

IHS Markit

Automotive Advisory Services

IHS Markit Automotive Advisory

Uniquely positioned for your most complex challenges

Project Overview: LCV Market Study and Sales Forecast

[ihsmarket.com](https://www.ihsmarket.com)


Steven van Arsdale Senior Consultant, Automotive Advisory EMEA



Automotive Advisory

We deliver customized solutions based on unmatched combination of information, insight, and expertise

Providing an unmatched combination of information, insight, and expertise by transforming in-house and open data into knowledge and customizing scenario-based solutions to overcome your greatest strategic and operational challenges

- 
- ✓ **Reduce risk**
 - ✓ **Streamline business planning**
 - ✓ **Accelerate informed decisions**



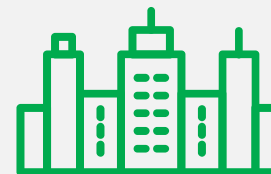
Execute **strategic multi-faceted** consulting projects



On the ground experts in over **130 offices** in **36 countries**



Team members with extensive **automotive industry backgrounds**



Partner to more than **80%** of the **Global Fortune 500** & **95%** of the **OEMs and suppliers**

Automotive Advisory – Our Global Practice Areas

We help you navigate uncertainty and provide a lasting impact on your long-term performance



Technology & Mobility

Combining industry-experience and strategic-insights with technology-databases and diverse industry contacts to benchmark, analyze, and forecast the critical enablers and solutions in the rapidly-developing automotive technology landscape



Compliance & Powertrain Studies

Providing a scenario-based outlook into global electrified-powertrain rollout while identifying business impacts, mitigation strategies and response approaches with tailored assessment of a comprehensive set of compliance influencers



Sales / Volume / Market Planning

Providing in-depth, custom scenario planning and insights to vet and support market strategies as a proven business partner of major global OEMs



OEM Sales and Marketing

Driving significant ROI helping OEMs and NSCs on high-spend, high-impact sales and competitive positioning efforts leveraging a full range of proprietary automotive data assets



Dealer Network Planning

Delivering cutting edge value through innovation and efficiencies as global network planning and optimization partner of OEMs and NSCs

Automotive Advisory – Data sources

IHS Markit analyst teams maintain expertise and forecasts in critical vehicle, powertrain, and component areas, which we integrate into our customized advisory projects wherever relevant

Light Vehicle Sales Forecasts

Delivers insight on sales volume, market demand, segment growth, and competitive dynamics

Light Vehicle Production Forecasts

Gives OEMs and suppliers the ability to size and identify new opportunities, defend against competitors, and optimize current programs, capacity, and business performance

Light Vehicle Powertrain Forecasts

Deliver industry-leading analysis for current and future powertrains and advanced propulsion technologies combined with CO2/Fuel Economy forecasts

Components and Technology Systems Forecasts

Provides insight into the market trend of components and component-systems, covering powertrain, thermal, electronics, interior, digital-interfaces, and ADAS

