



METAL MECHANICS

TRANSFORMING TOGETHER



Delivers reliability, quality, and trust across a range of industries.

Vitro was founded in 1909 and operates four business units that produce high-quality, innovative products and solutions that exceed our customers' expectations: Glass Containers (Cosmetic and Pharmaceutical), Architectural Glass, Automotive Glass, and Diverse Industries (Machinery & Equipment, Automation, Metal mechanics and Chemicals).

Our business units serve various markets and industries, from food and beverages to automobiles to commercial construction. Further, our commitment to sustainability in our operations, manufacturing processes, and product applications enables our customers and us to meet increasingly demanding environmental responsibility and performance goals.



FAMA[®]: a Vitro[®] subsidiary

FAMA[®], born in 1943 as Vitro's subsidiary for in-house machinery manufacturing has a proven track record of creating forward and innovative industrial technology.

Nowadays, we have increased our products and services to the market, in order to provide solutions for diverse industries.

Supporting by 80 years of experience manufacturing high-technology specialized machines and with eyes set on the future, we have extended to other industries besides Vitro to integrate projects that require a high technological capacity and infrastructure.



We at FAMA® transform the productivity of our customers to outstanding levels by gathering state-of-the-art technology and a highly committed workforce that allows us to form strategic alliances to provide integral solutions for diverse industries.



Competitive Advantages



Infrastructure

Our facilities allow us to be vertically integrated with areas that range from design & iron casting to machining.

Transformation Culture

Highly qualified staff at every level of the organization constantly oriented to maintain a culture of transformation.

Quality + Innovation

Wide range portfolio of products and services that revolve around innovation; with competitive prices, high quality standards and optimal lead times.



Transforming together



1909

Vitro starts operations.



1943

FAMA® is born as the 'technological arm' of Vitro to provide machinery and equipment for the affiliate companies.



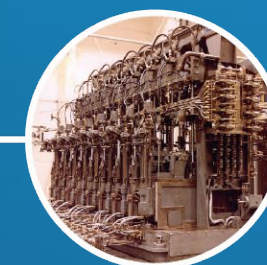
1944

The first foundry was built using a cupola furnace.



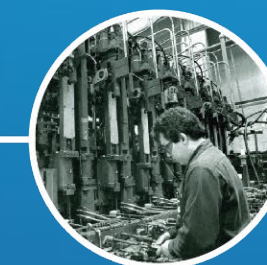
1946

The first two-section IS machine is produced to create new and more efficient machinery for the glass industry.



1950

Mold and machinery exports begin.



1970

Fabricación de Máquinas S.A. starts international operations.



1980

FAMA® joins the globalization process by becoming an exporting company.



2015

FAMA® expands its products and services globally, offering integral solutions for the glass industry.



2017

We expand our product and service portfolio into the market to offer integrated automation solutions in diverse industries.



2018

With 75 years of experience and the sight set on the future, FAMA® reaches out to other industries in the manufacturing sector.



2021

FAMA® expands its automation capabilities with the acquisition of Grupo Gersa Monterrey.



2023

FAMA® keeps growing and being a strategic partner offering machinery and services for the glass industry, metalworking and automation solutions.

FAMA's Leadership Team



Juan Farías
FAMA's
Managing Director



**Alfonso
García**
Machinery
Operations
Manager



**Carlos
Sandoval**
Automation
Operations
Manager



**Victor
García**
HHRR
Manager



**Lorena
Casiano**
Marketing
Coordinator



**Roberto
Delgado**
Comptroller



**Francisco
Sada**
Strategic
Planning



**Armando
Solis**
Supplies
Manager



Metal Mechanics

We at FAMA® bring together best-in-class technology and a highly committed workforce that allows us to form strategic partnerships to transform our customers' productivity into utmost levels.

We develop gray and ductile iron casting for wide variety of industries, we design and manufacture toolings, machine parts that enhance the processes for various industries by taking advantage of our foundry capabilities, well-equipped infrastructure and quality processes.

