

Automotive production landscape in Europe

Number of plants and direct employment in European automotive manufacturing.

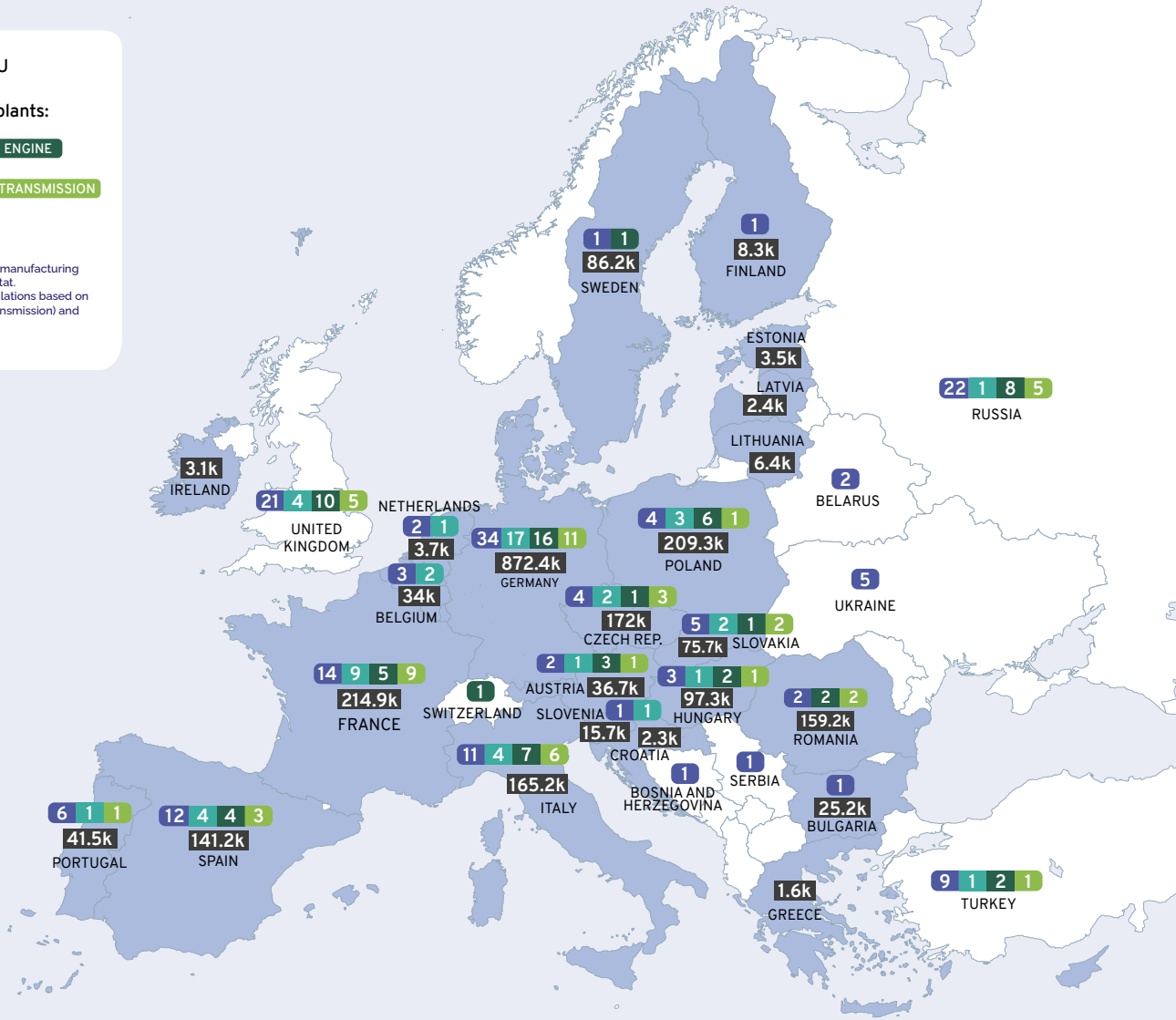
● EU ○ NON EU

Number of assembly plants:

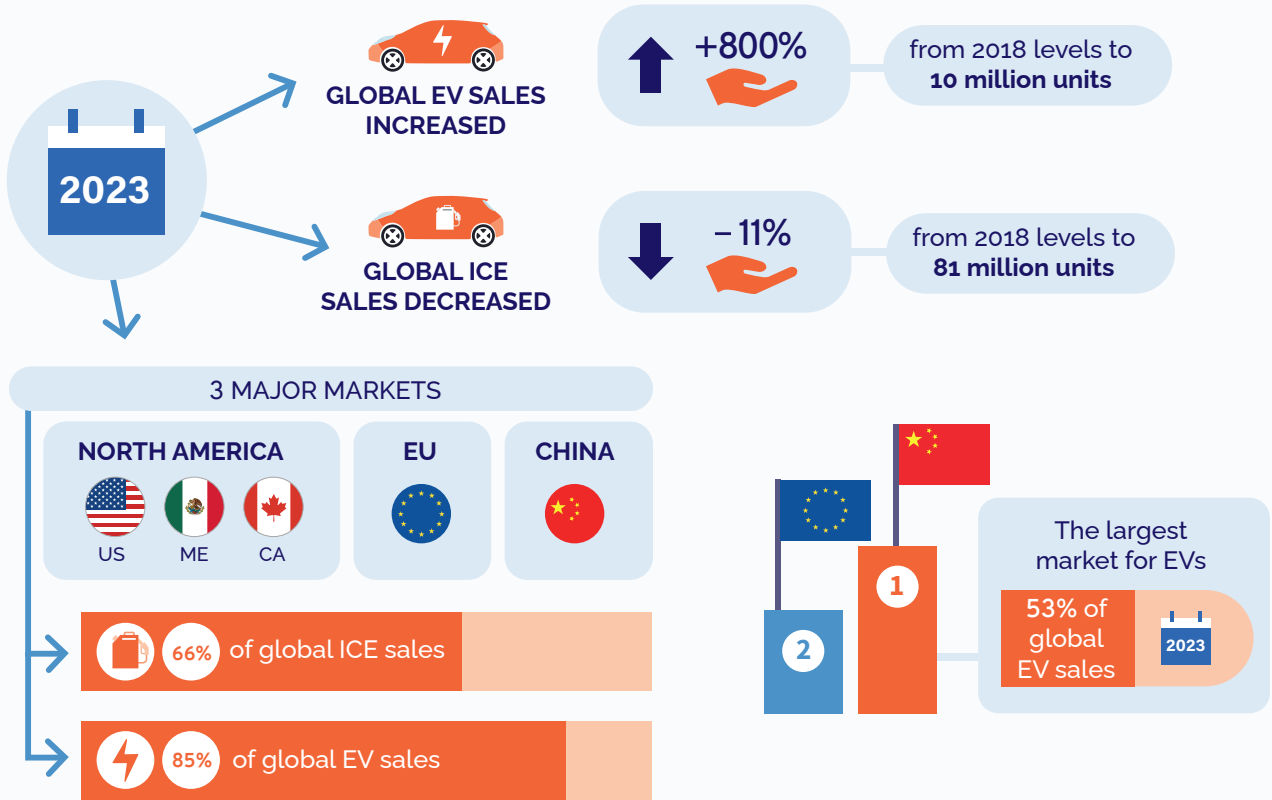
- ICE
- ENGINE
- EV
- TRANSMISSION

3.1k Employment

Employment: direct automotive manufacturing employment in 2022 from Eurostat.
Number of plants: author's calculations based on IHS Markit in 2019 (engines & transmission) and 2023 (vehicle assemblies).
ICE: internal combustion engine
EV: electric vehicle



The transition is reshaping automotive production and trade patterns:



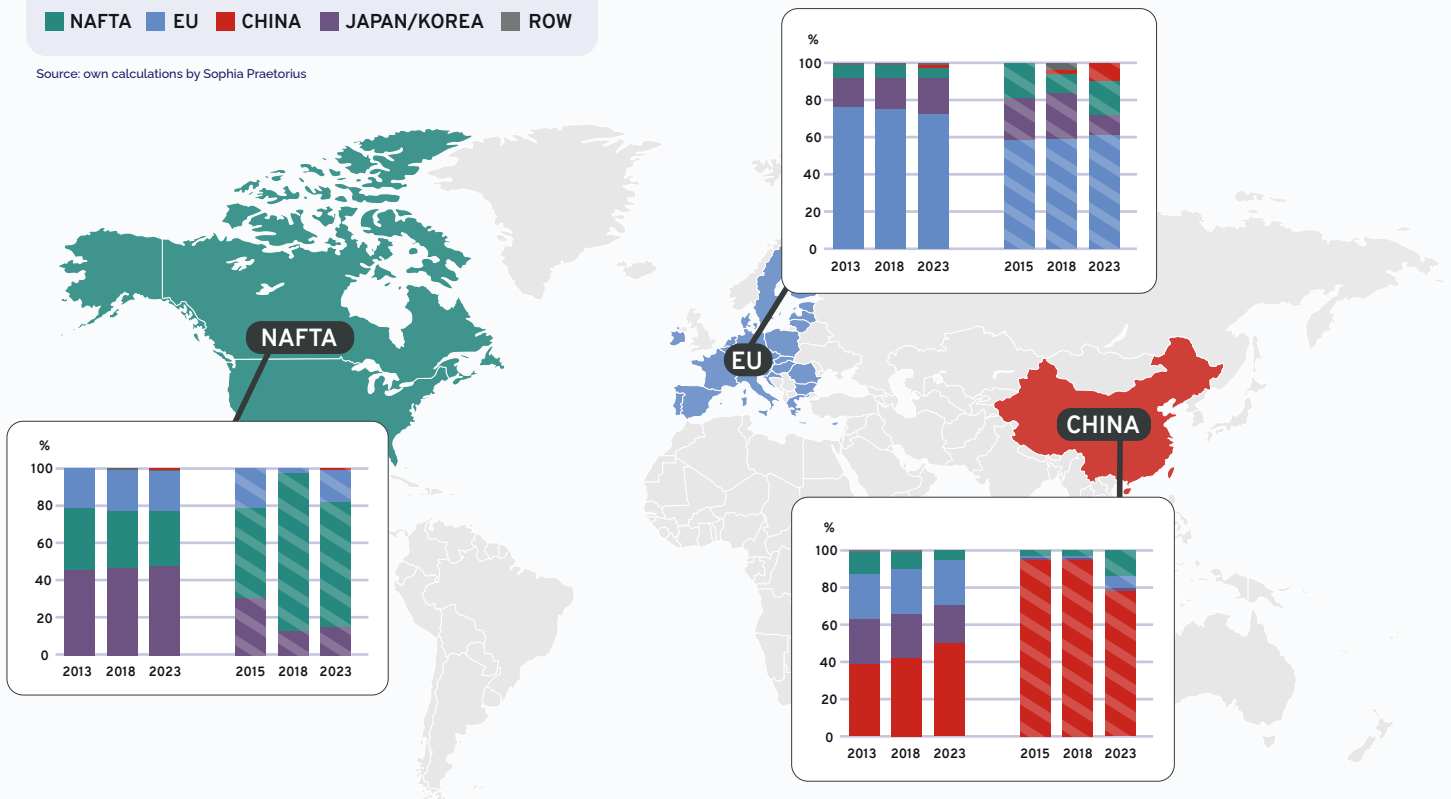
China's foreign expansion accelerates in both EV and ICE sales, albeit from low levels

Market shares in main sales markets by firm's headquarter regions.

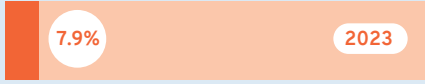
Firm's headquarter region:



Source: own calculations by Sophia Praetorius

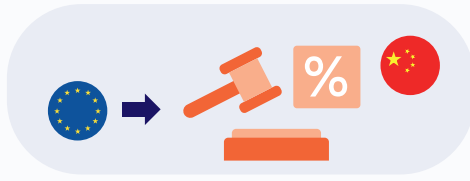


? Will a pattern of a regionally concentrated production for ICE be replicated for EV production as China gains a growing role as a global EV export hub?



