



# Corporate Profile

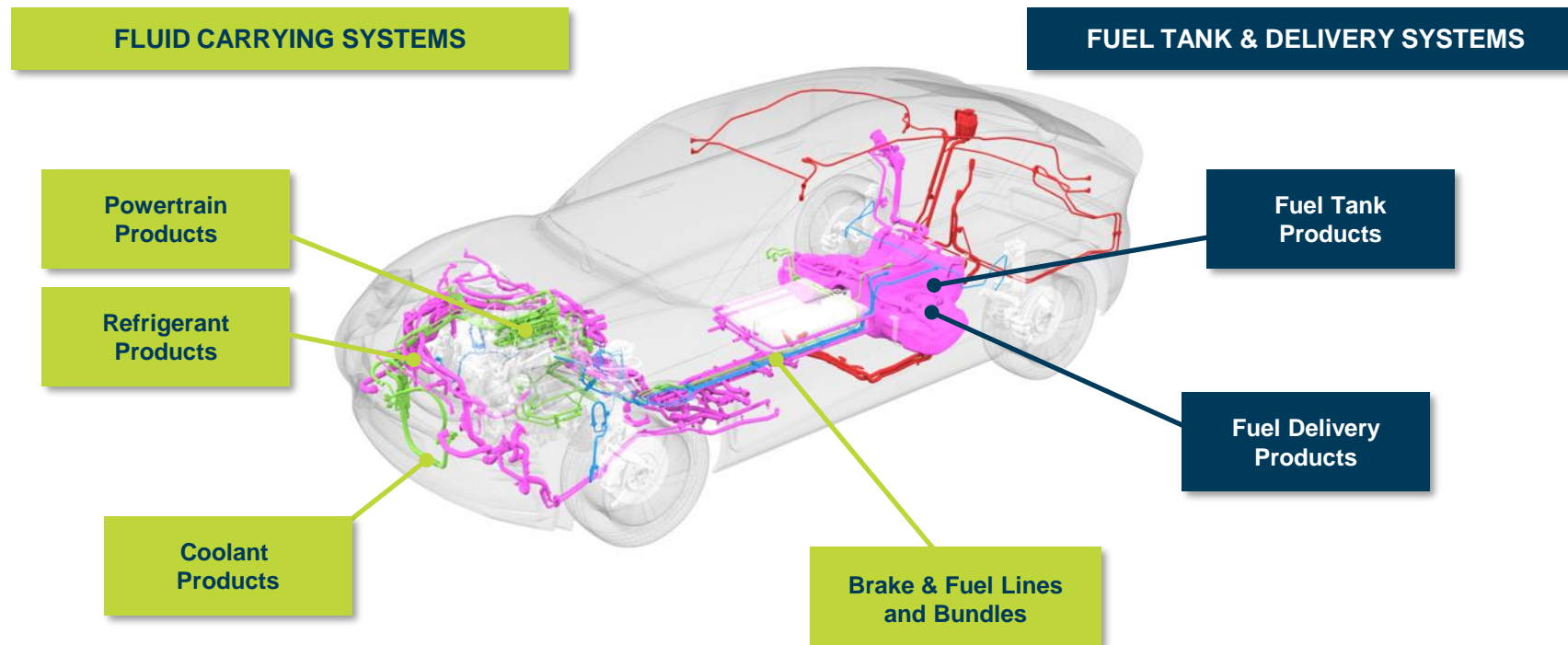
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April 2023

