



BESTECH



CORPORATE PROFILE

WHO IS BESTECH?

BESTECH is a trusted team of industry professionals delivering services in automation, engineering, software development and environmental monitoring. The BESTECH team is well-equipped to undertake a diverse range of projects, with a commitment to performing “On Time, On Budget, On Spec”.

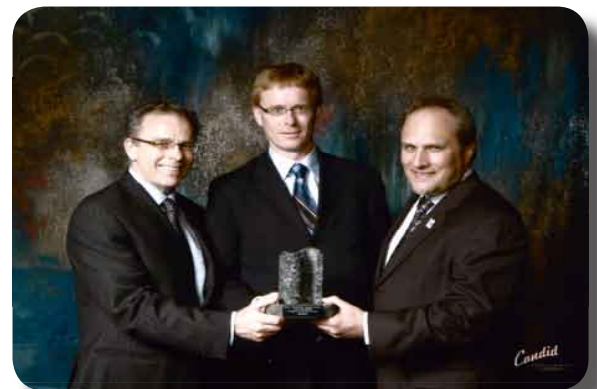
Recognized as both a leader in innovation and as a top employer in Northern Ontario, BESTECH is committed to a strategy of sustained growth and security, with an eye towards future innovation and diversification. BESTECH is also heavily involved in the local community, sponsoring many events and encouraging volunteerism among the BESTECH staff.

Founded by Marc Boudreau and Denis Pitre in 1995 to meet the demand for specialized system integration and automation solutions in the industrial sector, BESTECH has diversified its offerings by growing with our clients' needs to become a recognized leader in professional services.

BESTECH plans to continue to provide the excellent services they are known for while discovering new markets and industries, increasing employment and expanding their product line while continuing to support the local community. BESTECH has rapidly built a reputation of excellence, and the best is yet to come!

AWARDS AND RECOGNITION

BESTECH has been awarded a number of honours since being founded in 1995, including winning both the Greater Sudbury Chamber of Commerce “Business Excellence Innovation Award” and the Northern Ontario Business “Generation of Excellence Innovation Award” in 2000, and being recognized as a top employer by Northern Ontario Business. BESTECH also won the Make-It-Real award for community involvement. Most recently, BESTECH was awarded the prestigious Bell Business Excellence Award as Greater Sudbury's 2008 Company of the Year by the Greater Sudbury Chamber of Commerce.



“ON TIME, ON BUDGET AND ON SPEC”



ENGINEERING

ENGINEERING YOUR WAY

BESTECH's Engineering division is prepared to work with you to meet your engineering needs on projects of varying sizes and levels of complexity. With expertise and knowledge of services encompassing everything from feasibility studies and project management to commissioning and training, our Engineering team has the flexibility to adapt to your needs. You can count on the BESTECH team to deliver a solution engineered to fit your specific requirements.

TURNKEY SOLUTION SPECIALISTS

BESTECH has built a reputation for completing multiple simultaneous projects in order to meet the maintenance shut down construction period at our client's facilities. This means that project milestones are identified and achieved, not just for one project, but for many. BESTECH diligently works to manage these milestones to ensure that all projects are constructed and commissioned on time. Turnover to the client is completed with operator training and ongoing support as required. With a plant start-up imminent, doing it right the first time is critical. BESTECH's ability to successfully deliver multiple projects with a high standard of quality, while meeting tight time constraints, sets us apart.

DEDICATED TO YOUR NEEDS

Innovation and Trust are hallmarks that the BESTECH team takes great pride in. Whether by delivering small, turnkey solutions or designing revolutionary engineered tools, BESTECH aims to ensure that these qualities are inherent in the projects we undertake for you. We will work closely with your project teams, ensuring that your needs are met and that we are ready to adapt to any changes that may arise. Building close relationships with our clients is always a goal for the Engineering team, helping us to make sure that your project is delivered "On Time, On Budget and On Spec".

