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cutting through complexity

KPMG INTERNATIONAL

KPMG's Global Automotive Executive Survey 2012

Managing growth while navigating uncharted routes

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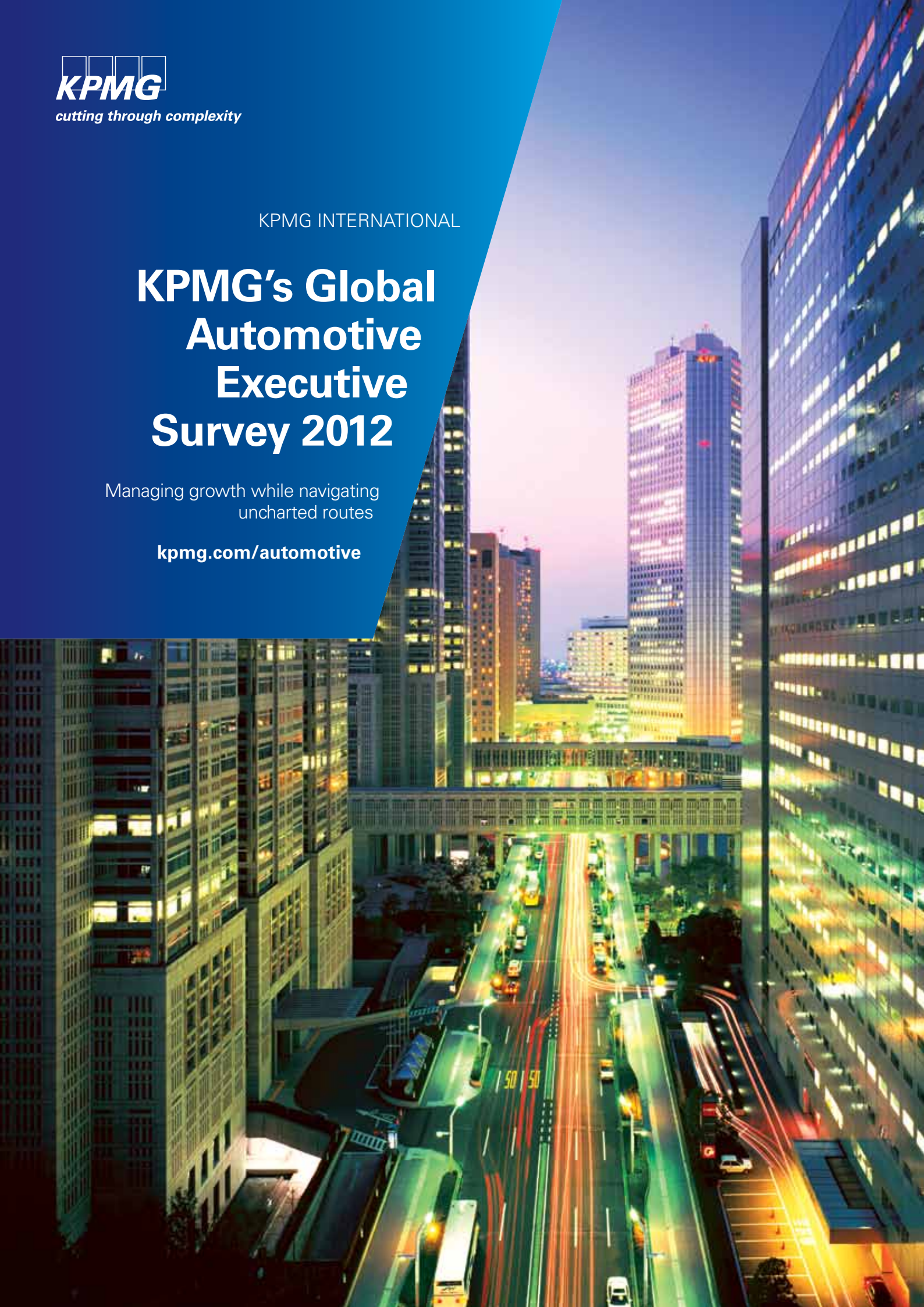


Acknowledgements

The Global Automotive Executive Survey is KPMG International's annual assessment of the current state and future prospects of the worldwide automotive industry. In this year's survey, 200 senior executives from the world's leading automotive companies were interviewed, including automakers, suppliers, dealers, financial service providers, and for the first time mobility service providers. The responses make for compelling reading and we would like to thank all those who participated for giving us their valuable time.

We would also like to acknowledge and thank the following senior executives who participated in in-depth interviews to provide further insight:

(Listed alphabetically by organization name)

Dr. André Stoffels
Head of Strategy
Audi

Steven Bridgeland
Senior Product Manager, Windows Embedded
Microsoft

Special thanks to Moritz Pawelke, Meghan Bested and Martha Collyer for their efforts.

Foreword

Imagine the following scenario, involving an urban dweller, possibly living in a mega-city like Beijing, Sao Paulo, New York, London or Mumbai. As she walks out of her apartment, her smartphone directs her to the nearest available shared electric car, unlocks the door and starts the engine. Once inside, she gets an immediate report on traffic conditions and train times, voice messages from email and a sample from her favorite band's new album.

She drives to the station, takes a train to the airport and boards her plane, all of which happens seamlessly, as every stage of her trip is booked and paid for through a single 'mobility provider'. At her destination she takes another shared car and so her voyage continues.

Automotive executives have plenty to think about as they navigate the new urban landscape and determine the role their company plays in such a journey.

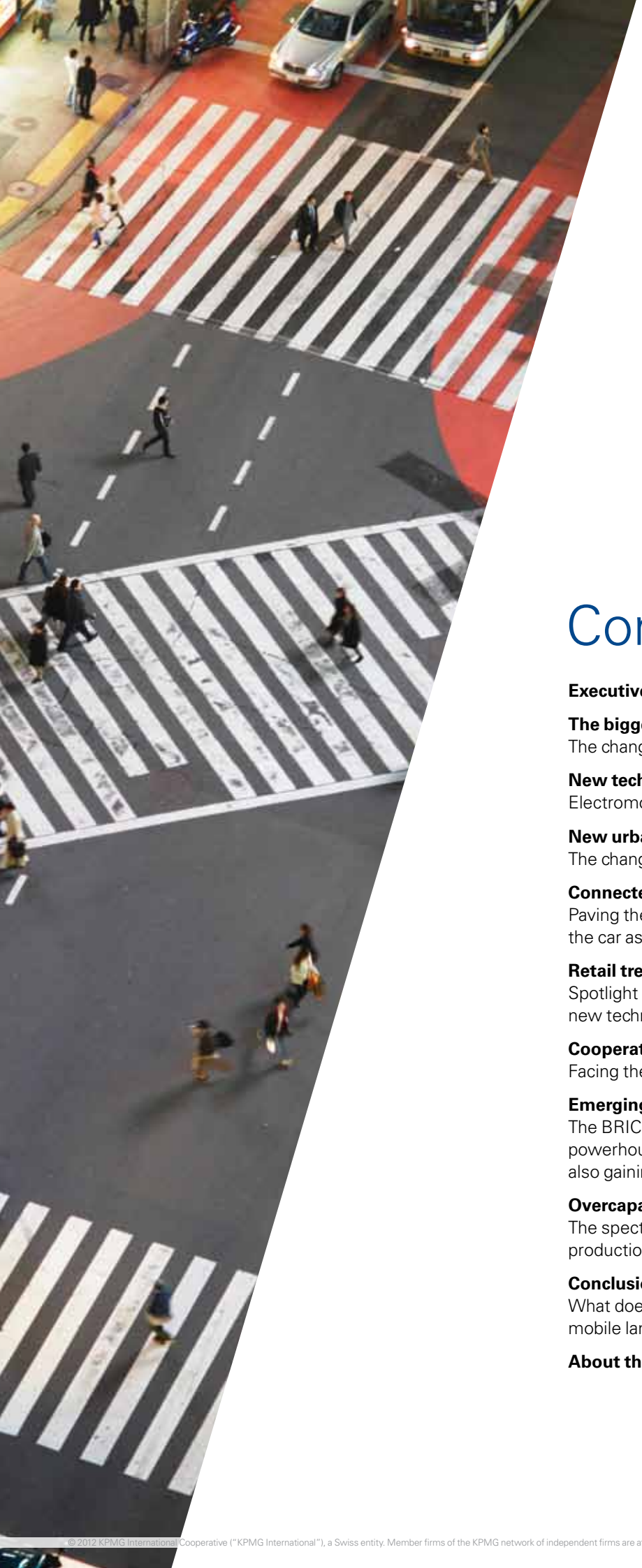
The main industry players need to figure out the best ways to develop technologies that will drive future revenues, whether it is electronic components for fuel cell or battery-electrified vehicles, lightweight body materials for urban car concepts, or software for in-car added-value services for the connected generation – many of whom won't even own their own car.

