

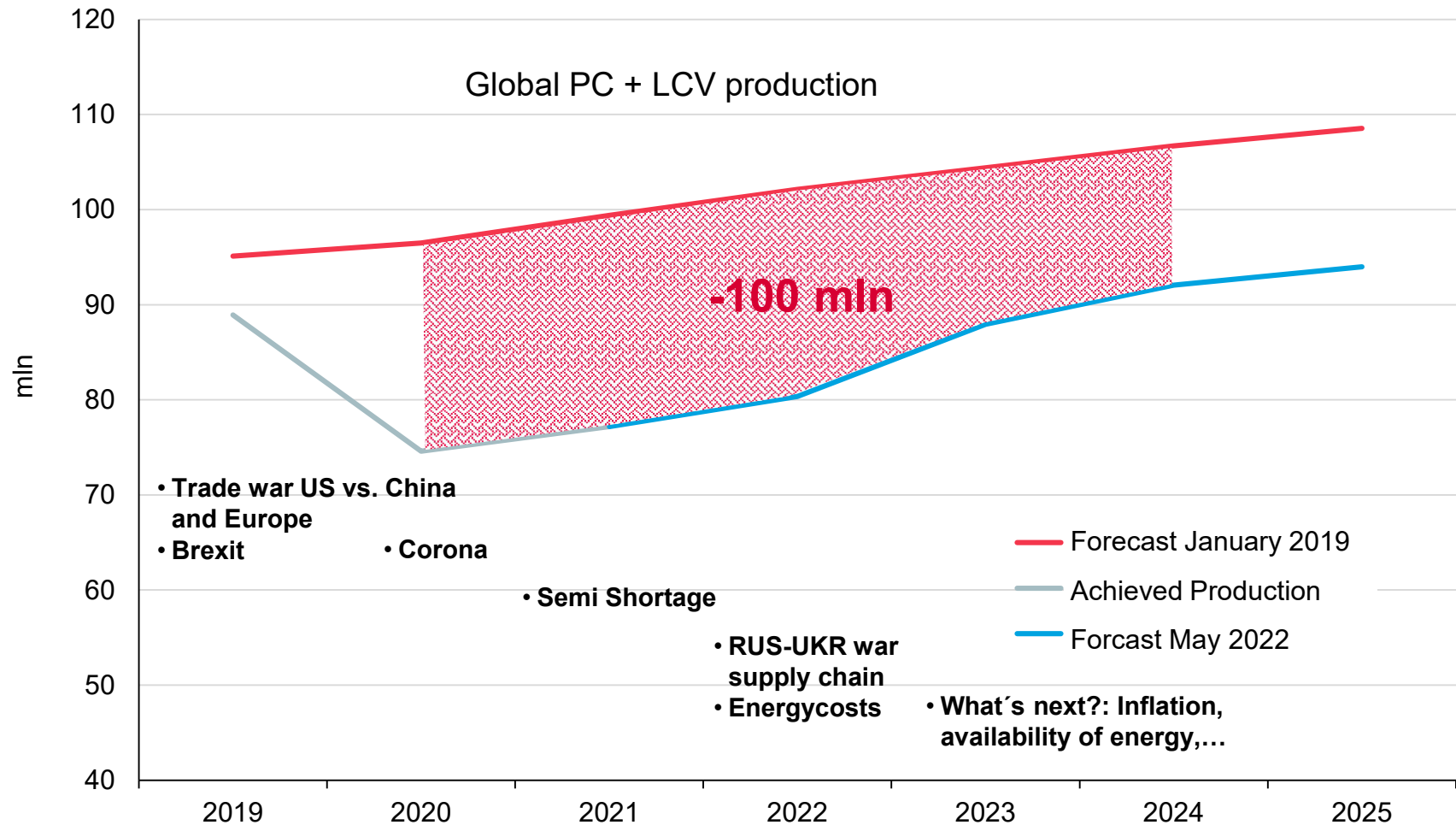
# Transformation and Value Add Challenges for the German Auto Industry



September 2022

# Global car industry in recession since 2019

continuous new extraordinary challenges



Source: IHS 1/2019 und 5/2022



# Transformation will be influenced by...

## **Society:**

- Demand for individual mobility is furthermore growing
- Increasing environmental awareness

## **Energy / Raw materials:**

- Increasing energy prices
- Scarcity of natural resources

## **Government / Regulation:**

- Emissions / fleet emissions
- Fit for 55 (EU)
- Ban of ICE sales in 2035 in EU



## **Competition:**

- New competitors for established OEMs from abroad (CN, US) and other industries for Tier-1's

