

Life Is On

**Schneider**  
Electric



# Reducing risk on major projects

Schneider Electric Main Automation  
Contractor (MAC) services

[schneider-electric.com/processautomation](https://schneider-electric.com/processautomation)

Your mission is to extract the highest production value from your assets; ours is to deliver all the automation you need to do that.

For more than 100 years, we have facilitated delivery of the most advanced automation technology to the world's largest processing plants, and we stand ready to do that for you as your main automation contractor.

The technology you choose for your project is important, but not as important as selecting a partner you can trust and rely on — one who shares your goals. And while clients often come to us for our technology, their positive experience with our people contributes as much to continued, long-term engagements.

Our deep engineering skills, rigorous project management methodologies, and careful attention to automation, from the earliest stage of your project, combine to reduce the cost and risk of implementation, as well as your ongoing ownership costs.

Schneider Electric brings to bear all the expertise of a multinational engineering company that has experienced more than a century of success. A larger portion of our organization is devoted to automation than with most other MACs, through world-leading brands such as Foxboro, Triconex, Wonderware, and SimSci. Our continuously current, scalable solutions ensure that you can meet the shifting challenges of the global economy.



## What Schneider Electric M•A•C delivers

Single sourcing is a simple idea. And when applied to even your most complex automation project by Schneider Electric MAC specialists, it yields powerful results: a better project, faster, at a lower cost. Specifically, your Schneider Electric MAC delivers the following advantages:

### Reduced project risk

Automation typically represents a small fraction of the cost of a large-scale plant implementation, but can constitute up to a third of the risk. That's because your plant cannot begin operating safely and profitably until the automation is ready — and that requires synchronizing a complex web of organizational, technical, and cultural entities.

Careful selection of the people who will plan, design, and implement your automation is key to successful risk management. Schneider Electric has the resources and expertise to accept and control that risk, taking on your most complex MAC projects. At every step, seasoned Schneider Electric specialists experienced in engineering large-scale projects apply proven methodologies to cut downtime, rework, and delays.

### Management/engineering efficiencies

By accepting responsibility for your automation, Schneider Electric minimizes the time and cost that you or your partners must devote to non-core activities such as coordination and scheduling.

Schneider Electric MAC expertise, methods, and tools form a dynamic environment, which links all aspects of project execution to support global project completion. This aids efficiency

and cost control by resisting “drift” in project size and goals, with scope management implementation that provides tested change tracking and structured risk control. This pays off in faster commissioning and reduced customization costs.

### Accelerated schedules

Project delays can add significant costs in implementation, engineering, and lost production. With responsibility for all automation, Schneider Electric project engineers will apply the most advanced planning and collaboration tools and techniques to enforce constant focus on the calendar — and the clock. Speed is enabled by using the right automated engineering tools, uniquely integrated workflow automation software, and testing methods, drawing on our large storehouse of reusable engineering. So you hit your startup dates and return on investment (ROI) targets much earlier than otherwise feasible.

### Lower comprehensive costs

Schneider Electric MAC can save up to 30 percent over piecemeal implementation by multiple vendors. We subject element after element to rigorous analysis and proven cost avoidance measures. Relentlessly streamlined operations result in significant savings throughout the life of the project — and beyond.

### Greater value

Schneider Electric MAC delivers faster time to profit with continuing productivity and revenue, along with proven commitment to and solutions for protecting health, safety, and the environment.

## What Makes Schneider Electric M•A•C Different?

Not all main automation contractors are created equal. Some are too small for the scope of your project. Others don't have the specialized knowledge, resources, or products that your particular automation challenges demand. Still others may actually be too big for your task. They can't be responsive enough, because of conflicting demands or because they are bogged down by internal bureaucracies, to give your project the attention it demands and deserves.





Our formula is simple: we combine an extensive engineering perspective with rigorous project management; support it by advanced tools, techniques, and leading-edge technologies; and deliver it via people who care.

### Engineering and design excellence

Among all your choices, Schneider Electric MAC stands out. We bring extensive engineering, design, and project management experience in the process industries. We are the experts in interpreting process licenses and applying automation to extract maximum value. A stellar track record of success in implementing automation projects of tremendous complexity and scope proves that we can excel at challenging MAC assignments.

### Global project management infrastructure

Our experience in delivering large-scale automation solutions has honed our project management methodology and global infrastructure. This keeps your project on track, ensuring compliant and consistent execution across geographies, cultures, and stakeholders. Lead engineering teams at project sites collaborate with specialists at our global Engineering Centers of Excellence (EECs), which are located near major Engineering, Procurement, and Construction (EPC) offices and their technical resources. This ensures that language and cultural differences do not impede production.

