

Job PORTFOLIO



TMSA
Bulk Handling Technology

About TMSA

Company Overview



TMSA is leading supplier of high capacity and long distance bulk material handling equipment in Brazil. Operating since 1966, near one third of the key Brazilian commodities shipped pass through TMSA equipment.

Company establishment:

- 1966

Capital Stock:

- 100% Brazilian capital

Headquarters:

- Porto Alegre - RS

Branches:

- TMSA São Paulo
São Paulo - SP
- TMSA Minas
Belo Horizonte - MG

- Bulktech Engenharia
Canoas - RS

- Bulktech
Argentina

Certification of quality:

- ISO 9001:2015

Staff:

- Approximately 550 employees.
- Engineering department with more than 50 engineers, some with M.Sc and MBA degrees.

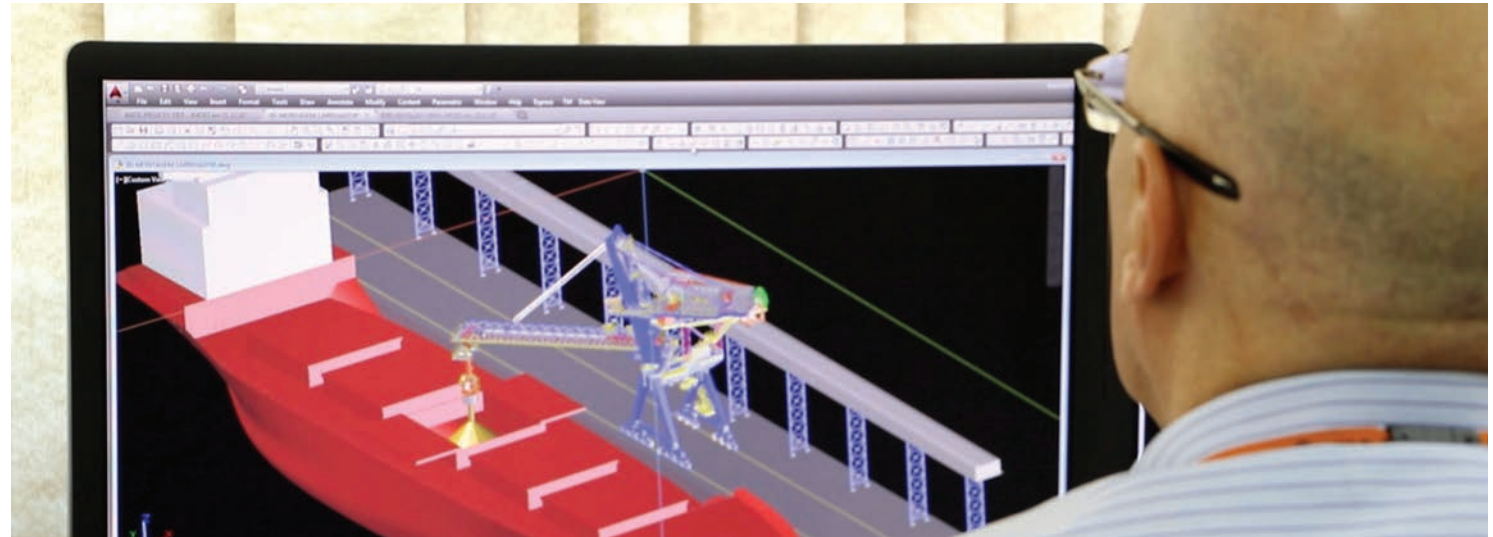
Companies:

- **TMSA**
Bulk materials handling solutions.
- **BULKTECH**
Industrial automation.

About TMSA



Technical Capability



- Own engineering department and factory plant.
- Electromechanical designers and technicians.
- Engineering coordinators for each business unit.
- Master in calculation using Ansys Mechanical, Strap and Newton software application.
- More than 80 Jobtations running Autodesk Inventor Professional and Autodesk AutoCAD.
- PTC Windchill PDM Link software licenses for document management and product control.
- Meridian software licenses for quality document management.
- Strap software licenses for calculation of reticular structures and verifications

by finite elements.

- Ansys software licenses for verification of mechanical components by finite elements.
- Newton DEM software licenses for discrete element analysis.
- Zuken E3 Series software license for logics, design and electric automation.
- Software to dimension Overland Conveyors belt conveyors for static and dynamic analysis.
- Software to dimension pipe-type belt conveyors.

Engineering

- The Engineering area is divided into areas, each one of them in charge of specific projects.

- Each area is coordinated by a senior engineer, with access to Jobtations running CAD, CAE, PDM and project analysis software applications.

Information technology

- TMSA has an advanced IT center managed by expert hardware and software professionals.
- Information reliability and security are assured by modern servers, which support all the company areas, both at the headquarters in Porto Alegre and in the other units located in Belo Horizonte, Canoas, São Paulo and Buenos Aires.

