

Bocar Group Profile



Business Units

Aluminum High-Pressure Die Casting



Development and manufacture of high quality and precision aluminum components.

Aluminum Semi-Permanent Mold



Development and manufacture of aluminum automotive components through gravity casting technology.

Plastics



Complex plastic components developed and produced through high precision plastic injection.

History

50's – 70's

70's – 80's

90's

2000's

2010's



- 1958 Mexico City**
AFISA: Manufacture of parts in automatic lathes
- 1963 Mexico City**
Carburetors and gasoline, oil and water pumps
- 1967 Mexico City**
AUMA: aluminum die cast and trimmed parts
- 1974 Mexico City**
PLASTIC: plastic injection components
- 1976 Mexico City**
AFISA changes its name to BOCAR (Bombas y Carburadores, Pumps and Carburetors)

- 1985 Chihuahua**
AUMA
- 1991 Lerma (Toluca)**
BOCAR
- 1992 Lerma (Toluca)**
FUGRA
- 1995 Queretaro**
AUMA TEC
- 1996 Wixom, MI, US**
AUMA Engineered Products: Sales and Project Management office
- 1997 Lerma (Toluca)**
PLASTIC

- 2001 Saltillo**
AUMA SALTILLO
- 2002 Manchester, TN, US**
AUMA Engineered Products: Logistic Center
- 2004 Yokohama, Japan**
AUMA Engineered Products: Sales, Engineering and Project Management office
- 2009 San Luis Potosi**
AUMA SLP
- 2010 San Luis Potosi**
PLASTIC

- 2012 Stuttgart, Germany**
BOCAR GmbH: Sales, Engineering and Project Management office
- 2014 Lerma (Toluca)**
PLASTIC IMD
- 2016 Mexico**
Growth of Chihuahua, Lerma, Queretaro and San Luis Potosi facilities
- 2018 Lerma (Toluca)**
"Centro de Formación Bocar" (Training Center)
- 2019 Waldmössingen, Germany**
Bocar Technical Center

- 2020 Shenzhen, China**
Bocar Trading Office
Huntsville, Alabama
Bocar US
- 2021 San Jose, CA, USA**
AUMA Engineered Products

