

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION











PORTFOLIO **OF THE COLOMBIAN AUTOMOTIVE INDUSTRY** 



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## Editorial

The National Government is highly committed to supporting the diversification of Colombian exports, focused on taking advantage of the signed Free Trade Agreements and, thereby, pointing to increase the non-mining/energy exports to US\$ 27 Billion by 2022. Within this context the Ministry of Commerce, Industry and Tourism has developed a policy and guidelines to facilitate international trade through cost reduction and processes streamlining.

This is an ambitious objective that requires major efforts in two key aspects related to economic growth: namely the increase of productivity and quality, which improve the global competitiveness of the products made in Colombia; and the business internationalization of our industry, enabling this way the expansion of its commercial scope - all of this supported by the service portfolio of ProColombia.

The Colombian automotive and auto parts industry plays an important role in the national economy. With more than 50 years of experience, today, this sector is the 4th largest industry in the region (in terms of production volume) and represents 6.2% of the country's industrial GDP. It also generates more than 25,000 highly skilled and well-paid direct jobs, as well as 100,000 indirect ones, while producing a variety of automotive components through diverse production processes.

With the support given by the international technical cooperation project "PRO-Motion", by the Korea International Cooperation Agency (KOICA), the United Nations Industrial Development Organization (UNIDO), the Ministry of Commerce, Industry and Tourism of Colombia (MINCIT), and the "Colombia Productiva" program, we obtained a deeper understanding of our companies' needs, which has let us take actions that generate results to strengthen the sector.

It is great to know that this portfolio is one of the valuable results reached by the joint actions implemented by the project and ProColombia. With the objective of building a key tool to reach new markets and attract the foreign investment we have compiled relevant information regarding the industrial capacities with the invaluable support and enthusiasm of the participating companies.

We are confident about the positive results that this competitive, innovative and relevant industry will achieve in its internationalization process.

Saúl Pineda Hoyos Deputy Minister of Business Development

## Introduction

Inspired by the idea of building a country that grows based on equity, in August 2018, the National Government established spaces for honest dialogue with the private sector, which resulted in the elaboration of 12 pacts for the expansion and creation of new employment in different productive sectors.

This initiative includes the mobility industry - a sector in which ProColombia has identified a great internationalization potential.

Colombia offers great opportunities in this field. We have 16 trade agreements in force and a strategic geographical position, which turn us into an ideal platform to reach third markets.

The country has an industry specialized in the production and assembly of vehicles and motorcycles, which allows us to satisfy local and regional demands.

We are also highly qualified in the manufacturing of auto parts, meeting OEM and aftermarket requirements.

This expertise has allowed the country to position itself as the fourth largest assembler of vehicles in Latin America after Mexico, Brazil and Argentina; and the second largest assembler of motorcycles in the region after Brazil.

With almost 200 companies operating along the supply chain, the local automotive industry has a production capacity of 260,000 vehicles and one million motorcycles per year.

Furthermore, Colombia exports vehicles to 19 countries and auto parts to more than 50 countries. According to numbers generated from the National Statistics Administration Department of Colombia (DANE) and analyzed by ProColombia, this represented almost US\$ 1,000 million of sales in 2018.

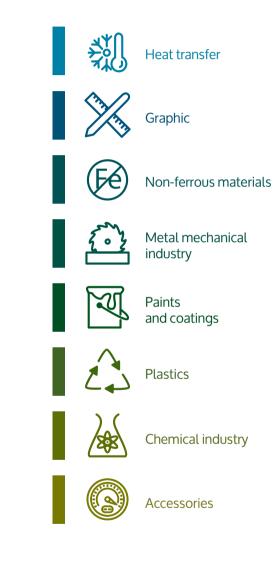
In this catalogue, we present the portfolio of a number of manufacturers supported by international quality certifications for their products and processes, which has already enabled them to build the trust of customers in the automotive, shipbuilding and aeronautical industries, among others.

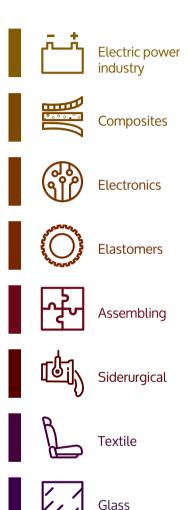
This, together with the design and development capacities of the portrayed manufacturers, presents the Colombian automotive industry as a potential partner, able to deliver custom-made solutions that meet the requirements of global buyers.

This publication features more than 100 companies from 15 cities in the country, which portray the creativity and capacity of the Colombian people. I invite you to take your time to go through this catalogue and discover the capacities and talent that characterize the Colombian mobility industry.

Flavia Santoro Trujillo President of ProColombia







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				<u></u>	Niko Racing Ltda.
			<u>{`}</u>	0	NORMARH S.A.S.
				<u>}</u>	NP Repuestos Genuine Parts S.A.S.
				· · /	OPTIMA BALLISTIC GLASS COLOMBIA S.A.
			M	৵	OSAKA S.A.S.
		Ą	<i>[</i> `}	ዯ	PINTUPARTES - Industria de pintura y partes metalm
					PLACA S.A Plasticos y Cauchos S.A.
					PLASTICOS TRUHER S.A.
					POLIKEM S.A.S.
		٤٠٠	Y	ᡒ	Pramec S.A.S.
				F	Propulsora S.A.
				Ą	PSTC S.A Productos y Sellantes Técnicos de Color
				Ą	Recubrimientos Industriales S.A.S.
				٤٠٠	Resortes Hércules S.A.
					Riduco S.A.
			<u>ت</u>	ᢤ	Rinder Riduco S.A.S.
				ᢤ	Rodríguez López Auto S.A.S.
			<u>{``</u> }	L	Sauto Andina S.A.S.
					Servintec S.A.S.
<u>{``}</u>	0	ዯ			SI3 - Sistemas de Innovación en Ingeniería e Integrad
		С.	FØ	<u>{}}</u>	Sicolsa - Siderúrgica Colombiana S.A.

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## Abbreviations

Research, Development and Innovation

International Standardization Organization

International Automotive Task Force

Injection Stretch Blow Molding

Japanese Industrial Standards

Just In Time

Kilogram

Kilohertz

Kilometer

R+D+I

IATF

ISBM

ISO

JIS

JIT kg

kHz

km

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🔘 👜 🏠 Solocauchos S.A.S.	206 - 207	" Inch	kN
🙆 🔘 SOLOMOFLEX S.A.S.	208 - 209	A Amperes ABS Anti-Lock Braking System	kVA kW
🖴 🛆 🔘 SumiParts S.A.S.	210 - 211	ANPQPAlliance New Product Quality ProcedureAPQPAdvanced Product Quality Planning	L m
🔂 🖄 SUPERPOLO S.A.S.	212 - 213	ASAviation Space & Defense StandardASESAlliance Supplier Evaluation Standard	MHz MIG
🙆 Taller Industrial Serviacero S.A.S.	214 - 215	ATV     All-Terrain Vehicles       AWS     American Welding Society	ml mm
🥰 TGS - Transport Global Suppliers S.A.S.	216 - 217	BASCBusiness Anti-Smuggling CoalitionBIQSBuilt in Quality SupplyDescriptionDescription	N NIT
Thermoform S.A.	218 - 219	BRTBus Rapid TransitCABControlled Atmosphere BrazingCADComputer Aided Design	NTC ° OEA
🙆 TNK - Terminales Automotrices S.A.	220 - 221	CAE Computer Aided Design CAE Computer Aided Engineering CAM Computer Aided Manufacturing	OEM OHSAS
🙆 Tornillos y Grapas Industriales TGI S.A.S.	222 - 223	CAx Computer Aided technologies CBU Complete Built Up	PET POP
🙆 Tractec S.A.S.	224 - 225	CKD Complete Knocked Down cm Centimeter	PP PPAP
국권 🛴 Trimco S.A.	226 - 227	CMMCoordinate-Measuring MachineCNCComputer Numerical Control	psi PVC
🚱 🚊 Tromec S.A.S Troquelados Metálicos Técnicos S.A.S.	228 - 229	COSCast-On-StrapFASTFunctional Analysis Screening Tool	RETIE RGB
은 🖾 🧿 上 UMO S.A.	230 - 231	FEAFinite Element AnalysisFEMFinite Element Method	ROHS rpm
🛆 Unión Plástica S.A.S.	232 - 233	ft Foot g Gram CNG Compressed Natural Gas	SAE SKU SMAW
💮 Yazaki Ciemel S.A.	234 - 235	HDPE High Density Polyethylene h Hour	SMAW SMD SMT
📩 投 Yukkazo - Grupo Race Dayca Colombia S.A.S.	236 - 237	hp Horsepower R+D Research and Development	T

#### Disclaimer

The correctness and accuracy of the photographical and written information included in this document is the sole responsibility of the respective companies presented in this catalogue, which voluntarily contributed and subscribed to the objective of this document, which is the promotion of the capacities of the Colombian automotive industry.

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Kilonewtons Kilovolt-Ampere Kilowatt Liter Meter Megahertz Metal Inert Gas Milliliter Millimeter Newton From Spanish: Tax identification number From Spanish: Colombian technical standard Degrees From Spanish, Authorized Economic Operator Original Equipment Manufacturer Occupational Health and Safety Assessment Series Polyethylene Terephthalate Point of Purchase Polypropylene Production Part Approval Process Pounds-force per square inch Polyvinyl chloride Colombian technical regulation for electrical installations Red, areen, blue Restriction of Hazardous Substances Revolutions per minute Society of Automotive Engineers Stock-Keeping Unit Shielded Metal Arc Welding Surface-Mount Device Surface-Mount Technology Tonne Thermoplastic Flexible Fixture wire OEM supplier Supplier of TIER 1 companies Supplier of TIER 2 companies Tungsten Inert Gas Underwriters Laboratories The United Nations Economic Commission for Europe Watts Zinc-aluminium alloy Zinc, Aluminum, Magnesium and Copper

TIER 1

TIER 2

TIER 3

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PORTFOLIO OF THE COLOMBIAN AUTOMOTIVE INDUSTRY

## **AKT Motos**



• Cra 49 # 30 Sur 66 • Envigado, Antioquia  www.aktmotos.com • Start of operations: 2004

Assembler and distributor of motorcycles and motorcycle parts that is recognized for being a Colombian company whose brand offers high quality products with a great value for money relation. It has a strong commitment to quality, as evidenced by certification of the production processes. Its motorcycles are subjected to stringent performance and handling testing in the Colombian territory before entering the market. The company's facility is equipped with two advanced assembly lines for automatic assembly and a test track, as well as the most specialized tools and machinery for motorcycle assembly.

Number of employees	Annual production capacity
1,000	150,000 units
Production 2018	Type of vehicles
104,545 units	Motorcycles
Sales in the local market 2018	Number of local suppliers
106,063 units	31

#### Models currently produced

Motorcycles: • AK 125 NKD • AK 125 CR4 • AK 200 TTR • TVS 100 Sport · TVS Apaches · AK 110 Special · AK 125 FLEX











## **GM Colmotores**



- Avenida Boyaca Calle 56 A Sur # 36 A - 09
  Bogota, Cundinamarca
- www.chevrolet.com.co
  Start of operations: 1956

Since its start of operation in 1956 as the first automotive assembly plant in Colombia, General Motors Colmotores has worked to consolidate its operations and contributed to industrial, technological, social and economic development of the country. One of its main achievements is the Colmotores industrial free trade zone, known as Zoficol, which opened in 2013 and became the first national Chevrolet vehicle manufacturing plant.

GM Colmotores not only has benefited the local automotive industry but the Country as a whole, by enhancing the competitiveness and industrial capacities, creating specialized jobs and supporting the Colombian automotive component manufacturers through new products, innovative technologies, sustainable development and increase in exports.

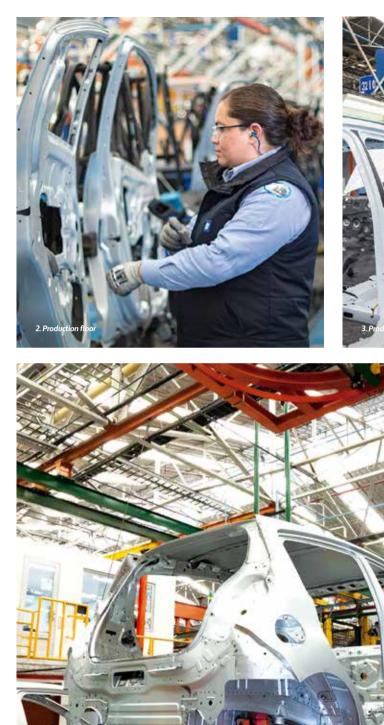
About 22,000 men and women have worked at GM Colmotores and more than 1,2 million Chevrolet vehicles have been produced to date. At present, the company offers innovative services and the largest and most renewed portfolio of vehicles and trucks on the market, with state-of-the-art technology, safety and performance.

Exports in 2018 12,742 units	Countries where it has exported • Ecuador • Chile • Peru • Venezuela • Bolivia	
Production 2018 38,500 units	Type of vehicles • Family vehicles • Bus and truck chasis	P
Sales in the local market 2018 49,866 units	Number of local suppliers	
Models currently produced Cars: · Spark GT · Spark GT Activ · Bea Commercial vehicle: · NHR · NPR · N Heavy trucks: · FR · FVR · FV · LV · FVZ	QR · NKR	10 M

#### Certifications

· ISO 9001: 2015 · ISO 14001: 2015 · Landfill Free · Wildlife Habitat Council · PREAD · BIQS · IDEAM gas emition · Quality and product certificate: vehicle chassis for ground and public transport IDEAM gas emition · Quality and product certificate: vehicle chassis for ground and public transport









GM 



- ZFP Parque Sur: lote 6, km 24 Cali Santander de Quilichao • Villa Rica, Cauca
- www.heromotocorp.com • Start of operations: 2015

HMCL Colombia, a subsidiary of the Indian Hero MotoCorp Ltd, is part of a Hero global expansion project and marks the first plant outside India of this corporation, which was created to become the hub for the Americas. HMCL Colombia is located in the Parque Sur free trade zone in the department of Cauca. It is dedicated to the production of motorcycles from the Hero brand and has a 70,000 m<sup>2</sup> facility with a modern and bioclimatic design.

Number of employees	Annual production capacity		
256	80,000 units		
Exports in 2018	Countries where it has exported		
1,500 units	<ul> <li>Salvador</li> <li>Guatemala</li> <li>Trinidad</li> <li>and Tobago</li> <li>Costa Rica</li> <li>Bolivia</li> <li>Bolivia</li> <li>Guyana</li> </ul>		
Production 2018	Type of vehicles		
30,000 units	Motorcycles		
Sales in the local market 2018	Number of local suppliers		
27,000 units	17		

#### Models currently produced

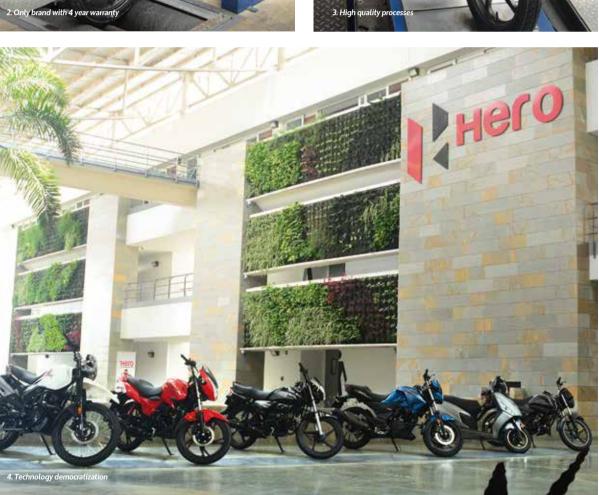
 $\textbf{Motorcycles:} \cdot \mathsf{Eco} \ \mathsf{Deluxe} \cdot \mathsf{Splendor} \cdot \mathsf{Thriller} \cdot \mathsf{Ignitor}$ 

#### Certifications

ISO 9001: 2015









Hero

## Hino Motors Manufacturing Colombia S.A.



• km 1.5 Via Siberia Cota, Parque Industrial Potrero Chico Cota. Cundinamarca

 www.hino.com.co • Start of operations: 2008

Hino, the leading Japanese brand in the development of technologies for trucks and buses, has been present in the Colombian market since 1995.

In 2008, Hino's first industrial facility in Latin America started its operations in Colombia to assemble chassis for cargo and passenger vehicles.

Since then, this plant adopt the highest quality standards to provide optimal services and meet the needs and requirements of clients. Hino vehicles stand for improved basic functions, enhanced safety and environmental consciousness and protection.

Based on its "customer first" philosophy, the company offers its clients the best products at a competitive price. Hino applies Toyota's production system to achieve continuous improvement in productivity and quality across all its operations, both in the country as well as abroad.

Number of employees	Annual production capacity
240	8,000 units
Exports in 2018 3,600 units	Countries where it has exported <ul> <li>Ecuador</li> <li>Peru</li> <li>Argentina</li> </ul>
Production 2018 6,000 units	Type of vehicles Chassis for cargo and passenger vehicles
Sales in the local market 2018	Number of local suppliers
2,400 units	30

#### Models currently produced

Commercial vehicles: · 300 Series · 500 Series

#### Certifications

ISO 9001: 2015 · IDEAM gas emition · Quality and product certificate: vehicle chassis for ground and public transport · Conformity of production (CoP)









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Fanalca S.A.



Calle 13 # 31 A - 80Yumbo, Valle del Cauca

www.honda.com.coStart of operations: 1982

Fanalca S.A. is a Colombian company with various industrial activities. Among them are the assembly, distribution and marketing of Honda motorcycles which the company has been engaged in since 1982. Fanalca has a production plant located in the municipality of Yumbo, Valle del Cauca, where it performs the activities of manufacturing of metal mechanical components for motorcycles, welding, painting and assembly of final products. From there it also coordinates all the distribution and sales activities of its products.

Number of employees	Annual production capacity
435	115,000 units
Production 2018	Type of vehicles
100,000 units	Motorcycles
Sales in the local market 2018	Number of local suppliers
99,000 units	29

Models currently produced

Motorcycles: · CB-110 · XR-150L · CB-125F

Certifications

ISO 9001: 2015





4. Production line







## **RENAULT - Sofasa**



• Carrera 49 # 39 Sur 100 Envigado, Antioguia

 www.renault.com.co • Start of operations: 1969

RENAULT - Sofasa is one of the car assemblers with the longest history in Colombia. Since its establishment in 1969, it has produced and sold more than 1.5 million vehicles. In order to ensure the company's growth, RENAULT - Sofasa lately focused on the renewal of its product range, the expansion of its export markets and investments for the modernization of its plant and associated production processes. Over the last four years RENAULT - Sofasa invested more than 52 million euros in the introduction of new vehicles, production plant improvements and supplier development. RENAULT - Sofasa is aware that growth depends on the development of people, suppliers and technological innovation. Therefore, it directs its efforts to improve the quality of life of its employees, to give adequate and fair support to its suppliers, and to keep up with the latest international automotive industry trends and technological advances being in 2018 the market leaders.

Number of employees	Annual production capacity
1,290	80,000 units
Exports in 2018	Countries where it has exported
29,434 units	<ul> <li>Mexico</li> <li>Argentina</li> <li>Ecuador</li> <li>Bolivia</li> <li>Peru</li> <li>Chile</li> <li>Central America</li> </ul>
Production 2018	Type of vehicles
69,253 units	Passenger vehicles
Sales in the local market 2018	Number of local suppliers
49,589 units	35

#### Models currently produced

Passenger vehicles: · Renault Sandero · Renault Stepway · Renault Logan · Renault Duster

#### Certifications

· ISO 9001: 2015 · ISO 14001: 2015











## **MB Motor**



Carrera 84 Sur # 37 - 10 bodega 102
Sabaneta, Antioquia www.sym-colombia.comStart of operations: 2014

SanYang Motor Co. Ltd. was founded in 1954 in Taiwan and is considered one of the largest motorcycle manufacturers in the world with its SYM brand at the forefront. By 1962, motorcycles were first manufactured through a collaboration with Honda, and in 1995 the SYM brand was launched worldwide as a first step to enter international markets. In 2017, SYM opened its first assembly plant in Colombia, located in Sabaneta, Antioquia, entering the Colombian market with its scooter product line.

Number of employees	Annual production capacity
70	35,000 units
Production 2018	Type of vehicles
3,500 units	Motorcycles
Sales in the local market 2018	Number of local suppliers
1,455 units	15

#### Models currently produced

 $\textbf{Motorcycles:} \cdot \text{Crox} \cdot \text{Orbit} \cdot \text{Citicom}$ 











## Incolmotos Yamaha S.A. **INCOLMOTOS YAMAHA**

- km 20 Autopista Norte • Girardota, Antioquia
- www.incolmotos-yamaha.com.co • Start of operations: 1976

This company, one of the main manufacturers of motorcycles in Colombia and representative of the YAMAHA brand in the country, focuses on the production, sale, distribution and technical service of motorcycles, as well as the marketing of spare parts and accessories. The firm also engages in the distribution of the YAMAHA musical instruments product line. Within its headquarters of 167,000 m<sup>2</sup>, it has a production plant of 53,895 m<sup>2</sup> and an eco-park of 12,000 m<sup>2</sup>, as part of its philosophy of sustainability and environmental care. Likewise, the 91% of its motorcycle portfolio is approved with an emission standard higher than that required by Colombian regulations.