In this, KPMG's thirteenth annual Global Automotive Executive Survey, we gain a deeper insight into how the sector is addressing these and other issues such as the increasing power of the emerging nations, and the continuing overcapacity around the world.

Executives from the world's leading automotive companies were interviewed for this year's survey, representing the views of a variety of traditional mobility stakeholders such as OEMs, suppliers and dealers, as well as new players claiming their place at the table, including mobility service providers and IT and connectivity companies. Their responses make a valuable contribution to the debate on the industry's future development.

Finally, as KPMG's new Global Head of Automotive, I would like to thank my predecessor Dieter Becker, without whom this report would not have been possible. Dieter's deep industry insights, forward-thinking ideas and passion shaped the KPMG Automotive practice and I wish him all the best for his important new role within KPMG Advisory.

Mathieu Meyer
Global Head of Automotive



Contents

Executive summary

Electromobility remains challenging

- **65** percent see **hybrids** as best mid-term solution
- **20** percent believe **fuel cells** will attract more consumer demand than **battery electric cars** (**16** percent) in **2025**
- **9–14** million **new electrical vehicles** will be registered in TRIAD and BRIC markets by **2026**

Innovative urban mobility concepts getting popular

- **50** percent think **urban planning** influences car usage and design – especially in the emerging markets' megacities
- Potential **urban customer base for mobility services** in the BRICs ranges from **100-190 million** in 15 years' time

Managing while uncharted

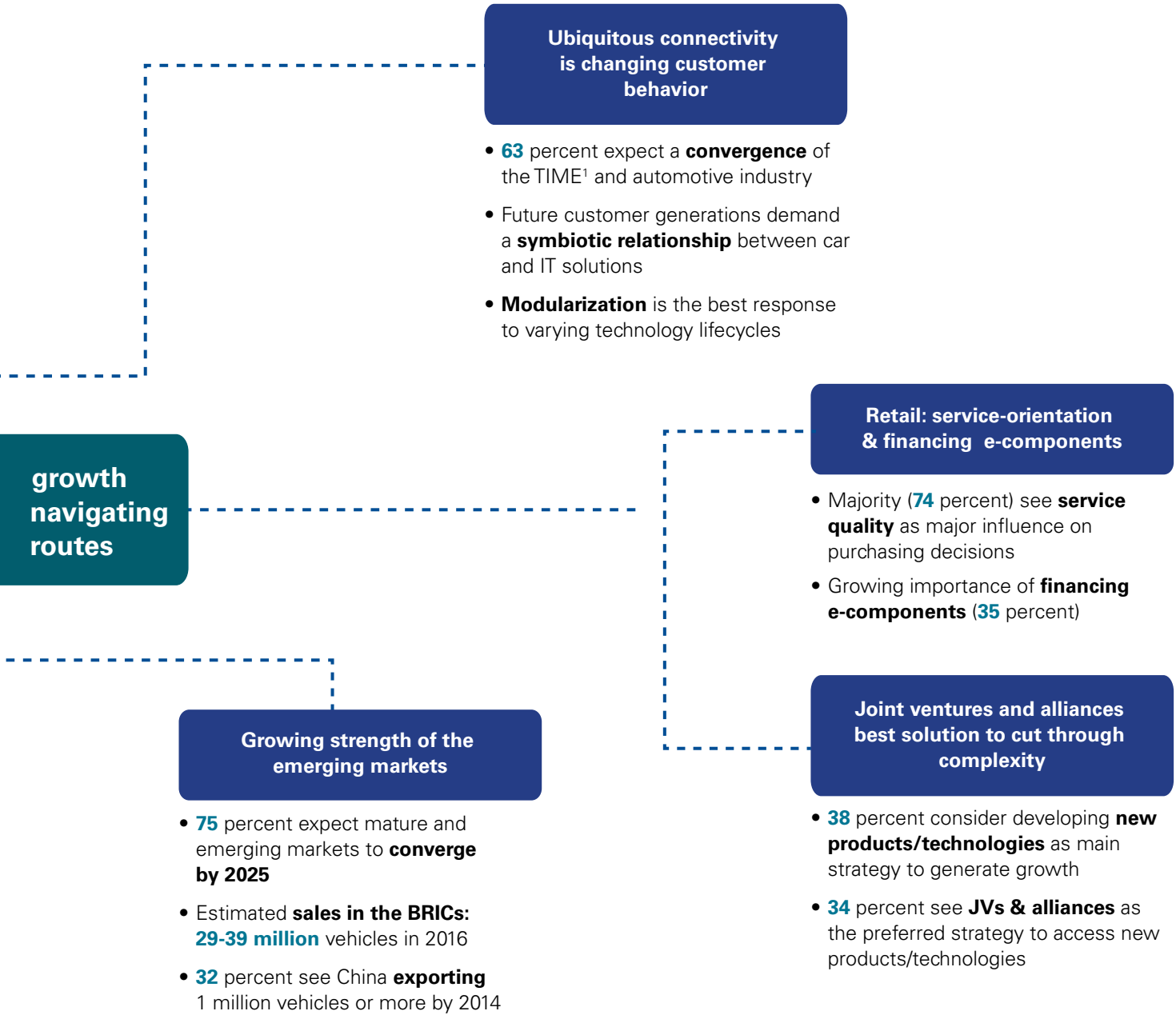
OEMs on top of realigning value chain

- **54** percent expect that **electric component suppliers** will gain in significance in the value chain
- **OEMs will lead the value chain**, even for new technologies (e-power train and connectivity) and mobility services

Overcapacity and excess production are unresolved issues

- **42** percent see the **U.S.** as **the most overbuilt mature market**, which does not reflect reality, followed by Germany and Japan
- **51** percent think **China** will be the **most overbuilt BRIC market** in 2016, followed by Brazil
- The global automotive market is predicted to be **overbuilt by 20-30 percent** by 2016

Note: Percentages may be rounded
[1]TIME = Telecommunications, Information Technology, Media & Entertainment
Source: KPMG's 2012 Global Auto Executive Survey



The bigger picture: market trends

The changing nature of mobility

KPMG's 2012 global survey shows that the automotive industry continues to face environmental challenges, growing urbanization and shifting customer behavior, which calls for radical new approaches to future mobility. And these issues are becoming universal, with three-quarters (75 percent) of respondents believing that emerging and mature markets will converge by 2025.

Given the growing pressures on fuel efficiency, it is no surprise that the vast majority consider electromobility to be the most pressing trend in the automotive industry, either driven via batteries, ranked as most important, or fuel cells, which come a close second.

In the face of growing urbanization, city dwellers need cars adapted to their particular environment, which explains why urban-oriented design is considered the third most important trend for the future of the automotive industry.

Furthermore, as cities seek to reduce pollution and congestion, car ownership will become restricted and not available for everyone.