Footprint – Facilities

High-Pressure Die Casting

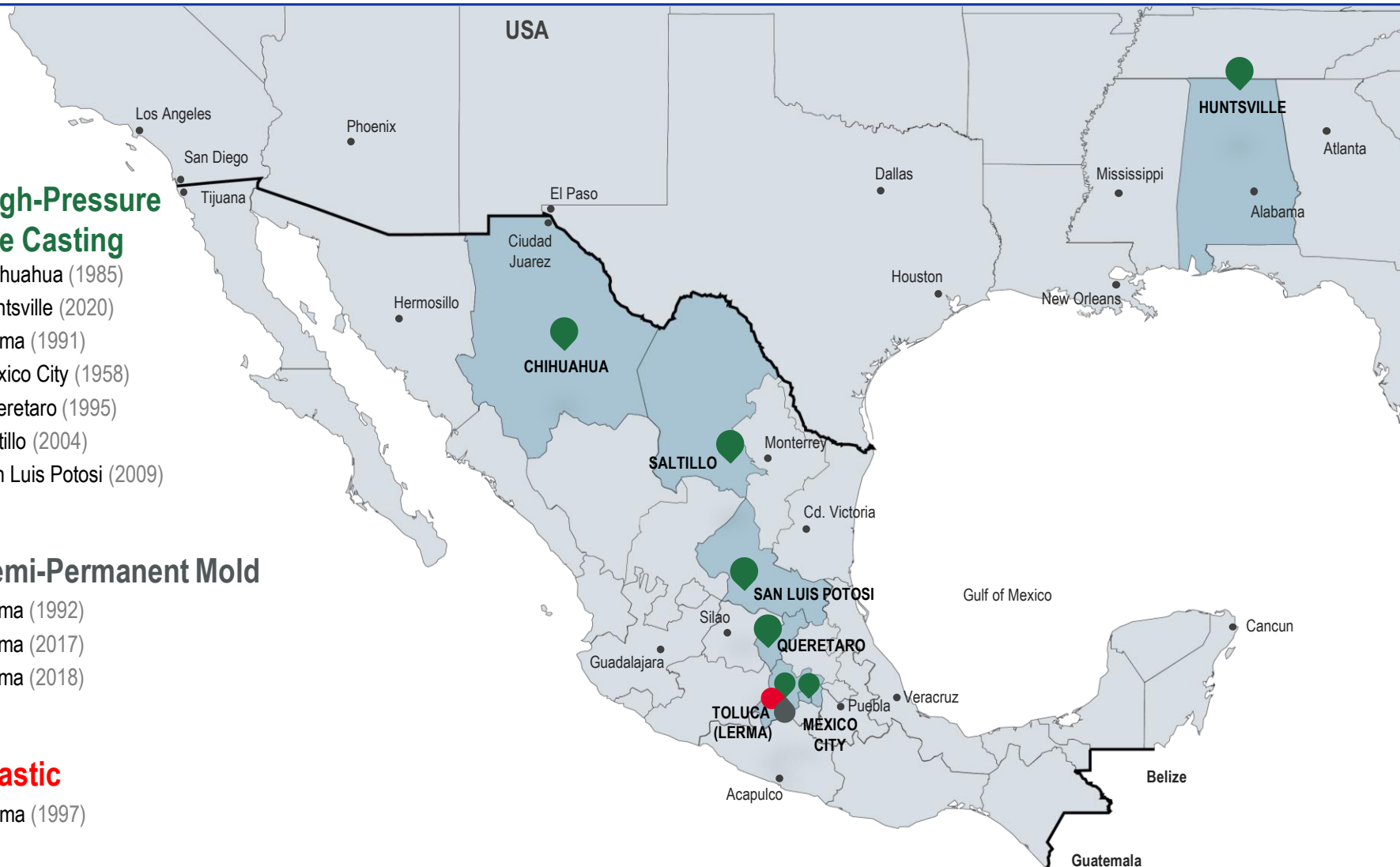
Chihuahua (1985)
Huntsville (2020)
Lerma (1991)
Mexico City (1958)
Queretaro (1995)
Saltillo (2004)
San Luis Potosi (2009)

Semi-Permanent Mold

Lerma (1992)
Lerma (2017)
Lerma (2018)

Plastic

Lerma (1997)



Footprint - Global Services



Supporting customers in a global footprint.

Workforce

68%

Manufacturing

Production
Quality
Tool Shop

27%

Engineering and Development

Development
Advanced Product & Process
Technology Strategic Planning Team
Industrialization
New projects

5%

Administration

Sales
Services
Purchase
Finance
Administration
HR



- Apprenticeship program
- Engineers Trainee program
- International internships
- MSC & MBA scholarships
- Expatriate programs

Centro de Excelencia Federico Baur

(Center of Excellence Federico Baur)



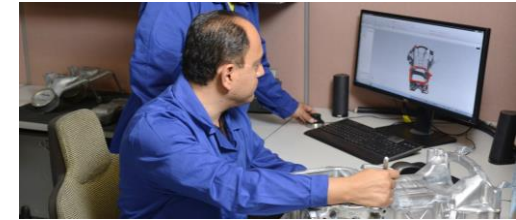
Education Center

Focused on new operators, apprentices and engineers that join the company.



Training Center

Focused on the development of technical competencies.



Leadership Academy

Develops Bocar Group leaders to activate their competencies, skills and confidence to be effective in their roles, create alignment and maintain commitment to the group's goals.

People are our main driver.

Bocar Technical Center



- Built surface 30,000 ft² (2,761 m²)
- To allocate 4x die casting machines (starting with 3x)
- Machine sizes: 90, 1400 and 2200 Tons
- Complete setup of quality inspection and laboratory equipment

- Advanced development services for our customers
- Development of new technologies with key partners
- Tryout and process development for production plants
- Access to technical experts in Europe
- Preparation for the future of high complex parts
- Expert training



State of the art technology.

