Electric vehicles and Auto industry

What is the issue?

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The prospect of electric vehicles (EV) disrupting the automobile industry has led to both excitement and fear.

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Why is the transition problematic to India?

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- Some experts feel it is all doom and gloom for the incumbent auto original equipment manufacturers (OEMs) as EVs replace internal combustion engine (ICE) cars and create a change never seen before.
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- They will suffer the same fate as the horse carriage manufacturers which OEM's replaced more than a hundred years ago.
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- The transition from conventional to electric vehicles is of huge significance as globally the passenger vehicle industry has a turnover of $1.8 trillion and volumes of 90 million.
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- The sheer size of the revenues and profits at risk, and the multitude of players in the value chain affected are not trivial.
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- From power semiconductor designers to cobalt miners and cathode manufacturers, the beneficiaries are numerous as are the losers.
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- The reality is that automobiles are one of the few manufacturing sectors where India has had success.
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- The country will export nearly 800,000 cars in 2017, a value of at least $4 billion, with nearly 90 per cent localisation.
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- In small cars, we are now a global manufacturing hub and added with it is our success in auto components, another $4-5 billion of exports and global

competitiveness.
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- India is projected to be the third largest car market in the world by 2020, with domestic volumes over 4.5 million.
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- Currently, we have component localisation of above 85 per cent, with the majority of the value addition in India.
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- If the industry is moving to EVs, it undercut whatever manufacturing edge we have in this space.
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What is the inevitability?

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- The move towards EVs is inevitable as it a technology changing innovative product.
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- The only question is timing and it is also driven by global warming concerns.
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- Disruption has started at the high-end premium vehicles but will come down to the mass market eventually.
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- The biggest issue is cost, as the battery of an EV is about $17-18,000, compared to an ICE (engine, transmission and exhaust systems) of about $5,000.
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- This gap will narrow as the costs of batteries fall by about 20 per cent annually and more stringent emission and fuel efficiency norms raise the costs of conventional engines.
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- Since EVs are faster, more fuel-efficient, easier to manufacture and with zero emission, once costs are similar the switchover should happen rapidly.
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- The industry will see 10 per cent penetration in 2025 and 30 per cent by 2035.
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- China will lead this transition followed by the European Union while Emerging Market (EM) countries will lag, given the lack of adequate

charging infrastructure.
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- As the OEMs lose control of the core technology, which are batteries, their ability to differentiate and earn reasonable margins will reduce.
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- This will severely impact the component suppliers, specialists in engine and transmission components, or companies focused on fuel injection and exhaust systems.
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- However, the industry has at least a decade to adjust.
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- Even under the most bullish assumptions of EV adoption, global ICE vehicle volumes (including mild hybrids) will decline by only 0.75 per cent per annum between 2016 to 2026.
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- This is due to rising ICE sales in the EM markets offset the rapid switch to EVs in the developed world.
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- In 2016, China led the world in sales of EVs, driven by subsidies and forced government fleet purchases.
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- It is going to create a national champion in batteries and is determined to close the gap with Korean and Japanese battery makers by 2020.
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- India unfortunately has a very limited play in this technology disruption with no battery manufacturing plant.
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- No attempt by any Indian company or the government to try and catch up.
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- We missed the semiconductor, the smartphone, the polysilicon and the flat-panel technology waves.
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- We cannot afford to miss another transition, and remain just an importer of critical enabling technologies of the future.
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- The government will have to help leap this transition safely with a better strategy.
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Source: Business Standard

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