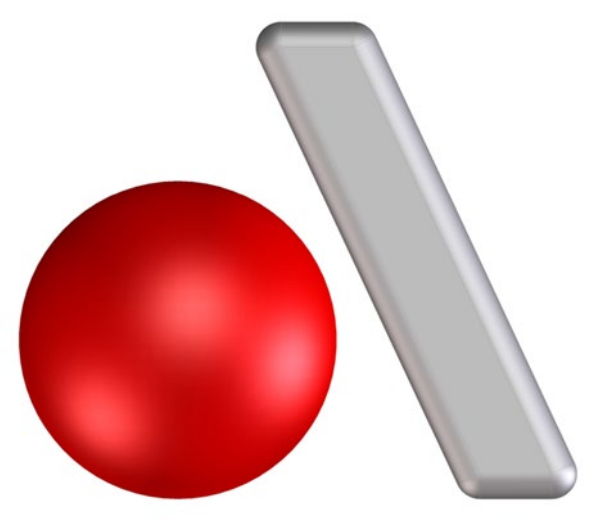


ANGSTROM AUTOMOTIVE GROUP

Company Overview 2024



WHO WE ARE



Angstrom Automotive Group (AAG) is a leading full-service supplier for Automotive and Industrial OEMs.

- Privately held company, founded in 1999
- Global Headquarters in Southfield, Michigan, USA
- 15 Companies (33 locations) across North & South America and Europe
- Over 4000 employees worldwide
- More than 4.0 million square feet of manufacturing floorspace
- Offering a vast portfolio of all types of parts including metal-formed, resin-based, electrical, lighting and more.

OVERVIEW

METAL FORMED

TUBULAR ASSEMBLIES

STAMPINGS

FORGINGS



**Angstrom
Taylor**

**Angstrom
Tubular
Solutions**

Wrena

Enforge

TruForge

Alumina

Taylor, MI

- Driveline Systems
- Propshafts
- U-Joint Needle Bearing
- Tubular Products
- Steering Comp.
- Machining Ops.

Ortonville, MI

- Engine Coolant / Air Bleed Tubes
- Turbocharger Coolant Feed Tubes
- Heater Inlet & Outlet Tubes
- Water Pump Inlet Tubes

Tipp City, OH

- Structural Stamping
- Fabricated & Welded Assemblies
- Clutch Assemblies
- Heavy Truck Comp.
- Plastic over metal overlay

Albemarle, NC

- Steel
- Steering Linkages
- Suspension Assemblies
- Control Arms
- Track Bars
- Center / Toe Links

Eger, Hungary

- Steel
- Crown Wheels
- Clutch Bodies
- Synchronizer Rings
- Transmission Gears
- Sun Gears / Hubs

Greenwood, SC

- Aluminum
- Suspension & Drive Train Components
- Control Arms
- Knuckles
- Yoke, Diff. Covers
- Blocks & Flanges



ANGSTROM USA

Capabilities:

- Automatic Robotic Welding
- Tube Cutting / Chamfering
- Universal Balancing Machine
- Assembly
- Machining
- Broaching
- Swaging

Products:



Driveshafts



Bearing Cups



Tubes



Pitman Arms



ANGSTROM TUBULAR SOLUTIONS

Capabilities:

- Tube Bending
 - ✓ Mild Steel
 - ✓ Stainless Steel
 - ✓ Aluminum
- Assembly
- Robotic Welding
- Spot-Welding
- End-Forming
- Automated TIG Welding



Water Pump Inlet



Radiator Outlet



Turbo Coolant Return



Heater Inlet & Outlet



Turbo Coolant Feed



WRENA

Capabilities:

- Small to Large Stampings
- Structural & Drawn Stampings
- Plastic Insert Molding Stampings
- Welded Assemblies
- Fabricated Assemblies
- Clutch Assemblies



Plastic Insert Molded Stampings



Clutch Actuation



Structural Stampings



Clutch Assembly



Welded Assemblies



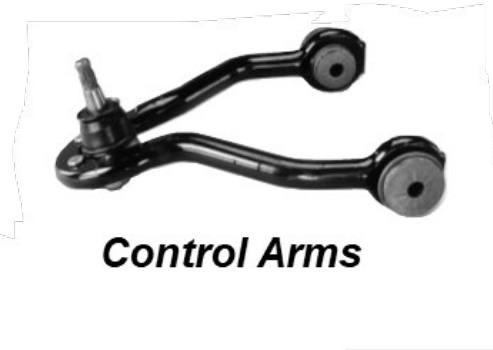
ENFORGE

Capabilities:

- Blank Cutting
- Steel Forging
- Precision Machining
- Assembly
 - ✓ Bushing Presses Assemblies
 - ✓ Press and Crimp Assemblies
 - ✓ Robotic Loading



Track Bars



Control Arms



Complete Steering Systems



TRUFORGE

Capabilities:

- Heavy Steel Forging (up to 17kg)
- Heat Treat
- Shot Blast
- Inspection
- Machining

Flanges



Gear Blanks



Capabilities:

- Impact Forging (Hot or Cold)
- Heat Treat
- Pre-Form Operations
- Dye Penetrant / Ultrasonic / Metallurgical / Eddy Current Inspection
- Machining
- Assembly (Bushings, Ball Joints, Inserts)

***Control Arms******Suspension Links******Knuckles***

OVERVIEW

METAL FORMED

ALUMINUM CASTINGS



Angstrom Aluminum Castings

Conneaut Division

Fremont Division

Huntington Division

Piedras Division

Ravenna Division

Wapakoneta Division

Angstrom Voss

Grand Rapids

- Driveline Housing, Covers, Adaptors
- Mounting Brackets & Cross Members
- Timing Belt & Valve Covers
- Precision Machining

Conneaut, OH

- Safety Critical Knuckle Control Arm and Links
- Driveline Stator & Clutch Housings
- Gravity Cast
- Precision Machining

Fremont, IN

- Powertrain Brackets
- Driveline Hibs and Carriers
- High Pressure Diecast
- Precision Machining

Huntington, OH

- Powertrain Oil Pan & Flywheel Hsg.
- Mercury Intakes
- Gravity Cast & Lost Foam
- Precision Machining

Piedras, MX

- Safety Critical Knuckles
- Brackets & Clutch Housing
- Gravity
- Precision Machining

Ravenna, OH

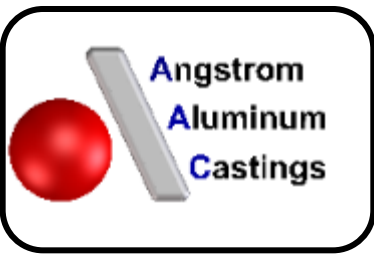
- Safety Critical Knuckles Control Arm
- Driveline Stator Hsg.
- Gravity Cast
- Precision Machining

Wapakoneta, OH

- Safety Critical Knuckles Control Arm Cradles & Crossmembers
- Powertrain Brackets
- Low Pressure Cast

Finntrop, Ger.

- Industrial Castings
- Canopy Systems
- High Pressure
- Lo Pressure
- Gravity Fed



ANGSTROM ALUMINUM CASTINGS

Capabilities:

- Aluminum HPDC
- Continuous Flow
- Precision Machining
- Assembly



Housing



Transmission Case Extension



Transfer Case



Chain Case Assy



GENERAL ALUMINUM CORPORATION

Cast Capabilities:

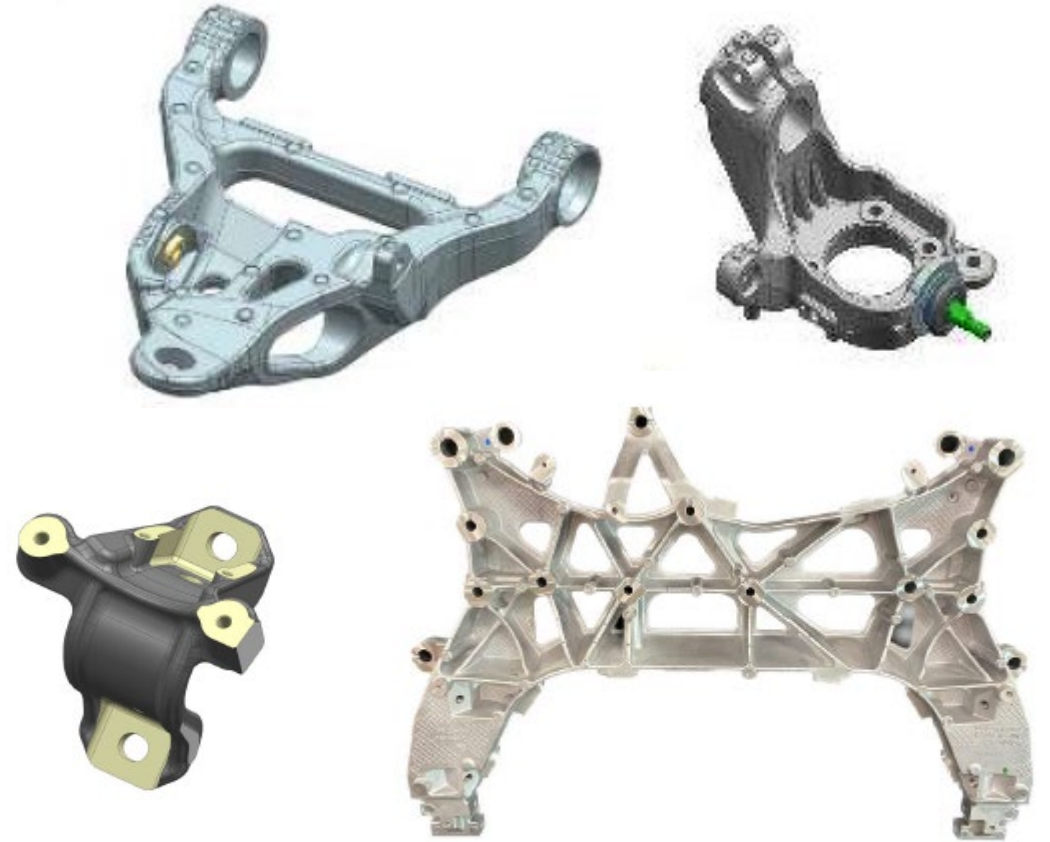
Processes

- Gravity Permanent Mold
- Semi-Permanent Mold
- High Pressure Diecast
- Low Pressure Permanent Mold
- Lost Foam Casting

Value add Capabilities:

Processes

- Horizontal CNC's
- Vertical CNC's
- Turning Lathes
- Assemblies
- Mechanical Testing

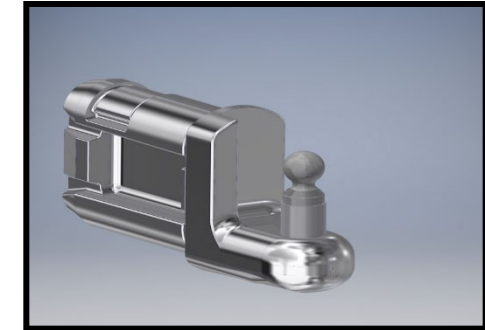
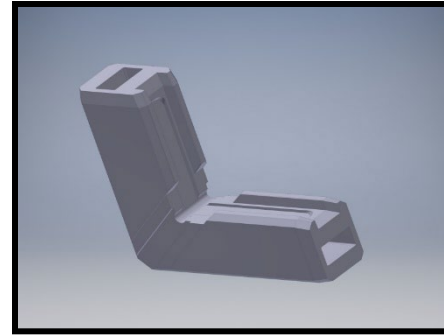




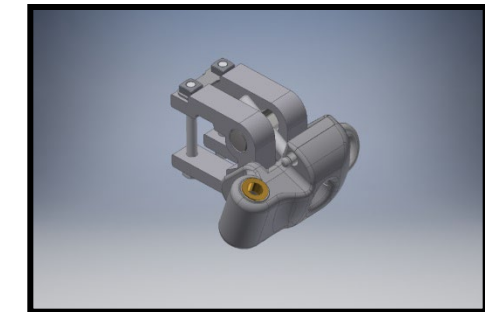
VOSS

Capabilities:

- HPDC, Gravity Casting
- CNC Machining
- Powder Coating



Aluminum Castings



OVERVIEW

RESIN BASED

PLASTIC INJECTION

POLYURETHANE FOAM

COMPRESSED FIBER



Tec Air

Vantec

Aspen

Angstrom Fiber

Munster, IN
Plastic Injection

Webster City, IA
& Falls City, NE
Plastic Injection

Brighton, MI
Manchester, TN
Polyurethane Foam

Brantford, Ontario Auburn, Maine
Englewood, Ohio Sydney, Ohio
Polyester Fibers

- Fans (Appliances, Medical & Automobiles)
- Blower Wheels
- Automotive Engine Cooling Shrouds

- Rec. Vehicle Components
- Small Appliances
- HVAC Assemblies
- Consumer Goods

- Energy Absorbing
- Interior Components

- Interior Components
- Underbody Protection
- NVH materials



TECAIR

Capabilities:

- Scientific Molding
- Precision Molding
- Kinematic / Functional parts
- Over-Molding / 2 Shot Molding
- Assembly



Blower Wheel Cover



Engine Fan



HVAC Fan



VANTEC

Capabilities:

- Plastic Injection Molding
- SolidWorks, Cad Key and AutoCAD
- Assembly
- Vibration Welding
- Automation



Recreational Vehicles
(Small Engine Cover)



Automotive Accessories
(Running Boards)



Consumer Goods
(Coolers)



Industrial HVAC
(Components)



Consumer Goods



Industrial

Capabilities:

- Polyurethane Components
- Focus on Energy Management and Interiors
- Assembly
- Automation

Cup Holders



Interior inserts (side panel, arm rest)





ANGSTROM FIBER

Capabilities:

- Raw Material Production
- Fiber Forming
- Compression Molding
- Robotic Waterjet Cutting
- Assembly



Wheel Liners



Trunk Liners



Interior Headliners

WIRE HARNESS / CABLES / LIGHTING



Angstrom Electric

Pontiac, Michigan
El Paso, Texas
Juarez, Mexico

Electronics

- Wire Harness Assemblies
- Battery Cable Assemblies
- High Voltage Cable Assemblies

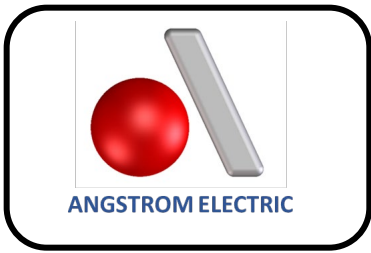


Angstrom Lighting

Manaus, Brazil
Juarez, MX

Electronics

- Lighting Components
- Lighting Assemblies
- Light Harnesses



ANGSTROM ELECTRIC

Capabilities:

- Low and High Voltage Battery Cables
- Wire Harnesses for interiors
(IP, cooling, thermal, NAV, entertainment etc.)
- In-house testing and validation

Battery Cable

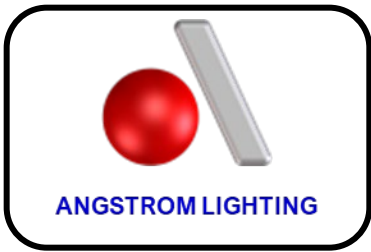


IP Wire Harness



EV Cable systems





ANGSTROM LIGHTING

Capabilities:

- Injection
- Metalizing
- Coating
- Welding / Gluing
- Assembly
- Leak Test / Electrical Test