Products and Services

1. Iron Casting
2. Machining



Iron Casting

We are equipped with automatic, semi-automatic, and manual molding production lines, which provide us the flexibility to cast parts in a wide variety of weights and materials. We ensure the quality of our products and processes by supporting them through chemical and metallographic certifications.

Machinery

- Hunter molding machine
- EMI Cope & Drag molding machine
- Shell cores molding machines
- 4 induction furnaces with a 2-Ton capacity
- Heat treatment furnaces for annealing and tempering
- Mills
- Shotblasters
- Tinker Omega Rollover



Production areas



Molding process

- Green sand molding
- Molding in PEP-SET resin and No-bake



Melting process

- Four induction melting furnaces with 600 Ton monthly capacity
- We melt specialized pieces from 500 gr to 4 ton pieces



Finishing process

- Shotblast casting cleaning
- Finishing: Grinding, polishing, chiseling, etc.
- Heat treatment

Materials



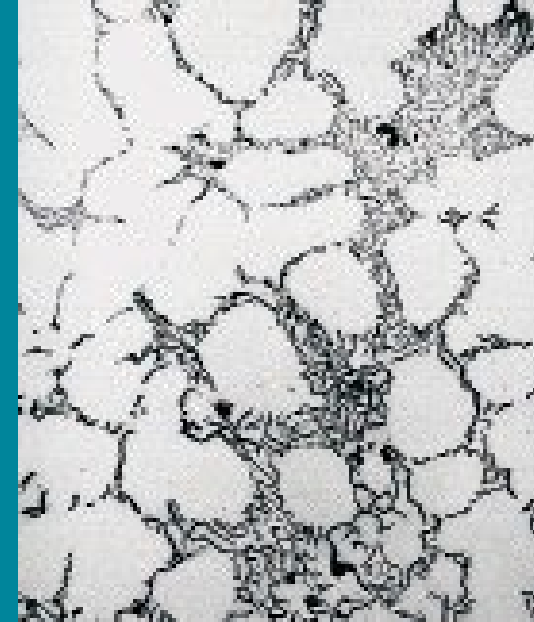
Gray Iron

Meehanite class alloy for industrial machinery



Ductile Iron

Meehanite class alloy for industrial machinery



Gray Iron

Alloy for glass industry (FAMA)

MATERIAL

FAMA

ASTM

Gray Iron

(Meehanite class alloy for industrial machinery)

M-20

ASTM A48 CLASS 20

M-30

ASTM A48 CLASS 30

M-35

ASTM A48 CLASS 35

M-40

ASTM A48 CLASS 40

M-45

ASTM A48 CLASS 45

M-50

ASTM A48 CLASS 50

Ductile Iron

SF-60

ASTM A536 60-40-18

SF-65

ASTM A536 65-45-12

SP-80

ASTM A536 80-55-06

SP-100

ASTM A536 100-70-03

Gray Iron

Alloy for the glass industry (FAMA)

F-12

FINOT

F-03

Gray iron alloy developed in FAMA for container molding

Products and Services

We produce cast iron parts with variable geometries and weights to provide a specialized service to the following industries:

- Glass
- Industrial machinery
- Electric motors and generators
- Hydraulic
- Food and rail
- Bearings and power transmissions



We generate added value to each customer requirement, ensuring the quality of our products with highest standards.