About TMSA

Fabrication Structure

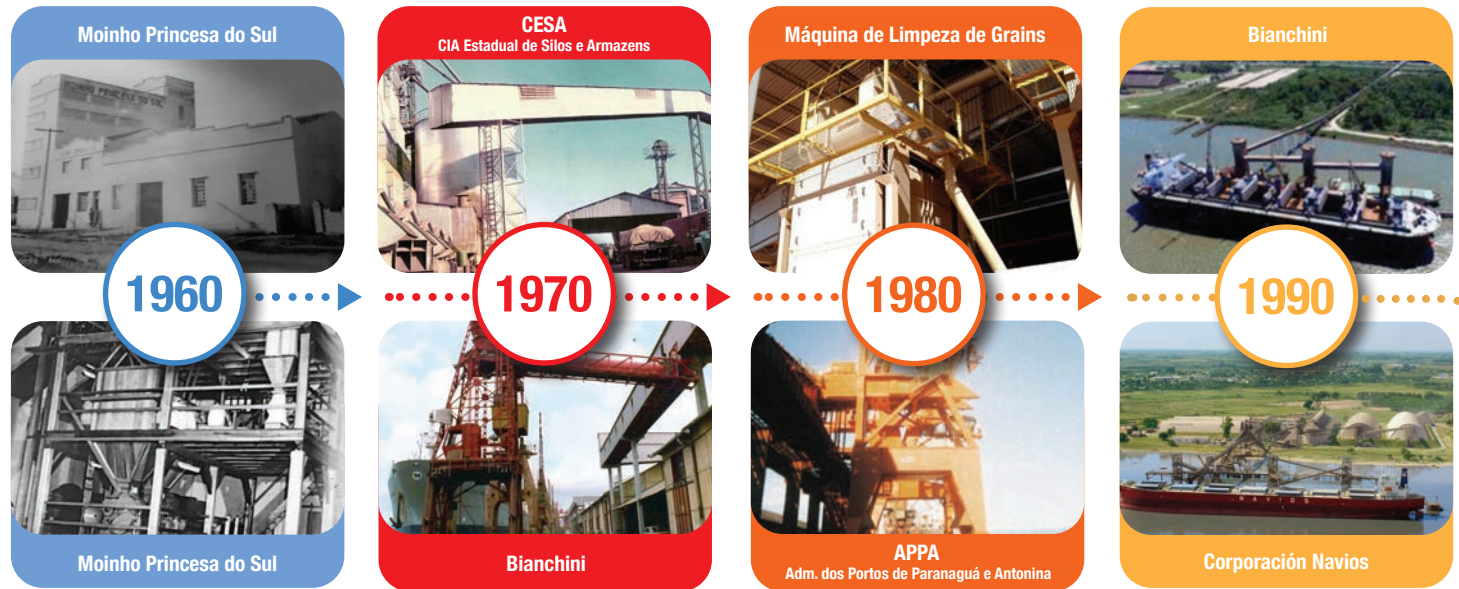


The Company holds high production capacity with advanced equipment. All the operations are performed at the plant in compliance with the latest industrial manufacturing standards and best practices, implementing plant operations planned and controlled by ERP system.

- CNC lathes and milling cutters.
- CNC stamping and bending machines.
- CNC punching, drilling, oxy-cutting and plasma cutting machines.
- Modern weld equipment, including one robot.
- Large area for blasting services, in addition to manual and automatic cleaning of small or large parts.
- Modern painting system for components of varied sizes.
- Overhead and other cranes, forklifts and weighing station.

About TMSA

Timeline



MAJOR MILESTONES OVER DECADES



Port Segment

Job HIGHLIGHTS

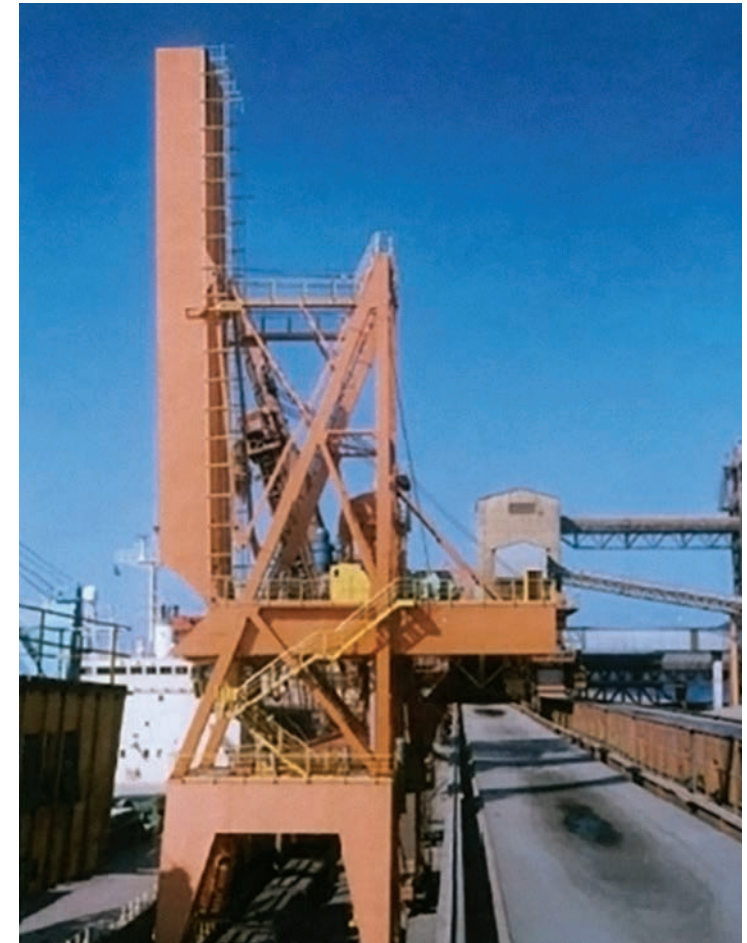


Bianchini

Location: Rio Grande - RS
Year: 1970

Shiploader

- Capacity: 500 ton/h (grains)



Portobrás

Location: Paranaguá - PR
Year: 1988

Shiploader with tilting boom

- Capacity: 1,500 ton/h (grains)

Job
HIGHLIGHTS



Port Segment



Hermasa

Location: Itacoatiara - AM

Year: 2003

Fixed shiploader

- Capacity: 1,500 ton/h (grains)



Bianchini

Location: Rio Grande - RS

Year: 1993

Shiploader

- Capacity: 2,500 ton/h

Belt conveyor

- 2,500 ton/h (grains)
- Length: 960 m

Telescope tube

- With telescope and pendulum motion +45° and -45°

Port Segment

Job HIGHLIGHTS



Quintela

Location: São Simão - GO

Year: 1993

Barge loader

- Capacity: 1,500 ton/h
- Fixed tower
- Horizontal traveling boom
- Telescope bucket tube



Pará Pigmentos

Location: Barcarena - PA

Year: 1995

Shiploaders

- Capacity: 1,100 ton/h (grains)

Belt conveyor for interconnection of shiploaders

- Capacity: 1,100 ton/h



Terminal 39

Location: Santos - SP

Year: 2003

Retrofit of the traveling shiploader with rotary boom

- Capacity: 1,500 ton/h

Installation of Dust Trap with retracting rotary chute and suction system.

Retrofit of two traveling shiploaders (including, among others, boom, belt system, rotary chute, providing greater height and reach above the ship).

Port Segment

Job HIGHLIGHTS



Bunge

Location: Rio Grande - RS
Year: 2003

Shiploaders

- Capacity: 2,000 ton/h (grains)
- Pendant-type
- Slewing booms with tilting and inclining motion

Bucket elevator

- Capacity: 1,500 ton/h

Conveyor belt

- Capacity: 1,500 ton/h

Design, fabrication and erection of loaders and booms. Supply of the bucket elevator and conveyor belts.



Teaçu - Rumo Logística

Location: Santos - SP
Year: 2005

Shiploader

- Capacity: 3,000 ton/h (grains)

Considered, in 2005, as the largest shiploader for agricultural products in Brazil.

In 2006, TMSA received the Finep "Innovation and Technology" Award in the South Region, in addition to FIERGS/CIERGS "Industrial Distinction" Award for the shiploader with capacity for 3,000 ton/h (sugar and bulk materials).