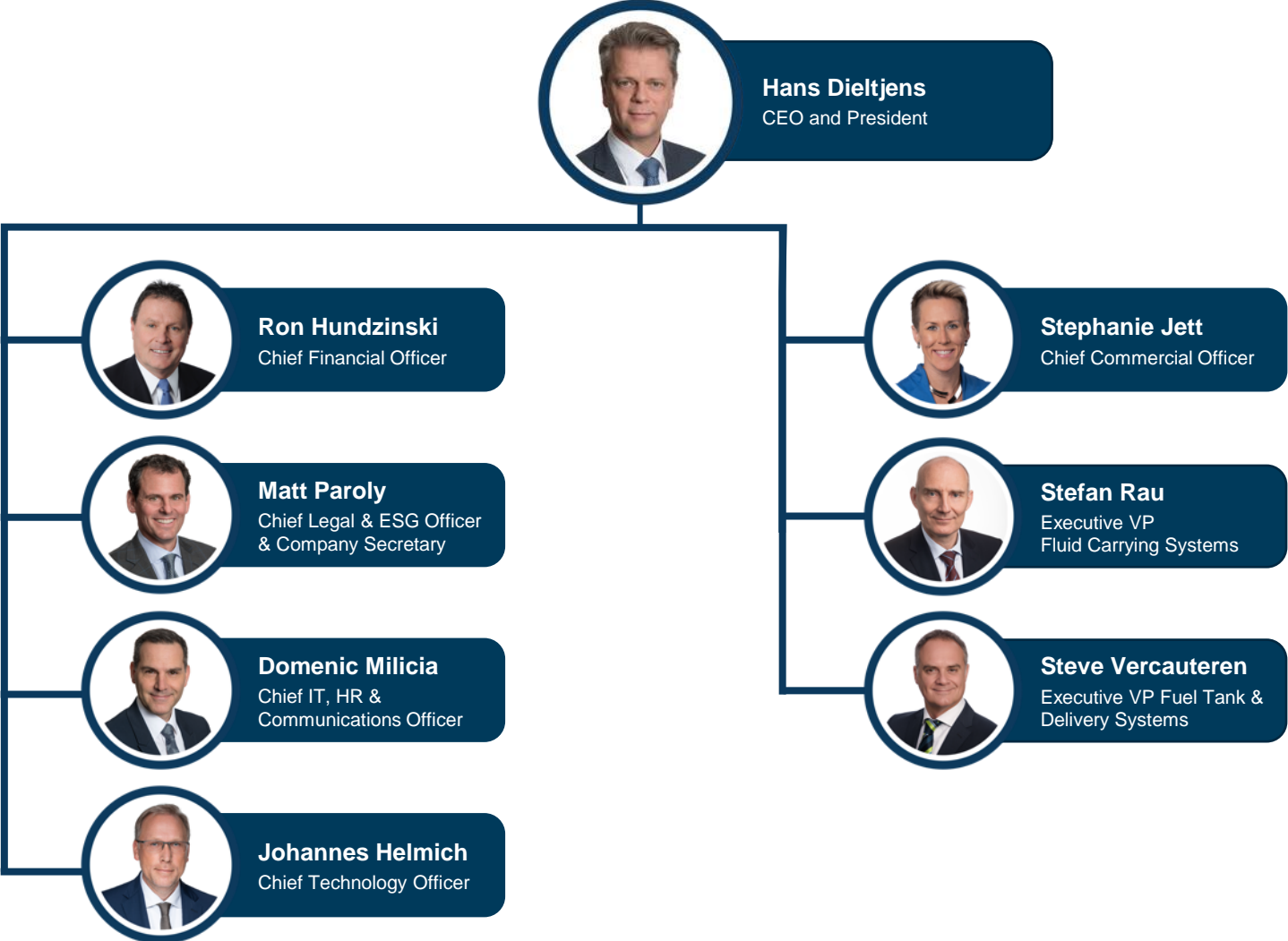


# Leading Fluid Systems Technology

TI Fluid Systems commits its integrated global resources exclusively to developing advanced **fluid storage, carrying and delivery systems** to enable customers to differentiate their products, be competitive and more effectively meet regulatory requirements for performance, safety and emissions.



# Executive Leadership Committee



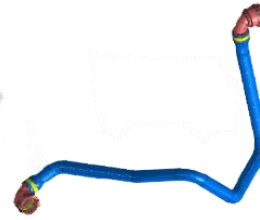
# Fluid Carrying Systems Product Portfolio

Design, development and manufacture of integrated fluid carrying assemblies

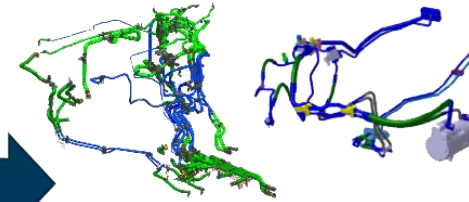
## THERMAL PRODUCTS



Refrigerant  
Hoses & Lines  
(Cooling)

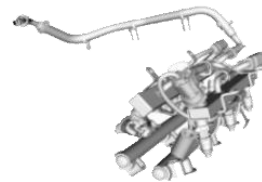


Coolant  
Hoses & Lines  
(Heating)

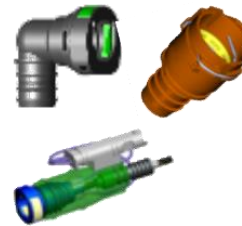


Thermal Loop Assys  
(Battery, Electronics,  
Motor Drives, Cabin Comfort)

