Bulk material handling systems
Engineered to meet your needs!
EMS-TECH Inc. has built a global reputation for providing world-class solutions while co-operatively working with everyone involved. Our team of specialists are experts in the engineering, design, manufacturing and management of custom designed bulk material handling equipment and large engineered systems.

Whether it’s an idea that requires full engineering development or mobile equipment design or manufacturer surveillance through commissioning, EMS-TECH is your perfect engineering and management capability source in bulk handling.
Introduction

A World Leader in the Design & Supply of Bulk Material Handling and Storage Systems
As a privately owned Canadian firm with over 20 years of experience, EMS-TECH Inc. continues to grow as a world leader in the design and supply of mobile bulk material handling systems on a global basis.

EMS-TECH Inc’s industry-specific expertise lies within a multi-disciplined team comprised of experts in the engineering, design, manufacturing, purchasing and management of custom designed bulk material handling equipment and industrial systems.

Meeting New Challenges, Seeking Value for Our Clients
EMS-TECH Inc. thrives on new challenges, technological advancement and meeting clients’ value needs. Our company is continually searching for practical, economical and reliable solutions to complex problems. We are proud of in-house innovations and Global Traders awards that reflect a passion to differentiate from our competition and to search out all important engineering value propositions for the benefit of clients.

The strength of our company resides in competence, integrity and depth of customer relationships worldwide. Our primary objective is to complete projects on time and within budget and to continually meet our clients’ goals and objectives. EMS-TECH strives in this ambition to offer realizable value to its client base over the life cycle of a project. This has resulted in sustainable business growth through referral and repeat business from satisfied customers across a diverse range of industries and geographic locations around the world.
Landside Systems

Whether it’s North America or around the world, EMS-TECH Inc. can provide you with the best in cost-effective material handling equipment that employs the latest advances in mechanical engineering, components, and computerization.

Areas of Expertise

**SHIPLOADERS**
- Linear
- Quadrant
- Pedestal
- Traversing/Shuttling/Luffing

**STACKERS**
- Radial/Luffing
- Pedestal/Slewing/Luffing
- Traversing/Slewing/Luffing

**STACKER—RECLAIMERS**
- Traversing/Slewing/Luffing
- Cell-Less or Cell Type Bucket Wheel
- 2 or 4 Quadrant Reclaiming

**RECLAIMERS**
- Traversing/Shuttling/Luffing
- 4 Quadrant Reclaiming
- Bridge Reclaimers/Blending

**RECEIVING SYSTEMS**
- Ship Unloaders
- Mobile Hoppers

**STORAGE SYSTEMS**
- Totally Enclosed
- Automatic Input/Output
Landside Projects

Kinder Morgan Terminals
VANCOUVER, CANADA
The Kinder Morgan (Vancouver) Shiploader is a traversing, slewing, luffing, shuttling Shiploader with a telescopic discharge chute rated at 2500 mtph capacity. The Shiploader was fabricated and assembled in Sidney B.C. then transported by barge to the Kinder Morgan terminal in North Vancouver. Total weight of the Shiploader is 650 metric tonnes. The first vessel was successfully loaded three weeks after the Shiploader arrived at the Kinder Morgan facility.

Stockpiling & Shiploading Facility
FREEPORT BAHAMAS
Martin Marietta Aggregates contracted EMS-TECH Inc. to provide engineering, design, specialized supply, fabrication & erection surveillance, and commissioning for their premier aggregate facility on Grand Bahama Island, Freeport Bahamas. Bahama Rock Limited mines stone in agreement with the Freeport Port Authority, as part of their container port expansion plan. The stone is crushed and screened into various aggregate products before being stockpiled for shipment. The finished product, being high in calcium, is exported for use in construction and chemical industries.

QIT-Fer-et-Titane
QUEBEC, CANADA
EMS-TECH Inc. provided engineering, design and supply for all components of this multipurpose Shiploader. Key features include: a telescoping cascade spout for dust free loading dry material; a telescoping freefall spout for loading wet material; dust collection at all transfer points; an extendable shuttle structure supported inside a four (4) meter deep plate girder boom; and redundant drive systems for shuttle, luff, slew, and traverse motions. These features allow the Shiploader to receive and load two distinct material types; a dry dusty product and a wet sticky product.
The cost benefits of shipping greatly increase when conveyors and material handling is optimized at the loading and unloading point. You can’t find a better source of indepth marine bulk-handling expertise than EMS-TECH.

Areas of Expertise

VESELS
- New Construction
- Conversions
- Upgrades

SELF-UNLOADING SYSTEMS
- Gravity
- Gravity with Mechanical Assist
- Hybrid

TRANSSHIPMENT SYSTEMS
- Crane-Based Hybrids
- Gravity plus Hybrid Deck Systems
Marine Projects

FOTP Derawan Transshipper
EMS-TECH Inc. was contracted by China Communications Construction Company (CCCC) of China in October 2007 to design and supply the Material Handling System to be installed on the FOTP Derawan. The Derawan transships coal from Indonesia to Capesize Bulkers which in-turn delivers the coal to points around the world.