Medium and Heavy Commercial Vehicle Forecasts

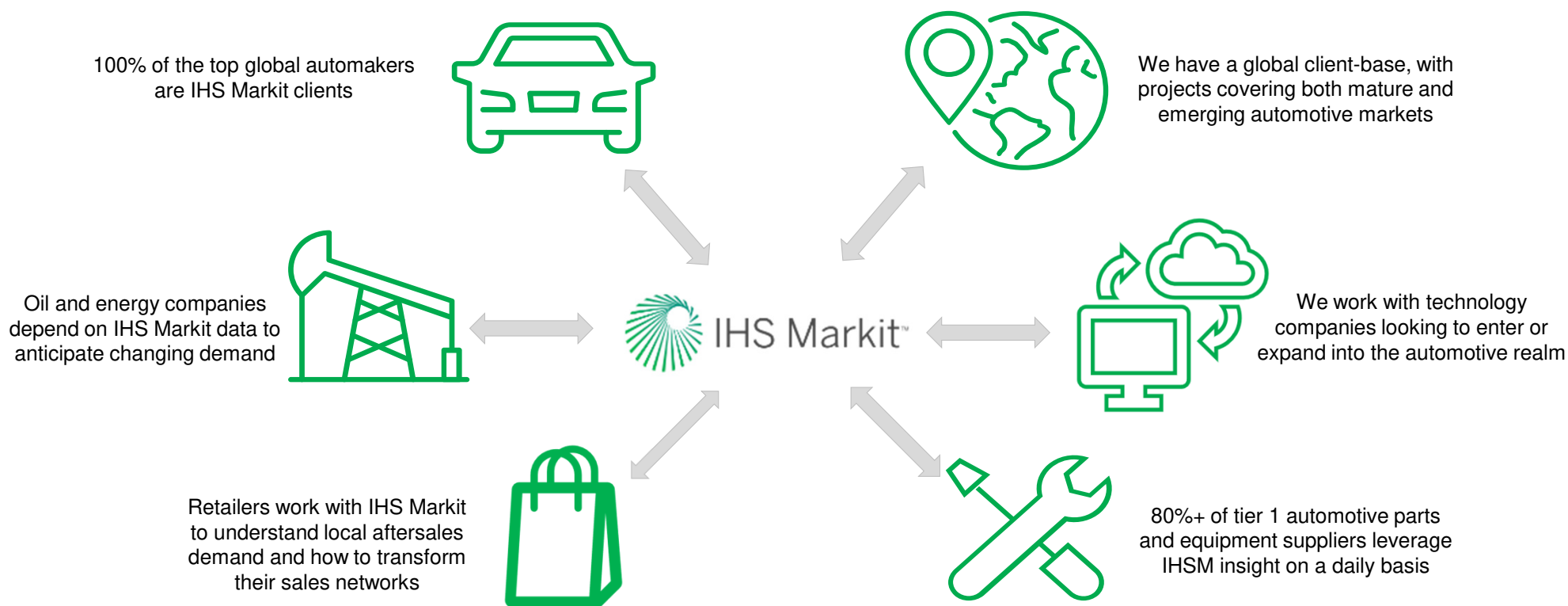
Sales and production insight by manufacturer, segment, and plant

New & Used Vehicle Registrations/ VIO Data

Data is available at micro levels of detail (i.e. make, model, engine)

Automotive Advisory – leveraging our extensive Industry relationships

We support a broad range of clients who through daily interactions provide ongoing insights and feedback



Automotive Advisory – What we do

We are positioned to handle a diverse range of strategic projects across the automotive domain

OEMs	Suppliers	Tech Companies	Financial Institutions
Competitor Analysis and Benchmarking			
Market-Analysis and Market-Entry Strategies			
Supply value-chain assessment			
Regional and country-level market studies			
Technology sector evaluation and implementation strategies			
Scenario forecasts for specific markets and segments			
Customized databases and forecasts			

Evaluating future trends around:



Industry

Markets

Technology

Competition

Business-models

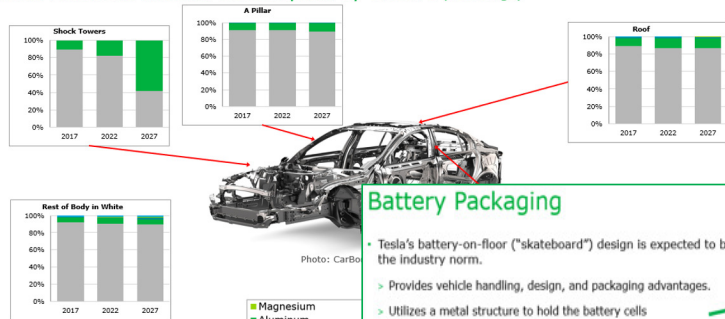
Regulations

Automotive Advisory – What we do

We are positioned to handle a diverse range of strategic projects across the automotive domain

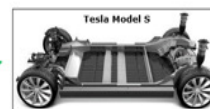
Material Forecast Analysis

North American Material Consumption by Closure (Net Usage)



Battery Packaging

- Tesla's battery-on-floor ("skateboard") design is expected to become the industry norm.
 - Provides vehicle handling, design, and packaging advantages.
 - Utilizes a metal structure to hold the battery cells
 - This also acts as a structural sub-frame assembly for the vehicle.
 - The "skateboard" design offers significant advantage over designs like the Chevrolet Volt, which eliminated middle rear seat foot space and are prone to coolant leaks.
- Significance: This affects how OEMs approach vehicle design.
 - Near-term: OEMs electrify existing vehicle platforms, few examples of dedicated, ground-up, electrified vehicle design.
 - Mid-term: Mix of traditional and electrified platforms, electrified vehicle platforms become more versatile.
 - Long-term: Abundant need for dedicated electrified vehicle platforms will be satisfied by just a few modular platforms per OEM: Small sedan/hatch, larger sedans, and SUV/CUV.