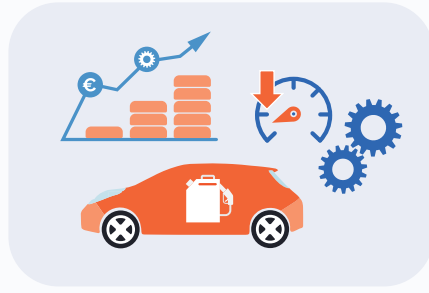
Share of Chinese EV brands in the EU EV market

Oct.
2023

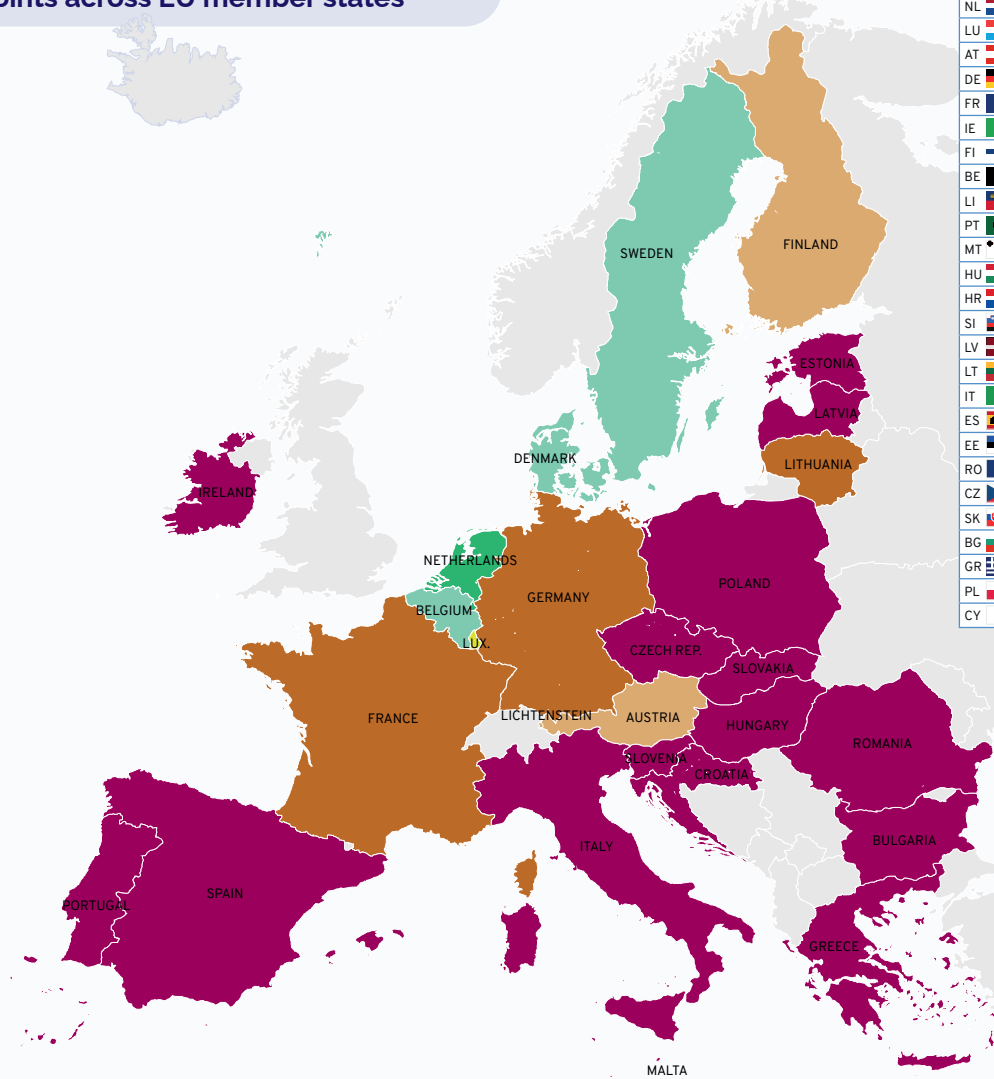


The EU imposed countervailing duties, which may stabilise the market share of Chinese brands between 5% and 10% (S&P, 2024). This breathing space must be used to invest in improving the competitiveness of the European automotive industry by supporting European demand.

