

# Mobility and Energy Future

Examining key areas of change for the global transportation ecosystem and the implications for the automotive, energy, technology and chemical industries.

Personally-owned cars  
versus mobility services



Human-operated  
versus driverless cars



Gasoline/diesel versus  
electric powertrains

IHS Markit's Mobility and Energy future subscription (MEF) is jointly produced by our Automotive and Oil Markets, Midstream, Downstream, and Chemicals research groups, and draws on the expertise of researchers from across the company. It has a cross-industry client base, addressing correlated trends affecting participants in varied markets:



### Automotive Manufacturers and Suppliers

- Changes in car ownership and usage patterns
- Sales and fleet outlooks by powertrain and degree of autonomy
- Continually-updated battery electric and plug-in hybrid vehicles sales trends
- Battery supply chain development



### Oil & Gas Producers and Refiners

- The pace of non-ICE powertrain adoption, and implications for peak oil and refined product demand timing
- Fuel consumption pattern differences for autonomous vehicles
- Differential regional impacts for refined product demand



### Chemical Producers

- Impact of refined product demand changes on feedstock availability and pricing
- Degree to which changes in LV design affect materials demand from the automotive sector
- Implications of competing battery designs for source materials



### Utilities

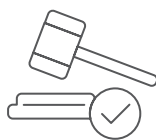
- Consumer charging behavior and trends in infrastructure investment
- Degree to which transportation drives electric power demand growth
- Impact of new battery technology on stationary storage

Mobility and Energy Future (MEF) offers scenario-based forecasts built on our IHS Automotive data bases of light vehicle and medium/heavy vehicle sales and fleets. Our long-term outlooks identify the market implications for the automotive and energy sectors, and highlight the key drivers of the new mobility paradigm, including new technologies and policies.



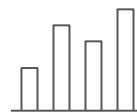
### Understand Competing Technologies and Business Models

- Evolving battery technologies
- Autonomous vehicle sensor arrays and processing systems
- Economics of "new mobility" transport options



### Monitor Policy Developments

- Fuel efficiency standards and regulation of particulate emissions
- Subsidies and tax credits for vehicles and infrastructure
- City-level moves to ban powertrains/vehicles, impose congestion charges, ZEV mandates



### Assess Market Impacts Quantitatively

- Sales and fleet outlooks globally by powertrain
- Vehicle miles traveled by personally owned vehicles and ride hailing fleet vehicles
- Decline in gasoline and diesel demand by region
- Impact on chemical materials and feedstocks

## Service Deliverables

**Monthly automotive sales for 11 key markets including China, US, Germany, Italy, Spain, France, Canada.**

- Data on total LV sales, with battery electric and plug in hybrid subtotals
- Analysis and implications

**Light Vehicle Long term forecasts in two scenarios**

- Global vehicle miles traveled analysis
- Detailed channel analysis (personal or ride hailing) by key market
- Detailed channel analysis of autonomous technology adoption
- Sales outlooks to 2050 by power train by region and country
- Fleet outlooks to 2050 by powertrain by region and country
- Fuel economy standards by region and country
- Transport fuel demand by region and country (battery electric, plug in electric, natural gas, fuel cell, ethanol, gasoline, diesel) to 2050

**Periodic analysis of key developments and trends**

- Emissions and other regulatory policies
- Penetration of autonomous technologies, new mobility business models, and new powertrains
- Mobility demand modeling and VMT trends
- Technological developments in new mobility technologies

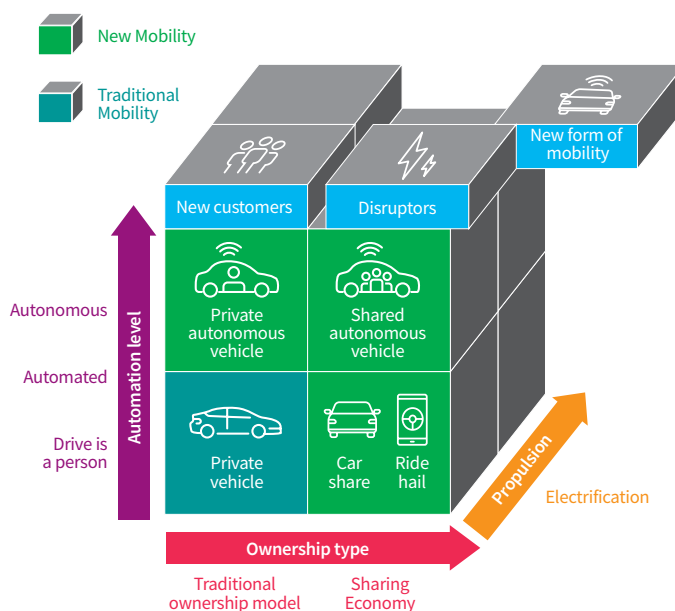
**Medium and Heavy Vehicle (MHV) long-term forecasts in two scenarios**

- Outlooks for fleet and sales by powertrain in China, US, Europe, Japan
- Fuel economy assumptions and fuel demand by market
- Total cost of ownership analysis
- Coverage of autonomous technologies

**Chemicals long-term forecast demand for vehicle applications**

- Materials impact
- Feedstock analysis

**Invitation to two semi-annual client workshops with presentations and client roundtable discussions**



## Pioneering Analysis of Mobility

MEF traces its origins to the pioneering Reinventing the Wheel (RTW) one time study, developed in 2016, which integrated IHS Markit capabilities across our automotive and energy segments to deliver a uniquely comprehensive picture of the future of light vehicle mobility and its implications for related industries. Clients requested continuing analysis of the rapidly-changing mobility space, and the Mobility and Energy Future subscription service was launched in 2017.

**New for 2019 is the inclusion of medium and heavy vehicle (MHV) content.** Derived from the larger 2018 Reinventing the Truck one time study, the incorporation of this coverage enables us to provide clients with an integrated view of diesel and gasoline demand for the road transportation segment in our two core scenarios, and to consider related impacts of new mobility technologies and business models.

To learn more about the Mobility and Energy Future service, visit [ihsmarkit.com/MEF](https://ihsmarkit.com/MEF)

## About IHS Markit

IHS Markit (Nasdaq: INFO) is a world leader in critical information, analytics and solutions for the major industries and markets that drive economies worldwide. The company delivers next-generation information, analytics and solutions to customers in business, finance and government, improving their operational efficiency and providing deep insights that lead to well-informed, confident decisions. IHS Markit has more than 50,000 key business and government customers, including 80 percent of the Fortune Global 500 and the world's leading financial institutions. Headquartered in London, IHS Markit is committed to sustainable, profitable growth.

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