Motorcycle Lighting



Bus Lighting



Commercial Vehicle Lighting



MANUFACTURING FOOTPRINT

North America



Europe



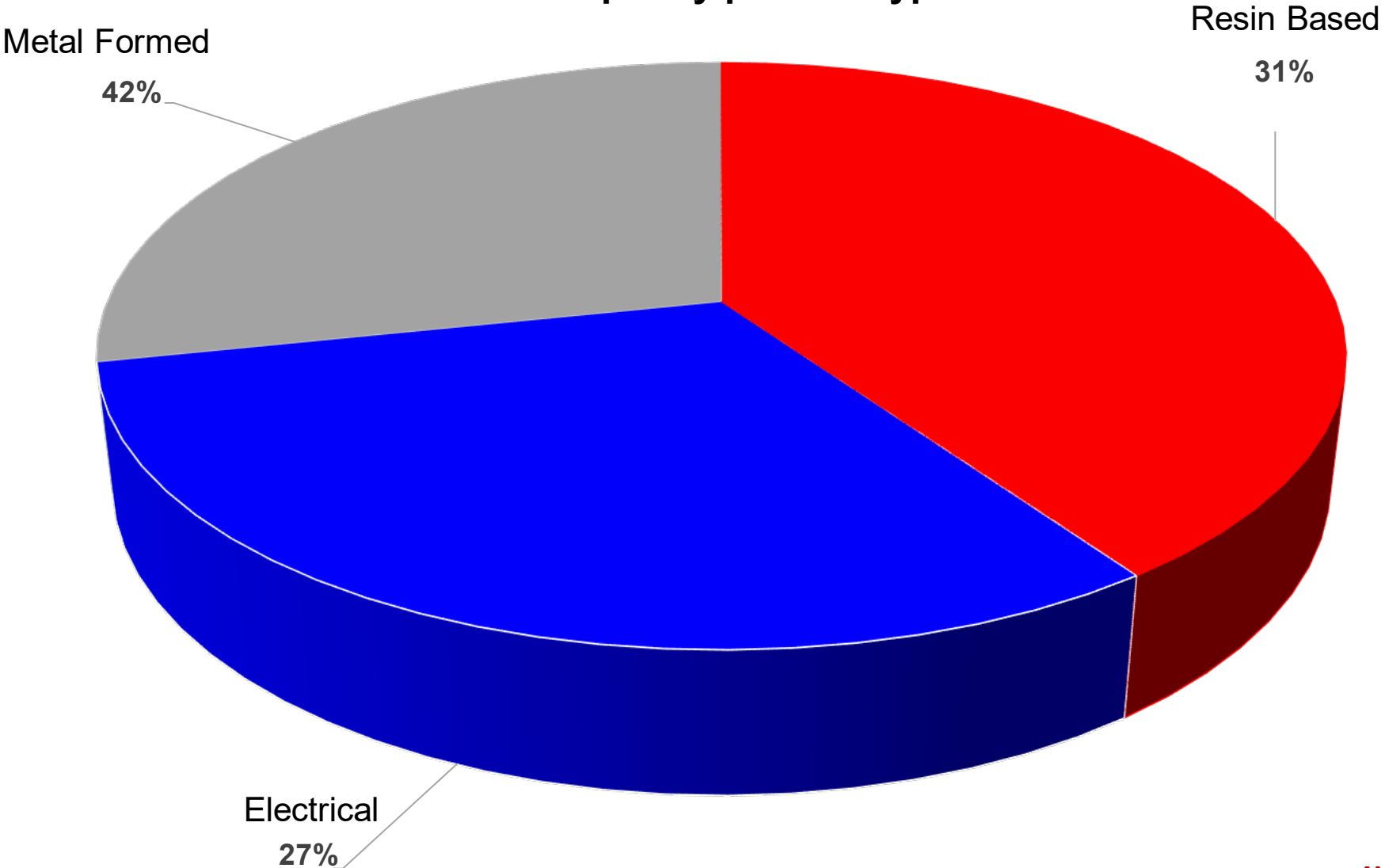
South America



- **Current Footprint**
- **Further Global Expansion considered**
- **Willing to partner with other key suppliers to support global presence**