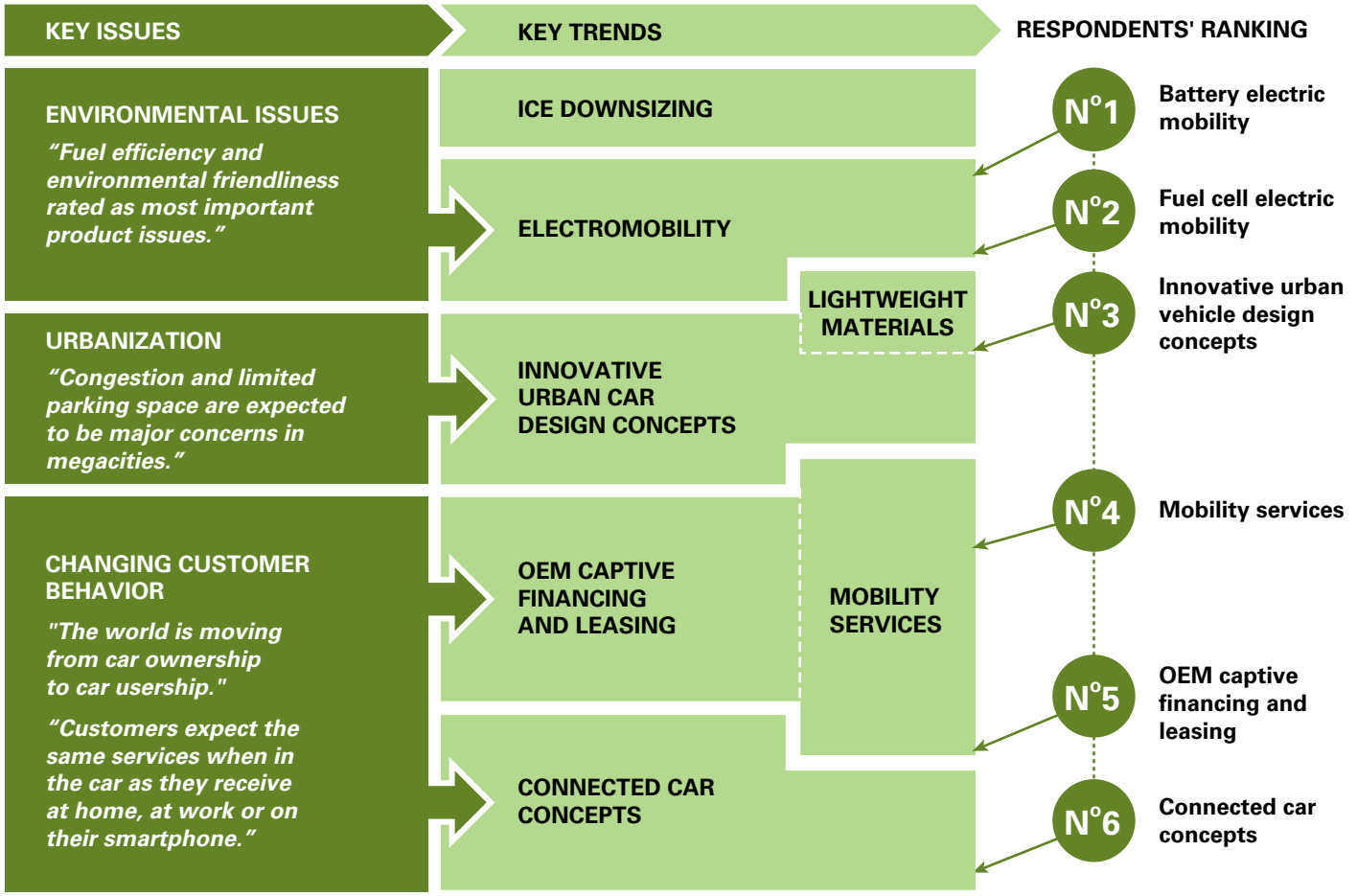
One could take it even further: Even if car design is adapted to urban habits, not everybody wants to have his own car anymore. In this regard, intelligent mobility services, e.g. car-sharing, should not be neglected. Despite the omnipresence of electromobility, respondents consider such approaches as the forth most important trend for the coming 10-15 years.

Another area of growing importance is financing and leasing options, especially in emerging markets, where the potential of finance and lease services for the growing middle class has barely been tapped.

Connected car concepts are also on the agenda of automakers, as more and more vehicles continuously interact with the real and virtual world around them. This trend is set to accelerate to mass-market levels, not least because it increases vehicle safety.

Environmental issues, growing urbanization and changing customer behavior are the key issues influencing the global automotive industry.

The most important trends in the industry in the next 15 years



Source: KPMG's 2012 Global Auto Executive Survey

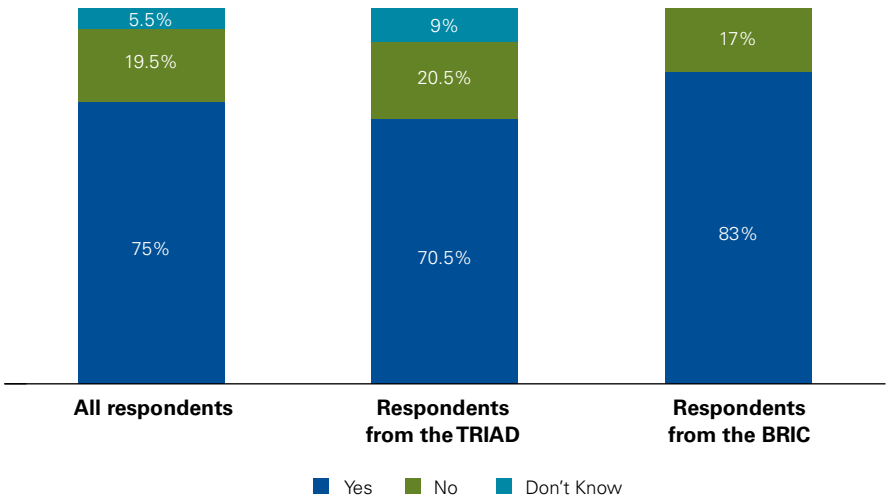
Markets are converging faster than you think

The concept of a two-tier global industry is rapidly becoming redundant. The vast majority of respondents believe that by 2025, the emerging and mature markets will converge in terms of customer requirements for quality, safety, and reliability, as well as for vehicle segment shares between low-cost and premium.

Such convergence has big implications for OEMs from developed countries. On the one hand an expanding range of market opportunities will open up, including electric vehicles and mobility services; however, they can also expect fiercer competition from the BRICs over traditional and new technologies in their domestic markets.

Chinese car manufacturers such as SAIC, Geely and BYD, are setting their sights on the global car market with vehicles that are becoming technologically competitive. Pedro Nueno, President of the China Europe International Business School, even feels these companies could become established in the West within a matter of years, especially with electric vehicles.

Convergence of mature and emerging markets by 2025



Source: KPMG's 2012 Global Auto Executive Survey

75 percent of respondents believe emerging markets will face the same opportunities and challenges as developed countries by 2025.

Not faster, higher, further – but nicer, safer, greener!

