

WWW.SAXUM.US



**SAXUM**  
*Engineered Solutions*



**COMPANY PRESENTATION**

*PROJECTS & EXPERIENCE*

## MISSION & VISION

**SAXUM** is a multi-disciplinary engineering and project management services enterprise specializing in the mineral processing, oil and gas, and infrastructure industries. It includes 4 (four) companies in the USA, Brazil, Australia and Argentina, and 6 (six) offices, in Tucuman and Buenos Aires, Argentina; Irving, TX, USA; Belo Horizonte, MG, Brazil; and Perth, WA, Australia.

### MISSION

Provide high-quality, accurate and cost-effective engineering and project/construction management services to the industry through the continuous improvement of our professionals until excellence is achieved.

### VISION

To enhance our clients' bottom-line results through efficient engineered solutions and management, and accurate cost estimates and planning for their industrial projects, everytime, everywhere.

*Providing multidisciplinary technical assistance with excellence since 1996*



**OFFICES**

**ENGINEERING AND EPCM CAPABILITIES  
ALL AROUND THE WORLD**



**ARGENTINA**  
TUCUMAN  
BUENOS AIRES

**BRAZIL**  
BELO HORIZONTE

**UNITED STATES**  
DALLAS, TX

**AUSTRALIA**  
PERTH



SAXUM in its continuous improvement process has adapted all the procedures to the highest international requirements with the ISO 9001:2015 quality certification.

## ABOUT US

### IN ENGINEERING, WE OFFER KEY DISCIPLINES FOR PLANT DESIGN

PROCESS ENGINEERING FOR THE MINERAL PROCESSING INDUSTRIES

MECHANICAL ENGINEERING (PLANT DESIGN, PIPING, PROCESS GAS HANDLING, ENVIRONMENTAL CONTROLS, NUISANCE DUST COLLECTION AND MATERIALS HANDLING, CRUSHING AND GRINDING SYSTEMS)

CIVIL AND STRUCTURAL ENGINEERING (EARTH WORKS AND SLOPES, PONDS, TAILING DAM STABILITY, DRAINAGE, ROADS, FOUNDATIONS, STRUCTURES, CONNECTIONS DETAILING, SEISMIC ANALYSIS, ETC.)

ELECTRICAL, INSTRUMENTATION AND CONTROL ENGINEERING



## SERVICES

We differentiate ourselves from other engineering companies by offering strong expertise and knowledge in Engineering, Procurement, and Construction Management (EPCM) services for mineral processing industries (cement, lime, mining), as well as the Oil & Gas and infrastructure industries.

Our services are characterized by high level project management and engineering teams which allow our clients to rely on our way to execute their projects with a focus on delivering either refurbished or new facilities within realistic schedules and budgets as well as optimal technical solutions.

AUDITING

CONSULTING SERVICES

FEASIBILITY STUDIES

EPCM SERVICES

PLANNING AND PROJECT CONTROL

PROCUREMENT

LOGISTIC & EXPEDITING

COMMISSIONING

SITE SUPERVISION

MULTIDISCIPLINARY ENGINEERING

CAPEX/OPEX EVALUATIONS

CONCEPTUAL, BASIC & DETAILED DESIGNS

TRADE OFF STUDIES



# CLIENTS

## NORTH AMERICA

VCNA Charlevoix	Martin Marietta	CalPortland
St Marys Cement Inc	FLSmidth	ARGOS
Cementos Fortaleza.	BUZZI UNICEM	YBP
CEMEX	GCC	CarbonBioCapture
Drake Cement	Votorantim Metals NA Inc.	Voestalpine Metals
Nelson Brothers	TKS Group	Ozinga
HOLCIM	HEIDELBERG CEMENT	Calucem
Lattimore Materials Corp.	GIANT CEMENT	Bedeschi
Panamerican Silver	RECON	Fluor Corp
Fortuna Silver Mines Ltd.	Intrepid Mines Ltd.	SNC Lavalin
SINTEK	Elementia S.A.B. de C.V.	Cruz Azul
Barrick Gold Corp	Titan Cement	
Orvana Minerals Corp.	Beumer	

## EUROPE

LAFARGE - HOLCIM	CEMEX
Italcementi	Thyssenkrupp AG
CIMPOR	FL Smidth
Cementos Molins	Bilfinger
Fives FCB	Cementos Portland
Hochtief AG	Valderribas
Siemens AG	Calucem



## DOMINICAN REPUBLIC

Grupo Estrella

## SOUTH AMERICA

▶ See next page

## MIDDLE EAST & AFRICA

Bilfinger & Berger  
 QN Cement Company  
 Intercement  
 VOTORANTIM  
 Sotacib, Grupo Molins  
 Kuwait Cement Co.

