
MAGNA
CES 2022

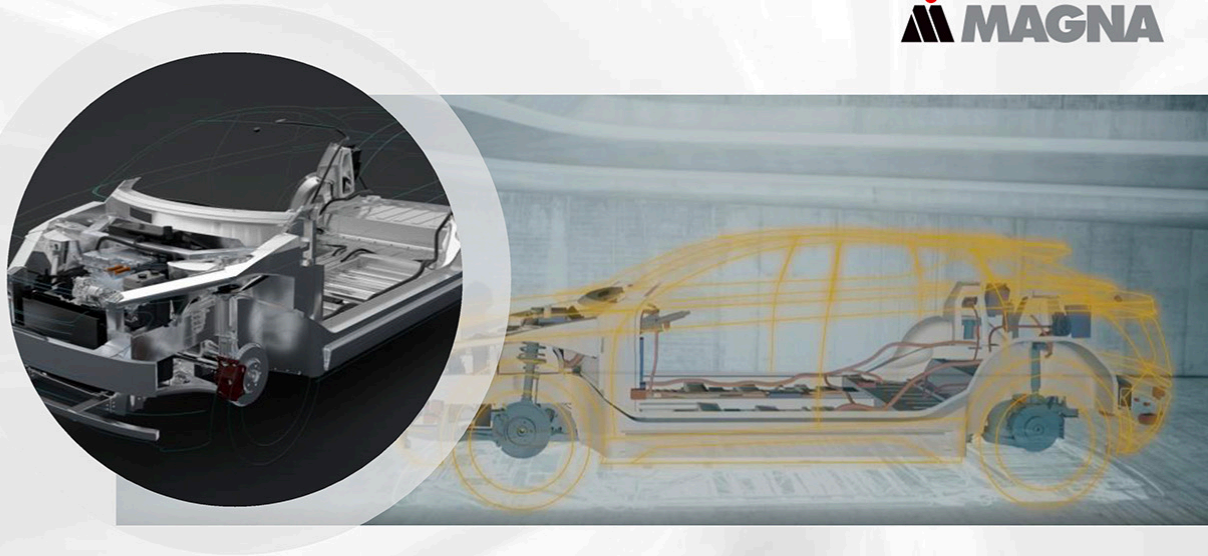

Eco Innovation

Index

Platform Solutions

As a true One-Stop Shop we support our customers with **platform solutions**. Customers can either use their own platform, we can make our **Magna EV Platform** available, or approach another customer for a potential cooperation.

Cleaner | Smarter | Electrification | Autonomy | Co-Development Opportunity | Magna Exclusive



Competitive advantage Magna EV Platform

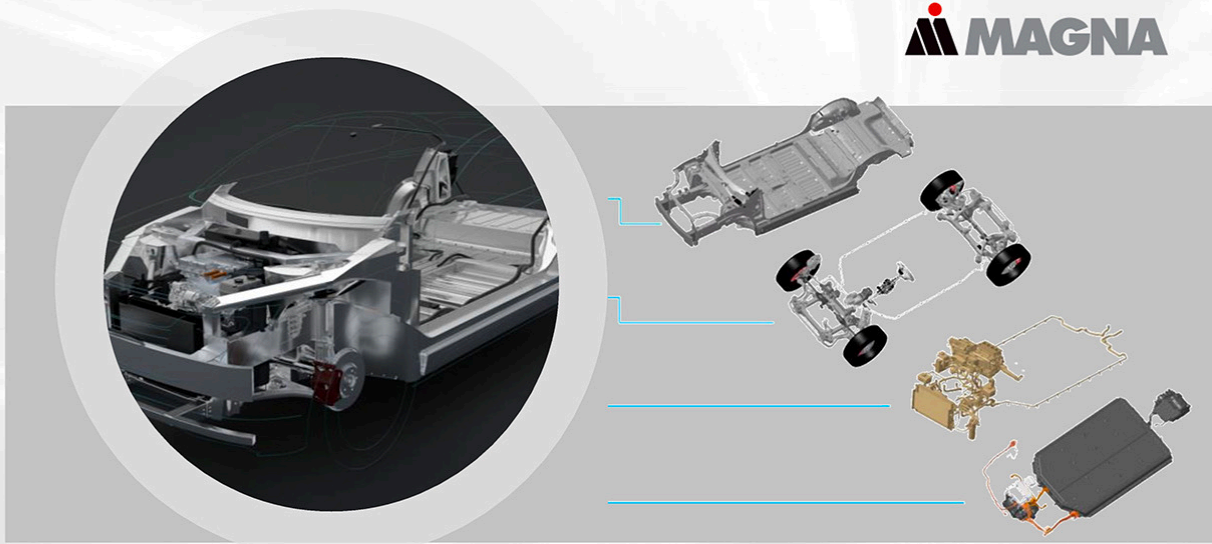
- Modular EV platform with pure electric drive
- Adaptable to customers requirements
- Platform already industrialized with reliable set of suppliers and partners
- Access to the automotive supply base
- Mature and proven platform, low development risk
- Faster product launch and time-to-market

Applications

- Customer No.1 First SOP 09/2020
- Customer No.2 First SOP 11/2022

Pure Electric Vehicle Platform

The Magna EV platform is already validated and industrialized with a set of reliable suppliers and partners.



Platform Bandwidth

- Length 4625 – 4900 [mm]
- Width 1865 – 220 [mm]
- Height 1520 – 1800 [mm]
- Wheelbase 2780 – 2920 [mm]
- Track front 1600 – 1690 [mm]
- Track rear 1580 - 1712 [mm]
- Gross vehicle weight: <2800 [kg]
- Curb weight: <2325 [kg]

Core Platform Technology

- Battery capacity: 67,3kWh – 106,5kWh
- Range NEDC: 480km / 653km (4WD / 2WD)
- Powertrain: 2WD / 4WD
- Power: 160kW (2WD) / 2x 160kW (4WD)
- Acceleration: 4,6sec (AWD) / 8,4 sec (2WD)
- ADAS Level: 2,5
- Flexible domain EE architecture

