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White Paper

Platform Strategy will Shape Future of OEMs
Flexibility to Drive Growth

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Automobile Platform Sharing: An Overview

Estimate: 45–47% passenger cars will use one of top 20 platforms by 2015

Reasons behind Automobile Platform Sharing

All passenger cars are built on platforms or architectures that define the core engineering of a vehicle. Traditionally, automotive OEMs have shared this engineering across products. For example, under the hood, Skoda Fabia and Volkswagen Polo use the same engineering structure. As platform development costs account for nearly half of the product development costs of Original Equipment Manufacturers (OEMs), this strategy of using common engineering across vehicle models allows them to save money as well as time.

As the global automotive industry strives to achieve economies of scale and efficient product launches, major OEMs will increasingly focus on manufacturing a larger volume of passenger cars on select global platforms (core platforms). These core platforms will be used to design and produce vehicles across segments (by size and price range) and brands on a global scale.

Evalueserve estimates that by 2020, the 10 major OEMs (General Motors, Volkswagen, Toyota, Ford, Nissan, PSA Peugeot Citroen, Honda, Renault, Fiat, and Daimler) will reduce their platforms by about a third from over 175 platforms in 2010, and will concentrate mass production across a few key core platforms. For instance, GM recently announced that it plans to almost halve its vehicle platforms from 30 in 2010 to 14 in 2018. The company is expected to save an estimated USD 1 billion per year, primarily contributed by product development projects.

Consequences of Platform Sharing

According to Evalueserve's analysis, the top 20 passenger car platforms accounted for approximately 40% of the global production volume in 2010. The use of a set of select global platforms by most manufacturers will mean that almost half the passenger cars manufactured in the latter half of this decade will use one of the top 20 global platforms. A realistic projection suggests that by 2015, such a development will lead to the top 20 platforms accounting for 45–47% of passenger cars launched globally.

The major contribution will come from the domination of global platforms, such as Renault–Nissan's B platform (recently renamed as V platform) producing models such as Clio, Micra, and Dacia; Volkswagen Group's MQB platform, which will produce a range of models for VW, Scoda, and Audi; and Toyota's MC platform producing models such as Corolla and Auris. The subcompact and compact vehicle segments (B, C, and D segments) will leverage this consolidation the most by harnessing manufacturing, innovation, procurement, and market adaptation synergies.

Increased sharing will also hasten the consolidation of core platforms. OEMs have started collaborating with each other (more than ever) to co-develop and share their core platforms. The collaborative framework of each company depends on its organizational setup, markets, goals, and product portfolio. Renault and Nissan, for instance, co-develop and share platforms as two distinct groups. PSA Peugeot Citroen, on the other hand, has collaborative agreements to share platforms with several partners, including Fiat, Mitsubishi, and Toyota.

Platform Strategy will Shape Future of OEMs

Emerging economies such as China and South Asia, and South America will continue to strongly influence car manufacturer's strategies in the near future, affecting product development, marketing, and manufacturing strategies. OEMs will increasingly adapt their existing platforms and develop new ones for these markets. The Honda Brio five-door hatchback subcompact, produced in India and Thailand, is an example of this emerging trend. Evaluateserve's research on the emerging economies suggest that these markets will account for more than half of the global light vehicle production by 2015, given a strong CAGR of 8–9% over the next five years.

What is Required for Efficient Platform Consolidation?

Strong intra-platform component commonality and global production flexibility will be critical for platform consolidation. Volkswagen is one of the forerunners in implementing a modular strategy for platforms and uses common platforms for multiple brands as well as vehicles. For instance, Volkswagen and Porsche share a platform for the Volkswagen Touareg and the Porsche Cayenne Sports Utility Vehicles (SUVs).

Partnerships among various manufacturers are crucial as modularity can be achieved only till a certain limit, beyond which inter-OEM synergies have to be harnessed (and will keep increasing in magnitude as well as number over the next few years). The Renault-Nissan-Daimler alliance will serve as an example for OEMs looking to harness platform and procurement synergies without undergoing full operational integration. Evaluateserve believes that platform synergies will be the key to any further consolidation of the global auto industry.

However, platform consolidation will be a double-edged sword for component suppliers. Increased production per platform will mean significantly higher volumes for suppliers, but reduced core platforms will mean very selective business development opportunities. Further, regional suppliers with limited capabilities may come under pressure as global delivery, supply chain, and efficient manufacturing capabilities will be the key to efficient platform consolidation.