Market regulations – Russia

Scrapping charge

- Exceptions:
- Vehicles manufactured in free customs zone (Kaliningrad region)
 - Vehicles imported by persons eligible to the gov. program on supporting re-settlers and refugees
 - Old-timers (vehicles >30 years old)
 - Vehicles used by diplomatic missions

Effective since 2012 for imported vehicles, both new and used, and since 2014 for locally built vehicles

Scrapping charge rates for new passenger vehicles (legal entities)

Engine volume	Prior to Apr 2018	Since Apr 2018
< 1000 cc	28,400 RUR (€ 384)	33,000 RUR (€ 447)
1001-2000 cc	44,200 RUR (€ 598)	84,000 RUR (€ 1,136)
2001-3000 cc	84,400 RUR (€ 1,142)	126,000 RUR (€ 1,706)
3001-3500 cc	114,600 RUR (€ 1,550)	114,600 RUR (€ 1,550)
>3500 cc	181,600 RUR (€ 2,457)	181,600 RUR (€ 2,457)
EVs	28,400 RUR (€ 384)	32,600 RUR (€ 441)

Scrapping charge rate for private persons: 3,400 RUR (€ 46)

Timeline

Sep 2012	Scrapping charge on imported vehicles introduced to offset the effect of customs duties reduction in course of Russia's WTO admission.
Jan 2014	Pressured by WTO, Russia applies scrapping charge to locally built vehicles. In exchange, OEMs with local production receive government subsidies depending on annual output.
Sep 2016	Scrapping charge increased up to 65% depending on vehicle category to mitigate the effect of ruble depreciation and customs duties reduction by 2%.
Apr 2018	Scrapping charge increased by 14.8% to 90% depending on vehicle category.
2020	Next round of the scrapping charge increase under negotiation – introduction approx. Jan 2020.

Confidential. © 2019 IHS Markit®. All rights reserved.

Evaluating future trends around:



Industry

Markets

Technology

Competition

Business-models

Regulations

LCV Market Study and Sales Forecast

Recent OEM-oriented Projects – LCV Market Study and Sales Forecast

European LCV market analysis with a special focus on the electrification trend

New

Light Commercial Vehicle Market Study and Sales Forecast

EU30 aggregated forecast covering markets such as Germany, France, Spain and Poland; looking at product strategies and electrification

Key Question(s)



- What is powertrain of choice for LCVs and what will be the share of electrified powertrains in the future?
- What are the obstacles to pricing of eLCVs and when will the TCO breakeven point be reached eLCVs?
- What is the potential threat from new players and entrants?
- How will electrification be different for passenger vehicles and commercial vehicles?

IHS Markit Automotive Advisory's unique-approach

We begin by doing a market and OEM specific deep dive analysis, looking at:



- **Country specific CO2 regulations, city bans, charging infrastructure development and government support** – complete market framework
- **Current and future OEM product offerings based on IHS Markit production and sales data** – CO2 compliance check to evaluate assumptions
- **TCO analysis** – evaluating when BEV parity will be reached, depending on country specific parameters
- **Use cases review** – impacting the electrification potential by sector and segment

Target Groups



- OEM Product Management and Product-Planning teams
- OEM Sales Planning Teams
- LCV Tier 1 and Tier 2 Suppliers