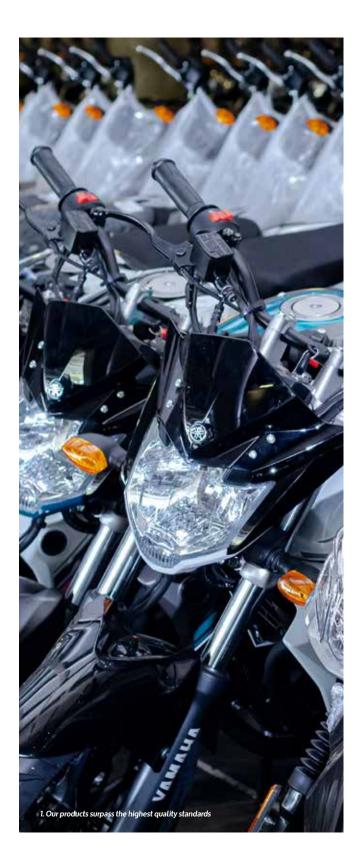
Employees:	Annual production capacity
1,204	250,000 units
Production 2018	Type of vehicles
103,000 units	Motorcycles
Sales in the local market 2018	Number of local suppliers
103,000 units	46

#### Models currently produced

 $\begin{array}{l} \textbf{Motorcycles:} N-Max \cdot FZ15 \cdot FZ25 \cdot XTZ125 \cdot XTZ250 \cdot Crypton \cdot Libero \cdot SZ15 \cdot YCZ110 \cdot R15 \cdot XTZ150 \cdot BWSX \cdot BWSFI \end{array}$ 

#### Certifications

· ISO 9001: 2015 · ISO 14001: 2015 · Gold LEED certification

















PORTFOLIO OF THE COLOMBIAN AUTOMOTIVE INDUSTRY

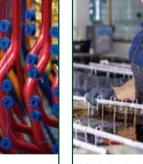




Number of employees: 16

Sales per industry: • Automotive 40% • Biomedical 20%





3. Drying and product warehouse 4. Production plant, coloring and washing tanks

## Main clients





5. Production plant, product color

palette

#### • Special projects 10% • Other industries 30%

#### Automotive industry portfolio

- Anodizing services in different colors and in both glossy and matte finishes for multiple automotive industry components, such as
- Motorcycle accessories
- Motorcycle wheels
- Handlebars
- Acutrax (handlebar clamps)
- Motorcycle frame sliders
- Bumpers backsides
- Car wheels
- Aluminium luxury accessories
- Custom made services

#### Portfolio for other industries

- Technical profiles
- Design and fashion
- Industrial machining
- Medical instruments

#### Equipment

- Matte finish line (up to 3 m long)
- Glossy finish line (up to 1.8 m long)
- 4 electrolysis tanks (up to 3 m long)
- 12 pigment tanks (up to 3 m long)
- 6 sealing tanks (up to 3 m long)
- Chiller
- Gas scrubbers
- Water treatment system
- Polish and finish line



#### ★ Key strength

**Development capabilities** • Custom development of tone and color















Type of company: Aftermarket

2. Master and composites mixing line

Number of employees: 120

3. Vulcanized rubber injection

#### Main clients







4. Quality control

#### Certifications











International presence: · Ecuador · Bolivia · Costa Rica · Nicaragua · Guatemala





- 5. Quality control
- Equipment
  - Rubber injection machines with 300 g to 2,000 g injection capacity and clamping force of up to 20 T
  - Machining workshop

· Dominican Republic

• Oil retaining rings

Automotive industry portfolio • Spare part for hydraulic brake systems

Portfolio for other industries

• Water management seals

Rubber components for oil filtration systems

• Rubber components for automotive cables

- CNC machining center
- CNC lathe
- Automatic lathe with feeder
- Mixing line with mixers and mills

#### **Development capabilities**

- Computer Aided Design (CAD) - SOLIDWORKS by Dassault Systèmes
- Computer Aided Manufacturing (CAM) - Mastercam by CNC
- Development of technical products under standards specified by the customer

- Laboratory capabilities Rubber laboratory • Physical-chemical change tests - Stress - Elongation - Tear - Immersion testing - Hardness
- Compression set Vulcanization testing - Rheometry







Sales per industry: · Automotive 40% · Composites 10% · Other industries 50%

#### ★ Key strength







Number of employees: 30

International presence: · Ecuador · Chile







#### Main clients





• ISO 9001: 2015 • BIQS: GM • IATF 16949: 2016



### Sales per industry: • Automotive 90% • Other industries 10%

Automotive industry portfolio • Plastic injection service for - Bumpers - Rockers - Door trims - Instrument panels	• Deve • Desi • Com
<ul> <li>Any medium and large format plastic component</li> <li>Portfolio for other industries</li> <li>Anti-spill stowage</li> <li>600 g to 8 kg plastic injection molding</li> </ul>	- Strai • Strai of in
S SI S SI S S	2.6

- ★ Key strength Equipment



• Plastic injection molding machines with 1,000 to 3,000 T clamping pressure and 600 g to 9,000 g capacity

#### elopment capabilities

sign of injected plastic products mputer Aided Design (CAD) Solid Edge by Siemens ategic alliances for the design and development njection molds of up to 50 T







International presence: • Mexico • Ecuador • Venezuela • Costa Rica







4. Spark plug wire sets



5. Hose production plant

#### Certifications

## • IATF 16949: 2016 • RETIE • ISO 9001: 2015

### Automotive industry portfolio Spark-plug wires Fuel tank gauges Sensor units • Automotive plastic cable shields • Plastic and rubber components Radiator hoses Calibrated tubes • Flexible and rigid profiles PVC and silicone tubes Portfolio for other industries Electrical sector - Gutters - Gutter accessories - Universal boxes - luntion boxes - Plastic spiral hoses - Plastic clamps

· Peru · Panama

- Electric-use plastic shields
- Shield accessories
- Gas pipe covering shields - Double-sided tapes

#### Equipment

• Plastic injection machines with 300 g injection capacity and up to 160 T clamping pressure

- ★ Key strength
  - capacity

## **Development capabilities**

- Molds and punching dies design Computer Aided Design (CAD) - 3D design

- Hoses and tubes burst test
- Exhaust support brackets cycling test
- Flamability tests • Pressure aging vessel and immersion testing
- Rubber and plastic tests
- Hardness
- Tension
- Elongation
- Density
- Compression set





#### Sales per industry: • Automotive 50% • Electric 22% • Other industries 28%

- Rubber vulcanizing machine with 2,500 cm<sup>2</sup> working area • Plastic extrusion machines with up to 65 mm diameter
- Rubber extrusion machines
- Rubber vulcanization autoclave
- Calibrated tube extrusion line
- Rigid profiles extrusion line
- Reinforced straight and curved hoses manufacturing line
- Silicone profiles and hoses manufacturing line
- Plastic and rubber cables manufacturing line
- Electromechanical elements assembly line

#### Laboratory capabilities

• Fuel gauge durability test







#### Autobuses AGA de Colombia S.A.S.

Company founded in 1977, dedicated to the manufacturing and assembly of buses and coaches, with both semi-supporting and self-supporting bodies. The company is focused on the segment of intercity and commuter passenger transport. It has presence throughout Colombia and in some export markets.

• www.autobusesaga.com • NIT. 800022005-3

• Calle 2 # 2 - 20 Ciudadela industrial • Duitama, Boyaca



Type of company: Bus body builder Number of employees: 129

International presence: Central America





#### Main clients

Bolivariano. Copetran Vamos por Colomb





5. Coaches interior finishing line

#### Sales per industry: Automotive 100%

#### Automotive industry portfolio

Equipment

Disc cutters

• MIG welding equipment • 5-axis router machine Bending machine • CNC cutting machine Manual cutting machine Hydraulic press

- Luxury coaches of 12, 13 and 14 m in length
- Integral coaches from 10.5 m to 12 m in length
- Commuter buses (schools, tourism and special transports)



\* Key strength

#### **Development capabilities**

- Prototyping process assisted by computational tools
- Computer Aided Design (CAD)
  - Solid Edge by Siemens
- ZW3D by ZWSOFT
- Rhinoceros 3D by Roberth McNeel & Associates
- Computer Aided Manufacturing (CAM) - SPRUTCAM by SPRUT Technology
- Counts with an innovation and development department, with full-time staff





#### Laboratory capabilities

- Mechanical platform for stability testing of buses and coaches
- Hydrostatic tank test
- Large passenger vehicle seats test, according to Regulation No. 80 of UNECE









Company dedicated to the manufacturing of lead-acid accumulators for motor vehicles. Founded in 1927 as a retailing company, it began its manufacturing activities in 1957. It has customers throughout the Americas and is one of the most experienced manufacturers in the region. Nowadays, it operates a 55,000 m<sup>2</sup> plant.

• www.bateriaswillard.com • NIT. 800022558-4



Type of company: · Aftermarket · TIER 1

Number of employees: 400

International presence: • United States • Canada • Mexico





Main clients

3. Product





#### Certifications

• ISO 9001: 2015 • IATF 16949: 2016 • ISO 14001: 2015 • BASQ



Trinidad and Tobago · Peru · Ecuador

Sales per industry: Automotive 100%

#### Automotive industry portfolio

- Lead-acid automotive batteries
- Heavy-duty vehicles
- Light vehicles

### ★ Key strength

#### Equipment

- Properzi rolling mill
- COS Moojin machine
- Teck Cominco expander die-punching press
- DFS charging system

#### **Development capabilities**

- Design and internal configuration of lead-acid batteries
- Computer Aided Design (CAD)
   SOLIDWORKS by Dassault Systèmes

#### Laboratory capabilities

- Chemical physical laboratory
- Atomic absorption spectrophotometer
- Optical emission spectrophotometer
- Tensile testing machine
- Electric laboratory
- Bitrode for electrical capacity and life cycle tests
- Vibration testing equipment







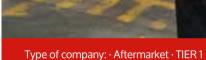




#### Bogotana de Mangueras S.A.S.

Company founded in 1999, dedicated to the manufacturing of rubber hoses for automotive, industrial and agricultural applications in its 950 m<sup>2</sup> plant. The company is an exclusive distributor of Superpolo and export to Ecuador.

• www.bogotanademangueras.com • Carrera 33 # 8 - 07 • Bogota, Cundinamarca • NIT. 830057238-2



Number of employees: 29





International presence: Ecuador

4. Extruder and weavers hose machine

#### Main clients

. Material preparation



ervicio Calidad y Preci







5. Rubber rolling mill





## • ISO 9001: 2015

Certifications

CENTRAL DE CENTRAL DE







- Petroleum
- Mining
- Water
- Dredging

- Agriculture suction and delivery water pump hoses

### ★ Key strength

#### Equipment

- Open mixer mills with capacity of up to 40 kg of rubber
- Extrusion press machines
- Weave machine
- 30 hp boiler
- 22" x 15 m autoclave

### Sales per industry: · Automotive 43% · Agricultural 21% · Services 5% · Other industries 31%

#### Automotive industry portfolio

- Natural and synthetic rubber hoses
- Bends
- Corrugated
- Smooth
- Molded/pre-formed
- Ventilation/breather
- Silicone hoses

#### Portfolio for other industries

- Industrial hoses

- Chemical
- Food
- Pneumatic
- Abrasive materials



- MIG • Drills
- Aluminum and iron tooling

## Laboratory capabilities

- - Hardness tester





- 36" x 6.10 m autoclave
- Hose forming spinning mandrels from 6 to 15 m Lathe
- Welding
- Autogenous
- Compressors with up to 500 psi capacity
- Vacuum pumps
- Cooling system for automotive hoses

#### **Development capabilities**

• Development of custom made hoses







Type of company: · Aftermarket · TIER 1

Number of employees: 162

International presence: · United States · Mexico · Central America





Production floor, press assembly

#### Main clients







### Certifications

• ISO 9001: 2015 • ISO 14001: 2015



4. Production floor, machining















#### · Ecuador · Peru · Chile · Australia · France

#### Automotive industry portfolio

- Clutches
- Clutch actuators
- Water pumps
- Clutch cables
- Distribution kits
- Motorcycles under brackets

#### Portfolio for other industries

• Discs and bearing assemblies for agricultural sector

• Hydraulic presses with a capacity of 30 to 300 T

- Sowing and harvesting tools
- Sugarcane harvester tools

Equipment

#### ★ Key strength

- Punching presses with a capacity of 35 to 250 T • Milling machines with a capacity of up to 400 mm in diameter
- Vertical machining center (table of 1,016 x 508 x 636 mm)
- Horizontal machining center
- Wire electrical discharge machine (table of 350 x 250 x 190 mm)
- Grinding machines (1,000 x 400 mm displacement)
- Conventional milling machines (max. displacement of 1,000 mm)
- Continuous heating furnace (max. temperature of 1,000°C)
- Tempering furnace (max. temperature of 500°C)
- CNC shear cutting machine - Maximum thickness 12.0 mm
- Cutting length 2.4 m
- Continuous shot blasting machine

- Spherical shot • Spray painting line - Conveyor speed: 1.5 m/min - Conveyor length: 40 m Induction heating equipment - Maximum power: 160 kW - Frequency: 8 a 40 kHz Plasma cutting equipment - Maximum thickness 3/4" - Cutting dimensions: 1.5 x 3.0 m • Laser engraver machine
- **Development capabilities** - Solid Edge by Siemens - SOLIDWORKS by Dassault Systèmes - AutoCAD by Autodesk - Rhinoceros 3D by Robert McNeel & Associates - VisualMill by MecSoft
- Product design and development • Computer Aided Design (CAD) Computer Aided Manufacturing (CAM)

### Laboratory capabilities

- Coordinate Measuring Machine (CMM)
- - Clutch disc torsion durability test equipment
  - Cover assembly disengagement test equipment















٢ Bone

#### Sales per industry: • Automotive 75% • Agricultural 25%

- Max working dimensions: 1.0 x 0.4 m

- Universal testing machine
- Surface roughness gauges
- Clutch disc hysteresis test equipment
- Full size tester (clutch fatigue and operation testing)
- Centrifugal burst test machine





#### Busscar de Colombia S.A.S.

Company that began operations in 2003 as a result of the strategic alliance of Carrocerías de Occidente and the Brazilian company BUSSCAR ONIBUSS. It counts with a total area of 99,000 m<sup>2</sup> where it designs, manufactures and commercializes bus bodies for public mass transit systems.

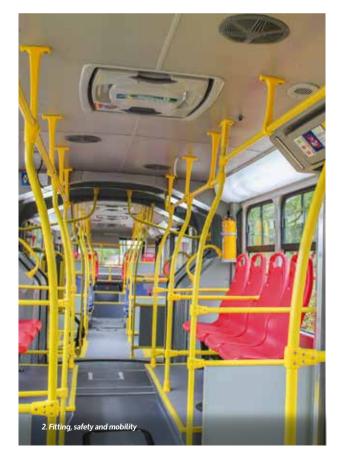
• www.busscar.com.co • NIT. 816006799-3

• km 14 via Pereira - Cerritos • Pereira, Risaralda

Type of company: Bus body manufacturer

Number of employees: 1,650

International presence: · South America · Central America







#### Main clients







esearch

4. Modern paint spray booths





Sales per industry: Automotive 100%

ENER

### ★ Key strength

3

#### Automotive industry portfolio

• Buses for urban, BRT and intercity passenger transport

#### Equipment

- CNC machinery
- 5 axis machining center
- Scanner
  - 3D printer
  - Overhead crane
  - Paint booths and furnace

#### **Development capabilities**

- Bus development with conventional, CNG and electrical propulsion systems
- Development of new passenger transport systems such as cabins for aerial cableways
- Buses with artificial intelligence systems

#### Laboratory capabilities

• Stability and rollover (crash) testing

















#### Main clients



🔊 Integrando Espumlátex<sup>®</sup> Grupo IL plus



5. Product on process



## Crank lever Shift lever

• Footrests

- Bushings
- Strings

### Equipment

- Rubber mixing mill with a 3.3 x 2.6 m working area
  Rubber extrusion machines with 1.9 x 6.1 m working area
- Autoclave
- Hydraulic presses with a capacity reaching from 1,000 to 2,000 T

**Development capabilities** 

• Manufacturing based on client requirements

- Aging tests
- Hardness tests

★ Key strength

## Portfolio for other industries

• Rubber bell-shaped anti vibration mounts

Automotive industry portfolio

Motorcycle rubber components

- Silicone components
- Rubber products
- Gaskets
- O-rings
- Sheets









Laboratory capabilities

Elasticity tests



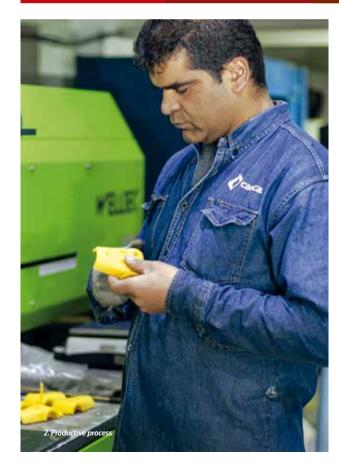




Type of company: TIER 1

Number of employees: 40

Sales per industry: • Automotive 40% • Other industries 40% • Construction 20%







Main clients

Certifications

• ISO 9001: 2015

BUSSCAR SIEMENS



5. Product



• Expansion and compression joints

#### Equipment

- Rubber injection machines with 375 g injection capacity and clamping force of up to 190 T
- Rubber extrusion machines
- Rubber vulcanizing machines
- CNC machining center

#### **Development capabilities**

- Design and manufacture of molds and punching dies
  Design and development of parts for the automotive and industrial sector
- Computer Aided Design (CAD)
   SOLIDWORKS by Dassault Systèmes









Type of company: Manufacturing of truck bodies

Number of employees: 113

Sales per industry: Automotive 100%





3. Certified assembly processes 4. Stainless steel and aluminium welding process

#### Main clients













#### Automotive industry portfolio

- Refrigerated isothermal vans (for refrigerated cargo)
- Dry cargo vans
- Stake body trucks
- Cargo vehicles accessories
- Body repair service

#### ★ Key strength

#### Equipment

- Overhead crane
- Suction cup equipment
- Welding equipment (MIG, TIG, MIG aluminum, smaw)
- CNC cutting machine
- TRUMPF TruPunch CNC punching machine
- TRUMPF TruBend CNC bending machine
- Aluminium machining center
- CN bending machine
- CNC plasma cutter
- Vertical saw cutting machine
- Tube cutter
- Universal shear cutting machineWood routing, brushing and sanding
- Vacuum pump press
- Sliding table panel saw
- Fiber cutter





#### **Development capabilities**

- Computer Aided Design (CAD) - SOLIDWORKS by Dassault Systèmes - Mastercam by CNC
- TruTops Boost by TRUMPF











#### CENTELSA

Founded in 1955, the company is dedicated to the production of low voltage conductors and enameled wires, used in the fabrication of all types of windings. It has a 60,000 m<sup>2</sup> production area where it manufactures cables for vehicles, lighting, batteries, LV and MV power instrumentation and control, among others.

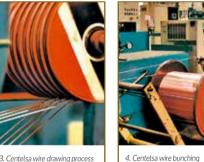
• www.centelsa.com • NIT. 890300431-8

• Calle 10 # 38 - 43 Acopi • Yumbo, Valle del Cauca

1000



International presence: • United States • Ecuador • Peru • Bolivia • Chile • Brazil • Argentina





#### process

#### Main clients







#### Certifications

• OHSAS 18001: 2007 • ISO 14001: 2015 • RETIE • ISO 9001: 2015 CIDET



## Sales per industry: • Trade 67% • Electric power industry 11% • EPC 9% • Telecommunications 5% • Industrial 8%

	★ Key strength	Labora
		• Electri - Elo
Automotive industry portfolio		- El0 - Adł
High temperature cables		- Cor
Vehicle cables		- Din
<ul> <li>Battery cables</li> <li>TFF</li> </ul>		- Ele
Lighting		
Silicone coated cables		
Communication cables		
		1.3
Portfolio for other industries		
<ul> <li>Construction cables</li> </ul>		
• LV and MV power transmition cables		
Control and instrumentation cables		
Telecommunication cables     Cables for special applications		
Cables for special applications		
Equipment		
<ul> <li>Wire drawing machines (600 T/month)</li> </ul>		
Bunching machines (30,000 km/month)		

- Bunching machines (30,000 km/month) • Extrusion machine (5,000 km/month)

#### **Development capabilities**

• Development of extrusion process for T3 type high temperature vehicle cables (up to 8,000 km/month)



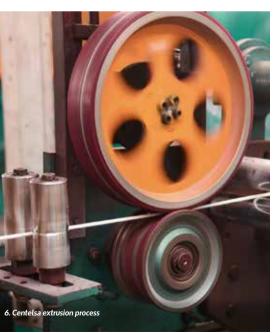


### atory capabilities

rical and mechanical tests ongation dhesion ontraction

imensional

ectrical







Type of company: • Aftermarket • TIER 1 • TIER 2

Number of employees: 210

International presence: • United States • Ecuador • Peru • Chile





4. Steel rim welding machine

#### Main clients

3. Die cutting press machine



#### Certifications

• IATF 16949: 2016 • ASES: RENAULT • ISO 14001: 2015 • BIQS: GM



## Brazil · Mexico · France · Belgium

#### Sales per industry: • Automotive 95% • Agricultural 5%

#### Automotive industry portfolio

#### Passenger vehicles

- Passenger vehicle wheels from 13" to 18" diameter and 4" to 8" width
- Commercial vehicles (light and heavy trucks)
- Tubeless from 16" to 22.5" diameter and 5.25" to 11.75" width - Tubetype from 15" to 24" diameter and 6.5" to 10" width

#### Equipment

- Mechanical presses with 30 to 600 T capacity
- Hydraulic presses with 200 to 1,000 T capacity
- Passenger and light truck rim roll line
- Heavy vehicle wheels lamination lines
- Electrophoretic deposition paint line (EDP)

#### ★ Key strength

#### Development capabilities

- Design and development of tooling for metalmechanical parts (steel wheels) stamping
- Manufacture of aluminum wheels injection molds
- Manufacture of plastic injection molds
- Computer-aided development process
   AutoCAD by Autodesk LT
- Creo Elements/Pro Foundation XE by PTC Corporation
- NX by Siemens
- Flamingo by Robert McNeel & Associates
- Esprit by DP Technology
- ANSYS Workbench FEA
- ANSYS Explicit STR

# 

#### Laboratory capabilities

Bending moment fatigue test (TIP certification)
Radial fatigue test (TIP certification)
Corrosion resistance tests in salt spray and humidity

chamber







Type of company: • Aftermarket • TIER 1

Number of employees: 20

20 Sales per industry: • Automotive 80% • Other industries 20%





#### Main clients





4. Fin forming machine

## Heat exchangers for power stations Equipment

- Controlled atmosphere ovens
- Radiator assembly machines

Portfolio for other industries

Automotive industry portfolio

- Fin forming machines
- 150 T capacity press

Radiators Condensers

Intercoolers

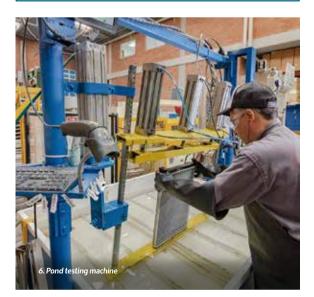
Heaters

Plastic injection molding machine with 400 T clamping force and 1,000 g injection capacity

#### **Development capabilities**

- Tooling development and manufacturing
- Radiators and condensers design and development capability
- Computer aided development process
- Computer Aided Design (CAD)
- AutoCAD by Autodesk
- Autodesk Inventor
- SOLIDWORKS by Dassault Systèmes
- Computer Aided Manufacturing (CAM)
- Mastercam by CNC







#### ★ Key strength

#### Laboratory capabilities

- Functional testing
- Thermal cycling tests
- Vibration tests
- Thermal capacity and dissipation tests
- Dimensional analysis
- Corrosion tests (internal and external)







Type of company: • TIER 1 • TIER 2

Number of employees: 41

Sales per industry: • Automotive 23% • Other industries 77%





4. Injection of plastics parts including medical devices

#### Main clients









5. Design and mould nanufacture for our clients

## Automotive industry portfolio

- Rubber shock dampers
- Footrests
- Hand grips
- Motorcycle slider rubber tips
- Motorcycle plastic add-ons (accessories) Plastic and rubber mats
- Housings

#### Portfolio for other industries

- Plastic medical devices
- Complete line of industrial spare parts
- Furniture accessories
- Housings for electrical devices
- Coated rollers
- Embedded in rubber and plastics

### Equipment

- Lathe with up to 400 mm diameter capacity
- Display milling machine
- Plastic injection molding machines with 90 to 260 T clamping pressure and up to 900 g capacity
- Electrical discharge machine
- CNC with 500 x 800 x 40 mm working area
- Rubber mixer
- Manual and hydraulic rubber vulcanizing presses
- Pad printing (tampography) equipment for up to 135 mm in diameter

★ Key strength





#### **Development capabilities**

- Plastic and rubber injection and vulcanization
- tooling design and manufacture
- 3D prototyping
- Computer Aided Design (CAD)
- SOLIDWORKS by Dassault Systèmes







#### Cuperz S.A.

Company founded in 1972 with a production area of 6,078 m<sup>2</sup>. It is dedicated to the manufacturing and marketing of products and services for the covering and beautification of floors and commercial, residential, recreational, sports and vehicle spaces. It is a TIER 1 supplier to the automotive sector for the manufacturing of interior trim components, sound deadeners and floor mats.

