



Acoustic & Plastic^{M.R.}
SOLUTIONS
driven by innovation



A&P Solutions Corporate Presentation

2023



1. About the Company

2. Locations

3. Key Data

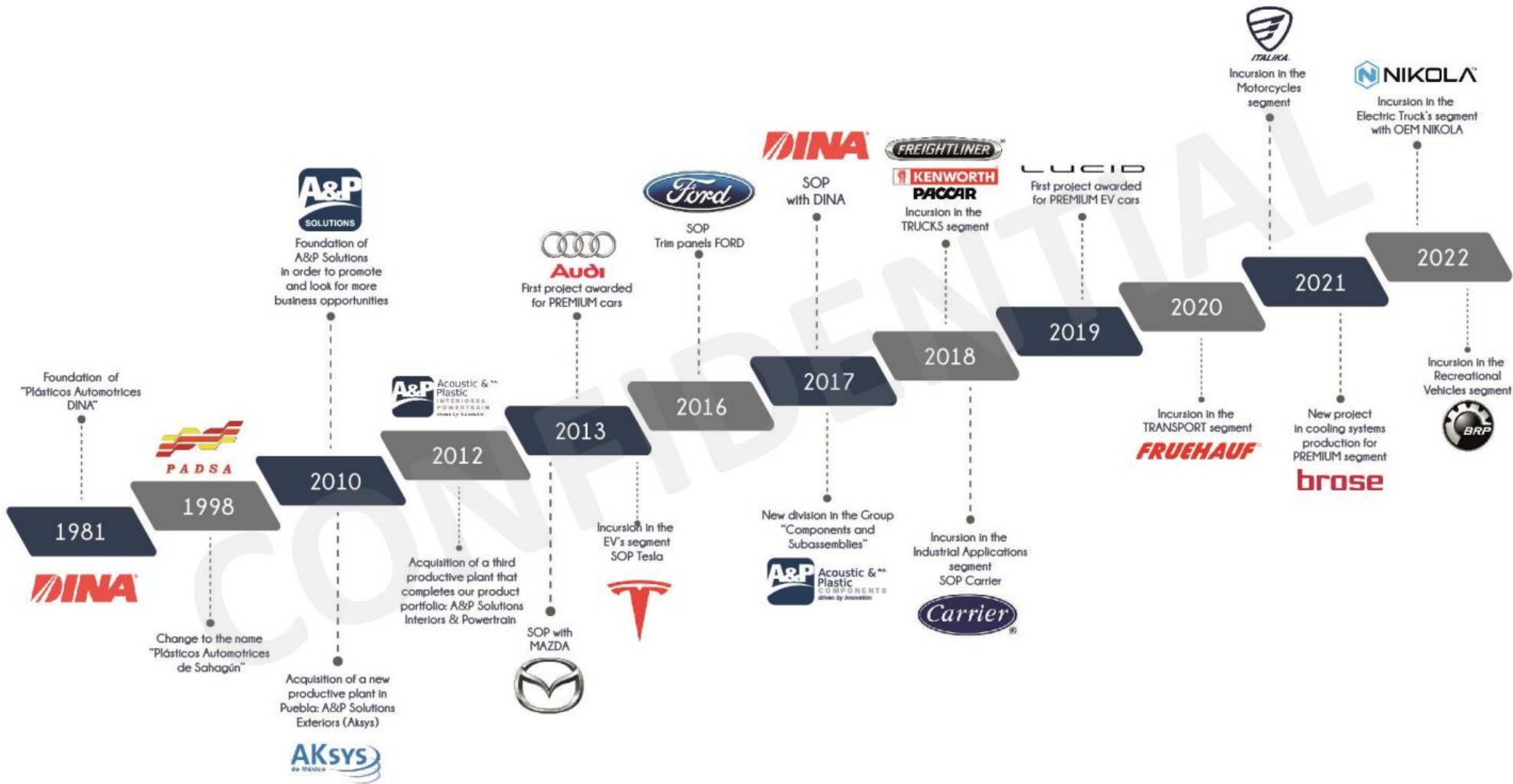
4. Our plants

5. Customers

6. Our Portfolio



Group History





	IATF 16949	ISO 14001	Socially Responsible Company
Structurals	✓	✓	✓
Exteriors	✓	✓	✓
Interiors & Powertrain	✓	✓	✓

