



EXECUTIVE BRIEF

Digital threads keep manufacturers and suppliers in sync to forge EV growth strategies

Electric vehicle connections

Public demand for electric vehicles (EVs) is causing a rebirth of the automotive industry. The momentum around EVs is driven by two factors:

- Meeting the global energy sector's goal to achieve net-zero carbon dioxide (CO₂) emissions by 2050
- Reducing US dependence on foreign oil purchases

Integral to these factors are consumer interest in lower fuel and operating costs, as well as reduced vehicle emissions to limit climate change. To help spur this evolution, the US has funded feasibility studies for domestic mineral mining to support EV battery production. With the increased attention around EVs, automakers and suppliers are establishing where they fit in this fast-changing market.

While the revenue opportunities for auto makers, suppliers, and OEMs are staggering, the operational challenges associated with a drastic refocus of resources are equally monumental. Fortunately, modern ERP solutions provide internal and external stakeholders with the digital tools needed to forge new strategies.

Reason for optimism

While the industry continues to grapple with the global chip shortage, EV sales more than doubled from 2020 to 2021, reaching nearly **6.8 million in 2021**. In fact, **all net growth in global car sales** in 2021 can be attributed to EVs. Automakers are shifting gears to grow their share of the EV market with 18 of the world's top 20 vehicle manufacturers **announcing ambitious plans** to widen their portfolios of light-duty EVs. The auto industry is on track to **invest half a trillion dollars** (US) in the next five years to make this transition.

However, the transition to higher volume EV production is not as easy as simply flipping a switch. There are major shifts needed to facilitate new ways of working together to successfully deliver the next generation of high-tech personal transportation—including, addressing new engineering designs, tooling, safety standards, and manufacturing processes. These shifts are comparable to the radical transformation in the early 1900s when Henry Ford introduced the Model T and revolutionized mass production.

While some organizations are already adapting to the rapid changes, many are unprepared. To compete in this new EV ecosystem, suppliers and OEMs must embrace innovation and adapt quickly to keep upstream and downstream players connected, in sync, and well positioned for success in the new EV frontier. Timing is critical, though. Being among the first to bring new products to market will attract a significant portion of the pent-up demand from enthusiastic consumers eager to support green initiatives.

EV acceleration brings new challenges

Around **half** of US consumers say they would consider purchasing an EV in the next decade, with Gen Z customers at 58% and millennials at 60%. Consumer expectations for EVs range from having an economical and environmentally friendly alternative to a gas-powered car to owning a luxury statement piece with high-tech, in-car entertainment features like “karaoke” music options, upgraded touchscreens, web browsers, smart suspension systems that can be adjusted based on the vehicle’s GPS, multiple cameras, and more.

Consumer demand for these upgraded features is further disrupting the entire product ecosystem and requires an overhaul of traditional vehicle production tactics. To deliver on consumer expectations, organizations must take a holistic approach, avoiding informational silos and disconnected planning and execution processes. Without fully integrated systems and end-to-end visibility, the results can be chaotic and fail to align with customers’ expectations.

Disparate systems are prone to gaps, delays, and lower customer satisfaction

In many ways, EVs resemble a computer as much as they do a vehicle. EV drivers now have apps they can use to control their vehicle from anywhere. This includes the vehicle communicating through the app to alert the driver of the charging status, as well as controlling the heating/cooling and door locks. EVs, like computers, frequently require over-the-air (OTA) updates, which send new features to the vehicle and are designed to improve safety and/or performance. There are other computer-like settings that support drivers’ activities from racing to dog mode (which allows drivers to keep their pet comfortably in the vehicle and alert bystanders that the pet is not in any danger). Suppliers are faced with ensuring the parts, components, and systems within the vehicles are integrated and connected for OTA updates and provide a single source of visibility (independent of the dealer).

These features will continue to evolve and require suppliers and OEMs to adapt, using modern solutions to deliver this new wave of vehicles. Integration is key, as siloed systems can create production inefficiencies and delays, and supply chain and inventory challenges can taint the customer experience—ultimately leading to negative financial impact.

