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**BUSINESS**

## Europe's policy makers and private sector must liberate the region's EV and energy storage capability from Asian dependence

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**Coronavirus has expedited changes in the way we consume and invest in energy and transport, acting as a catalyst for governments globally to drive forward positive change and establish sustainable transport and energy infrastructures.**



The COVID-19 pandemic has caused a cardiac arrest in energy supply chains globally. Chinese battery production was set back by 26GWH output<sup>[1]</sup>, creating a critical supply shortage for western manufacturers – particularly Electric Vehicle (EV) producers, and exposing Europe's dependence on Asian battery imports.

Equally it has created an opportunity for European leaders to work together and with indigenous suppliers to build a strong European Energy Storage Infrastructure. A powerful combination of policy and investment could see European battery production increase exponentially, eliminating significant supply chain risks by locating the most vital element of the EV supply chain – the battery – within the region of European EV production plants.

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### ***European EV demand continues at break-neck speed***

While global demand for EVs has slowed, this is not the case for Europe. Sales in the region rose by 44 % in 2019, continuing in the first quarter of 2020, which saw an increase in Europe's EV market of 25%<sup>[iii]</sup>. It is estimated that by 2040, 70% of all vehicles sold in Europe will be electric.

### ***Asia still controls the battery market***

Despite huge regional growth for EVs in Europe, the supply of the most significant part of the electric vehicle – the battery – remains predominantly in Asian hands. China currently controls three-quarters of the global battery cell supply chain, compared with just 4% for Europe<sup>[iiii]</sup>. The projected battery demand in Europe wildly outstrips the volume of currently confirmed factories (existing or in development) in the region by up to five times. European governments must work fast to ensure that this gap is met by additional manufacturing capacity in the region, rather than imports.

Of the battery makers that currently exist in Europe the majority (LG Chem, Samsung SDI Co. and Envision for example) operate using Asian technology. Recent concerns over Western dependence on Asian tech in other sectors e.g. the telecoms sector regarding Huawei technology should inform Europe's drive to develop indigenous technology and production in the energy storage market.

### ***Policy and funding***

The €750 billion EU Coronavirus Recovery Plan announced in July speaks of repairing 'the short-term damage from the crisis in a way that also invests in our long-term future', and as such intends to channel money into The European Green Deal, which holds cleaner transport and logistics as part of its core objectives.

Even before COVID-19, European policy makers had woken up to this new reality. Recently introduced zero-emission vehicles mandates and fuel economy standards indicate a shift towards policies that rely more on regulatory and other structural measures and less on direct subsidies. The EU's 'Industrial Strategy' and 'Energy Roadmap 2050' encouraging the development and production of Energy Storage Solutions on the continent, and more recently its 'Battery 2030+ Roadmap' to support R&D for the industry demonstrate collaborative intentions, but in the wake of the pandemic, there is more to do.

Automakers have been severely affected during the Covid-19 crisis; with demand dropping to near zero levels. The registration of new cars in the UK in April dropped 97% on the previous month, to 4,321 a staggering drop from a total of 161,064 cars sold in the same period last year. During this period the top two selling cars (the Tesla Model 3 and Jaguar I Pace) were Electric Vehicles.

European Governments and funding bodies must carefully consider using this moment to expedite the end of the combustion engine, deploying stimulus packages to bolster not only electric vehicle production and sales, but also the core component: batteries – creating jobs and significantly contributing to Europe's economic recovery.



### ***Private sector must play its part***

Just as European governments must step up to the challenge of building a sustainable energy infrastructure, Europe's private sector must also play its part. Policy can only be effective if it is accompanied by world-class technology that delivers a competitive product and efficient supply chain.

Production costs have been a hurdle for the EV market, but Deloitte projects that 2022 will prove to be a tipping point when EV costs become competitive against Internal Combustion Engines (ICE's). The battery accounts between 40-50 percent of the cost of the electric vehicle so the path towards profitability for automakers lies in a combination of engineering design, manufacturing scale and application of technological innovation at a cell level.

InoBat Auto, a European based R&D and electric battery production company is using 'High Throughput Platform' (HTP) R&D to test multiple variations of battery chemistry by applying artificial intelligence (AI) to select the optimum composition to meet the performance requirements of the vehicle manufacturer ten times faster than standard research approaches, enabling customised batteries to be produced cost effectively, and at scale. This is vital. In order to expand the market, automakers need different batteries to serve different applications and different price points, even within the same model line-up. InoBat has recently announced its intention to build a €100 Million R&D Facility and €1 Billion 10GWh Gigafactory in CEE, close to Europe's major automakers to produce enough batteries to power 240,000 electric vehicles annually by 2024.

### ***Positive impact on climate change***

Coronavirus has made clear the benefits of building a sustainable energy and transport infrastructure: not only could it have a substantial impact on Europe's economic recovery, but perhaps more importantly, it offers the opportunity to move away from a fossil fuel infrastructure, propelling Europe into an age of clean energy that will help to tackle what is arguably the world's most pressing problem: climate change.

[i] <https://www.forbes.com/sites/arielcohen/2020/03/25/manufacturers-are-struggling-to-supply-electric-vehicles-with-batteries/#1d9e23041ff3>

[ii] <https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/mckinsey-electric-vehicle-index-europe-cushions-a-global-plunge-in-ev-sales>

[iii] <https://www.bloomberg.com/news/articles/2020-04-24/a-battery-maker-sees-virus-as-spur-to-wrest-business-from-china>