Port Segment

Job
HIGHLIGHTS



TGG - Terminais de Granéis do Guarujá Ltda.

Location: Guarujá - SP

Year: 2006

Slewing-type shiploader with active Dust Trap system

- Capacity: 2,000 ton/h (grains)

Belt conveyors

- Capacity: 1,500 ton/h

Port Segment

Job HIGHLIGHTS



Alunorte

Location: Barcarena - PA

Year: 2006

Conventional belt conveyor

- Capacity: 2,400 ton/h (ore)

Tubular belt conveyor

- Capacity: 2,400 ton/h (ore)

Mac Gregor shiploader

- Capacity: 2,400 ton/h (ore)



Pasa

Location: Paranaguá - PR

Year: 2007

Traveling shiploader

- Capacity: 1,500 ton/h

Belt conveyors

- Capacity: 1,500 ton/h

Bucket elevators

- Capacity: 750 ton/h

Dust suction system

Compressed air system

Port Segment

Job HIGHLIGHTS



MMX Brasil

Location: Santana - AP

Year: 2007

Floating shiploader

- Capacity: 4,000 ton/h (ore)

Retrofitting of the continuous conveyor system.



CAAG - Copersucar

Location: Santos - SP

Year: 2013

Shiploader

- Capacity: 3,000 ton/h (grains)

Port Segment

Job HIGHLIGHTS



TANAC

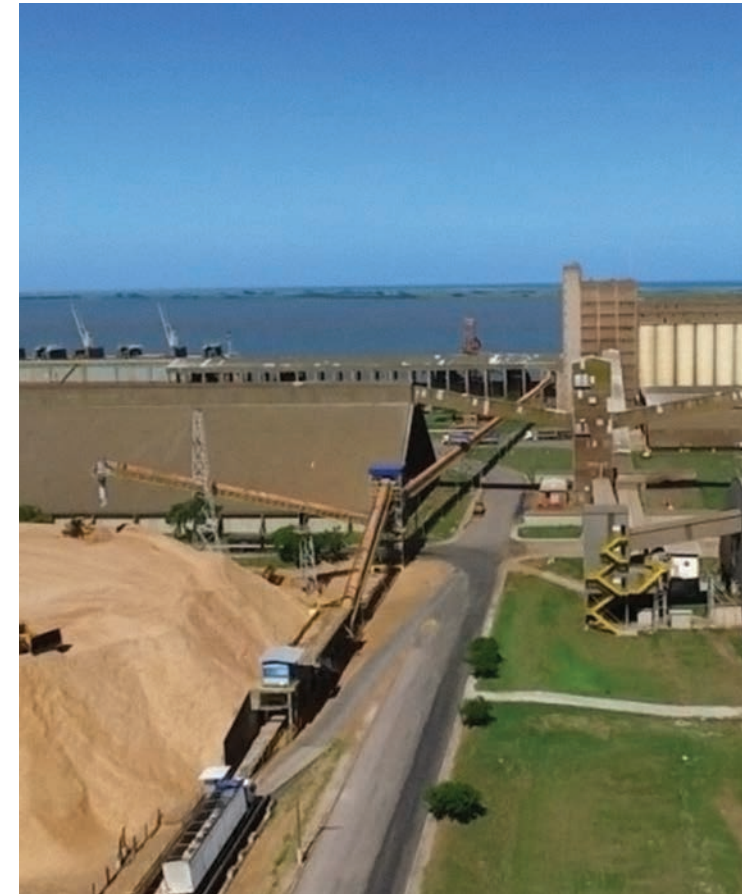
Location: Rio Grande - RS

Year: 2014

Belt conveyors

- Capacity: 2,000 ton/h

Deployment of the pellet production unit.



TERGRASA - Terminal Graneleiro S.A.

Location: Rio Grande - RS

Year: 2014

Belt conveyors

- Capacity: 1,000 ton/h

Port Segment

Job HIGHLIGHTS



Terfron

Location: Barcarena - PA
Year: 2014

Shiploader

- Capacity: 1,500 ton/h (grains)



Tegram - Terminal de Grains do Maranhão

Location: São Luis - MA
Year: 2015

Shiploader

- Capacity: 2,500 ton/h (grains)

