

The Transformation Continues | A Look Ahead to 2022
Market Outlook

Brussels, January 2022

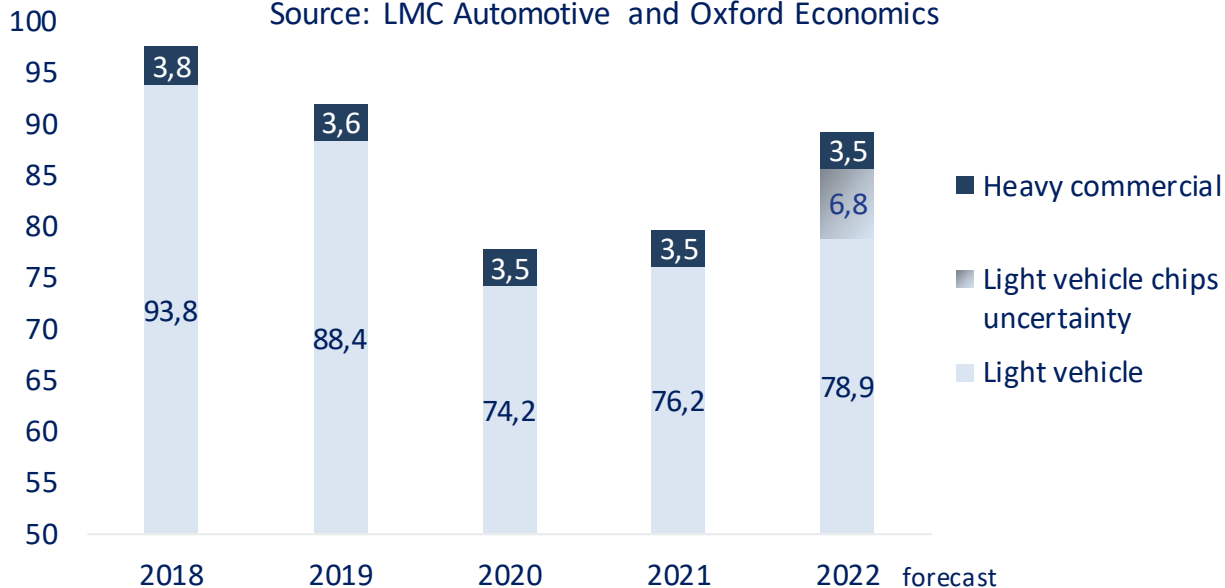
2022 MARKET OUTLOOK



Automotive suppliers prioritised investments in innovation despite volume losses

Global vehicle production in million units

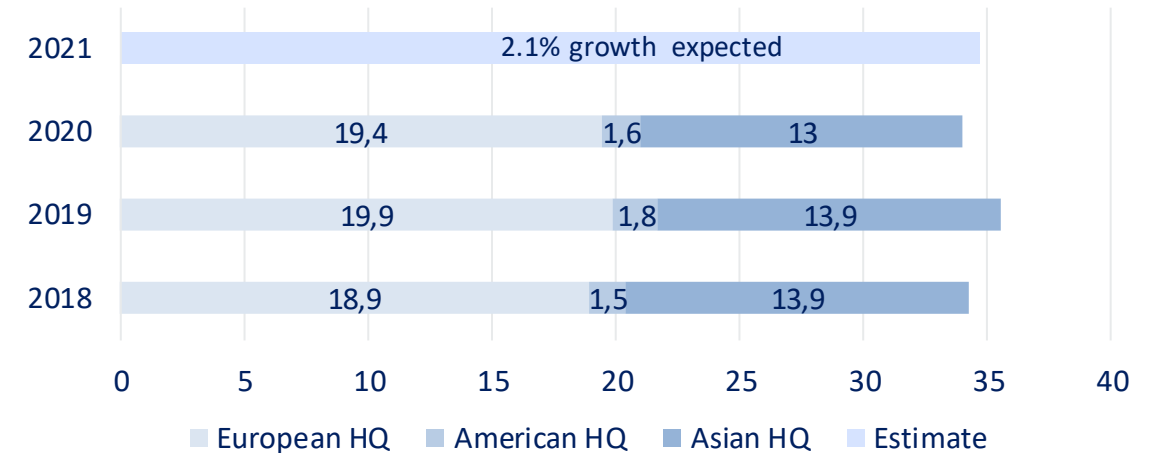
Source: LMC Automotive and Oxford Economics