## ASIA

LAFARGE-HOLCIM  
 Intercement  
 SINOMA  
 Taiwan HS Rail Corp.  
 Bilfinger

## AUSTRALIA

Ernest Henry Mining  
 (GlencoreXstrata)  
 Adbri Cement  
 Cockburn Cement Ltd  
 BGC Cement  
 Vinindex

# CLIENTS

## COLOMBIA

Grupo ARGOS	Cerro Matoso
CEMEX	BHP
Ultracem	

## BOLIVIA

CEMEB	Liongold
SOBOCE	Itacamba
Votorantim	

## BRAZIL

CSN	Zamil Steel
Camargo Corrêa	Itambé
Holcim	CIBAHIA
Votorantim	Atec Greco
Cimentos Liz	Votorantim Metais
Cimpor	Monsanto
Intercement	Vale do Rio Doce
Cimentos da Bahia	Rio Tinto
ICON	Fives FCB
Cemengal	Klavin

## ECUADOR

FCT Internacional
Cemento Chimborazo
EPCE
UCEM

## PERU

Anglo American	ARPL
UNACEM	Glencore
Cementos Yura	Buenaventura
Cementos Otorongo	Minera IRL
Cemento Pacasmayo	Southern Peru Copper Corp.
Panamerican Silver	
Grupo Gloria	Hochschild Mining

## URUGUAY

Cementos del Plata
Cementos Artigas

## CHILE

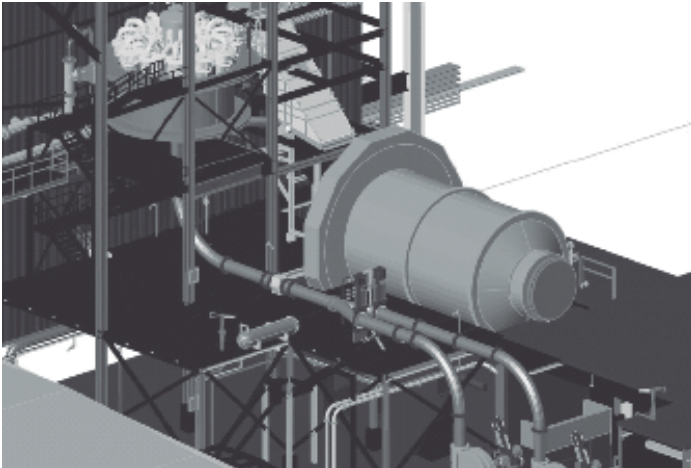
Cementos Bio Bio	Barrick Gold
Minera Cal Norte	Southamerican Gold
Cemento Polpaico	Anglo American
Procter & Gamble	Minera Esperanza
GlencoreXstrata	Teck Chile

## ARGENTINA

SINOMA	Yamana Gold
Loma Negra	AngloGold Ashanti
Holcim	Minera IRL
Cementos Avellaneda	Intrepid Mines
UCEM	Goldrock Resources
ULTRACEM	Eramet Ingénierie
Grupo Cartellone	FMC Lithium
Intercement	Goldcorp
FLSmith	Exeter Resources
Barrick Gold	Panamerican Silver
Glencore	Silver Standard
Molinos Rio de la Plata	Minera Aguilar
Aceitera Gral Deheza	Lithium Americas Corp.
Monsanto	Hochschild Mining
Pluspetrol	Aluar
rocter & Gamble	Buenaventura
Minera Alumbrera	YMAD
Galaxy Lithium	LIEX
AbraSilver	Imeris
Orocobre	Newmont
<sup>P</sup> Central Puertos	Arkadium
Vista Oil	Argosy Minerals
Hanaq Group	Lundin Mining Corp
Minera Santa Cruz	Mansfield Minerals
Zijin Mining	Orvana Minerals
MARA	EXAR