Pattern shop

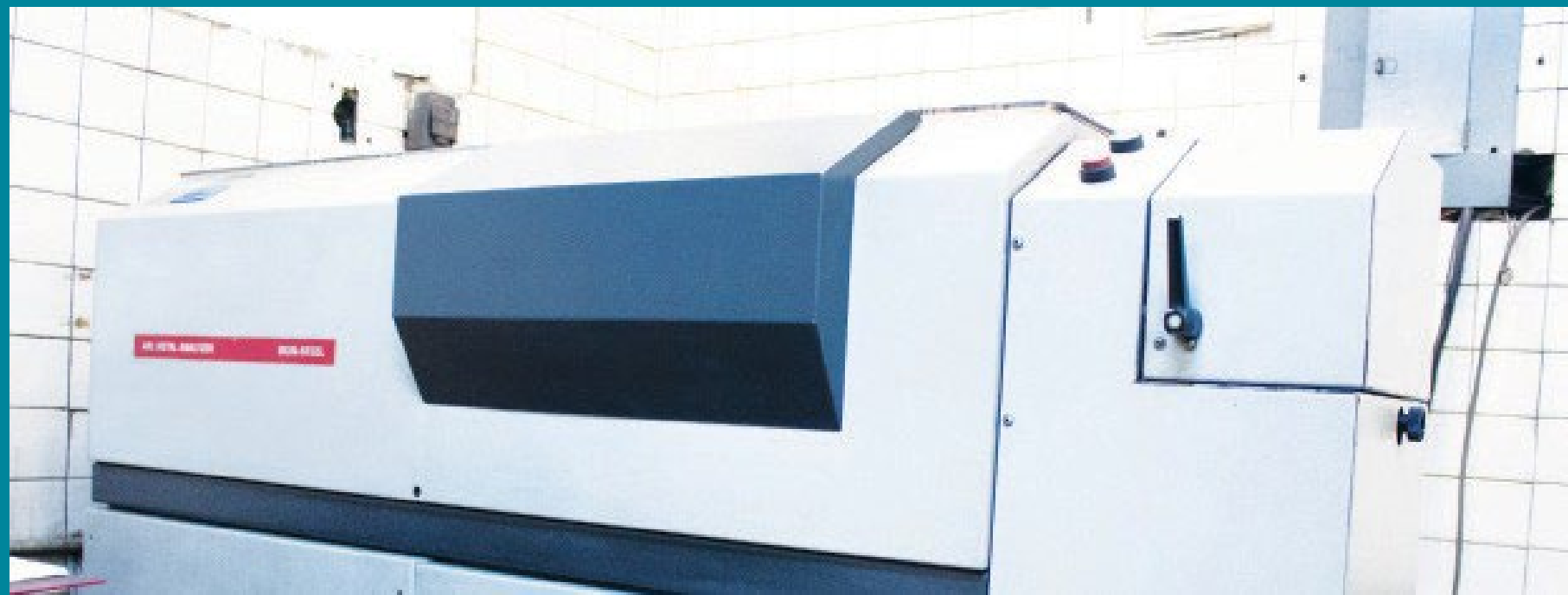
We provide design, manufacture, and repair services for:

- Wooden, resin, and aluminum patterns
- Core box for Shell and Cold box processes

Laboratory

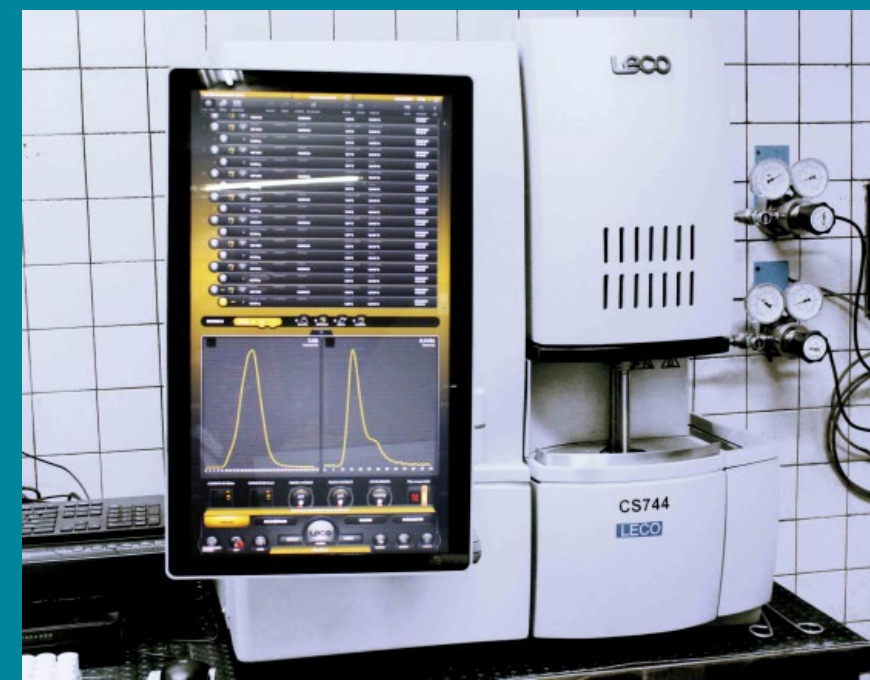
We execute any necessary test on the materials we produce in order **to guarantee our products' quality**