### Intelligent engineering tools

Engineering teams share common data and tools in the cloud. Our unique Flexible, Lean Execution (FLEX) service draws on our storehouse of reusable engineering to improve efficiency and

reduce the cost of project delivery. This enforces common workflow and processes; provides a centralized, controlled template library; and enables concurrent access to geographically distributed users and applications. Standards are enforced. Information exchange is instant. Human error is reduced dramatically. All of which adds up to less risk and greater value for you.

### Technology leadership

Complementing our engineering skills, tools, and project management expertise is the industry's broadest, most integrated, and most implementation-friendly automation technology portfolio. This includes distributed control (DCS), safety, fire and gas, SCADA, simulation software, and asset management systems. Using Schneider Electric MAC minimizes the number of separate automation suppliers — providing less complexity and lower levels of risk. And behind that are the knowledge, skills, and expertise to integrate all technology into the MAC solution that suits your needs exactly.

### Unwavering commitment to your success

Our people are known not only for their engineering expertise but also for their proven commitment to client success. We pride ourselves on attention to the details we know will impact your long-term operations. We have a lot invested in your long-term business success — and we act accordingly.

A group of business professionals in a meeting, looking at documents. The image shows three people in business attire (two men and one woman) sitting around a table, focused on reviewing papers. The background is a blurred office environment with warm lighting.

## The Schneider Electric M•A•C Process

### **We hear you**

Some MACs start with a preconceived approach, then try to make your automation project fit their procedures. At Schneider Electric, we know every project is different. From the start, we listen attentively to what you want. We collaborate on how best to accomplish your goals. And we methodically document inputs and decisions. This eliminates ambiguous specifications that can cost time and money later.

### Start early

Changes that occur later in the project lifecycle are more costly to implement than those made in early stages. We provide rich design and documentation for automation during front-end engineering design. Clients are frequently surprised at how much can be accomplished during FEED.

At later design and engineering stages, we employ advanced simulations to validate designs, automate testing, and optimize schedules. So you can drastically reduce change orders throughout the project. For example, a virtual team of frontline engineers, EEC experts, and EPCs from around the globe can pool talent in improving a plant simulation shared in the cloud. Bringing that same level of talent together on a system once it has moved from simulation to implementation would be difficult and costly.

The sooner you engage Schneider Electric MAC in the process, the greater will be our ability to optimize benefits for your entire plant lifecycle.

### Plan intelligently

In any automation project, each added participant increases the opportunities for confusion. We devote significant resources to closely aligning the activities of all partners with your overall goals.

Our robust project management methods keep your project on track, ensuring compliant and consistent execution across geographies, cultures, and stakeholders. Our models lay out the structure and management of the entire project and provide engineering teams with the infrastructure they need to react to changes, to communicate seamlessly, and to transfer technology.

Our disciplined stage gate work breakdown structure lets us manage each project stage, change, cost, and

deliverable to promote clear communications and to optimize results. Structured protocols identify threats to costs and schedule, and manage escalation to satisfactory resolution. This is the basis for consistent design, sharing of experience, optimal loading, and facilitated testing.

By making Schneider Electric MAC your single point of contact and responsibility, you can rest assured that best-in-class planning and project management techniques will be in place to make your project successful.

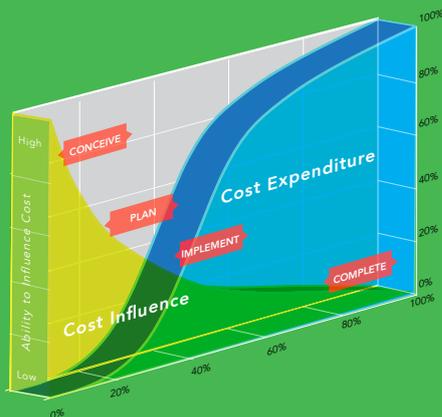
### Deploy PMI-certified project managers

Our MAC project managers have extensive experience in adhering to the most widely accepted global automation industry standards. All are certified by the Project Management Institute (PMI), the leading global association for the project management profession.

Our FLEX approach contributes significantly to enforcement of standards and industry best practices. It provides a centralized interface, which facilitates access to and configuration of all field instruments. It automates import of P&ID information from mainstream plant design tools such as InterGraph's® SmartPlant® software, enables viewing and configuration of all DCS I/O, supports simulation of DCS and safety systems prior to startup, and maintains a simulated environment for operator training.