• www.cuperz.com • NIT. 860032932-7 • Transversal 32C # 22B - 64 Bogota, Cundinamarca





Type of company: TIER1

Number of employees: 125 International presence: Ecuador





5. Automotive mats

#### Main clients

Mazoa TOYOTA CONTINAUTOS C

#### Certifications

• IATF 16949: 2016



#### Sales per industry: • Automotive 27% • Other industries 73%

#### Automotive industry portfolio

#### • Interior trim components

- Interior molded carpets
- Trunk side trims
- Trunk floor carpets
- Sound insulation
- Floor mats

#### Portfolio for other industries

- Artificial grass for landscaping and sports
- Modular carpet tiles
- Rugs
- Carpet rolls
- Vinyl flooring and laminate flooring
- Exclusive representatives: Shaw Contract

#### ★ Key strength

#### Equipment

- PAM: Manufacturing of thermoformed textile parts
- 2D cutting systems, 3D robot and die cutting
- Cutting of surfaces and parts based on drawings
- 2D and 3D accessory gluing systems
- Carpet binding machine: perimeter finishes of textile parts
- Embroidery machine: custom finishes of textile parts
- Electric sealers: high frequency accessory bonding system
- Rubber-curing-oven: backing for automotive products and artificial grass
- Weaving machines: artificial grass manufacturing



KIN 🔗 RENAULT

• SMETA 2





#### **Development capabilities**

Development process assisted by CAx tools Computer Aided Design (CAD) - AutoCAD by Autodesk - Solid Edge by Siemens - WILCOM EmbroideryStudio Computer Aided Manufacturing (CAM) - MotionView by Altair Hyperworks - RDWORKS by Ruida Technology

#### Laboratory capabilities

- Backing for automotive products and artificial grass
- Viscosity testing
- Solids percentage test
- Artificial grass
- Anchoring resistance and slip lock
- Average pile height
- Stitch count per dm
- Average hole punch size
- Total product weight

6. Interior trim parts



Type of company: • Aftermarket • TIER 1

Number of employees: 70

International presence: · United States · Ecuador







5. Product

### Main clients

3. Production floor

V







#### Certifications

IATF 16949: 2016	• BASC
BIQS: GM	• Q1: Ford



#### Automotive industry portfolio

- CV Halfshaft or CV axles and their components
- Differential axles and their components
- Prop-shafts and their components
- Assembly of suspension systems
- Assembly of rolling chassis
- Assembly of full engine rolling chassis

#### Equipment

- Machining center with a working area of 1,020 x 510 x 625 mm
- Conventional lathes
- Milling machines
- Welding equipment
- Specimen cutting machines
- CNC lathes
- Thermal treatment machines
- Tempering and case-hardening furnaces with capacity of up to 1,700°C in temperature and 800 kg in weight
- CNC grinding machines
- Cutting machines with 90° angular cutting capacity

#### **Development capabilities**

- Process engineering
- Casting and forging machining
- Development process assisted by computational tools - Creo Parametric by PTC Corporation
- AutoCAD Mechanical by Autodesk
- CATIA by Dassault Systèmes
- SOLIDWORKS by Dassault Systèmes



#### ★ Key strength

#### Laboratory capabilities

- Metallography
- Hardness measuring equipment
- Micro hardness measuring equipment
- Non-destructive tests
- Ultrasonic
- Magnetic particles
- Metrology
- Three-dimensional measuring
- Dimensional measurement of distances, diameters and profiles
- Certified scales and verification of scales
- Pressure and rpm verification
- Measurement and calibration of surface roughness
- Failure mode testing laboratory
- Torsion fatigue testing machine
- Static and guasi-static testing machine
- Durability test machine







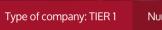


#### Ensambles ZF S.A.S.

Company founded in 2010, with a total area of 3,000 m<sup>2</sup> where it assembles tire-wheel packages. It also offers sourcing, nationalization procedures and Just-in-Time (JIT) supply to the client. In addition, the firm provides logistical services.

 www.ensambleszf.com • NIT. 900391930-6

 Zona Franca Rionegro Bodega 52 Rionegro, Antioquia



Number of employees: 23

Sales per industry: • Automotive 90% • Logistics 10%







#### Main clients





## A RENAULT

5. Finished product

## Certifications









## Equipment





Automatic tire mounting machine
Tire-wheel assembly balancers Automatic inflators

#### Development capabilities

• Development of logistics solutions and distribution



# **Espumlátex**<sup>®</sup>

#### Espumlatex S.A.

Company founded in 1959 that offers solutions for the automotive, motorcycles, mass transport systems and construction industries with polyurethane, felt and high density polyethylene products. It has an R&D department that develops customized formulas that meet high standards of automotive, safety and environmental regulations.

www.espumlatex.comNIT. 860000596-8

Vereda la Punta, Autopista Medellin km 6,7 Costado Norte Interior 300 m
Tenjo, Cundinamarca



Type of company: • TIER 1 • TIER 2

Number of employees: 3

International presence: • Mexico • Ecuador • Peru • Chile



3. Various products and solutions for the automotive industry



5. Products for mass transport

vstems

l solutions 4. Flexible technologies and stry processes

#### Main clients



#### Certifications

• ISO 9001: 2015 • IATF 16949: 2016 • OEA • ISO 14001: 2015 • BIQS: GM • ASES: RENAULT

#### Sales per industry: · Automotive · House of systems · BRT · Motorcycle · Household · Construction

#### Automotive industry portfolio

- Vehicle seat foams
- Soundproofing for vehicles
- Thermal insulators for bodywork
- Public service vehicle seats
- Motorcycle seats
- Polyurethane systems for automotive applications

#### Portfolio for other industries

- Mattresses
- Pillows
- Orthopedic products
- Construction polyurethane systems
- Acoustic and thermal insulation panels
- Polyurethane systems for oil and gas
- Polyurethane systems for industrial, commercial, construction, and for air filter systems

#### Equipment

- High-density polyethylene injection blow molding machines
- Poliurethane foam injection molding machines
- Punching presses
- Blow molding machines
- Felts and soundproofers forming presses
- Reactors for custom polyurethane systems





## 5



#### **Development capabilities**

Computer Aided Design (CAD)

 Autodesk Inventor

 R+D+I department



#### Laboratory capabilities

- Functional tests
- Flamability
- Impact
- Hardness
- Elongation
- Density
- Component reactivity
- Dimensional tests











Number of employees: 140

2. Flat steel coils

International presence: • United States • Trinidad and Tobago • Puerto Rico

4. CNC tube bending 3. Cut to length tubing



### Main clients





### Certifications

• ISO 9001: 2015 • BASC • ISO 14001: 2015

### Sales per industry: • Automotive 56% • Furniture 33% • Other industries 11%

### Automotive industry portfolio

- Tubing for shock absorbers
- Tubing for vehicle seat structures
- Tubing for exhaust systems
- Tubing for motorcycle chassis

### Portfolio for other industries

• Tubing for structural and mechanical uses in general

★ Key strength Equipment Welding equipment - MIG and welding robot - TIG Powder coating Tube forming • Tube cut to lenght CNC tube bending Tube punching • Tube end forming

### **Development capabilities**

• Development department with the ability to provide our allies with custom solutions for their requirements





- Welding resistance tests
- Flaring Test
- Flattening Test
- Hvdrostatic test
- Eddy Current equipment for tube uniformity validation
- Dimensional measurements
- Assembly tests





### Fabricamos Retenes - Inversiones MBJ S.A.S.

Company dedicated to the manufacturing of retainers and gaskets for hydraulic steering systems of vehicles. Founded in 2004, it has developed a portfolio that matches the market demand, reaching today more than 400 references, manufactured in a production area of 132 m<sup>2</sup> by an excellent team focused on product quality.

www.retenedoresfrs.comNIT. 901282501-6

Calle 10 # 11 - 26
Calarca, Quindio



Type of company: Aftermarket

Number of employees: 7

International presence: • Puerto Rico • Ecuador • Costa Rica









### Sales per industry: Automotive 100%

# Key strength Automotive industry portfolio Retainers and gaskets for hydraulic steering Equipment Vulcanizers Parallel lathes Punching press machine Plastic injection molding machine













Number of employees: 1,400

2. Manufacture of radiators and co



### Main clients

GM CHEVROLET INCOLMOTOS



### Certifications

🔊 YAMAHA

• IATF 16949: 2016 • ISO 9001: 2015





# 5. Radiators and condensers

- manufacturing

### Sales per industry: Automotive 100%

### Automotive industry portfolio

- Stamped body parts Frame rails
- Chassis components
- Radiators
- Condensers
- Engine subframe assembly
- Rear axle assemblies

### Portfolio for other industries

- Road siderails components
- Waste collection equipment

Equipment

### ★ Key strength

- CATIA by Dassault Systèmes, SOLIDWORKS by Dassault Systèmes and Creo Élements/Pro Foundation XE by PTC CorporationComputer Aided Engineering (CAE): ANSYS
- Computer aided development process (CAx) • Computer Aided Design (CAD): AutoCAD by Autodesk,

- Hydraulic presses with 400 to 3,000 T capacity • Folding machines with 150 to 600 T capacity and 10 to

- Thickness: 0.67 – 8.0 mm (laser) / 9.0 mm (shears) /

12.7 mm (plasma), maximum length: 6,000 mm.

- Thickness: 1.5 – 12.0 mm, width: 840 – 1,830 mm,

length: 2,050 – 10,000 mm, max. weight: 20 T

16 ft in length

• Cuttng center (unwound, leveling and cutting):

Mechanical presses with 60 to 1,800 T capacity

• Shear cutters, lasers and plasma

- MIG, spot and projection welding with capacity from 75 to 160 kVa
- Powder paint
  - Maximum weight of parts: 400 kg, maximum length of parts: 11 m, conveyor length: 40 m, temperature: 220°C maximum, conveyor speed: 1.5 m/min
- Leak tester machine Honda-certified tests



• Verification and inspection process

- Max length: 12m, max width: 12m, resolution:
- 0.025 m
- Machining workshop
- CNC bridge milling machine
- CNC machining center
- CNC lathe
- Fin machine
- Radiator core builder
- Continous brazing furnace
- Condenser core builder
- Universal condenser core builder
- Crimping machine

### **Development capabilities**

- Development and manufacturing of
- Cutting, punching and stamping dies
- Assembly, welding and verification devices

- CMM measuring machine
- Dimensional calibrations and evaluations with 3D
- measuring arms
- Salt spray chamber



# FASECOL

### FASECOL S.A.S

Company founded in 2006, dedicated to the design and manufacturing of electrical systems and its components for the automotive and industrial sectors. The company has the experience, technical knowledge and facilities focused on development and research to meet the needs of the market.

• www.fasecol.com.co • NIT. 900121073-1

• Cra 1 No 9 - 295, Vallarta la Badea • Dosquebradas, Risaralda

### International presence: Mexico

Sales per industry: Automotive 100%







### Main clients







### Certifications



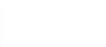




5. Product







### ★ Key strength

- Automotive industry portfolio
- Wiring harnesses for buses, bodyworks, motorcycles and ambulances
- Electrical systems
- Developments in automotive electronics
- Installation of collection systems for BRT (Bus Rapid Transit)

### Portfolio for other industries

- Wiring for home appliances, refrigerators and air conditioning
- Accessibility solutions for people with reduced mobility
- Lifting equipment for work at heights
- Lifting equipment for vehicles

### Equipment

- Automatic cutting, stripping and crimping machines
- Equipment for marking and coding of cables by inkjet
- Presses for application of terminals
- Wiring harnesses testing equipment
- Equipment to measure the tensile strength of the terminals
- Crimp applicators machines
- Carrousel assembly
- Assembly boards

harnesses





### **Development capabilities**

• Design of electrical systems according to customer needs • Computer Aided Design (CAD) - AutoCAD by Autodesk

- GstarCAD by Gstarsoft

• ProArnes: CAD application for the development of electric







### FG Sistemotos

Company founded in 2004, dedicated to the manufacturing of electric and electronic components for motorcycles, such as harnesses, battery chargers, injector cleaners, bulb and flash testers, among others.

• www.sistemasfgsistemotos.com • Calle 13 Sur # 51 C - 28 / Piso 3 • NIT. 900503648-6 Medellin, Antioquia



International presence: Costa Rica







### Main clients

3. Diagnostic unit





5. Production floor



### Automotive industry portfolio Harnesses for different motorcycle brands Diagnostic units for motorcycles

- Battery chargers Injector cleaners
- Light bulb and flash testers
   Regulators and regulator rectifiers
   Electrical current testers

### Equipment

- Semi-automatic wire cutting machine
- Semi-automatic punch down tool
- Pneumatic punch down tool

### ★ Key strength

### **Development capabilities**

• Development of any type of electrical and electronic system according to customer specifications

### Laboratory capabilities

• Electronic quality control board, where continuity tests are carried out









Type of company: Aftermarket

Number of employees: 350

International presence: • Ecuador • Peru • Chile • Bolivia • Central America





### Main clients





CODEPARTES DIVEMOTO

### · United States

### Sales per industry: Automotive 100%

★ Key strength

### Automotive industry portfolio

- Automotive industry portfolio
- Air filters
- Fuel filters
- Oil filters
- Fuel water separator filters
- Coolant
- Cabin
- Other (hydraulic, air dryer, transmission)

### Portfolio for other industries

• Filters for cooling systems and air conditioning

### Equipment

- Longitudinal steel coils cutting center with a capacity of 5 T and 1.000 mm
- Mechanical presses with 20 to 160 T capacity
- Hydraulic presses with 15 to 100 T capacity
- Electrostatic powder coating with infrared drying oven
- Tools manufacturing workshop equipped with conventional machine tools, flat grinders and CNC machining centers
- Projection and spot welding
- Cutting, punching and stamping dies for production lines
- Liquids (coolant, oil and fuel) and air filters assembly lines



### **Development capabilities**

• Design, product development and process engineering team • Product and tool development process assisted by CAD-CAM

• Design process and manufacture of molds, dies and tools

### Laboratory capabilities

• Specialized test bench for filter testing, structural and fatique testing • 10 T universal testing machine Optical comparator

Metrology Lab

tools



6. Product portfolio







Type of company: • TIER 1 • TIER 2

Number of employees: 42

Sales per industry: • Automotive 60% • Construction 40%



3. Production floor, die cutting line

### Main clients





### Automotive industry portfolio

• Metal stamped exhaust system components for cars, trucks and motorcycles

### Portfolio for other industries

- Solar panel mounts
- Shelving beam connectors
- Cable tray joints
- Supports for valves of gas appliances

### ★ Key strength

### Equipment

- Hydraulic mounting presses with 80 to 130 T capacity
  Punch presses with 25 to 200 T capacity
- Projection nut welding equipment
- Rod induction heating equipment

### **Development capabilities**

• Design and development service for molds and dies

ess

4. Production floor







5. Production floor, die cutting









### Fundiciones Universo

Company founded in 1934, dedicated to engineering and manufacturing in the metalmechanical sector. It has a 9,200 m<sup>2</sup> production area where it offers products and casting and machining services for parts and special components to different industries, being the sugar, mining, cement and steel industries the main ones.

• www.fundicionesuniverso.com • Calle 11A # 32 - 85 Arroyohondo • NIT. 890308155-6

• Yumbo, Valle del Cauca



Type of company: TIER 3

Number of employees: 320



International presence: • North America • Central America • England • South Africa



3. Special draining nozzles with patented design

### Main clients



# pmayaguez Acabaña Cabaña Cholcim Sidoc:

### Certifications





4. Special parts CNC machining





- Sugarcane mills refurbishment - Power transmission gears

Portfolio for other industries

Automotive industry portfolio

- Spare parts and cast components for the sugar industry

### Equipment

Sugar Industry

- XM mill rolls

• Induction furnaces of 1,000, 1,500 and 3,000 kw able to melt up to 20 T of steel and 30 T of gray iron

· Venezuela · Peru · Ecuador · Bolivia · Argentina · Brazil

ter numerical control (CNC) based processes

- Manufacture and repair of housings and mills

- Thermal treatment equipment
- Overhead crane
- Machining workshop fitted with machines and both conventional and CNC tools

### **Development capabilities**

- Manufacturing engineering
- Computer Aided Design (CAD)
- Development of different types of alloy applications
- Refurbishment of machines and reception, preparation and milling equipment for the sugar and alcohol industries

- Casting of bases and bodies for large stamping dies in alloyed steels and/or nodular iron, manufactured from models made
- of expanded polystyrene, with geometries defined by compu-

Sales per industry: • Sugar industry 55% • Other industries 45%

### ★ Key strength

- Spectrometer
- Metallography laboratory
- Ultrasound equipments
- Hardness testing machines
- Nondestructive testing







Type of company: · Aftermarket · TIER 1

Number of employees: 280

International presence: · United States · Mexico · Ecuador · Peru · Chile



3. Development center, durability

test machine

### Main clients







### Certifications

• IATF 16949: 2016	• BIQS: GM
• ISO 14001: 2015	<ul> <li>ASES: RENAULT</li> </ul>



🏠 RENAULT

QULECO ISUZU @YAMAHA

INCOLMOTOS

4. Shock absorber workshop, seam welding and leakage test

### Sales per industry: Automotive 100%

### Automotive industry portfolio

- Shock absorbers and suspensions for light and heavy vehicles
- Coil-overs for light vehicles
- Rear shock absorbers and front forks for motorcycles
- Rear and front axle suspension assemblies for OEM vehicles
- Rubbers and suspension bushings
- Front corners and rear axle suspension assemblies for OEM vehicles
- Rubber bushings, rubber suspension parts and other suspension parts

### Equipment

- Welding robot cell
- CNC machining centers
- Drilling centers
- Cutting machines
- Seam, projection and MIG welding
- Structural and conventional damper assembly line
- Liquid electrostatic paint line
- Vulcanized rubber injector
- Vulcanized rubber transfer presses
- Torque wrench
  - Dinamometric machine (100% damping force tests) - 100% leakage tests
  - Pokayokes

- Torque wrench

  - Noise booth
  - Drying ovens

  - Hardness tester
  - Profile projector
  - 3D machine



### ★ Key strength

### **Development capabilities**

- Computational tools assisted development process (CAx)
- Design and optimization development
- process by finite element simulations
- AutoCAD by Autodesk
- CATIA by Dassault Systèmes
- SOLIDWORKS by Dassault Systèmes
- Inventor 2013 by Autodesk
- Solid Edge by Siemens

- Shock absorbers durability tests
- Salt spray chamber
- Universal test machines
- Rubber durability tests
- Surface roughness tester
- Hydraulic performance machine
- Impact test machine
- Universal stress test machine
- Structural test machine





### Grupo Conelec / Sistelen

Company founded in 1981 that started its operations with a focus on satisfying the needs for electrical products for household and stoves of the INARCA organization (today MABE COLOMBIA S.A.), as well as the automotive and motorcycle industries. The company also improved its technology and productivity levels, thereby enhancing its competitiveness and market position.

• www.sistelen-sas.com • NIT. 900299626-9

• km 10 via al Magdalena Manizales, Caldas

Number of employees: 254

Sales per industry: • Automotive 22% • Other industries 78%







### Main clients



5. Production floor

### Certifications

• RTE INEN 021 • UL 758 • ISO 9001: 2015 • NTC 2356 • NTC 1116 • RETIE 90708 • SAE J128 • UL 66



- Cutting machines
- Injection molding machines
- Wire drawing machines
- Braiding machines
- Coating machines

### **Development capabilities**

• Development of electrical systems and new products for vehicle body manufacturers and for the home appliances sector

- Insulation resistance test
- Breaking strength test
- Cable terminal pull test















Solutions in plastic injection molding and metalworking, made in Dolombia for the world

### Grupo DL Plus S.A.S.

Company founded in 2010, dedicated to the development of motorcycle and automotive components with an added value for OEMs and the aftermarket. On a total area of 1,500 m<sup>2</sup> it manufactures spare parts, plastic and metal mechanical accessories and motorcycle seats under the Dlp Bike brand.