- More than nine million unproduced vehicles over 2021 due to chips shortage
- 2022 production of four to seven million vehicles at risk
- 2022 could see return to pre-crisis levels, with European supply revenues approaching €350 billion

R&D investment top 56 suppliers in € billion

Source: PWC Strategy& and IHS Markit



- IHS survey data suggests that automotive suppliers increased their R&D budgets in 2021 by on average 2.1%
- Focus shift from hardware to software and electrical architecture, with e-mobility main area of investment
- Tier 1-2 suppliers responsible for 50% of e-mobility R&D, vehicle manufacturers (25%) and telco and tech (25%)

2022 MARKET OUTLOOK



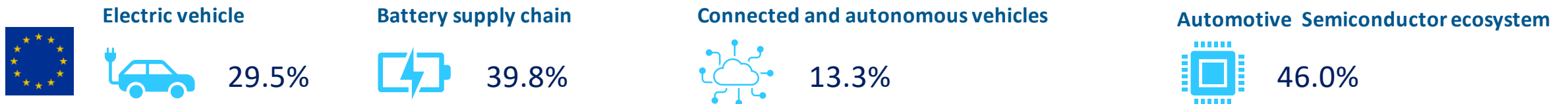
Automotive suppliers prioritised investments in innovation despite volume losses

Foreign direct investment innovative technologies, 2018-2021, €bn.

Source: FDI Markets, CLEPA Analysis, investment categories non mutually exclusive



Foreign direct investment into EU, share of global total, 2018-2021



- Foreign direct investment into greenfield projects expresses investments in new production and R&D facilities, headquarters and sales offices, distribution and logistics facilities
- Focus of FDI was on expanding capacities and capabilities related to electrification, whereas investments in digitalisation lagged
- EU continues to be an automotive powerhouse, sector's competitiveness is illustrated by attracting 30%, 40%, 13% and 46% of global FDI into respectively electromobility, battery supply chains, connected and autonomous driving and automotive semiconductors

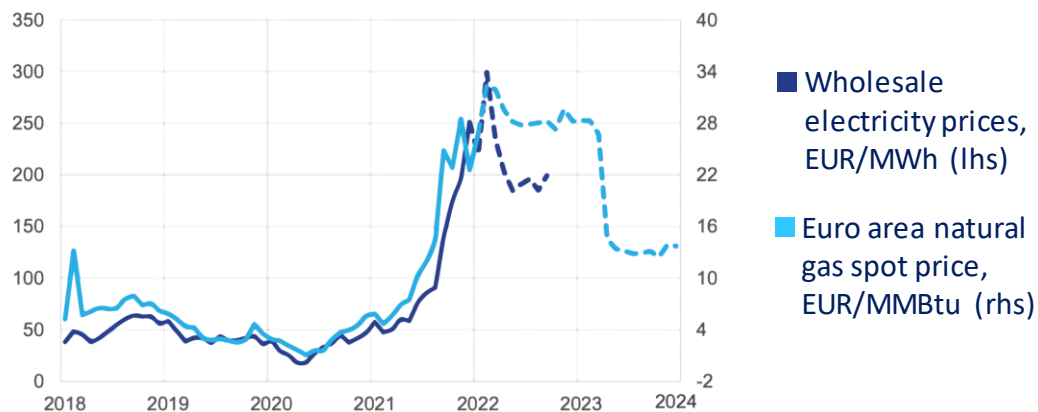
2022 MARKET OUTLOOK



Raw material, freight and energy decrease margins and challenge investment capabilities

Wholesale and future prices for electricity (left axis) and natural gas, Eurozone