Conveyors

- Capacity: 2,500 ton/h

Roadway grinder

- Capacity: 750 ton/h

Railway grinder

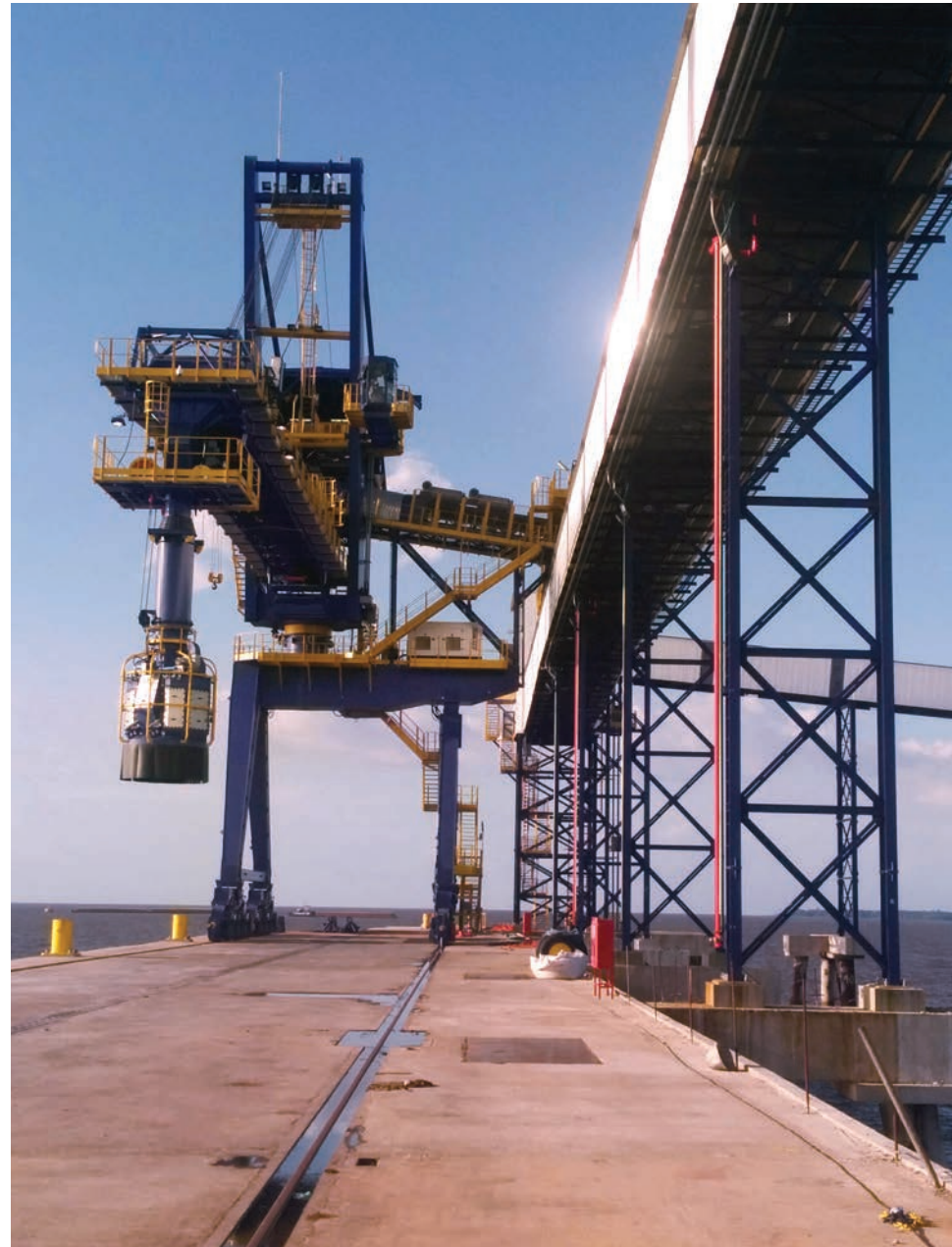
- Capacity: 2,000 ton/h

Bucket elevators

- Capacity: 750 ton/h

Port Segment

Job
HIGHLIGHTS



Hidrovias do Brasil

Location: Barcarena - PA

Year: 2015

Shiploader

- Capacity: 2,500 ton/h (grains)

Belt conveyors

- Capacity: 2,500 ton/h (grains)

Roadway grinder

- Capacity: 750 ton/h

Bucket elevator

- Capacity: 750 ton/h

Port Segment

Job
HIGHLIGHTS



APPA - Administração dos Portos de Paranaguá e Antonina

Location: Paranaguá - PR

Year: 2016

Shiploaders

- Capacity: 2,000 ton/h (grains) and 1,700 ton/h (grains) Capesize 125.

Port Segment

Job
HIGHLIGHTS



Terlogs

Location: São Francisco do Sul - SC

Year: 2016

Belt conveyors

- Capacity: 750 and 1,500 ton/h (grains)

Bucket elevators

- Capacity: 750 and 1,500 ton/h (grains)

Dust suppression system

Tunnel ventilation

Port Segment

Job
HIGHLIGHTS



ROCHA TOP - Terminais e Operadores Portuários Ltda.

Location: Paranaguá - PR

Year: 2017

Belt conveyor

- Capacity: 2,000 ton/h (grains)

Bucket elevator

- Capacity: 2,000 ton/h

Port Segment

Job HIGHLIGHTS



ADM - Archer Daniels Midland

Location: Santos - SP

Year: 2017

Shiploader

- Capacity: 2,000 ton/h (grains)

Belt conveyors

- Capacity: 2,000 ton/h

Chain conveyors

- Capacity: 2,000 ton/h

Bucket elevator

- Capacity: 750 ton/h

Enclosed conveyors

- Capacity: 2,000 ton/h

Supply, erection and commissioning.

Port Segment

Job
HIGHLIGHTS



Centro Sul - AGTL

Location: Paranaguá - PR
Year: 2018

Belt conveyor

- Capacity: 2,000 ton/h (grains)

Elevators

- Capacity: 1,000 ton/h



ADM - Archer Daniels Midland

Location: Barcarena - PA
Year: 2017

Shiploader

- Capacity: 2,000 ton/h

Belt conveyors

- Capacity: 2,000 ton/h

Chain conveyor

- Capacity: 2,000 ton/h

Port Segment

Job
HIGHLIGHTS



APPA - Administração dos Portos de Paranaguá e Antonina

Location: Paranaguá - PR

Year: 2018

Traveling shiploader

- Capacity: 2.000 t/h

Belt conveyor

- Capacity: 2.000 t/h

Port Segment

Job HIGHLIGHTS



Terminal 39

Location: Santos - SP

Year: 2021

Shiploader

- Capacity: 2.500 t/h

Enclosed belt conveyor

- Capacity: 2.500 t/h

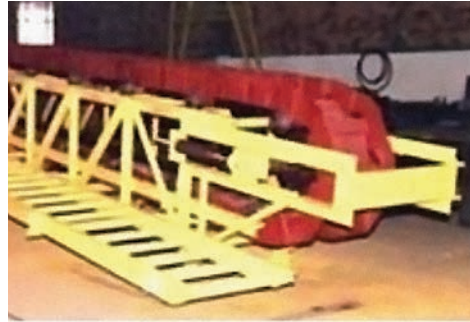
Belt conveyor (air return)

- Capacity: 2.500 t/h



Mining Segment

Job HIGHLIGHTS



Maimoré Min. e Metalúrgica

Location: Pirapora do Bom Jesus - SP
Year: 1980s

Belt conveyor with metallic cells made of sinter-tin (temperature 350°C)

- Capacity: 72 ton/h (cooling on the own conveyor)



Riocell S.A.

Location: Guaíba - RS
Year: 1982

Extractor car for coal recovery in the silo

- Homogenizer on the bottom of the coal silo
- Chain conveyor under electrostatic precipitator
- Sand trapping station

Chain feeder-doser for coal grinder



Petrobrás

Location: Aracaju - SE
Year: 1982

Recovery machine with rotary boom

- Capacity: 350 ton/h

Moving and reversible belt conveyor

- Capacity: 150 ton/h

Belt conveyor

- Capacity: 350 ton/h

Vibratory chute

- Capacity: 75 ton/h

Magnetic separator

Mining Segment

Job HIGHLIGHTS



Alunorte

Location: Barcarena - PA

Year: 2005

Tubular belt conveyor

- Capacity: 2,000 ton/h
- Length: 1 Km

Fixed Grinder

- Capacity: 2,000 ton/h
- Length: 900 m

Belt conveyor

- Capacity: 650 ton/h



MMX (Anglo American)

Location: Santana - AP

Year: 2006

Belt conveyor

- Capacity: 4,000 ton/h



MMX (Anglo American)

