

Shifts in demand patterns by region were a leading theme during automotive and transportation (A&T) companies' 1Q19 earnings calls. New regulations, local economic conditions and changing customer preferences are forcing vehicle manufacturers and their suppliers to become more agile than ever. Companies are balancing the competing pressures of managing their operating costs and ensuring that new technology development is adequately supported.

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Agility becomes critical in the face of rapid market shifts

Welcome to the first issue of *Mobility Quarterly*, a review of the top themes discussed by leaders of 17 A&T companies (including passenger vehicle, commercial vehicle and automotive suppliers) during public earnings calls with analysts. The quarterly update will track the movement of these themes from quarter to quarter to provide a perspective on shifts in the sector landscape.

Themes that stood out in 1Q19 include:

- Geographic developments, debuting at No. 1 on the top 10 list. Companies across the peer group are responding to changing demand in Asia, Europe and North America. Growth is slowing in several major vehicle segments in Asia because of local economic conditions and changes in trade policy; however, Asia's overall economic growth rate is still higher than average. New emissions regulations in Europe are creating challenges for manufacturers, while US buyers are continuing to show greater interest in SUVs, light trucks and crossovers than in standard cars.
- Evolution of mobility, starting at No. 2. Electric vehicle (EV) technology continues to transform the market through rollouts of new models and conversions of existing ones. Data and content management are becoming more integral to all companies in the value chain as they seek to improve their services and strengthen customer relations. Acquisitions, joint ventures and in-house incubators are providing access to the new technologies needed to support these innovations.
- ► Operating costs, starting at No. 3. Macroeconomic uncertainties are adding challenges to operations. Foreign exchange volatility emerged as the top operating cost issue. Higher costs associated with evolution of mobility are expected to continue in the next quarter. Although new technology is increasing costs in the short run, it is expected to support top-line growth in long term.

Randy Miller

EY Global Advanced Manufacturing & Mobility Leader

Top 10 themes from quarterly earnings calls

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\leftrightarrow	1.	Geographic developments
\leftrightarrow	2.	Evolution of mobility
\leftrightarrow	3.	Operating costs
New	4.	Restructuring initiatives
↑	5.	Inorganic growth (M&A, joint ventures and partnerships)
↑	6.	Regulatory issues
4	7.	Manufacturing and supply chain management
New	8.	Product evolution
4	9.	Working capital and cash flow management
$\overline{\downarrow}$	10.	Geopolitical issues

4Q18			
1.	Geographic developments		
2.	Evolution of mobility		
3.	Operating costs		
4.	Manufacturing and supply chain management		
5.	Geopolitical issues		
6.	Inorganic growth (M&A, joint ventures and partnerships)		
7.	Working capital and cash flow management		
8.	Regulatory issues		
9.	Digital customer experience		
10.	Organic growth (products, services strategy and innovation)		

Key themes



Geographic developments

Market conditions by region

- China emerges as top of mind for most automakers as buying activity slows across most passenger vehicle (PV) categories; however, original equipment manufacturers (OEMs) in China continue to have strong product launch plans to capture market share.
- OEMs in Europe launch new products including SUVs, EVs and hybrids, and announce the phaseout of aging models.
- An estimated decline in the growth of light-vehicle demand across Europe, US and China contributes to the downward revision of outlooks by PV and component suppliers.
- ► Commercial vehicle (CV) OEMs estimate stabilization in China on the back of improved business confidence aided by the government stimulus.
- CV peers record robust growth in the US due to higher construction equipment and truck sales.



Evolution of mobility
Growth of connected, autonomous, shared and electric (CASE) vehicles

- OEMs announce robust plans to expand electrification with new product launches, especially in the CV and SUV segments, also expanding battery production and investing in EV technology.
- Autonomous vehicle (AV) technology is evolving, with a nearterm focus on level 2 and 3 autonomy; demand for advanced driver-assistance systems is growing faster than estimated.
- CV companies are closer than PV businesses to applying AV technology on a widespread basis, particularly in contexts such as industrial sites.
- Acquisitions, joint ventures and in-house incubators continue to supply access to new technologies; PV automakers are partnering with cities for AV testing and deployment.
- Companies ranging from OEMs to tire manufacturers are developing data- and content-based business models to better support functions such as R&D, in-vehicle digital services, direct marketing and dealer relations.

The automotive industry is inching closer to purely connected, autonomous, shared and electric (CASE) vehicles on our roads with every passing year. Lines are blurring as non-automotive companies, particularly technology and ride-sharing firms, are tapping their digital prowess and service business model experience to further extend into the mobility ecosystem.

Randy Miller, EY Global Advanced Manufacturing & Mobility Leader



Operating costs
Gains or losses related to operating costs including raw materials, foreign exchange, technology, logistics and talent

- Macroeconomic uncertainties are adding challenges to the financial and production forecasting process.
- ► Foreign exchange volatility is the top operating cost concern. The US dollar has strengthened against most of the other major currencies; companies exporting to Europe, China and other emerging areas experience currency-related headwinds.
- Most peers reported the challenge of higher raw-material costs, including direct tariff expense and commodity headwinds; some negated the impact on margins with cost reduction initiatives.
- Higher costs associated with CASE vehicles are expected to continue; new product and service launches that are increasing production, development and execution costs are expected to support growth in long term.





