allows information to be managed, used and transferred through the Internet and related standard technologies such as hardware, software, services and partners protocols. Relying on standards, Transparent Ready is open and takes advantage of thousands of Modbus TCP/IP drivers are available.
- With Transparent Ready your investment is secure by using a common and standard Ethernet infrastructure and contain cost through open standards (Life Cycle: Total cost of ownership is lower).

- Gain competitive business advantage through direct and real-time link with the Enterprise Information System for quicker and better decision making (e.g. IBM, SOAP).
- Improve maintenance efficiency and reduce downtime thanks to faulty device replacement demo services (Plug & Play), direct access to on-line documentation and information, remote diagnostics and maintenance capabilities, alarming features and Emailing services, etc.
- Simple architecture administration based on commonly used diagnostic tools thanks to SNMP.
- Native remote diagnostic (first level) through Web pages.
- Easy data visualization (standard Browser) and easy to build Customized diagnostic Web pages: Configurable Web server.
- Have a remote access to installation for services.

As the industrial environment has moved toward Ethernet and open communications protocols, new layers have been added to the typical plant architecture, making them more complex and harder to manage than ever before. And with competitive pressures demanding that every minute of production time be fully optimized, it’s not surprising that there’s very little tolerance for network downtime that could result in lost productivity.

- ConneXium products are thoroughly tested for interoperability with other Schneider Electric automation products, so that when they are integrated within a complete automation architecture you can be confident of reliable, dependable performance... performance that you simply can’t get when using untested products from other manufacturers.

- ConneXium products provide the networking infrastructure solution that brings it all together.
- ConneXium managed and unmanaged switches.
- Gateways.
- Cables.
- Connectors.
- ConneXview Ethernet diagnostic software (help you achieve optimum network performance to enhance plant productivity).
A cost-effective modular remote management solution

The FactoryCast HMI Gateway ETG 30xx range is a new offer of intelligent Web gateways that provide a cost-effective modular remote management solution in combination with any Schneider Electric PLC or industrial controller.

- Ethernet, serial link and modem connectivity
- A built-in modem (GSM / GPRS or PSTN) and a RAS server
- 6 discrete Inputs / 2 discrete outputs module
- Up to 1G of memory for data logging and time stamping
- A customizable Web server
- Built-in SCADA functions
- Wide operating temperature range:
  - ETG 3000/3010: -25°C to +75°C
  - ETG 3021/3022: 0°C to +60°C.

Good to know

An open, powerful and flexible HMI providing a solution for all of your requirements

Magelis iPC is a modular offer, providing a wide choice of HMI, “All in one” or “BOX” and Display. Easily upgradeable thanks to ISA/PCI extension slots, these hardened rugged industrial PCs adapt to numerous business segments and to all environments even the most severe.

- Magelis Smart
  Windows pre-configured all-in-one terminal for client and HMI applications with 8.4”, 12” and 15” touch screens.

- Magelis Compact iPC
  Optimal and attractive industrial PC with 8.4”, 12” and 15” touch screens.

- Embedded BOX and PC BOX
  From the simple but powerful pre-configured Magelis Smart BOX to the Magelis Flex PC BOX with advanced features.

- Magelis iDisplay
  Industrial flat screen monitors designed for use with PCs.

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