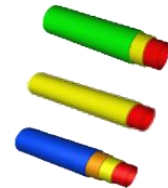
## BRAKE & FUEL LINES AND BUNDLES



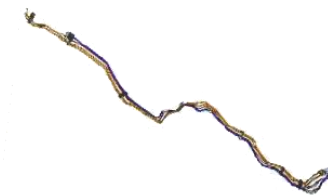
Powertrain  
LPI, GDI and HPD



Quick  
Connectors



Multi-Layer Plastic  
Tube Construct



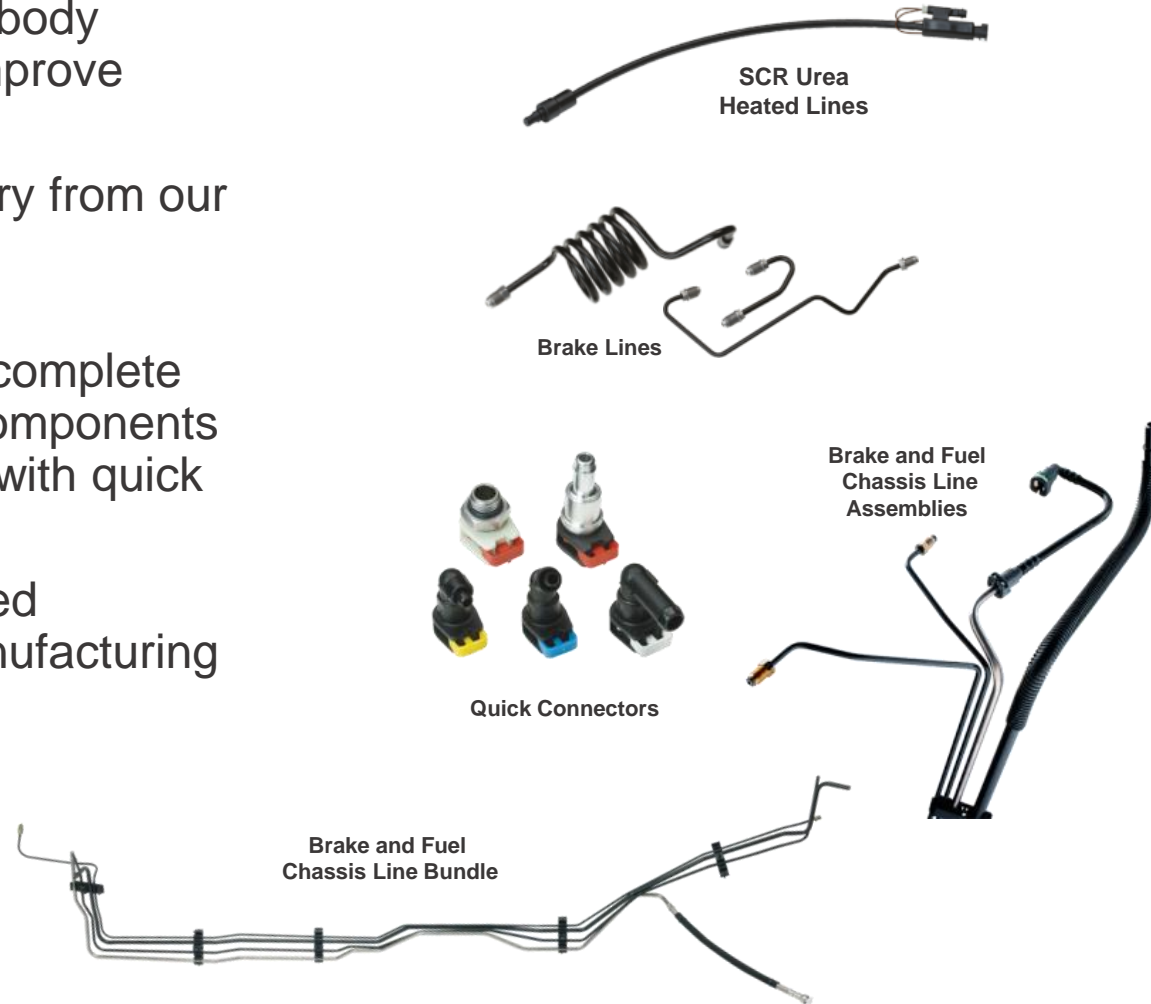
Brake Lines  
Fuel Lines  
SCR Heated Lines  
Brake and Fuel Bundles