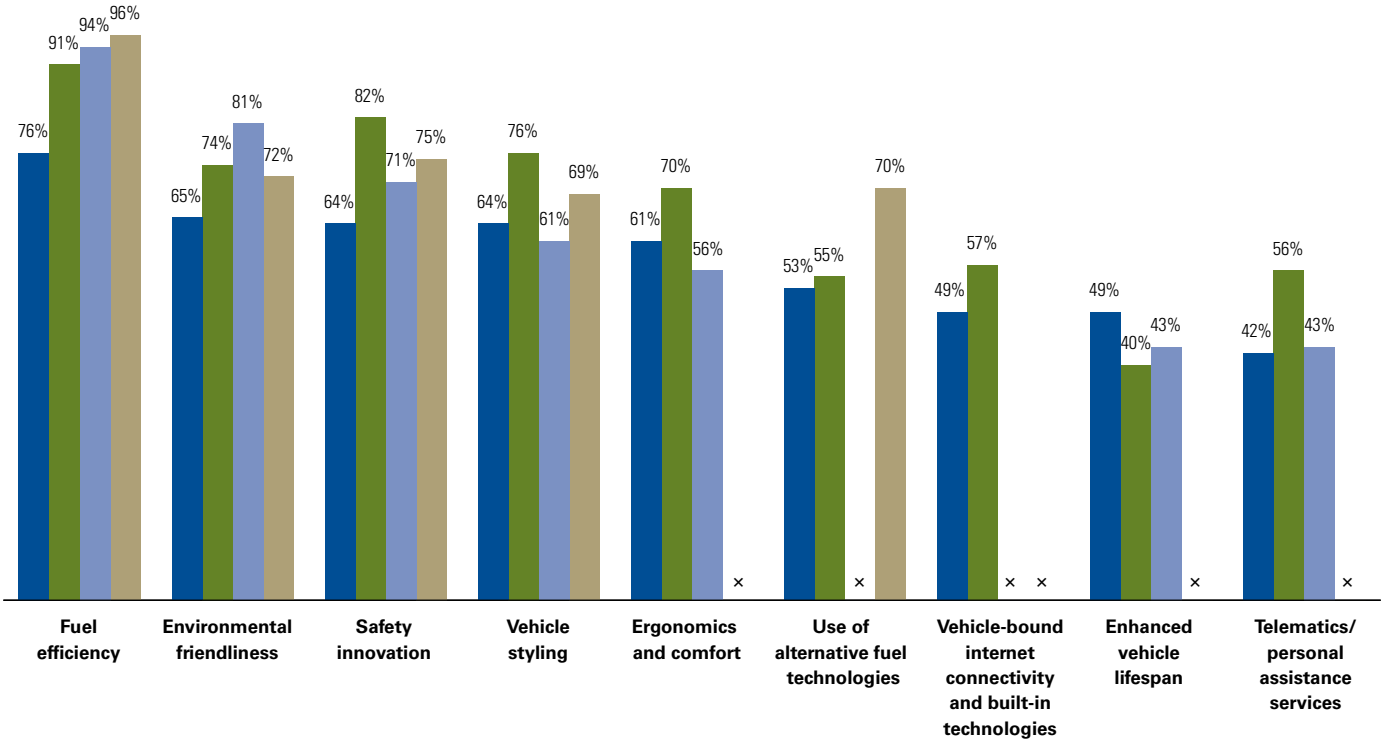
In common with previous KPMG global automotive surveys, fuel efficiency (76 percent) remains the single biggest factor when buying a vehicle, although it dropped by an astonishing 20 percent since 2009.

When comparing responses to the previous 2011 survey, only "enhanced vehicle lifespan" received a higher rating, with all other responses declining in importance, suggesting that customers are becoming less certain in their tastes and attitudes towards vehicles.

One issue that appears to be undervalued is in-car internet connectivity. The younger generation in particular expects to enjoy the same range of services in their vehicles as they can get at home, in the office or on their smartphone, including music, telecommunications and internet access, as well as a navigation system that integrates with broader traffic control systems to make their journey as efficient as possible. Automotive companies should not neglect the vast, under-exploited potential for revenue from connectivity services and software solutions.

Customers are becoming less certain of their reasons for purchasing vehicles.

Product issues influencing consumer purchase decisions



Note: Percentage of respondents rating issues as important
Source: KPMG's 2012 Global Auto Executive Survey

Electric component suppliers taking center stage

The automotive value chain is undergoing change and the battle for control is heating up. Fifty-four percent of the survey participants feel that electric component suppliers will gain a more significant role in the next fifteen years, reflecting the continued rise of electric parts within both ICE[1]-driven cars and the new electrified vehicle concepts. And with efficiency and safety a high priority, suppliers of strong, lightweight materials such as carbon fiber are also becoming more influential.

Tier '0.5' suppliers[2] are not considered to be a threat to the dominance of OEMs, which is somewhat contrary to current practice; some suppliers are already producing whole systems and even investing in research and development (R&D) to independently come up with completely new car concepts, e.g. Johnson Controls' ie:3.

Another surprise is the low importance attached to independent mobility service providers such as Better Place or Zipcar, which already operate successfully in several cities and countries. This is all the more surprising given that OEM captive approaches from Daimler, BMW, VW and Peugeot have mostly just entered the pilot phase.

Finally, despite the universal use of the internet, web 2.0 brokers and intermediaries are not thought to be a challenge to existing dealer networks.

54 percent of respondents believe electric component suppliers will gain a more significant role by 2025, but underestimate the importance of emerging concepts and business models.

KPMG insights

Tightening up the supply chain

Attempts by OEMs to consolidate their supply chains have had limited success. Not only are they faced with more and more new suppliers from the technology sector; those manufacturers expanding overseas also require their existing suppliers to move with them. Meanwhile green regulations are putting a strain on supplies of commodities such as aluminum, which is in heavy demand to reduce vehicle weight and improve fuel efficiency.

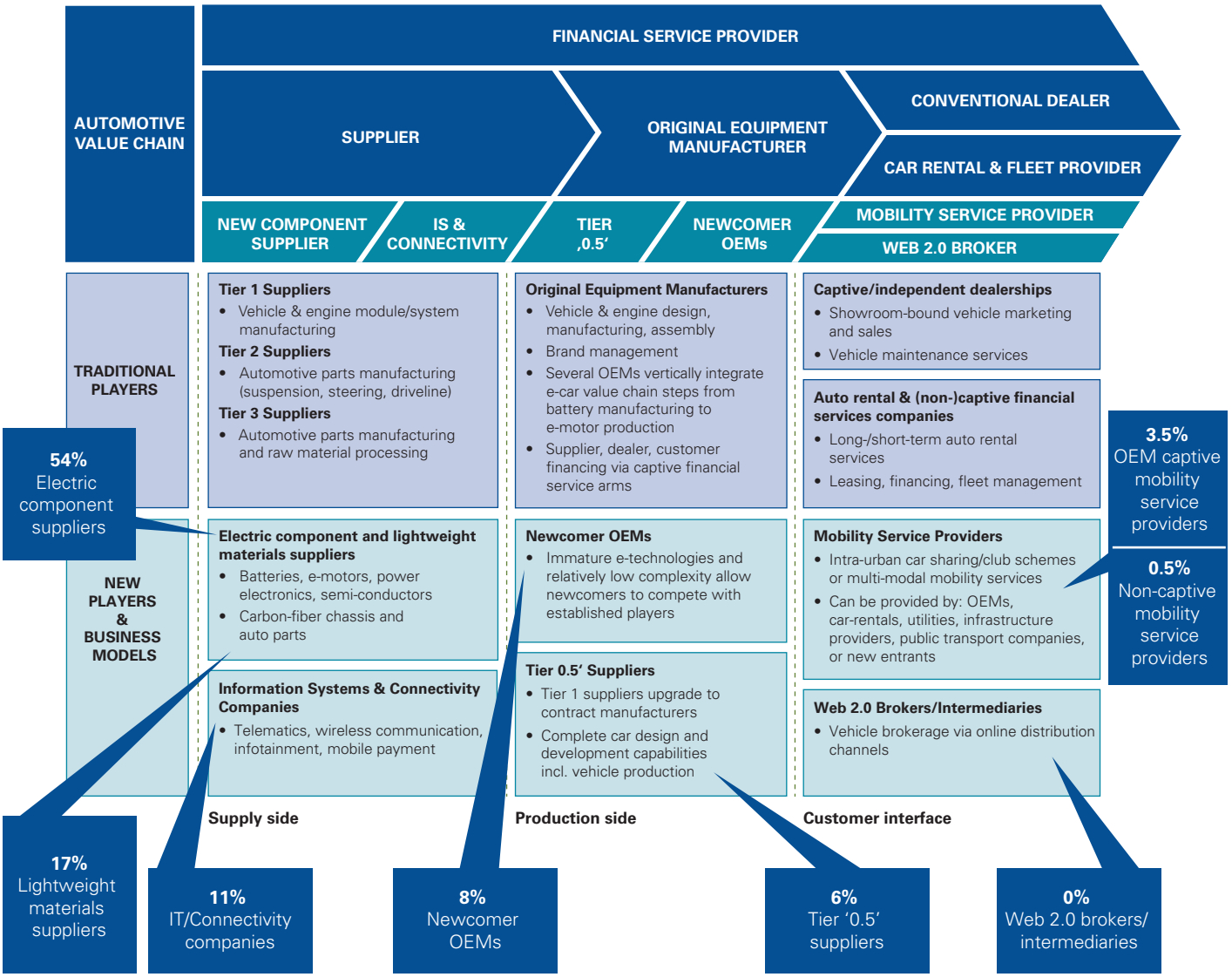
The 2011 environmental disasters in Japan and Thailand highlighted how little OEMs know about their supply chains, with a number of automakers reliant upon a single Tier 3 or 4 supplier affected by the catastrophe. By enhancing the transparency of their supply networks, automakers can become less vulnerable to natural or financial crises, by spreading their business across multiple suppliers at each tier level.