Bocar Trading: Procurement Office



- Bocar (Shenzhen) Trading Co., Ltd.
- Located in Shenzhen, Guangdong

- Tooling procurement and quality assurance
- Supplier development
- Market intelligence



Expanding our borders.

Bocar US, Huntsville



Focus on Structural, Transmission & EV components

- Shock towers
- Longitudinal members
- Sub frames
- Cross members
- Absorber plates
- Converter housings
- Gear cases
- Battery casting components

- 14x die casting machines (1400 – 2200 Tons)
- Total size 408,000 ft² (37,900 m²)
- Land for future expansion

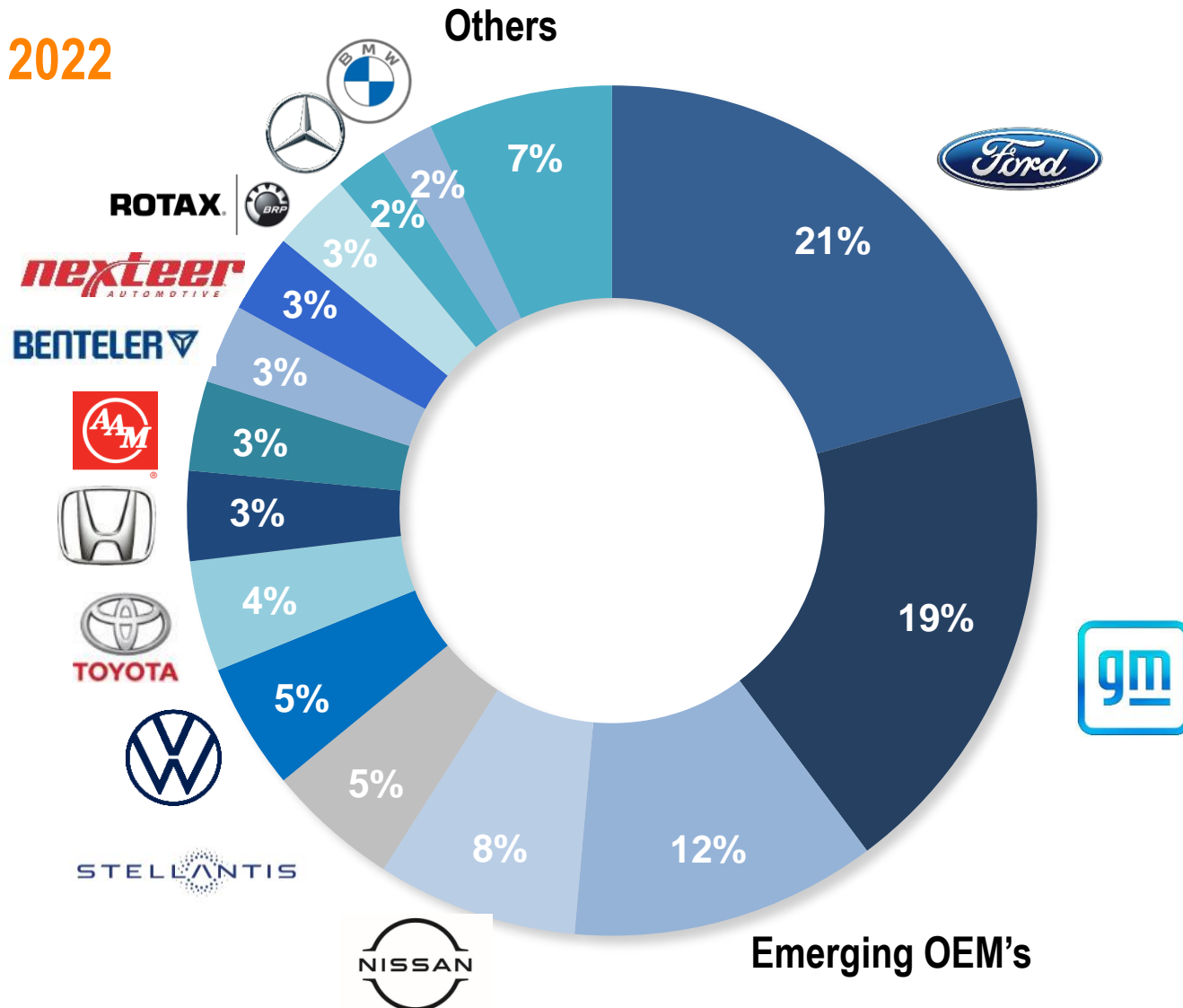


Successful Partnerships



Successful Partnerships

Forecast 2022



Exceeding Customer Expectations

Quality Certifications

IATF
ISO 9001
TUV Rheinland

Safety and Environmental Certifications

ISO 14001
ISO 45001
Industria Limpia
PASST

Awards

- AAM Supplier Excellence Award 2019
- Daimler Supplier Award 2014
- Ford World Excellence Award Quality 2016
- GM Recognition of the oldest supplier in Mexico: 38 years. 2020
- GM Supplier of the Year: 2003, 2004, 2005, 2006, 2007, 2009, 2015 & 2019
- GM Global Propulsion Systems Supplier Recognition 2018
- GM Supplier Quality Excellence Award 2017
- Honda Excellence in Value Award 2014
- Nexteer Perfect Quality 2018, 2019
- Nissan Regional Supplier Quality Award Finalist 2015, 2018
- Rotax Excellence Supplier Award 2014-2016
- Toyota Excellent Quality Performance Award: 2014, 2015, 2016, 2017, 2018



High Pressure Die Casting

Manufacturing Processes



Automated casting cells

- Holding furnace
- Casting machine
- Lubrication system
- Handling robot
- Trim press

Machining

- Milling and Lathe CNC machines
- Vertical and Horizontal CNC
- In process CMM
- 5 Axis Machining
- Multi Spindle Machining

Assembly

- Lean manufacturing concept
- Automated process control
- In line Poka-yokes
- Modular assembly lines
- In-house and supplier's expertise

