CIMA+ Engineering for people

TEMPUS

CONTROL SYSTEM MIGRATIONS
AT THE PRESS OF A BUTTON

cima.ca/tempus

A LEADER IN CONSULTING ENGINEERING

With more than 30 years of industry experience, CIMA+ is the consulting engineering firm of choice across Canada. Our interdisciplinary team works hand-in-hand with clients to deliver exceptional results on projects large and small.

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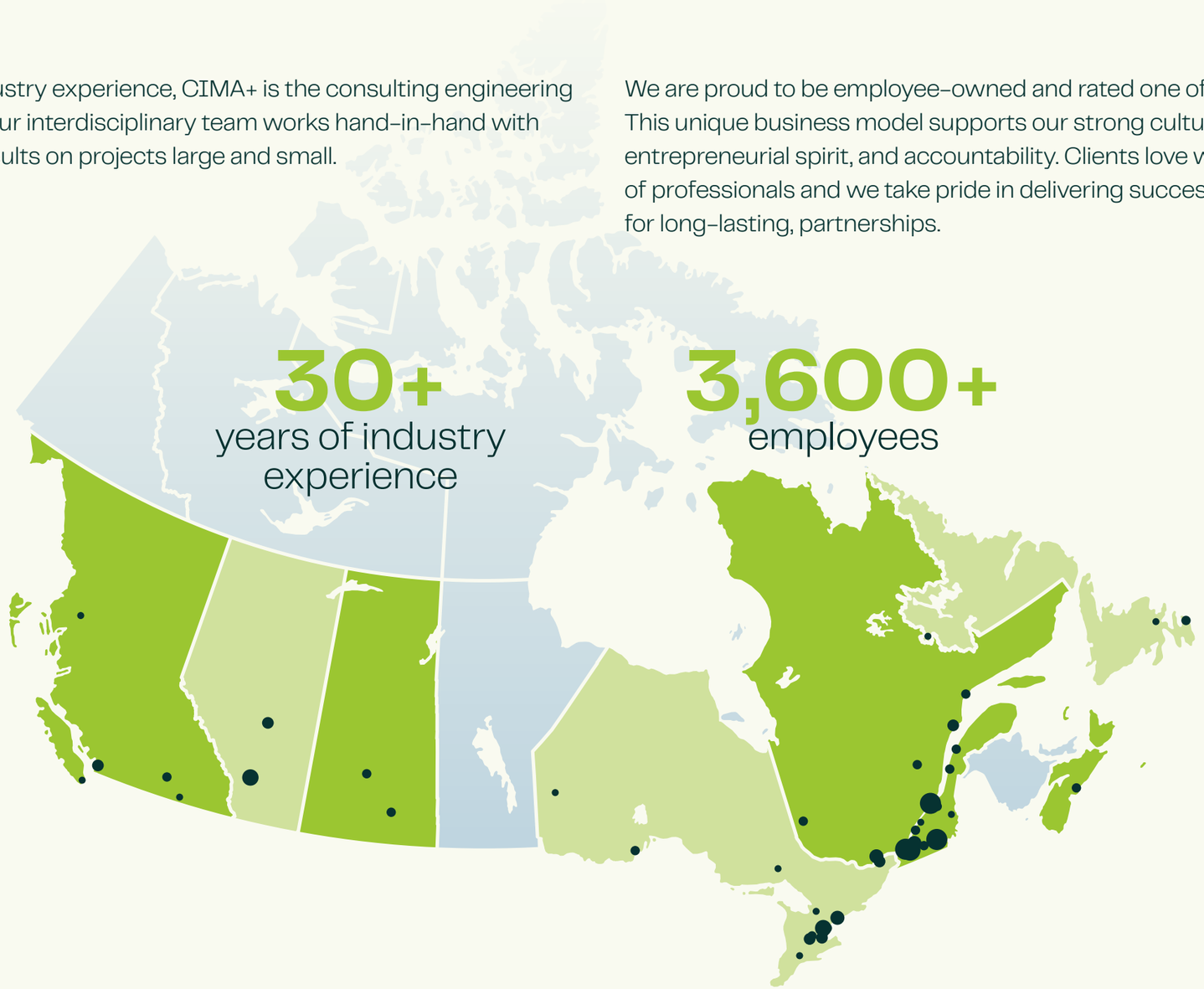
We are proud to be employee-owned and rated one of Canada's best employers. This unique business model supports our strong culture of excellence, entrepreneurial spirit, and accountability. Clients love working with our talented roster of professionals and we take pride in delivering successful projects that set the stage for long-lasting, partnerships.