Lifecycles vary considerably between the automotive and electronics industries, so vehicle manufacturers should collaborate more closely with technology suppliers, to ensure they produce the right components at the right time in the right quantities.

Kimberly Rodriguez
Principal, Advisory
KPMG in the U.S.

[1] Internal combustion engine
[2] Suppliers with complete car design and development capabilities including vehicle production

Increasing significance of new players in the automotive value chain up to 2025



Note: Percentage of respondents believing a player will gain a significant role
Source: KPMG's 2012 Global Auto Executive Survey

Core competencies have to be redefined

OEMs will remain the major force in ICE powertrain/drivetrain technology. It is notable that Tier 1 suppliers are not even considered the next most likely group to take control, with joint approaches seen as the preferred alternative.

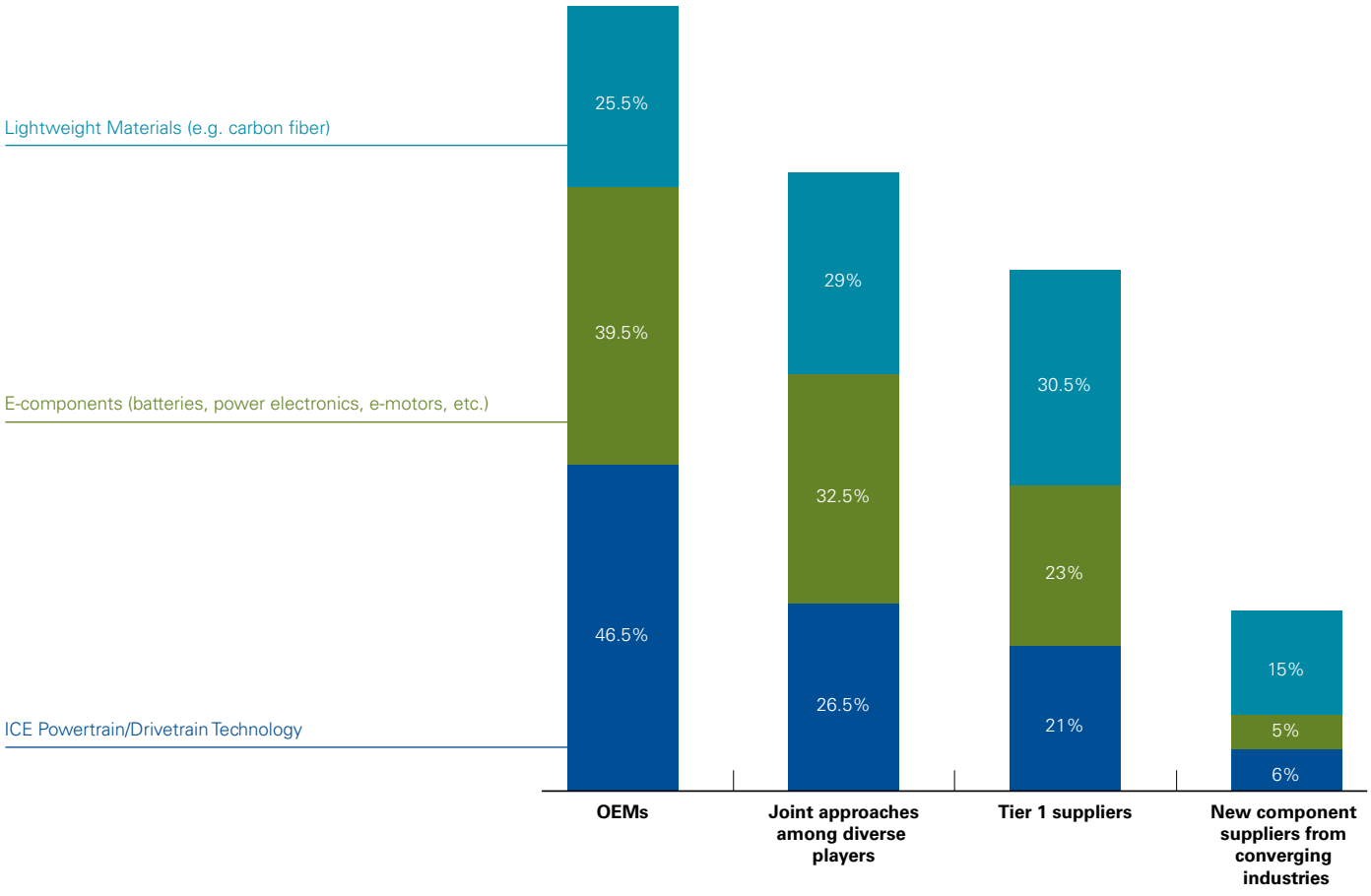
Perhaps more surprisingly, 39.5 percent of respondents still foresee OEMs controlling the development and manufacturing of e-components – even though they currently have little recognized competence in this area.

When it comes to the production of lightweight materials, however, the role of OEMs may have been underplayed. Companies such as BMW, VW and Daimler are already investing heavily in cooperation with producers of carbon and other substances. Yet according to our survey respondents, Tier 1 suppliers are expected to control the R&D and production of such materials.

OEMs are traditionally responsible for brand management and overall assembly, yet the survey respondents predict them to lead the value chain for powertrain and e-components – and even take a prominent role in lightweight materials.

OEMs are expected to be the dominant force in electric and traditional propulsion technologies.

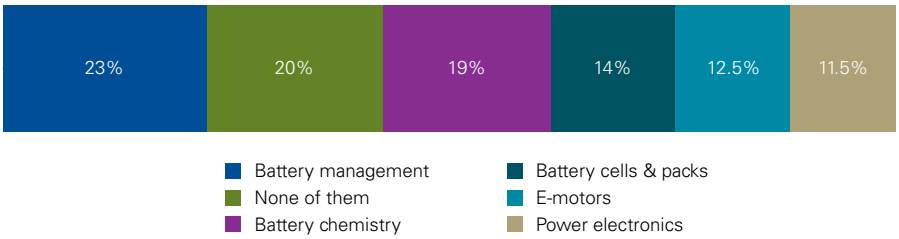
Players responsible for important technology building blocks



Note: Percentage of respondents regarding player as responsible
Source: KPMG's 2012 Global Auto Executive Survey

There is considerable uncertainty over whether any of the different e-components provide much potential for differentiation, with no clear favorite emerging, and even a fifth believing that none offer such a possibility. Of all the options, battery management appears to hold the most promise. Battery cell, pack or chemistry development and production are not thought to offer competitive advantage, therefore a possibility would be to outsource those or develop them via joint ventures to share R&D expenditure.