Chemical tests

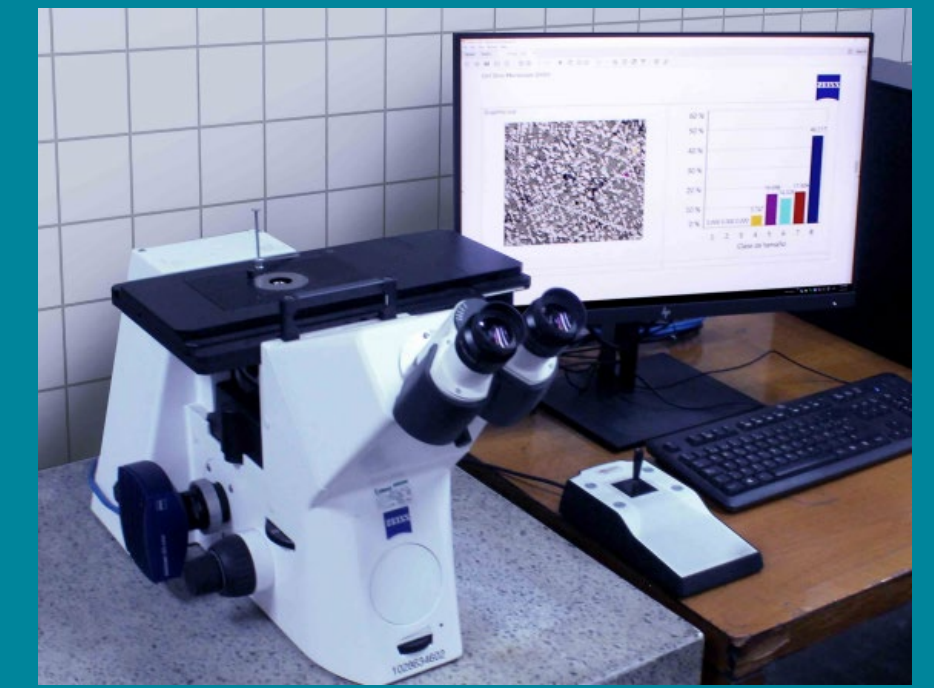


- ARL spectrometry equipment

Metallographic tests



- Carbon and Sulfur verifier



- Inverted plate metallographic microscope

Sand analysis (Green and Pep set)

Moisture, compactability, PH, temperature, and permeability tests.

Equipment:

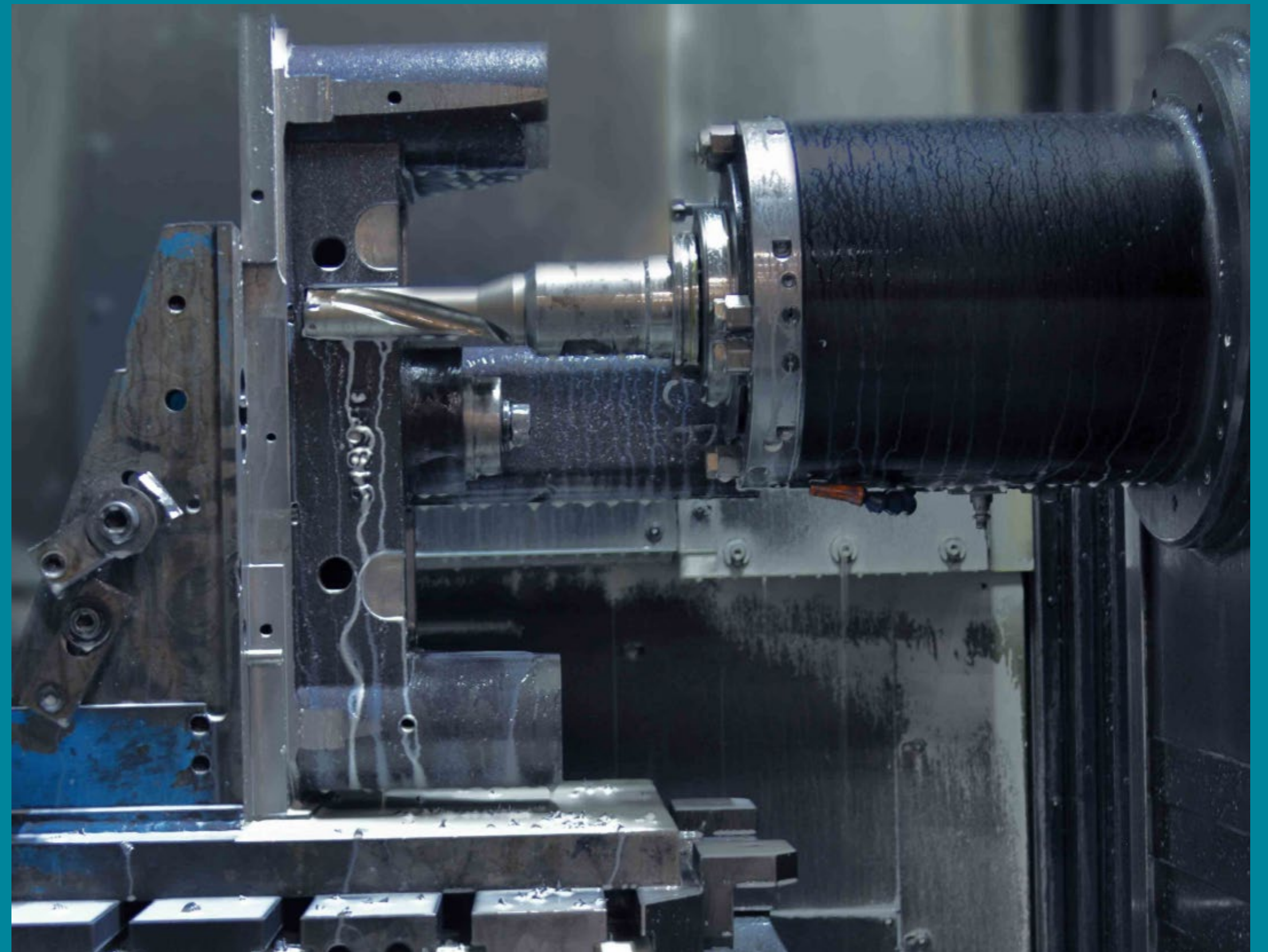
- Scale
- Moisture analyzer
- PH and temperature meters
- Muffle furnaces
- Permeability meter
- Sifters and sieve shakers
- Magnetic shaker
- Sand mechanical testing machines
- Compactor



Machining

We offer design and manufacturing solutions for tooling & fixtures, special devices, structures, and mechanical parts for diverse industries.