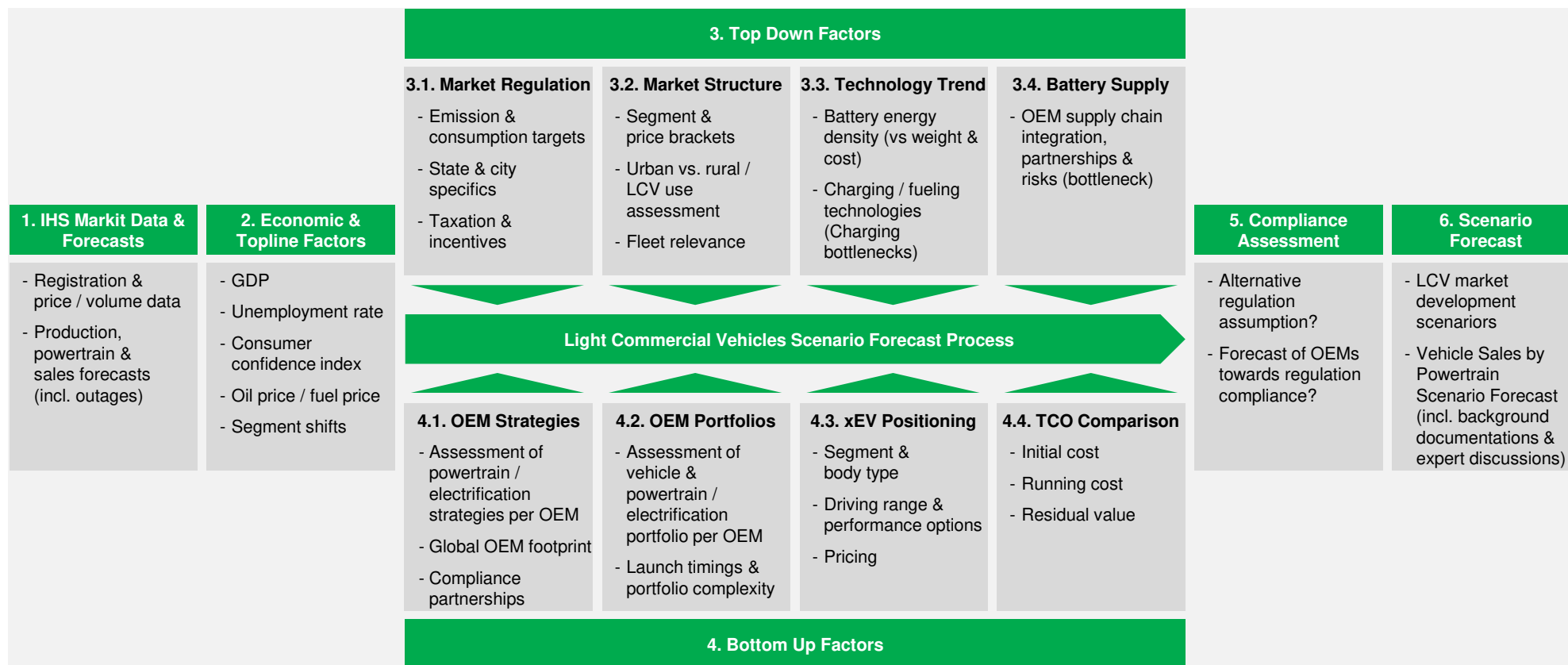
Updates



- Project piloted in Q1/2020, update potential to examine additional markets or special topics

Sales by Powertrain Scenario Forecast – Methodology

The forecast combines both a top down and bottom up approach for transparency, flexibility and traceability



Findings of Interest – LCV Market Study and Sales Forecast

A significant shift towards greener transportation is underway in the commercial sector

Findings of Interest

COVID-19

- There will be an impact on the total LCV topline for the next few years

eLCV

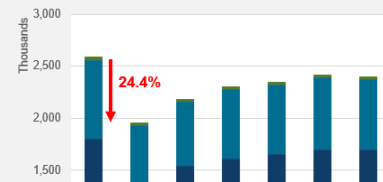
- Is the preferred powertrain option for city usage and smaller LCVs
- The current AER of eLCVs is already sufficient for a range of use cases
- Private consumers still require a longer AER and lower upfront cost

Fuel Cell

- Long-term prospects in the larger LCV segments, especially for applications where payload and a long range are critical

Market Framework

- Many countries are looking to reduce local emissions
- LCVs are often neglected when it comes to national support schemes and regional ones are often not sufficient to kickstart the trend on a large scale
- Regional projects and test-runs for eLCV are ongoing to prove the viability of various use cases and learn from the experience
- Market readiness for eLCVs varies greatly between countries