ENGINEERING SKILL SET

- PLC Design
 - Panel Layout
 - I/O Structure
- Communications
 - Fiber Optic
 - Hardwired Networks
 - Wireless
- Distributed Control Systems Design
 - Foxboro DCS
- Instrumentation Application Design
 - Flow Meters
 - Level Transmitters
 - Pressure Transmitters
 - Limit Switches
 - Control Valves
- Electrical Design
 - Lighting Design and Layouts
 - Power Distribution
 - MCC Design
 - Single Line Diagrams
 - Switchgear Design
 - Transformer Application
 - Motor Control
 - VFD Integration
- Mechanical Design
 - Valving and Piping
- Complete System Design and Integration
- Feasibility Studies
- Commissioning
- Training
- Project Management
- Construction Management
- Fire Investigations
- Energy Management
 - Rebate applications
 - Analysis of usage and savings
 - Identifying and implementing energy saving measures
- EPCM

"ON TIME, ON BUDGET AND ON SPEC"



BESTECH

AUTOMATION

AUTOMATION SPECIALISTS

BESTECH's team of highly-skilled Automation Specialists is ready to work with you to meet your system integration needs. Our ability to work with a wide variety of technologies, platforms and systems enables us to develop effective and efficient industrial automation solutions. Our knowledgeable team has the expertise to design an automation system with the functionality that you want, while ensuring a high standard of quality. We make it our goal to use our skills to develop and provide complete systems that will accurately represent your industrial processes.

INTEGRATING YOUR SYSTEMS

The BESTECH Automation team is ready to deliver automated solutions of any level of complexity for your industrial facility. From simple "manual-only" operations to full plant automation, our team will meet your system needs. Our experienced specialists are equipped to provide many complex functions, including automatic systems and multiple cascading loop control over multiple PLCs. Whether it is by following or creating standards, our team will integrate your existing systems into new and effective systems.

OUR COMMITMENT TO YOU

BESTECH has built a reputation for putting the client first. Our Automation team is committed to the successful implementation of your automation project. During commissioning, our group works closely with your team of engineers, process control staff and operators to keep everyone informed, involved and trained. This ensures that new systems come online safely and effectively. If challenges arise, our years of experience and knowledge enable us to develop a multitude of solutions. Through the close synergy with BESTECH's Engineering team and the strong relationships with our clients, our Automation team has the flexibility to quickly adapt and adjust to necessary changes. When our work is complete, you can be confident that your project was delivered with an emphasis on quality.



AUTOMATION SKILL SET

- PLC Programming
 - o Siemens
 - o Allen-Bradley
 - o Modicon
 - o Texas Instruments
 - o GE Fanuc
- Application Programs
 - o Rockwell RSLogix
 - o Siemens S7
 - o Schneider Electric Concept
 - o TI
- HMI Design and Implementation
 - o RSView
 - o Wonderware
 - o Siemens WinCC
- Distributed Control Systems
 - o Foxboro
- System Design
- Commissioning
- System Support
- Training
- Project Management
- SCADA

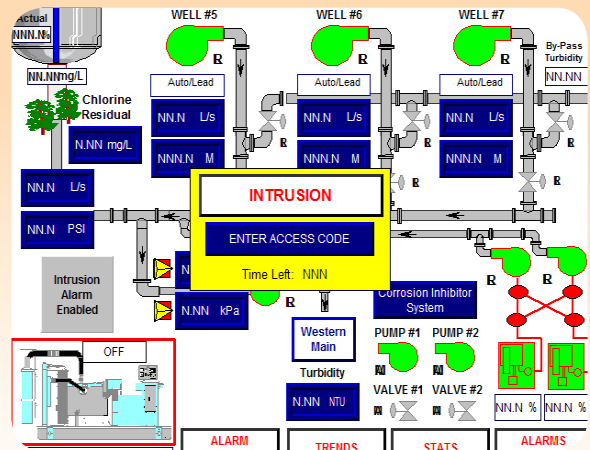
"ON TIME, ON BUDGET AND ON SPEC"

PROJECT HIGHLIGHTS

Number 7 Pump House Potable Water System

Description: The purpose of this project is to supply potable water to the town of Falconbridge. The system controls chlorine gas injection, water pressure and flow and maintains a set level in the reservoir. The system operates automatically or manually from a local touch panel and all pumps are redundant on a diesel generator backup system.