Location: Corumbá - MS

Year: 2006

Moving belt conveyor

- Capacity: 1,200 ton/h

Job
HIGHLIGHTS

Mining Segment



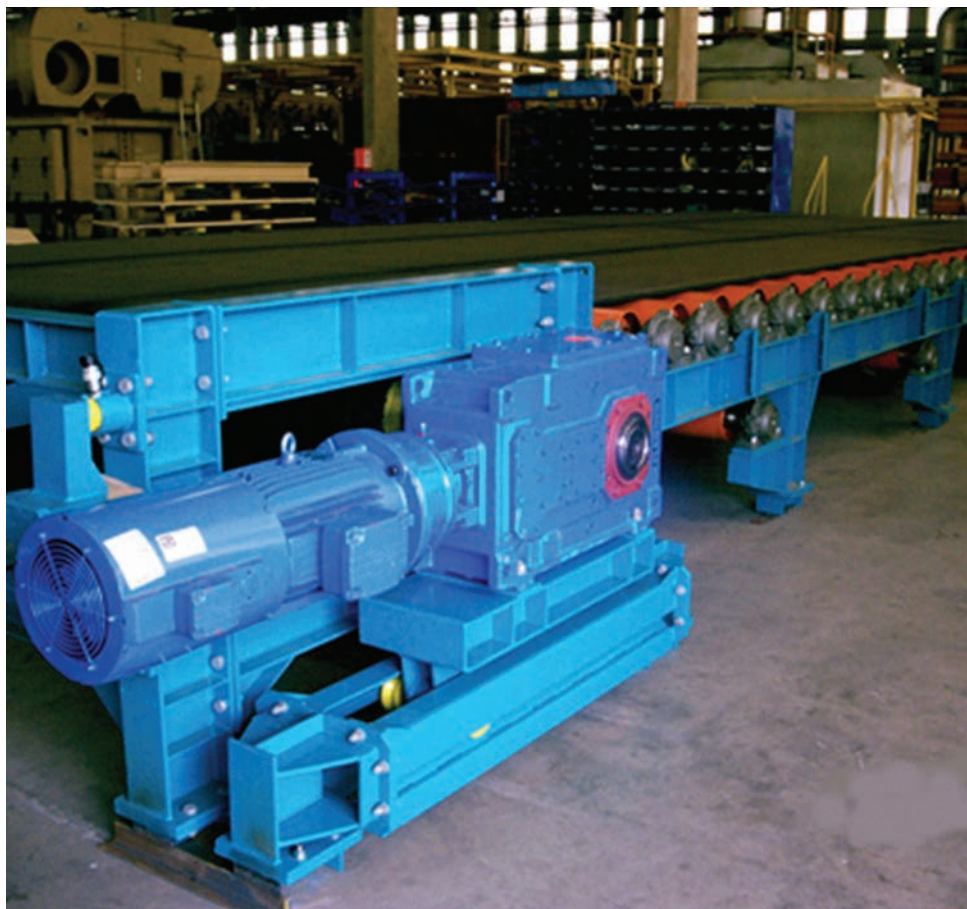
MMX (Anglo American)

Location: Amapari - PA

Year: 2007

Moving belt conveyor

- Capacity: 1,200 ton/h



Outotec

Location: Anchieta - ES

Year: 2008

Special belt conveyor (green pellets)

- Capacity: 1,225 ton/h
- Width: 4,60 m
- Length: 12,25 m horizontal
(with integrator scale)

Mining Segment

Job HIGHLIGHTS



Among the world's
largest ones.

MMX (Anglo American)

Location: São João da Barra - RJ

Year: 2008

Belt conveyor

- Capacity: 20,000 ton/h
- Length: 8.3 Km (3 Km of "overland conveyor")

Mining Segment

Job HIGHLIGHTS



EDP - MMX

Location: São Gonçalo do Amarante - CE

Year: 2009

Tubular conveyors

- Capacity: 2,400 ton/h
- Length: 7 Km

Belt conveyors

- Capacity: 1,250 ton/h and 2,500 ton/h
- Length: 2.3 Km

Job
HIGHLIGHTS

Mining Segment



MMX (Anglo American)

Location: Catalão/Ouvidor - GO

Year: 2013

Belt conveyors

- Capacity: 600 ton/h (Niobium base)



Vale

Location: Carajás - PA

Year: 2013

Belt conveyor

- Capacity: 9,600 ton/h
- Length: 3.6 Km

Feeder belt

- Capacity: 1,040 ton/h (ore)

Mining Segment

Job HIGHLIGHTS



Vale

Location: Vargem Grande - MG

Year: 2017

New and renewed conveyors

- Maximum capacity: 2,640 ton/h
- Belt widths 400 to 1,400 mm

Mining Segment

Job HIGHLIGHTS



Second longest suspension bridge in Brazil.

Vale

Location: Mariana - MG

Year: 2018

Complete suspension bridge (decks, pillars, special steel ropes) with 305 m span

Belt conveyor

- Capacity: 3,600 ton/h (ore)

Mining Segment

Job HIGHLIGHTS



Among the largest ones in Brazil.

Engie Brasil

Location: Candiota - RS

Year: 2018

Tubular conveyor

- Capacity: 550 ton/h (ore)
- Length: 4.17 Km

Supply engineering, fabrication, supply, erection, tests and assisted operation of the coal handling system, transfer tower, one dedicated power and control room, and totally integrated with the Operational Control Center (CCO) of the plant.

Mining Segment

Job HIGHLIGHTS



Vale Conceição

Location: Itabira - MG

Year: 2021

Belt conveyors

- Capacity: 4,800 ton/h



Vale Cauê

Location: Itabira - MG

Year: 2021

Belt conveyors

- Capacity: 3,400 ton/h

Agribusiness Segment

Equipment HIGHLIGHTS



TMSA

Location: Porto Alegre - RS

Year: from 1985

Grain cleaning machine

- Capacity: 100, 120, 150, 240, 320, 350 and 650 ton/h (soybean)

Producing grain cleaning machines since 1985.

More than 1,000 pieces of equipment installed worldwide.

Agribusiness Segment

Job HIGHLIGHTS



COAMO

Location: Paranaguá - PR
Year: 1988

Belt conveyor

- Capacity: 120 ton/h

Belt conveyor

- Capacity: 750 ton/h

Belt conveyors

- Capacity: 1,500 ton/h

Elevators

- Capacity: 750 ton/h
- Capacity: 120 ton/h

Dust collection system and interconnections

Metallic structures



Vale

Location: Vitória - ES
Year: 1992

Belt conveyors

- Capacity: 2,200 ton/h (grains)

Transport of grains to Tubarão Port unit: warehouses No. 1, 3, 4, 6, 7 and 9.