40+
offices across Canada

30+
years of industry experience

3,600+
employees



> **"We wish to make a difference with our employees, clients, and business partners to shape an inclusive, fair and carbon neutral world. We must work towards this ideal that is not contrary but rather complementary to the sustained growth we are aiming to achieve."**
>
> **Denis Thivierge,** P. Eng.
> President and Chief Executive Officer

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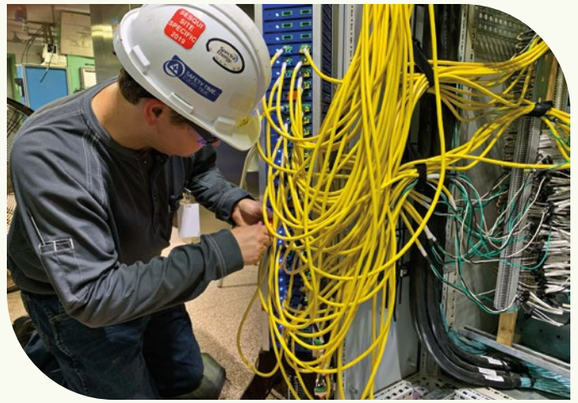
TEMPUS
ONLINE CONTROL SYSTEM MIGRATIONS AT THE PRESS OF A BUTTON

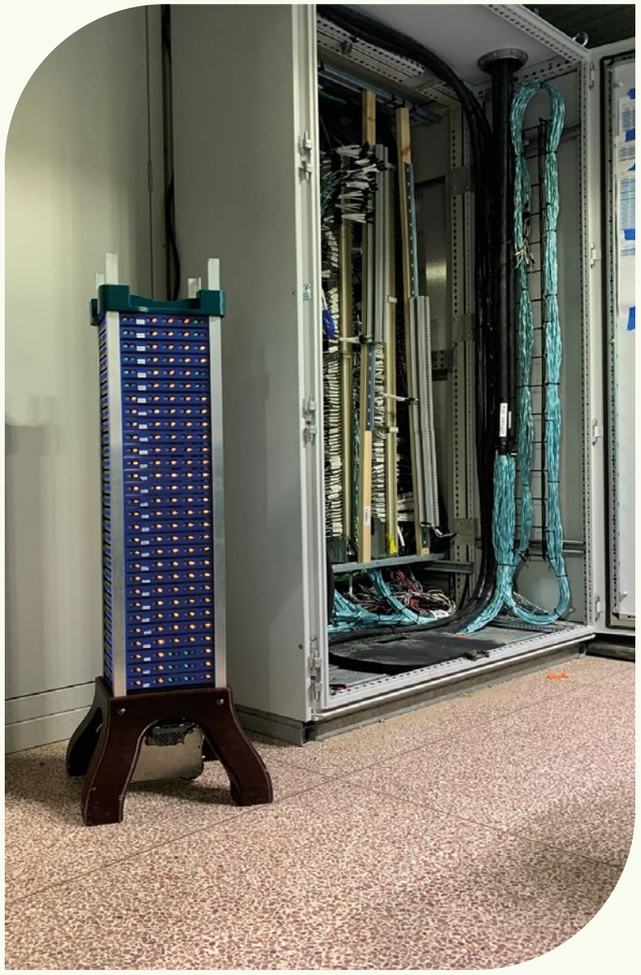
TEMPUS is a UL™ certified, temporary hardware installation that facilitates all the wiring from one control system to another, without disrupting the signals. It allows for full online commissioning of the new system while the old control system is still in control. Once the new control system has been fully tested, the control is switched to the new control system at the press of a button. As soon as the cutover is complete, the tool is removed, leaving a new and well-organized control system with no legacy equipment remaining.

Combined with the expertise of the CIMA+ automation engineering team, TEMPUS eliminates shutdowns and simplifies the entire project. The risks and unknown factors surrounding the migration process are significantly reduced. This allows our team to carry out the whole project from concept to completion, including engineering, programming, procurement, construction, migration, and commissioning, without impacting production.