Source: European Central Bank, 16 January 2022



“Energy prices have rocketed in Europe and Asia and more smelters will likely cut production before spring, pushing aluminium prices higher.” Commerzbank, 7 January 2022

*“**Container rates** have more than quadrupled since the start of the pandemic. Costs are moderating but returning to pre-pandemic shipping rates will require greater investment in infrastructure.”* International Monetary Fund, 13 January 2022

EU price of carbon contracts in EUR per tonne of CO₂



*“**Lithium** supply in **H1** will remain very **tight**. In H2, new supply can bring some relief to the market and maybe we will start to see some price correction.”* S&P Global, 14 December 2021

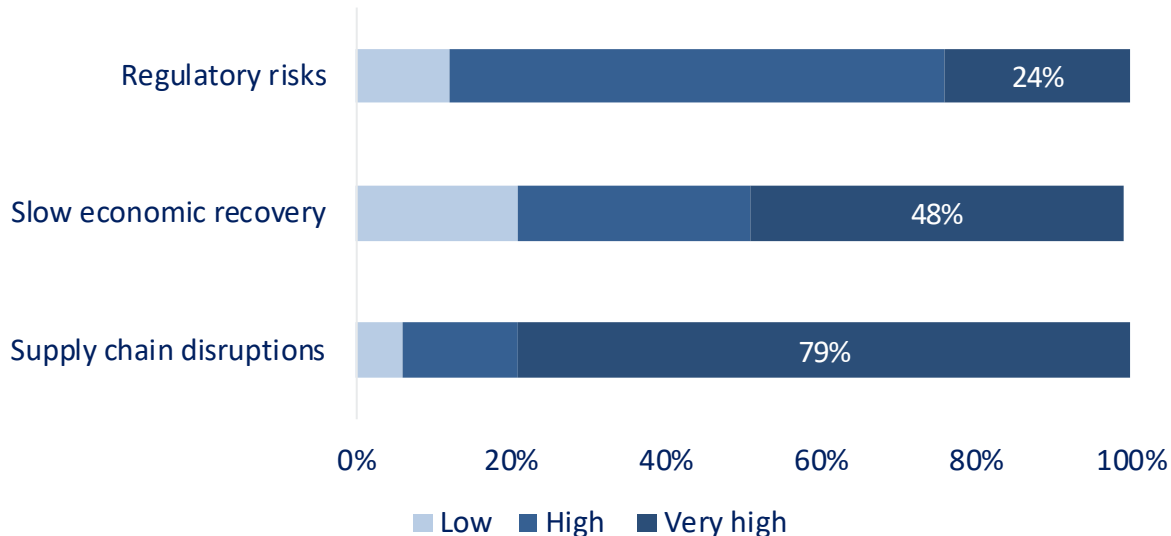
2022 MARKET OUTLOOK

Supply chain shortages continue to present a risk, real recovery may not happen before summer



Impact on business performance of suppliers

Source: McKinsey CLEPA pulse check, October 2021



- Supply chain concerns are significantly bigger concern than slow economic recovery or regulatory risks (e.g. fit for 55)
- 60% of suppliers is concerned about semiconductor shortages
- 32% is concerned about aluminium and raw material shortages
- The European supplier industry lost an estimated 1.5 billion in profits

*“Globally, we estimate that the **semiconductor shortage** will impact light vehicle production by almost **4mn units** in 2022. **H1** will account for over **80%** of the full-year estimated impact.”* LMC Automotive, 23 December 2021

“Energy usually accounts for around 40% of aluminium smelters' operating costs. With around 650,000 tonnes of capacity cut so far, we believe that another 900,000 tonnes of output is at risk of closing down fully or partially over high energy prices.” Bank of America, 7 January 2022

*“The exponential growth of electrified vehicles risks **electrical steel supply shortages** between **2023** and **2025**. In **2022**, assuming no other upstream and downstream disruption, we expect OEMs' orders being fulfilled.”* IHS, 14 December 2021