## ENGINEERING

WE PROVIDE ENGINEERING SERVICES FROM CONCEPT TO REALITY



SCOPING STUDIES AND TRADE OFF ANALYSIS

CAPEX AND OPEX STUDIES

PREFEASIBILITY AND FEASIBILITY STUDIES BASED ON NI43-101 STANDARDS

COMPLETE ENGINEERING: CONCEPTUAL, BASIC AND DETAILED

PROCESS, MECHANICAL/PIPING/DUCT, CIVIL/STRUCTURAL, ELECTRICAL,  
I&C ENGINEERING

SCHEDULE DEVELOPMENT

MAIN PROCESS EQUIPMENT BID DOCUMENT PREPARATION

AUXILIARY EQUIPMENT SELECTION ASSISTANCE

CONSTRUCTION BID DOCUMENT PREPARATION

PROCUREMENT

CONSTRUCTION MANAGEMENT

SITE SUPERVISION



## ENGINEERING

### PROCESS ENGINEERING & PLANT OPTIMIZATION



PROCESS AUDITING, CAPACITY UPGRADES

TROUBLESHOOTING

OPERATIONS ANALYSIS

MASS AND ENERGY BALANCES

PROCESS CALCULATIONS AND FLOW DIAGRAMS

ANALYSIS OF OPTIMUM MATERIAL STORAGE REQUIREMENTS

DEVELOPMENT OF COST-EFFECTIVE ENGINEERING SOLUTIONS

COMMISSIONING

## ENGINEERING

### MECHANICAL ENGINEERING & PLANT DESIGN



SYSTEMS INTEGRATION WITH MULTIPLE VENDORS

PLANT LAYOUTS

GENERAL ARRANGEMENTS

FULL 3D MODELLING

EQUIPMENT TECHNICAL EVALUATIONS

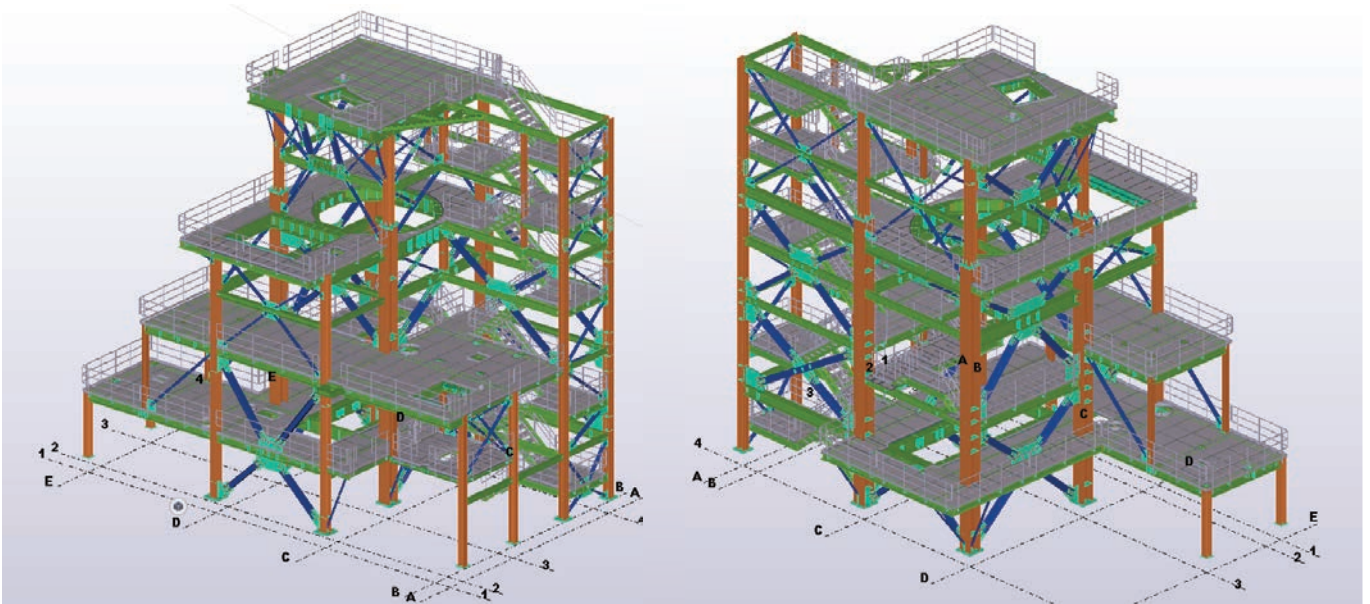
EQUIPMENT SIZING AND CAPACITY DETERMINATION