“TEMPUS acts as a temporary bridge between the obsolete control system to a new state-of-the-art system to allow seamless transfer of control. This technology is an enabler for customers to modernize their plants without all the traditional headaches and risks of a traditional upgrade.”

David Findlay





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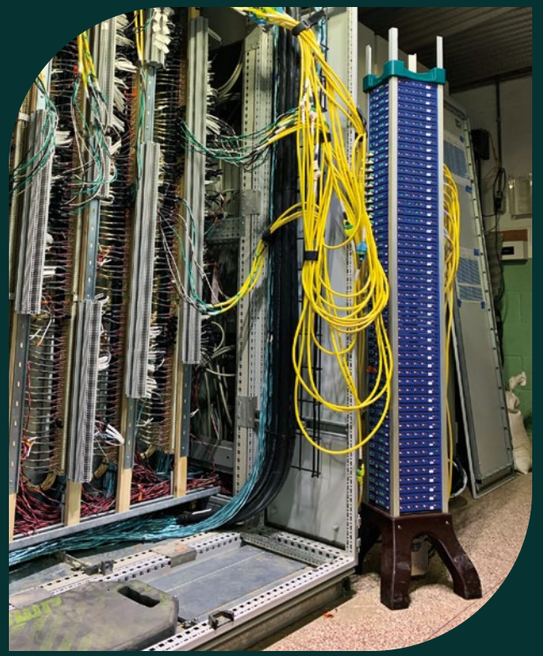
TEMPUS
SAVES TIME, REDUCE RISKS, AND ELIMINATE SHUTDOWNS

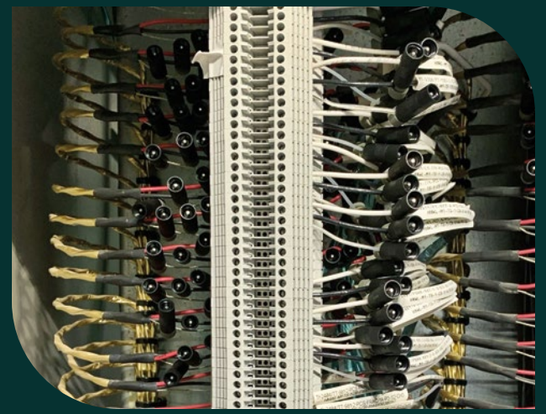
Designed to be modular – the TEMPUS module is configured for the signal type and staked together in a support rack to cutover an unlimited number of signals at any time – though typically the process system is separated into sub-systems of 50-200 signals to migrate a portion of the plant each day.

Developed by CIMA+, TEMPUS is the only tool on the market that allows you to replace aging control systems completely online, with zero interruption to your plant's production – saving you time and money.

A traditional control system modernization is logistically complicated due to the challenges involved in relocating the wiring from one system to another, without disrupting the signal or impacting the programming.



- Elimination of plant shutdowns
- Allows for complete online commissioning and testing with real process values
- Presents significant reduction in project lifecycle costs
- Reduces project risks with added flexibility
- All conventional control system I/O types supported
- Eliminates disruption of I/O signals
- Failsafe by design
- Scalable to any control system size
- Adds flexibility to design and commissioning
- Non vendor specific and works on all platforms
- Support for PLC, DCS, SIS, SCADA, REMOTE I/O
- Multiple platforms can be migrated at the same time



"CIMA+ has successfully cutover many obsolete control systems utilizing TEMPUS. This technology has been used on many projects in multiple countries in different industries that require 24/7 operations."

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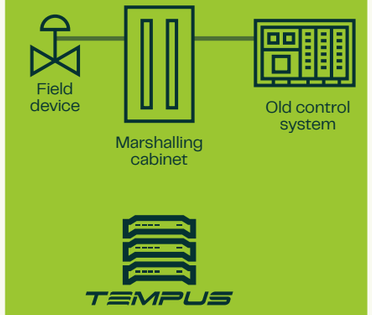
TEMPUS CUTOVER SEQUENCE

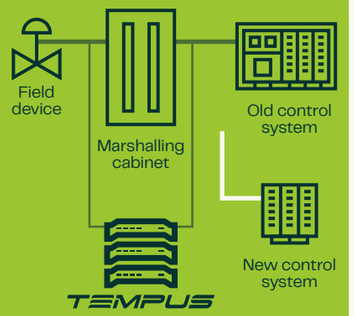
Watch an animation of the cutover sequence

STEP 1



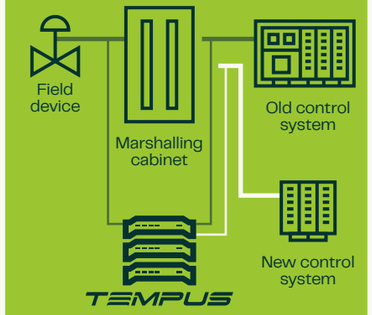
Setup the TEMPUS rack near the existing marshalling cabinet and configure the signal modes.