Full integration of all plastic, rubber, aluminum, and steel solutions

# Fluid Carrying Systems

## Brake & Fuel Lines

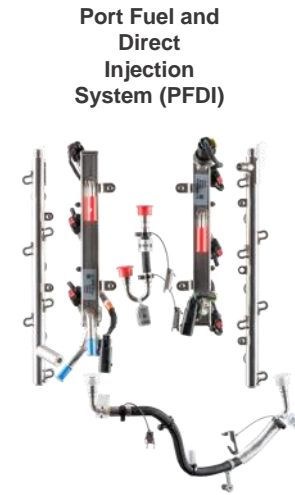
- Brake and fuel lines that optimize underbody space, utilize the latest materials and improve installation speed
- Just-in-time supply or sequenced delivery from our global network of operations, or on-site production
- Capability and competency in handling complete fluid carrying systems as well as core components such as metal and plastic tubing, along with quick connector technology
- Vertical integration, with highly automated processes and facilities for regional manufacturing



# Fluid Carrying Systems

## Powertrain Products

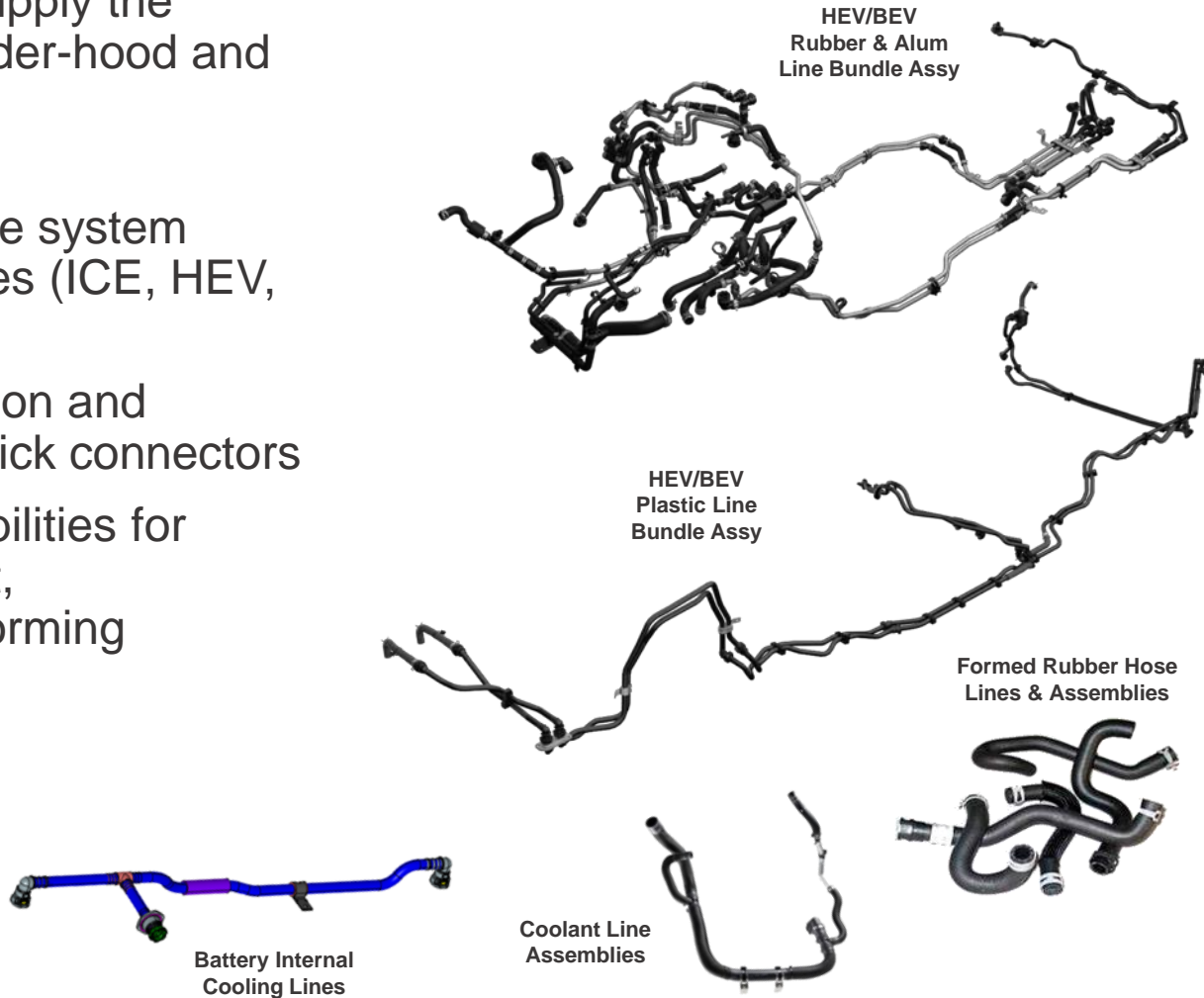
- Powertrain products that are related to HPD, GDI, MPI and Turbocharger engine systems
- Global Advanced Technology and Engineering capabilities and competencies in USA, Germany, Korea and China
- Stainless steel tube bending, forming and brazing
- Understanding safety, technical and quality aspects
- Powertrain fuel system expertise from fuel pressure pump to engine injectors
- Low- and high-pressure sealing systems
- Global manufacturing footprint
- Fluid system know-how