E-components with the greatest differentiation potential



Source: KPMG's 2012 Global Auto Executive Survey

None of the new technologies offer significant potential for differentiation, although battery management is considered the most likely.

KPMG insights

Be a master not a slave to technology

OEMs are under immense pressure from legislators and customers to improve powertrain efficiency, yet some of the new technologies they are developing at great cost (for internal combustion engine, fuel cell, hybrid, full electric, lightweight materials) may not be profitable for a decade – and possibly never gain sufficient scale to be commercially viable.

It is also unclear which components for e-vehicles present the greatest opportunity for differentiation. Rather than trying to lead in every new technology, OEMs should therefore be more selective, retaining and strengthening key competencies and outsourcing those with no potential for competitive advantage; a complicated decision that will reflect each organization's unique situation.

With new mobility concepts shifting profits downstream, value is increasingly derived from car usage, so OEMs need to consider technologies such as intelligent in-car telematics systems to maintain revenue at this end of the value chain. In adopting new technology, automakers cannot afford to lose their existing dominance, so strategic partnerships and other forms of cooperation will inevitably gain momentum.

To avoid disruption to manufacturing and to achieve scale and high utilization rates at low cost, automakers must balance standardization with flexibility. Flexible vehicle platforms that can incorporate a range of alternative powertrain technologies can help manage ongoing complexity.

Mathieu Meyer
Global Head of Automotive

New technology

Electromobility is everywhere – except upon the roads

Electrified vehicles will not exceed 15 percent of annual global new car registrations before 2025. And for the immediate future, hybrids will continue to be more popular than pure battery-powered cars. Over time, fuel cell vehicles are seen as a more promising prospect than battery-electrified cars, especially in the BRICs.

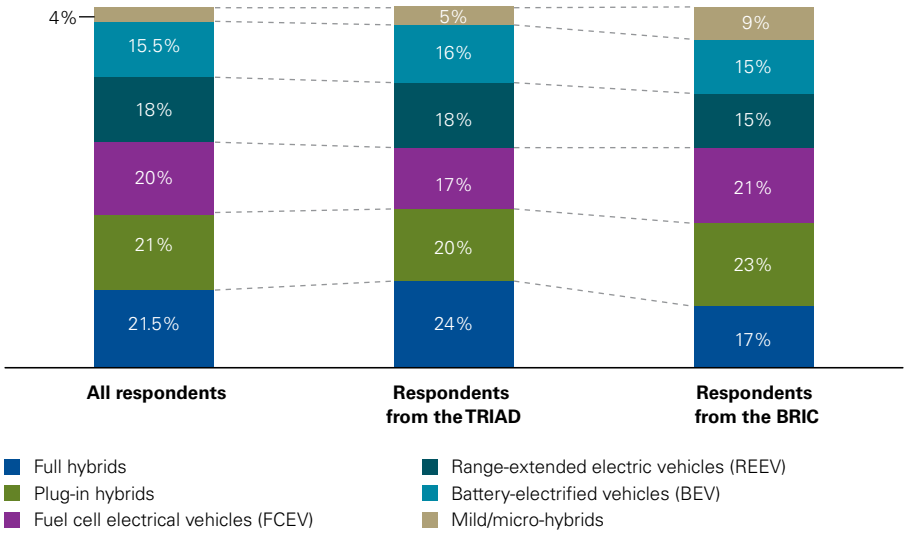
Although there is no clear winner among the various electrified technologies, hybrids are expected to outsell battery-powered cars several times over in 13 years' time. According to the survey, full and plug-in hybrids and fuel cell vehicles are likely to be in greatest demand, while battery cars with range extenders (like the Opel Ampera/Chevrolet Volt or the A1 E-Tron) should edge ahead of pure electric cars.

Respondents from the BRIC nations believe fuel cell-powered vehicles will attract the most consumer demand, with the exception of China, where pure battery-powered vehicles are expected to come out on top. Given the longer distances achievable with fuel cell-driven cars, it is some surprise that none of the U.S. executives surveyed consider fuel cell as an option for consumers by 2025.

Chinese respondents believe that by 2025 battery-electrified vehicles will be the most popular new technology among customers.

No clear winner among the various electrified technologies. Surprisingly, BEVs anticipated to lag behind FCEVs in 2025.

Electric vehicle technology attracting the most customer demand by 2025



Note: Percentage of respondents expecting the most customer demand
Source: KPMG's 2012 Global Auto Executive Survey

Picking the winners

With new technologies playing an ever greater role in the automotive value chain, OEMs face some complex and challenging choices.

As they seek to keep ahead of the competition, a hefty chunk of automakers' R&D budgets goes on reducing energy consumption and emissions through more efficient powertrains and lightweight body materials. A sizeable proportion of these resources are geared towards hybrids, battery and fuel cell development, with the remainder dedicated to optimizing the internal combustion engine (ICE).

The top manufacturers rigorously assess their own competencies to determine whether to develop in-house or via joint-ventures such as the global alliance between Daimler and Renault/Nissan, aimed at producing smaller three cylinder engines. Many intend to remain master of their in-car connectivity, networking with the digital community to access telematics and entertainment services. Another sign of a global mindset is the decision of some to source low-cost simulation expertise from India.

The growth of markets such as China presents a different type of challenge, as a local presence (probably with a Chinese partner) is vital to provide telematics and connectivity to meet the country's unique cultural and language needs.

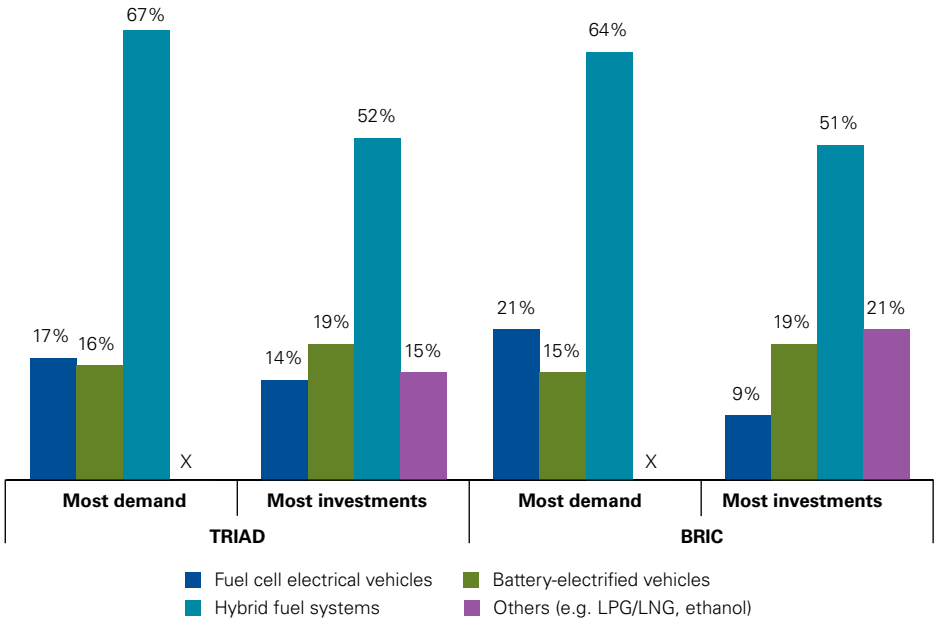
Only time will tell if OEMs have made the right choices, particularly in the field of battery technology, where no common standard has emerged. For example, there's plenty of uncertainty over what type of batteries will be supported by the government in the strategically important Chinese market.