Structurals

- ✓ Recognition by **VW** for the **team work** in the development and launching of the KUMT VW361
- ✓ **Partner Level** with **John Deere** 2013, 2015, 2019, 2020, 2021 & 2022
- ✓ **KEY Supplier Level** with **John Deere** 2012, 2014, 2016 and 2017
- ✓ **Gold Supplier** status **GM** 2016
- ✓ **VW "Zero Defects"** Strategy Recognition
- ✓ **Silver Level Supplier** 2016 with **World Class Industries**
- ✓ 2019, 2020 and 2021 **GM Supplier Quality Excellence Award**
- ✓ **Platinum Supplier** status **GM** 2021

Exteriors

- ✓ 2012, 2014, 2015 and 2016 **GM Supplier Quality Excellence Award**
- ✓ 2016 & 2017 **Scorecard Excellence Award Janesville**
- ✓ 2022 Outstanding Supplier - **LUCID**

Interiors & Powertrain

- ✓ 2013 **Volkswagen Group Award** (A&P Solutions, the only Mexican company to received this award)

Certifications in process



R&D

- ✓ Collaboration with **LUCID MOTORS** in the development of the design of the **FRONT TRUNK TUB – Automotive Award Parts & Components 2021** from the Society of Plastics Engineering Awards



> Business Development Unit and R&D Offices

❖ A&P Solutions Logistics Center

❖ 2 Sales Representatives



Cd. Sahagún, Hidalgo / MEX

- Sales Manager NAFTA Region

Cuautlancingo, Puebla / MEX

- Sales Manager EUROPE Region

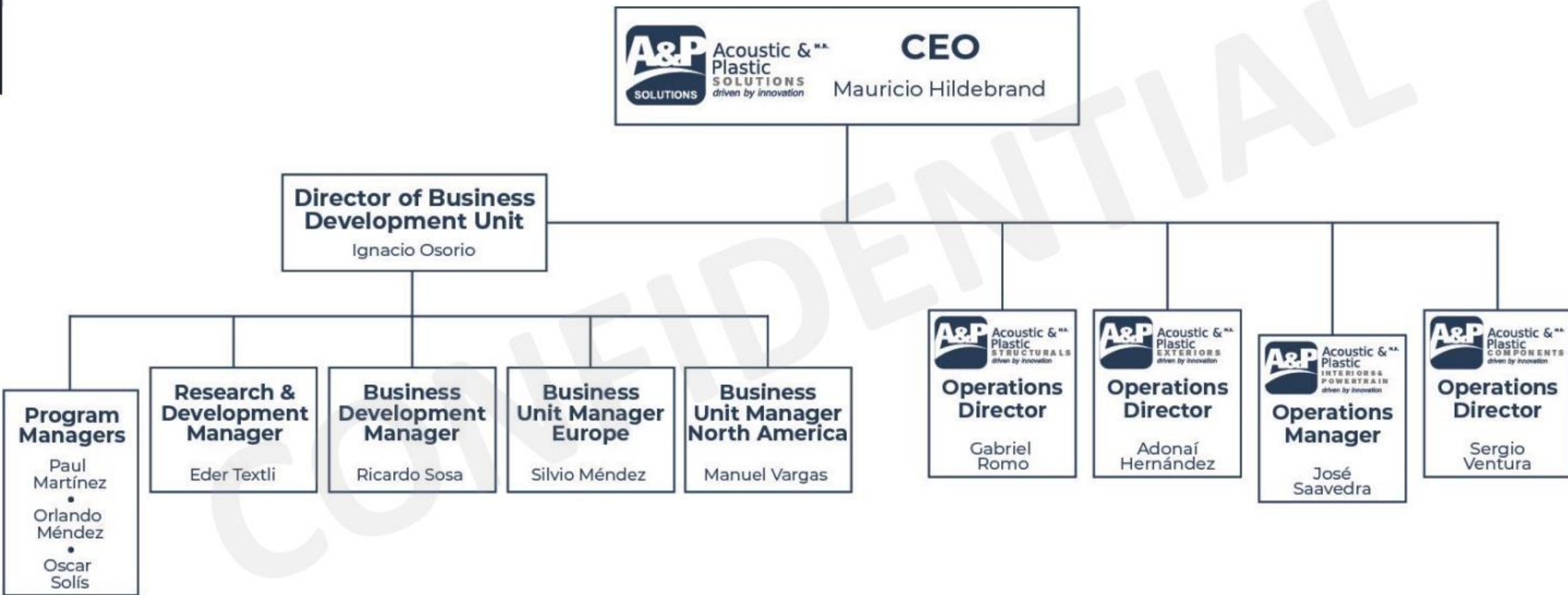
Business Development Unit and R&D Offices