• www.grupodlplus.com • Carrera 58 # 24 - 81 • NIT. 900351499-1 Medellin, Antioquia

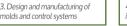


ICI Number of employees: 52

International presence: • Ecuador • Guatemala • El Salvador







### Main clients











### • ISO 9001 : 2015



4. Plastic components mold injection

### • Plastic spare parts Plastic and metal mechanical accessories Seats

### Portfolio for other industries

Automotive industry portfolio

• Injection mold services

· Costa Rica · Mexico

- Development services
- Metal mechanical services

### Equipment

- Plastic injection molding machines with a capacity ranging from 100 to 1,100 T
- CNC lathe
- CNC electrical discharge machining
- CNC milling machine
- Swiss lathe
- CNC machining centers up to 2 T capacity

### ★ Key strength

### **Development capabilities**

- High-definition 3D scanner
- 6-axis measuring arm for contact digitization
- Measuring table equipped with workpiece touch probe
- CNC quick prototyping machine (ABS and PLA)
- Computer Aided Design (CAD)
  - SOLIDWORKS by Dassault Systèmes
  - Rhinoceros 3D by Robert McNeel & Associates







Sales per industry: • Automotive 70% • Development and engineering 15% • Services and maguila 15%

### Laboratory capabilities

Dimensional analysis

000







Type of company: Aftermarket

Number of employees: 30

International presence: · United States · Central America · Ecuador



### Main clients

3. Products



5. Extruder

### Certifications



### Automotive industry portfolio Molded hoses for radiators (cooling hoses, branched hoses, hoses with quick connector, elbows of 45° and 90°, cups, rubber reducers, composite hoses, fuel hoses)

- Universal hoses, flexible hoses for radiators, reducers
- Multipurpose hoses (super duty, heavy duty, light duty rolls for air, water, fuel, windshield washers)
- Fuel line hoses
- Smooth hoses for radiators: standard and heavy transport
- Air ducts, hoses for air purifiers
- Silicone hoses (smooth, hump and spiral connectors, 45 degree elbows, 90 - degree, 180 - degree, turbo hoses) Nylon hoses

### Portfolio for other industries

- Agricultural hoses: water suction and discharge, water discharge, suction and discharge (heavy duty), water discharge (heavy duty), super-duty and heavy-duty
- Industrial hoses: hoses for dredgers, hoses for chemical products, corrugated hoses for Vactor trucks, air - vacuum hoses, dry cement hoses, hydraulic SAE 100R1AT and SAE 100R2AT type hoses
- Mining and oil industry hoses: hoses for oil, lubricants, fuels, sludge discharge, fuel suction and discharge, suction and unloading of dry materials, oil fields (corrugated & smooth), mining hoses, hydraulic SAE 100R1AT and SAE 100R2AT type hoses, hybrid discharge hoses (lay flat), multipurpose hoses for air, water, light fuels and fertilizers
- Air conditioning hoses

### Equipment

\* Key strength

- Banbury mixer
- Parallel lathe

- Drill press
- Autoclaves
- Drawing extrusion machines
- Suction pump
- Sealing machine
- Digital markers

### **Development capabilities**

### Laboratory capabilities

- Performance tests Resistance tests
- Pressure tests



- Preheating mill
- Plasticizer oil pump
- Welding and oxy cutting machine
- Braiding and bobbin machine
- Polishing machines
- Screw extrusion machines
- Continuous vulcanizing furnace
- Calender wire bobbin machine

• Ability to develop new products, 3D design, engineering and processes' innovation Technical support in new product development • Pneumatic assembly and verification devices Process control, attribute control, technical tests of bursting, aging and hardness





Type of company: • TIER 1 • TIER 2

Number of employees: 90

International presence: · United States · Mexico · Central America



3. Assembly lines 4. Assembly lines



Main clients







5. Tooling manufacturing



### Certifications

• ISO 9001 : 2015	• BIQS: GM	• ROHS
• IATF 16949: 2016	<ul> <li>ASES: RENAULT</li> </ul>	

### · Ecuador

### Sales per industry: • Automotive 55% • Agricultural 35% • Hardware 5% • Other industries 5%

### Automotive industry portfolio

### • Mechanical control cables for

- Parking brake - Accelerator
- Clutch
- Shift control
- Hood
- Fuel tank filler door
- Over drive
- Seat back reclining
- Power windows

### Portfolio for other industries

Custom-made mechanical control cables

### ★ Key strength

- Salt spray chamber
- Presses with up to 40 T capacity
- Stamping presses with up to 100 T capacity
- Steel sheet cutting machine
- Hermeticity test
- Machining center

Equipment

- Penetration electrical discharge machines
- Wire electrical discharge machines
- Plastic tube extruder
- Plastic injection molding machines with up to 200 T clamping force

 Machining lathes Spot and MIG welding CNC lathe

- Research, calculation and development team • Design of molds, dies and control devices Computer Aided Design (CAD) - SOLIDWORKS by Dassault Systèmes Computer Aided Manufacturing (CAM) - Mastercam by CNC



- Zamak injection molding machine Aluminum injection molding machine
- Assembly and subassembly lines

### **Development capabilities**

- Universal testing machine
- Dynamic tests
- Leak tests
- Temperature tests -40°C to 180°C Efficiency tests
- Test benches
- Metrology laboratory











Number of employees: 52



3. Production plant, paint line, part cleaning



### Main clients







5. Production plant, paint line, paint spray booth

### ★ Key strength

Bright or matte paint
Finishes, protective films • Different surfaces and materials

• Painting application on production lines • Parts, spare parts or complete products

Automotive industry portfolio

• Colors and solutions development for other companies

### Portfolio for other industries

Industrial line painting





### Equipment

• 2 paint tunnels, with a daily paint capacity: of 3,000 pieces

### Development capabilities

• Other coating paints development in process



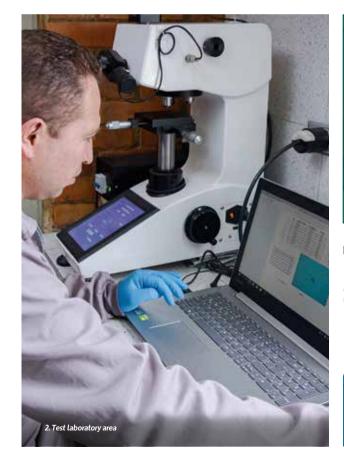




Type of company: Aftermarket · TIER 1

Number of employees: 270

International presence: · United States · Mexico · Canada







### Main clients



### Certifications

• ISO 14001: 2015 • IATF 16949: 2016 • BASC



quality control line

- Machining center

### ★ Key strength

### **Development capabilities**

Geometric parts parametrization

- Reverse engineering
- Engineering design optimization meeting international standards (APOP)

· Central America · Ecuador · Peru · Chile · Brazil · Portugal · England · France

### Automotive industry portfolio

- Multi-leaf and parabolic leaf springs for commercial, passenger and cargo vehicles
- Air springs
- Hot and cold rolled tension and compression coil springs - Conical
- Cylindrical
- Miniblock
- Sideload
- Double pigtail springs

### Equipment

- Steel cutting shears up to 40 mm thick
- Die-cutting presses of 15 to 125 T capacity
- Heat treatment ovens with 3 T/h capacity
- Sandblasters
- Electrostatic powder paint line
- Die-cutting presses with capacity of up to 200 T

- Gravelometer
- Rockwell B/C durometer
- Shore durometer
- with 3D measuring arm (FARO)
- Magnaflux
- Penetrating dyes

 3D scanning 3D inspection



### Sales per industry: Automotive 100%

- 3D modeling
- Computer Aided Design (CAD)
- Solid Edge by Siemens
- Simulation of finite elements (FEA)
- ANSYS
- Nonlinear structural analysis
- Nonlinear buckling analysis
- Dynamic rigidity
- Hyperelastic simulation
- Design of experiments

- Metallographic microscope
- Image analyzer (LECO)
- Salt spray chamber
- Cyclic corrosion chamber
- Vickers microdurometer
- Dimensional calibrations and evaluations
- 50 T universal testing machine
- Gauge blocks for calibration of length
- meassurement instruments





INALTRA - Industrias Nacional de Troqueles Ltda. Colombian company founded in 1961, dedicated to the metalmechanical sector. It has a 3,800 m<sup>2</sup> plant where it produces automotive, motorcycle and metalmechanical components for the mobility industry in general as well as other sectors.

• www.inaltra.com • NIT. 860004686-0 • Calle 6 # 1 - 99 Este, Barrio El Lucero (km 12/3 Vía Mosquera - Bogota) Mosquera, Cundinamarca



Type of company: • TIER 1 • TIER 2

Number of employees: 110

International presence: · United States · Ecuador







transport

### Main clients











### Certifications

• ISO 9001: 2015 • ISO 14001: 2015



4. Production floor, finished tanks





### Automotive industry portfolio Metal mecanical parts - Trays

- Engine shields
- Chassis structural components
- Cross members
- Supports
- Fuel tank mounts
- Battery mounts
- Air filter mounting brackets
- Metallic fuel tanks

### Portfolio for other industries

• Electric boards components

### ★ Key strength

- Equipment
- 500 and 600 T hydraulic presses
- 60 to 450 T mechanical presses
- Welding
  - Spot - Projection
  - Sewing
  - MIG
  - TIG
- CNC Machines
  - Laser cutting with up to 19 mm thickness capacity
  - and working area of 3,500 x 1,500 mm

### **Development capabilities**

### Laboratory capabilities

- Dimensional calibrations and evaluations with 3D measuring arm (Faro Edge) Paint adhesion testing - Cross-cut test - Scrape adhesion test - Pull-off test



- Shear cutting machine with a 9 mm thickness and 3 m width capacity
- Punching press with 3 mm thickness capacity
- and 1,500 x 3,000 mm working area
- Sheet metal folding for up to 3 m length and
- 6 mm thickness
- 3" diameter tube bending
- Powder coating paint line
- Die-tools workshop
- CNC lathe
- CNC machining center
- CNC milling machine
- CNC wire electrical discharge machine

• Computer Aided Design (CAD) - SOLIDWORKS by Dassault Systèmes - ZWCAD by ZWCAD SOFTWARE CO





ype of company: Aftermarket

Number of employees: 560

International presence: • United States • Guatemala • Panama • Honduras





### Main clients



### Certifications

• ISO 9001: 2015 • BASC • ISO 14001: 2015



### • Peru • Costa Rica • El Salvador • Mexico • Ecuador • Chile

### Automotive industry portfolio

- Heavy and light vehicle brake pads
- Motorcycle brake pads
- Light and semi-light vehicle linings
- Heavy vehicle brake blocks
- Clutch facings

### Equipment

- Dosing and mixes equipment
- 100 to 1000 T capacity curing presses
- Convection furnaces
- Electrostatic paint line
- Grinding machines
- Power saw machines
- Marking systems

### **Development capabilities**

- Computer Aided Design (CAD) - Solid Edge by Siemens
- AutoCAD by Autodesk
- Autodesk Inventor
- AULOGESK INVENILOI

### ★ Key strength

### Laboratory capabilities

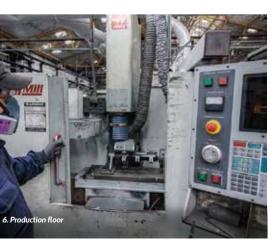
- Accredited brake systems tests
   Hardness test

  - Shear strength



### Sales per industry: Automotive 100%

- Dimensional stability
- Cutting resistance
- Relative density
- Cylinder tightness
- Humidity operation
- Temperature resistance
- Corrosion resistance
- Salt spray chamber test
- Accredited measuring instruments calibration
- Length
- Pressure
- Laboratory accredited by ONAC





# imbr

### Indummelbra S.A.S.

Company from the metal mechanical sector founded in 1977. It has a 3,000 m<sup>2</sup> production area where they design, manufacture and market specialized tools and spare parts for various motorcycle brands, with the IMBRA brand complementing its brand Mapache Parts in everything related to spare parts for engine components, thereby providing a more complete and efficient portfolio for the motorcycle industry.

• www.imbrarepuestos.com • NIT. 860051404-0

 Calle 10A # 45 - 02 Zona Industrial Gorgonzola, Puente Aranda Bogota, Cundinamarca

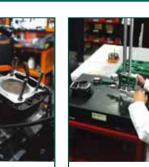


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minimum minimum

Number of employees: 180 International presence: • Chile • Ecuador • Panama • Costa Rica • Honduras





3. Cylinder and piston assembly

### Main clients









4. Inspection laboratory





PHUNA CHAY

SKT1604

### Equipment

- Plastic injection molding machine with a 130 g capacity and 90 T clamping pressure
- Vulcanizer
- CNC lathes with motorized tools
- Gang-type CNC lathes
- Parallel lathes
- Rotary lathes
- Automatic lathe
- Radial lathes
- Universal milling machines
- 45 to 60 T punching presses
- Milling drill
- Tube bender for 10 mm to 38 mm diameters

### • El Salvador • Guatemala Sales per industry: Automotive 100%

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nasana ian-

an an an

### Automotive industry portfolio

Specialized tools for motorcycles

AYUN

- Motorcycles axels and swing arm kits
- Motorcycle electric components
- Head and taillamps
- Special and commercial screws
- Bushings and rubbers
- Motorcycle brake bands and pads
- Brake cylinder kits
- Pistons
- Connecting rods
- Racing components (repowering)
- Quick fixing kits

- CNC lathes

- Machining center

- Weldina
- MIG
- Spot







imbr

### ★ Key strength

### **Development capabilities**

- Design and development of prototypes • Design and manufacture of molds and dies • Computer Aided Design (CAD)
  - AutoCAD by Autodesk
  - SOLIDWORKS by Dassault Systèmes
- Computer Aided Manufacturing (CAM)
- Mastercam by CNC

- Metrology Laboratory
- Functional tests
- Dimensional tests
- Electric bench for motorcycle electrical components
- Material hardness tests







Type of company: • Aftermarket • TIER 1

Number of employees: 272

International presence: • Ecuador • Central America









### Main clients





MITSUBISH



5. Manufacturing process

outeco



### Certifications

• ISO 9001: 2015 • ASES: RENAULT • IATF 16949: 2016 • BIQS: GM



### ★ Key strength

- Injection process JIGs

### Laboratory capabilities

- Rotation test
- Calibration of micrometers, calipers and manometers



### Equipment

- CNC cutting machines
- CNC 2-axis forming machine
- CNC bending machine from 5 mm up to 2"

Automotive industry portfolio

- Hoses and pipes for HVAC

Portfolio for other industries

- Copper and aluminium pipes

Automotive components

- Heat exchangers

- Handlebars

- Cargo trays

Center stand

- Side stand

Home appliances

- Cooling coils

- Crash bars

- Levers

Motorcycle components

- TIG, MIG and autogenous welding
- Sheet metal crimpers
- CNC lathes
- CNC lathe with motorized turret
- CNC vertical machining center
- Universal milling machine

- Aluminium injection molding machine
- Punch presses with 30 to 200 T capacity
- Powder coating line
- Controlled Atmosphere Brazing (CAB) furnace
- Helium leak testing
- Fin stamping machine

### Development capabilities

- Tooling manufacturing
- Injection molds manufacturing
- Punching dies manufacturing
- 3D meassurements with faro arm
- Pressure resistance and burst tests
- Paint resistance test













Type of company: · Aftermarket · TIER 2

Number of employees: 36

International presence: • United States • Ecuador • Panama • Costa Rica



4. Vulcanizing presses

Main clients

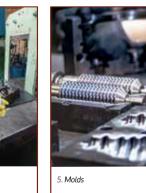
. CNC

### Gabriel SIEMENS COTONO



### Certifications

• ISO 9001: 2015



• Peru Sales per industry: • Automotive 45% • Electric 42% • Other industries 13%

### Automotive industry portfolio

- Dust seals
- Steering rubber boots
- Bushings
- Engine mounts
- Hoses
- Profiles

### Portfolio for other industries

• Electric transformer seals

### Equipment

- Rubber injection molding machines with 1 liter injection capacity, 160 T clamping pressure and a working area of 40 x 33 cm
- Vulcanizing presses with working areas of 60 x 60 cm, 36 x 36 cm and 20 x 20 cm
- Extrusion machines with a maximum diameter capacity of 18 cm
- Vulcanizing tunnel with a 40 m working area
- Vulcanizing autoclaves with capacity of up to 3 m in length and up to 1.6 m in diameter
- Open mill with up to 2 m sheet metal capacity
- 6 mm to 42 mm in diameter capacity braiding machine
- CNC with 1.3 x 0.6m work area and 1 T and 12,000 rpm capacity
- CNC lathe with 300 mm diameter x 500 mm length capacity
- Milling machines with 1 x 0.6 x 0.4 m capacity
- Conventional lathes with 650 mm x 2000 mm capacity
- Punching press with 40 T capacity

- Tensometer
- Dimensional analysis





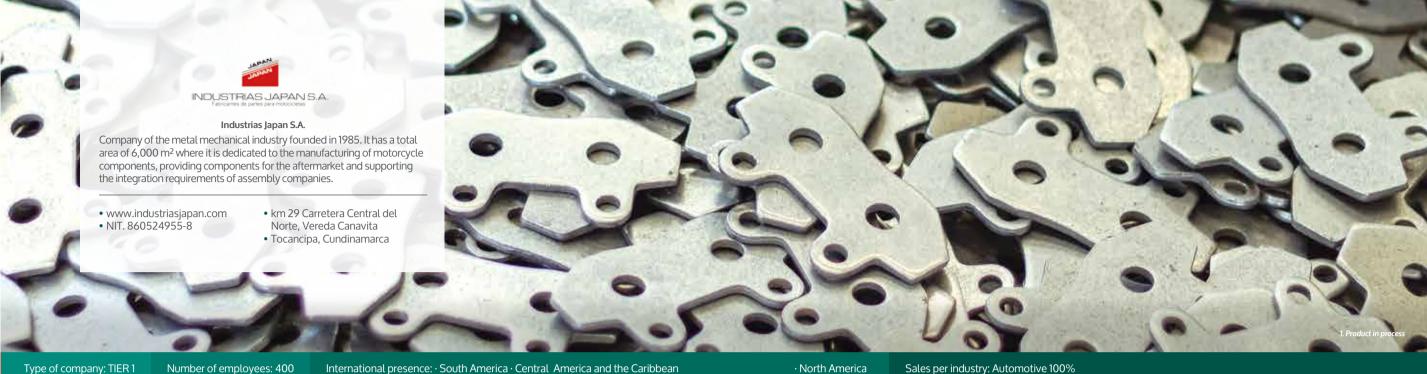
### ★ Key strength

### **Development capabilities**

- Design and development of molds, punching dies
- and molding dies
- Development of rubber formulae
- Computer Aided Design (CAD)
  - SOLIDWORKS by Dassault Systèmes
- Computer Aided Manufacture (CAM)
- Mastercam by CNC Software

- Functional testing
- Pressure aging vessel
- Rheometer





Number of employees: 400

International presence: • South America • Central America and the Caribbean



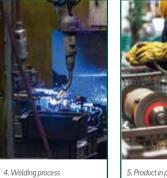
3. Welding process

### Main clients



### Certifications

• ISO 9001: 2015





### Equipment

- Aluminium injection molding machines with 100 to 550 T capacity
- Punching presses with 40 to 315 T capacity • Laser cutting machine for thicknesses of up to 16 mm in carbon
- steel and 8 mm in stainless steel

Automotive industry portfolio

- Brake and clutch handles - Passengers grab rails

- Kick-start, brake and gear pedals

- Brake bands

- Brake pads

- Brake rods

- Footrests

- Axles - Gear shafts - Mirror mounts

Metal mechanical components for motorcycles

- CNC lathes for diameters of up to 2"
- 4-Axis CNC machining center
- Plastic injection molding machines with 100 to 200 T capacity
- Robotic MIG welding equipment
- Tube bending machine for up to 3 mm in thickness and 1" in diameter
- Powder coating line
- Galvanic coatings in zinc and chrome

### ★ Key strength

- PLM by Siemens

- FARO 3D measuring arm
- FARO 3D laser scanner
- 3D prototyping
- Mechanical properties tests using universal testing machine
- Hardness tests for different materials Chemical composition analysis for ferrous and nonferrous
- alloys





### **Development capabilities**

- Design and manufacture of molds and dies
- Computer Aided Design (CAD)
- NX by Siemens
- Computer Aided Engineering (CAE)
- Flow-3D by Flow Science
- Reverse engineering

### Laboratory capabilities

- Industrial measurement laboratory
- Coordinate-measuring machine

• Test machine for friction materials characterization under JIS and SAE standards and specifications





Type of company: Aftermarket

Number of employees: 60

2. Exhaust system body flange

International presence: · Ecuador · Venezuela

### Main clients



### Sales per industry: • Automotive 97% • Other industries 3%

Automotive industry portfolio

Automotive exhaust systems

 Heavy truck exhaust systems Catalytic converters

Motorcycle metallic cargo trays

Portfolio for other industries

Components for agricultural cableways

Flexible exhaust joints

 Motorcycle handlebars Motorcycle saddlebags supports

Motorcycle sliders

### ★ Key strength

- 3 10
- Equipment

• Metallic elements for companies in the electricity market

- Plate shear cutting machine with capacity of up to 3 mm in thickness
- Punching presses with up to 50 T capacity
- Hydraulic presses with up to 100 T capacity
- Automatic sheet metal crimper with capacity for up to 1.2 mm in thickness and 8" in diameter
- Sheet flange with capacity for up to 1.2 mm in thickness and 8" in diameter
- MIG welding equipment up to 250 A

3. Oxicut and plasma cutting







• Multipurpose TIG welding equipment • Pipe saw cutter with a capacity for up to 3" in diameter • Pipe cutter with endless saw with a capacity for up to 10" in diameter

• Pipe bender for up to 3" in diameter

### **Development capabilities**

• Reverse engineering in product development for the exhaust systems replacement market Motorcycle accessories development

### Laboratory capabilities

• Functional tests for exhaust systems



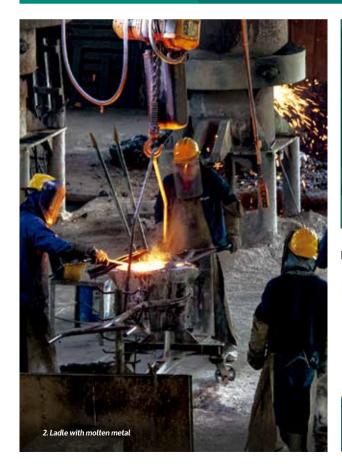




Type of company: Aftermarket

Number of employees: 97

International presence: • United States • Central America and the Caribbean





### Main clients

of the process







### Certifications

• ISO 9001: 2015



5. Industrial liners centrifugal casting machines

- Automotive industry portfolio Centrifugal cast motor cylinder sleeves
- Dry cylinder sleeves for gasoline engines - Wet cylinder sleeves for gasoline engines
- Cylinder sleeves for diesel engines (wet and flange sleeves)
- Centrifugal cast bushings or bars for valve seats inserts
- Manufacturing of motor cylinder sleeves using plans or samples, with special finishing

### Portfolio for other industries

- Piston manufacturing
- Cylinder sleeves for industrial motors
- Diverse components for motors and compressors in the oil and gas industry
- Repair and assembly of multi-stage and screw compressor cvlinders
- In-situ inspections for industrial facilities and equipment with a broad portfolio of non-destructive tests
- Repair of various components such as crankshafts and pumps

### Equipment

- Conventional lathes
- CNC lathes
- Tunnel boring machine
- Lathes
- Industrial and automotive honing tools

- ★ Key strength • Drills
  - TIG welding equipment
  - Cupola furnace

### Laboratory capabilities

- Dimensional metrology laboratory







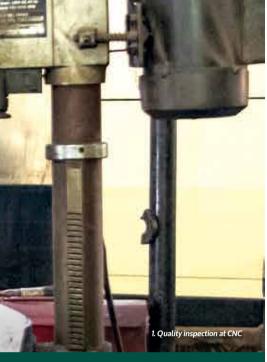




- DXY









### Sales per industry: • Automotive 85% • Other industries 15%

Milling machines

- Centrifugal casting machines
- Heat treatment ovens

### **Development capabilities**

 Reverse engineering • Design and development of molds and dies

- Surface roughness gauges
- Hardness testers (digital and King)
- Gauge for hydrostatic tests
- Non destructive tests
- Penetrating liquids
- Magnetic particles