Automakers need to partner with more suppliers to create the experience buyers want

The emphasis on the driving experience means that automakers now need to partner with a wider range of suppliers (e.g., music, navigation, video, and technology integrators) to deliver consumer delight. Those who succeed will be adept at integrating high-tech products and new services, as well as involving new players from multiple industries into the supply chain.

This integration requires modern software tools and technologies to support innovation, collaboration, and business agility. It’s vital for organization leaders to have full digital visibility into the products, people, and processes that are engaged in EV development and production.

Seize opportunities, respond to the new demand for EVs

OEMs and suppliers pursuing EV business can turn to modern, cloud-based solutions to help manage innovation and disruption with greater ease. End-to-end solutions built around a core ERP platform provide a connected digital thread, complete visibility, and a single source of truth for business decision-making. Modern capabilities also include artificial-intelligence (AI)- and machine learning (ML)-enabled processes, predictive and prescriptive analytics, role-based dashboards, remote access to data for deskless workers, and tools to deliver a connected supply chain for upstream and downstream visibility. Moreover, cloud-based systems can provide the agility, scalability, and cybersecurity that’s critical for innovation in an industry disrupted like no other.

A core ERP platform as a service (PaaS) can provide additional abilities to personalize the system through extensibility and low-code/no-code tools to apply AI and ML to predict demand and anticipate trends. Providing easy-to-use tools helps organizations support their IT teams, which are often stretched beyond capacity. With the right solutions in place, organizations can be resilient, innovative, and opportunistic—seizing new niche/growth markets like EVs as they emerge.

How a modern ERP solution helps automakers adapt to the EV market:

Connect stakeholders—Collaboration tools help foster new/improved relationships with internal and external partners. They allow users, including those on the shop floor, to easily consult with managers, define specifications, clarify work orders, and verify customer personalized features—all with simple, one-time sign-on, with access from anywhere.

Plan strategies—The system-wide visibility allows organizations to obtain one accurate view of the entire enterprise for executive-level planning and decision support. Data from across business units and locations can be rolled up into one view for detailed analysis.

Control margins—With a fully integrated system, managers can more easily control costs and use of resources, keeping a tight control on margins, cashflow, and planning of available capital for further investment in growth.

Align with customers—Manufacturers can turn to assemble-on-demand, make-to-order, and configure-to-order techniques to align with customer expectations for personalized products—without sacrificing efficiency. Manufacturers can also engage with customers by offering interactive online experiences, opportunities to influence product innovation, chances to obtain direct and timely feedback.

Manage product lifecycle—Product lifecycle management solutions, when integrated into the ERP system, help plan the development and introduction of new products. This includes tracking and gating key milestones, such as testing and regulatory compliance.

Control quality—As new best practices and operational processes are developed for EV products, critical quality control requirements are likely to evolve. Systems for defining and monitoring key indicators will be essential to prevent safety issues and possible recalls.

Optimize supply chain and inventory—Procurement of resources has become highly complex as chip shortages and other supply chain roadblocks continue to plague the industry. The classic “just in time” strategies are being reconsidered and ethical sourcing/sustainability are now leading considerations for procurement managers. Modern supply chain planning and warehouse management software assist in managing the details so that business users can make well-informed decisions based on data, not hunches.

Predict needs—AI- and ML-driven analytics help organizations accurately forecast future demand, anticipating seasonal and cyclical trends. This in turn helps with sales and operations planning and production planning and scheduling.

Limit waste and improve sustainability—New designs, tooling, and operational processes often take some time to work out the details, streamline processes, and ensure minimal waste of resources. The transition to EV production is bound to cause periods of disruption and experimentation. Modern ERP software to track and analyze the costs will be valuable in helping executives understand risks, time to value, and return on investment, while ensuring compliance with sustainability and regulatory mandates.

Accelerate with caution

The current interest in EVs is on an accelerating trajectory. Everyone wants in on the trends and the opportunity to profit from industry disruption. However, as with all innovation, there are risks and complications, such as product safety, supply chain shortages, and uncertain customer adoption. Without modern software to manage the processes, rushing into the EV space could be costly, as well as disruptive to production of combustion engine vehicles. Investing in next-generation ERP software helps organizations prepare for the future, enabling them to pursue these opportunities with greater confidence.

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