Our infrastructure is equipped with machining centers and grinding machines that enable us to comply with the specifications that each customer requires



Equipment and capabilities



CNC Double-column machining center

- Work table: 2.5 m wide x 8 m long and 1.5 m high
- Capacity to manufacture components up to 3 m wide x 8 m long



CNC Horizontal machining centers

- 400 mm - 1,000 mm table
- Capacity to manufacture components up to 1.5 m wide and 2 m long



CNC Vertical machining centers

- Work table: 750 mm wide and 1,740 mm long
- Capacity to manufacture components up to 800 mm wide and 1.5 m long

Equipment and capabilities



Lathe centers

- Turning and milling in one single operation
- Capacity to manufacture components with 580 mm swing, 250-mm chuck diameter, and 810 mm long



Cylindrical grinders

- Grinding capacity 250 mm swing and 2 m long

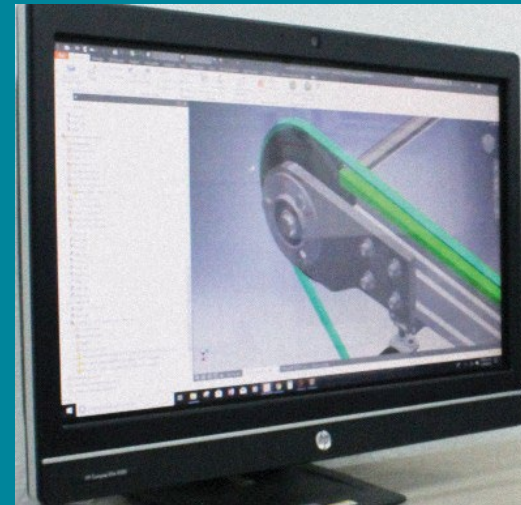


Flat grinders

- Grinding capacity 530 mm wide, 560 mm high, and 1,270 long

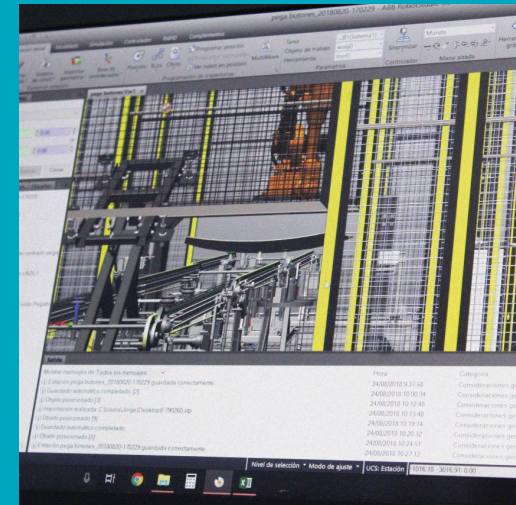
Products and services

- Workstations
- Tooling
- Fixtures
- Gauges
- Special devices
- Templates
- Mechanically welded structures