ADM - Archer Daniels Midland

Location: Caarapó - MS
Year: 2003

“Hi-roller” enclosed belt conveyors

- Capacity: 200 ton/h

Belt conveyors

- Capacity: 200 ton/h

Chain conveyors

- Capacity: 200 ton/h

Bucket elevators

- Capacity: 200 ton/h

Metallic silo

- Capacity: 165 ton

Supply of grain conveyor equipment to 05 ADM units.

Agribusiness Segment

Job HIGHLIGHTS



Copertrading

Location: Coruripe - AL

Year: 2004

Belt conveyors

- Capacity: 300 ton/h

Bucket elevators

- Capacity: 300 ton/h

Suction system

Air renewal system into the tunnel

Compressed air system



Bunge

Location: São Luis - MA

Year: 2004

Belt conveyors

- Capacity: 2,000 ton/h

Bucket elevator

- Capacity: 750 ton/h

Metallic structure/tower and gantry

Suction systems and industrial fans



SA Usina Coruripe

Location: Coruripe - AL

Year: 2004

Belt conveyors

- Capacity: 200 ton/h

Metallic catwalk

Air renewal system into the tunnel

Agribusiness Segment

Job HIGHLIGHTS



SA Usina Coruripe

Location: Campo Florido - MG
Year: 2004

Belt conveyors

- Capacity: 200 ton/h

Metallic catwalks and pillars

Valves with pneumatic drive

Suction system

Air renewal system into the tunnel



Vale

Location: São Luis - MA
Year: 2011

Construction of warehouses for grains, including civil Job, supply of materials, equipment and metallic structure assembly services.

- Grain silo: 45,000 ton/h



Bianchini

Location: Canoas - RS
Year: 2017

Bucket elevators

- Capacity: 300 to 500 ton/h (grains)

Belt conveyors

- Capacity: 2,000 ton/h

Chain conveyors

- Capacity: 2,000 ton/h

Pre-cleaning machines

Dust removal systems

Tunnel ventilation system

Agribusiness Segment

Job HIGHLIGHTS



Pirahy Alimentos

Location: São Borja - RS

Year: 2018

Grain dryer

- Quantity: 30 modules
- Total capacity of the dryer: 285 m³

In partnership with Mega, TMSA offers the most efficient grain drying system in the market.

1,730 drying towers installed worldwide.

Agribusiness Segment

Job HIGHLIGHTS



COAMO

Location: Paranaguá - PR

Year: 2021

Enclosed belt conveyors

- Capacity: 300 - 2,000 ton/h

Bulk-flow chain conveyor

- Capacity: 2,000 ton/h

Bucket elevators

- Capacity: 300 - 600 ton/h

Job
HIGHLIGHTS



International Job



Now Sugar

Location: Lagos - Nigeria

Year: 1980s

Bulk-flow conveyors

Belt conveyors

- Capacity: 500 ton/h

Screw conveyors

Bucket elevators

Supply and assembly of conveyors for sugar mill.



Incobrasa USA

Location: Gilman - IL, USA

Year: 1996

Belt conveyors

- Capacity: 800 ton/h

Chain conveyors

- Capacity: 800 ton/h

Bucket elevators

Soybean pre-cleaning machine

Bran calibrator machines

Set of husk removing machines



Vicentin S/A

Location: Santa Fe - Argentina

Year: 1997

Shiploader

- Capacity: 1,200 ton/h (grains)

Belt conveyor

Storage

Truck unloaders

Dust control system

International Job

Job HIGHLIGHTS



Corporación Navios

Location: Nueva Palmira - Uruguay
Year: 1997/1998

Shiploader

- Capacity: 1,000 ton/h (grains e ore)



AGP - Port of Greys Harbor

Location: Aberdeen - WA, EUA
Year: 2003

Traveling shiploader

- Capacity: 1,500 ton/h

This work has a reversible belt system on the pier, which increases the transversal reach of the shiploader.

Job HIGHLIGHTS



International Job



Cargill

Location: Homs - Syria
Year: 2007

Bulk-flow conveyors

- Capacity: 250 ton/h (sugar)
- **Chain conveyors**
- Capacity: 250 ton/h (sugar)

Chain conveyors

- Capacity: 100 ton/h (T500)
- Capacity: 150 ton/h (T650)

Bucket elevator

- Capacity: 100 ton/h

Metallic transfer tower with scale, metallic galleries for conveyors.



Saceif Louis Dreyfus

Location: Rosario - Argentina
Year: 2009

Shiploader

- Capacity: 2,000 ton/h

Suction system

- For slewing booms
- For transfer from belt conveyor
- For scale



ADM - Archer Daniels Midland

Location: Puerto Villeta - Paraguai
Year: 2009

Unloader

- Capacity: 300 ton/h (fertilizer)

Job HIGHLIGHTS



International Job



Vale

Location: Colorado - Argentina

Year: 2012

- **Electrical center**



Corporación Navios

Location: Nueva Palmira - Uruguay

Year: 2017

Shiploaders

- Capacity: 2,400 ton/h (grains)

Belt conveyors

- Capacity: 1,000, 1,400 and 2,400 ton/h (grains)

Bucket elevator

- Capacity: 1.000 ton/h (grains)

Stacker/Reclaimer

- Capacity: 2,800/3,900 ton/h (iron ore)

This shiploader highlights for enabling the transport of several different products: ores and grains.

2017 - Awarded in the 45th Edition of the RS Export Award category Industry Highlight: MACHINES/EQUIPMENT.