EQUIPMENT AND INSTALLATION SPECIFICATIONS

DUCTWORKS

ENGINEERING DESIGN: PIPING SYSTEMS - MATERIAL HANDLING SYSTEMS  
PROCESS EQUIPMENT LAYOUTS

## CIVIL & STRUCTURAL ENGINEERING



STRUCTURAL ANALYSIS & DESIGNS (INCLUDING HIGH SEISMIC & HURRICANE ZONES) FOR INDUSTRIAL PLANTS

EVALUATION AND IMPLEMENTATION OF GEOTECHNICAL REPORTS

STRUCTURAL DESIGN BASED ON VIBRATION MITIGATION

DYNAMIC FOUNDATION ANALYSIS

DESIGN OF REINFORCED CONCRETE AND STEEL STRUCTURES

CONCRETE SILOS AND BUNKERS

STEEL BINS AND HOPPERS

TUNNELS AND UNDERGROUND STRUCTURES

DESIGN OF ROADS, EARTHWORKS, AND SLOPES.

DESIGN OF PONDS AND TAILING DAMS.

STABILITY ASSESSMENT OF SOIL/ROCK SLOPES.

## ELECTRICAL ENGINEERING



POWER DISTRIBUTION SYSTEMS

INSTRUMENTATION AND CONTROLS

HMI INTERFACE COORDINATION

PLC PROGRAMMING

MOTORS (MEDIUM VOLTAGE AND LOW VOLTAGE)