Number of employees: 48

Sales per industry: • Automotive 20% • Electronic 70% • Other industries 10%







### Main clients

HYUNDAI - VX400





5. CNC lathe machining and

assembly



### Automotive industry portfolio

- Hinges
- Piano
- Van groom
- Tension latches
- Locks
- Handles

### Portfolio for other industries

- Hinges
- Locks
- Tension latches
- Accessories

### ★ Key strength

### Equipment

- 1 to 60 T punching presses
- 100 and 200 T hydraulic presses
- 1 kW laser cutter
- CNC lathe
- Machining center
- Conventional drills
- Milling machines
- Welding
- MIG
- TIG
- Punching machine
- Bending machine





### **Development capabilities**

• Molds, dies and devices design • Computer Aided Design (CAD) - SOLIDWORKS by Dassault Systèmes





Number of employees: 180 Sales per industry: Automotive 100%









### Certifications

• ISO 9001: 2015 • BIQS: GM • IATF 16949: 2016 • ASES: RENAULT



4. Hydraulic press line, stamping train

HINO

INCOLMOTOS

### ★ Key strength

### Automotive industry portfolio

- Fuel tanks (automobile, truck, buses)
- Crossmember (chassis, truck)
- Scissor jack
- Instrument panel bar
- Brackets
- Engine protector
- Thermal shields
- Car seat rails
- Pedals
- Hand brakes
- Structural components for automotive industry

### Portfolio for other industries

• Motorcycle cargo trays mounts

### Equipment

- Hydraulic presses with 150 to 1,000 T capacity
  Mechanical presses with 25 to 600 T capacity
- Sheet metal bending machines of 125 T
- Electric welding MIG
- Electric resistance welding
- Cross-seam, longitudinal and clamp welding
- Powder coating
- Polymerization furnace
- Shear cutting machines with a capacity of 1/8" to 1/4"
- CNC milling machine CNC lathes









### **Development capabilities**

- Die-cutting design in general (cutting, stamping,
- punching and deep drawing)
- Design and manufacture of control, manufacturing
- and assembly devices
- Computer Aided Design (CAD)
- Mechanical desktop by Autodesk
- Autodesk Inventor
- AutoCAD by Autodesk
- Computer Aided Manufacturing (CAM)
- Mastercam by CNC

### Laboratory capabilities

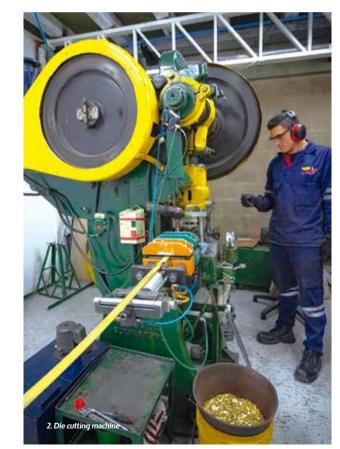
• 3D measuring arm (FARO) • Verification of mass, length and pressure

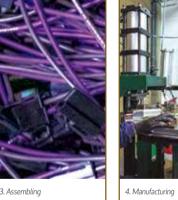




Number of employees: 23

Sales per industry: • Automotive 95% • Other industries 5%





### Main clients







5. Manufacturing

### ★ Key strength

### Automotive industry portfolio

### Electrical terminals

- Copper tube terminals
- Solenoid feed and output terminals
- Rubberized clamps
- Felt whaser
- Battery brackets
- Clamps and alligator clips
- Copper washers
- Automotive connectors
- For fuel injectors
- For alternators
- For universal electrical connections
- Fuse holders
- Sockets

### Portfolio for other industries

Punch-down terminals

### Equipment

- Machining center (CNC)
- Wire electrical discharge machine
- Lathe
- Packaging machine
- 1.5 mm to 6 mm diameter cable cutting machine
- 3 to 35 T punching presses
- Rotary table
- Electric cable crimper





### **Development capabilities**

• Punching dies design and manufacturing • Computer Aided Design (CAD) - SOLIDWORKS by Dassault Systèmes - Visualize by Dassault Systèmes Computer Aided Manufacturing (CAM) - Mastercam by CNC software





Type of company: • TIER 1 • TIER 2

Number of employees: 48

Sales per industry: • Automotive 26% • Other industries 74%





### Main clients









### Certifications







5. Production floor, machines

- for profile manufacturing
- Plastic straws • Capillary tubes

### Equipment

- Extrusion machines
- Shear cutting equipment

Automotive industry portfolio

• Plastic profiles (transition strips)

Portfolio for other industries • Synthetic material for furniture weaving

• Coatings for electrical parts and wire ropes

 Refrigeration and cosmetic industry electric heat cables • Smooth and grooved medical probes and hoses

Profiles for refrigeration systems and advertising

• Pipes, hoses and couplings for construction and agriculture

 Tubes and profiles for lighting Seat assembly profiles

Handrail cover sleeves

Weld metal bars

- Braiding machine Punching dies

### ★ Key strength

### **Development capabilities**

- Personalized development and exclusive products according to the designs and needs of the clients
- Consulting and guidance

### Laboratory capabilities

• Products certified according to customer requirements Flammability tests













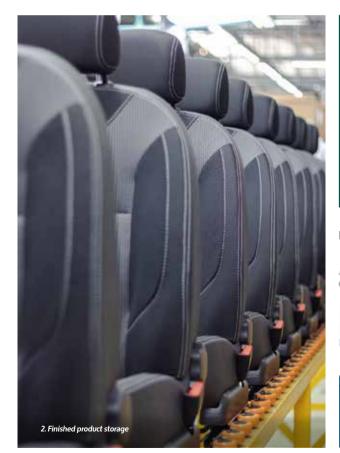




Type of company: • TIER 1 • TIER 2

Number of employees: 846

International presence: • North America • Central America • South America





. Seat covers assembling

### Main clients



### Certifications

• IATF 16949: 2016 • OEA • ISO 9001: 2015



# 4. Metal mechanical production







### - Wheel arches and fenders - Gear pedal

- Motorcycle seats

### Portfolio for other industries

- Cinema and auditorium chairs
- Institutional and collectivity furniture
- Hospital furniture

### Equipment

- Machining center CNC
- CNC Sheet metal cutting machine
- CNC plasma cutting machine
- CNC cutting machine for tailoring (fabrics and vinyl fabrics)
- CNC pipe bending machine
- CNC bar bending machine

### Sales per industry: • Automotive 40% • Other industries 60% · Europe · Asia

### Automotive industry portfolio

- Metalmechanical stamped parts and subassemblies for the automotive industry - Seat frames - Cross car beam/bar assembly IP TIE • Car seat covers tailoring Gas assisted injection molding plastic parts
- Car seat pockets - Brake line shield
- Door trim
- Metalmechanical stamped parts for motorcycles
- Brake pedal
- Motorcycle centerstand
- Motorcycle sidestand
- Motorcycle crashbars

### ★ Key strength

### Laboratory capabilities

- Chair cycling tests
- Romer stinger arm
- Metrology laboratory: functional testing



- Foam injection machine • 450 T and 1,150 T gas assisted plastic injection
- molding machines Sewing machines
- Powder coating
- CNC punching presses
- Hydraulic presses (200 to 500 T)
- MIG robotic welding
- Spot welding
- Mechanical punch presses (10 to 300 T)
- Sheet metal laser cutting machine
- Fabrics CNC cutting machine
- Durkopp Adler sewing machines
- Robotic MIG welding machine
- Torque calibration tools
- Electronic torgue wrenches
- Production line tracking system

### **Development capabilities**

- Research and development division for the cinema,
- auditorium and collectivity furniture lines
- Computer Aided Design (CAD) for product and tooling 3D modelling
- AutoCAD by Autodesk
- SOLIDWORKS by Dassault Systèmes
- EDGECAM by Hexagon









### Integrando S.A.S.

Company of the metal mechanical sector established in 1984. It has a total area of 10,000 m<sup>2</sup> where it manufactures sprockets, chassis components and minor motorcycles parts for aftermarket and original equipment for the main motorcycle assembly plants in Colombia.

• www.integrandocnc.com • NIT. 891411213-9

• Avenida 30 de agosto # 109 - 51 Pereira, Risaralda



Number of employees: 363





International presence: · Guatemala · Ecuador · Chile

### Main clients

3. Production floor

INCOLMOTOS **VAMAHA** SUZUKI 🕻 Hero Fanalca 🚝 🐜

### Certifications

• ISO 9001: 2015





- Steering heads
  - Handlebar clamps
  - Saddle brackets
  - Saddle supports
  - Central and side stands Handlebars

Sales per industry: Automotive 100%

- Grills
- Footrests
- License plate brackets
- Brake and shift pedal levers

### Equipment

- Punch presses with a capacity of 60 to 250 T
- Hydraulic presses with a capacity of 100 to 700 T
- MIG welding robot
- CNC machining centers with a capacity of up to 3 T and a working area of 1,500 x 3,000 mm
- Powder coating
- Surface treatment: galvanized
- Induction furnace

### ★ Key strength

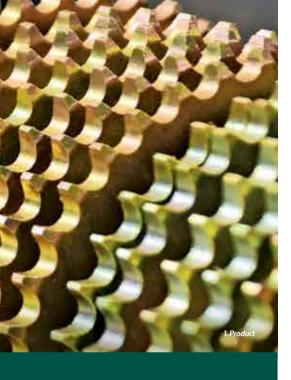
- Design software

- Metrology laboratory
- - Functional tests

4. Production floor









### **Development capabilities**

- Design and manufacturing of molds and dies
- Engineering services
- Mastercam by CNC
- AutoCAD by Autodesk
- EDGECAM by Hexagon
- SOLIDWORKS by Dassault Systèmes

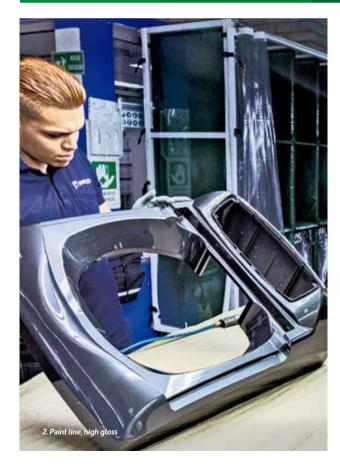
- Dimensional analysis
- Dimensional calibrations and evaluations
- with 3D measuring FARO arm







Number of employees: 128





3. Finished product

### Main clients





### mabe Whirlpool

### Certifications

• IATF 16949: 2016 • ISO 14001: 2015 • ISO 9001: 2015 • OHSAS 18001: 2007



### final inspection

4. Paint line, polishing



# Equipment

• Thermoplastic mold injector with 50 to 550 T clamping force and a capacity of up to 3,600 g

• Water transfer printing process for plastic parts

Sales per industry: • Automotive 20% • Home appliances 80%

- 2 Paint spray booths
- Water transfer printing machine

Automotive industry portfolio

Portfolio for other industries

Plastic parts injection molding

• Liquid paint coating for plastic parts

- Hot plate welding machine
- Pad printing machine

### **Development capabilities**

- Product design and development
- Computer Aided Design (CAD) - SOLIDWORKS by Dassault Systèmes

### ★ Key strength

- Coating testing Adherence
- Hardness



- Hue (spectrophotometer)
- Thickness gauge
- Chemical physical analysis
- Light chamber
- Muffle furnace



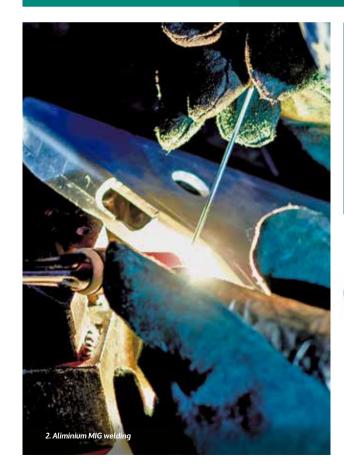






Type of company: · Aftermarket · TIER 1

Number of employees: 26







4. Carter shield assembly

5. Aluminium welding

Main clients

3. Lathe



### Sales per industry: • Automotive 90% • Other industries 10%

### Automotive industry portfolio

- Hitch carriers
- Carter protectors
- Motorcycle hitch carrier
- Bike racks
- Trailers
- Motorcycle touring type bagsMotorcycle carter protectors
- Sliders
- Fairing protectors
- Motorcycle hardwares
- Motorcycle engine spoilers
- Motorcycle saddlebags
- Motorcycle cargo trays

### Portfolio for other industries

• Traffic sign stands

### Equipment

- CNC plasma cutting
- Sheet metal bending machines
- Welding
- MIG
- TIG
- Powder coating line
- Lathes
- Milling machines
- Pipe bending machines





# K.I.N.G.

### ★ Key strength

### **Development capabilities**

- Design custom services for motorcycle and vehicle accessories
- Computer Aided Design (CAD)
- Mastercam by CNC
   SOLIDWORKS by Dassault Systèmes

### Laboratory capabilities

Functional tests













4. Motorcyle wheels line, 3. Quality process, meassurement with CMM

### Main clients

CHEVROLET









### Certifications





manufacturing of internal groove







TOYOTA

# 5. Finished product, 22.5" wheel

### Equipment • Aluminium injection molding machine with a capacity

of 12" to 22.5" in diameter CNC machining center

• Aluminium wheels for cars and motorcycles

- Melting furnace with a capacity of 6 T

Automotive industry portfolio

- Powder coating and liquid painting lines Surface pre-treatment equipment
- Heat treatment furnaces

### \* Key strength

### **Development capabilities**

- Design and manufacturing of molds and dies
- Design software
- NX by Siemens
- CATIA by Dassault Systèmes
- SOLIDWORKS by Dassault Systèmes - ANSYS







- Fluoroscopy testing
- Radiographic testing
- Metrology laboratory
- Dimensional control
- Coordinate Measuring Machine (CMM)
- Destructive testing
- Impact testing
- Radial fatique test
- Paint adhesion testing - Saline chamber test
- Mechanical testing
- Spectrometry testing



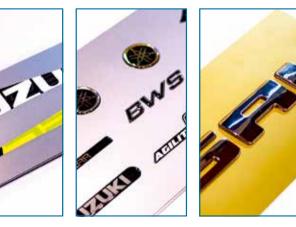




Number of employees: 105

Sales per industry: • Automotive 80% • Advertising 20%





### Main clients



Hero & RENAULT Haceb











### Automotive industry portfolio

- High performance adhesives
- Emblems
- Domed label
- Kromex
- Laser

### Portfolio for other industries

- POP marketing material
- Digital printing
- Ultraviolet screen-printing
- Gigantography

### Equipment

- Large format digital printing
- Thermal printing
- Cromex
- Screen-printing
- Laser cutting on synthetic and metallic materials

### **Development capabilities**

- Computer Aided Design (CAD)
- Adobe Illustrator
- Adobe Photoshop
- CorelDRAW
- Rhinoceros 3D by Robert McNeel & Associates

### ★ Key strength Resistance tests

### Laboratory capabilities

 Ink adhesion tests Adhesion tests







### Matromol S.A.S.

Company founded in 1982 with a total area of 3,300 m<sup>2</sup>. It manufactures lamps, stop lights, luxuries, accessories and plastic parts for motor vehicles. Plastic injection services are also provided.

• www.matromol.com • NIT. 860508098-3

• Carrera 72 # 57R - 61 Sur Bogota, Cundinamarca

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Number of employees: 25



International presence: Ecuador

Assembly area and product



Main clients

verification





### Certifications

• ISO 9001: 2015



Sales per industry: Automotrive 100%

★ Key strength	Equipmen
Automotive industry portfolio • Lamps - Stop lights (brake lights) - Head lamps - Signal lights (turn signals or blinkers) - Car interior lamps - Registration plate lamps - Central high mountet stop lights (CHMSL) • Automotive plastic injected components - ABS sensor holders - Battery support tray - Wheel arches • Plastic components for bus bodyworks - Emergency exit hammers - Window stops - Bus doorhandles - Door guides - Bus holding bar attachments - Bus stop buttons • Emergency warning triangles	<ul> <li>Injection n injection c</li> <li>Material p</li> <li>Desuperho</li> <li>Pneumatic</li> <li>Spot weld</li> <li>Cable cutt</li> <li>Punching j</li> <li>2,500 MH</li> <li>Hot-plate</li> <li>Poka-yoke</li> <li>Chiller</li> <li>Cooling to</li> <li>Compress</li> </ul> Developm <ul> <li>Mold deve</li> <li>Computer</li> <li>SOLID</li> <li>Computer</li> </ul>
	Laboraton

### Portfolio for other industries

• Plastic injection services for all industries



### nt

- molding machines with 80 g to 1,500 g
- capacity and 85 to 450 T clamping force
- pre-dryers
- heaters
- ic screwdriver
- ding
- tter and punch down tool
- presses with 5 to 30 T
- -Iz ultrasound welding
- e welding
- ke devices
- ower sor

### ment capabilities

/elopment er Aided Design (CAD) DWORKS by Dassault Systèmes er Aided Manufacturing (CAM) ercam by CNC software

- Functional testing - Vibration table
- Headlamp test





Type of company: • Aftermarket • TIER 1

Number of employees: 84

International presence: • United States • Peru • Ecuador • Costa Rica







manufacturing

### Main clients





### corona







RENAULT SUPERIOLO



## Automotive industry portfolio

· Panama · Malaysia

- Plastic emblems
- Hubcaps • Decals

### Portfolio for other industries

- Advertising announcements
- Faucets finishes
- Home appliances emblems

 Functional testing Longitudinal analysis

### ★ Key strength

### Equipment

- 90 to 160 T injection molding machines
- Chrome-plating plant for ABS plastic parts with a capacity of 180,000 dm<sup>2</sup>
- UV printing and cutting plotter
- Screen printing process
- Machines for resin domed applications
- Ecodom process for automotive components and fabrics
- Kromex process
- Punching presses
- Laser cutting machines
- Polyurethane, polyester and enamel paint process







### Sales per industry: • Automotive 55% • Advertising 45%

### **Development capabilities**

- Development and manufacturing of injection molds
- Computational tools
- Mastercam by CNC software
- SOLIDWORKS by Dassault Systèmes
- Autodesk ArtCAM
- Adobe Suite
- CorelDRAW







### MET GROUP S.A.S.

Company founded in 2002 with a total area of 3,300 m<sup>2</sup>, dedicated to the manufacturing of seats for passenger transport, conversion of vans, as well as smart technology integration and research, and design and development of electronic circuits for the automotive sector.

• www.metgroupsas.com • NIT. 816004942-1

• km 1.4 Via Cerritos - Pereira • Pereira, Risaralda

International presence: Mexico





### Main clients





### Sales per industry: Automotive 100%

### Automotive industry portfolio

- Seats
- Bus destination signs
- Power plants
- Van-type vehicles conversion
- Smart technology systems
  Sound amplifiers

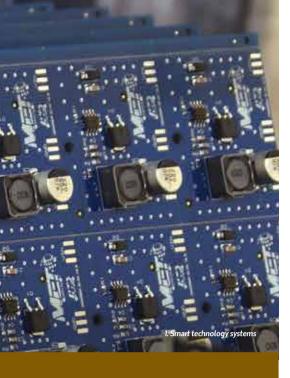
### Equipment

- YML bender
- Robotic welding system with Panasonic TM1800 welding robot
- Pick-and-place machine

### 🛨 Key strength

### **Development capabilities**

- Capability to develop electronic circuits and their assembly
- Capability to execute any kind of conversion to van-type vehicles for up to 16 passengers
- Capability to develop metal mechanical products with certified welding by the American Welding Society (AWS)











#### Metal Servicios S.A.S.

Company established in 1987. In its 720 m<sup>2</sup> plant the business is dedicated to the design, production, manufacturing and marketing of components for the automotive and telecommunications industries. It also provides installations services for civil and industrial engineering projects. It has high-tech equipment for the manufacturing and processing of different metals.

• Calle 64G #92 - 61 • www.metalservicios.co • Bogota, Cundinamarca • NIT, 900978165-9



Type of company: · Aftermarket · TIER 1

Number of employees: 21

Sales per industry: • Automotive 90% • Telecommunications 10%







#### Main clients





5. Products





- Release mechanisms
- Emergency windows
- Skylights
- Windshield wipers mechanisms
- Bus holding bars
- Encapsulated - Stainless steel
- Powder coating
- Bus door opening systems
- Brackets and guides
- Ball joints
- Side door closing mechanisms

#### Portfolio for other industries

- Electric grid lines hardware
- Satellite TV amplifier fastening hardware
- Metallic structures for construction works

#### ★ Key strength

# Equipment

- CN bending machine for up to 3 m in length and 5/16" material thickness
- CN cutting machine for up to 3 m in length and 5/16" material thickness

 Welding - TIG



- CNC lathe of 480 mm, up to 300 mm diameter
- and 300 mm length
- Parallel lathes
- Rotary lathes
- Milling machines
- Punching machine of up to 55 T
- Notching machine for up to caliber 14
- MIG
- Shielded metal arc
- Powder coating

#### **Development capabilities**

• Computer Aided Design (CAD) - AutoCAD by Autodesk



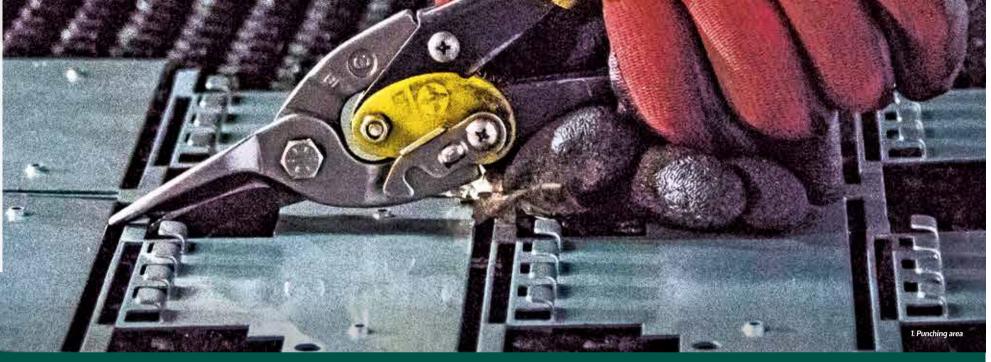




Company founded in 2012 that offers products through the metal transformation processes with the highest quality standards. In its 300 m<sup>2</sup> production plant, it offers high efficiency and precission diepunching and die-cutting processes, as well as custom developments for drilling and threading processes according to specific requirements.