BESTECH's Automation team provided the functional description, PLC and HMI programming and commissioning for this system. This project features advanced PID cascading control loops that are critical. To eliminate any interruptions to the town's water supply, the Automation team planned the commissioning for optimal efficiency. As a result, the town of Falconbridge did not experience any interruptions in the system.



Platform: Allen Bradley PLC, Rockwell RsLogix 5000, RSView ME

D-Mine 96L Loading Pocket

Description: This loading pocket is loaded from the 92L and 95L ore bin rock breakers and from ore bins at the loading pocket at the 9600 ft. level via the loadout system. The ore feeder and conveyor equipment can be bypassed completely and muck can be dumped directly into the loading pocket. This system is operated from the surface. The shaft bottom for D-Mine is currently 10,300 ft. below the surface.

BESTECH's Automation team effectively and efficiently programmed and commissioned the 96L loading pocket according to the functional description that was created to the client's specifications. The PLC for this project controls the ore handling for the entire mine, therefore it was critical to program as efficiently as possible to minimize the amount of memory needed for this additional loading pocket.

Platform: Modicon Quantum PLC, Schneider Electric Concept, Wonderware, OSIsoft PI

PROJECT HIGHLIGHTS

Nickel Rim South (NRS) Intake Fans

Description: The intake fan system ensures fresh air is delivered to underground areas. During the winter months, air is heated using direct fired heaters. Depending on air flow requirements, one, two or three fans may be needed. This system maintains a consistent air flow and temperature, operates in a client/server environment and offers take/release control operations.

BESTECH's Automation team programmed and commissioned the PLCs and HMI as per the client's control narrative. The intake fan system included three PLCs, one for each fan/burner system, with each fan having three burners associated with it. Advanced PID loop control of the intake fan system was implemented using the DeviceNet communication protocol. The HMI programming is revolutionary in the use of custom data types. In addition to operator training, the Automation team also provided an Operator, Maintenance and Surveillance Manual that is used by on-site personnel to operate, maintain and troubleshoot the mechanical, electrical and automation systems.

Platform: Allen Bradley PLC, Rockwell RsLogix 5000, RsView SE

Smelter Activated Carbon Injection System

Description: The purpose of this system is to reduce the dioxin levels in the Cottrell Stack. A carbon-filled silo feeds a volumetric/gravimetric feeder which dispenses into an eductor, where a blower distributes the carbon to the furnace off-gas and then the stack. A constant injection is maintained while the feeder fills from the main silo. This system is operated by a Foxboro workstation.

Smaller projects demonstrate BESTECH's ability to deliver superior engineering services. Understanding the mechanical process, the nuances of the control system, the logistics of repetitive material delivery and unloading by a third party, the challenges encountered by our clients operators and maintenance personal all played an important role in the successful delivery of this project. Once these needs and challenges were fully understood, BESTECH quickly completed the electrical design.

BESTECH's Automation team provided the functional description, PLC and DCS programming, commissioning and training of this system. This project was also one of the lead projects in which BESTECH developed the client's official programming standards for Allen Bradley PLC and Rockwell RsLogix 5000.

Platform: Allen Bradley PLC, Rockwell RsLogix 5000, Foxboro I/A, Foxboro I/A Series Configuration Component (IACC)

PROJECT HIGHLIGHTS

Nickel Rim South Mine Project

Description: The Nickel Rim South Mine Project was a large scale project to set up a new mine site for the client. This project was started in 2003, and involved all new buildings and underground infrastructure. Buildings included head frames, hoist houses, compressor buildings, storage locations, underground level stations and underground dewatering service. The all-new buildings required electrical services and equipment to make a fully functional mine site. The underground level stations required shaft signaling, dewatering, and electrical services. With many other companies working in and around the Nickel Rim site, there was a great deal of project co-ordination being done to keep all of the design work proceeding smoothly with construction activities.

