

# Upgrading your control system is easier than you think

Modernization solutions

**Schneider**  
Electric



## Why do we need to modernize now?

- Avoid unplanned downtime
- Decrease maintenance costs
- Optimize your capital and operational expenditure
- Improve the performance and safety of your installation
- Achieve best in class energy efficiency and uptime performance for your operations
- Increase the productivity and flexibility of your industrial processes

**Focus on your core business and let us be your automation partner**



# Modernization solutions Sharpen your competitive edge

Unplanned downtime caused by system failure is a much more expensive and a greater risk to your business than planning and implementing a modernization program.

Upgrading an old system pays off many times over: It assures the continuity of your control system investments, makes the systems more efficient and productive, and extends the system service life in a cost-effective manner. In each case of modernization, the return on investment (ROI) plays a crucial role. This is because a huge investment in hardware and application software is associated with the installed process control system – as well as the accumulated know-how of the operating, engineering, and maintenance personnel.

For this reason, the prime objective of any modernization strategy should be to modernize the installed base gradually without any system discontinuity – and if possible without any plant downtime or loss of production. Also of great importance is the long-term security of existing investments, in order to maximize the return on assets (ROA). For this reason, our modernization solutions include a robust life-cycle support strategy for the new system which considers not only the availability of the components, but also the product warranties, on-site service, and technical support.

Schneider Electric™ has an impressive history in the automation, control and distribution business. With over 40 years in the automation business millions of our automation products (PLC, HMI, IO, Drives, SCADA) are installed in industry throughout the world. As experts in both Modicon™ and Telemecanique™ platforms, we are uniquely qualified to offer consulting and upgrade solutions to you to transition to state-of-the-art levels of control efficiency, safety, and productivity.

A successful and efficient modernization is best achieved by working with a team of competent partners. Consequently, Schneider Electric is accustomed to working hand in hand with you and with your system integrators, particularly when it involves the migration of third-party systems. In this way, plant management can be assured that the effective partnership between the system integrator and Schneider Electric will result in the optimum modernization solution for your business.



*The comprehensive services provided by Schneider Electric allowed us to progressively migrate our automation platform to suit our business requirements. This enabled us to time the changes so that we could schedule the migration to coincide with planned maintenance downtime.*

*Maarten de Vries, Senior Electrical Engineer, Nyrstar - Australia*

## Don't let the future challenge you. Be the first.

**The average impact of unscheduled downtime equals 5% of the production value**

ARC survey - 2010

# We deliver a complete modernization solution from assessment to maintenance of the new installation

## Audit of your installation

- Identify potential risks
- Prioritize a recommended course of actions
- Calculate costs with clear business justifications and benefits
- Outline a clear execution plan for making it all work