CUSTOMER DEMOGRAPHICS

Sales split by product type*



Metal Formed

- Angstrom USA
- AAC
- Alumina
- ATS
- Enforge
- Truforge
- Voss
- Wrena
- GAMco

Electrical

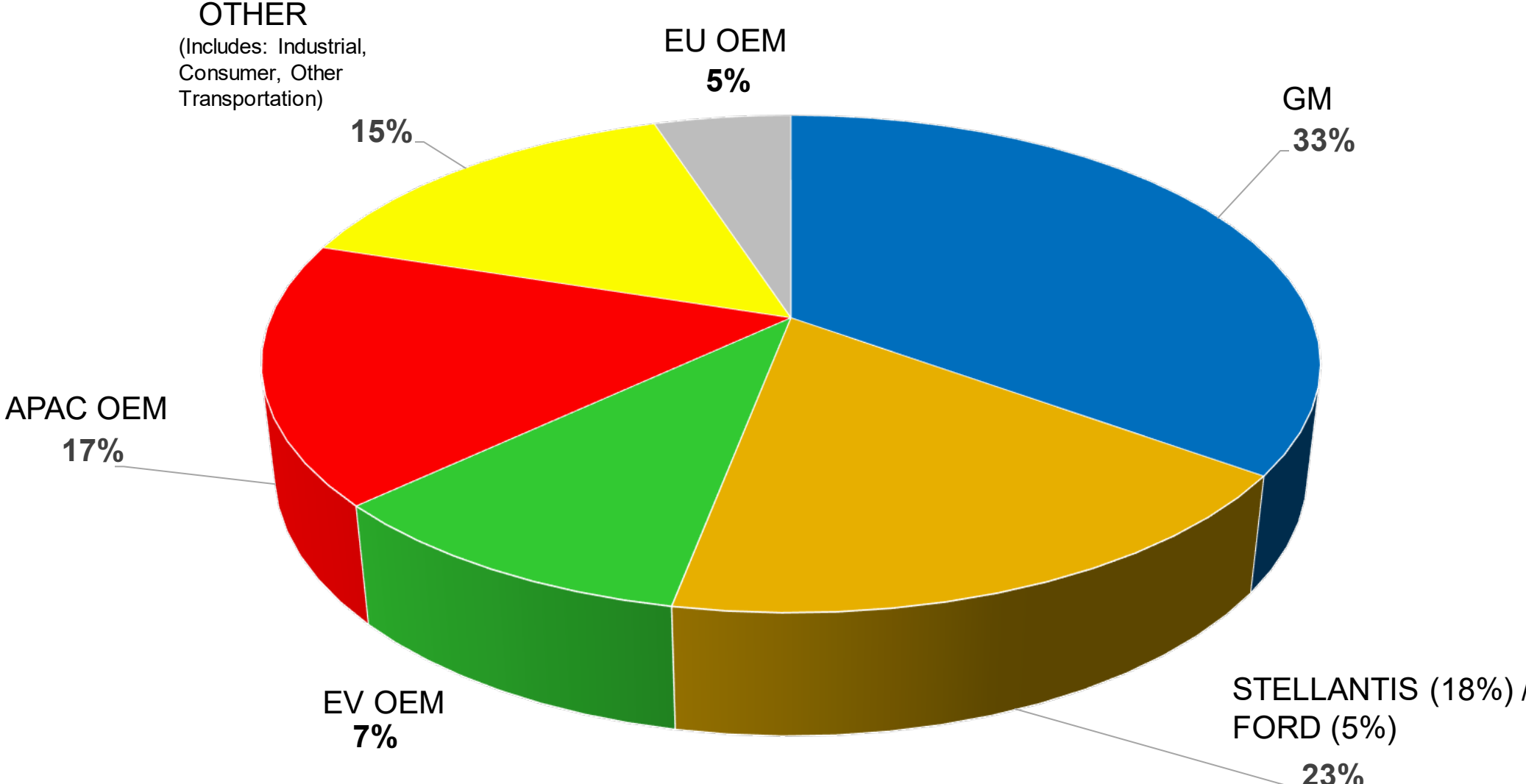
- Angstrom Electric
- Angstrom Lighting

Resin Based

- Aspen
- Tec Air
- Vantec
- Angstrom Fiber (2)

* Based on forecasted 2023 Sales, which include latest acquisitions of Angstrom Fiber, Angstrom Lighting and GAMco

CUSTOMER DEMOGRAPHICS

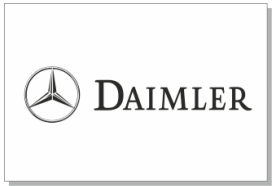


* Based on forecasted 2023 Sales, which include latest acquisitions of Angstrom Lighting and GAMco

CURRENT CUSTOMERS

We honor the relationships we have developed with our customers through our service and reliability

Automotive



Other Transportation



Industrial



Consumer Based



~ Angstrom has over 200 active customers! ~

TAKEAWAYS / SUMMARY

What does **ANGSTROM** offer?

- Vertically integrated cost competitive manufacturing
- Financially strong / Green Rating (Rapid Rating)
- Excellent quality and delivery (TS16949)
- Full Scale Logistics and Supply Chain Management
- **Angstrom is a Certified Minority Supplier**

THANK YOU

For additional information or to send an RFQ please contact

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Director of Sales

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