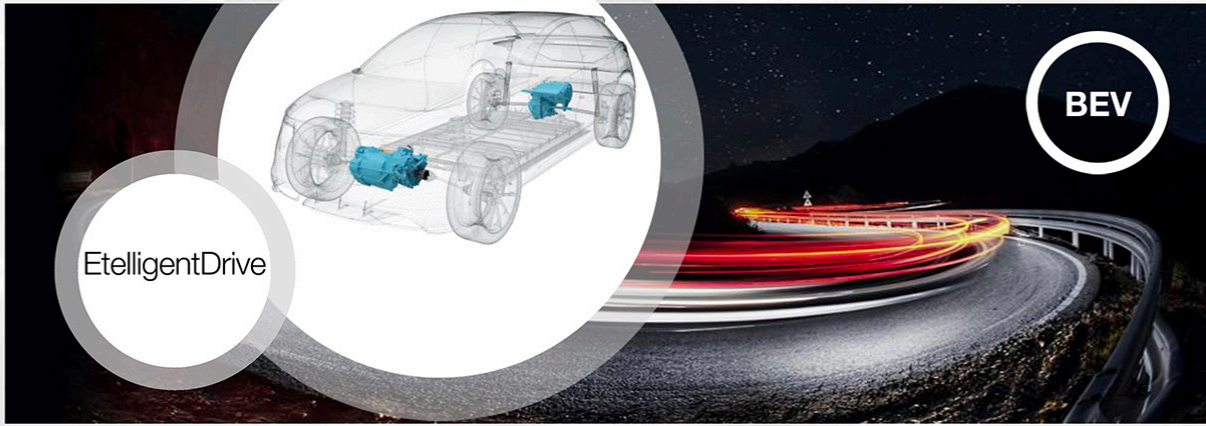
Additional Takeaways

- C/D Segment Platform
- Applicable to global markets
- Safety Rating: 5 stars NHTSA / EuroNCAP / CNCAP
- Aluminium under body structure
- Suspension front: McPherson
- Suspension rear: Multi-Link
- First SOP Sept 2020
- Further derivatives to follow

Contact: discovermore.magnasteyr@magna.com

Magna EtelligentReach

Magna EtelligentReach is an advanced BEV solution setting a new benchmark in range and dynamics with Magna next-Gen eDrives combined with software and controls. Decoupling+ option further extends the electric range. New inverter option with silicon carbon improves efficiency and comfort.



Front Axle
- eDS Mid+ DCU

Software/Controls
- drive controller
- operation strategy

Rear Axle
- eDS Mid+ TV

Complete powertrain solution with best-in-class functions
Efficiency, Safety, Dynamics and Convenience

Contact: Daniel Lindvai-Soos/ daniel.lindvai-soos@magna.com

eDS – electric Drive System Mid+

This eDrive with next-gen technologies provides up to 180 kW for 30 seconds and up to 4,000 Nm at the wheels. It can be applied to both hybrid and battery electric vehicles as primary and secondary drive. Next-gen technology options in the eMotor, inverter, gearbox and intelligent software strategy contribute to best-in-class efficiency, drivability and safety. Up to -24% less weight, +7% more power and -22% less volume in packaging compared to other available products in the market.

Features and Specifications

- Scalable from 120 to 180 kWp and 400 to 800 V while providing affordable cost via building block approach
- PSM eMotor, highly-optimized bearing concept, smart lubrication concept
- Inverter attached or axially integrated with optional SiC power module
- Advanced eMachine speed control interface enables intelligent launch vehicle function

Competitive advantage/differentiators

- Optimized and scalable to best-in-class efficiency (aiming > 95% peak efficiency)
- Best-in-class drivability, performance, and safety with TV option
- Optimized and flexible package
- Affordable cost

Applications/benefits

- C, D, E Segment BEVs / PHEVs
- Advanced direct stator cooling concept enabling increased continuous power performance
- Safety integrity level ASiL “D”
- Optional park lock or disconnect, and small packaged twin-clutch torque vectoring

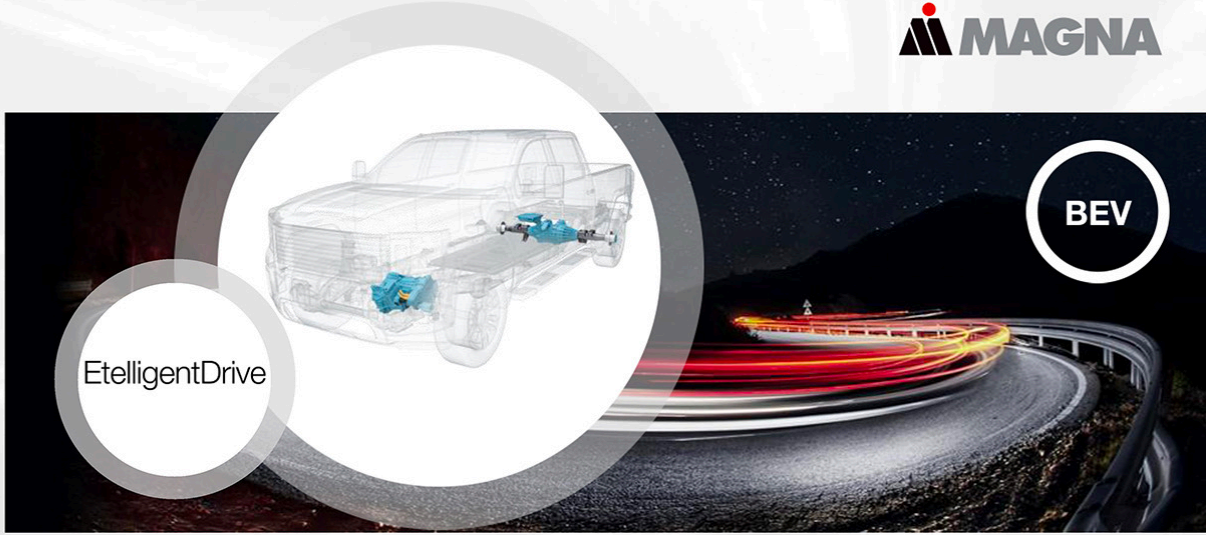
SOP

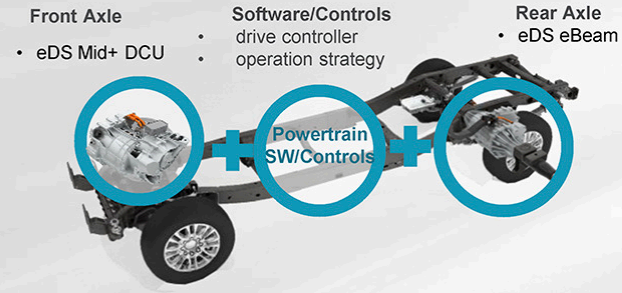
Ideation | Discovery | Concept | Development | Serial Preparation | in Production

Contact: Daniel Lindvai-Soos/ daniel.lindvai-soos@magna.com

Magna EtelligentForce

Magna EtelligentForce is a battery-electric 4WD powertrain system for passenger trucks and light commercial vehicles, designed to maintain the full capabilities of these vehicles including payload and towing. Businesses can deliver goods and services without worry, and consumers can put these trucks to work - whether on the construction site or on route to their favorite cabin. All while preserving the environment with zero emissions.