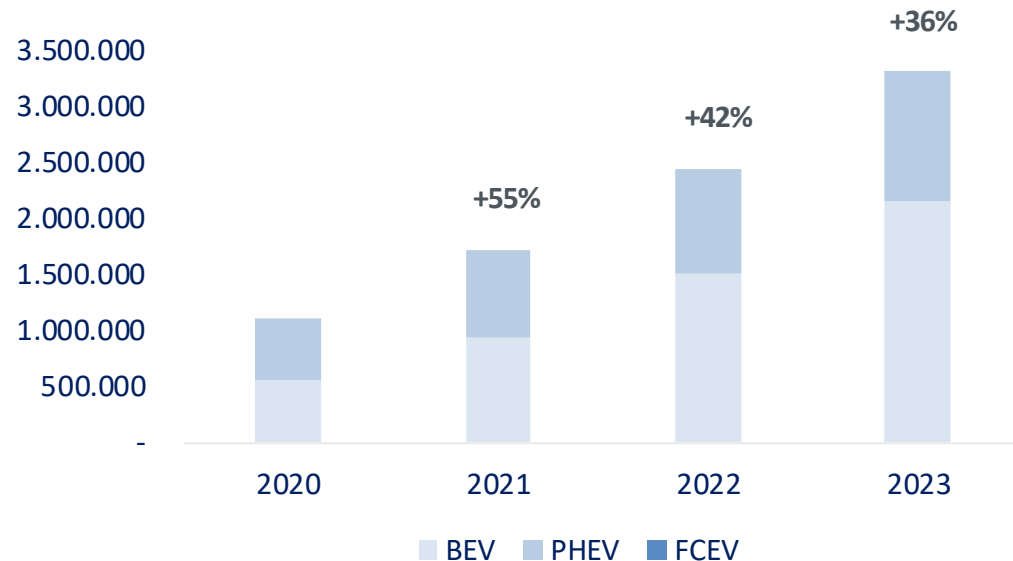
2022 MARKET OUTLOOK



2021 was tipping point for electric vehicle sales, growth will moderate in 2022

EU EV production forecast

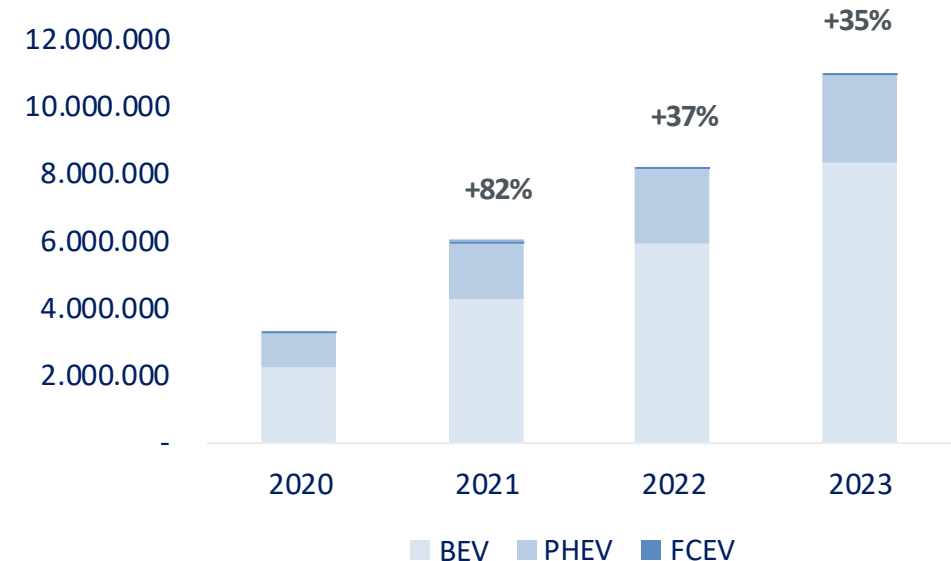
Source: LMC Automotive, October 2021



- Production of battery electric vehicles across the EU will surpass one million in 2022 for first time
- Production growth of plug-in hybrids will slow faster than battery electric's
- EU production of Battery Electric Vehicles and Plug-in hybrid electric vehicles will represent 30% of global production