STEP 2



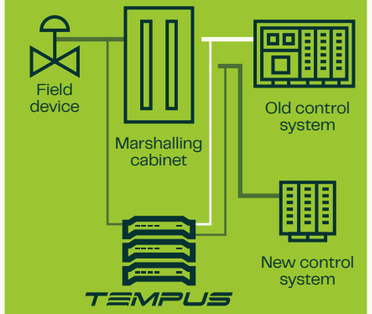
Install the pierce probes and interconnection cables to the associated signal and connect to the TEMPUS units.

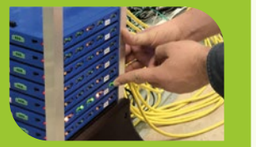
STEP 3



Disconnect the old control system wires from the terminals. The signal is maintained through the TEMPUS units and the new control system receives an independent but identical signal.

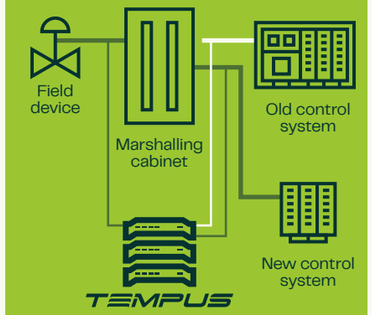
STEP 4





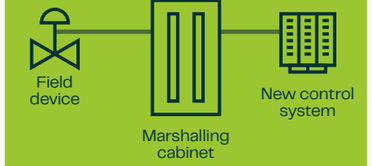
Perform online commissioning and cutover to the system at the press of a button.

STEP 5



The new control system wires are terminated to the terminal strip.