# Fluid Carrying Systems

## Coolant Products – All Propulsion Types

- Complete product portfolio range to supply the automotive market with coolant for under-hood and chassis temperature applications
- Capable of integrating and innovating to identify lightweight and cost-effective system solutions for all vehicle propulsion types (ICE, HEV, BEV)
- Capability and competency in production and assembly, including methods using quick connectors
- Global product competency and capabilities for materials: rubber and plastic construct, compounding, extruding, curing and forming

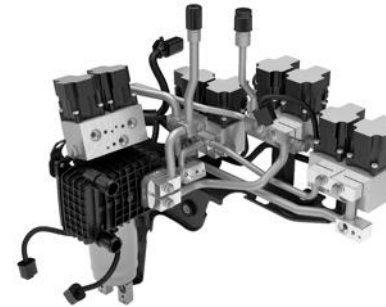




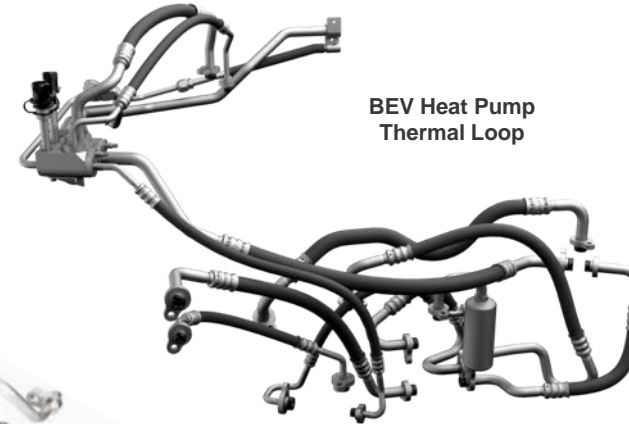
# Fluid Carrying Systems

## Refrigerant Products – All Propulsion Types

- Complete product portfolio range to supply the automotive market with refrigerant cabin comfort air-conditioning and heat pump thermal loops and assemblies
- Capable of integrating and innovating to identify lightweight and cost-effective system solutions for our customers
- Capability and competency in production and assembly methods of various connection types
- Global product range in all materials (rubber, aluminum & engineered polymers)



R744 (CO<sub>2</sub>) Heat  
Pump Valve  
Assembly



BEV Heat Pump  
Thermal Loop



AC Lines with  
Internal Heat  
Exchanger



AC Compressor  
Hose Assemblies



Accumulators and  
Receiver Dryers



# Fluid Carrying Systems

## Business Position

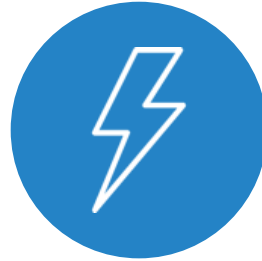
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Pivoting management and engineering know how we have today for tomorrows electrified market



Family of economical nylon lines and connectors meeting growing customer requirements



Continued launch of key EV programs with thermal fluid handling product technology



Leveraging existing material know-how, OEM customer relationships, engineering, and assets for new EV opportunities