Job HIGHLIGHTS

International Job

ACA - Asociación de Cooperativas Argentina

Location: Quequén - Argentina

Year: 2017

Enclosed belt conveyors

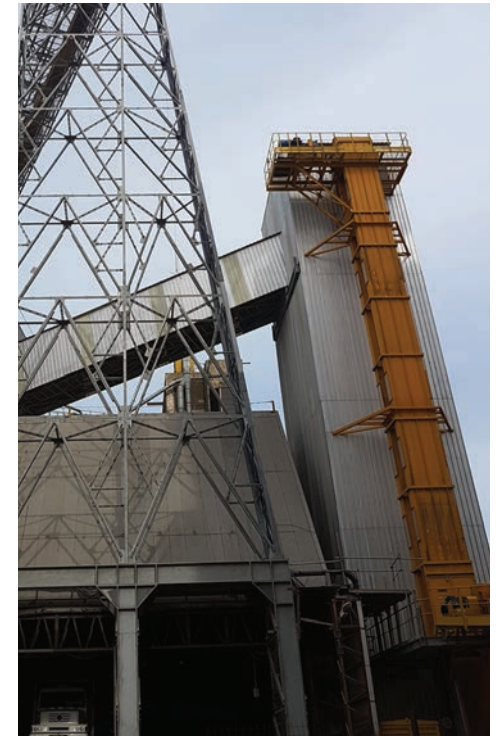
- Capacity: 600 ton/h (grains)
- Capacity: 1,200 ton/h (grains)

Bucket elevator

- Capacity: 2,000 ton/h (grains)

Dedusting system

- Quantity: 20 filters



Job
HIGHLIGHTS

International Job



Incobrasa USA

Location: Gilman - IL, USA

Year: 2018

Redler conveyors

- Capacity: 130 ton/h (grains)
- Capacity: 150 ton/h (grains)
- Capacity: 250 ton/h (grains)
- Capacity: 800 ton/h (grains)

Bulk-flow conveyors

- Capacity: 4,5 ton/h (grains)
- Capacity: 130 ton/h (grains)
- Capacity: 250 ton/h (grains)



Job HIGHLIGHTS



International Job

ACA - Asociación de Cooperativas Argentina

Location: Timbués - Argentina

Year: 2018, 2019 and 2020



Slewing-type shiploader

- Capacity: 1,600 ton/h (grains)

Enclosed belt conveyors

- Capacity: 500 ton/h (grains)
- Capacity: 1,000 ton/h (grains)
- Capacity: 1,200 ton/h (grains)
- Capacity: 1,600 ton/h (grains)

Bucket elevators

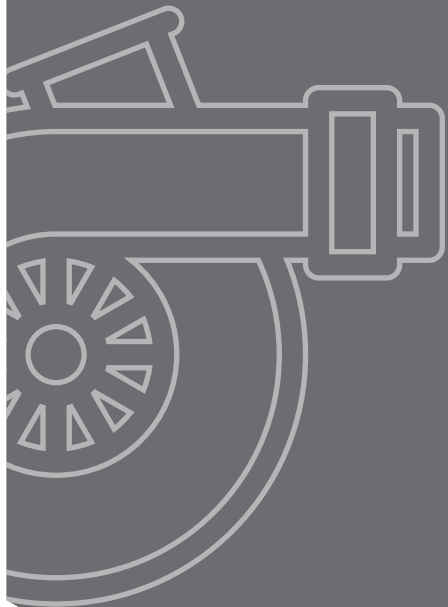
- Capacity: 300 ton/h (grains)
- Capacity: 500 ton/h (grains)

Dedusting system

- Quantity: 81 filters

Environment Control

Job HIGHLIGHTS



Coopersucar

Location: Santos - SP
Year: 1998

Road/highway sugar receipt
grinder

- Capacity: 1,000 ton/h



Pasa

Location: Paranaguá - PR
Year: 2007

Pulse-jet baghouse filter



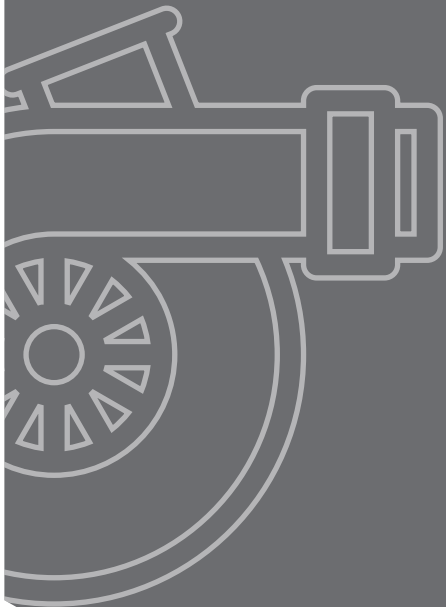
Alunorte

Location: Barcarena - PA
Year: 2004

Pulse-jet baghouse filter

Environment Control

Job
HIGHLIGHTS



Corn Products

Location: Curitiba - PR

Year: 2010

Pulse-jet baghouse filters with cleaning



Rumo Logístico

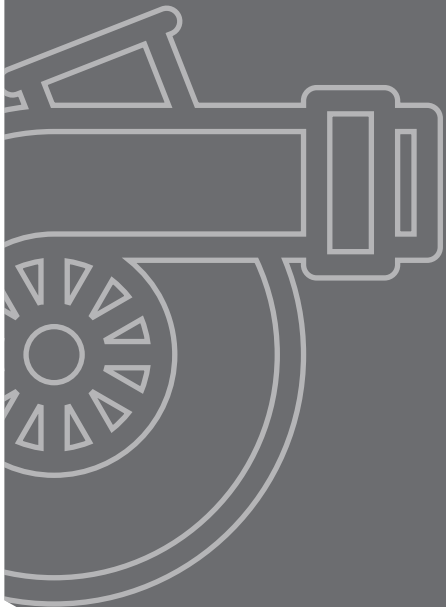
Location: Itirapina - SP

Year: 2012

Pulse-jet baghouse filters

Environment Control

Job
HIGHLIGHTS



Vale

Location: São Luis - MA

Year: 2013

Grinder suction with filter

Suction collectors on the grinder sides

Environment Control

Job
HIGHLIGHTS



Bianchini

Location: Canoas - RS

Year: 2014

Pulse-jet baghouse filters with cleaning
Dust suction in the grinder dumper

Job
HIGHLIGHTS



Environment Control



Vale

Location: Vitória - ES

Year: 2014

Grinder and conveyors
Baghouse and compact filters
Dust suction



ADM - Archer Daniels Midland

Location: Santos - SP

Year: 2017

Enclosed conveyors
• Capacity: 2,000 ton/h

Compact filters installed
Filters installed in the new warehouse 39

Job
HIGHLIGHTS



Others



Cimbagé

Location: Bagé - RS

Year: 1989

Belt conveyors

- Capacity: 2,040 ton/h (ore)



Largest electrical center in the world:
1000 m².

GE

Location: Itaboraí - RJ

Year: 2019

Electrical center

Job HIGHLIGHTS

Others



Eaton

Location: Jundiaí - SP
Work: Eletrocentro
Year: 2013



Schneider Brasil

Location: Blumenau - SC
Work: Eletrocentro
Year: 2015



Copelmi

Location: Butiá - RS
Work: Eletrocentro
Year: 2015

For electrical centers, TMSA may offer the services below:

- Electrical centers made of steel and built to meet the customer's needs.
- Supply and assembly of side walls in modules with rock wool insulation.
- Supply and assembly of indoor lighting and power outlet installations.
- Supply and assembly of power cables for interconnection of the internal part of the electrical center.
- Supply and assembly of HVAC system.
- Supply and assembly of infrastructure for the fire detection, alarm and fighting system.
- Lower compartment for passage of communication, control and auxiliary power supply cables.
- Lifting of the electrical center for loading on transport vehicles into the TMSA plant.
- Supply of maintenance manuals.