The transition has been slowed down by the higher profitability of ICE sales than EV sales and **limited economies of scale within the EU** with a highly variable uptake of EVs across member states, mainly due to **varying incentives and subsidies for consumers and corporate fleets** (which account for over 60% of new car registrations in Europe), as well as an **uneven distribution of EV charging networks across member states**.



EV and PHEV (Plug-in Hybrid Electric Vehicle) adoption is correlated with uneven distribution of EV charging points across EU member states



	% de l'ensemble de la flotte		% de l'ensemble des nouvelles immatriculations	
	BEV	PHEV	BEV	PHEV
SE	4,0	4,9	36	18
DK	3,7	3,1	33	9
NL	3,4	1,9	28	11
LU	3,1	2,6	21	9
AT	2,1	0,7	19	6
DE	2,0	1,8	17	6
FR	1,8	0,9	15	8
IE	1,4	0,9	16	7
FI	1,2	2,5	32	18
BE	1,1	2,7	18	18
LI	1,1	0,2	18	4
PT	1,0	0,9	17	12
MT	0,8	0,8	14	12
HU	0,7	0,1	3	4
HR	0,7	0,3	5	4
SI	0,6	0,1	8	2
LV	0,5	0,1	9	2
LT	0,4	0,3	7	3
IT	0,4	0,4	4	4
ES	0,4	0,5	5	6
EE	0,3	0,1	6	2
RO	0,3	0,1	10	2
CZ	0,2	0,1	3	2
SK	0,2	0,2	3	3
BG	0,1	0,1	5	1
GR	0,1	0,2	5	6
PL	0,1	0,1	4	2
CY	0,1	0,1	5	3

Charging points per 100,000 Residents, 2023



Includes only publicly accessible charging points.
PEV=BEV+PHEV

Source: European Alternative Fuels Observatory (2024). Map reflects the most recent available data from 2023. Table data represents figures from January to October 2024.

The trilemma of Europe's automotive industry: trade-offs between decarbonisation, economic security, and competitiveness objectives

Each side of this triangle presents its own tensions and trade-offs.



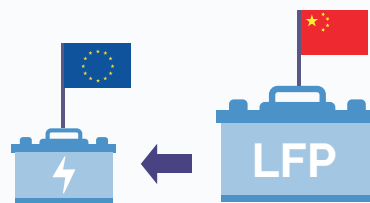
The backbone of Europe's decarbonisation is the scaling of EU production for cheaper batteries



China's production costs for batteries are 40-50% lower



81% of the world's battery production, outstripping global demand.