Germany – Regulation

Implemented subsidy schemes help to mitigate but not eliminate the list price gap of BEV to ICE

Government Level	City Level
Tax Support <ul style="list-style-type: none"> Privately used company cars are taxed with 1% of their list price. For all electric and plug-in hybrid cars the taxable base is halved from 1.1.2019. Plug-in hybrids need a CO₂ electric range of at least 40km to qualify for the lower tax. For cars with less than 50 km CO₂ electric range, the taxable base is halved from 1.1.2020 if the CO₂ electric range is at least 20 km. Private cars benefit from a 10% discount on the purchase price of the vehicle. Private cars benefit from a 10% discount on the purchase price of the vehicle. Grants <ul style="list-style-type: none"> BEV vehicles are subsidized with €6,000 if their list price is below €40,000 and with €5,000 for cars up to a list price of €45,000. Plug-in hybrids are subsidized with up to €4,500, if they do not exceed 50 g/km CO₂ emissions. The Government has assigned a budget of €2.8bn for overall support of electrification and has set a time limit for end of 2025. There are various additional subsidies from federal state governments to add to the national scheme. 	Entry Bans <ul style="list-style-type: none"> The national environmental organization (BUND) has filed lawsuits against cities who violate air quality thresholds which resulted in several cases of so-called "red zones" from certain city areas in big German cities like Stuttgart or Hamburg. These bans have raised public awareness of the air quality issues and discouraged people from buying diesel cars mostly PV. Licenses and bans are continuously threatened to be put in place in several German cities. The governmental and public opinion mostly sides with the diesel drivers, whereas affected municipalities have been taking steps to improve the situation. Non-financial Incentives <ul style="list-style-type: none"> Many municipalities ponder the idea of tax breaks as incentives for EVs, but "selective" periods. Discount plans to extend "environmental zones" for buses, taxis, fleets and also EVs. Free parking for EVs is a general practice in many German cities, like Stuttgart, Munich, Cologne, Frankfurt, Leipzig, Hamburg, Berlin or Dortmund. ICEs parked at charging stations are often fined. Non-financial incentives are expected to be short-lived. As soon as CO₂ becomes more common, they are likely to be phased out.

Spain – City Restrictions

City restrictions are currently carried out in five Spanish cities

Madrid	Valladolid	Barcelona	Valencia	Balearic Islands
<ul style="list-style-type: none"> Effective since 2010 and revised 2019 Spanish vehicles must have a sticker "Distribución Ambiental" to drive in Madrid There are various scenarios depending on the emissions level, as the air quality gets worse the restrictions get stricter Commercial vehicles are currently still exempt from parking when CO₂ emissions are less than 100 g/km 	<ul style="list-style-type: none"> Effective since 2017 and revised 2020 Some alerts on Valencia with slightly different exemptions 	<ul style="list-style-type: none"> Effective since 2017 and revised 2020 Spanish vehicles are encouraged to have the "Distribución Ambiental" sticker to drive in L2 Best for Euro 2 (positive cars and vans or Euro 3 or older diesel) – from Monday through Friday 7am to 9am Fines start at €100 Measure will impact around 50,000 vehicles daily One year exemption: Lorries, buses, coaches and vans 	<ul style="list-style-type: none"> Effective since June 2017 Two or three levels of alerts for NO₂ and PM10 Total restriction on vehicle traffic is possible and even includes motorcycles and mopeds, various vehicles are exempted Currently exempted delivery vehicles <3.5t, vehicles <3.5t PM10, LPM and CMO Fine for failing to comply is €90 	<ul style="list-style-type: none"> Then on the registration of new diesel cars from 2025 and new petrol cars from 2035

Charging Infrastructure Status/Outlook – France

Comparably strong EV acceptance supported by infrastructure – private charging preference aiding readiness

Infrastructure Distribution	Total Public Charging Points and EV Sales
2020 Total land area (km²): 551,500 Highway (km): 11,018 Total passenger car park: 33,000,132	<ul style="list-style-type: none"> 2019: 28% AC & 1% DC charging points French charging preference strongly favors private home or workplace charging with ~90% Government funding and incentivization further aided by private players prepares for high EV acceptance