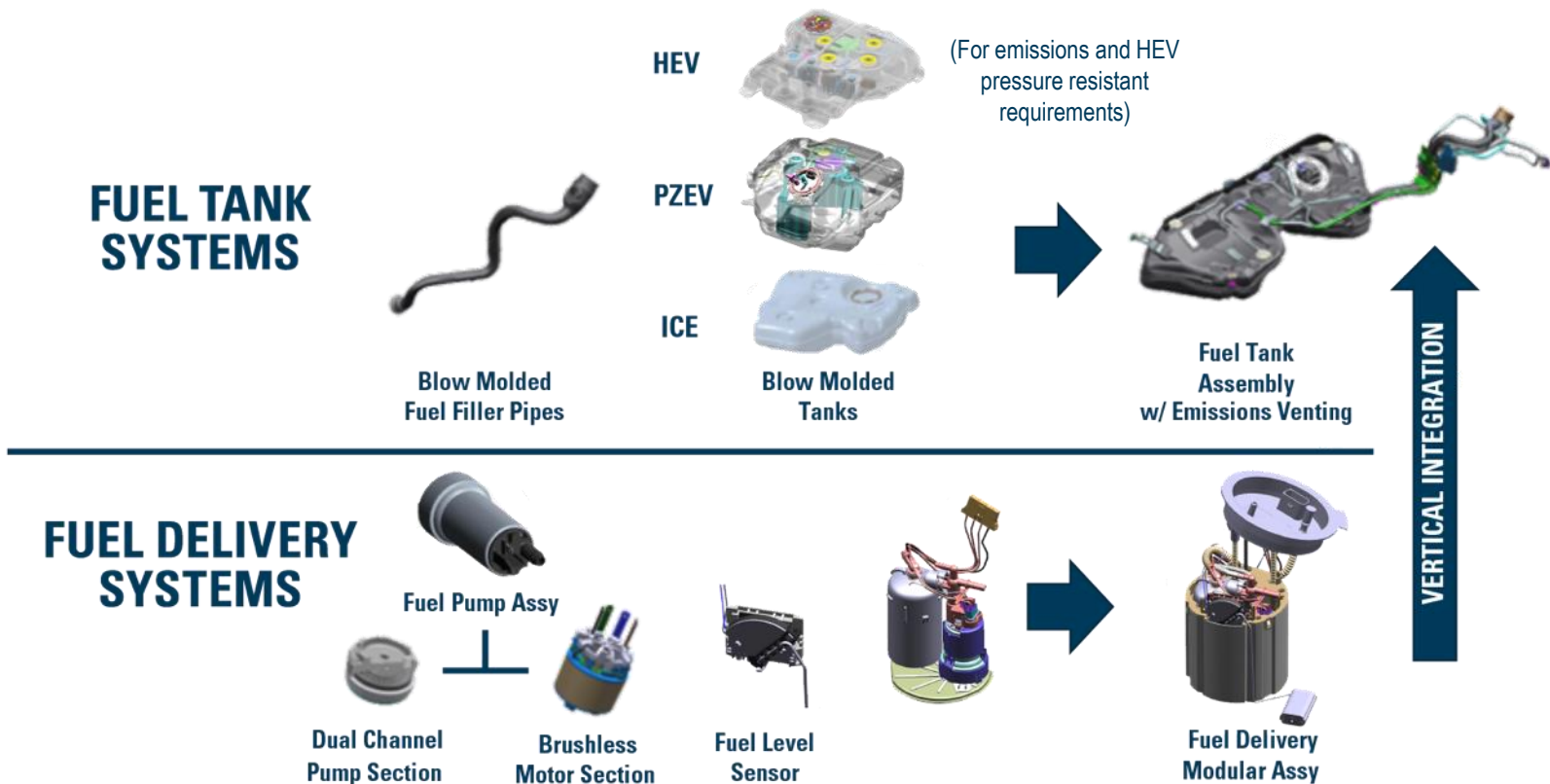


Light weight thermal fluid handling solutions for OEM EV applications

# Fuel Tank & Delivery Systems

## Product Portfolio

Design, development and manufacture of integrated fuel tank assemblies



Unique position to supply full vehicle fuel system

# Fuel Tank & Delivery Systems

## Fuel Tank Products

- Innovative, industry-leading product line of integrated fuel storage solutions for diesel, gasoline and flex fuel systems designed for improved performance, reduced emissions, pressure resistance and low weight
- Specifically engineered to vehicle design, packaging, safety, and regulatory requirements
- Vehicle systems competency and capabilities for engineering design analysis, development testing and advanced manufacturing processes