MEDIUM VOLTAGE STARTERS AND BREAKERS

TRANSFORMERS

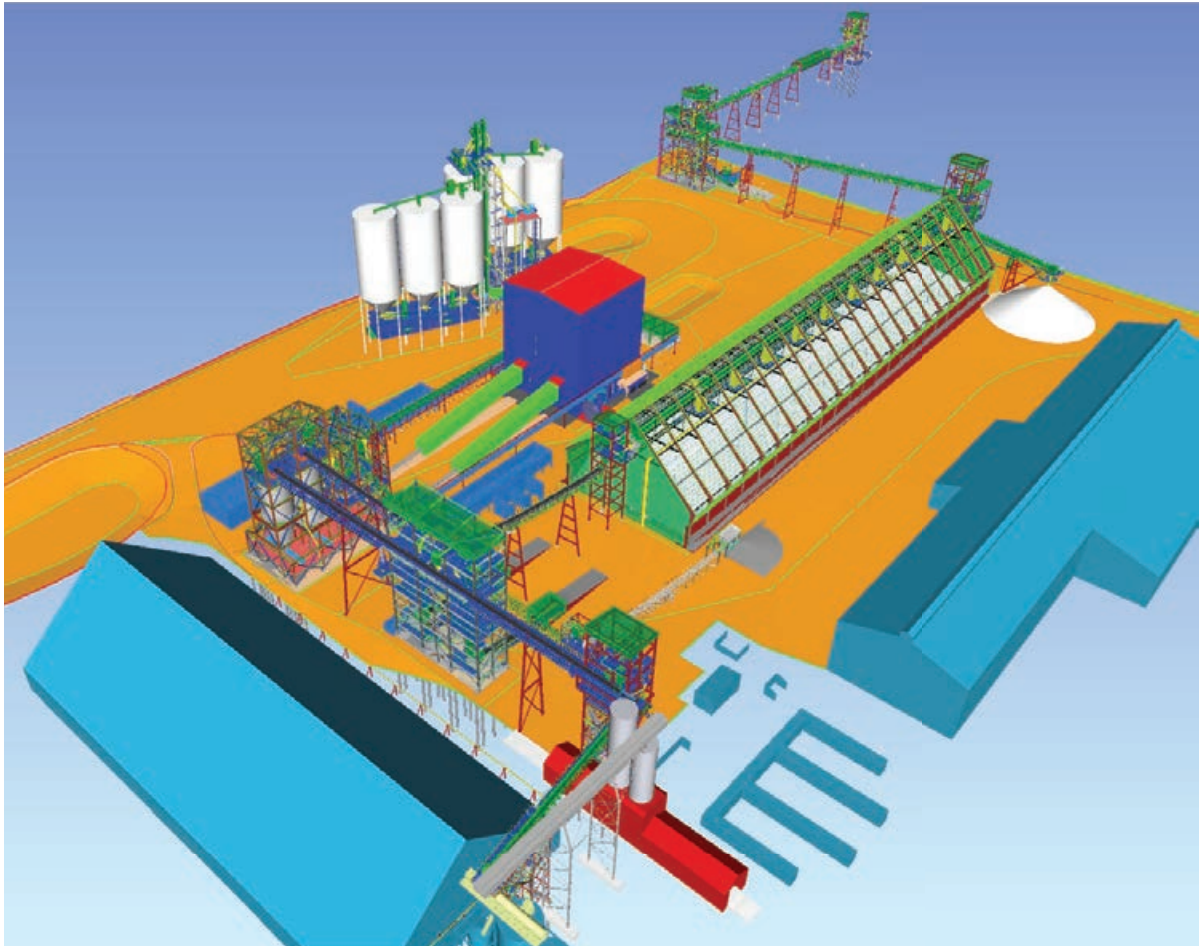
MOTOR CONTROL CENTERS

SHORT CIRCUIT ANALYSIS

POWER STUDIES

## ENGINEERING

### 3D MODELLING FOR FULL PROJECT INTEGRATION



INTEGRATION OF EQUIPMENT ENGINEERING WITH THE CIVIL, MECHANICAL FABRICATION AND ELECTRICAL ENGINEERING

SHOP DRAWING REVIEWS

FABRICATION SHOP INSPECTIONS

COORDINATION OF MATERIALS FABRICATION FOR CONSTRUCTION AND DELIVERIES TO THE JOB SITES

## ADVANTAGES OF WORKING WITH US

TOTAL RESOURCES IN HOUSE

KNOW-HOW AND EXPERIENCE IN MINING SOLUTIONS

LEADERSHIP IN DETAILED ENGINEERING SOLUTIONS

DEEP KNOWLEDGE OF STANDARDS AND CONSTRUCTIVE PROCEDURES

ENGINEERING MANAGEMENT ORIENTED TO SATISFY CLIENT TECHNICAL NEEDS

EXTENSIVE EXPERIENCE IN VALUE ENGINEERING FOR INDUSTRIAL PROJECTS

ACCURATE BUDGETS, SCHEDULES AND COST CONTROL

PROVEN PROCEDURES FOR PROCUREMENT, CONSTRUCTION  
MANAGEMENT & PROJECT CONTROL.



## PROJECT MANAGEMENT

SAXUM provides Professional Project Management services to our clients, based on PMI best practices and clear procedures, highly experienced personnel, and clear understanding of our clients needs and expectations. Our Project Managers act as the primary contact, as well as the overall responsible for coordination of all project activities, both in office and in the field.

SAXUM's Project Management processes have been designed and improved through the years, and based on lessons learned on previous projects to ensure successful implementation and execution of the contracted scope of work.

SAXUM manages projects focused on meeting the client's goals for Cost, Schedule, Quality and Safety. Conscious of risks and showing the ability to respond to client needs with efficient solutions. Client's needs set the Vision that will be the basis for SAXUM's Project Managers to coordinate and lead all parties involved in the projects, to follow the Project Execution Plan through Project Initiation, Planning, Execution, Monitoring and Closure.

### SAXUM SUCCESSFUL PROJECT MANAGEMENT IS BASED ON

PRECISE PROJECT UNDERSTANDING AND SCOPE INFORMATION

TRACKING PERFORMANCE AND TAKING NECESSARY ACTIONS

COMPLETE, TIMELY AND ACCURATE INFORMATION

CLEAR AND OPEN COMMUNICATION

TEAM COMMITTED TO THE PROJECT AND CLIENT OBJECTIVES



## CONSTRUCTION MANAGEMENT

SAXUM's Construction Management is the core of the company's services. It involves the direction, regulation and supervision of a project from early development to its completion and is responsible for planning work schedules, coordinating the most efficient method and construction strategies and budgeting.