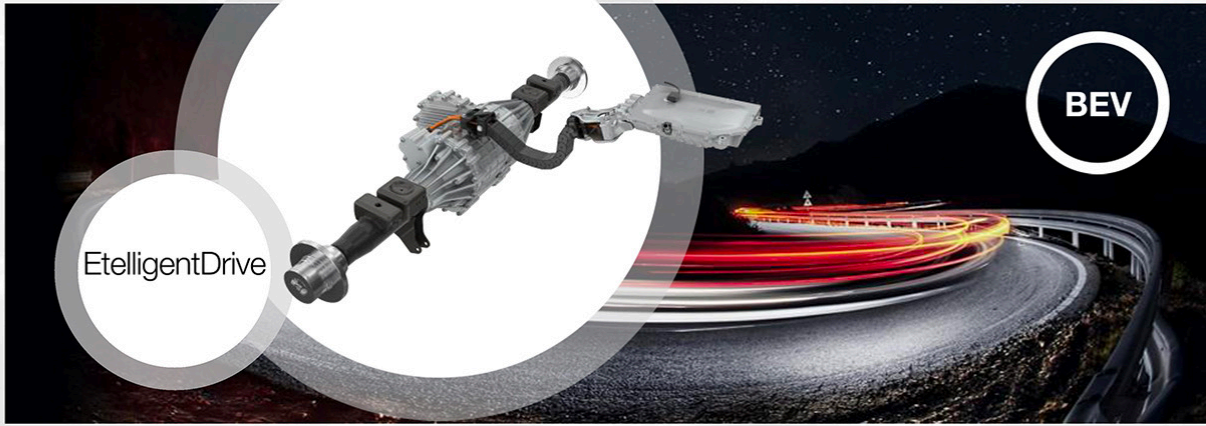


Complete powertrain solution with best-in-class functions
Efficiency, Safety, Dynamics and Convenience

Contact: John Zalewski / john.zalewski@magna.com

eBEAM – Electric Axle Drive System

Structure oriented design to support high payload vehicles with matching power for continuous duty usage



Features and Specifications

- Up to 250 kW for 10 sec and up to 10,000 Nm at the wheels
- Reduction Ratio range: 12 – 18
- ePark-lock and locking differential
- Fulfills ISO 26262 - ASiL “D”
- Integrated or remote mounted inverter design
- Co-axial gearbox architecture
- High speed PSM 3 phase motor: nMax = 15,900 rpm

Competitive advantage/differentiators

- Power dense PSM eMachines 120 - 250 kWp
- Interchangeable packaging for conversions
- Uses OEM suspension designs (leaf, coil, etc) and maintains full suspension travel
- Platform focused product to support TCO

Applications

- Battery Electric Vehicle / FuelCell
- PUP / SUV / LCV
- Primary propulsion

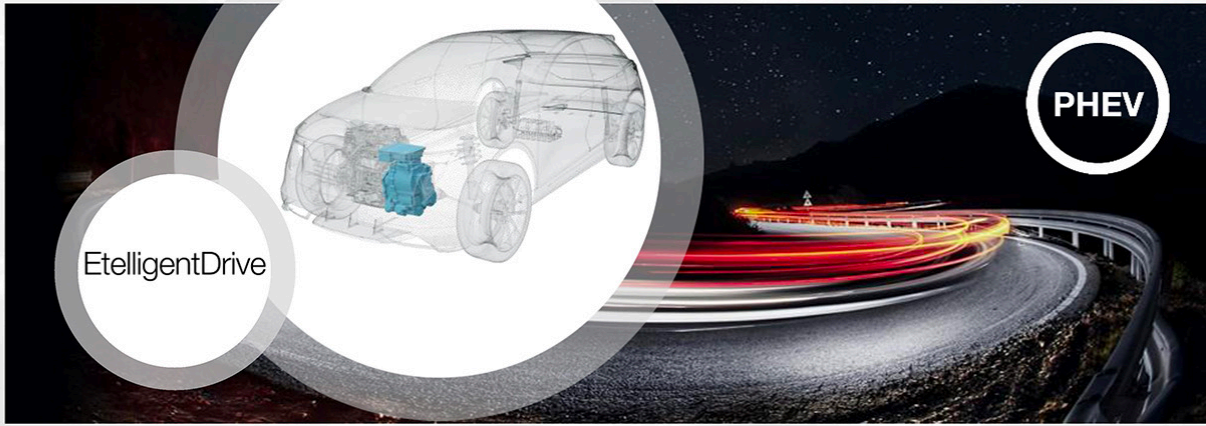
SOP

Development | Discovery | Concept | Development | Series Preparation | in Production

Contact: Mark Mastroianni / mark.mastroianni@magna.com

Magna EtelligentEco

Magna EtelligentEco is an advanced PHEV solution that makes high-volume SUVs with front-wheel drives more range- and cost-efficient by using software and controls and DHD Eco hybrid drive for up to -38 % greenhouse gas reduction in real world daily drive. Best drivability also in purely electric drive mode.



Complete powertrain solution with best-in-class functions

Front Axle
- DHD Eco

Software/Controls
- drive controller
- operation strategy

X Required for BIC Functionality

			Covers all Real World Driving Situations			
			BIC Efficiency	BIC Safety	BIC Dynamics	BIC Convenience
Vehicle Sub Functions	Longitudinal	Launch - Accelerate	X	X	X	X
		Steady State - Sailing	X			X
		Brake - Regenerate	X			
		Traction		X		
	Lateral	Stability		X	X	X
		Handling		X		
	Option	Park-Lock		X		X
	ADAS / Cloud	On-Board Connectivity	X	X	X	X
		Off-Board Connectivity	X	X	X	X

Powertrain S/W Controls

Magna EtelligentEco

Enables -38 % CO2 emission for vehicles in real world driving situations.

It makes high-volume PHEVs with front-wheel drive more range- and cost-efficient by using an advanced operating strategy.
This technology demonstrator is fully scalable with a gasoline engine and a dedicated hybrid drive (DHD) at the front. The DHD Eco, the integrated e-motor, inverter and hybrid manager are developments of Magna.