- 1 Business Development Unit Director •
- 1 Business Development Manager •
- 2 Business Unit Managers •
- 1 R&D Manager •
- 3 Program Managers •
- 2 Quotation Engineers •
- 2 Mold Specialists •
- 4 R&D Engineers

Logistics center

- Located 5 minutes away from A&P Solutions Interiors & Powertrain Plant in San Lorenzo Almecatla, Puebla



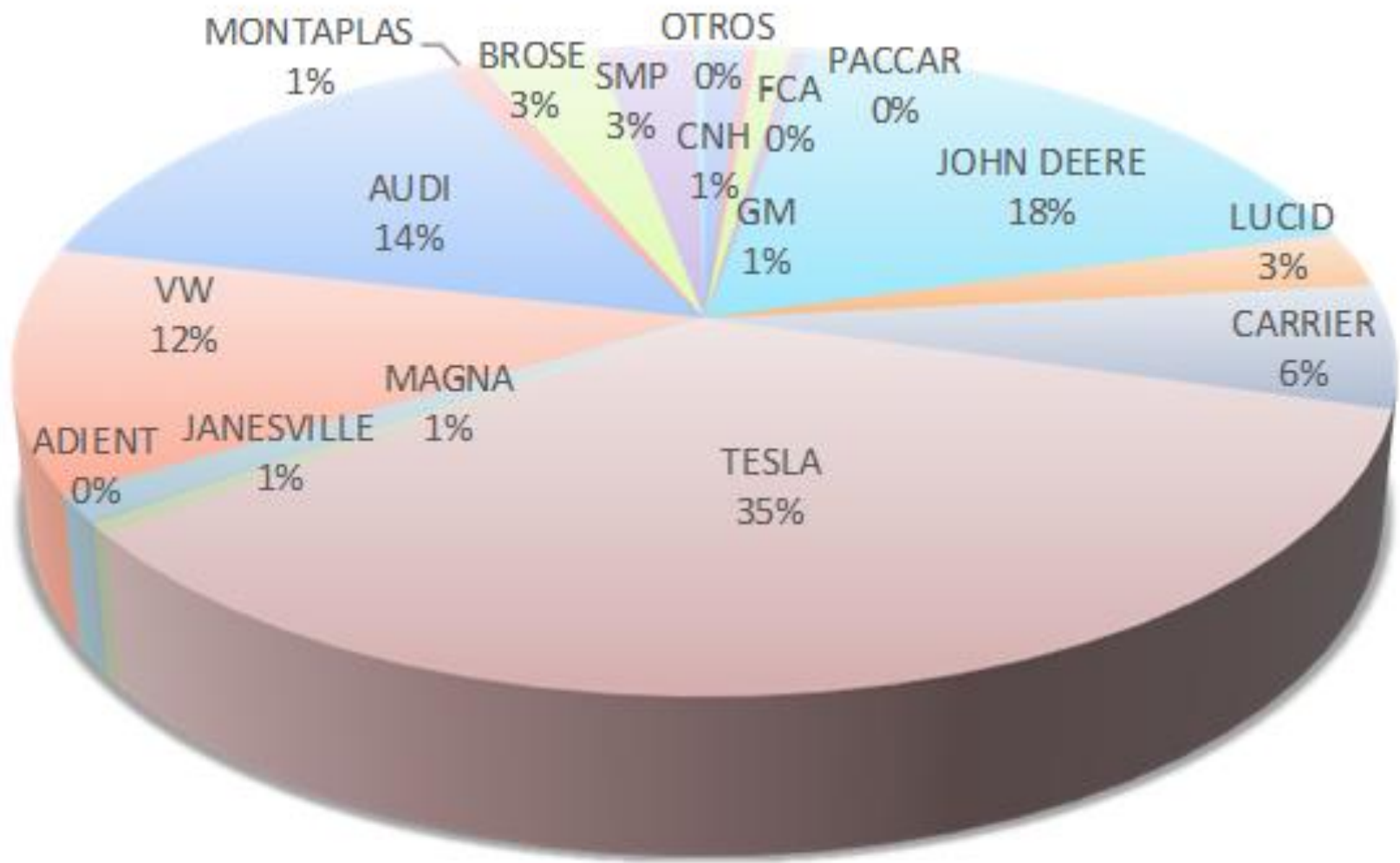




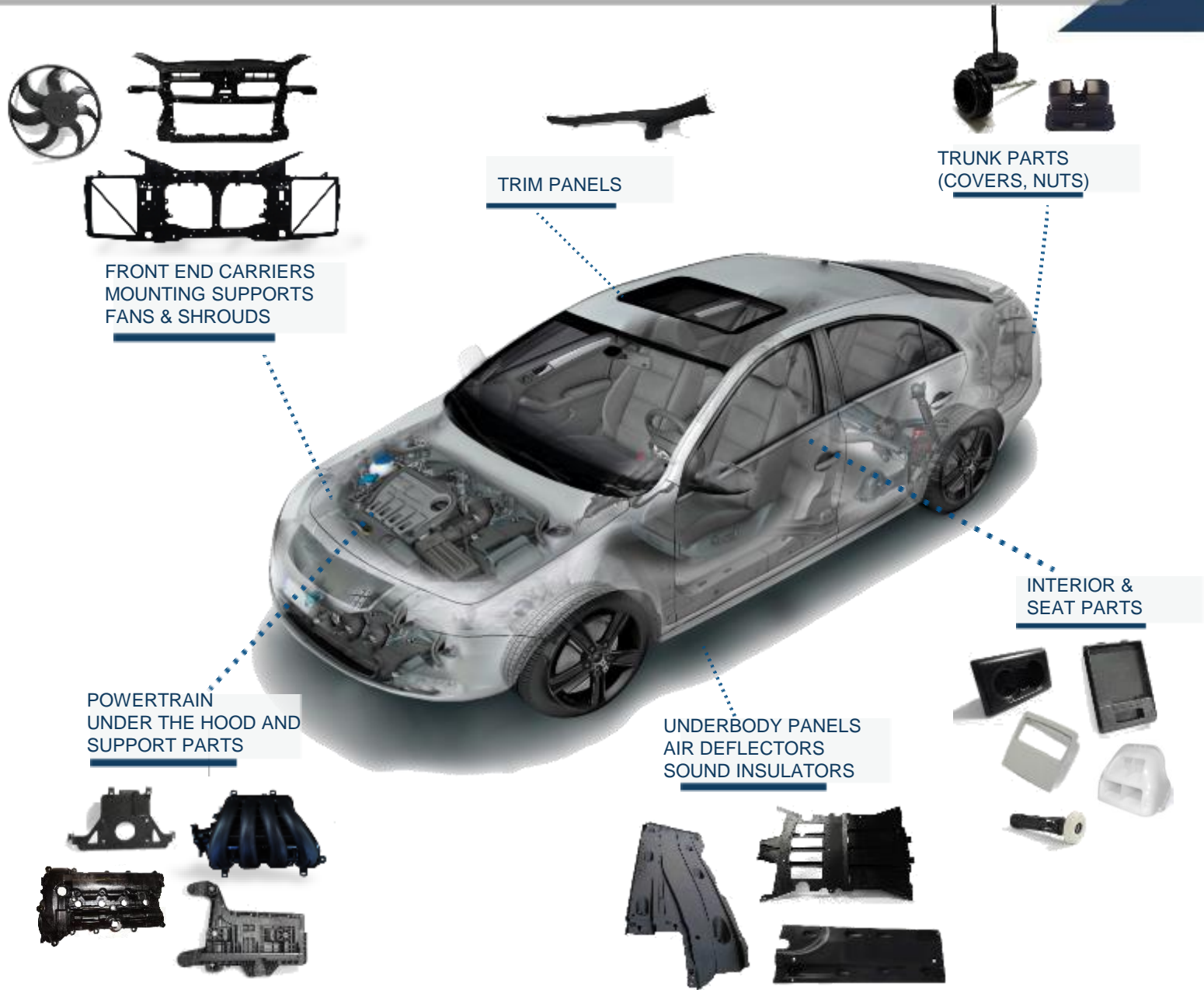
A&P Solutions Division	Structurals	Exteriors	Interiors & Powertrain
Legal Entity	Plásticos Automotrices de Sahagun SA de CV	AKSYS de Mexico SA de CV	A&P Solutions SA de CV
DUNS #	811315332	812631786	816630438
Strong Competences in:	<ul style="list-style-type: none"> - HOODS - FENDERS - ROOF PANELS - DOOR CARRIERS - SPLASH SHIELDS 	<ul style="list-style-type: none"> - FRONT END CARRIERS - WHEEL LINERS - ENGINE ENCAPSULATION - UNDER-BODY PANELS - FRUNKS 	<ul style="list-style-type: none"> - HARD TRIM INTERIORS - PILLAR A, B, C, LOWER PILLAR - FAN & SHROUDS - SEAT PARTS - AIR INTAKE MANIFOLDS
