## Start-Stop Vehicles Reduce Emissions & Boost Fuel Economy

#### LEAD BATTERIES PROVIDE THE POWER

Start-stop technology is a design feature used by most automotive manufacturers to meet the market demand of improved fuel efficiency, increased performance, and reduced emission of greenhouse gases. Made possible by advanced lead batteries, this innovative feature stops the engine when the car idles, keeps accessories powered, and seamlessly restarts when the driver is ready.



#### Growth

Nearly every new car and truck includes a lead battery for starting, lighting, ignition (SLI) functions, which can also support start-stop technology.



#### Global (by Percentage)

From 2021-2027, the market for automotive start-stop systems is predicted to grow at nearly 6% (CAGR).

#### **U.S. Market Penetration (Millions)**

~30.6 million vehicles in the U.S. have start-stop technology (2022).



#### ~65% of U.S. Vehicles

In model year 2022, approximately 65% of U.S. vehicles included the start-stop feature, compared to 9% in 2016.

#### +50% Light-Duty Trucks

In 2022, light-duty trucks represented over 50% of start-stop vehicle production in the U.S.



### Reduce CO<sub>2</sub> Emissions

Start-stop technology eliminates nearly 10 million tons of greenhouse gas emissions annually in the U.S.

**Benefits** 

Start-stop is essential to sustainable transportation.

#### **Boost Fuel Economy**

Engine-off time can yield fuel savings ranging from 5-10%.



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#### **Driver Comfort**

Start-stop is quiet and seamless, with no loss in comfort, safety or entertainment functions.

#### **Easy and Affordable**

Automakers can easily apply start-stop technology to traditional internal combustion engines.