Job
HIGHLIGHTS

Others



Anglo American

Location: São Gonçalo do Amarante (Pecém) - CE

Year: 2017

Electrical center



Votorantin

Location: Salto de Pirapora - SP

Year: 2017

Belt conveyors

- Capacity: 2,000 ton/h

Supply of components for the pneumatic "air slide" cement conveyor system, and equipment for the homogenizing yard.

Job
HIGHLIGHTS

Fertilizers



Adubos Trevo - Yara

Location: Rio Grande - RS

Year: 2007

Belt conveyors

- Capacity: 1,500 ton/h



Mosaic

Location: Paranaguá - PR

Year: 2010

Belt conveyors

- Capacity: 2,000 ton/h



Serra Morena

Location: Rio Grande - RS

Year: 2011

Fertilizer storage and mixing unit

- Capacity: 300 ton/h

TMSA's AFTER-SALES SERVICES



YOUR BUSINESS CANNOT STOP

When your company chooses TMSA, it does not only assure the best equipment. It also assures aftermarket services and technical assistance with the quality level of the industry leader, preserving its investment and productivity. In addition to genuine replacement parts and qualified technical assistance, TMSA's After-sales Services offers tailor-made agreements with excellent cost-to-benefit ratio.

Including:

- Scheduled maintenance plan;
- Preventive technical assistance visits;
- Priority service.

Assure additional benefits:

- Specialized labor, trained at factory;
- Genuine parts;
- Lower costs with preventive maintenance services;
- Extended equipment lifetime;
- Greater reliability and higher availability.

TMSA 4.0

The TMSA Service Platform has come to support its business on the journey of Digital Transformation.



IoT - Internet of Things**

Digital Twin*

Telemetry

Automation

Retrofit

Assisted Installation

Consulting and Technical Analysis

Virtual Support*

Maintenance Contract**

Technical Assistance

Spare parts

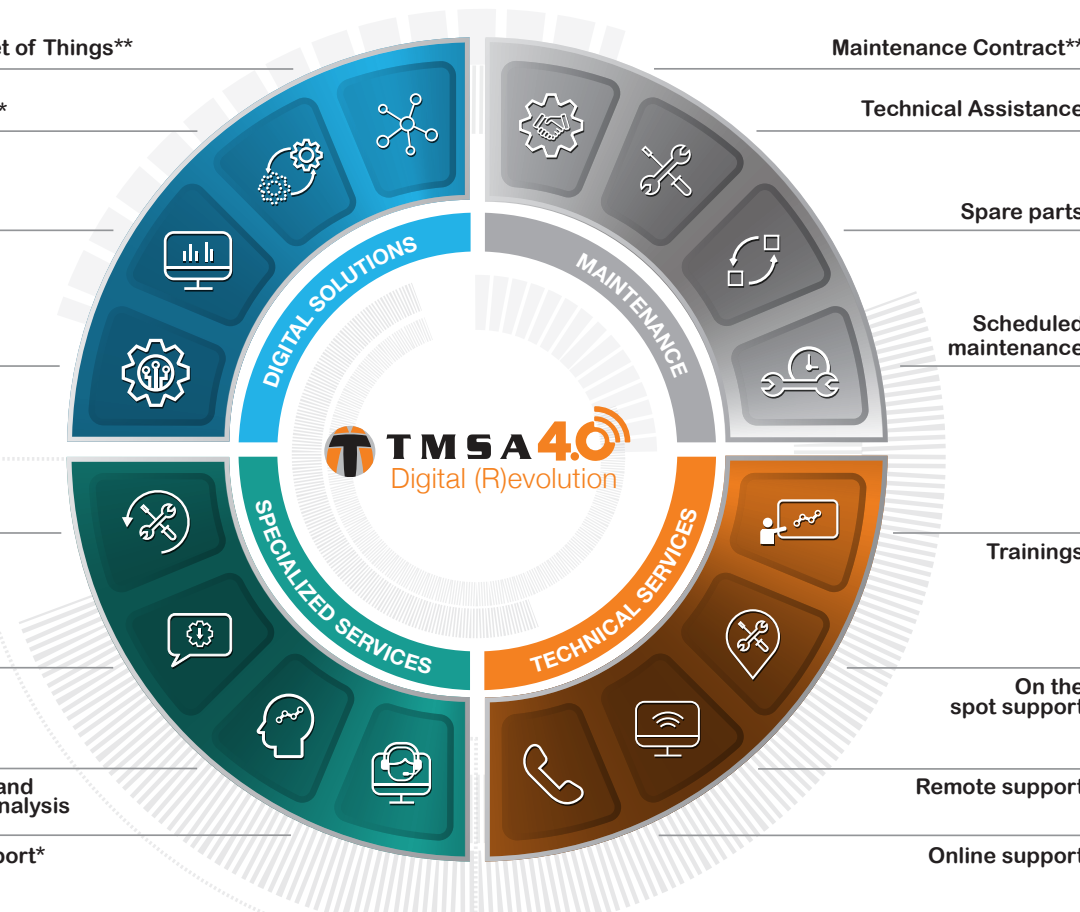
Scheduled maintenance

Trainings

On the spot support

Remote support

Online support



Point your phone's camera at the image and watch the video in which we present the four sectors of the TMSA 4.0 Platform - Digital Revolution. Understand how it company can benefit from the new journey of Digital Transformation***.

TMSA 4.0 Platform - Digital Revolution is a unified portfolio of Digital Services and Solutions that add value to the equipment produced by TMSA, with the most advanced in bulk handling technology.

The Platform offers **Technical** support and training **Services**, **Specialized**, consultancy, technical analysis and retrofit **Services**, combined with **Maintenance Services** such as technical assistance, spare parts and maintenance contracts.

These services, combined with **Digital Solutions** such as IoT, Digital Twin and Telemetry makes the TMSA 4.0 Platform - Digital Revolution a complete portfolio that ensures greater availability of equipment and efficiency in operation.

*Solution in development. **Available for Mega cleaning machine and dryers.

***This functionality requires the installation of the free TMSA Augmented Reality App. To install it, look for "TMSA" in the search field of your phone's app store.





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