Machinery:	<ul style="list-style-type: none"> -4 Injection machines from 1000-2300 Tons -14 Hydraulic presses from 150-3000 Tons -1 Primer paint tunnel 	<ul style="list-style-type: none"> -7 Injection machines from 1000-2300 Tons -2 Hydraulic presses of 2000 Tons ea. 	<ul style="list-style-type: none"> -27 Injection machines from 25-1300 Tons
Manufacturing Capabilities:	<ul style="list-style-type: none"> - IMC plastic Injection - SMC/BMC Compression - D-LFT Compression - 2K/1K Primer & Monocoat 	<ul style="list-style-type: none"> - IMC plastic Injection - 2K Injection - D-LFT Compression 	<ul style="list-style-type: none"> - Conventional Plastic Injection - 2K Injection
Typical Raw Materials used:	<ul style="list-style-type: none"> - DLFT 20, 30 and 40% GF - SMC Class "A" Finish - BMC/SMC Structural - PA6+GF40 - PP+GF20 - PP+GF30 - PP+GF40 	<ul style="list-style-type: none"> - PP+GF20 - PP+GF30 - PP+GF40 - PA6+GF40 - PP+EPDM+TD10 - PP+PE+TPO (EPDM+PP) - TPO 	<ul style="list-style-type: none"> - PC+ABS - PPTD20 ; PPTD20+TPV - PP, PPGF20 - PA6, PA66GF37, PA66+TPO - TPE - POM - PBT