• www.metalmind.com.co • NIT. 900576927-9

• Calle 10A # 67 - 20 • Bogota, Cundinamarca



Type of company: TIER 3

Number of employees: 12

Sales per industry: • Electrical 70% • Security 20% • Decoration 5% • Other industries 5%



3. Machining center area 4. Drilling area

#### Main clients





5. Cutting area

#### Automotive industry portfolio

• Internal small metal parts for vehicles

#### Portfolio for other industries

- Small metal parts with die-cutting
- Drilling
- Punching and tapping process

#### Equipment

- Punching presses
- Amada Apelio
- Amada Vipros
- Amada Octo
- 10 to 70 T capacity die-cutting presses
- Laser cutting services
- Welding
- Assembly
- Drilling and threading Machining centers

#### \* Key strength

#### **Development capabilities**

- Development capabilities for new product lines
- Engineering and innovation in processes
- Technical support for new products development
- Computer Aided Design (CAD):
- AutoCAD by Autodesk
- SOLIDWORKS by Dassault Systèmes













Type of company: TIER 1

Number of employees: 23

Sales per industry: • Automotive 22% • Other industries 78%



3. Production plant, shear cutting 4. Production plant, component welding area

#### Main clients

nachine

GM - - 7 CHEVROLET









5. Production plant, hydraulic shee metal bending pressmachine



Commercial line

Industrial line

end customers

- Equipment • Shear cutting machines with capacity of 3/8" in thickness
- 80 T CNC folding machines with capacity fot metal sheet of up
- to 1/4'' in thicknes
- 160 T hydraulic folding machine with capacity for metal sheet of up to 3/8" in thickness

- Metal products and accessories for commercial use and/or

- Support products for industrial and manufacturing activities

- CNC punching machines for up to 1/8" in thickness
- Radial drill
- Multiple shear cutting machine

Automotive industry portfolio • Industrial material handling carts Paint coating maintenance

Portfolio for other industries

- Roller machine
- MIG, TIG, coated and spot welding equipment

#### Laboratory capabilities





#### ★ Key strength

#### **Development capabilities**

- Special developments
  - Products and solutions costumized to meet
  - specific project requirements
- Development process aided by CAx tools
- Computer Aided Design (CAD)
- Solid Edge by Siemens
- Autodesk Inventor
- Nondestructive testing
- Dye penetrant inspection
- Certified welding equipment









Type of company: • Aftermarket • TIER 1

Number of employees: 25 International presence: Mexico



4. Production floor

# Main clients

. Production floor







# • Fenders Chain guards License plate holders

- Beauty industry products
- Combs
- Ink mixers
- Toe separators

- Hydraulic presses for compression molding
- Milling machines
- Lathe
- Electrical discharge machine

#### \* Key strength

#### **Development capabilities**

- Custom product design
- Software
- Creo Elements/Pro by PTC Corporation

# Sales per industry: • Automotive 95% • Other industries 5%

#### Automotive industry portfolio

- Motorcycle rubber dampers
- USB Data Power chargers for motorcycles

# Portfolio for other industries

- Housings for electric components

# Equipment

- 250 T injection molding machines

- Stratasys 3D professional printer













Type of company: · Aftermarket · TIER 1

Number of employees: 22

International presence: · Costa Rica · Chile · Honduras · Peru



4. Finished product 3. Finished product





# 5. Production floor

# Main clients



# Automotive industry portfolio Motorcycle crash bars Motorcycle side luggage racksMotorcycle side and center stands Handlebars Aluminium chain guards Aluminium motor protector Equipment CNC vertical machining centers with 1,000 x 500 mm table CNC lathes for up to 2" diameter 5 punching presses with up to 80 T capacity Tube bending machine (up to 1.1/4" diameter)

#### **Development capabilities**

- Computer Aided Design (CAD)
   SOLIDWORKS by Dassault Systèmes Mastercam by CNC
  Custom design service

#### Laboratory capabilities

- Micrometer screw gauges
- Altimeters
- Inclinometers

★ Key strength

- Grills

- MIG welding
- Laser engraving

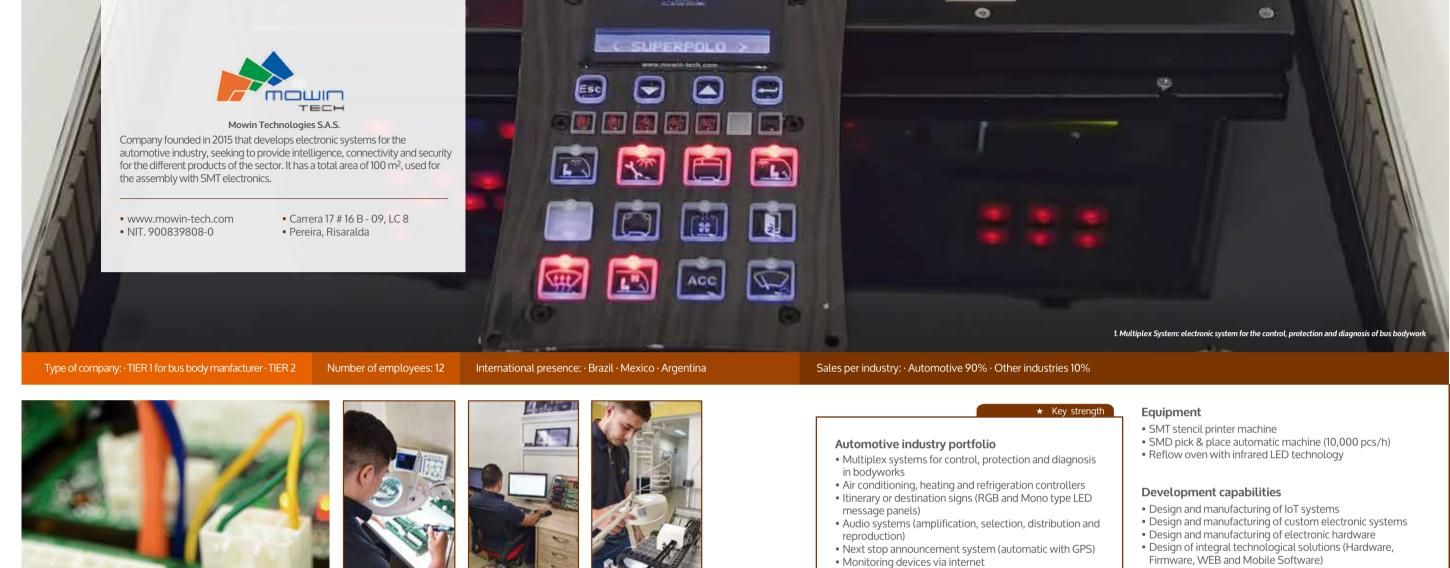
Goniometers











#### Portfolio for other industries

- Electronic control systems for elevators
- Electronic controller for commercial and industrial refrigerators

5. SMD Pick & Place Automatic

Machine

Marcopolo SUPERPOLO

3. Test and analysis of electronic



# Main clients

boards

🚱 ausscar 🛛 Fanalca 🚝

- GPS electronic tachograph
- Windshield deffoger, ventilation with and without heating
- GPS speedometer
- PIP Passenger Information Panel
- Battery monitor
- Voltage converters 24 V / 12 V
- Anti-Crushing Device (ACD)
- LED lamps

2. Electronic Control Unit (ECU)



• Update and modernization of electronic systems Advice and technical support









Type of company: · Aftermarket · TIER 1

Number of employees: 360

International presence: • Nicaragua • Honduras • Panama • Guatemala







# Main clients









4. Quality control

# Automotive industry portfolio • Internal and external rear-view mirrors

#### • Lamps

- Stop lights (brake lights)

· El Salvador · Costa Rica

- Signal lights (turn signals or blinkers)
- Reversing (back up) lights
- Registration plate lamp
- Position markers
- Reflective lenses (for cars and motorcycles)
- Skylights
- Markers
- Retroreflective Automotive industry accessories
- Mud flaps
- Internal fixing brackets for buses
- Handles
- Public transportation vehicle seats

# Portfolio for other industries

• Wheels and casters - Industrial cooling

Equipment

- Furniture
- Construction wheelbarrows

# ★ Key strength

- Plastic chrome plating plant
- Metal chrome plating plant

• Electrolytic finishing process

• Tube bending machine up to caliber 12 CNC machines - Lathe - Milling machine • Lathe headstocks and spindle machines for screws, axles and bushings production Glass fiber plant Polyurethane injection and molding • Electrostatic paint plant

- Design of dies and molds Computer Aided Design
- ECAD: Proteus Design Suite by Labcenter Electronics
- CAD: Autodesk PowerShape
- CAE: Autodesk Moldflow
- CAM: Autodesk PowerMILL

# Laboratory capabilities

- Quality control laboratory Metrology laboratory - Pressure calibration: vacuum
  - Dimensional analysis: longitudinal Functional testing
  - Leak test
  - Luminosity test

  - Warping test - Vibration test



#### **Development capabilities**









#### NAVCAR S.A.S.

Company founded in 1984, dedicated to the manufacturing of automotive metal braided cables, polyurethane bushings and brake hoses. It counts with an area of 6,000 m<sup>2</sup> and more than 5,000 SKU, being one of the most complete portfolios in Latin America.

• www.cablesnavca.com • NIT. 860517948-7

• km 22 Autopista Norte via Tocancipa - Zona industrial Canavita - Complejo industrial Navcar • Tocancipa, Cundinamarca



Type of company: • Aftermarket • TIE<u>R 1 • TIER 2</u>

Number of employees: 140

International presence: • United States • Mexico • Ecuador







#### Main clients





• ISO 9001: 2015





# Polyurethane bushings Brake hoses Portfolio for other industries

Automotive metal

braided cables

- Steel wires
- Nylon webbing straps
- Industrial accessories
- Pet products

# ★ Key strength

#### Equipment

- Plastic injection
- Molding machines
- Punching presses CNC lathes

Automotive industry portfolio

- Electrical discharge machines
- Extrusion machines
- Laser cutting machine

#### **Development capabilities**

- Design and manufacturing of molds
- Computer Aided Design (CAD)
- SOLIDWORKS by Dassault Systèmes - AutoCAD by Autodesk



# 

# Laboratory capabilities

 Laboratory for - Destructive testing - Efficiency testing - Tensile testing





#### Niko Racing Ltda.

Company founded in 2000, dedicated to the design, development and manufacturing of racing cars and industrial parts in general. It has a vast experience in automotive and kart racing, and participated and claimed victories with its own racing team name in events in Colombia and the United States. Their vehicles hold various records in racing circuits in Colombia, USA, and Jamaica.

• www.nikoracingteam.com • NIT. 830071339-6

• Calle 163A # 16A - 79 • Bogota, Cundinamarca

3. Dry sump

Type of company: OEM

Number of employees: 6 International presence: • United States • Jamaica









alforently -

Sales per industry: Automotive 100%

#### Automotive industry portfolio

- Brake rotor hats
- Brake uprights
- Gearbox covers
- Brake calipers
- Carter
- Pistons
- Gears
- Chassis
- Suspension control arms
- Rocker arms
- Connectors
- Safety seals
- Customized metal mechanical automotive and motorcycles components

#### Portfolio for other industries

• Specialized custom made metal mechanical components

#### Equipment

- Mazak CNC 3-axis machining center with 1,120 x 410 x 510 mm work area
- Tube bending machines
- CNC lathes with a capacity of maximum 250 mm in diameter and up to 900 mm in length







#### ★ Key strength

#### **Development capabilities**

- Reverse Engineering
- Finite Element Analysis (FEA)
- CNC programming
- Dyno engine setup
- Software for computer development
- Mastercam by CNC
- Inventor by Autodesk
- Alias by Autodesk
  AutoCAD by Autodesk
  Fusion360 by Autodesk

#### Laboratory capabilities

 Functional tests • Dimensional analysis





4. Machining process

SUŽUKI 🔂 BUSSCAR

5. Erosion process of steel plates

3. Profiles projector

Main clients

Certifications

• ISO 9001: 2015

• BASC

2. Manufacturing process

- Plastic accessories for curtains and blinds
- Record player needles
- Sharpeners, retractable click eraser pens and flutes

#### Equipment

- Metal mechanical area machinery
- CNC lathe
- 1 to 20 T punching presses
- Plastic injection machines with a clamping pressure 10 to 320 T (18 machines)
- Measuring equipment
  - Profile projectors with magnification of 10X-20X-100X
  - Microscopes with digital head
- Marking equipment
- - Hot-stamp marker
- 3D printing

- CNC machining center

- Lathe
- Penetration electrical discharge machining
- Grinding machines
- Injection area machinery

- Laser marker

- Impact pendulum (for plastic products testing)



- Rhinoceros 3D by Robert McNeel & Associates

- Electrical testing equipment: oscilloscopes
- Dimensional verification equipment
- Hardness measurement equipment
- 500 N dynamometer









Type of company: Aftermarket

Number of employees: 38

2. Vulcanizing machine

International presence: • Ecuador • Honduras • Bolivia







• ISO 9001: 2015 Resolution 4983

#### Sales per industry: Automotive 100%

#### Automotive industry portfolio

- Caliper kit
- Brake shims
- Brake calibration Brake pads
- Brake bands Brake vacuum servos
- Pistons
- Control arm pins • Sway bars end links

# Equipment

- CNC
- Systematized lathes Parallel lathes
- 60 T punch presses
- 100 T punch presses Grinding machines
- Penetration electrical discharge machining
- Wire electrical discharge machining
- Vulcanizing machine
- Milling machines
- Electric induction furnace
- Induction furnace

#### **Development capabilities**

• Die mold design and development

★ Key strength

 Functional testing - Pressure - Assembly







• Computer Aided Design (CAD) - Solid Edge by Siemens - SOLIDWORKS by Dassault Systèmes Computer Aided Manufacturing (CAM) - Mastercam by CNC software

- Dimensional analysis
- Longitudinal





#### OPTIMA BALLISTIC GLASS COLOMBIA S.A.

Company founded in 2005 with a total area of 4,500 m<sup>2</sup> dedicated to the manufacturing of state-of-the-art armored glass for applications in the automotive and architectural industries, focused on customer service and sustainable growth.

• www.optimaballistic.com • NIT. 900880066-5

• km 8 Via Barranquilla - Tubara Zona Franca La Cayena Mz K Lote int 45 Barranguilla, Atlantico

Type of company: Aftermarket

Number of employees: 123

#### International presence: • North America • Latin America and the Caribbean • Europe

# 2. 2D glass polishing



# Main Clients







# Certifications





#### South Africa · Philippines

#### Sales per industry: • Automotive 95% • Construction 5%

#### Automotive industry portfolio

• Laminated safety bulletproof glass

#### Portfolio for other industries

• Laminated safety bulletproof glass for architectural applications

#### Equipment

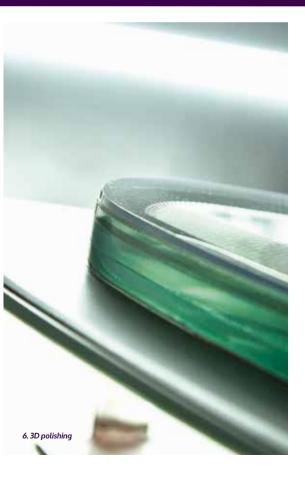
- 2D cutting machine CAM
- Chemical strengthening of glass
- Bending oven
- Autoclave

#### ★ Key strength

#### **Development capabilities**

- Computer Aided Design (CAD)3D modulation
- Design and manufacture of 3D molds
- 3D-2D development
- Integrated corporate software

- Peel tests
- Resistance tests to chemical agents
- Ballistic resistance tests













#### OSAKA S.A.S.

Company founded in 1999, dedicated to the manufacturing of motorcycle components. It has a total area of 800 m<sup>2</sup>, where it manufactures brake pads and bands for motorcycles and ATVs.

• www.osaka.com.co • NIT. 811022876-1

• Carrera 48C # 100 Sur - 72 La Estrella, Antioquia



Number of employees: 85

International presence: • Mexico • Costa Rica • Ecuador • Chile

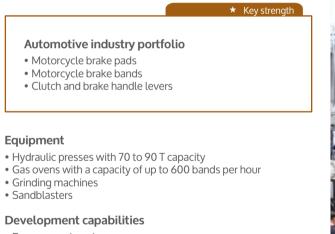






SAKURA 5. Brake pad

#### Sales per industry: Automotive 100%



- Reverse engineering
- Aftermarket brake component development
- Research and development of new friction materials

#### Laboratory capabilities

• Dimensional analysis













Type of company: • TIER 1 • TIER 2

Number of employees: 60

2. High temperature liquid paint continous line

3. Leak, welding and finished products resistance testing

#### Main Clients

SUZUKI Fanalca 🚝 🚱 Busscar



4. Production processes . meassurements

# Automotive industry portfolio

- Exhaust system
- Handlebars
- Bus windows

#### Portfolio for other industries

- Vending machine cabinets Racks
- Powder paints
- Liquid paints

#### Equipment

- Exhausts line
- Liquid painting line
- Powder coating line
- CNC sheet metal bending machine
  CNC pipe bending machine

#### Development capabilities

- Project management, design of production processes and tooling
- Prototypes and component validation for mass production

# ★ Key strength





#### Laboratory capabilities

 Welding macro examination • Dye penetrant inspection Paint scrape adhesion testing Solvent resistance rub test Paint hardness testing







Type of company: TIER 2

Number of employees: 118

Sales per industry: • Automotive 2% • Other industries 98%





#### Main clients

3. Labeling line









#### Automotive industry portfolio • Dust seals Cube lids

- Inserts
- Brake fluid containers

#### Portfolio for other industries

- Containers for lubricants
- Containers for toiletries and cosmetics
- Container caps

#### Equipment

- Blow molding machines for polyolefins and PVC with 2 to 7 L capacity
- Double station blow molding machines for polyolefins with 2 L capacity
- Blow molding machines for polyolefins with 10 L capacity
- Double station blow molding machines for polyolefins with 5 L capacity
- Double station blow molding machines for double walled polyolefins (70% - 30%) with 5 L capacity
- Injection molding machines with 120 to 130 T clamping force

# ★ Key strength

# **Development capabilities**

- Molds and tooling design
- Computer Aided Design (CAD)
- Solid Edge by Siemens

- Tests

- Visual appearance



- Mold manufacturing - Strategic alliances with gualified workshops and an

- internal metal mechanical workshop

- Bottleneck and container dimensional analysis
- Cap adjustment (torgue and breakage)
- Volume-based impact
- Overflow volume
- Water tightness and/or slow leak
- Static charging
- Oven induced accelerated aging











4. Visual inspection

#### Main clients



# Certifications

• ISO 9001: 2015 • IATF 16949: 2016



Key strength     Automotive industry portfolio	• Fund spec
<ul> <li>Interior trims</li> <li>Door handles</li> <li>Door handle inserts</li> <li>Bumper inserts</li> <li>Ventilation ducts</li> <li>Air vents</li> </ul>	
<ul> <li>Portfolio for other industries</li> <li>Caps</li> <li>HDPE, Polypropy for lene (PP) and PET containers with 17 to 20,000 cm<sup>3</sup> capacities</li> </ul>	

#### Equipment

- Blow molding injection machines (50 to 20,000 cm<sup>3</sup>)
  Injection molding machines (80 to 1,000 T)
  PET injection-blow molding machines with 3 to 10 cavities

#### **Development capabilities**

- Design of blow and injection molds using CAD-CAM
  Creo Parametric by PTC Corporation



# oratory capabilities

nctional tests and dimensional analyses based on ecific client requirements







Internacional presence: • Ecuador • Spain





3. Automotive and industrial filling 4. Spray cotainer and packaging line

#### Main clients



DA mazoa



5. Household filling and packaging line



#### Certifications

• ISO 9001: 2015 • ISO 14001: 2015 Ecovadis • IATF 16949: 2016 • OHSAS 18001: 2007

#### Sales per industry: · Automotive OEM 35% · Automotive aftermarket 55% · Household 5% · Other industries 5%

#### Automotive industry portfolio

- A complete line of products for pre-paint surface treatment
- Glass bonding urethane sealants
- Adhesives for joints and other applications
- Windshield washer fluid
- Corrosion protectors
- Radiators coolant fluids
- Brake fluids
- Lubricant oils

#### Portfolio for other industries

- Non-acid, non-corrosive, biodegradable product for cement-concrete residues removal from concrete mixers, silos, pumps, tools and all kinds of equipment and surfaces
- Rust-removers
- Corrosion protectors
- Treatments for coolant waters
- Cleaners, disinfectants and odor removers for air conditioning systems
- Internal and external engine cleaners
- Protectors, radiator cleaners
- Floor cleaners and degreasers
- Lubricants, water displacing compounds
- Cleaners for electric and electronic equipment

- Testing laboratory
- Density tests

#### Equipment

- PRFV mixers with a capacity of 2,500 to 5,000 L
- Stainless steel mixers with a capacity of 60 to 800 L
- 2 stainless steel mixers with cooling system and a capacity of 3,000 L
- Stainless disperser/homogenizer with a capacity of 400 L • Stainless steel industrial heating pot with a capacity of 60 L • 2 deionizers with a capacity of 600 L/hour

#### ★ Key strength

#### **Development capabilities**

- Development of chemical products for the automotive industry (based on APQP) as well as
- for any other industry

#### Laboratory capabilities

- Dynamic and kinematic viscosity tests
- Karl Fisher titration
- Potentiometric titrator acid-base



polike









# 5. Production floor

# Main clients









#### Automotive industry portfolio Buses

- Bodywork subassembly
- Doors
- Trays
- Ball ioints
- Luggage compartments
- Hand rail
- Metallic grids
- Brackets and supports - Chassis components
- Motorcycles - Cargo trays
- Handlebars
- Axles
- Center stands
- Bushings
- Automotive
- Safety mounts - Battery frame

# Portfolio for other industries

- Industrial air filtration system
- Storage cabinets
- Light storage racks and components
- Services
- Sheet metal laser cutting
  - Tube laser cutting
  - CNC lathe
  - Metal punching
  - Metal bending
- Welding
- Painting

# Welding

- SOLIDWORKS by Dassault Systèmes



#### ★ Key strength

#### Equipment

- 3,05 x 1,5 m sheet metal laser cutter with capacity for up to 20 mm in thickness for carbon steels, 12 mm in thickness for stainless steels and 8 mm in thickness for aluminum
- Tube laser cutter with maximum diameter capacity of 150 mm for carbon steel profiles of up to 6 mm in thickness
- Sheet metal punching machine for dimensions of up to 2.5 x 1.25 m and up to 6 mm in thickness • Sheet metal bending machines for dimensions of
- up to 3 mm in length and 12 mm in thickness CNC lathes
- Machining center
- Tube bending machine for up to 38.1 mm diameter and caliber 16
- Punching presses with up to 90 T capacity
- Hydraulic presses with up to 350 T capacity
- Paint booth
- MIG - TIG
- Spot

#### **Development capabilities**

Computer Aided Design (CAD)

- AutoCAD by Autodesk









#### Propulsora S.A.

Company founded in 1996, inheriting the technical knowledge in metallurgy from the Danish group Paul Bergsoe & Son, It has a  $6,000 \text{ m}^2$  production area with more than 50 years of providing specialized solutions of non-ferrous metal alloys for the national and international industry.