Challenges to Platform Consolidation and Sharing

Although platform consolidation is gaining popularity throughout the automotive landscape by virtue of being a simple and effective strategy, several factors still prevent its instant adoption. We have discussed some of these below:

- **Low returns and higher risks:** A large number of similar vehicles based on the same platform can result in lower "sales per model". Platform sharing also magnifies the risk of increased product recalls for vehicles based on the same platform by different manufacturers. For example, the Toyota Matrix and Corolla as well as the GM Pontiac Vibe, which were built on the same platform, had to be recalled from the market.
- **Need for product adaption:** Homologation norms differ significantly from country to country and thus disallow the use of universal platforms across all markets. Although most vehicles can be sold without major modifications within a region (such as the European Union, which follows a more or less uniform set of norms with regard to platforms), a large number of vehicles have to be adapted to meet the different homologation norms. GM, for instance, had to lengthen the front portion of Saturn Astra to meet the more stringent crash standards in the US.

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- Consumer behavior:** On the demand side, consumer behavior and brand consciousness are the biggest deterrents. While the North American market is dominated by relatively larger vehicles such as sedans and SUVs, the emerging markets such as India are primarily dominated by small cars. Buyers are apprehensive about buying expensive cars based on the same platform that underpins a relatively more affordable vehicle with low differentiation on features. An interesting example can be the recent launch of Renault Pulse in India, which shares engineering with Nissan Micra and showcases low differentiation. However, the success of this market launch will largely depend on Renault's pricing strategy.

These obstacles in the path of platform consolidation can be overcome gradually and are likely to wither away against the forces driving platform consolidation. However, to accelerate the pace of platform consolidation, extensive regulatory support, R&D, consumer-driven innovation to increase local acceptance of vehicles developed on global platforms, and segment-driven marketing (personal car, family car, executive car, etc) initiatives are required over the next few years.

An effective approach may be to retrace the path of container standardization in international logistics in the second half of the 20th century. Realizing the potential advantages of a universal regime of standard containers, several regulatory as well as corporate initiatives were taken to promote container standardization. Finally, when standard containers replaced the traditional break bulk method of handling dry goods, it revolutionized the transportation of goods worldwide.

Evalueserve believes that if platform standardization is executed well, it could lead to the next wave of revolution for the automotive industry.

Dominance of Global Core Platforms in Future Vehicles

Markets and Factors Shaping Platform Strategies

Evalueserve estimates that global passenger car sales will grow at 5–7% per year (by volume) till 2015. Evalueserve's research on emerging economies, such as China, South Asia, and South America, will account for more than half of the global light vehicle production by 2015, given a strong growth of 8–9% CAGR over the next five years. These markets will continue to be the focus of car manufacturers' strategies in the near future, influencing product development, marketing, and manufacturing strategies. It is evident that these high-volume markets have interested global OEMs in localized production, and platform consolidation will be the key to achieving economies of scale.

Platform Strategy will Shape Future of OEMs

FIGURE 1: Top 5 OEMs: Platform Strategies

| Activity | Renault-Nissan | General Motors | Volkswagen | Toyota | Ford |
|--|----------------|----------------|------------|--------|------|
| Inter-group Platform Sharing | | | | | |
| Platform sharing with other OEMs as a part of its strategy to harness synergies at the organizational levelz | | | | | |
| Partnerships (platform sourcing or production agreements) with other OEMs, formed exclusively for platform sharing | | | | | |
| Adapted platforms for different markets | | | | | |
| Co-development of platforms | | | | | |
| Intra-Group Platform Sharing | | | | | |
| Platform sharing across brands | | | | | |
| Rebadging (selling same vehicle under a different brand and name) | | | | | |
| Sharing of Platforms Across Vehicle Segments | | | | | |
| Platform sharing across vehicle segments (A, B, SUVs, etc.) | | | | | |
| Increasing modularity of platforms/reduction in number of platforms (2011-2020) | | | | | |
| Increase in Volume Per Platform (2011-2020) | | | | | |

High Low

Source: Evalueserve Analysis

Evalueserve looked at the platform strategies of the top five OEMs to understand the level of synergies they draw through platform sharing. Evalueserve's analysis based on visible strategies adopted by top OEMs shows that the following will emerge as the most robust and long-term strategies to be adopted by OEMs:

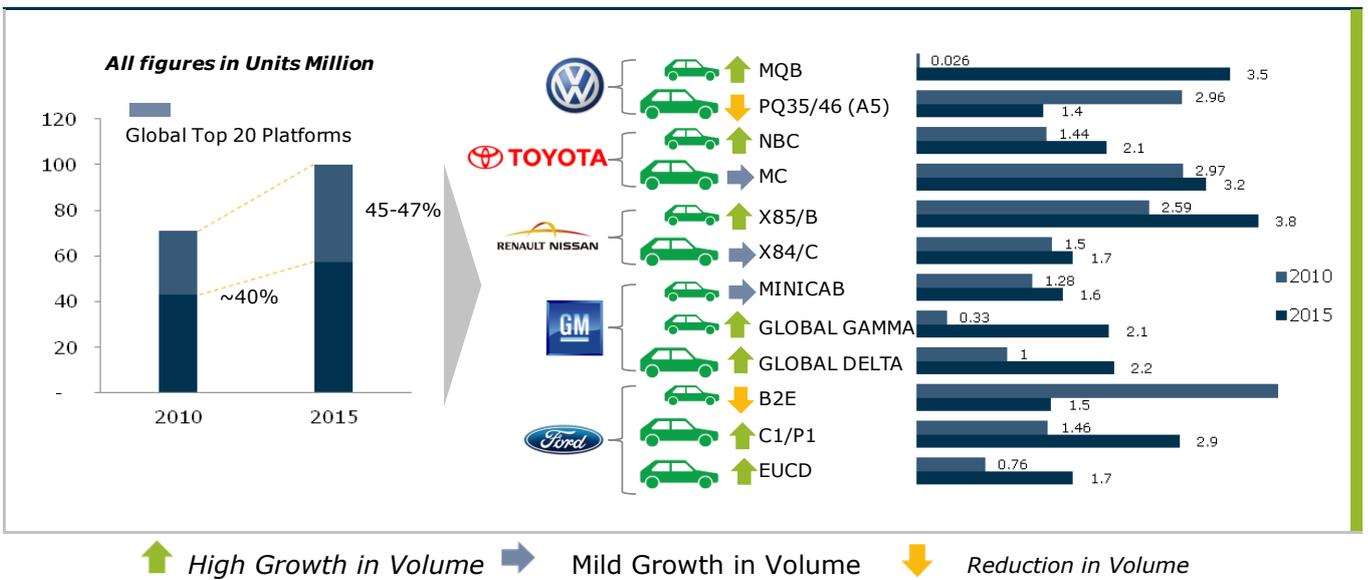
- They will continue to lay more thrust on strong intra-group collaboration to leverage platforms across brands
- They will enter into strategic collaborations for inter-group platform sharing to maximize volume, optimize sourcing, and increase penetration in vehicle segments as well as markets (though it will require a strong synergistic approach)
- They will have an evident modularity approach to streamline overall product value chain

Factors Propelling Platform Consolidation

Platform consolidation has evolved into an industry-wide practice over the past few decades. OEMs across the globe have focused, more than ever, on platform sharing and standardization to rationalize their product development and production costs, besides significantly reducing the product-conception-to-launch time.

Evalueserve’s research and analysis covering OEMs and other published data suggests that currently, the top 20 passenger car platforms (2010) contribute to approximately 40% of the global production volume. Evalueserve expects this share to reach 45–47% by 2015. This will be driven by consolidation of platforms by all major OEMs and further emergence of “mega platforms” flexible enough to produce a large number of variants and products using the same engineering and allowing the OEMs to localize manufacturing. The following figure highlights growth plans for some of these mega platforms.