There is considerable confidence in the potential of fuel cells, whose longer driving range should enable automakers to achieve a critical mass of sales by 2025. An added advantage of fuel cells is the relative affordability of core materials (except for platinum) when compared to batteries. However, both technologies require a substantial infrastructure investment to provide safe hydrogen refueling facilities and easily available electrical recharging points.

The anticipated success of different technologies reflects the relative levels of investment they will be receiving, with hybrids attracting far more resources than either pure battery or fuel cell vehicles. In the BRIC nations, however, expected demand for fuel cell-powered cars is not matched by investment levels – something that these markets may have to address.

In China, this mismatch is largely due to the 12th Five Year Plan, which mostly supports battery-electric mobility.

Expected investment vs. demand for e-technologies



Source: KPMG's 2012 Global Auto Executive Survey

× No data available

Expected customer demand for fuel cells in the BRICs is not matched by an appropriate investment effort.

KPMG insights

China looks to cleaner roads

As one of the seven strategic industries in China's 12th Five Year Plan, clean energy vehicles are set to receive over US$15 billion of investment in a bid to have one million units on the road by 2015. The world's largest automobile market is determined to be a technology leader by improving efficiency of batteries, motors and control systems, with a strong focus on smaller e-vehicles.

China's centralized economy enables the rapid development of infrastructure, with plans for 2000 charging stations and 400,000 charging poles in 70 pilot cities. Components are also high on the agenda as the People's Republic aims for full industrialisation of e-vehicle production.

With foreign automakers eagerly awaiting certified Chinese e-mobility standards, there should be opportunities for joint ventures and demand for specialized skills, although the industry will be most likely dependent upon continued government subsidies and tax exemptions.

Andrew Thomson
Co-Head of Automotive
KPMG in China

KPMG insights

How an OEM can fund all its upcoming development needs

Many auto OEMs are working to get totally newly-designed products into the market quicker and more cost effectively to meet changing consumer needs. Small, more efficient cars are a key focus for all OEMs, as is the move to alternative propulsion systems (engine and drive trains) across all vehicle lines. To support the development of these new technologies, OEMs are simplifying the number of auto platforms and propulsion systems. A reduction in total vehicle models and standardization of propulsion systems (gas, hybrid and electric) across platforms is helping control expenditure on new product development. In addition, OEMs are pushing Tier 1 and 2 suppliers to take a very active role in early design activities, to improve time-to-market and also to share development risks. Again, this approach has been very effective at helping control overall product development costs. Lastly, many OEMs are successfully leveraging low-cost product design outsourcing to further control expenditure and speed up the development cycle.

Doug Gates
Principal, Advisory
KPMG in the U.S.

The East holds the key to e-mobility

As the survey results confirm, electromobility still has a long way to go before it can be regarded as a true replacement for the traditional ICE. Almost two-thirds of executives taking part believe that e-vehicles will not exceed 15 percent of annual global sales in 15 years' time.

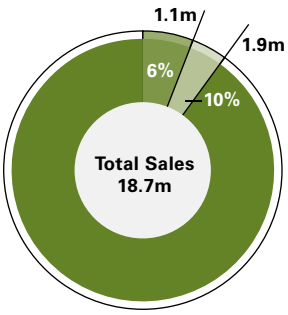
These figures differ considerably by country and region. Japanese respondents are by far the most optimistic, with almost half predicting e-vehicle sales to gain a 25 percent share of domestic new car registrations in 2026, for a total of 1.4 million units. China also has relatively high expectations for e-mobility; a majority anticipate sales to be 11-15 percent of the total, which is higher than the U.S., Western Europe and the other BRIC nations.

And while these figures are relatively small percentage-wise they still represent a huge opportunity in terms of actual vehicle numbers. With the Chinese market projected to reach 37.5 million in annual sales by 2026, e-cars could total between 4-6 million, compared to around 1.5 million in the U.S.

Between 9-14 million new electrical vehicles will be registered in TRIAD and BRIC markets in 2026.

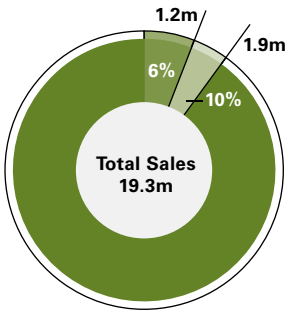
Share of annual new e-vehicle registrations by 2026

U.S.



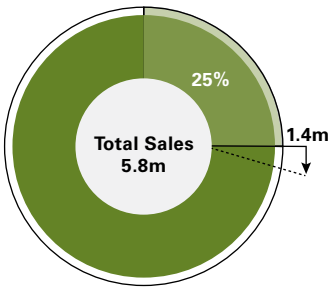
47% of respondents from the U.S. believe the share of e-car registrations will be **6–10%**.

Western Europe



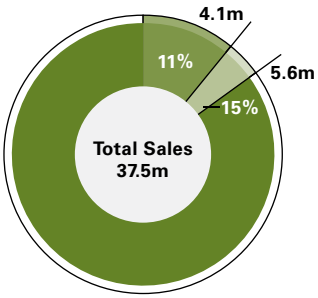
33% of respondents from Western Europe believe the share of e-car registrations will be **6–10%**.

Japan



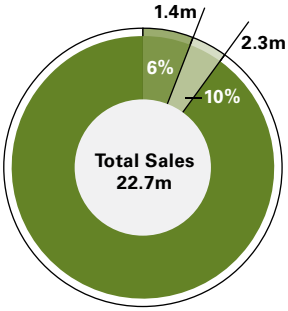
46% of respondents from Japan believe the share of e-car registrations will be higher than **25%**.

China



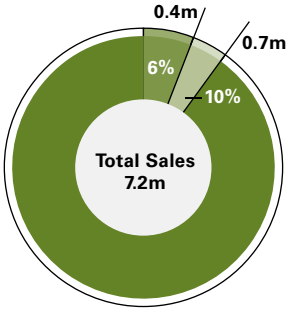
33% of respondents from China believe the share of e-car registrations will be **11–15%**.

India



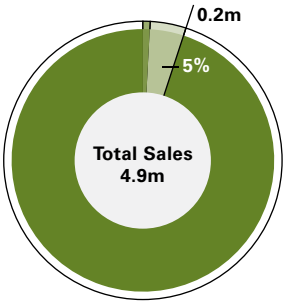
67% of respondents from India believe the share of e-car registrations will be **6–10%**.

Brazil



42% of respondents from Brazil believe the share of e-car registrations will be **6–10%**.

Russia



38% of respondents from Russia believe the share of e-car registrations will be **1–5%**.