**We help you** evaluate where you are and plan where you are going

## Modernization solutions

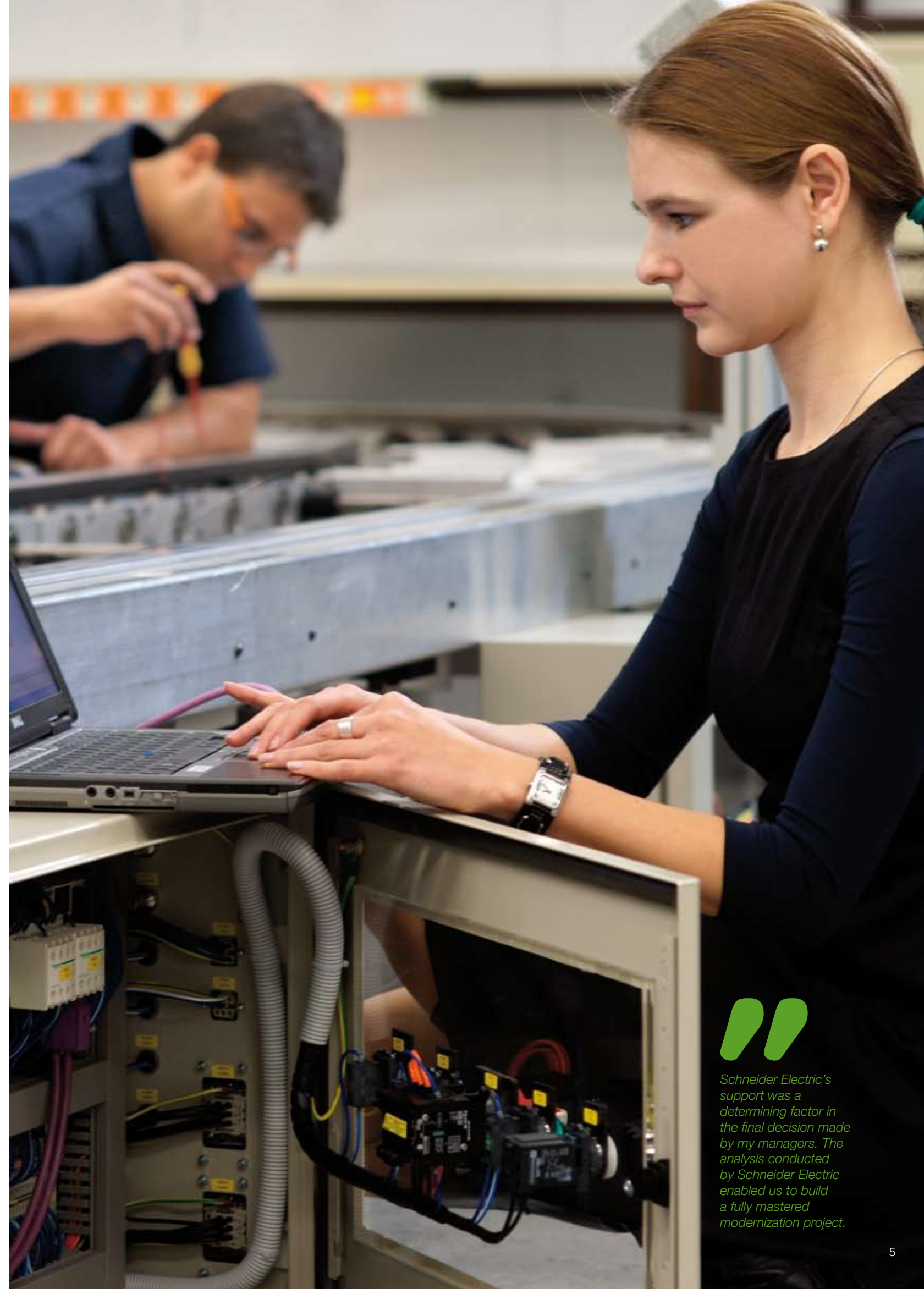
- Maximize performance and flexibility thanks to PlantStruxure™
- Avoid unplanned downtime
- Risk free modernization
- Re-use of your intellectual property and existing hardware
- Long term availability of your installation

**We provide you** with upgrade solutions tailor-made to answer your specific constraints and needs

## Comprehensive services contract

- Permanent technical support for minimum stoppage of your system
- Easy access to a stock of spare parts (on-site or off-site)
- Extended warranty of your new installation
- ... and more

**We guarantee** a long-term reliability and availability of your new installation through a large range of services



*Schneider Electric's support was a determining factor in the final decision made by my managers. The analysis conducted by Schneider Electric enabled us to build a fully mastered modernization project.*

# We have the tools to make it work

Tools and services for a smooth and risk-free transition to newer technology. Schneider Electric proposes a comprehensive modernization path through a series of products, tools, and services that allow an easy and predictable upgrade to newer technology.

- **Site audit** .....> Audit of your installation to propose the right modernization plan
- **Conversion tools for PLC, SCADA, HMI and drives** .....> Preserve and capitalize on your existing investment and accumulated know-how
- **I/O interface** .....> Control existing I/O with new controller
- **Gateways** .....> Control legacy fieldbus IOs and network with new controller
- **Quick wiring adapter** .....> Preserve field devices and wiring
- **Engineering libraries** .....> Provide faceplates, function blocks with same look as older system
- **HMI connectivity** .....> Connect new HMI to existing controller and I/O
- **Services contract** .....> Range of services for exchange, spare parts delivery, and on-site support

Designed to minimize the cost of change associated with modernization, these products, tools, and services allow you to choose the right transition path and ensure long-term reliability and availability of your system.



« The fact that we were able to conserve the original I/O wiring made this a particularly cost-effective solution. Our estimates indicated that other solutions would be easily double the cost of the Schneider solution ... There is not a better or faster migration solution on the market for this kind of installation »

Rio Tinto Alcan, Vaudreuil QC- Canada,  
Mr Jocelyn Moore, Electrical/Instrumentation Technician

**No one else has the complete ability to modernize the full portfolio of Schneider Electric legacy brands thoroughly**  
ARC - 2010



**With modernization, get on the path to energy efficiency.**

> **Save money** – ensuring continuity of service and minimizing the cost of a downtime.