FIGURE 2: Top 20 Passenger Car Platforms



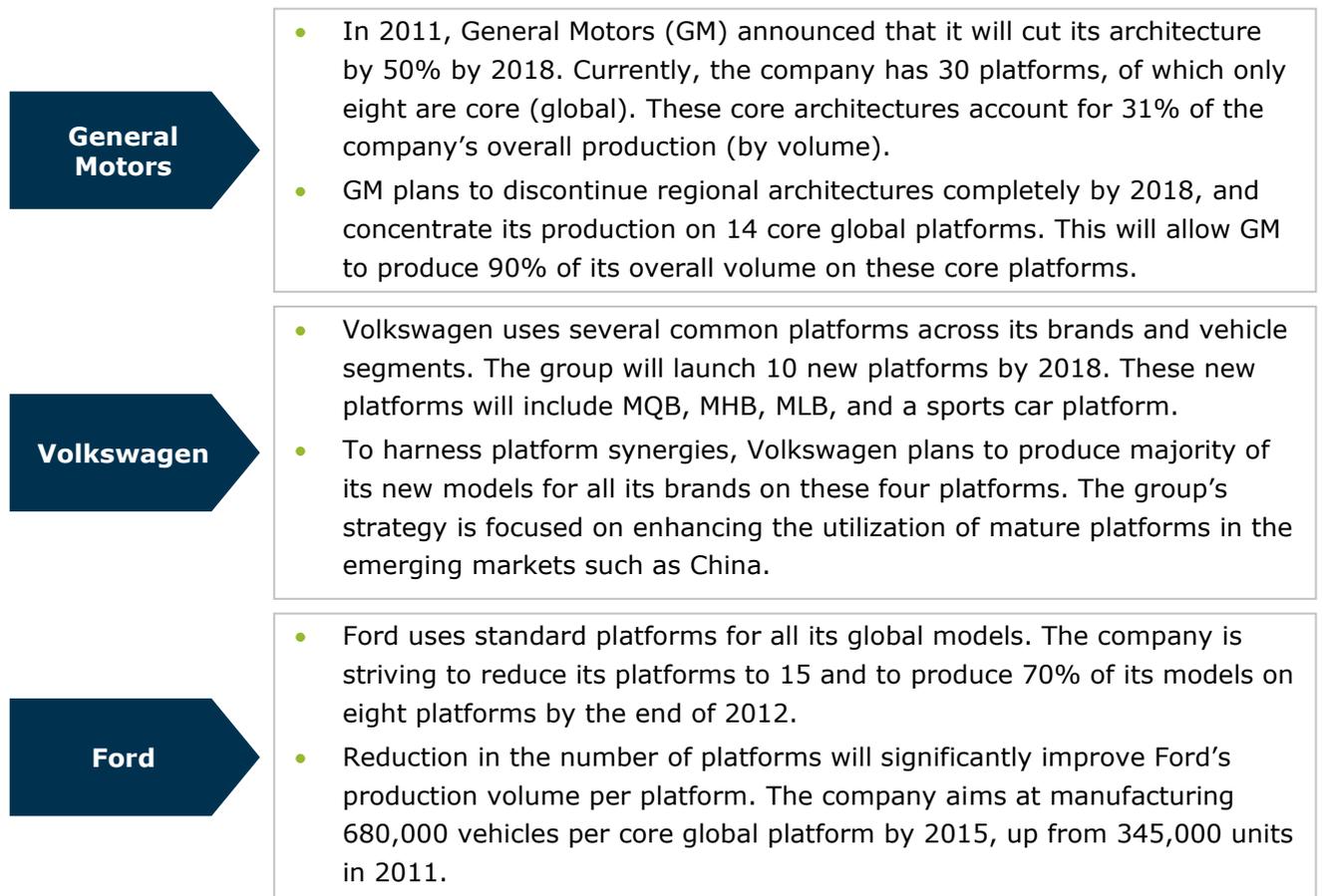
Source: Evalueserve Analysis, OEM published data, Autofacts

*MQB, NBC, MC, etc. are the key top 20 global platforms.

FIGURE 3: Key Platform Consolidation Initiatives and Future Plans



- Renault and Nissan harness platform and procurement synergies extensively throughout their global operations while functioning as separate entities. The Renault-Nissan alliance currently has 22 platforms used across brands. In addition, the alliance has purchased five platforms from other manufacturers. These platforms are procured primarily by Nissan for its low-end range.
- Approximately 85% of the total production of the alliance is based on five core platforms. Apart from the abandonment and development of a few platforms, the alliance does not have any major platform consolidation plans in the near future. The partners will continue to share platforms under the current alliance framework.



Move toward Innovative and Flexible Platforms Inevitable

As the industry moves toward adopting universal platforms, this hybrid strategy will be adopted by more OEMs. A major reason for this is the dimensional and functional flexibility offered by the platforms being developed and used today. These platforms can not only support different brands but also different price segments as they are made up of basic components used in all types of vehicles, irrespective of their price, badge, nameplate, and silhouette.