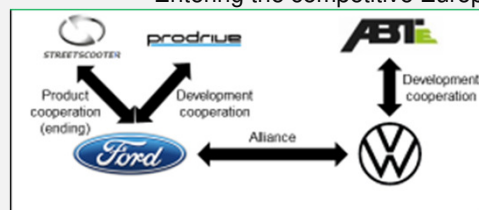
Findings of Interest – LCV Market Study and Sales Forecast

A significant shift towards greener transportation is underway in the commercial sector

Findings of Interest

OEM Strategies

- OEMs working to create partnerships with various logistic and delivery firms
- Many traditional OEMs are making conservative and low-cost investments, using existing passenger car electric motors and battery components
- Both foreign OEMs and new startups are preparing to enter the European LCV market
- New players with purpose-built dedicated eLCVs, are looking to shake up the traditional LCV market and are only focused on electrified powertrains
- Entering the competitive European LCV market, however, is not without many challenges for a new brand



- In January 2019, Ford and VW formed a global alliance, with LCV development being a major part of the cooperation
- Both brands will maintain distinct brand characteristics and some shared manufacturing
- They will join forces on EV future in house development using expertise from current and upcoming PC BEVs
- ABT and Prodrive are seen as temporary partners until next generation products launch. IHSM expects this because the volumes will increase significantly.



MHEV

- Important solution for reducing CO2, especially in high traffic urban environments
- Cost effective solution for countries with an upfront or yearly CO2 based taxation
- High potential in lower segments, possibility to replace some diesel LCVs with petrol MHEV

TCO

- CO2 compliance is not the major driver of electrification in the LCV market in the short term
- Depending on the use case and government incentives, the eLCV breakeven point is quickly approaching, especially in lower segments



Market Consolidation

- Many OEMs are working together on LCV development with partnerships or alliances

Recent OEM-oriented Projects – LCV Market Study and Sales Forecast

European LCV market analysis with a special focus on the electrification trend

New

Light Commercial Vehicle Market Study and Sales Forecast

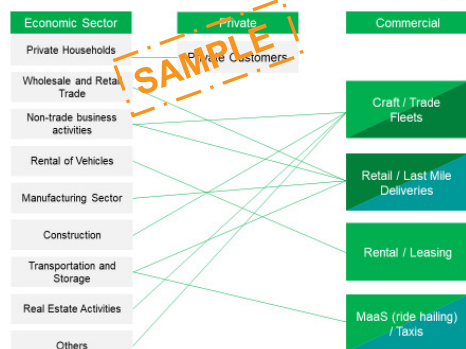
EU30 aggregated forecast covering markets such as Germany, France, Spain and Poland; looking at product strategies and electrification

Use Case Analysis



Use Cases and Customers - Methodology

Defined customer groups are linked to specific Economic sectors to detail the use cases

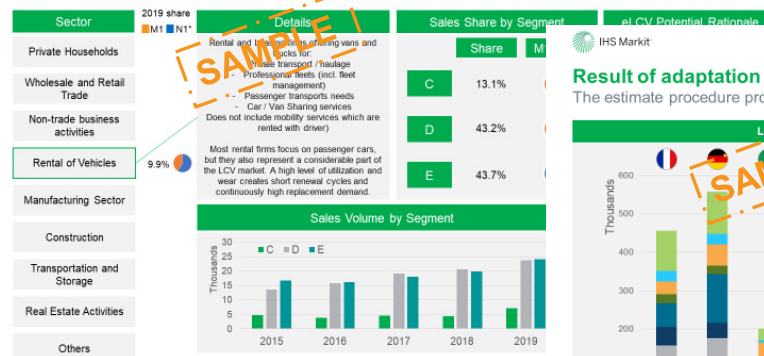


© 2020 IHS Markit. All Rights Reserved.



Use Cases and Customers by Economic Sector – Example Germany

Most LCVs are rented for a short time period and customers therefore have less environmental concerns



*) Share of M1 and N1 vehicles for respective sector; 2019 registration numbers
All numbers registrations in Germany but used as proxy for countries France, Italy, Spain and Poland



Result of adaptation of assumptions to other countries

The estimate procedure provides an LCV market split by economic sector for the other countries



© 2020 IHS Markit. All Rights Reserved.