Features and Specifications

Front Drive
- 4 gears with eLaunch, eReverse and two gears in electric driving
- Nominal ICE torque: 230 Nm, eBoost up to 300 Nm
- Engine: 100 kW / 1.5 l gasoline
- Electric Machine: 120 kW at 350 V, 200 Nm peak

Prototype HV Battery
- Discharge Power: max. 135 kW
- Energy Content: 21 kWh

Competitive advantage/differentiators

- Intelligent operating strategy for real world drive optimization
- Best-in-class efficiency leading to extended range and reduced operating costs
- Best-in-class torque-to-weight ratio
- Integrated system with compact design and no increase in packaging length

Applications/benefits

- Adjustable drivability by software and clutch modulation, and customizable driving modes
- Charge at standstill and creep
- Scalability allows for customized applications

SOP

Ideation | Discovery | Concept | Development | Series Preparation | in Production

Contact: Dr. Carsten Buender / carsten.buender@magna.com

Dedicated Hybrid Drive DHD Eco

The DHD Eco is part of the 230 family, and uses a smart modular scalability approach for Low Torque HV applications. The DHD Eco is reduced to four gears (acting as a dedicated hybrid drive) with eLaunch, eReverse and two gears in electric driving.

Features and Specifications

- Nominal torque: 230 Nm
- Boost torque: up to 300 Nm (E-boost)
- eMotor: 120 kW at 350 V; 200 Nm peak
- Installation length: 350 mm
- Weight (including oil): 98 kg w/ oil, w/o DMF, w/ inverter
- Center distance: 183 mm
- Ratio ensures all-electric drivability up to 135 kph

Competitive advantage/differentiators

- Best-in-class efficiency leading to extended range and reduced operating costs
- Best-in-class torque-to-weight ratio
- Integrated system with compact design and no increase in packaging length
- Adjustable drivability by software and clutch modulation, and customizable driving modes
- Charge at standstill and creep

Applications/benefits

- PSM eMachine integrated in transmission housing, cooled by common oil circuit for wet dual clutch and gear set
- Water cooled, transmission mounted inverter
- ICE restart can be operated by transmission at all vehicle speeds

SOP

Ideation | Discovery | Concept | Development | Serial Preparation | in Production

Contact: Dr. Carsten Buender / carsten.buender@magna.com

Thermal Management

Smart thermal management combines a maximum of passenger comfort with the best possible driving range – even in extreme weather conditions.

Smarter
Cleaner
Co-Development Opportunity
Driving Dynamics
Electrification

Competitive advantage/differentiators

- Virtual and physical development from the initial phase to SOP
- Integration of the thermal management system in the complete vehicle
- Measurement equipment implementation on component and system level
- Vehicle and system testing (test bench & on-road)

Features / Specifications

- Heat pump development
- Fuel cell thermal management system development
- Alternative refrigerants
- Customized software solutions
- Virtual development (1D & 3D CFD simulation)
- Thermal test bench testing
- Subjective and objective benchmarking of competitive thermal systems

Charging Solutions

Quick and easy charging is key for the suitability for everyday use. Magna is an experienced partner for the entire user charging experience.

Smarter Cleaner

Electrification New Mobility

Competitive advantage/differentiators

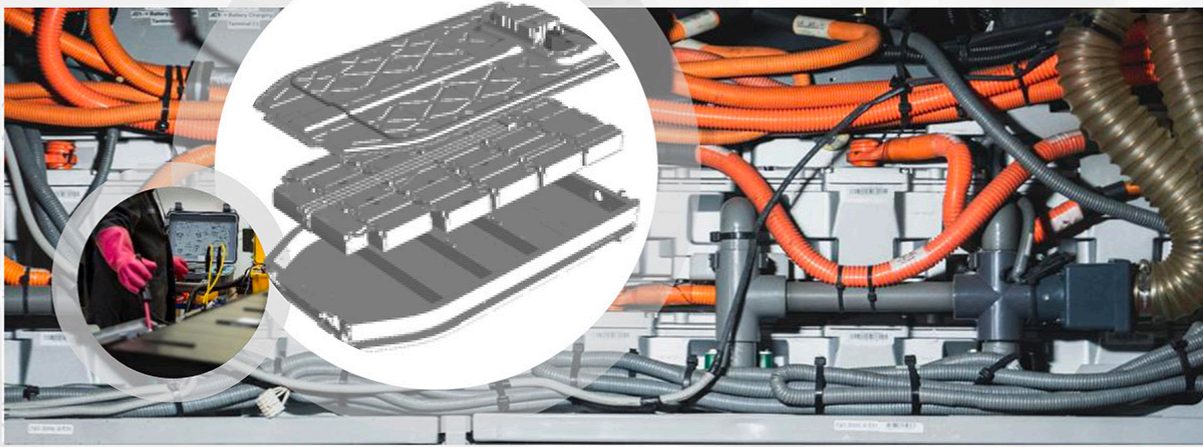
- Complete development process (market positioning, benchmarking, simulation, requirements definition & tracking, supplier sourcing & handling)
- Integration as per latest standards and regulations
- Smart charging function development & integration (e.g. Plug & Charge, V2X, WEVC – Wireless Electric Vehicle Charging)
- High-current single-phase charging for NA & JP
- Innovative hardware strategies for world market vehicles

Applications

- Target setting on complete vehicle level
- Charging systems integration
- Definition of **charging experience**
- Smart function requirements definition
  - Plug & Charge and V2X charging
- Extendable thermal management functionalities
- Tailormade HMI
- Integration of further Magna innovations (e.g. active rear diffusor, …)

HV Battery Development and Testing

Everything from a single source – we develop, integrate and validate high-voltage batteries from feasibility to SOP.



Smarter
Cleaner
Co-Development Opportunity
Driving Dynamics
Electrification

Competitive advantage/differentiators

- Development and Integration from feasibility to SOP
- Cell/module definition based on envelopment and performance requirements
- 2D/3D electric, cooling and housing design
- Thermal, stiffness, durability and crash/crash simulation
- Prototype shop and EOL testing in-house
- DV/PV testing facilities at Magna's Engineering Center ACTS
- Housing production at Magna Cosma

Applications / References

- EV and PHEV, 400V and 800V applications
- Pack development and integration with cylindric, pouch and prismatic cells and cell modules
- Platform development for Chinese and Japanese OEMs

Battery Enclosure Overview

Magna offers the complete array of battery enclosure production and engineering solutions. The battery enclosure contributes to the structural and safety aspects of the body in white while protecting high-voltage batteries from damage and water. These complex assemblies are available in steel, aluminum, and multi-material configurations including lightweight composites.

Cleaner | Safer | Lighter | Co-Development Opportunity

Design | Electrification

Competitive advantage/differentiators

- Two complete battery enclosure systems for fully-electric vehicles begin production in 2021, following our track record of supplying mid and full-hybrid battery enclosures.
- R&D, advanced engineering, and simulation expertise optimize design, and address technical challenges.
- Global engineering production footprint.