STEP 6

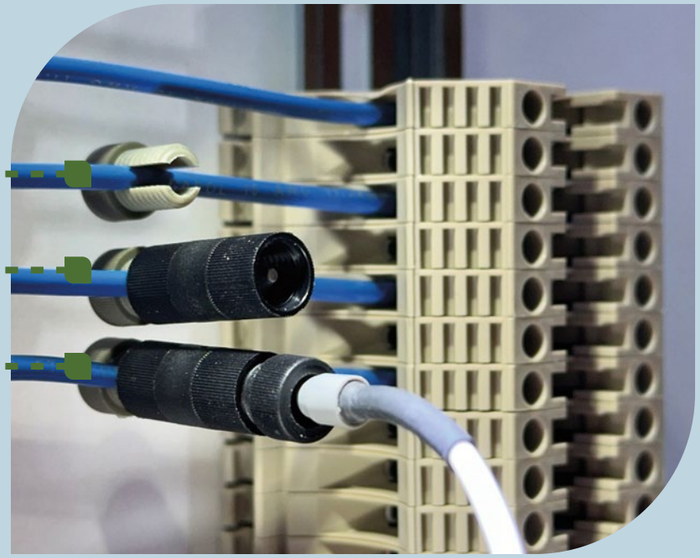


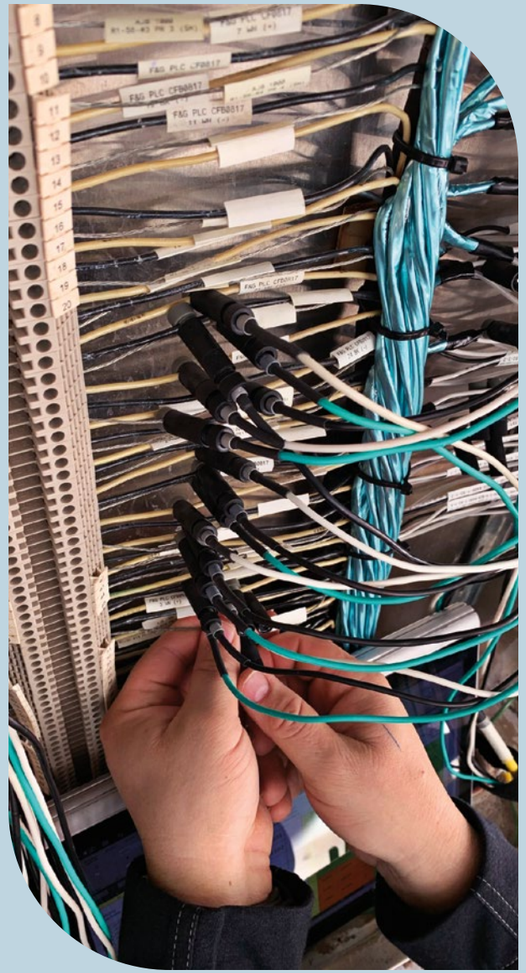
The old control system and temporary TEMPUS hardware can be removed completing the seamless online migration to any new control system platform.

TEMPUS
SAVES TIME AND ELIMINATES SHUTDOWNS

A key requirement of all control system migration is the removal of the old control system signal wires and replacing them with the new control system wires to the respective I/O cards.

1. Slide split cap over wire
2. Screw on pierce probe
3. Connect TEMPUS cable





The TEMPUS Probes connect to the existing signals with a small needle allowing for the signals to be duplicated to both systems.

The interconnection cables with these probes allows the old system wires to be replaced with the new wires with zero signal disruption.

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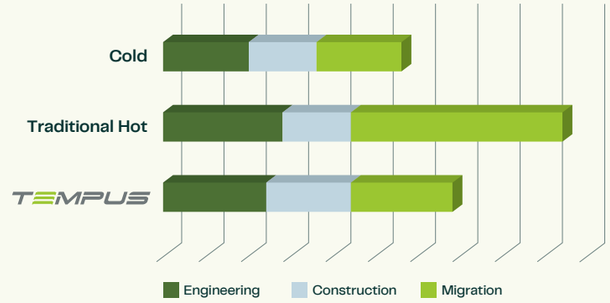
TEMPUS
COST SAVING, RISK REDUCING SOLUTION

TEMPUS allows unparalleled flexibility in design, construction, and commissioning. Rigid and complex outage planning leaves no margin. TEMPUS changes this by allowing the system upgrade to be done outside of a plant outage.

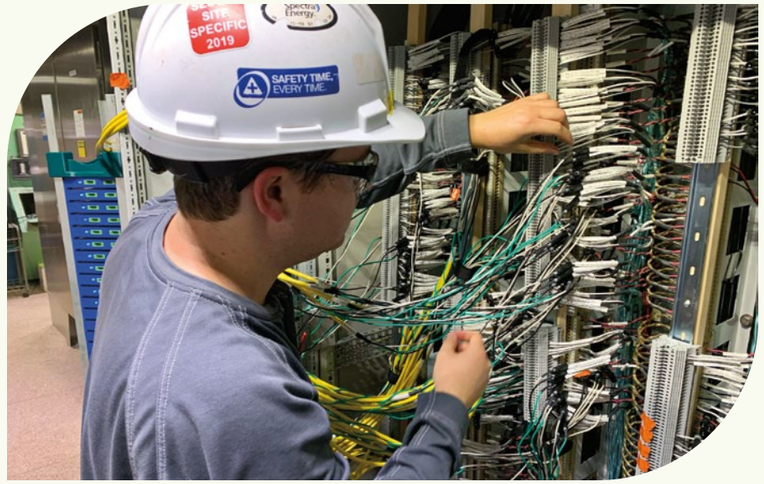
CASE STUDY:

Many variables contribute to making every control system migration unique. Consider this, CIMA+ performed a direct comparison of the three major methods for migrating aging control systems in one project to control these variables to assess overall cost. In this case study, the different phases of each method were calculated to a cost per signal. The results speak for themselves:

Relative Cutover Cost



Flexibility enables simplification of the project and thus reduces risk and capital cost of the project.



Factor in lost production during an outage and TEMPUS reduces costs, reduces risk, and streamlines the schedule.

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FOR MORE INFORMATION, CONTACT US:

info@cima.ca

CIMA+ HEAD OFFICE

600–3400, boulevard du Souvenir
Laval QC H7V 3Z2 Canada
T 514 337-2462

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