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How Growth of Electric Vehicles Will Impact CIOs and Their IT Strategies

It's no surprise that electric vehicles (EVs) will radically change the automotive industry. The question is, if you're a CIO, do you stay on the sidelines to observe and play conservatively, or do you charge ahead and innovate to grab a share of the market early?

Some suppliers want to see more certainty and confidence in the market before they dive right in.

Regardless, one thing is certain: This shift will drive CIOs to evaluate their current supply chain and rethink their technology. Electrification opens up possibilities that require new software and service platforms for the entire ecosystem. They'll need to

digitally connect with consumers and track things like electricity production, charging stations, and usage. IT can be the driver for mainstream consumer adoption of EVs.

This article gives you a brief summary of a report on electric vehicles by Gartner Analyst, Michael Ramsey. You'll get an overview on the potential sales of EVs, what CIOs in the automotive industry need to know in planning for the future, and the obstacles that could slow progress.

Let's look at the stats to see the projected growth of EVs.

EV Growth Over the Next Decade

In the last four years, EV sales have tripled, but it's expected to jump more steadily moving forward. In 2018, production of battery electric and plug-in hybrid vehicles was 1.8 million (1.8% of total vehicles).

According to Gartner, over the next five years automotive companies will spend approximately $260 billion launching more than 200 new EV models. *Edison Electric Institute* and the *Institute for Electric Innovation* forecast approximately 7 million electric vehicles will be traveling on U.S. roads by the end of 2025.

It is projected to take about 10 years to hit mass EV ownership. By 2030, *LMC Automotive* forecasts sales of battery electric vehicles to climb to 18.1 million. That means hybrid and EVs could make up 48% or more of all car sales in 2030.

What Changes Will EVs Drive?

With the rise of EVs come big changes—from the auto industry to the electricity system to the consumer level. On the other hand, EVs introduce possibilities of competitive advantages in speed, quality, and lower costs. Gartner explains the adjustments CIOs have to consider and the actions they can take preparing for the long term.

There are several major changes, but here we'll look at two them.

#1. EVs reduce part complexity with fewer moving parts.

Mechanically it's simpler. Gartner interviewed experts at the engineering firm, *Munro & Associates*. They explained that EVs don't need parts like the internal combustion engine, transmission, or exhaust systems making the mechanics simpler.

The complexity shifts to the electrical components for things like the electric drive train, reconfigurable interiors, and battery and thermal management systems. Electro-mechanical components will also replace hydraulic parts like oil and water pumps.

Benefits: This affects the entire supply chain and means shorter development and assembly times.

Gartner recommends CIOs evaluate and rethink the following:

- *Evaluate the current supply chain.*

  Do your current PLM systems have the capabilities to develop EVs?
  Is manufacturing capable of executing the assembly?
  What is needed to revamp the supply chain and does the existing ERP system work well with it?

- *Compare current software platforms to new third-party software.*

  CIOs should work with engineers, finance, and manufacturing to evaluate existing software and compare new third-party software designed for EVs. Once they determine the shortest path with the best quality and lowest cost, then they can decide if it's time to change vendors.

- *Develop a case to move to the cloud.*

  IT is responsible for providing smooth communications internally and with customers. Now is the time to develop a case to move to cloud-based software that will enable the organization to streamline their operations and information exchange and seamlessly connect to consumers and their EVs.

#2. Electrification opens up new opportunities to collaborate.

This is the time to rethink your ERP system and focus on long-term customer experience beyond the sale of the EV. This means collaboration with other companies in the ecosystem and with consumers.

Gartner's recommendations:

Gartner recommends CIOs use IT to help gather and share information with all parties on critical matters such as charging these vehicles safely, conveniently, and cost effectively. Consumer trust is at stake every step of the way.

Some suggestions include:

- *Create a new system for charging capabilities.*

  - **Collaborate with utility CIOs** to provide vehicle location and charging status to help them plan for electricity production and usage.
  - **Work internally and with ERP vendors** to create a new system that handles charging issues like battery state of charge (SoC), charging availability, and billing solutions.
  - **Create an ongoing dialogue with consumers** through new digital services.

- *Develop industry standards and universal charging access to network providers.*

  CIOs can collaborate with and create connections between charging network providers and EV owners through cloud-based identification so they're not left without resources.

- *Prepare for blockchain solutions for accountability.*
  Understand and prepare for blockchain solutions where the data is decentralized, easily verifiable, continually updated, and securely validated. Blockchain would allow for accountability of energy generation and energy usage credits for charging EVs.

Obstacles

Even though the future shows high projected growth, there are obstacles that could slow the rise and adoption of EVs.

Some of these obstacles are:

These 8 obstacles are just a few of the challenges today that could impact the growth of EVs. However, they won't stop the movement to electrification.

Gartner suggests CIOs understand and keep on top of the obstacles, changes, and opportunities. Evaluate their existing supply chain and IT strategy. Then study the recommendations to prepare for this shift.

CIOs must implement changes that make sense for their company to successfully impact the EV market. Automakers have to strike a balance between ROI and developing smarter technologies that delight and build trust with consumers.

Infographic created by Deb Monfette

Summary

There is high projected growth in electric vehicles in the next decade. As with any industry disruption, obstacles will get in the way and could slow the rise and adoption of EVs, but won't stop it.

Electrification will create disruptive changes with new possibilities for CIOs and their IT systems in the automotive industry.

Two major changes include:

- **EVs reduce part complexity with fewer moving parts and will disrupt the supply chain.**
- **Electrification opens up new opportunities to collaborate.**

IT can be the driver for mainstream consumer adoption of electric vehicles.
It's important for CIOs in this industry to watch the progress, understand the implications, and take advantage of new opportunities with electrified vehicles to succeed.

For more in depth information please read the full Gartner report, "What a CIO Needs to Know About the Rise of Electric Vehicles."

Do you need help to evaluate your supply chain? We'd be happy to discuss complete *Physical to Digital Product Lifecycle* solutions to help you succeed with the latest digital technologies. Contact us today. [Link to company info.]