## **New technologies:**

- Electrification of powertrain
- ADAS / autonomous driving
- Software / digitalization / connectivity



# Environment of the industry September 2022

- Furthermore high volatility regarding orders in the EDI systems
- OEMs are focussing on the production of high margin cars
- Transformation towards BEV / PHEV gains momentum
- Amount of ICE-platforms are going to decrease
- Power electronic, software and ADAS will grow above the average
- Sourcing: ESG becomes more importance within the sourcing process - in particular CO<sub>2</sub> and localization
- Costs for energy, logistic und raw materials increased strongly...personnel expenses will follow



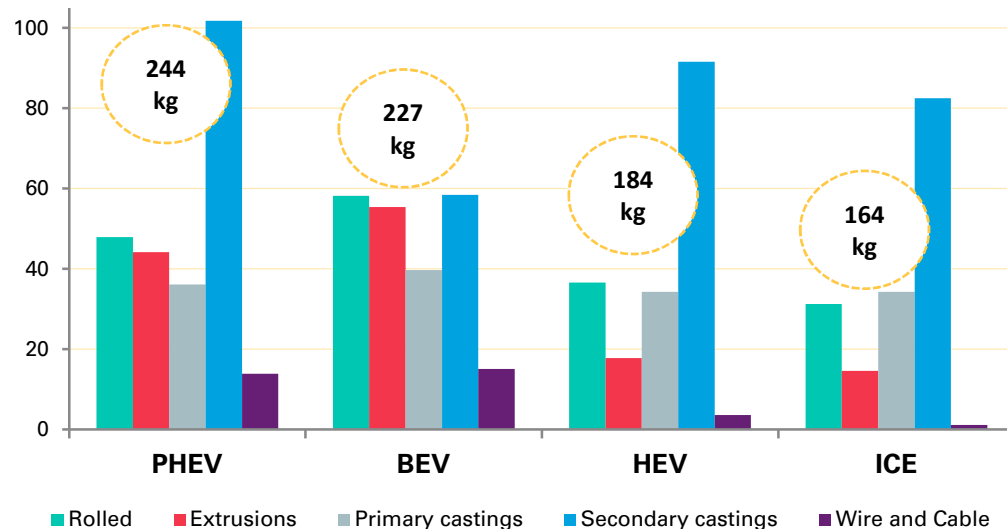
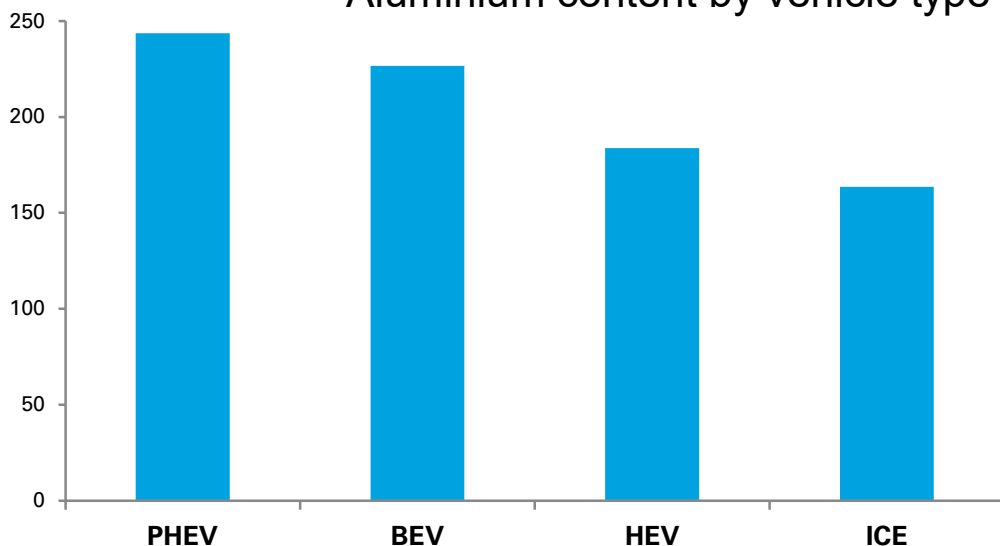
# Challenges for automotive suppliers

- Management of Working Capital
- Effortful negotiations with customers
- Management of production processes (high stock level quote, volatility)
- Stability within supply chain
- Management of energy consumption
- Increasing complexity within projects (quality requirements, product life cycle, ...)



