

## THE COMPANY

MGA Engineering Inc. is a master designer of structural and mechanical systems utilized across the globe in the mining, port, infrastructure, and building sectors. Founded in 1996, the firm is headquartered in Calgary, Canada. Throughout the decades, MGA has lent its expertise to global OEM vendors, asset owners and facility operators to engineer new equipment, fix and modify existing equipment, and design buildings, structures, and surface facilities. MGA's portfolio of projects spans the globe, with a historical emphasis on the Americas, Africa, Southeast Asia, and Oceania.

## THE COMMERCIAL DIVISIONS

Mining	Ports	Infrastructure	Buildings
Precious metals	Bulk & Cargo	Transportation	Industrial
Commodity metals	Terminals & Facilities	Urban development	Commercial
Potash & Sulphur	Docks & Piers	Water & Sanitation	Stations & Terminals
Stones & Aggregates	Transport	Energy & Utilities	Foundations
Coal	Storage	Tanks & Storage	Blast-resistant

The *Mining Division* is focused on metallurgical & plant engineering; bulk material equipment (handling, conveyance, treatment); transport facilities; and storage facilities.

The *Port Division* focuses on bulk & cargo equipment; terminals & facilities; docks & piers; transport facilities; and storage installations.

The *Infrastructure Division* caters to rail, roads, bridges, civil works & utilities, water and sanitation projects.

The *Building Division* concentrates on industrial facilities, passenger & cargo terminals, commercial & multimodal buildings, and aquatics and athletics facilities.

## A GLOBAL FOOTPRINT

The company's head office in Calgary (Canada) entails corporate, finance, lead engineering and project management functions. Design and engineering reside principally in the company's Cairo (Egypt) office. Regional offices are located in Quebec and Vancouver (Canada), New Jersey and Florida (United States), Brazil, Costa Rica, Ecuador, Egypt, and Mexico



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## THE EQUIPMENT

### Design

Bulk transfer

Bulk Treatment

Excavators

Transport

Facilities

### In-Service

Assessments

Inspections & Certifications

Code compliance

Modifications

Enhancements

### Life Extension

Structural integrity

Failure analysis

Fracture, fatigue and corrosion

Collapse threats

Demolition design

### Supply

MGA-supplied

OEM-supplied

Local fabrication

Erection and construction

Commissioning and start-up

### Bulk transfer

- Transport crawlers
- Single-boom spreaders
- Stacker and reclaimers
- Mobile stacking bridges
- Bucket wheel reclaimers
- Ship loaders & unloaders
- Grab type ship unloader
- Bucket chain /wheel excavators
- Scraper, drum, and portal reclaimers
- Portal & bridge-type scraper reclaimers

### Bulk treatment

- Granulators
- Crushing plants
- Hard rock sizers
- Belt linear screens
- Slurries plant and tailings
- Vacuum belt filters for dewatering
- Primary separation & flotation cells
- Roll crushers and double roll crushers
- Breakers and high-pressure grinding rolls

### Water and Sanitation

- Intakes & outfalls
- Desalination plants
- Pump and lift stations
- Force mains & siphons
- Storage and reservoirs
- Drainage and stormwater
- Pipelines and distribution
- Metering and lift stations
- Sewage collection systems
- Treatment (potable, grey and waste)

### Bulk transport

- Apron feeders
- Belt feeders
- Belt conveyors
- Pipe conveyors
- Tube conveyors
- Steel belt conveyors
- Mobile conveyor bridges
- In-plant conveyor systems
- Mobile transfer conveyors

### Facilities and buildings

- Pipe racks
- Storage pits
- Process piping
- Steel structures
- Tanks and reservoirs
- Wagon / truck loading
- Wagon unloading / trippers
- Rapid train load-out stations
- Pressure vessels and bullets

### Infrastructure

- Port facilities
- Roads and bridges
- Grain handling facilities
- Foundations (buildings)
- Foundations (equipment)
- Aquatic and recreation facilities
- Pedestrian bridges and walkways



## THE EXPERTISE

### Structural Engineering

- Welding
- Stability studies
- Dynamic analysis
- Large-span structures
- Metal fatigue assessment
- Design of plate structures
- Finite Element Analysis (FEA)
- Design for extreme conditions
- High and low temperature design

### Mechanical Engineering

- Machine design
- Dynamic loading
- ASME pressure vessels
- API 620/650 storage tanks
- API 579 fit-for-purpose analyses
- Process plant pipe stress analysis
- Piping design and equipment layout
- TC44 / CSA B626 portable tank design

### Software:

AutoCAD 2020, CADWorx Plant 2020, NavisWorks 2020, Newton v3, RAM Structural System 14.07, RAM Concept v8, RAM Elements v16.2, RAM Connection v13, REVIT 2019, RISA-3D 17.0, SAP2000 22, Sidewinder v7.0, SOLIDWORKS/ COSMOSWorks 2020, spColumn v7.00, spMats v8.50, STAAD.Pro v8i SS6, STAAD Foundation Advanced 7.2, Tekla Structures 2020i

## DESIGN-BUILD

MGA offers clients 4 options for sourcing equipment based on our designs:

1. *Design-Build*, whereby MGA supplies the equipment as turnkey.
2. *Locally built*, with equipment by local manufacturers under MGA supervision.
3. *Client sourced*, with equipment sourced by the Client based on the MGA design.
4. *OEM-built*, based on MGA design. *MGA has strategic relationships with Takraf, ThyssenKrupp, PHB, FAM, MWS, FLSmidth, Shinhan, and Sandvik.*

## CONSTRUCTION PARTNERSHIPS

MGA has assembled an international network of fabrication and construction partners operating locally in Brazil, Canada, Chile, Costa Rica, Ecuador, Mexico, Singapore, Sub-Saharan Africa, and the United States. These partners enable MGA to extend its coverage across Central and South America, the Caribbeans, Africa, and Southeast Asia. In this manner, MGA is able to offer clients a cradle-to-grave project solution that maximizes clients' domestic investment returns.

### Building Engineering

- Building layouts
- Civil infrastructures
- Steel superstructures
- Static and mobile roofs
- Deep underground utilities
- Vibration & seismic systems
- Piping, HVAC and electrical layouts
- Foundations, concrete, and masonry

### Asset development

- Code compliance
- Project management
- Modularization studies
- Standard development
- Estimate development
- Construction oversight
- Procurement and logistics
- DBM, FEED and Detail Design
- Concept and feasibility studies