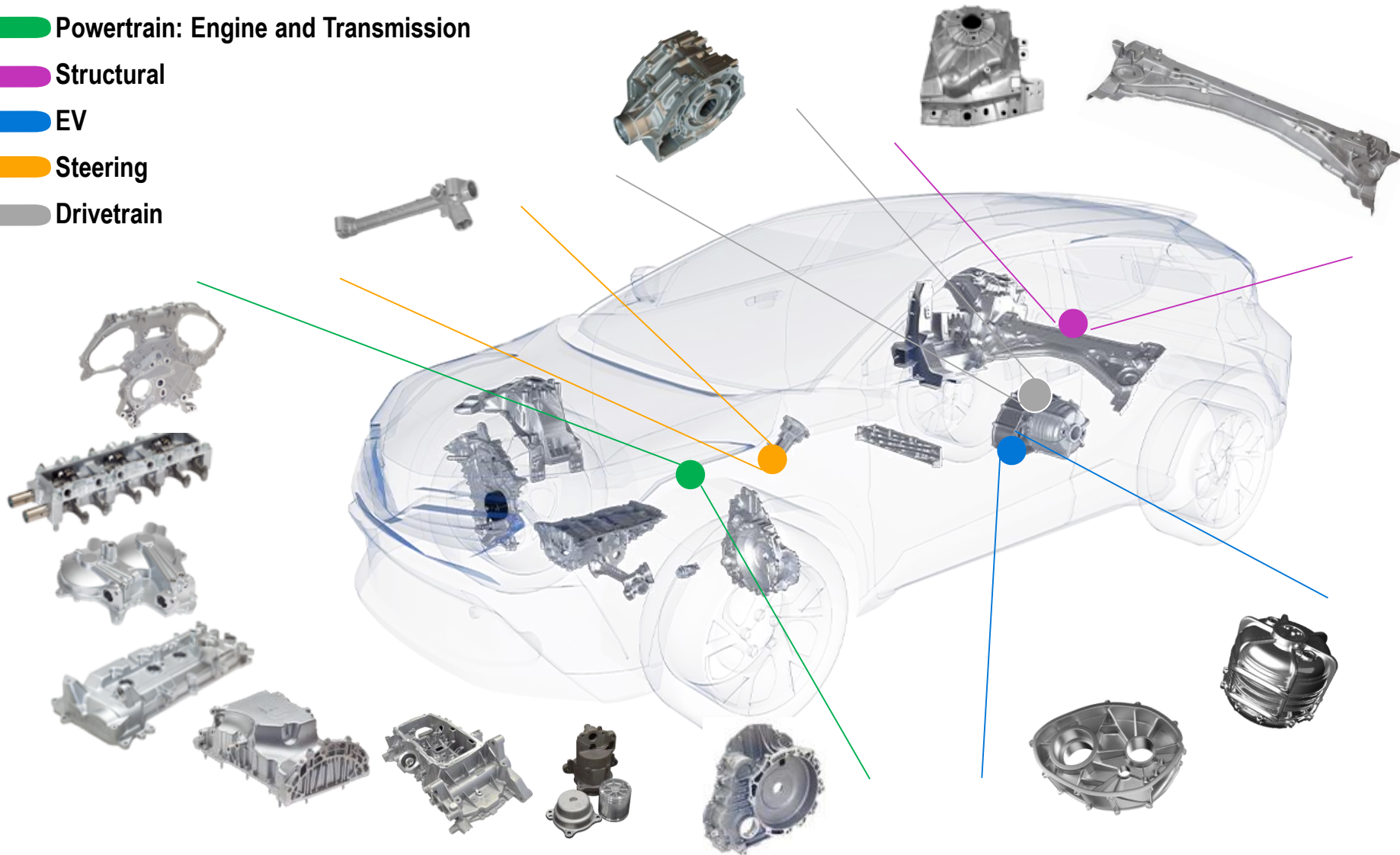
Additional processes

- In process X-Ray capabilities
- Heat treatment capabilities
- Polishing and straightening
- Dye Penetrant Testing