> **Mitigate risks** – from costs of lost data to the cost of lost lives.

> **Maximize your investments** – capitalize on your prior assets

# Boost performance, safety, and security while augmenting operational and energy efficiency

Evolve to Plant**Struxure**™



Better plant performance begins with better automation.

«We adapt the migration process to the life-cycle strategy of your system for a maximum return on assets (ROA). We also consider the economic aspects of production such as capacity increase so that the system remains sufficiently flexible to meet market demands.»

> **PlantStruxure** allows industrial and infrastructure companies to meet their automation needs and at the same time deliver on growing energy management requirements.

> **It** creates the conditions that enable you to improve your competitive capability to respond quickly and flexibly to new market demands and to minimize any interruptions to the operation in progress.

> **We help you** drive increased return on assets and meet the needs of all industries and all applications, boosting your profitability over the entire life cycle of your plant.

**Scalable,**  
for changing times

**Integrated,**  
to reduce risk

**Flexible,**  
because your process is unique

**Collaborative,**  
to increase efficiency



# From the old to the new Choose the right path

Manage the modernization through a range of upgrade strategies for legacy equipment including partial, stepwise, and total modernization solutions.

## 1 Partial

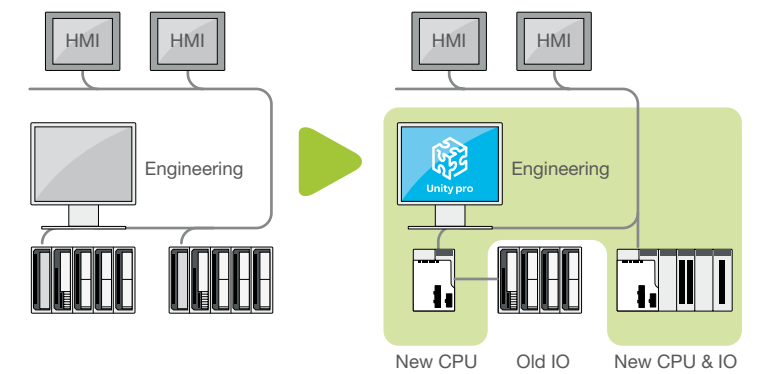
Replace an old component with a new one for better performance

### Example of a Controller replacement

- > A targeted modernization of your risk areas or critical production controls
- > Replace the CPU and Software and instantly gain the benefits of a new platform without changing the I/O
- > Or use our wiring systems and replace the entire PLC, IO, and control cabinet

#### Your benefits will be to:

- Preserve your investment in application design and embedded process knowledge.
- Extend the life of an existing control system incrementally and provide new operational capability.
- Enable openness of the system and connectivity to new technology.
- Provide for a smooth transition for operating personnel to new technology.
- Minimize total cost of ownership by reducing design, installation and startup costs.



## 2 Stepwise

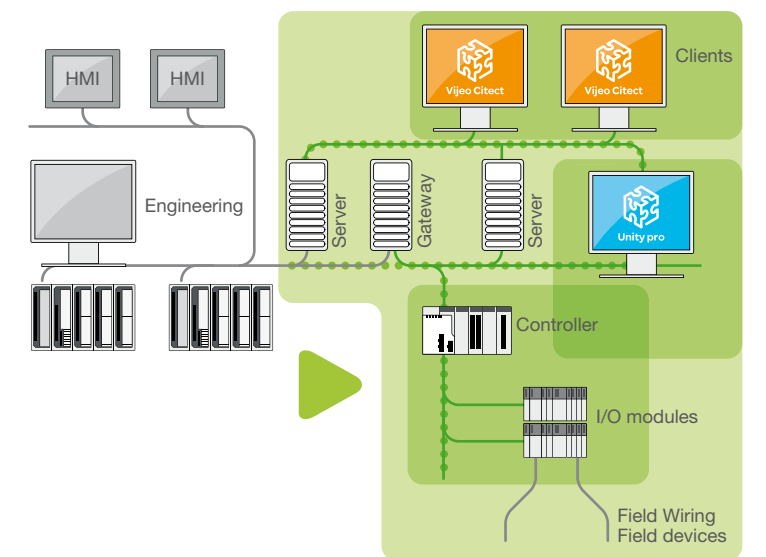
Incorporate new technology gradually into your existing system in a way that is ideal for your plant.