### Commit to your long-term success

As a dedicated automation vendor, we will closely support the automation solution we build together, for the life of the plant. At every point, we keep your long-term interests in sight — because we share them with you.



The cost to implement changes rises as the project timeline advances. Involving Schneider Electric MAC early minimizes later changes.

# The Schneider Electric M•A•C Portfolio

## Unique focus

At Schneider Electric, automation is a large part of our business — more so than with any other major MAC. So we're in the best position to keep up with every new development in the rapidly changing, ever-more-complex process automation world.

For your main automation contractor, it only makes sense to choose the world's leading process automation specialist.

## Complete automation functionality

Simply put, no other automation vendor can match the comprehensive scope of the Schneider Electric automation portfolio. For your automation project, we can offer all this and more:

### Complete range of MAC services

- From automation planning, engineering, and design through implementation, commissioning, and support, Schneider Electric does it all

### Comprehensive multivendor integration

- Integration of Schneider Electric products with any third-party solution

### Premier Foxboro® control systems (DCS, SCADA)

- Robust, scalable, easy to use
- Designed for enterprise integration, from small plants to the very largest process complexes

### Ultra-reliable Triconex™ safety systems

- Safety shutdown
- Turbomachinery control (TMC)

### State-of-the-art SimSci™ software applications

- Industry-leading simulation software
- Advanced process control

### Innovative Wonderware® manufacturing execution systems (MES)

- Market-leading HMIs
- Configurable workflow
- Mobile devices

### Unparalleled Foxboro instrumentation solutions

- Extensive experience in specifying and integrating all measurement technology
- Implement Schneider Electric or third-party field devices depending on client need

## SCHNEIDER ELECTRIC MAC SERVICES

- Project management
- Cost/schedule control
- FEED, basic, & detail engineering
- Functional & design specification
- Procurement
- Vendor package interfaces
- Automation systems integration & programming
- Installation
- Virtualized factory acceptance testing (VFAT)
- Site acceptance testing (SAT)
- Commissioning
- Training
- Startup, post-startup, and operations support



Future-proof your automation project today. Let Schneider Electric MAC reduce risks, lower costs, accelerate startup, and shorten your path to ensured profitability.

### Secure integration

As the acknowledged leader in open automation, we ensure your project builds in secure communications among different automation platforms from different vendors.

Adhering to the industry's most stringent cybersecurity standards, we design for automatic synchronization of automation systems with business information databases. So you can securely share all your operation's data, in real time and throughout the enterprise — literally from sensor to boardroom, and all around the world.

### Protected investment

Via our continuously current approach, your system accommodates new hardware and software as it emerges. Built-in scalability helps you start up at the lowest installed cost — then change direction or expand scope smoothly as your operation grows.

Your automation functionality remains always up to date. So you get an advanced yet secure platform for production and process efficiency, operations management, and enterprise business performance to safeguard ongoing profitability.

### Future technology today

Continuously advancing our technology also makes it easier to implement, while contributing a unique, managed flexibility that reduces risk. Our simulation software lets you try out varying plant models before you build, so you avoid numerous mistakes and design truly best-in-class solutions. Our universal input/output device technology eliminates the marshalling process that has made connecting field devices so time-consuming and costly. Enabling modeling of our control systems lets you locate massive configuration development in the cloud, instead of making large investments in physical servers and equipment. Results: unprecedented collaborative ease — with substantial savings in both budgets and scheduling.

Future-proof your automation project today. Let Schneider Electric MAC reduce risks, lower costs, accelerate startup, and shorten your path to ensured profitability.

### Trusted brands

Our technology portfolio complements our MAC offering with some of the world's most innovative and reliable automation solutions. It encompasses the acknowledged leadership of technology brands such as Foxboro, Triconex, Wonderware, and SimSci.

Naturally, Schneider Electric MAC applies technologies from other vendors when they're the right fit for your project. Whatever the source, we're committed to supplying best practices and best-in-class brands to meet your automation goals.

And most importantly, we have the expertise to plan, design, and implement technology around your needs.

Schneider Electric MAC is ready to take responsibility for the full scope of your project's automation, from initial planning and design through commissioning and lifetime support.

From brownfield automation migration/upgrades to the very largest greenfield projects, Schneider Electric MAC offers proven speed and savings. We'll adapt our approach for maximum efficiency in contracting directly with your project main contractor (PMC) or EPC, or will use whatever contracting terms work best for your business.

And you can choose any or all services, from planning, design, and commissioning to maintenance and support.