The team is composed of multidisciplinary professionals that allow us to administer the different disciplines, such as: Civil/Structural, Mechanical, Electrical and Instrumentation, Safety, Contracts, Administration, Commissioning, etc.

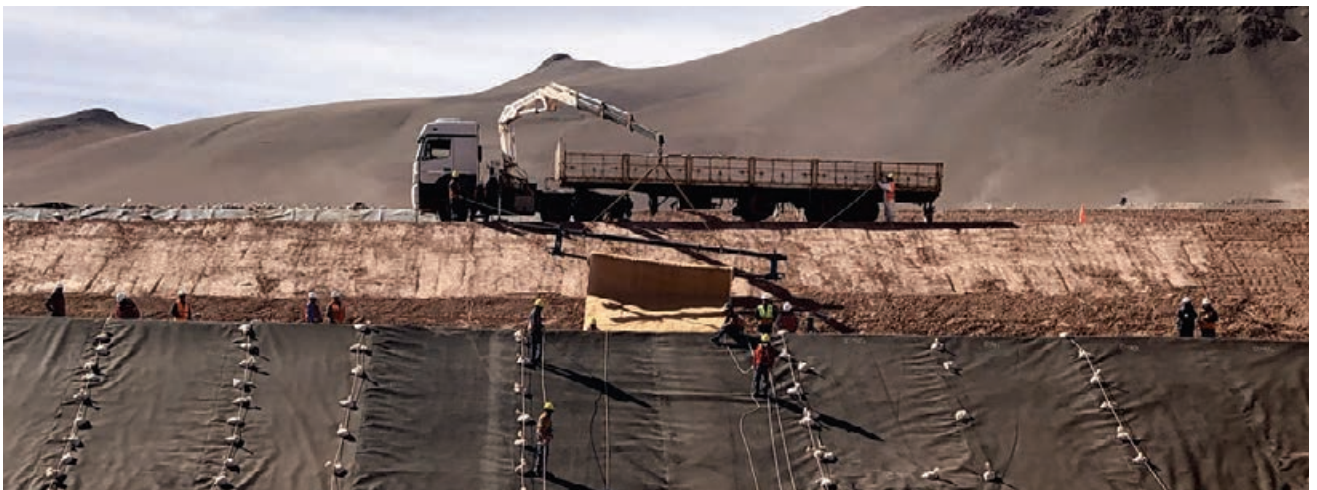
Our experience, strong focus to project objectives, and the mutually reinforcing joint-work between our professionals of all different departments, allows us to be the tailor-made solution for our customers' EPCM projects.

### PROJECT SUCCESS

SAXUM's Construction Management team knows that Project Success is all about organization, planning and follow-up work to achieve the results that comply with client requirements and design criterias. These are all challenging tasks, particularly in the mining industry at high altitudes, where we find sensitive environments that include special local communities and cultures, harsh weather, and strong technical and logistics difficulties.

### RESOURCES

To achieve a succesful project under these tough conditions, SAXUM has all the necessary resources to be strongly focused in safety and environmental control, strong planning in advance (FEL – PDRI), excellent Project Control, field supervision and administration management. The key word for SAXUM, as EPCM and project integrator, is Team Work, that include all project's stakeholders: client, EPCM, contractors,





## PROJECT CONTROL

SAXUM manages all aspects of the construction process, from the initial design phase to the end. Throughout, we maintain constant communication between all parties, while satisfying the interests and needs of the owner. SAXUM's Project Control Teams offer their clients a wide range of project management services. The services are adapted to each project to meet the needs and wishes of the owner. The following list represents a general description of our project management services:

### PROGRAMMING

Project Control has extensive experience in selecting and directing programming consultants. This experience in working with programmers will insure that the owner's facility needs are clearly determined and defined.

### SCHEDULING

Our experience in managing the entire process, not just any segment, allows us to prepare reliable project schedules for both the design and construction phases early in the project development stage.

### CONSULTANT SELECTION

Project Control assists the owner in selecting the most qualified consultants for various projects by preparing requests for proposals, evaluating the proposals and making recommendations to the owner.