### Example of a Planned modernization

- > As part of your maintenance plan systematically modernize functional elements of your facility over several maintenance periods
- > in a sequence of your choosing you may:
  - Install an industrial Ethernet plant network
  - standardize on a single PLC software
  - modernize with networked HMI and components
  - upgrade or install a SCADA system

#### Your benefits will be to:

- Increase production capacity and manufacturing flexibility.
- Allow different automation systems to be brought under control of a common HMI.
- Provide a smooth transition of processes and personnel to a new technology.
- Simplify budget approval by dividing project funding into smaller amounts, justified and paid from a maintenance budget.



## 3 Total

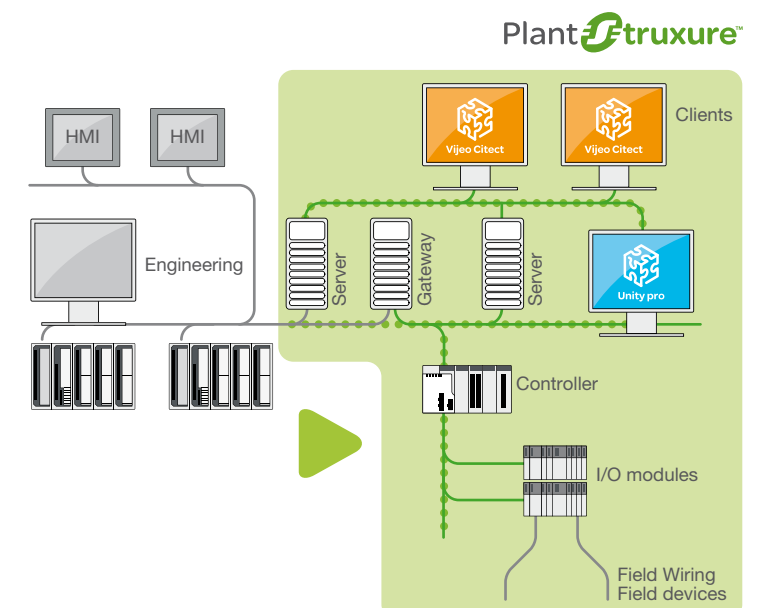
Redesign the entire control system to benefit at once from an up-to-date and integrated system

### Example of Plant expansion / full upgrade

- > In a plant expansion project retain your intellectual property of control applications and obtain the benefit of new hardware, networking, data access, and visualization to improve production and manage your energy
- > With the knowledge gained from your plant expansion, modernize the entire facility over several maintenance cycles as part of your ongoing maintenance plan

#### Your benefits will be to:

- Remove dependence on multiple vendors.
- Minimize total cost of ownership by allowing reuse of the most significant existing assets.
- Provide maximum productivity with less risk and less effort.



The upgrade to **Plantstruxure** can be achieved either incrementally so that it fits into your scheduled maintenance downtime and budget, or one step at a time thanks to the modular structure of our system.

# Our expertise is your advantage

Solutions are not only solely based on technology, but also on the expertise behind the technology. Our teams understand what is needed to help you meet your goals in automation and energy management.

## Automation solution centers: A worldwide network of engineering excellence

Schneider Electric has combined our many years of old and new systems and applications engineering experience with our industry-leading innovative product technology, and we make them available to our customers through a network of 40 automation solution centres in 25 countries around the world. These engineering centres are staffed by more than 1,400 application experts who work with you to design a modernization solution that is tailored to your exact needs. Our tools, standards, and proven processes allow us to apply solutions best practices to your projects with the confidence, safety, and quality you want, while helping you accelerate your engineering workflow, reduce operating costs, and protect your people, plant, and processes.

## Schneider Electric Alliance System Integrators: Our partners' expertise and involvement

In addition to our own engineering resource centres, we work closely with approximately 1,800 system integration partners to provide them with the training, support, and technical expertise that enable them to blend their own unique set of skills and applications expertise with our advanced solutions into a fully optimized turnkey project.

In addition, as members of the Schneider Electric Alliance programme, our partners are challenged to become certified experts in solution specialties, ensuring that you get the most highly optimized solution for your needs.