• www.propulsora.com.co • NIT. 817000717-6

• Parque Industrial y Comercial del Cauca, Etapa 3 Guachene, Cauca

Type of company: TIER 2

Number of employees: 53 International presence: · Ecuador · Panama





#### Main Clients









4. Beraline solder

# 5. Metal casting











# • Metal for jewelry (pewter)

#### ★ Key strength

#### Equipment

- Tilting reverberatory furnace with 3.5 to 7 T capacity
- Crucible furnace with 0.1 to 3.5 T capacity
- Tilting rotary furnace with 1 m<sup>3</sup> capacity
- Lead rolling mill for 25 mm to 0.5 mm material thickness
- 250 T extrusion press
- Wire drawing machine
- Spooling machine
- Slag recycling mill machine
- Heat treatment equipment
- Vertical casting tables for aluminium plates
- Hydraulic gravity dye casting machine

# Sales per industry: • Automotive 5% • Naval 3% • Lighting and industrial 45% • Other industries 47%

#### Automotive industry portfolio

# • Aluminum-based alloys

- Zinc-based alloys
- Cooper-based alloys
- Tin-based alloys
- Solder

# Portfolio for other industries

- Lead sheet for radiation shielding
- Bearing metal obabbitt)
- Copper alloys (bronze and brass)









#### **Development capabilities**

 Custom made alloys • Gravity dye casting mold design for sacrificial anode cathodic protection • Computer Aided Design (CAD) - SOLIDWORKS by Dassault Systèmes

#### Laboratory capabilities

 Optical emissions spectrometers for non-ferrous metal analysis • Non-ferrous alloys volumetric analysis







Sales per industry: Automotive 100%





3. Sound deadeners' production

#### Main Clients

plants





#### Certifications

• ISO 9001: 2015 • BIQS: GM • IATF 16949: 2016



4. Mixing machine

<u>GM</u>

#### PVC sealants - Sheet joining - Antiflutter - Under-body coating

- Anti-corrosive waxes
- Hot-melt adhering soundproofing sheets
- Gasket rubber based sealant

Automotive industry portfolio

#### Portfolio for other industries

- Filling caulk
- Acrylic and asphaltic waterproofers
- Sealants for window and mirror joints

#### Equipment

- Mixers
- Calender (roll)
- Extrusion press machines
- Agitator system
- Filter pumps

#### ★ Key strength

#### **Development capabilities**

- Reverse engineering
- Development of sealants for the industry in general
  Development and / or maquila of waterproofing,
- stucco, paints and joint putties for the construction industry





- Universal machine for mechanical testing
- Rotational rheometer
- Strength and stress tests up to 5 kN load
- Physical-chemical tests
- Automotive sealant application tests







Type of company: TIER 1

Number of employees: 15

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Sales per industry: • Automotive 10% • Electric 70% • Hardware 10%





#### Main clients



#### Certifications

• ISO 9001: 2015 • ISO 14001: 2015 • OHSAS 18001: 2007



4. Tinning line, galvanized, silver

# • Other industries 10%

#### ★ Key strength

#### Automotive industry portfolio

#### • Zinc coating service

- Organometallic service (geomet)
- Phosphate service
- Powder coating

#### Portfolio for other industries

- Tin coating
- Silver coating
- Copper coating

#### Equipment

- Zinc drum line with 1 T/day production capacity
- Tin drum line with 1 T/day production capacity
- Static zinc plating line with production capacity of 5,000 units per day
- Static tin plating line with production capacity of 2,000 units per day
- Silver plating line with production capacity of 1T per day
- Powder coating line with furnace capacity of 29 m<sup>3</sup>
- Geomet line with production capacity of 500 kg per day

#### **Development capabilities**

- Development capabilities for new product lines
- Engineering and innovation in processes





#### Laboratory capabilities

• Salt spray chamber with 3 m<sup>3</sup> capacity • Fischerscope x-ray spectrometer for measuring material thickness and purity











#### Main clients

romarco s.a.



5. Leaf Springs

#### Certifications

• ISO 9001: 2015 • DECRETO 1072 • OEA

	*	Key streng
Automotive industry portfolio • Leaf springs • U bolts		

#### Portfolio for other industries

- Cutting blades for sugarcane harvesters
- Discs for sugarcane harvesters

#### Equipment

- Heat treatment furnace (quenching and tempering)
- Hot forming
- Cold forming
- Shear cutting machine
- Shot-peening machines
- Powder coating

#### **Development capabilities**

- Engineering department for the development of new products with virtual simulation, mechanical testing and testing for leaf springs
- Computer Aided Design (CAD) - Autodesk Inventor

# Laboratory capabilities

Fatigue testing machineLoad testingMetallography laboratory





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HERCUL

# **RIDUCO**

#### Riduco S.A.

Company founded in 1969, leader in plastic transformation (injection molding and extrusion). Industrial customers in sectors such as automotive, motorcycle components, home appliances, food, beverages, hygiene and personal care, agricultural industry and logistics products, amongst others.

• www.riduco.com • NIT. 890801451-5 • Carrera 32 # 107 - 17 La Enea Manizales, Caldas





Number of employees: 450





International presence: · Mexico · Brazil · Peru · Ecuador



#### Main clients

NAME OF

3. Injection process

# COLONO 🛞 Kimberly-Clark

# Certifications

• IATF 16949: 2016 • ISO 9001: 2015



# by robot



# Sales per industry: Automotive 57% · Home appliances 11% · Food 7% · Hygiene and personal care 11% · Industrial 14%

#### Automotive industry portfolio

- Exterior: front and rear bumpers, hood grills, lower grills and cowl grills, wheel arches, front and rear rockers, bumper absorber, bumper guides, bumper inserts
- Interior: instrument panels, door trim panels, trunk and liftgate trim, dashboards A, B and C pillar trim (lower and upper)
- Motorcycle components: bodyworks, rear and front mudguards, chain covers, side covers, tails, reflectors, lenses and bases for headlamps, taillamps and signal lamps

#### Portfolio for other industries

- Coffee cup lids
- Flip top cup lids and dispensers
- Home appliances components (washing and cooling)
- Export basket containers for the agricultural industry
- Plastic pallets
- Bubble wraps
- Extruded slip sheets

# Equipment

- Injection molding machines with 1 g to 18 kg injection capacity and 7 to 4,000 T clamping pressure
- 2-color and/or materials injection mold machine
- Injection systems: sequential, gas-assisted and
- high-pressure air
- In Mold Labeling (IML)
- 3- to 6-axis robot-assisted parts removal and assembly
- Bridge crane systems with a load capacity from 3 to 50 T • Feeding of material by vacuum system, gravimetric
- feeders and dispensers

★ Key strength

- Dynamometer



- Heat treatments Ultrasound polishing
- Immersion chemical graining
- nance
- Mold design, manufacture and monitoring services with international suppliers



 Raw material dehumidifiers • Ultrasound, vibration and high frequency sealing • Sheet and bubble wrap extrusion processes Assembly lines

Hot stamping and buffering printing

#### **Development capabilities**

- Laser welding, MIG, TIG
- Electrical discharge machining
- Manufacturing workshop, for molds modification and maintei-
- Computer Aided Design (CAD)
- Autodesk PowerShape
- SOLIDWORKS by Dassault Systèmes
- Computer Aided Manufacturing (CAM)
- EDGECAM by Hexagon
- Autodesk ArtCAM
- Autodesk PowerMill

- Metrology lab
- Dimensional, functional and mechanical strength tests
- Photocolorimeter and light chamber
- Brillometer
- Moisture measurement





#### Rinder Riduco S.A.S.

Company founded in 2013 as a joint venture between Riduco S.A. and Rinder Corporation (owned by Uno Minda Group), that seeks the integration with the two and four-wheeler automotive sector, offering development, manufacturing and marketing services of all kinds of lighting devices.

• www.riduco.com • NIT. 900596298-1 • Carrera 32 # 107 - 17 La Enea Manizales, Caldas

Number of employees: 31 Sales per industry: Automotive 100%







# Main clients

3. Assembly line







# Automotive industry portfolio

- Head lamps
- Stop lights (brake lights)
- Signal lights (turn signals or blinkers)

#### Equipment

- Vacuum metallizing of all types of shapes and materials (ABS, PC, PA66, PP, etc.) with 600 mm radius metallizing capacity
- Headlight assembly by 6-axis robotic siliconized system.
- Ultrasonic sealing equipment.
- 8 assembly lines that have pneumatic screwdrivers and electrical devices to verify product quality

#### **Development capabilities**

- Design and development of lighting systems that meet international standards processes that range from product to tooling manufacturing, according to customer requirements
- Certified laboratory for homologation of parts, photometric and optical test, vibration, climate chamber, dust exposure tests etc

#### ★ Key strength

- Fugometer tests, electronic tests
- Dimensional, functional and mechanical strength tests
- Release tests for the silicone application and metallizing process
- Moisture measurement
- Dynamometer











#### Rodríguez López Auto S.A.S.

Company founded in 1981, dedicated to the manufacturing, industrialization and homologation of special vehicles. It is also engaged in the marketing, maintenance, innovation, development and homologation of components for special vehicles. It has a production area of 4,200 m<sup>2</sup>. Its products are certified by the main global commercial vehicle manufacturers.

• www.rodriguezlopez.com • NIT. 901102406-3

• km 6 via Yumbo - Aeropuerto Bodega Manzana L Zona Franca del Pacífico • Palmira, Valle del Cauca



Type of company: • OEM • Ambulace body builder

Number of employees: 21

International presence: · Spain · Ecuador · Panama





#### Main clients











13

.....

# spoiler

# 5. Integral aerodinamic 360°



# · Chile · Honduras · Peru · Costa Rica · Bolivia

Sales per industry: Automotive 100%

#### Automotive industry portfolio

- Ambulances
- Riot control vehicles
- Military vehicles
- Tactical vehicles
- Passenger transport vehicles
- Mobile clinics

# ★ Key strength

#### Equipment

- Robotic machine or numerical control machines
  Flat sheet and tube-shaped laser cutting \*
- CNC milling machine \*
- Wood cutting pantograph for Medium Density Fibreboard (MDF) (moisture resistant and fire retardant), polyester, plywood and floor
- Robotic paint center with infrared and ultraviolet drying oven \*
- Exterior paint booth
- Interior paint booth with polymerization process
- Machinery for metalworking and manufacturing of fiberglass parts

\*Equipment at plant in Spain

#### **Development capabilities**

- Dedicated development staff with software • Computer Aided Design (CAD)
- SOLIDWORKS by Dassault Systèmes















#### Sauto Andina S.A.S.

Grupo Sauto Andina SAS was founded in 1981. It has a total area of 8,400 m<sup>2</sup> production area with four production lines: heavy automotive (stamped parts, fuel tanks, air tanks, motorcycle tanks), seat belts for OEMs and the aftermarket, leather linings for the aftermarket and fireproof and safety doors for home.

• www.sautoandina.com • NIT. 800050088-3

• Avenida Carrera 50 # 5F - 19 • Bogota, Cundinamarca

Type of company: · Aftermarket · TIER 1 Number of employees: 220





International presence: • Ecuador • Mexico

#### Main clients

3. Assembly line, belt



#### Certifications

• IATF 16949: 2016 • BIQS: LEVEL 3 GM • ISO 9001: 2015 • NTC 1570



- Leather, fabric and vinyl covers for vehicle chairs

- Veneer metal doors
- Fire doors for commercial use

#### Equipment

- Hydraulic presses with 800 T clamping pressure
- Electrostatic paint line
- Laser cutting robots
- Waterjet cutting robots
- MIG welding robot
- Welding equipment
- TIG
- Spot

# Sales per industry: · Automotive 83% · Construction 17%

#### Automotive industry portfolio

#### Metal mechanical parts

- Floor panels
- Fuel tanks for trucks and motorbikes
- IP support cross beams
- Hoods
- Roofs
- Air tanks
- Battery boxes
- Temporary metal seats for bus and truck rolling chassis
- Seat belts

#### Portfolio for other industries

- Metal doors for social housings

- Steel cutting shears
- Mechanical presses with 35 to 250 T clamping pressure

- Punch press

- MIG

- Dimensional tests - Dimensional calibrations and evaluations with 3D
- measuring arm
- Functional tests
- Abrasion tests for upholstery materials - Flamability tests
- Stress tests





- Projection

- Seam
- CNC machining center
- CNC leather cutting machine
- Lining sewing machine for airbag equipped car seats
- Flat sewing machines
- Plastic injector mold machines

#### ★ Key strength

#### Development capabilities

- Design, development and manufacture of molds and
- punching dies of up to 2.5 x 2 m of area
- Computer Aided Design (CAD)
- Autodesk Mechanical Desktop - Autodesk Inventor
- Computer Aided Manufacturing (CAM)
- Mastercam by CNC

- Retractor cycling tests
- Cycling and durability tests for seat belts
- Salt Spray Chamber
- Inspection light chamber





 www.servintec.com.co • NIT. 860026892-6

• Carrera 127 # 15 B - 10 Bogota, Cundinamarca

Type of company: • Aftermarket • TIER 1 • TIER 2

Number of employees: 75

International precense: · United States · Ecuador

7 38





#### Main clients

3. Control Jig



#### Certifications

• IATF 16949: 2016 • BIQS: GM • ISO 14001: 2015



4. Press machine

5. 3D Design capabilities

#### Equipment • CNC pipe bending machine (up to 3" diameter)

Automotive industry portfolio

Metal stamped components

Portfolio for other industries

Exhaust systems

Metallic structures

Chair and table frames

• Stairs, railings, walkways Metal doors and louvers

- Semiautomatic pipe bending machine (up to 5" diameter)
- High-speed tube cutter
- Welding MIG
- TIG
- Spot
- Projection
- Seam
- 100 to 250 T presses

- **Development capabilities**  Computer Aided Design (CAD) - AutoCAD by Autodesk - Autodesk Inventor • Design and manufacturing from dies and tooling • Engineering solutions based on client's requirements
- measuring arm
- Dye penetrant inspection

• 30 to 250 T punch press machines

- Laboratory capabilities Metrology laboratory - Dimensional calibration and evaluation with 3D

- Welding Laboratory
- Penetration testing

- Functional testing





#### ★ Key strength

- Dimensional analysis
- Finite element analysis





#### SI<sup>3</sup> - Sistemas de Innovación en Ingeniería e Integración S.A.S.

A group of companies created by Colauto as one of its business lines in 2000. Since 2016 it evolved into the SI<sup>3</sup> business group. In its area of 14,000 m<sup>2</sup> it offers process engineering and development services for molds, dies and any kind of devices customized to the specific requests of clients.

• www.si-3.tech • NIT. 900981071-6 • Carrera 43A # 1- 50 Oficina 805/6 Torre 3 San Fernando Plaza Medellin, Antioquia

Type of company: • TIER 1 • TIER 2

Number of employees: 425 International presence: Spain



3. Production floor, motorcycle press line

#### Main clients

seat assembly line



#### Certifications

• ISO 9001: 2015 • ISO 14001: 2015 • IATF 16949: 2016 • ANPQP: RENAULT



4. Production floor, hydraulic

# 5. Production floor, electrostatic

paint booth





# Sales per industry: • Automotive 85% • Other industries 15%

#### Automotive industry portfolio

- Metal mechanical stamped parts
- Sheet metal
- Piping
- Axles
- Motorcycle chassis
- Injection molded plastic parts of various materials and weights • Injection of foams of various densities and hardnesses
- Assembling processes

#### Portfolio for other industries

- Metal mechanical stamped parts
- Sheet metal
- Piping
- Axles

#### Equipment

- Transverse cutting line
- Longitudinal cutting line
- Hydraulic shear cutting machines Circular saw
- Hydraulic tube bending machines • CNC tube bending machines
- Tube notcher
- Welding equipment: MIG, robot, spot and TIG
- CNC lathes
- CNC vertical machining centers

- Drills

# Laboratory capabilities

- Metrology laboratory
- - measuring arm (FARO)
  - Hardness tests

- Calibrations and dimensional evaluations
- Dimensional calibrations and evaluations with 3D









• Wire electrical discharge machine

- Powder coating line
- 150 to 1,100 T plastic injection molding machines
- Polyurethane injection molding machine

★ Key strength

#### Development capabilities

- Design and manufacture of molds, punching dies and devices
- Computer Aided Design (CAD)
- NX by Siemens
- Solid Edge by Siemens
- Dimensional analysis













# Sicolsa - Siderúrgica Colombiana S.A. Company founded in 1980, dedicated to the smelting of nodular iron, gray iron, special irons and steel for national and international industries.

The ability to produce specialized products allows the company to supply various sectors such as automotive, agricultural, water supply and distribution, electrical and other industries.

 www.sicolsa.com • NIT. 890804714-0 • km 9 via la Magdalena Parque Industrial David Uribe Manizales, Caldas



Type of company: • Aftermarket • TIER 2

Number of employees: 100

International presence: · United States · Canada · Argentina · Chile

2. Pouring carousel of automatic molding machine





4. Finishing process





· Uruguay · Peru · Ecuador

# Sales per industry: • Automotive 45% • Water supply and distribution industry 25% • Agricultural 15% Industrial 10% • Electric power industry 5%



• Developments according to customer needs, supported by design software

#### Laboratory capabilities

- Spectrometer
- Nikon microscope series 100
- Measurement equipment



Certifications











#### SIMONIZ S.A.

Our Brand SIMONIZ<sup>®</sup> was born in London (England) and arrived to Colombia in the 1940s to establish as Norwich de Colombia. It started with the manufacturing of waxes and other cosmetics products for the domestic automotive industry and was later established as SIMONIZ S.A., It currently has a production area of 6,000 m<sup>2</sup> as well as 10,000 m<sup>2</sup> of storage area.

 www.simonizauto.com • NIT. 800203984-6

• Carrera 127 # 15B - 60 Bodegas 3.4.5 • Bogota, Cundinamarca

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elett and

packaging line

· Honduras · Guatemala

#### Sales per industry: • Automotive 60% • Household 40%



3.Production floor. sprays production line



5. Production floor, filling and packaging line

HIGHSUN

#### ★ Key strength

#### Automotive industry portfolio

- Automotive exterior cleaning products: car washing products, shampoo, ecological washing, waxes (liquid, paste and spray), polishers, restorers, windshield washer fluid and tire cleaners
- Car interior cleaning products: silicones, air fresheners, odor removers, upholstery and leather cleaners
- Vehicle maintenance products: fuel additives, oil additives. coolants and lubricants
- Premium line of products for high performance car cleaning and care: waxes, shampoo, air fresheners and protectors for leather, wheels, windows and plastics
- Vehicle accessories: Trunk organizers and carpet, rubber and rubber-carpet mats
- Radiator, fuel and windshield washer bottle caps
- Automotive clamps

#### Portfolio for other industries

- Binner brand products for home cleaning and care
- Cleaning and care products for all types of floors, furniture, carpets and upholstery, walls and glasses, bathrooms, showers and kitchens

# Laboratory capabilities

- Hardness testers

- Physicochemical testing laboratory
- Product pilot plant reactor





#### Equipment

- Manufacturing plant for aerosol products
- Injection molding machines with 60 to 900 T clamping force
- Blow molding machines with 60 ml to 5 L capacity
- PET blow molding machines
- Thermoforming machine
- Continuous die cutting presses of up to 100 T capacity
- Product fillers from 1 to 12 nozzles
- Production plant for car interior mats (PVC, carpet and rub-
- ber carpet) and car roadside emergency kit bags
- CNC machining centers

#### **Development capabilities**

- Manufacturing engineering, development capacity of new production lines
- Design and manufacture of molds and dies
- Computer Aided Design (CAD)
- SOLIDWORKS by Dassault Systèmes
- AutoCAD by Autodesk
- Autodesk Inventor
- Profile projector
- 3D printer for packaging modeling and simulation
- Refractometers
- Metrology laboratory
- Dimensional and functional tests
- Metrology equipment for aerosol processes









Company founded in 2000 with the purpose of providing solutions for the industry, through the design and manufacture of products that increase the operational efficiency and enhance the competitiveness of the automotive, white line, electronics, tools, agricultural, naval and aeronautical sectors, among others. It has 720 m<sup>2</sup> and 6 production areas: plastics, rubbers, thermoforming, metal mechanical, nosag springs and R&D&I.

 www.solocauchos.com • NIT. 810003515-3

• Parque industrial El Rodeo Bodega #2 Via Sena - TCC Manizales, Caldas

Type of company: TIER 2

Number of employees: 44



3. Vulcanized rubber parts 4. Prototyping in 3D printing

#### Main clients



5. Injection area

# Certifications

ISO 9001: 2015



#### Automotive industry portfolio

- Special screws
- Machining
- Rubber, silicone and plastic components

#### Portfolio for other industries

- Special screws
- Rubber, silicone and plastic components

#### Equipment

- 80 to 780 T injection molding machines
- Rubber vulcanizing presses
- CNC machining centers
- CNC lathe
- Conventional lathe
- Rotary lathe
- Electrical discharge machine
- Milling machine
- Punching presses with 12 to 25 T capacity
- Die punching press with 20 T capacity
- Threading die
- Rolling mill
- 50 T metal gathering machine
- Thermoforming machine

#### ★ Key strength

#### **Development capabilities**

• Development of molds and plastic, rubber and metal components

- Rheology
- Calibrations



Ο SQLO

#### Laboratory capabilities

 Universal testing machine Hardness testing









#### SOLOMOFLEX S.A.S.

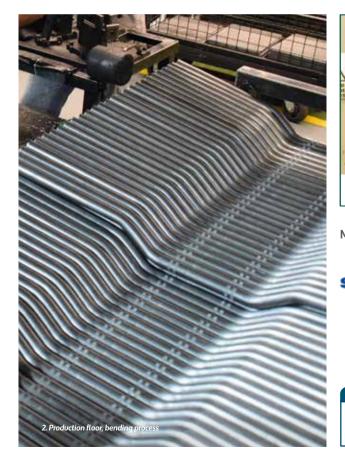
Company founded in 1983, dedicated to the manufacturing and marketing of metal mechanical as well as vulcanized and injected rubber components. The company has the capability to design and develop production and inspection JIGs.