# Electrification of powertrain will result in growing demand for Aluminium

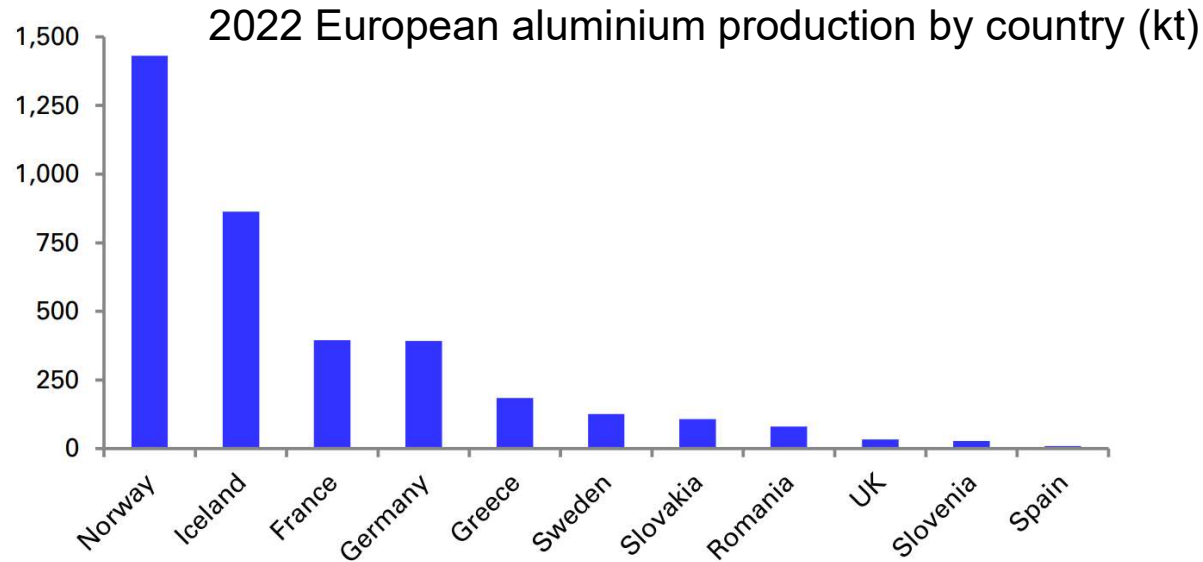
Aluminium content by vehicle type (kg)



	Rolled	Extrusions	Primary castings	Secondary castings	Wire and Cable	Total aluminium content
PHEV	48	44	36	102	14	244 kg
BEV	58	55	40	58	15	227 kg
HEV	37	18	34	92	4	184 kg
ICE	31	15	34	82	1	164 kg

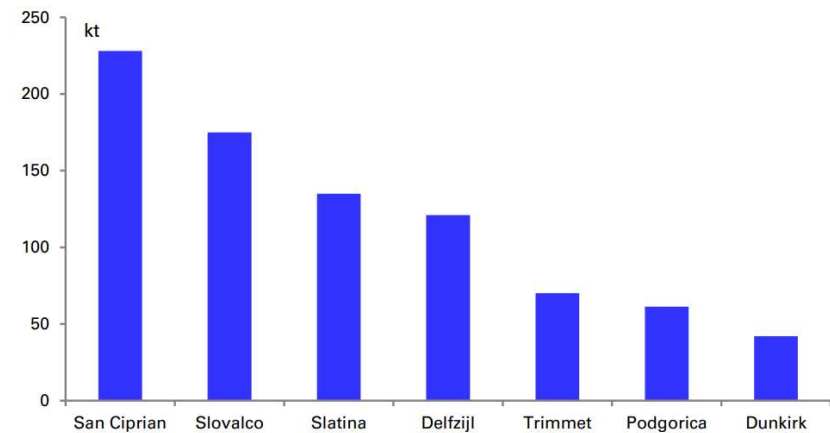


# Energy is a key differentiator in the aluminium industry



Source : Deutsche Bank, CRU

## European smelter capacity cuts



Source : Deutsche Bank, CRU, Company data



# Quo vadis aluminium industry in „high cost energy countries“?

- Costs for energy will be constantly high in Germany (Gas e.g. multiple 5-7)
- German business-modell „vertical integrated value-chain“ will come under pressure
- Trend towards deindustrialization will proceed
- Competition from attractive best-cost-countries
- Focus on top project management, best-in-class excellence in manufacturing processes, automation, top quality of sophisticated products and top-controlling
- ... it's a hard life but it's not hopeless





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