## What do you get from modernization?

- Increased production and efficiency
- Enhanced connectivity through access to network options
- Lower maintenance costs
- Warranty coverage
- Safety compliance
- Enhanced energy efficiency of your plant
- Reduction of the change downtime by as much 60%
- A savings of up to 75% of engineering and integration costs
- Tools and procedures provided by Schneider Electric.



Expertise of our teams



Migration solutions



Maximum value for you

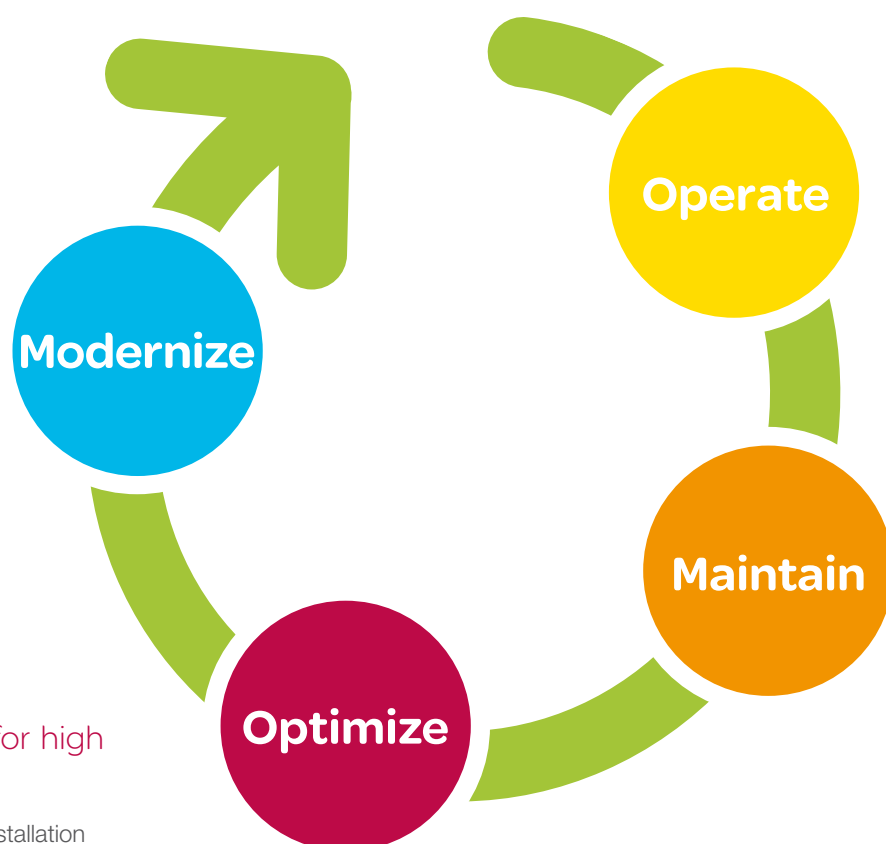
# Maintain functionality throughout the entire life cycle

## Safe and easy upgrade

- > **Ensure** restart of the installation in the same conditions as before the operation and limit downtime
- > **Increase** flexibility and safety with advanced automation solutions

## Proven expertise for high performance

- > **Identify**, through your installation audit, functional limitations and provide improvement recommendations
- > **Define** the right technical solutions to limit the risks during the modernization phase



## Smooth processes

- > **Balance** the functioning of your assets to reduce the number of failures
- > **Enhance** your staff's competencies to operate more effectively

## Protected investment

- > **Improve** and guarantee long-term reliability and performance of your installations
- > **Retain** your legacy equipment with a reduced maintenance budget

## Schneider Electric Industries SAS

**Head Office**  
35, rue Joseph Monier – CS 30323  
F92506 Rueil-Malmaison Cedex  
FRANCE

[www.schneider-electric.com](http://www.schneider-electric.com)

ART. 960577  
998-4398

Due to evolution of standards and equipment, characteristics indicated in the text and images in this document are subject to confirmation by our departments.

Design: BlueLoft  
Photos: Schneider Electric - Getty Images  
Print:

©2011 Schneider Electric. All Rights Reserved. Schneider Electric, PlantStruxure, Modicon, and Telemecanique are trademarks owned by Schneider Electric Industries SAS or its affiliated companies.

04/11

DI/ACED111001EN