Restructuring initiatives

Operational streamlining, business function reorganization and divestments

- Companies are focusing on structural efficiency with cost reduction programs at all levels of the value chain, including rightsizing inventory, reducing material costs and overhead, and optimizing fixed costs.
- Some peers seek to hire a digital-ready workforce while reducing headcount in traditional roles.
- Restructuring is becoming a "normal" aspect of business culture; corporate structures are being simplified with fewer business units and leaner leadership teams to reduce costs.
- Business segments are being realigned to correspond more closely with customer segments; many companies are realigning and renaming business units to emphasize the future of mobility solutions.



Traditional OEMs are not about to wait. They are going to recognize innovative changes to the way cars are made and the way we use those cars. They will reproduce what the new entrants do faster and at scale. Instead of taking a decade, it will take traditional OEMs three to five years to scale an innovation as well as or better than new entrants.

Sven Dharmani, EY Global Advanced Manufacturing & Mobility Supply Chain Leader





Inorganic growth (M&A, joint ventures and partnerships)

Efforts to increase market share, innovate products and services, advance technical capabilities

- ► High-growth segments including battery, fuel cells, connected and autonomous technology are driving alliances across the sector.
- Automakers are combining their mobility solutions to increase reach and realize economies of scale.
- ► PV companies are increasingly forming alliances with PV peers
- to develop new technologies and carve out production and retail strategies in select geographies.
- Suppliers are forming new partnerships with technology firms to meet demands from vehicle makers for more-advanced products and services.





Regulatory issues

Effects of government policies and trade flow on industrial revenues and margins

- ► The new EU Worldwide Light Vehicle Test Procedure standard puts pressure on margins, increasing compliance costs; companies are actively preparing for it and face bottlenecks due to certification backlogs.
- ► Fuel efficiency standards are becoming increasingly stringent in most countries; early adoption of China 6 by OEMs has created a supply chain issue for suppliers.
- ► A hike in Japan's consumption tax and mandatory vehicle liability insurance in India adversely impact the top-line revenues of automakers.
- Uncertainty around Brexit remains; several PV, CV and supplier peers consider relocating operations.





Manufacturing and supply chain management

Modernizing and restructuring manufacturing and supply chain

- ► PV OEMs and suppliers announce plans to modernize manufacturing facilities by increasing penetration of automation in production as well as in back-office processes.
- Development cycles for new technologies are being shortened with digital transformation and agile functions to optimize resources and bring new products to market more quickly.
- Agile production takes center stage as OEMs look to simplify production by reducing variants and build capabilities to manufacture different fuel variants with the same production structure.



Product evolution

Shift in demand of vehicle types, increasing advent of R&D and product innovation

- Automakers are shifting to new architectures, replacing previous product lineups; new product launches are aimed at fuel efficiency improvements and new infotainment features to improve customer experience.
- CV OEMs foray further into the compact construction
- equipment segment; meeting emission standards, increasing productivity and lowering life-cycle costs continue to be the key focuses of new launches.
- US sales of light trucks and hybrid vehicles rise, supported by a large-scale shift from cars to trucks and lineup refreshes.



The factors that influence purchasing decisions in today's 'drive experience' world — brand perception, the quality of the drive, total cost of ownership — will be replaced in the 'ride experience' future by completely new factors such as availability, ease of use, reliability and pricing.

John Simlett, EY Global Future of Mobility Leader



Working capital and cash flow management

Changes observed from prior quarter

- Views on working capital changes are mixed in 1Q19: some peers witnessed improvements due to reduced inventory costs and higher operating cash flows, others reported a decline in working capital performance caused by changes in demand for vehicle and engine types, especially diesel.
- Automakers are taking actions to right size inventory at the micro level while they increase flexibility in the supply chain.
- CV makers are carefully managing inventories, not forecasting growth in dealer inventory in 2019.



Geopolitical issues

Effects of government policies and trade flow on industrial revenues and margins

- Automakers remain cautious amid the ongoing trade conflict between the US and China and maintain a conservative view on capital spending to ensure flex.
- Non-US-based automakers in China benefit from local boycotts of US-made vehicles.
- Lingering uncertainty over Brexit leads several PV, CV and supplier peers to consider relocating operations; some companies are preparing for a hard Brexit, also making provisions in the budget.

Companies included in our analysis

- Aptiv plc
- BMW AG
- Caterpillar Inc.
- Continental AG
- Daimler AG
- ► Ford Motor Company
- ► General Motors Company ► Nissan Motor Co., Ltd.
- Goodyear Tire & Rubber Company
- ► Honda Motor Co., Ltd.
- Lear Corporation
- Magna International Inc.
- Groupe Renault
- Tata Motors Ltd.
- ► Toyota Motor Corporation
- Volkswagen AG
- AB Volvo

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