Till 2020, OEMs throughout the world will continue to leverage on synergies resulting from platform consolidation. However, the two most evident developments that will dominate the platform consolidation regime are

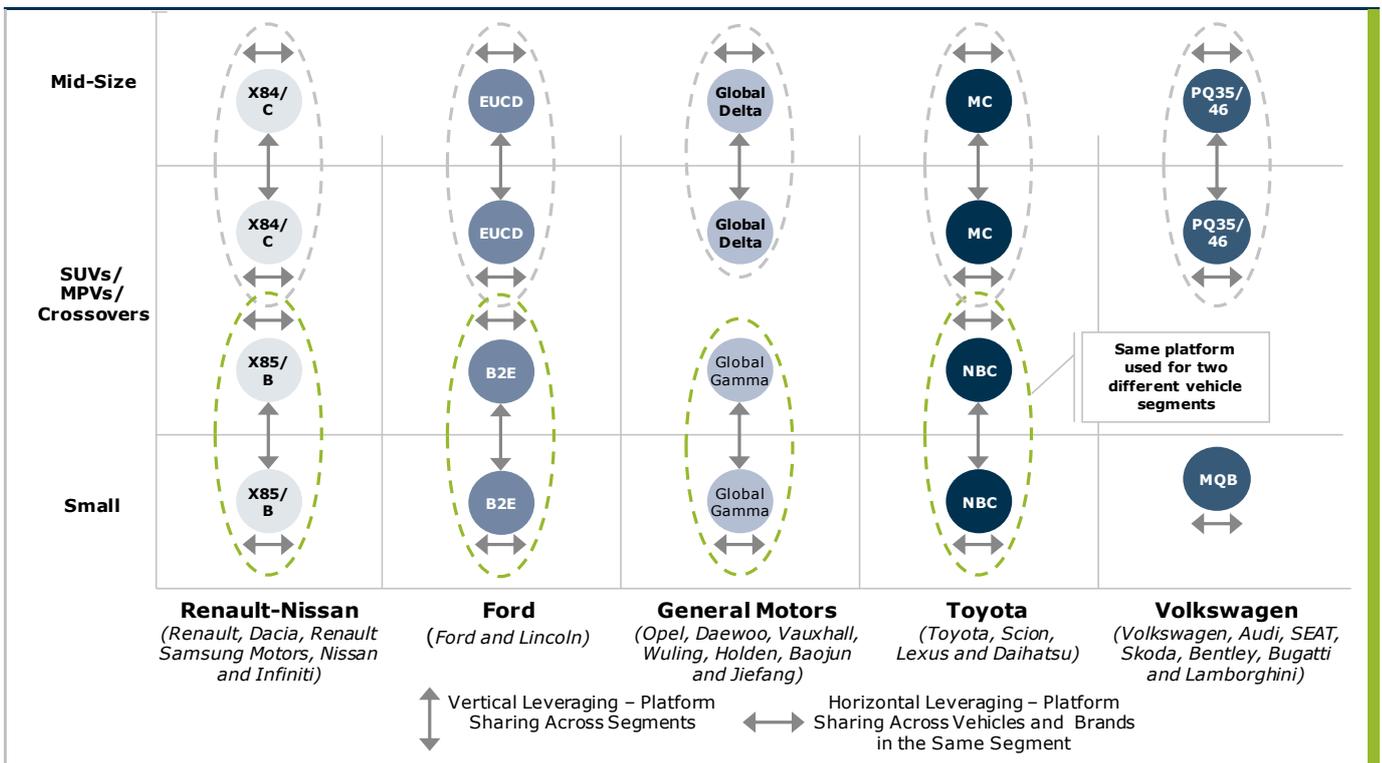
- Inter-segmental collaboration in platform development and adoption
- Region- and market-specific platform development and adoption

Inter-segmental Collaboration

At present, small and mid-size cars dominate the platform standardization landscape for passenger cars worldwide. Inter-segmental collaboration, coupled with the emergence of new vehicle segments, has resulted in several upcoming platform consolidation trends in the passenger car industry. For instance, Renault, Nissan, General Motors, Ford, Toyota, and Volkswagen leverage their small and mid-size platform capabilities by extending the application of these platforms to SUVs and compact Multi Purpose Vehicles (MPVs). Most of the other major OEMs have also started using their compact platforms (used mainly for sedans) for crossovers, one of the emerging vehicle segments throughout the global industry.