2022



Automotive Product Portfolio Overview





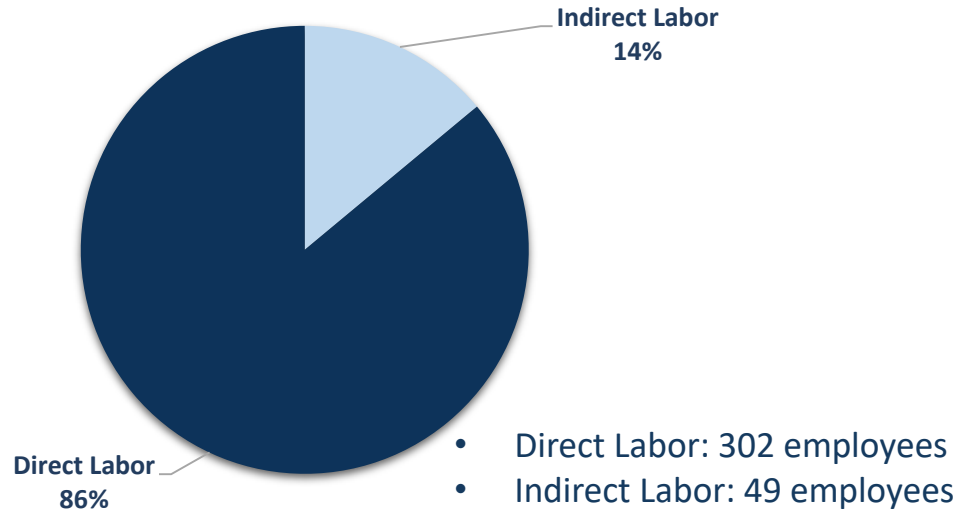
Location: Sahagún, Hidalgo

Manufacturing space: 25,000 m² (270,000 ft²)





Plant Employees



Quality PPMS 2020	
Customer	External PPM
General Motors	0
HBPO	0
Volkswagen	0
John Deere	125
Lear Corp	0
CSP	0
CNH	0
Tesla Motors	0
Stellantis	0
Brose	0

Facilities Info:

- ✓ R&D Offices
- ✓ Compounding in-line
- ✓ Metrology laboratory

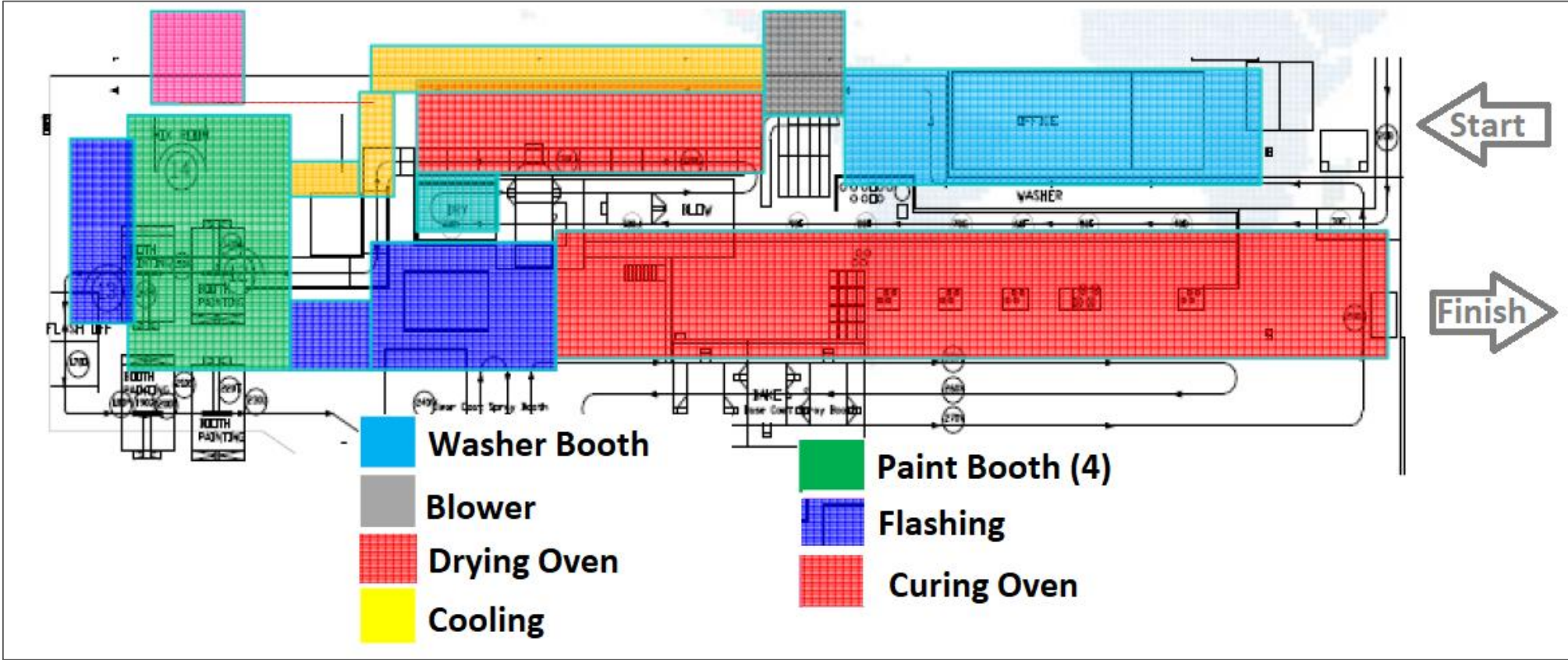
Capabilities

Plastic injection Molding		
Brand	Type of Machine	Tonnage
Battenfeld	Conventional	1,000
Krauss Maffei	IMC	1,300
Krauss Maffei	IMC	1,600
Krauss Maffei	IMC	2,300

SMC, BMC & D-LFT Compression molding		
Machine	Brand	Tonnage
D-150-1	Daniels	150
D-150-2	Daniels	150
D-150-3	Daniels	150
F-200-1	Fluidica	200
D-500-1	Daniels	500
D-500-2	Daniels	500
D-500-3	Daniels	500
D-800-1	Daniels	800
D-1500-1	Daniels	1,500
FL-1500-1	Fluidica	1,500
HB-1800-1	Hepburn	1,800
D-3000-1	Daniels	3,000
WW-3000-1	Williams White	3,000
T-3000-1	Tianduan	3,000

Paint Applications:

- ☐ Sealer –Primer
- ☐ 1K/2K Monocoat
- ☐ 2K Topcoat: Basecoat & Clearcoat





Capacity:

- ❑ Minimum Paint Area: 0.5 m2
- ❑ Maximum Paint Area: 1.8x1.8 m (3.2 m2)









No	Description	OEM	Process	EAU pc/year	Image	Vehicle
1	Outer Roof Panel		Molding, Primer & Monocoat	13,500		
2	Hood Assy		Molding, Bonding, Primer & Monocoat	2,500		
3	Outer Roof Panel		Molding, Bonding & Primer	500		



No	Description	OEM	Process	EAU pc/year	Image	Vehicle
4	Wheel Liners, Splash Shields, Door Frame & Windshield Surround		Molding	2,000		
5	Mid Gate & Tail Gate		Molding, Bonding, Primer, Topcoat & Assembly	120,000		
6	Under Hood Components P3-113		Molding	77,000		