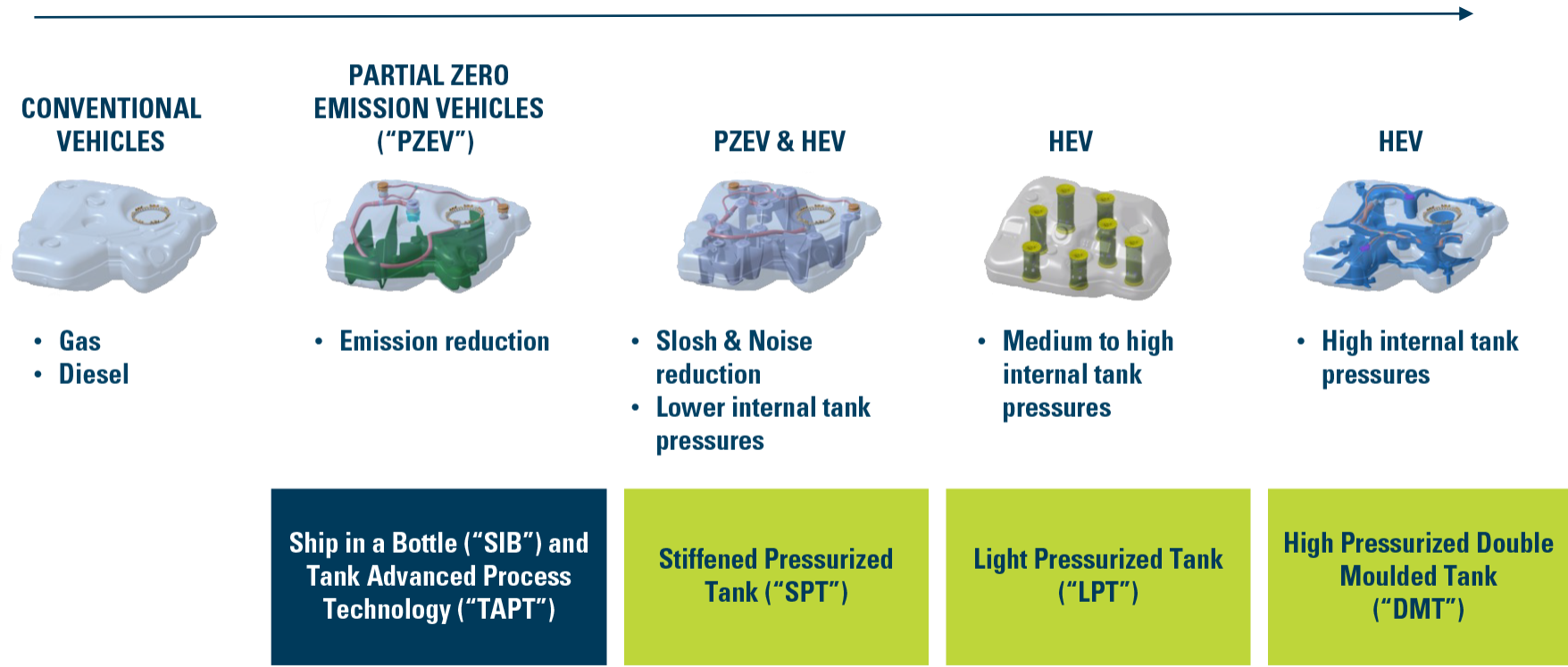
Hybrid Electric Vehicle  
Pressure Resistant / Slosh  
Minimization Fuel Tanks  
w/ Tank Advance Process Technology  
(TAPT)

# Fuel Tank & Delivery Systems

## Plastic Fuel Tank Portfolio

Technology developed to meet evaporative emission standards and hybrid vehicle requirements

Blow molded tank shell design development



# Fuel Tank & Delivery Systems

## Fuel Delivery Products

- A comprehensive product line of fuel delivery pump and module assemblies for gasoline, diesel, flex-fuel and exhaust treatment applications
- Award-winning dual-channel, single-stage fuel pump technology for high-pressure, high-flow engine requirements
- Brushed and brushless product portfolio for all fuels – gas, diesel, flex fuel
- Vehicle systems competency and capabilities for engineering design analysis, development testing and advanced manufacturing processes



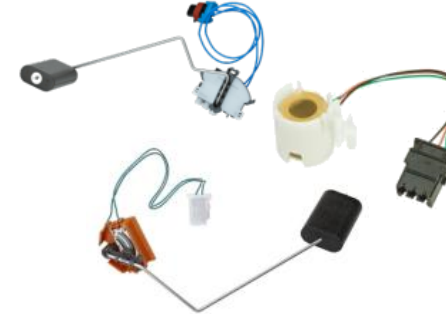
SCR UREA Pump Module



DCSS Fuel Pump



Fuel Modules



Fuel Level Sensors

# Fuel Tank & Delivery Systems

## Business Position

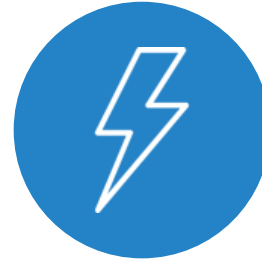
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Management focuses on growth, operational and quality excellence



Continued growth opportunities in steel to plastic transfer in Asia Pacific and HEV (globally)