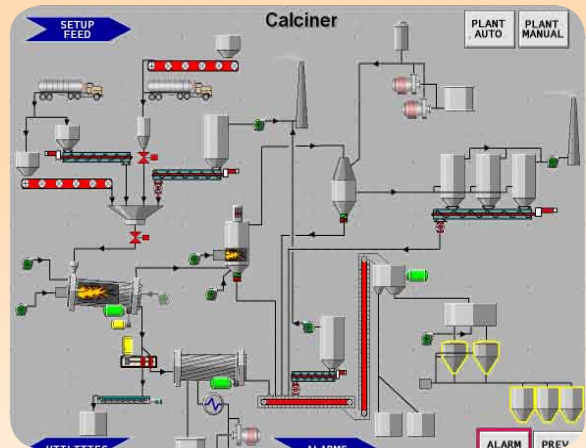
BESTECH was involved in the design and engineering for all of the electrical systems for the surface buildings. The design included the electrical distribution through transformers and utility panels, MCCs and all of the lighting layouts. Other designs included the design of the PLC cabinets and the associated programming to connect to the various instruments, motors and equipment.

The design work underground was very similar to the surface. All of the initial electrical distribution and equipment was included in the design work. The design included all of the lighting, power distribution, utility panels, PLC cabinets, instrumentation, dewatering pumps and associated PLC programming for control. The shaft signaling system for both the Main shaft and the Vent shaft was designed with all associated bells and pull cord equipment. Recently, the system was designed to be upgraded to a wireless shaft signaling system which transmits and receives signals via a UHF Leaky Feeder system.

PROJECT HIGHLIGHTS

Smelter Calciner Plant

Description: The purpose of this plant is to remove volatiles from a wide range of feeds (spent catalysts, batteries, plating sludges) so that they can be added to the smelter furnace without affecting the metallurgy of the matte. Feed materials are introduced into a rotary kiln Calciner to burn off any volatiles, then separated via a material handling system and then pneumatically conveyed to a furnace bin system. The kiln off-gas volatiles are burned off, cooled, and filtered before the off-gas is sent to the stack. Emissions are monitored by the use of a Continuous Emissions Monitor (CEM) system in order to meet the strict guidelines imposed by the Ministry of the Environment. This plant is operated by a Foxboro workstation and any system can be controlled manually or automatically.



BESTECH's Engineering team provided an EPCM solution to meet the client's needs. A complete electrical design encompassing the entire electrical distribution, including MCC's, motor feeders, transformers, utility panels, lighting and cable tray layout. A complete automation/instrumentation design was also completed. This design encompassed the control of all plant systems, starting with the design and layout of all PLC & DCS I/O. The selection of the end device instruments and the control interface of OEM packages were also done by the BESTECH team. Preparation of Tender Documents, Purchase Requisitions and construction assistance of the electrical installation were all completed as part of this successful project.

BESTECH's Automation team was an integral part of creating the functional description to the client's specifications, programming the PLC and DCS, commissioning the entire plant as well as providing training and training manuals for the client's Instrumentation/Electrical personnel and plant operators. This project also included integrating this PLC with another system PLC for smooth / seamless process control between the Calciner Plant and the existing smelter furnace system, as well as getting the Foxboro DCS new mesh system to communicate seamlessly with the legacy Nodebus system. The Automation team worked with the client to ensure that the information gathered went to their PI system for monitoring and data recording.

Platform: Siemens PLC, Siemens Step 7, Foxboro I/A, Foxboro I/A Series Configuration Component (IACC)

PROJECT HIGHLIGHTS

Process Water Upgrades

Description: The scope of this project involved a complete re-design of the client's smelter process water pump house and booster pump house. The project involved the upgrade of two priming pumps, six VFD controlled 350 HP primary pumps. This upgrade included new motors, pumps, a complete instrumentation system including flow meters, pressure transmitters and level transmitters. The project also encompassed a complete re-design and installation of the power distribution system which included two large MCCs and the replacement of a 2000 kVA 22kV – 600V transformer complete with instrumentation.

BESTECH's Engineering team provided the necessary design for the PLC, the instrumentation, HMIs and the power upgrades. The team was also responsible for construction management which included more than a year of design. The final construction, vital to smelter operations, was completed within a strict five week deadline.

No. 2 Power House Switchgear Upgrades

Description: The scope of the project involved the replacement of one of the client's smelter main switchgear lineups. The project involved upgrading from a vintage 1950's MCC to a new Cutler-Hammer Multiline breaker lineup that sub-fed a large MCC.