### MONITORING

To finish a project on time, within budget and with the desired quality, professional monitoring on a daily basis is necessary.

### EARNED VALUE

SAXUM works constantly with the owner and design team during the completion of documents to review savings opportunities while the project design is being developed. SAXUM uses the Earned Value Management System Technique.

### REPORTING

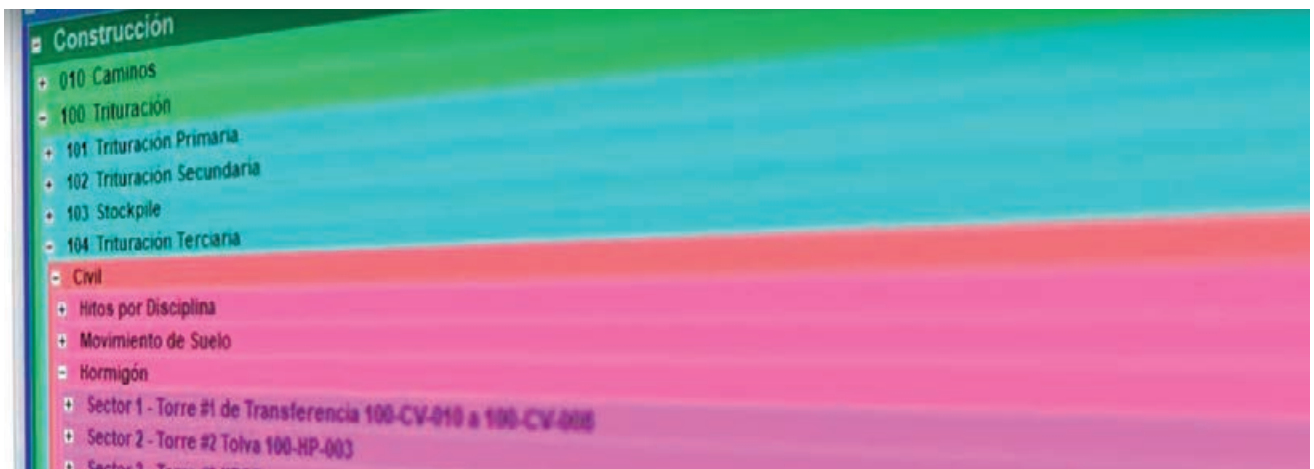
SAXUM prepares written monthly status reports for distribution to the appropriate parties. The reports address the current status of each individual project.

### CONTRACTING

Project Control has prepared and negotiated hundreds of contracts for owners on over 100 projects with an aggregate value of over millions dollars. Our contracts have been developed from the owner's perspective for the benefit of the project.

### CLOSE OUT

During the final stages of project completion, Project Control closely monitors the activities of the contractor to make certain that punch list items are promptly completed.



## PROCUREMENT & LOGISTICS

SAXUM's team of multidisciplinary professionals has extensive experience in procurement services supported by our first class engineering team which covers all technical disciplines. Our procurement services are based on proven procedures and cover a wide range of activities, from the preparation of bidder lists and contractual terms, to expediting, logistics and QA/QC.

SAXUM's procurement team provides our client an integral and detailed service to assure the fulfilment of projects objectives regarding quality, cost and schedule. Our team has proven ability to complete the acquisition of all items and close all contracts of highly complex industrial projects within short time-frames, and in the framework of project budget and quality.

### SUPPLY CHAIN ACTIVITIES

- HIGHLY EXPERIENCED PROFESSIONALS
- PURCHASING & ACQUISITIONS
- VENDOR DEVELOPMENT & AUDITS
- CONSULTING SERVICES
- PROCESSES AND PROCEDURES
- INTERNATIONAL IMPORTS & EXPORTS
- CUSTOMS CLEARANCE CONSULTING SERVICES
- LOGISTICS - DOMESTIC & INTERNATIONAL
- CONTRACTING & OUTSOURCING
- CONTRACT MANAGEMENT & ADMINISTRATION
- COSTS AND BUDGETING PROJECTS
- MATERIALS MANAGEMENT
- KPI'S



**OUR CLIENTS**



**OUR CLIENTS**





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