Applications

- ICE & EV platforms
- Complex and modular designs
- Multi-material requirements
- Scalable design to fit different vehicle segments or energy densities

SOP

Ideation | Discovery | Concept | Development | Serial Preparation | in Production

Contact: Gabriel Cordoba Gabriel.Cordoba@magna.com

Steel Battery Enclosure

With Magna's broad expertise in engineering and various steel forming and joining capabilities, we offer the complete development and production of steel battery enclosure solutions. This includes all required safety and quality checks on a global scale.

Cleaner | Design | Electrification | Co-Development Opportunity

Competitive advantage/differentiators

- Steel battery enclosures combine the structural advantage of higher-grade steel and the lower material cost compared to aluminum or fiber reinforced plastic.
- Large one-piece stampings offer improved leak tightness, are safety-critical, and reduce production costs.
- Due to the formability properties of steel and Magna's expertise, this can be achieved without significant reduction of battery space.

Applications

- Complex and modular designs
- Cost reduction initiatives
- ICE & EV platforms

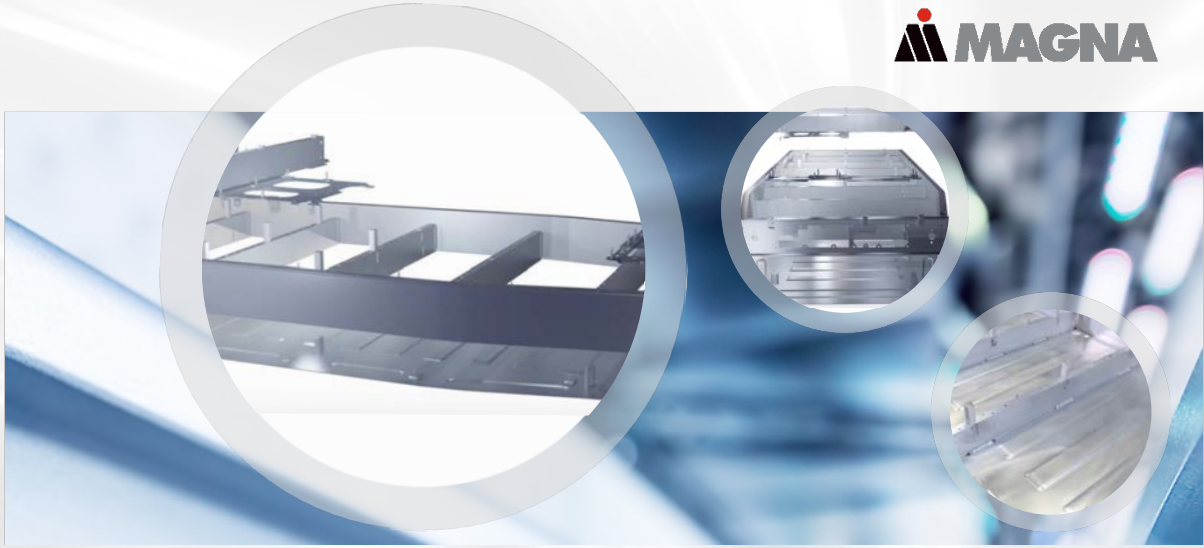
SOP

Ideation | Discovery | Concept | Development | Serial Preparation | in Production

Contact: Gabriel Cordoba Gabriel.Cordoba@magna.com

Aluminum Battery Enclosure

With Magna's engineering and manufacturing capabilities for complex aluminum assemblies, we can support all customer needs regarding aluminum battery enclosures on a global scale. We offer solutions with the best possible quality from the first concept development to high volume mass production.



Cleaner

Design

Lighter

Co-Development Opportunity

Electrification

Competitive advantage/differentiators

- Aluminum battery enclosures are mostly designed as an assembly of extrusions, castings and stampings.
- Aluminum designs offer light weighting and high-scalability to produce different enclosure sizes for different vehicles on one production line.

Applications

- Lightweight designs
- Complex and modular designs
- Large stampings
- ICE & EV platforms

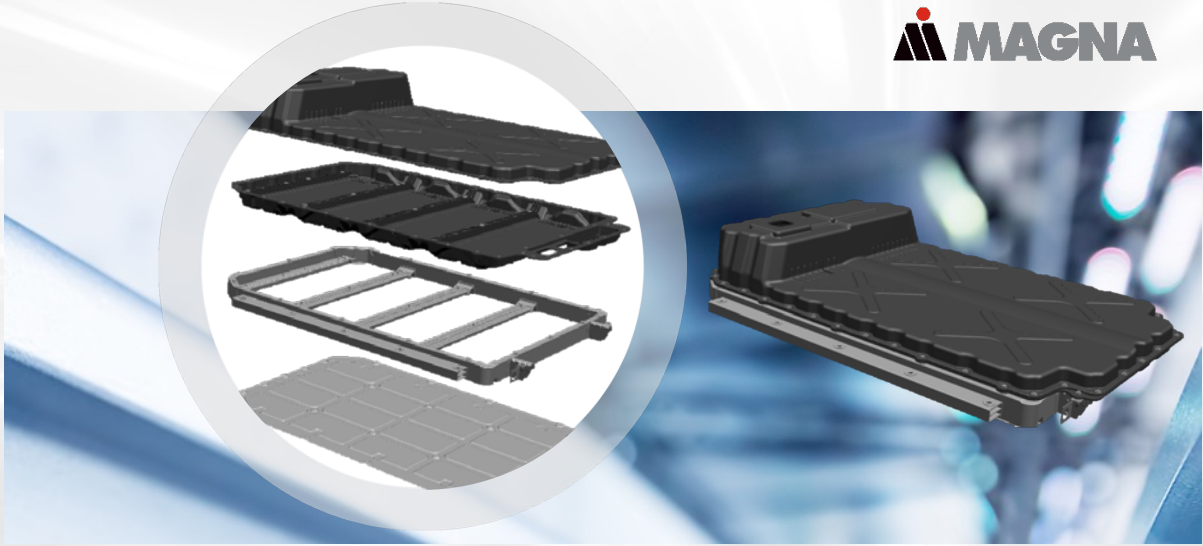
SOP

Ideation → Discovery → Concept → Development → Serial Preparation → in Production

Contact: Gabriel Cordoba Gabriel.Cordoba@magna.com

Magna BESt Battery Enclosure

With the expertise of Magna's Body Exteriors & Structures team (BESt) a multi-material housing solution was developed utilizing advanced composites and metals to meet the complex requirements of battery housing for electric and hybrid vehicles.