BESTECH's Engineering team was responsible for the design of the new system, including the relocation of several vital equipment power feeds to the new MCC. The team was able to complete the vital construction, which was completed around the clock ahead of schedule; ensuring smelter down time was minimized.



TESTIMONIALS

“BESTECH has had a long history of distinguished customer service. On challenging and complex projects, the team consistently and successfully strives for maximum customer satisfaction. With a dedicated, motivated and skilled group of automation and project management specialists, BESTECH has provided both mine system and plant automation services for both Greenfield and Brownfield projects. I was particularly impressed with the level of innovation that has come out of such a young and dynamic group. I have used BESTECH on time-constrained critical shutdown plant PLC & HMI upgrades and they have delivered superior quality workmanship.”

**Senior Electrical Engineer
Xstrata Nickel**

“BESTECH’s methodical approach to the design and implementation of PLC code has a proven track record at our facility. Their adherence to programming standards produces code that is consistent in quality and that maintenance people can follow. This reduces commissioning time during construction. After turning the new equipment over to Operations, this also reduces plant downtime by shortening troubleshooting time.”

**Senior Automation & Instrumentation Engineer
Xstrata Nickel - Sudbury Smelter**

“BESTECH is a highly valued stakeholder and partner in Xstrata Nickel’s Operations. BESTECH’s diverse and motivated workforce complements our Xstrata Team, providing ongoing project and operations support. BESTECH employs a flexible team with a corporate culture that is in line with Xstrata’s Vision and Values. Their contribution on a recent major Process Water Upgrade Project was invaluable as they displayed their willingness to participate in a collaborative project environment while delivering ‘Best in Class’ engineering services. Their contribution was instrumental to ensuring Xstrata realizes value on our investment in a challenging economic environment.”

**Senior Civil Engineer
Xstrata Nickel - Sudbury Smelter**

“ON TIME, ON BUDGET AND ON SPEC”



TESTIMONIALS

"I have been working with the BESTECH Engineering team on most of my projects for many years; all have resulted in high quality work and successful commissioning. One of their most impressive qualities is that they are a young and resourceful group that continually produces unique and innovative solutions. Many of my projects have been completed under very tight shutdown time constraints and all have been completed on time and within budget. I will continue to use their services in the future and am confident I will receive the same professional quality of engineering."

**Principal Electrical Engineer
Xstrata Nickel - Sudbury**

"Xstrata took on the challenges of developing a spray process for a new ground support system for deep mining applications. With our project partners, we were successful in implementing the process and developing new technologies to successfully complete and evaluate the new support methodology. BESTECH provided significant technical input and expertise to successfully complete advanced programming and logic controls on the spray boom. Advanced spray boom operations were automated and applied to HMI controls where operators were trained on the intuitive process developed by BESTECH. Simplifying a complex process was successfully completed to allow operator training on a robust system.

BESTECH's on-site expertise and dedication to making the process work reliably was excellent and was a key part of the partnership that made this project a success! BESTECH consistently delivered a high quality product on time that met the customers' and partners' needs."

**Ground Control Specialist
Xstrata Nickel - Fraser Mine**

"ON TIME, ON BUDGET AND ON SPEC"



CONTACT BESTECH

The BESTECH team is ready to discuss our skills and project history with you. Please contact us for more information about our experience, capabilities or to discuss your needs. Let our team start building a trust-based working relationship with you today!

BESTECH - Head Office

1040 Lorne Street, Unit 3
Sudbury, Ontario
P3C 4R9

Telephone: 705-675-7720
Toll-Free: 1-877-675-7720
Fax: 705-675-5507

BESTECH - E & I Construction Office

1351-D Kelly Lake Road, Unit 10
Sudbury, Ontario
P3E 5P5

Telephone: 705-675-7720
Toll-Free: 1-877-675-7720
Fax: 705-522-0056

BESTECH - Timmins Office

6-251 Third Avenue
Timmins, Ontario
P4N 1E2

Telephone: 705-264-3500
Toll-Free: 1-877-675-7720
Fax: 705-264-3372

www.bestech.com
sales@bestech.com



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