Plastic Injection parts

		PART SIZE			
No	Description	Part Number	OEM		Image
1	Rear Fascia	705017558		520 x 740 mm	
2	Central Side Panel LH&RH	705017554		280 x 820 mm	
3	Central Lateral Panel LH&RH	705017548		280 x 820 mm	



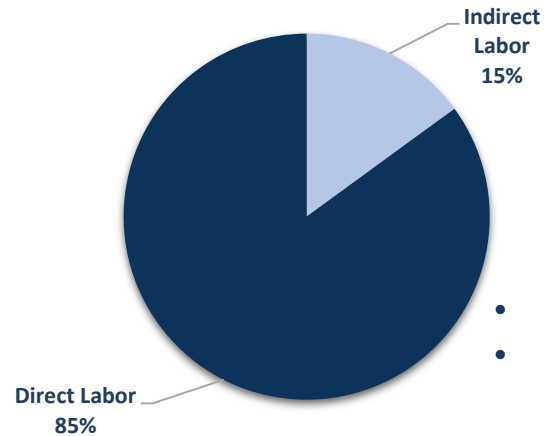
Location: Chachapa, Puebla

Manufacturing space: 17,350 m² (187,000 ft²)





Plant Employees



- Direct Labor: 159 employees
- Indirect Labor: 28 employees

Quality PPMS 2020

Customer	External PPM
January	0
February	0
March	0
April	0
May	0
June	0
July	0
August	0
September	0
October	0
November	0
December	0

Facilities Info

- ✓ R&D Offices
- ✓ Metrology laboratory
- ✓ Tool shop
- ✓ Compounding in-line

Capabilities

Plastic injection Molding

Machine	Type of Machine	Tonnage
KM1	Dual Shot (2K)	2,300
KM5	Dual Shot (2K)	2,300
KM6	IMC	2,300
KM7	IMC	2,300
KM2	IMC	2,000
KM3	Dual Shot (2K)	1,300
KM4	Conventional	1,000

D-LFT Compression molding

Machine	Type of Machine	Tonnage
DF-2500-1	Dieffenbacher Press	2,000
HB-2500-1	PRES Hepburn Press	2,000










Other Production capabilities

- ✓ 4 Punching Machines of 75 Tons.
- ✓ 2 Water Jet Cutting of 32 and 37 kVA of power



No	Description	OEM	Process	EAU pc/year	Image	Vehicle
1	Frunk Tub		Molding + Assembly	90,000		 
2	Underbody Cover line LH&RH		Molding + Assembly	330,000		
3	Engine Shielding		Molding + Assembly	330,000		



No	Description	OEM	Process	EAU pc/year	Image	Vehicle
4	Front End Carrier		Molding + Assembly	50,000		
5	Splash Shields		Molding	85,000		
6	Storage Bin		Molding + Bonding + Primer + Paint color	250,000		



No	Description	OEM	Process	EAU pc/year	Image	Vehicle
7	Engine Shielding		Molding + Assembly	180,000		
8	Front End Carrier		Molding + Assembly	330,000		
9	Outer Roof Panel		Molding + Bonding + Primer	500		

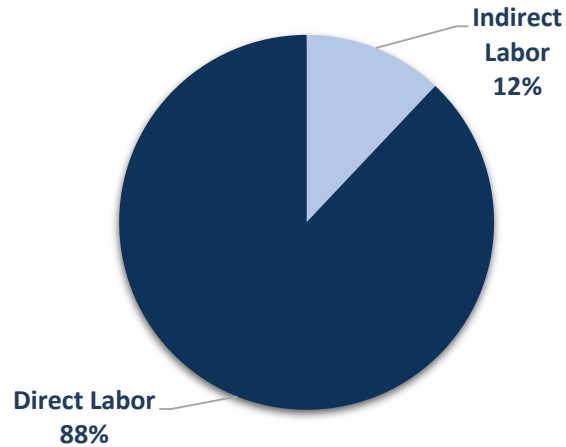


Location: Cuautlancingo, Puebla

Manufacturing space: 12,000 m² (130,000 ft²)



Plant Employees



- Direct Labor: 409 employees
- Indirect Labor: 56 employees

Quality PPMS 2020	
Customer	External PPM
January	130
February	5
March	61
April	102
May	3
June	188
July	1
August	3
September	61
October	0
November	0
December	0



Capabilities

Plastic injection Molding		
Tonnage	Type of Machine	Quantity
25	Conventional	1
50	Conventional	1
65	Conventional	3
80	Dual Shot (2K)	1
100	Conventional	1
110	Conventional	1
130	Conventional	3
150	Conventional	1
180	Conventional	2
250	Vertical	1
270	Conventional	1
300	Conventional	1
350	Conventional	3
450	Conventional	1
650	Conventional	1
1,000	Conventional	2
1,300	Conventional	3
TOTAL MACHINES		27