Lighter · Cleaner · Co-Development Opportunity

Design · Electrification · Exclusive@Magna · First to Market

Competitive advantage/differentiators

- Due to the complexity of this commodity and the need to rethink the traditional BIW concept, we are looking to overcome the challenges of developing multiple battery enclosure solutions.
- Hybrid battery enclosure design includes a fiber reinforced plastic housing to provide a leak tight enclosure to protect the batteries from ambient exposure.

Applications

- Bolt-on battery enclosure systems
- Scalable design to fit different vehicle segments or energy densities
- Other architectures:
  - Integration into body in white
  - Steel and aluminum solutions
  - Cooling system integration

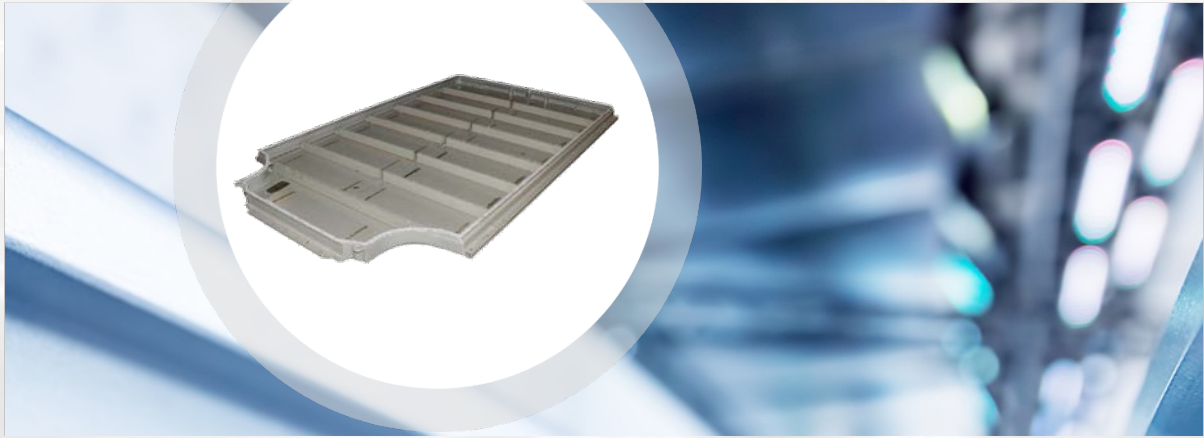
SOP

Ideation · Discovery · Concept · Development · Serial Preparation · in Production

Contact: Gabriel Cordoba Gabriel.Cordoba@magna.com

Structural Battery Enclosure

Structural battery enclosures offer OEMs a bolt-on Body in White solution for fully-electric vehicles and hybrids. This type of battery enclosure protects the entire vehicle – not just the battery – in a crash.



Cleaner | Safer | Lighter | Co-Development Opportunity

Design | Electrification

Competitive advantage/differentiators

- Depending on application requirements, materials may include steel, aluminum, and composites.
- High-pressure aluminum die casting solutions reduce machining of holes and sealing surfaces.
- Structural solutions provide protection to the battery while contributing to the structural aspect of the Body in White.
- Global engineering production footprint.
- R&D and advanced engineering for new technical challenges.

Applications

- Complex and modular designs
- Multi-material designs
- Cost reduction initiatives
- ICE & EV platforms

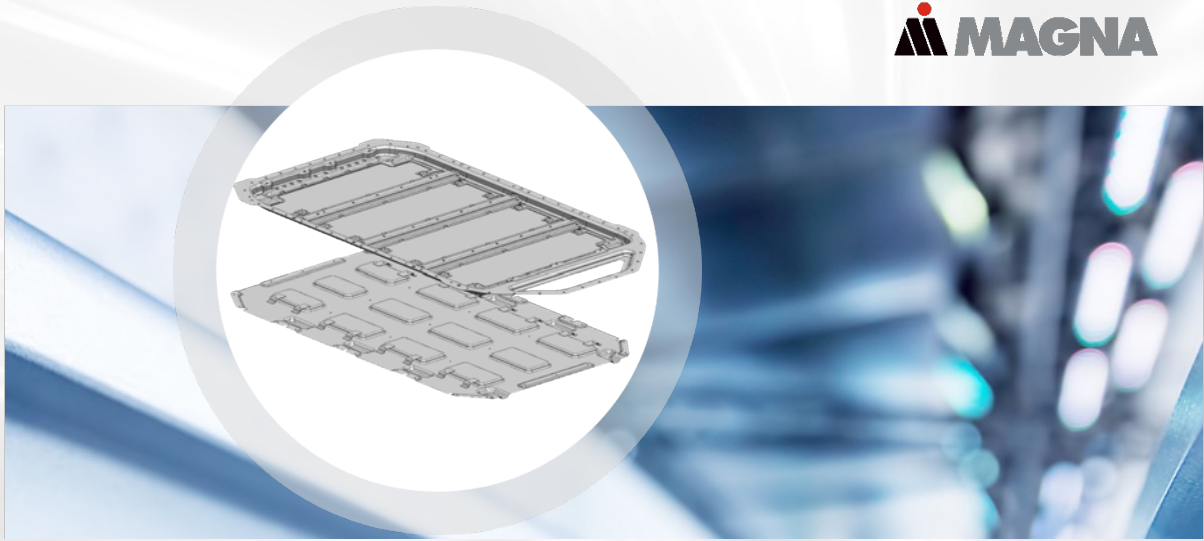
SOP

Ideation | Discovery | Concept | Development | Serial Preparation | in Production

Contact: Gabriel Cordoba Gabriel.Cordoba@magna.com

Non-Structural Battery Enclosure

Available as a bolt-on solution, Magna's non-structural battery enclosure combines all battery-related functions into one while minimizing complexity. Appropriate for electric vehicles (EV's), it provides protection to the battery while depending on the Body in White for crash support.



Cleaner | Safer | Lighter | Co-Development Opportunity

Design | Electrification

Competitive advantage/differentiators

- Depending on application requirements, materials may include steel, aluminum, and composites.
- High quality aluminum high-pressure die casting solutions for reduced additional machining of holes and sealing surfaces.
- Allows for weights savings and greater space utilization.
- Engineering and production out of one hand globally.
- R&D and advanced engineering for new technical challenges.

Applications

- Lightweight designs
- Large stampings
- Multi-material designs
- EV-only platforms

SOP

Ideation | Discovery | Concept | Development | Serial Preparation | in Production

Contact: Gabriel Cordoba Gabriel.Cordoba@magna.com

Structurally Integrated Solution

Integrated Battery Enclosure

Available in steel and aluminum configurations, our integrated battery enclosure design combines all battery and Body in White requirements into one. This allows for reduced mass while maximizing available space and minimizing processing costs.