High Pressure Die Casting

Products

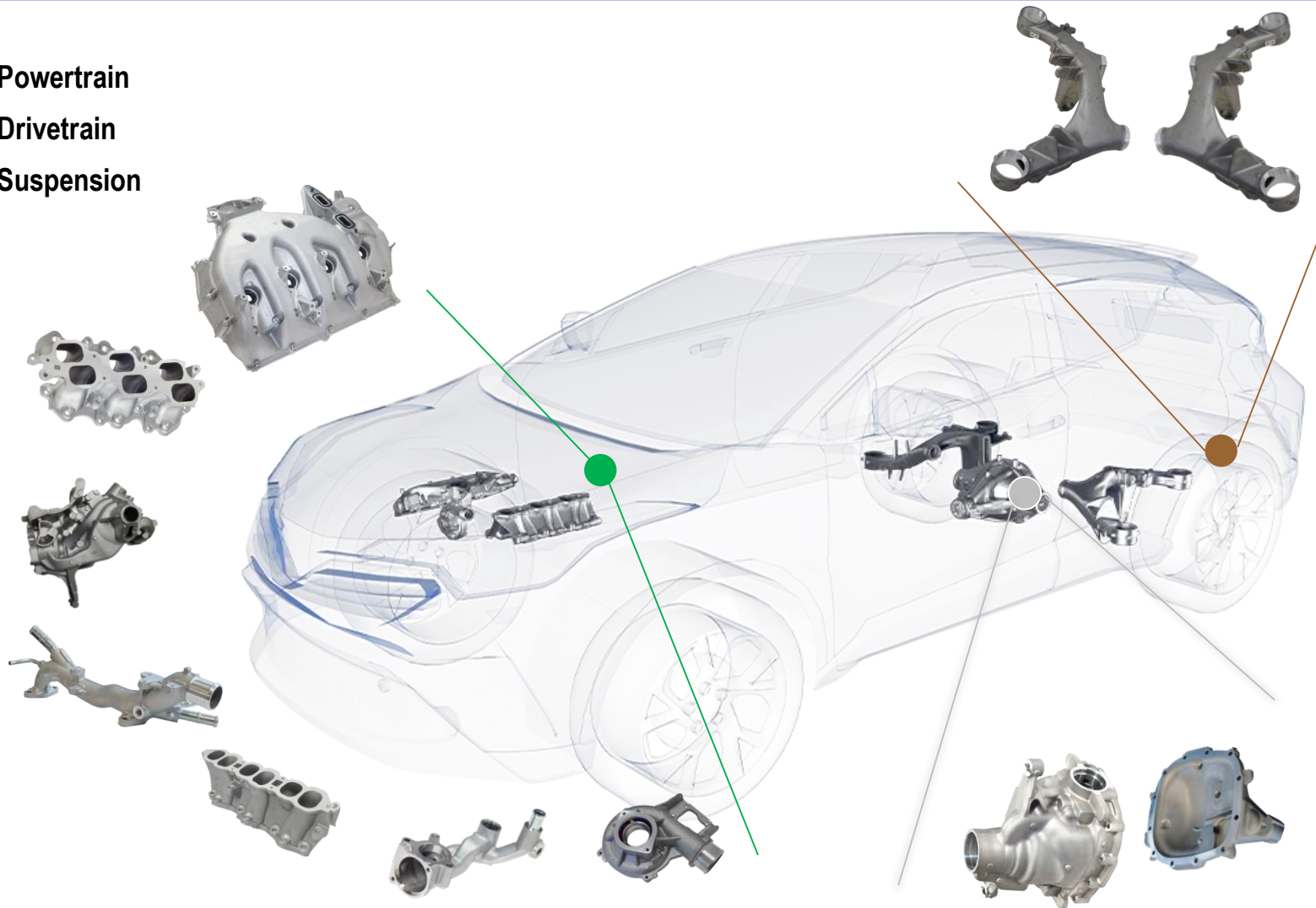
- Powertrain: Engine and Transmission
- Structural
- EV
- Steering
- Drivetrain