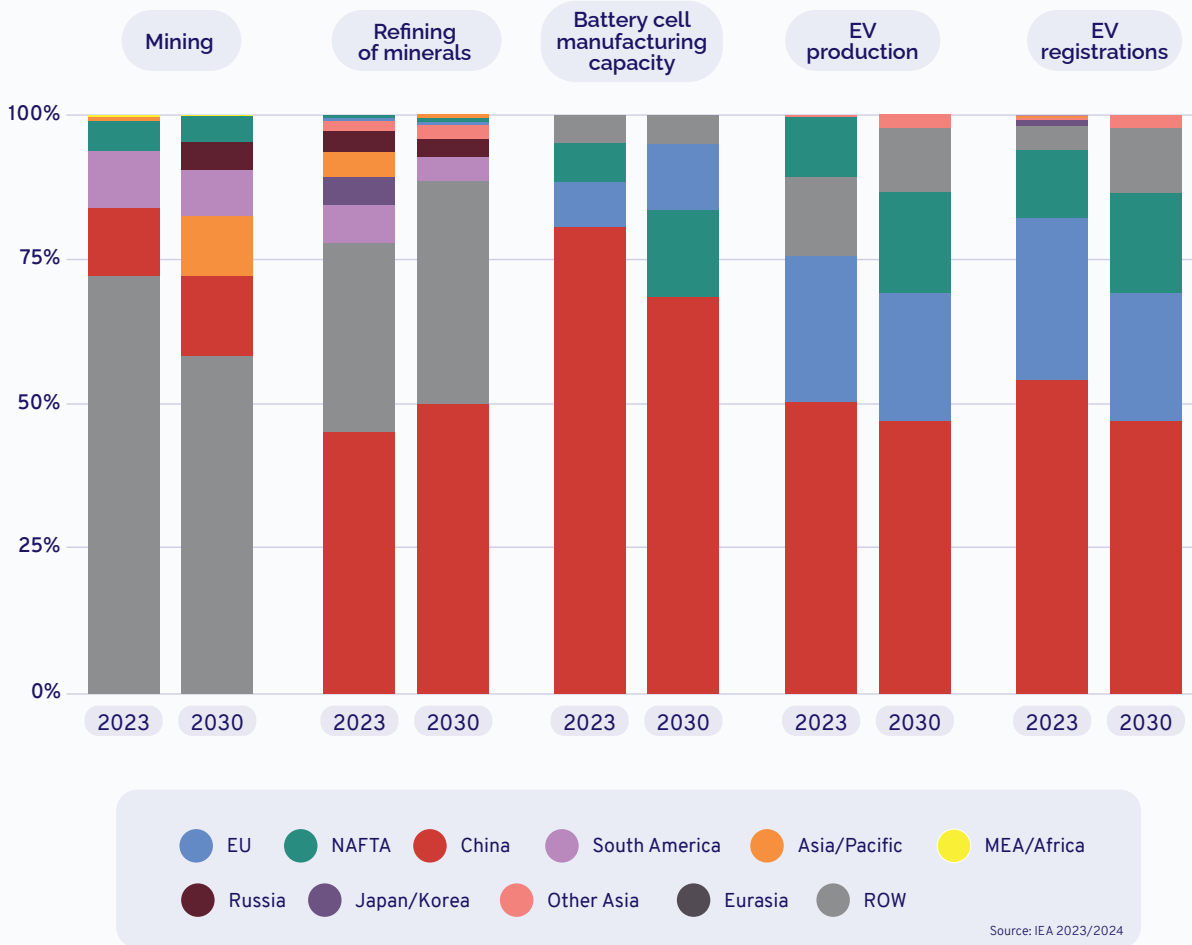
While the costs of lithium iron phosphate (LFP) batteries are decreasing, overcapacity makes it more difficult for European firms to face their Chinese competition and reduce their dependence on Chinese supply.



Over-reliance on Chinese processed minerals poses the risk of weaponisation of supply for coercive or retaliatory purposes.

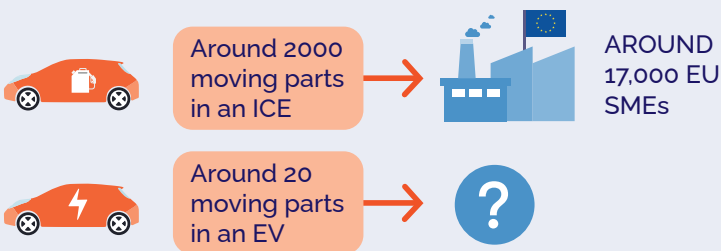
China's dominance in global EV supply chains is projected to continue in the mid-term

Share of global production in % in 2023 and pledged scenario 2030



A Smaller Powertrain Market = Greater Competition for SMEs

Fewer parts mean tougher competition among suppliers, putting many SMEs at risk.



The industry transition requires reskilling and support for SMEs to avoid large-scale job losses.



The Commission proposed an **Action Plan for the automotive industry**. [↗](#)