• www.solomoflex.com • NIT. 900809220-2

• Calle 9 # 2 - 245 Zona Industrial La Badea • Dosquebradas, Risaralda



Number of employees: 180



Sales per industry: • Automotive 95% • Other industries 5%



3. Production floor, hydraulic press process

#### Main Clients



# Certifications









- Chairs
- Metallic structures for toys
- "Three Wheeler" Tricycle

#### Equipment

- CNC machining centers (bench size of up to 890 x 500 mm and load capacity of up to 300 kg)
- Wire electrical discharge machine
- Surface grinding
- CNC tube bending machine (up to 80 mm radius)
- Die cutting machines (maximum capacity 200 T)
- Hydraulic presses
- Hydraulic press with draw cushion

#### ★ Key strength

- volume of 150 q)
- Boring machine

- - Welding and inspection JIGs
  - Drawing-based development of parts

# Laboratory capabilities

- Dye penetrant testing Weld penetration destructive test
- Verification and dimensional confirmation of inspection
- Calibration of measuring equipment (vernier caliper,
- outside micrometer screw gauge, perpendicularity square, scales and internal diameter pattern rings)
- Rockwell, Superficial Rockwell and Brinell hardness tests









- Sheet metal trimming machines
- MIG welding equipment
- TIG welding equipment
- Knitted welding equipment
- Projection welding equipment
- Robotic welding arm
- Rubber and polyurethane injection machine (maximum
- Coordinate measuring arm FARO
- Automatic threader
- CNC plasma cutting machine

#### Development capabilities

- Design and development of tooling with CAD programs (SOLIDWORKS by Dassault Systèmes)
- Cutting (progressive and coaxial), forming and stamping dies
- Vulcanized rubber injection molds

and manufacturing JIGs using CMM with articulated arm







Type of company: · Aftermarket · TIER 1

Number of employees: 50

Sales per industry: • Automotive 40% • Construction 30%





, projects

3. Infrastructure and capacity for its developments

#### Main Clients



5. Folding and bending sheet

# • Other industries 30%

#### Automotive industry portfolio

- Ball joints
- Metallic supports
- Plastic supports
- Rubber and plastic seals
- Seat belts

#### Portfolio for other industries

- Machined in stainless steels
- Special welding
- Rubber floors
- Road signs
- Extrusion of plastics and rubbers

#### Equipment

- Vertical machining center
- CNC lathes
- Conventional milling machines
- Parallel lathes
- Rotary lathes
- Automatic threading machine
- CNC sheet metal bending machine
- Roller machine
- Welding equipment
- MIG
- TIG
- Electro polishing equipment
- Punching presses
- Sheet metal cutting machine up to 3/4" in 5 x 10 m format
- CNC sheet metal punching machine
- Plastic extruder
- Plastic injection molding machines

# models 3D print





 Rubber mixing mill Rubber banbury mixer Vulcanizing presses Rubber extruder

★ Key strength

#### **Development capabilities**

- Development and manufacture of molds and dies • Development and manufacture of CAD/CAM
- Reverse engineering

#### Laboratory capabilities

• Dimensional analysis











Type of company: Bus body manufacturer

Number of employees: 1,780

International presence: 

· South America



3. Paint spray booth

4. Fiber assembly line



5. Laser cutting CNC programming

# Certifications

• ISO 9001: 2015

# Automotive industry portfolio

· Central America and the Caribbean · Japan

• Bus bodies for passenger transport

#### - Urban buses

- Intermunicipal buses
- Luxury intermunicipal buses
- Special buses
- School buses
- Massive transport buses

#### Equipment

- Cutting process
- 2 CNC Trulaser laser cutting machines
- Cutting thickness: 0.7 20 mm
- Work area: 3,000 mm x 1,500 mm x 115 mm
- Plasma cutting robot
- Maximum cutting thickness: up to 6.4 mm
- EMT CNC cutting saw
- Maximum cutting thickness: 80 x 80 x 8 mm
- Bending process
- 3 CNC sheet metal bending machines
- Folding capacity: 175-160-100 T respectively
- EMT 3D pipe bending machine
- Maximum bending thickness: up to 3.5 mm
- 2D curving machines
- Maximum bending thickness: up to 3.5 mm
- Welding process
- More than 100 MIG welding stations
- More than 10 welding positions specialized in aluminium
- Paint process
  - Paint booth and drying oven
  - Primer booth

- Manufacturing of Devices for assembling, welding and validation
- Fiberglass molds for automotive components
- Quality laboratory
- Mechanical testing
- Thermal testing
- Lighting and sound testing
- Electric testing
- Dimensional tests - Internal use calibration equipment



#### Sales per industry: Automotive 100%

• Fiber manufacturing process Spray Up booth Curing oven

#### \* Key strength

#### **Development capabilities**

- Innovation and development engineering for new products
- Computer Aided Design (CAD) for 3D modeling of products and tools
- SOLIDWORKS by Dassault Systèmes
- AutoCAD by Autodesk







#### Taller Industrial Serviacero S.A.S.

Metal mechanical company founded in 2005, dedicated to the design and manufacturing of industrial parts, machines, tools and other special application equipment, as well as the assembly of grids and metal structures for companies of different sectors.

• NIT. 900055948-8

 Parque Industrial Los Pinos - La Enea, bodega #3 Manizales, Caldas

Type of company: • TIER 2 • TIER 3

Number of employees: 23



Sales per industry: · Automotive 40% · Food 40%

#### Main clients

3. Plant - Lathes







products

4. Plant - Milling machines

# • Other industries 20%

#### Automotive industry portfolio

Servitors

- Molds
- Structures
- Machined components
- Maintenance services

#### Portfolio for other industries

- Industrial heating pot
- Tanks
- Industrial cyclone separator
- Diverse structures

#### Equipment

- CNC parallel lathe
- Lathe
- Milling machine
- MIG, TIG and high frequency welding equipment

#### ★ Key strength

#### **Development capabilities**

- Design and development of products and industrial applications
- Machining of different types of materials and dimensions
- Reengineering of machines, equipment and industrial processes













Type of company: · Aftermarket · Tier 1 for truck body manufacturers



4. Quality control

Main clients

3. Packing process



#### Certifications

• ISO 9001: 2015 • BASC V5 2017







#### Automotive industry portfolio

 Brake lining (friction material) for heavy-duty vehicles (drum brakes)

# ★ Key strength

- Automated raw material dosing equipment
- Curing presses with up to 1,000 T capacity
- Machining equipments
- Cutting machines

# - Drills

- Hole punching machines
  Grinding machines
- Convection furnaces

# Development capabilities

- Computer Aided Design (CAD) - Solid Edge by Siemens
- Reverse Engineering
- Engineering design optimization meeting international standards (APQP)





#### Sales per industry: Automotive 100%

#### Laboratory capabilities

• Destructive tests for friction materials Functional Analysis Screening Tool (FAST)
 Swell, growth and dimensional stability
 Shear strength - Particle size analysis - Specific gravity







#### Thermoform S.A.

TIER 1 supplier for the major automotive manufacturers in Colombia, Venezuela and Ecuador. Founded in 1977, with a thrive to pursue excellence in all aspects and delivering original equipment components with world class quality standards, exceeding our customers expectations.

• www.thermoform.com.co • NIT. 860053716-2

• km 4 via Cajica - Zipaquira Cajica, Cundinamarca

Number of employees: 97



3. Carter protector



#### Main clients

(FUNZA)



capiro



# Certifications

• ISO 9001: 2015 • ISO 14001: 2015 • ASES: RENAULT • IATF 16949: 2016 • BIQS: GM



#### Sales per industry: • Automotive 88% • Portable toilets and other industries 10% • Agroindustrial 2%

★ Key strength	David
Automotive industry portfolio • Floor carpets • Trunk trim • Bumpers • Thermoformed components • Carter protectors	Develo • Desig • Custo • Desig • Comp - So - Au
<ul> <li>Interior and exterior plastic components for cars and motorbikes</li> <li>Motorcycle seats</li> </ul>	Labora • Dime • Funct
<ul> <li>Portfolio for other industries</li> <li>Portable Toilets <ul> <li>Recirculating and latrine type portable toilets</li> </ul> </li> <li>Material handling appliances <ul> <li>Trays</li> </ul> </li> <li>Construction <ul> <li>Thermoformed plactic laundar sciels</li> </ul> </li> </ul>	

- Thermoformed plastic laundry sinks Agricultural industry
- Stackable containers the handling and transportation of perishables

#### Equipment

- Heavy gauge sheet extrusion
- Vacuum-forming
- Compression thermoforming
- Waterjet robotic cutting





#### lopment capabilities

gn and development of prototypes omized thermoforming ign and manufacturing of molds and thermoformed parts puter Aided Design (CAD) Solid Edge by Siemens utodesk Inventor

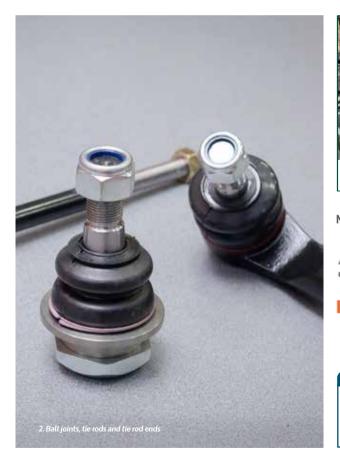
#### ratory capabilities

ensional tests tional tests











and manufacturing

# 4. Production plant, device design

#### Main clients

old and hot forging





#### Certifications

• ISO 9001: 2015 • IATF 16949: 2015 • ISO 14001: 2015

FAW



Production plant, CNC achining process

#### ★ Key strength

#### Automotive industry portfolio

- Suspension components for automotive applications
- Ball joints
- Axial joints
- Tie rod ends
- Stabilizer link
- Wheel hubs
- Hydraulic and assisted gear
- Control arm

#### Portfolio for other industries

- Powder coating processes
- Machining processes

#### Equipment

- Machining center
- CNC machines
- Shear cutting machines
- Drills multi spindle
- Milling machines
- Sheet metal rolling machines
- Hydraulic presses from 30 to 100 T
- Link resistance welding machine
- Punching presses
- Impact marker
- Powder coating tunel
- Broaching machines
- Magnaflux cracks control system

- 3D scanner

# Laboratory capabilities

- Coordinate Measuring Machine (CMM)
- - Roughness tester
- Functional testing
- Impact testing - Magnetic-particle testing
- Test laboratory
- Ball joint, tie rod ends and inner tie rods fatigue testing
- Dust seals fatigue testing
- Saline chamber test
- Metrology laboratory

- Optical comparator



#### **Development capabilities**

- Research and design team
- Tooling workshop for
- Punching dies design and manufacturing
- Design and manufacturing of assembly and
- verification jigs
- Computer Aided Design (CAD)
- Autodesk Inventor
- Computer Aided Engineering (CAE)
- Reverse engineering
- Dimensional calibrations





#### Tornillos y Grapas Industriales TGI S.A.S.

Company founded in 2012, dedicated to the production of fasteners for the metal mechanical industry, with a focus on a special products niche in wich high quality levels are required. Manufactured in its 600 m<sup>2</sup> plant, their product range includes products from 1/4" to 1 1/2" in diameter and from 1/2" to 12" in length all available in grade 2, grade 5 and grade 8 quality.

• www.tai-industrial.com • NIT. 90052561-2

• Carrera 86 # 14 - 26 • Bogota, Cundinamarca



Type of company: · Aftermarket · TIER 2 · TIER 3

Number of employees: 11

International presence: Panama · Ecuador







#### Main clients



5. Threading machine RFA - 2

#### Sales per industry: • Automotive 40% • Other industries 60%

#### Automotive industry portfolio

- Special screws
- Standard screws
- Medium-carbon steel
- Allov steel
- Bolts
- U-bolt clamps
- Rivets

#### Portfolio for other industries

- Screws for the railway industries
- Screws for metal structural studs

#### Equipment

- NAT-S3 progressive stamping machine from 1/4 "to 1/2" in diameter and lengths from 3/4 "to 5" and equivalence in mm
- NAT-56 progressive stamping machine from 1/4 "to 3/8" in diameter and lengths from 10 mm to 40 mm
- NAT-S2 progressive stamping machine from 1/4 "to 7/16" in diameter and lengths from 1 "to 2 1/2"

#### Development capabilities

• Development of fastening elements development based on specific client requirements



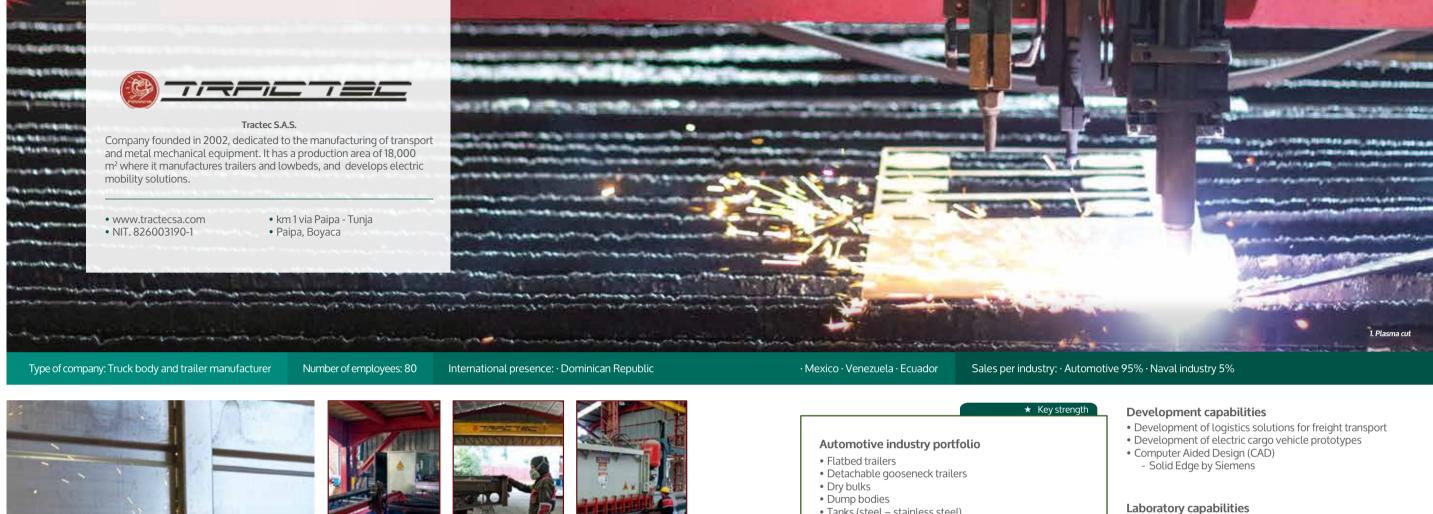


★ Key strength

- Hardness test
- Tensile test
- Torque test
- Saline chamber test













4. Product in process

# Main clients

• ISO 9001: 2015

3. Plasma cut

CHolcim

5. Bending machine





# • Tanks (steel – stainless steel) Vans Ambulances Unidades de cementación Cement/concrete mixer • Oil & gas equipment Trailer air suspension Trailer suspensions Portfolio for other industries Naval industry components

# Equipment

- Plasma water table of 15 x 3 m
- 4-axis CNC sheet bending machine with capacity for up to 0.5" in thickness
- Sheet roller machine with a capacity of 1" in thickness







- Dimensional analyses
- Functional tests
- Non-destructive welding tests
- Penetrating dyes



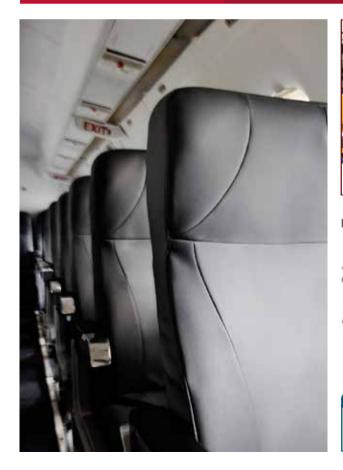




Type of company: · Aftermarket · TIER1

Number of employees: 300

International presence: · United States · El Salvador · Ecuador · Peru







#### Main clients







# Certifications

• AS 9100



# Venezuela

#### Sales per industry: Automotive 90% · Aeronautical 4% · Auditorium seat systems and collectivity furniture 6%

	*	Key strength	_ De
			• 0
ustry portfolio			

# Automotive industry portfolio

- Seating systems
- Leather, synthetic leather and fabric seat covers
- Package shelves
- Interior door panels
- Trunk flooring

#### Portfolio for other industries

#### Aircraft products

- Fabric, natural leather and synthetic leather covers for aircraft seats
- Aircraft carpets
- Aircraft curtains
- Galleys upholstery
- Comfort kits
- Auditoriums seating systems and covers

#### Equipment

- Automatic textile cutting robot
- Industrial sewing machines
- 150 to 200 T presses
- Ultrasound sealing machine
- Ultrasound welding equipment
- High-frequency welding equipment
- Cell assembly line system





#### evelopment capabilities

Computer Aided Design (CAD) - Solid Edge by Siemens - Autodesk Inventor • Computer Aided Engineering (CAE) - Nastran by Fortran • Computer Aided Manufacturing (CAM) - AccuMark by Gerber Technology







......

Number of employees: 60

Sales per industry: Automotive 100%





4. Production - Machines for metal mechanical processes

#### Main clients

3. Mats cutting table









# Certifications

• ISO 9001: 2015



# Portfolio for other industries

Metallic packaging accessories

• Linear and circular MIG welding line

• Metal cutting shears for up to 10 mm thickness

• 25 to 160 T punch presses

• Carpet cutting machines • Flat and open sewing machines

Overlock sewing machines

# Automotive industry portfolio

- Metal components for motorcycles
- Engine mounts
- Headlight mounts
- Fuel tank mounts
- Brake handles
- Side stands
- Car covers
- Car floor mats
- Emergency roadside assistance kits
- Security films

 Furniture frames • Fire extinguishers

Equipment

• CNC lathes

• Drills

Milling machines



#### ★ Key strength

#### **Development capabilities**

• Design and manufacturing of punching dies and devices for productive development • Computer Aided Design (CAD) - SOLIDWORKS by Dassault Systèmes

#### Laboratory capabilities

 Functional testing Dimensional analysis









Type of company: TIER 1

Number of employees: 350

#### International presence: · United States · Mexico · Dominican Republic



. Seat inspection



4. Sewing process

#### Main clients







5. Waterproofing process



#### Certifications

- IATF 16949: 2016 BIQS: GM
- ASES: RENAULT

#### · Costa Rica Sales per industry: Automotive 100%

#### Automotive industry portfolio

# • Exhaust systems for vehicles

- Exhaust systems for motorcycles
- Motorcycle seats
- High-performance exhaust systems for motorcycles
- Electric bikes

# Portfolio for other industries

• High temperature paint

#### ★ Key strength

#### Equipment

- CNC tube bending machine for 1" to 5" diameter
- Sheet metal cutting machines for up to 1/4" thickness
- Tube cutters for up to 4" diameter
- Mechanical assemblies
- Automatic welding
- TIG
- MIG
- Robotic
- High temperature robotic liquid paint line
- Robotic foam mold injection machine
- Polyurethane mold injection machine • High-frequency stamper for vinyl fabrics





#### **Development capabilities**

• Computer Aided Design (CAD) - Autodesk Inventor - SOLIDWORKS by Dassault Systèmes - CATIA by Dassault Systèmes - Creo Elements/Pro by PTC Corporation

#### Laboratory capabilities

• DMAT-Brazil certified laboratory in macrographs • 3D measuring arm • Dimensional control with checking fixtures

- Dynamometer for motorcycles









Soluciones Confiables en Plástico

#### Unión Plástica S.A.S.

Company dedicated to the design and injection molding of plastic products since 1971. It can incorporate complementary processes such as thermo-sealing, printing and ultrasound gluing, among others. Its plant of 4,100 m<sup>2</sup> has been validated by Hero, Honda India and Honda Japan.

• www.unionplastica.com • NIT. 890306499-5

• Carrera 39 # 12 A – 151 Acopi • Yumbo, Valle del Cauca





2. Production floo

Number of employees: 149

International presence: • Peru • Ecuador • Panama • Costa Rica • Mexico • Guatemala



#### Main clients

Production floor



5. Products



# Certifications

• ISO 14001: 2015 • ISO 9001: 2015



#### Portfolio for other industries

Automotive industry portfolio

• Plastic products for the agricultural industry

• Plastic components for automotive batteries

• Plastic caps for the food industry

#### Equipment

 Plastic injection molding machines with 40 to 856 T clamping force

Sales per industry: • Automotive 50% • Other industries 50%

- Dehumidifier/dryers
- Desuperheaters
- Gravimetric blenders
- CNC Electric discharge machine
- Flat surface grinding
- Cylindrical grinding

#### ★ Key strength

#### **Development capabilities**

- Computer Aided Design (CAD)
- AutoCAD by Autodesk
- SOLIDWORKS by Dassault Systèmes

















 Computer Aided Engineering (CAE) - Autodesk Moldflow Computer Aided Manufacturing (CAM) - Mastercam by CNC

#### Laboratory capabilities

• Dimensional analysis Functional testing





3. Automatic cutting and crimping	4. Battery wire process

#### Main clients



#### Certifications

• ISO 9001: 2015 • IATF 16949: 2016 • ISO 14001 : 2015



# 5. Final electrical test

# Automotive industry portfolio

• Electric harnesses for cars, trucks and motorcycles

#### Equipment

- Automatic cutting and cable cramping machines with capacity of up to 1,100,000 circuits per day
- Ultrasonic welding machines
- Bonder type welding machines
- Twist machines
- Automatic taping machine
- Hot melt machines
- Intermediate cable stripping and cable stripping machines of up to 35 mm thickness
- Wiring assembly boards
- Electrical verification boards
- Vision based quality control systems
- Production line conveyors
- Numeric control machining center
- Wire electrical discharge machining
- Tool workshop
- Assembly boards workshop





#### ★ Key strength

#### **Development capabilities**

 Tooling Development • Computer Aided Design (CAD) - AutoCAD by Autodesk Computer Aided Manufacturing (CAM) - Mastercam by CNC

- Micrograph
- Cables functional testing
- Resistivity
- Crimp joint testing
- Mechanical resistance - Water tightness
- Product aging oven





#### Yukkazo - Grupo Race Dayca Colombia S.A.S.

Company founded in 2008, dedicated to the manufacturing and marketing of electrical parts. It has a total area of 900 m<sup>2</sup> where it produces spark plug cable sets for motor vehicles. The company has more than 180 references for gasoline powered vehicles and 50 for gas powered vehicles.

• www.yukkazo.com • NIT. 900211338-4

• Calle 48 # 44 - 43 Barranguilla, Atlantico



#### International presence: • United States • Costa Rica • Venezuela

4. Production floor



3. Production floor

# Main clients





5. Product

Sales per industry: Automotive 100%

#### Automotive industry portfolio

• Spark plug cable sets for all types of gas and gasoline powered vehicles

#### Equipment

- Electronic cable cut and strip machineRiveting machines
- Electric sealers

#### ★ Key strength

#### **Development capabilities**

Reverse engineering

#### Laboratory capabilities

- Dimensional analysis
- Functional tests
- Resistance tests
- Conductivity tests
- Leakage current tests
- Dielectric withstand tests

6. Product