Global EV production forecast

Source: LMC Automotive, October 2021



- Production of battery electric vehicles will surpass five million in 2022 for the first time
- Market share of plug-in hybrid in global production likely to hover around 40% in 2022
- Fuel cell electric vehicle uptake unlikely to accelerate before 2024

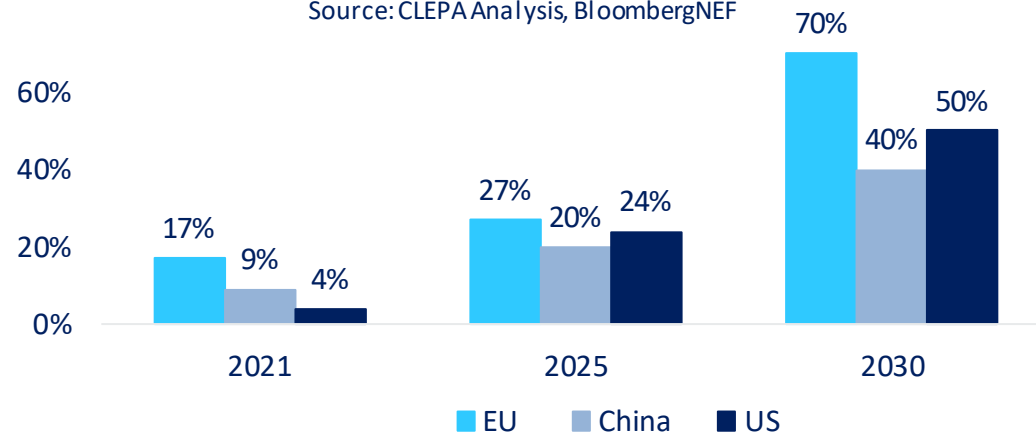
2022 MARKET OUTLOOK



EU regulations require incomparable fast transition, supply chain and cost present risks

Electric vehicles sales share of vehicle sales by region

Source: CLEPA Analysis, BloombergNEF



*“The **EU**’s proposed CO2 emissions standards imply that electric vehicles should account for **25%-32%** of sales in the bloc by **2025**, and **60%-83%** by **2030**. Proposed fuel economy rules in the **US** imply a **24%** market share for electric vehicle by **2026**, on the way to a **50%** share by **2030** under President Biden’s executive order. China targets **20%** new energy vehicles by **2025**, increasing to **40%** by **2030**.”* BloombergNEF, November 2021

*“Volvo (39%), BMW(20%), Daimler (20%) reached highest EV share of EU sales in H1 2021. **70%** of combined premium brand sales are **plug-in hybrids**.”* BloombergNEF, November 2021

*“The **cost** of **BEVs** could reach parity with ICE vehicles around **2025-2027** in Europe without subsidies. In the US petrol is significantly cheaper, pushing back the breakeven point. A **risk** is that **battery prices** won't continue to fall as before because of **soaring demand** for required metals like **lithium**, and growing scarcity,”* ING, December 2021

*“In a scenario consistent with climate goals, **expected supply** from existing mines and projects under construction is estimated to meet only **half** of projected **lithium** and **cobalt** requirements and **80%** of **copper needs** by 2030.”* IEA, June 2021

CLEPA brings together over 120 global suppliers of car parts, systems and modules and more than 20 national trade associations and European sector associations. CLEPA is the voice of the EU automotive supplier industry linking the sector to policy makers.

- The automotive sector accounts for 30% of R&D in the EU, making it the number one investor.
- European automotive suppliers invest over 30 billion euros yearly in research and development.
- Automotive suppliers register over 9,000 new patents each year.
- Automotive suppliers in Europe generate 1.7 million jobs.

CLEPA

Cours Saint-Michel 30g
B-1040 Brussels, Belgium
+32 2 743 91 30
www.clepa.eu



@CLEPA_eu



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