Facilities Info

- ✓ Tool shop
- ✓ R&D Offices
- ✓ Metrology laboratory



No	Description	OEM	Part Size	Image
1	Lower A Pillar RHD LH / RH		970*450 mm	
2	Bottom B-Pillar LH & RH		900*900 mm	
3	Wheel Cover Front LH / RH		900*800 mm	

No	Description	OEM	Part Size	Image
4	Spoiler Trax		1710*680 mm	
5	Rear Quarter		1600*600 mm	
6	Outer Rocket Panel LH & RH		1,600*120 mm	



No	Description	OEM	Part Size	Image
7	Door trim LH & RH		900*600 mm	
8	Door Panel LH&RH		850*990 mm	
9	A-Pillar Upper LH & RH		800*200 mm	



SECONDARY OPERATIONS

- ✓ Die Piercing
- ✓ Hot & Cold Bonding Process
- ✓ Riveting
- ✓ Automated Drilling
- ✓ Water Jet Cutting
- ✓ Assembly Line

TOOLSHOP

- ✓ Penetration EDM
- ✓ Parallel Wheel
- ✓ Radial Drill
- ✓ Vertical Milling Machine
- ✓ Bench Drill
- ✓ Flat Surface Grinding
- ✓ CNC Machining Center
- ✓ Electric Saw

PART ANALYSIS

- ✓ Meltfixer MT
- ✓ Pendulum Impact Tester
- ✓ Universal Machine
- ✓ High temperature Oven
- ✓ Hardness Tester
- ✓ Cooling Chamber
- ✓ Oven
- ✓ CMM
- ✓ Digital Vernier
- ✓ Moisture Analyzer
- ✓ Flame Chamber
- ✓ Analytical Scale
- ✓ Humidity Chamber

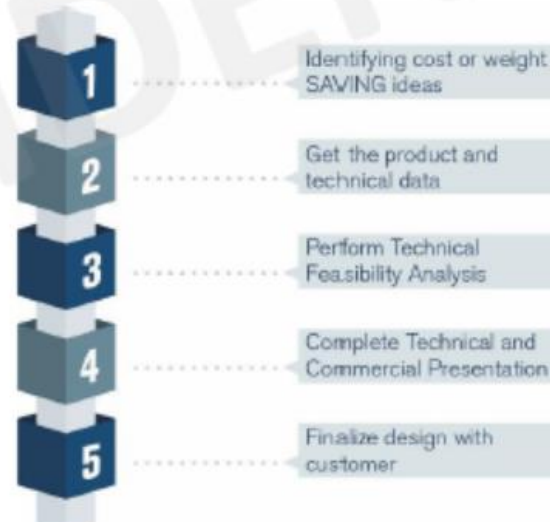
MATERIAL ANALYSIS

- ✓ Meltfixer MT
- ✓ Pendulum Impact Tester
- ✓ Universal Machine
- ✓ High temperature Oven
- ✓ Moisture Analyzer
- ✓ Flame Chamber
- ✓ Analytical Scale
- ✓ Humidity Chamber

A&P Solutions R&D office, is focused to collaborate with its customers to integrate the most innovative technology of thermoset and thermoplastic reinforced materials and process into interiors, exteriors and under hood vehicle body applications to provide the highest value added in terms of:

- 
- 1.** Reliable performance design.
 - 2.** Best weight saving solution
 - 3.** Most competitive commercial offer.

Metal conversion to composite technology



REQUIREMENTS

CONCEPT

DESIGN

VALIDATION

LAUNCH



> Competitive advantages



> Active contact



Electronic Data Interchange (EDI)



Processes and systems for production planning and material flow ensures undisturbed and safe supply processes to the customer



Transparency over all processes of production planning, manufacturing, warehousing, transport and capacities is given



Emergency concepts are available



Sub supplier management is implemented



Availability of contact persons and active communication



Automotive & Trucks



Agriculture



Home Appliances

Our clients



Automotive, SSV & Trucks Tier 1



Tier 2



Agriculture



Urban Buses



Transportation



Industrial Applications



A&P Solutions Group acts as Tier 1 and Tier 2 supplier to many clients over different industries, which puts us in a competitive position over our competition.

Thank you very much for your
time and your attention.

We, at A&P Solutions, would be
very glad to work and provide
VALUE ADDED solutions for your
company's success.



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