Semi Permanent Mold

Products

- Powertrain
- Drivetrain
- Suspension



Tool Shops

- Fully equipped tool shops in every facility
- Full capabilities for tool maintenance, tool rebuild and engineering changes
- CAD-CAM and digital scanning capabilities
- Strong partnerships with tool makers
- Design and manufacturing capabilities for casting, machining and assembly tooling



HPDC & SPM: Design and Testing



CAE

- MAGMA SOFT
- ABAQUS
- HYPERWORKS
- VIRTUAL LAB
- N-CODE DESIGN LIFE
- CAP MOULD RAPID

CAD

- PDM Team Center
- NX
- Creo
- IDEAS
- CATIA
- SOLID WORKS

- Fatigue test bench
- Noise & Vibration
- Universal Machines
- Shaker & Thermal chamber
- Thermal fatigue test
- CT Scan
- Salt Spray Chambers



Leadership in Aluminum Products

- Oil Pans
- Cam Covers
- Front Covers
- Steering Columns Housings
- Pumps
- Intake Manifolds
- VTC Covers
- Thermostat (housings)
- Engine Brackets



Leadership in Plastic Products

Exterior Components

- Cowl Tops
- Fenders Covers
- Head and Rear lamps Housings

Interior Components

- Air Vents
- Pillars
- IMD

Powertrain Components

- Intake Manifolds
- Thermostat (housings)
- Fans & Shrouds
- Cooling System Components



Transmission and Axles Components

- Transmission Housings
- Converter Bell
- Clutch Housings
- End Covers
- Differential Covers
- Differential Housings
- Transfer Cases
- Extensions



Structural, Body in White & Suspension Components

- Rear Cross Members
- Shock Towers
- Longitudinal Members
- Suspension Subframes
- Suspension Cradle
- Control Arm



New Mobility Components

Aluminum

- E-Motor Housing
- Gear Cases
- Battery Pack Components
- Inverter and Converter Housings
- Bracket supports

Plastic

- Bracket supports
- Battery Pack Components
- Battery Cooling Systems
- Air Guides



THANK YOU

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