Flexible product technologies for all ICE and HEV applications



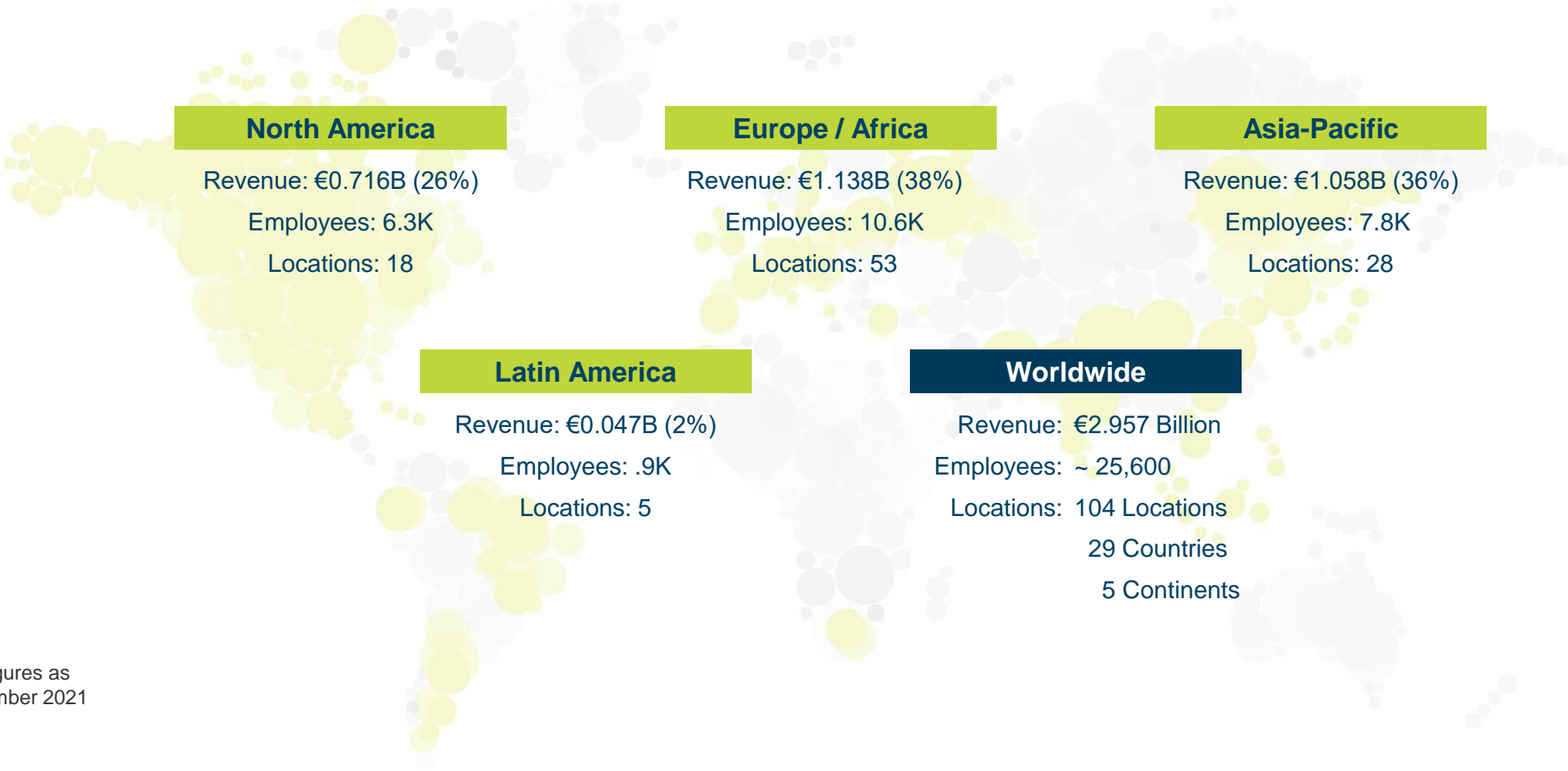
Global footprint, flexible cost structure and high vertical integration



PHEV, HEV and brushless pump technologies supporting greener, cleaner vehicles

# Global Overview

## Revenue, Employees and Manufacturing Locations



Note: Figures as  
of December 2021



# Summary

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TI Fluid Systems is:

- Focused and committed to **automotive fluids** and is pivoting well with the electric vehicle trend
- A worldwide leader in fluid **storage, delivery and carrying technology**
- A **global manufacturer** with a **strong footprint** in all major countries supplying world-class, quality products
- A **competent and capable** supplier, providing **innovative technology** that helps automakers meet increasing regulations by improving fuel efficiency and reducing emissions
- Successful in growing **collaborative relationships** with its customers
- Prepared for the future with an experienced **management team** and operating structure that is **aligned with industry needs**