M.V. CSL Acadian Self-Unloader
The CSL Acadian is the first of a series of Panamax size newforebody self-unloaders constructed by Shanhaiguan and Chengxi Shipyards for CSL International, Vulica Shipping, Algoma Central Corporation and Torvald Klaveness. EMS-TECH Inc. was contracted by these shipyards to design and supply the self-unloading systems for the vessels. By combining the aft end of existing single hull tankers that are being phased out, with "newforebodies" comprising fully integrated self-unloading systems, CSL International was able to both accelerate the construction program and reduce project costs.

M.V. Eastern Power
Marbulk Shipping upgraded the M.V. Eastern Power in 2004 to expand the vessel’s capabilities to include the transshipment trade. Four fixed pedestal grab cranes were installed allowing the cranes to reach over the starboard side to transship from Cape size vessels. Additional upgrades were completed to the deck conveyor system to maximize the discharge rate. System capacity was increased from 2500 mtph to a maximum of 4000 mtph.
Upgrade and Retrofit

If it’s maintenance and repair you need, EMS-TECH can refurbish your old equipment, giving it a new lease on life and an effective means of adding profit to your bottom line. Older equipment that appears to be near the end of its life can be rejuvenated two or three times, boosting its economic contribution.

UPGRADE & RETROFIT

EMS-TECH Inc. — we offer efficient, cost-effective repair and rebuild services. It may be economical or environmentally beneficial to repair, overhaul or rebuild equipment to improve and maximize performance.
MORE SERVICES... MORE DEPTH

MACHINE DESIGN
Design of mobile machines including stackers/reclaimers/shiploaders/unloaders, belt conveyer and self-unloading ship systems.

BULK MATERIAL HANDLING SYSTEM STUDIES
Complete design studies, optimization and cost estimates for existing and proposed new bulk handling facilities.

PROJECT MANAGEMENT
Complete project coordination and management services.

STRUCTURAL ANALYSIS
Multi load-case, in-depth structural analysis of existing and planned mobile equipment such as stackers, bucket wheel reclaimers, shiploaders and the like.

PRODUCT DEVELOPMENT
Engineering development from a client’s idea or from defined functional and/or performance requirements.

EQUIPMENT/SYSTEM SURVEYS
Physical surveys of existing bulk handling facilities to identify problems, potential problems or scope for improvements in operating performance levels.

WELDING ENGINEERING
Multi-industry assistance on welding engineering, procedures and acceptability criteria.

FIELD ADVISORY SERVICES
Field engineering and technical advisory services on behalf of clients during construction and maintenance periods to ensure compliance with plans and specifications.

FABRICATOR SURVEILLANCE
Periodic planned surveillance of subcontracted steel fabrication and machinery at plant locations to ensure compliance with drawings, procedures, fit-up and acceptance levels.

STRUCTURAL STEEL DESIGN
Steel design for machines, conveyer structures, transfer towers and ancillary structures.

PROCUREMENT AND EXPEDITING
Procurement and expediting for complete bulk handling projects or partial scope packages.

REQUIREMENTS ANALYSIS
- Process and equipment surveys
- Control systems
- Process measurement
- Plant-wide integration
- Specification development, preliminary engineering, conceptual drawings, vendor specifications
- New technology evaluation and integration
- Application design and development

EQUIPMENT SELECTION AND DESIGN
- Variable speed drives
- Operator stations, consoles, cabs, radio controls
- Programmable controllers
- Hoist drives and controls
- Specification selection, procurement, system drawings, operating descriptions

FABRICATION
- Tender documents, fabrication specifications
- Layout and installation drawings
- Schematics and circuit diagrams
- Panel shop supervision
- Inspection and testing

CONSTRUCTION
- Material specification/tender documents
- Procurement of electrical materials
- Erection drawings and schedules
- Erection supervision and inspections
- Verification of compliance to drawings

COMMISSIONING AND START-UP
- Training of operators and maintenance personnel
- Installation, operation and maintenance manuals.

SUPPLY OF REPLACEMENT PARTS
EMS-TECH can furnish replacement parts to suit commercial and technical needs, including:
- Complete line of electrical components such as motors, switches, and cable.
- Hydraulic equipment such as hoses, valves, cylinders and seal kits.
- Mechanical equipment such as belt cleaners, bearings, idlers, gear reducers, skirtboard rubber, liners, vibrators and couplings.
Innovation

EMS-TECH Inc’s outstanding success is due largely to creative engineering. Our people are encouraged to think differently. They have the liberty of looking at a problem from a new perspective. As a result, we solve problems in new and cost-effective ways. And in the process, we have fun as we innovate, because creativity is its own reward.

Generation 3 ‘C’ Loop Elevator Development

FEATURES
- Footprint Reduction
- Reduced Leakage
- Better Tracking Performance
- Reduced Initial Capital Cost

Gate Feeder

FEATURES
- Ideal for Gravity Self-Unloaders
- Simple
- Economical
- No Skirting, No Spillage
- Includes Long Slotted Centralized Opening
- Reduced Dusting
- Ideal for Difficult Cargoes
- Infinitely Variable Rate Control (0-5000 tph)
- Replaces More Costly and Complex Belt Feeders and Vibrating Feeders

Awards

Gold Level Award in Innovation
Silver Level Award in Market Expansion
PEO Engineering Medal – Entrepreneurship Category
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