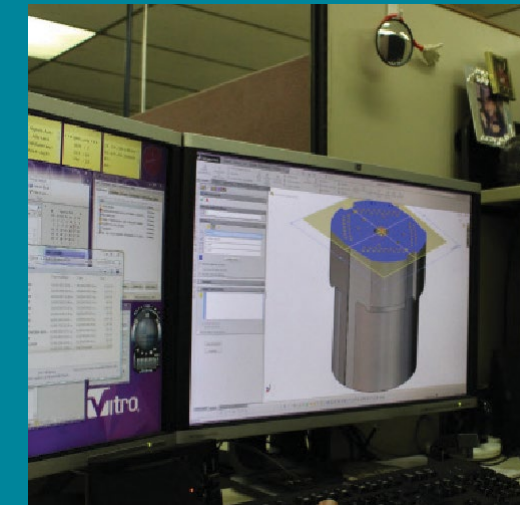
Design and manufacture

- Fixtures
- Tooling
- Gauges
- Special devices
- Demos
- Workstations



Reverse engineering

- 3D modeling
- Mechanical blueprints
- Lists of existing machinery materials



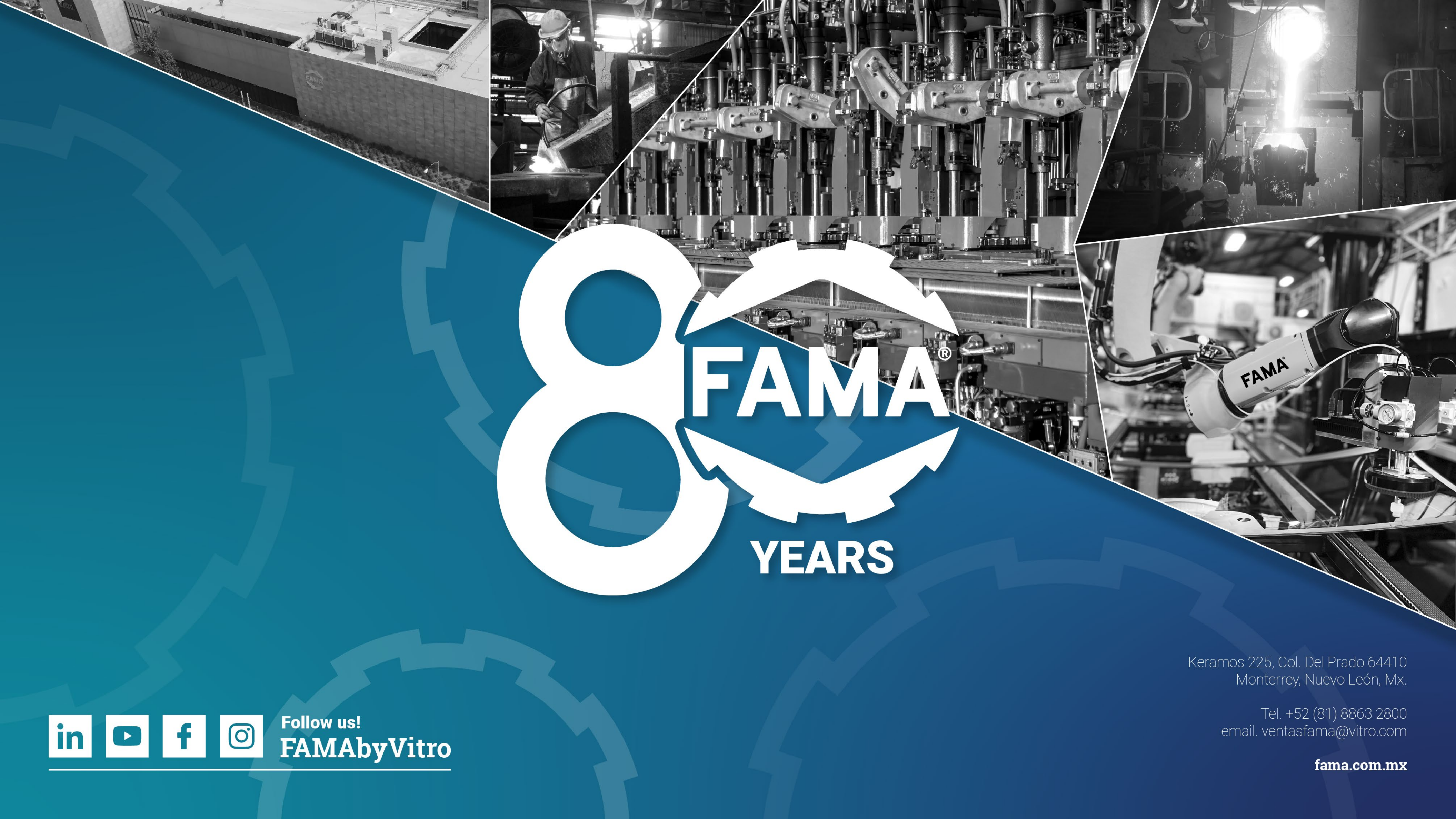
3D Drafting and modeling

- Manufacture blueprints
- 3D drafting and modeling of machinery assemblies
- Mechanical components



CNC machining

- 1018, ASTM A36, steels, cast iron, stainless steels, bronze, nickel, aluminum and plastic parts



80 FAMA[®] YEARS



Follow us!
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