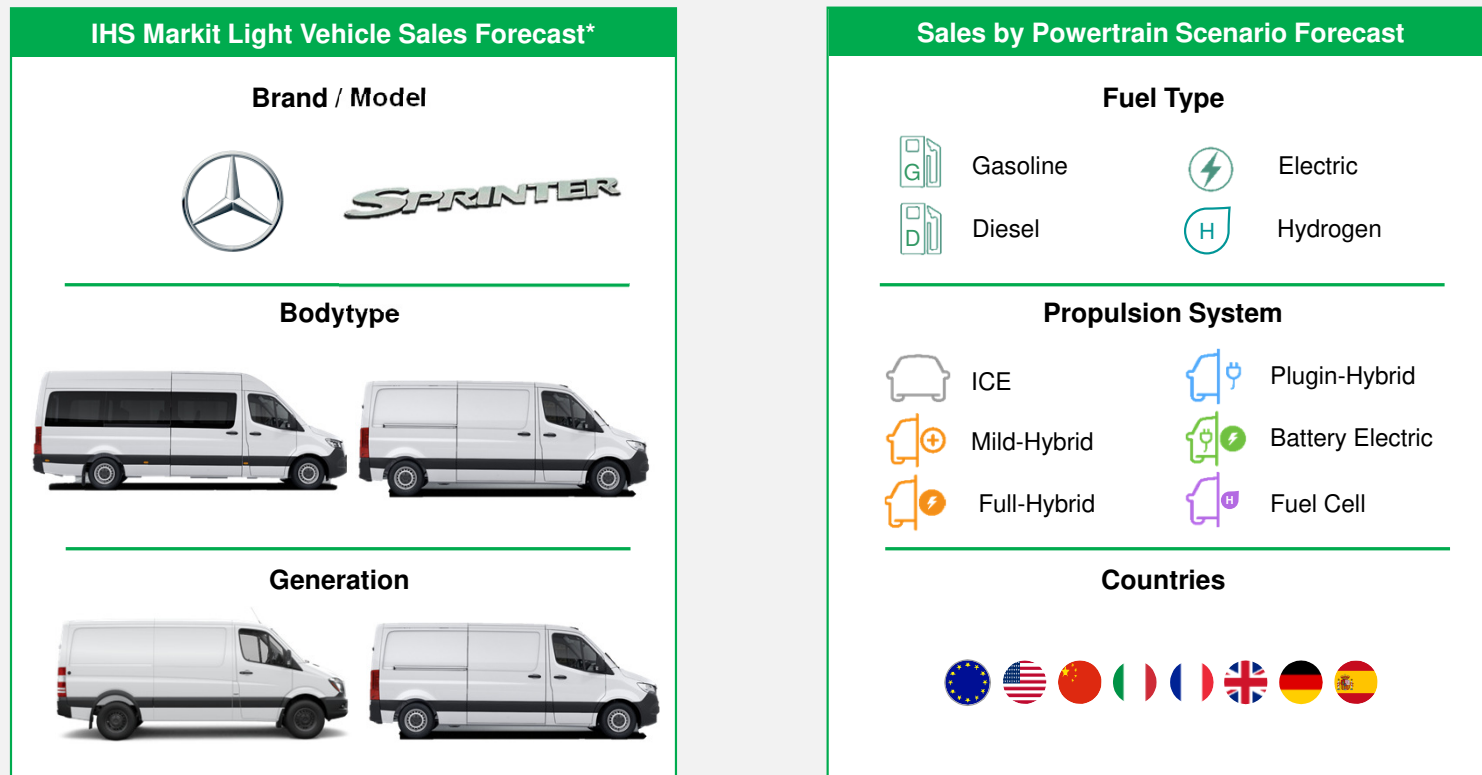
*) Share of M1 and N1 vehicles for respective sector; 2019 registration numbers for Germany (Source: KBA)
**) Branches according to NACE listing; IHS Markit translation from German original

63

Sales by Powertrain Scenario Forecast

The Standard Vehicle Sales Forecast identifies some but not all BEVs via nameplate or platform