Evalueserve’s analysis below illustrates the platform utilization synergies harnessed by the five leading OEMs for their two most critical platforms (among the top 20 global platforms):

FIGURE 4: Segment Analysis for Top 20 Platforms



Source: Evalueserve Analysis

Note: Volkswagen MQB platform will evolve into a global platform by 2015 to produce vehicles across the small, mid-size, and crossover segments. However, it is currently used for small cars.

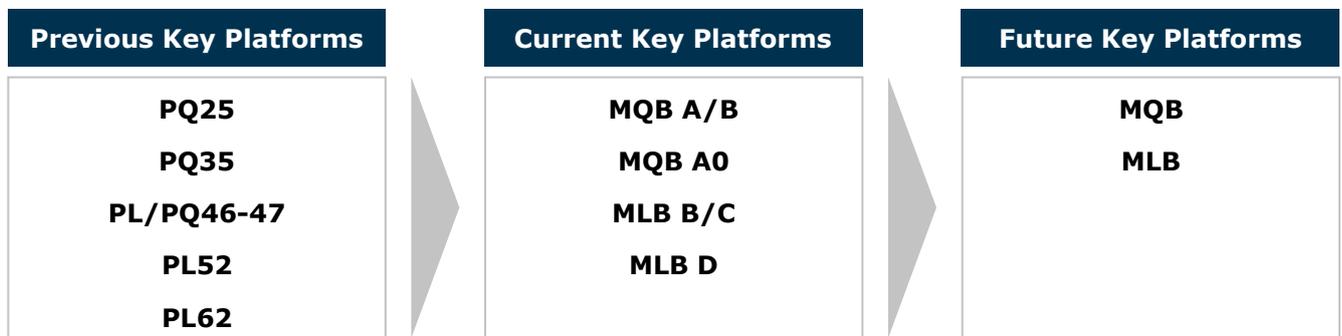
OEMs are now focusing on intra-platform component commonality and global production flexibility. Volkswagen is one of the forerunners in implementing a modular strategy for platforms and uses common platforms for multiple brands as well as vehicles. For instance, Volkswagen and Porsche share the platform for the Volkswagen Touareg and the Porsche Cayenne SUVs. Volkswagen is developing several models based on the MQB platform, ranging from small cars to sedans, coupes, and MUVs. The Volkswagen Group aims at reducing unit costs by 20%, one-off expenditure by 20%, and engineered

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hours per vehicle by 30% through the MQB platform, which will underpin over 60 of its models. The luxury brands of the Group, however, will continue to use their own dedicated platforms.

The following figure illustrates the modular platform path of the Volkswagen Group:

FIGURE 5: Volkswagen's Platform Consolidation Path



Source: Volkswagen Website

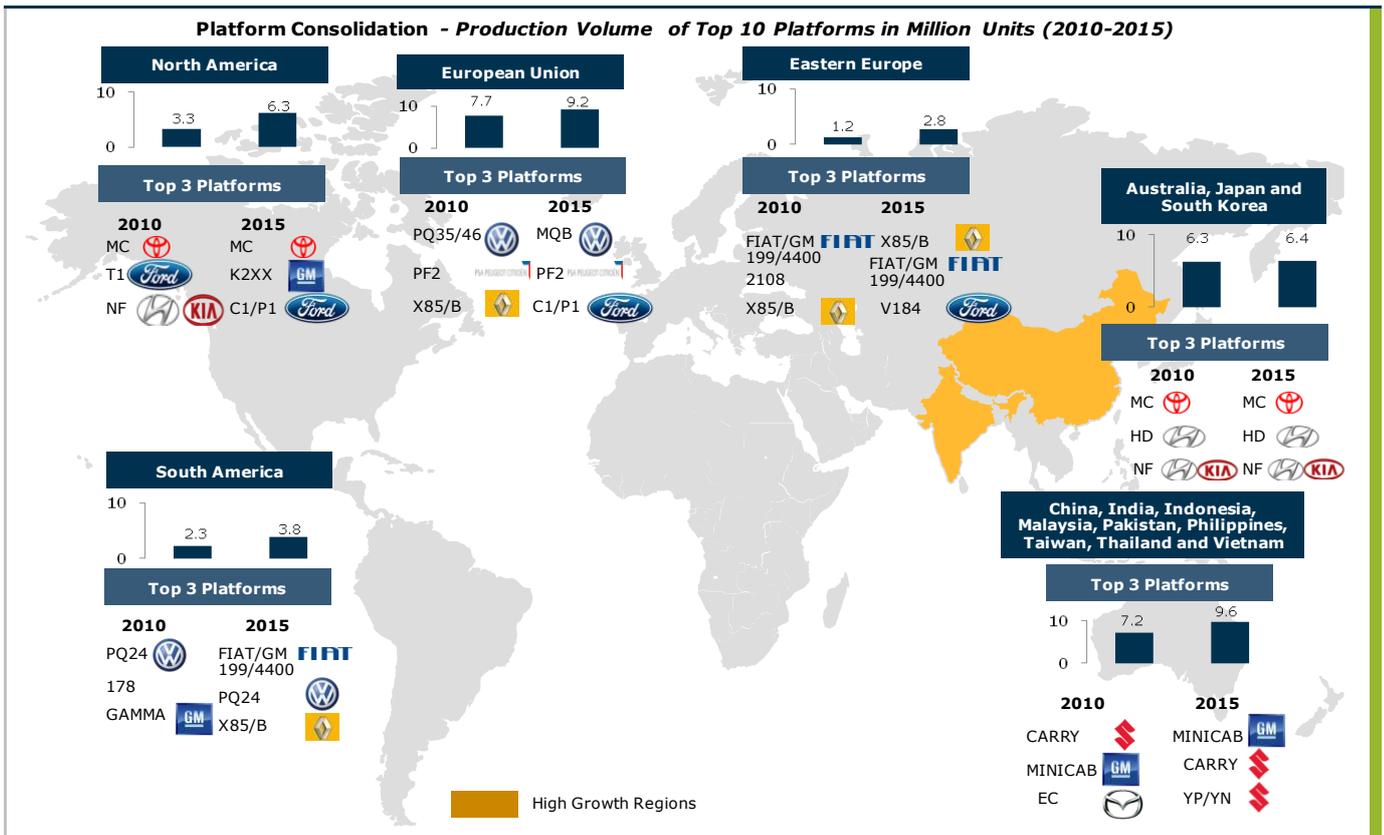
Volkswagen's upcoming practice of mutual leverage will serve as a benchmark for all other OEMs in the future.

The day is not too far when universal platforms will become the order of the day and will underpin a large number of models across vehicle segments, price segments, and brands.

Strategy for Increased Market Leverage

As India and China will account for a higher proportion of global sales over the next few years, OEMs will increasingly adapt their existing platforms and develop new ones for these markets. The Honda Brio five-door hatchback subcompact, produced in India and Thailand, is an example of this emerging trend. Evaluateserve’s analysis below depicts the rise in the production volume for the top 10 platforms in different regions:

FIGURE 6: Global Platform Map



Source: Evaluateserve Analysis

The map clearly reflects that the production volume of the top 10 platforms will rise in all the regions. This will lead all the regional markets toward benefitting from economies of scale, which will consequently lower the vehicle prices. The production volume per platform will also rise in each region.

Rebadging and Platform Sharing Across Brands

Rebadging and platform sharing across brands will be the other modes of tapping the emerging markets. Renault, Nissan, Dacia, and Infiniti use the same platforms for different brands and have even rebadged a few vehicles. This sales strategy is especially effective when a specific brand has a better image compared with that of another brand. For example, Renault and Nissan exploit the better brand image of Renault in Europe by offering Renault vehicles based on common platforms. In Japan, where Nissan has a stronger foothold, the partners leverage on the company’s brand image by introducing vehicles under its own brand name rather than that of Renault. This model, already proven successful

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by the Renault-Nissan alliance, will be a potential synergetic model explored by other OEMs. Crossovers, based on the sedan and hatchback platforms, will be the key drivers of platform standardization activities throughout the globe.

Region-specific Frameworks

Region-specific frameworks will determine the rate of platform consolidation in individual regions. For instance, green legislations in Europe enforce differential taxes based on the carbon emission level of vehicles. European buyers can opt for low-emission vehicles to save taxes. Therefore, to engage more customers, European OEMs have developed varied transmissions for different applications and vehicle segments. These modular transmissions will push platform standardization in new markets adopting such regulations.

Evalueserve will continue to closely monitor OEM strategies and their effect on various tier-1 suppliers as well as product development.

References

Examples of data sources used in the study:

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3. Autofacts, Private equity investments in the automotive supplier industry (PWC)
4. IHS Automotive
5. Accelerating toward 2020 — An automotive industry transformed (Deloitte)
6. Frost & Sullivan
7. News and Automotive Portals

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