Cleaner | Safer | Lighter | Co-Development Opportunity

Design | Electrification | First to Market | Patent Pending

Competitive advantage/differentiators

- Mass savings of 15-30% versus separate vehicle and battery enclosure systems.
- Maximizes available width between frame rails, allowing larger packaging environment for batteries.
- Minimizes processing cost prior to verification.
- Ability to tune side impact crash performance through use of internal reinforcements.

Applications

- Pickups and SUVs
- Commercial vehicles

SOP

Ideation | Discovery | Concept | Development | Series Preparation | in Production

Contact: Gabriel Cordoba Gabriel.Cordoba@magna.com

Active Aero Product Suite

A suite of aerodynamic products focused on minimizing vehicle drag to extend battery range, improve fuel economy, and reduce emissions

Cleaner

Active Grille Shutter

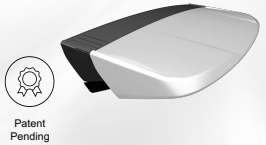
Visible AGS

Active Tailgate Panel

Active Underbody Panel

Active Air Deflector

Active Front Wheel Deflectors



Active Liftgate Spoiler

Active Rear Diffuser

Production	Development	Concept

App Ready

~ 5 Years

AGS
Since 2012
3M per year

Visible AGS
Since 2016

Air Deflector
Since 2018

Modular AGS

Front Wheel Deflector

Rear Diffuser

Liftgate Spoiler

Underbody Panel

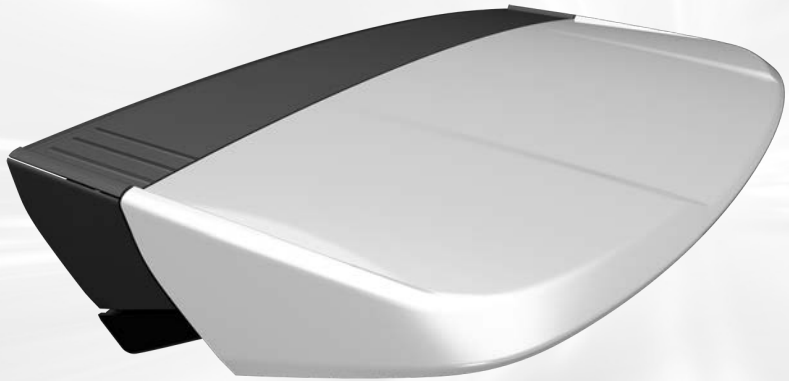
Tailgate Panel

Morphing Surfaces

Contact: Tony Povinelli / Anthony.Povinelli@magna.com

Active Spoiler

System integrated into spoiler that optimizes airflow in vehicle wake to minimize aerodynamic drag, which extends range and reduces emissions



Cleaner

Co-Development Opportunity

Metric	3-7	0.06	1.33	22
	C_D Benefit (Counts)	WLTP Fuel Savings (L/100km)	CO_2 Savings (g/km)	Mass Equivalent (kg)
Imperial	3-7	0.29	1.47	34
	C_D Benefit (Counts)	EPA Hwy Fuel Savings (mpg)	CO_2 Savings (g/mi)	Mass Equivalent (lb)

Competitive Advantage/Differentiators

- Reduces vehicle drag
- Best practice design and utilization to achieve vehicle requirements
- Design flexibility to allow for multiple modes (aero, sport, track, etc)
- Marketing benefits

Applications

- Applies to hatch profile vehicles (SUV/CUV/Wagon)
- Actuated based on vehicle inputs

SOP

Ideation | Discovery | Concept | Development | Series Preparation | in Production

Tony Povinelli / Actero@Magna.com

Active Rear Diffuser

Rear underbody panel that optimizes airflow in vehicle wake to minimize aerodynamic drag, which extends range and reduces emissions

Cleaner

First to Market Opportunity

Co-Development Opportunity

Metric	10-16	0.15	3.45	59
	C_D Benefit (Counts)	WLTP Fuel Savings (L/100km)	CO_2 Savings (g/km)	Mass Equivalent (kg)
Imperial	10-16	0.75	3.81	89
	C_D Benefit (Counts)	EPA Hwy Fuel Savings (mpg)	CO_2 Savings (g/mi)	Mass Equivalent (lb)

Competitive Advantage/Differentiators

- Minimizes vehicle drag by modifying underbody exiting airflow
- Utilizes validated Modular Drive System when applicable
- Unique actuator technology allowing system declutch to withstand impacts when activated
- Maintains ground clearance requirements

Applications

- Applies to all vehicles
- Actuated based on vehicle inputs

Ideation → Discovery → Concept → Development

Tony Povinelli / Actero@Magna.com

Active Front Wheel Deflectors

Deflectors located forward of front tires that redirect ram pressure to minimize aerodynamic drag, which extends range and reduces emissions

Cleaner

First to Market Opportunity

Co-Development Opportunity

Metric	10-16	0.15	3.45	59
	C_D Benefit (Counts)	WLTP Fuel Savings (L/100km)	CO_2 Savings (g/km)	Mass Equivalent (kg)
Imperial	10-16	0.75	3.81	89
	C_D Benefit (Counts)	EPA Hwy Fuel Savings (mpg)	CO_2 Savings (g/mi)	Mass Equivalent (lb)

Competitive Advantage/Differentiators

- Minimizes underbody turbulence and ram air pressure on front tires to reduce drag
- Utilizes validated Modular Drive System when applicable
- Unique actuator technology allowing system declutch to withstand impacts
- Maintains ramp angle, ground clearance and curb height specifications

Applications

- Applies to all higher ride vehicles
- Actuated based on vehicle inputs

Ideation → Discovery → Concept → Development

Tony Povinelli / Actero@Magna.com

Active Air Deflector

Front, lower-mounted deflector that redirects turbulent air to minimize aerodynamic drag, which extends range and reduces emissions

Cleaner

Industry First

Metric	14-20	0.24	5.53	90
	C_D Benefit (Counts)	WLTP Fuel Savings (L/100km)	CO_2 Savings (g/km)	Mass Equivalent (kg)
Imperial	14-20	0.73	6.14	137
	C_D Benefit (Counts)	EPA Hwy Fuel Savings (mpg)	CO_2 Savings (g/mi)	Mass Equivalent (lb)

Competitive Advantage/Differentiators

- Minimizes underbody turbulence and ram air pressure on front tires to reduce drag
- Utilizes validated Modular Drive System when applicable
- Unique actuator technology allowing system declutch to withstand impacts
- Maintains ramp angle, ground clearance and curb height specifications

Applications

- Applies to all higher ride vehicles
- Actuated based on vehicle inputs

Ideation → Discovery → Concept → Development → Series Preparation → in Production

Tony Povinelli / Actero@Magna.com

Active Rocker Panel

Deflector located on the side of the vehicle that redirects airflow from the underbody to minimize aerodynamic drag, which extends range and reduces emissions.