The sales by Powertrain Scenario Forecast provides a breakdown to Fuel Type and PSD for selected markets



Service Sample

Example of the Renault Kangoo Van in France

Sample Excel Dataset (2019 - 2031)

Deliver fields

Delivery includes dataset in Excel and complete analysis shown above in PowerPoint

- Sales Market
- Sales Parent
- Sales Brand
- Sales Model
- Platform
- IHS Markit Segmentation
- **Custom Client Segmentation**
- Off Type
- Bodytype
- Fuel Type
- Propulsion System Design
- 2019 – 2031

Sales Market	Sales Parent	Sales Brand	Sales Model	Platform	IHSM Segment	Off Type	Bodytype	Fuel Type	Propulsion System Design	CY 2019	CY 2020	CY 2021	CY 2022
France	Renault-Nissan-Mitsubishi	Renault	Kangoo / Kangoo Passenger	C	C	CV	Van	Diesel	ICE	38388	22297	2729	0
France	Renault-Nissan-Mitsubishi	Renault	Kangoo / Kangoo Passenger	C	C	CV	Van	Electric	BEV	3806	3358	716	0
France	Renault-Nissan-Mitsubishi	Renault	Kangoo / Kangoo Passenger	C	C	CV	Van	Gas	ICE	2375	1398	44	0
France	Renault-Nissan-Mitsubishi	Renault	Kangoo / Kangoo Passenger	C	C	PV	Van	Diesel	ICE	6211	5175	657	0
France	Renault-Nissan-Mitsubishi	Renault	Kangoo / Kangoo Passenger	C	C	PV	Van	Gas	ICE	20	17	1	0
France	Renault-Nissan-Mitsubishi	Renault	Kangoo / Kangoo Passenger	CMF-C/D	C	CV	Van	Diesel	ICE	0	0	25038	26897
France	Renault-Nissan-Mitsubishi	Renault	Kangoo / Kangoo Passenger	CMF-C/D	C	CV	Van	Diesel	Mild hybrid	0	0	0	0
France	Renault-Nissan-Mitsubishi	Renault	Kangoo / Kangoo Passenger	CMF-C/D	C	CV	Van	Electric	BEV	0	0	4379	6096
France	Renault-Nissan-Mitsubishi	Renault	Kangoo / Kangoo Passenger	CMF-C/D	C	CV	Van	Gas	Full Hybrid	0	0	0	2155
France	Renault-Nissan-Mitsubishi	Renault	Kangoo / Kangoo Passenger	CMF-C/D	C	CV	Van	Gas	ICE	0	0	1306	1499
France	Renault-Nissan-Mitsubishi	Renault	Kangoo / Kangoo Passenger	CMF-C/D	C	CV	Van	Gas	Mild hybrid	0	0	0	0
France	Renault-Nissan-Mitsubishi	Renault	Kangoo / Kangoo Passenger	CMF-C/D	C	PV	Van	Diesel	ICE	0	571	7493	7171
France	Renault-Nissan-Mitsubishi	Renault	Kangoo / Kangoo Passenger	CMF-C/D	C	PV	Van	Diesel	Mild hybrid	0	0	0	0
France	Renault-Nissan-Mitsubishi	Renault	Kangoo / Kangoo Passenger	CMF-C/D	C	PV	Van	Electric	BEV	0	0	727	882
France	Renault-Nissan-Mitsubishi	Renault	Kangoo / Kangoo Passenger	CMF-C/D	C	PV	Van	Gas	Full Hybrid	0	0	0	471
France	Renault-Nissan-Mitsubishi	Renault	Kangoo / Kangoo Passenger	CMF-C/D	C	PV	Van	Gas	ICE	0	92	872	887
France	Renault-Nissan-Mitsubishi	Renault	Kangoo / Kangoo Passenger	CMF-C/D	C	PV	Van	Gas	Mild hybrid	0	0	0	0

We are happy to discuss the LCV service in more detail, discuss pricing and answer any questions you might have.

We look forward to hearing from you.

Contacts for questions or further details:

Automotive@ihsmarkit.com

AsiaPacificAutomotive@ihsmarkit.com