# Let's get started

## Engineering your success

Schneider Electric MAC will assign a core project team involving specialists from every part of our organization. Many have also worked for EPCs or end users. Their knowledge of today's automation solutions is absolutely unparalleled. And they often possess extensive experience in your specific application as well.

Geographically, our regional engineering centers support global processing hotspots. From design tweaks to support calls, expert help is close at hand.

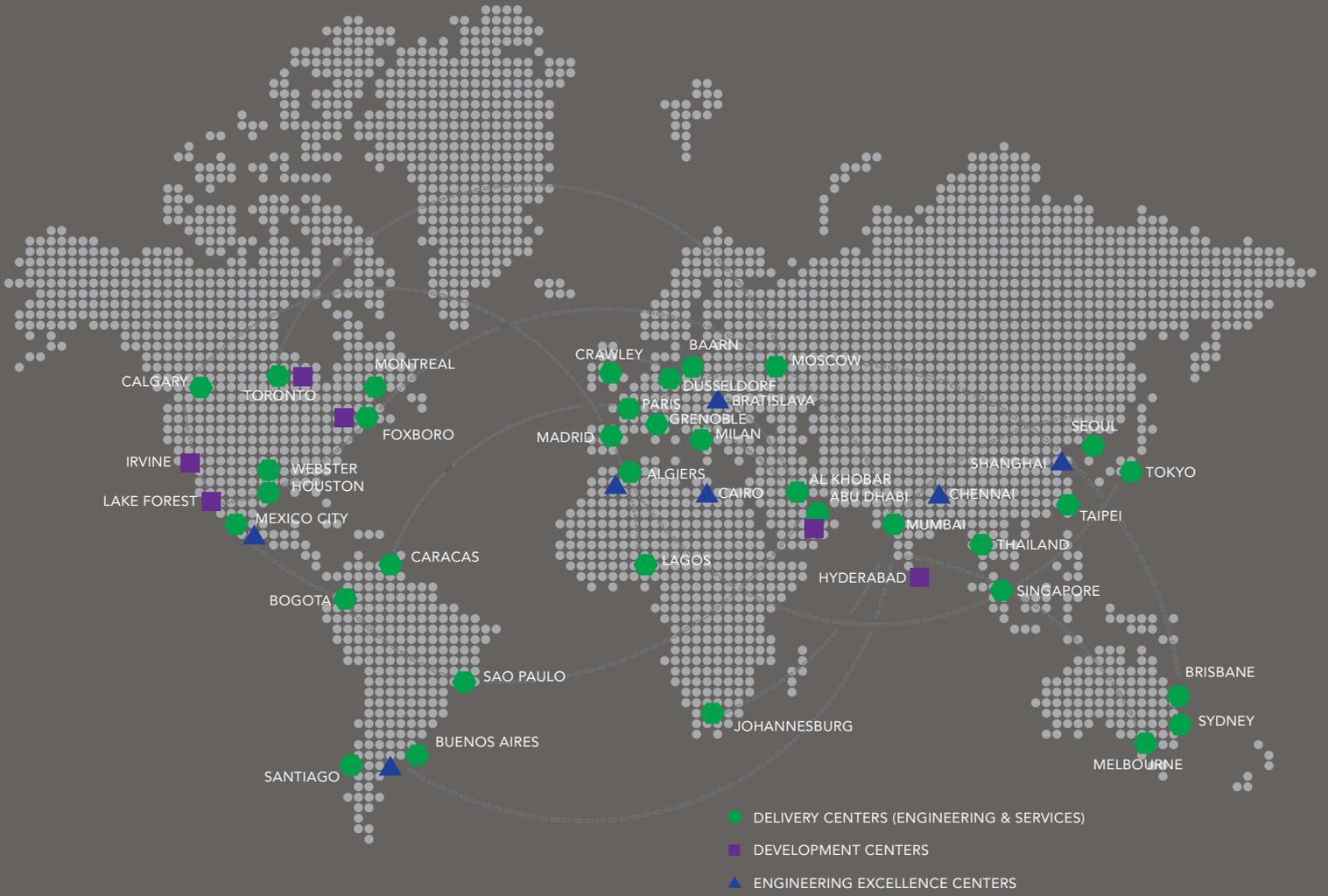
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## World-class results

We've proven that our extensive, disciplined MAC process, technology, and engineering talent ensures the success of your project, large or small. Every step of that process is designed to accomplish the goals that are most important to you:

- Substantially reduce risk
- Eliminate errors via control and safety automation
- Improve quality of total technological integration
- Cut automation implementation costs by up to 30%
- Fast-track startup

# Global Organization



Schneider Electric's formal stage gate model enforces quality at every step and at every site.



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