Cleaner

Patent Pending

Metric	14-20	0.24	5.53	90
	C_D Benefit (Counts)	WLTP Fuel Savings (L/100km)	CO_2 Savings (g/km)	Mass Equivalent (kg)
	At 5° Yaw			
Imperial	14-20	0.73	6.14	137
	C_D Benefit (Counts)	EPA Hwy Fuel Savings (mpg)	CO_2 Savings (g/mi)	Mass Equivalent (lb)

Competitive Advantage/Differentiators

- Configuration flexibility proven to reduce the overall drag during crosswind
- Improved range for Electric Vehicles
- Design flexibility allowing for several desired class A panel appearances: mold-in-color, painted, chrome accents, lighting, etc.

Applications

- Applies to all vehicle types
- Actuated based on vehicle inputs

SOP

Ideation | Discovery | Concept | Development | Serial Preparation | in Production

Tony Povinelli / Anthony.Povinelli@Magna.com

Active Grille Shutter

System mounted in front vehicle opening that reroutes engine compartment airflow to minimize aerodynamic drag, which extends range and reduces emissions

Cleaner

Metric	8-16	0.14	3.20	55
	C_D Benefit (Counts)	WLTP Fuel Savings (L/100km)	CO_2 Savings (g/km)	Mass Equivalent (kg)
Imperial	8-16	0.69	3.73	87
	C_D Benefit (Counts)	EPA Hwy Fuel Savings (mpg)	CO_2 Savings (g/mi)	Mass Equivalent (lb)

Competitive Advantage/Differentiators

- Reduces vehicle drag and lift
- Improved time to achieve engine optimal temperature
- Modular frame technology for design flexibility
- Best practice design and utilization to achieve vehicle requirements

Applications

- Applies to all vehicle types

SOP

Ideation | Discovery | Concept | Development | Series Preparation | in Production

Tony Povinelli / Actero@Magna.com

Plastic PHEV Fuel Tank

Light weight, pressure and temperature resistant tank system for PHEV vehicles made of plastic multi-layer sheets.

Cleaner | Lighter | Electrification | Patented

Competitive advantage/differentiators

- Temperature resistant up to 80°C
- Operation pressure -210 hPa up to +560 hPa
- Reduced weight due to optimized wall thickness distribution
- Twin sheet technology enables more in-tank components
- Complex tank geometry possible (package advantage)
- One-stop shop – development and production of the entire energy storage systems

Applications

- European premium OEMs

SOP

Ideation | Discovery | Concept | Development | Series Preparation | in Production

Contact: discovermore.magnasteyr@magna.com

Steel PHEV Fuel Tank

Light weight pressurized tank system for PHEV vehicles made of stainless steel sheets.

Cleaner

Lighter

Electrification

Competitive advantage/differentiators

- CAE optimized wall thickness due to lower weight
- Plasma-welding for higher filling volume
- More volume in terms of complex package
- Global production capabilities (USA, China, Europe)
- Stainless Steel 1.4301/1.4307/1.4404 available
- One-stop shop – development and production of the entire energy storage systems

Applications

- European premium OEMs

SOP

Ideation | Discovery | Concept | Development | Series Preparation | in Production

Contact: discovermore.magnasteyr@magna.com

PHEV Fuel Cap

High flexibility in functional concepts and production volume with extraordinary design possibilities.

Cleaner

Design

Patented

Competitive advantage/differentiators

- Emission targets according to LEV III
- Spring adjustment for perfect tolerance compensation
- Multiple functional products available and in serial production
- Extraordinary designed fuel caps (e.g. metal chromed, galvanized plastic)
- One-stop shop – development and production of the entire energy storage systems

Applications

- European premium OEMs
- European OEMs
- Asian premium OEMs
- American OEMs

SOP

Ideation → Discovery → Concept → Development → Series Preparation → in Production

Contact: discovermore.magnasteyr@magna.com

Radiator Cap

Radiator closing systems with different pressure ranges.

Competitive advantage/differentiators

- Flexibly adjustable opening range of the valves (according to customer requirements)
- Marking according to customer requirements
- Multi-stage valve function can be implemented

Applications

- European premium OEMs

SOP

Ideation | Discovery | Concept | Development | Series Preparation | in Production

Contact: discovermore.magnasteyr@magna.com

Oil Caps

Delivery of about 5 million oil cap solutions to prestigious customers.

Competitive advantage/differentiators

- Double- and four-times bayonets
- Threads and spring clips to connect the oil cap with the filler neck
- radial and axial sealing concepts
- Temperature resistant up to 130°C
- Marking on the oil caps by using tampon, laser printing or a 2K injection molding process

Applications

- European premium OEMs
- European OEMs
- Asian OEMs
- American OEMs

SOP

Ideation | Discovery | Concept | Development | Series Preparation | in Production

Contact: discovermore.magnasteyr@magna.com

SCR Caps

Modular manufacturing solutions for entire SCR Systems.

Cleaner

Competitive advantage/differentiators

- Entire SCR system supplier (tank, pipe, cap)
- Modular manufacturing solutions
- Temperature resistance down to -40°C
- Membrane controlled system ventilation

Applications

- European premium OEMs
- European OEMs
- Asian OEMs
- American OEMs

SOP

Ideation | Discovery | Concept | Development | Series Preparation | in Production

Contact: discovermore.magnasteyr@magna.com

Stainless Steel Filler Pipe

High flexibility in production volume and design with short lead times for serial and prototype delivery.

Competitive advantage/differentiators

- High flexibility in variants for high volume programs
- One-stop shop – development and production of the entire energy storage systems
- Steel and plastic energy storage systems (tank, filler pipe, cap)

Applications

- European premium OEMs
- European OEMs

SOP

Ideation | Discovery | Concept | Development | Series Preparation | in Production

Contact: discovermore.magnasteyr@magna.com

Plastic Filler Pipe

A large product portfolio on plastic pipes with simple and complex geometric design

Lighter

Competitive advantage/differentiators

- lower weight a cheaper price than steel filler pipes
- integration off functional valves is very simple
- high corrosion resistance
- easy connection to the tank system (welding)

Applications

- European premium OEMs

SOP

Ideation | Discovery | Concept | Development | Series Preparation | in Production

Contact: discovermore.magnasteyr@magna.com


MAGNA
Forward. For all.