Source: KPMG's 2012 Global Auto Executive Survey & LMC Automotive

Calculation Scheme

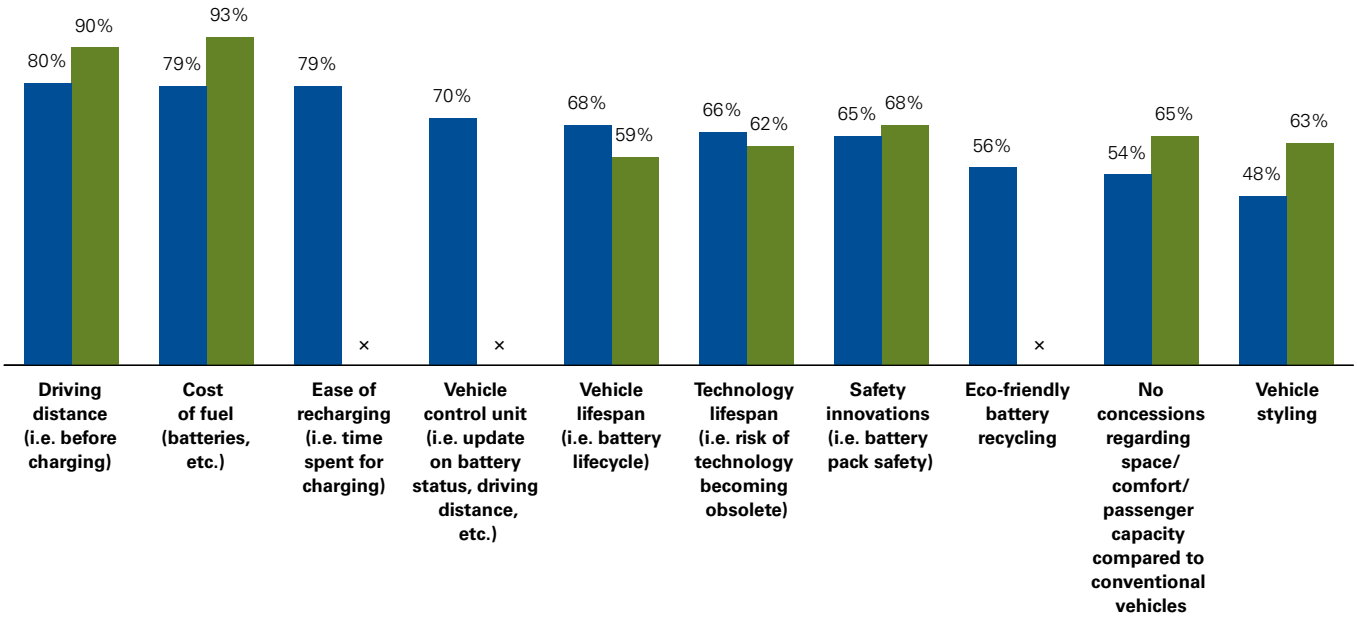
Projections are based on the LMC Automotive[1] sales forecast for 2026, combined with the expectations of survey respondents from the respective countries regarding the share of annual e-vehicle registrations.

[1] LMC Automotive acquired the global automotive forecasting division from J.D. Power and Associates as of November 2011.

Not surprisingly, the main concerns with electric vehicles are the high cost of batteries and short driving distances. However, compared to the equivalent 2011 KPMG global survey, respondents are relatively more satisfied with these two issues, suggesting a steady improvement in the technology. With their potentially longer driving distances, fuel cell-powered vehicles are a viable alternative to battery-electrified vehicles, but equally suffer from a lack of refueling infrastructure. The industry faces a tough decision on whether to place more trust (and resources) in fuel cell or battery vehicle concepts in the long term.

One thing is clear: consumers are not prepared to make any concessions when buying an electric vehicle.

Importance of e-vehicle product issues

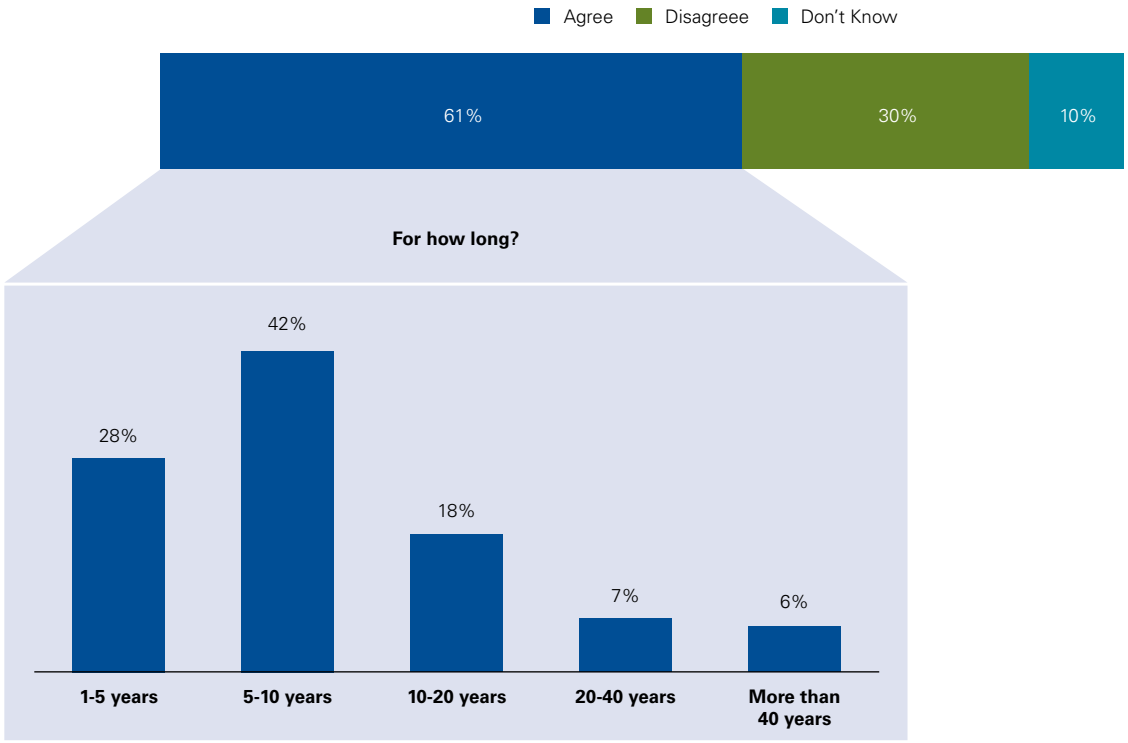


Note: Percentage of respondents rating issues as important
Source: KPMG's 2012 Global Auto Executive Survey

With all these concerns, it is understandable that ICE technology still has a big role to play in the future of the automotive industry. Sixty-one percent of executives taking part in the survey agree that optimizing internal combustion technology will bring greater efficiency in terms of energy usage and CO_2 emissions.

61 percent still see ICE optimization as an appropriate solution.

Dominance of the internal combustion engine over electrified vehicle technologies



Note: Percentages may not add up to 100 due to rounding off
Source: KPMG's 2012 Global Auto Executive Survey

New urban mobility concepts

The changing face of urban motoring

Today's cars must adapt to their environment. Half the respondents (50 percent) feel that vehicle design and usage will be influenced by urban planning. And a majority think that new mobility services are needed not just for mature, but also for emerging markets, in order to attract future city residents.

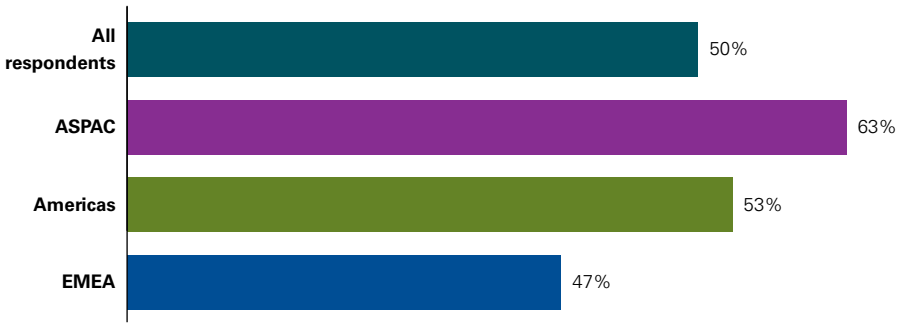
According to the 2012 global automotive executive survey the size, shape and technology of vehicles will be impacted heavily by the cities they are driven in. This view is more widely held in the Americas and Asia Pacific than in Western Europe, which is surprising, given the latter region's heavy population density.

69 percent of respondents from Japan and 60 percent from the U.S. agree that urban planning will influence vehicle design, yet for Germany the figure is only 38 percent, suggesting that German consumers will take some persuading before they change their buying habits.

Urban planning is strongly influencing vehicle design and usage, which also points to opportunities in less mature markets, where cities are still being shaped and in some cases built from scratch. For example, new residential areas in China are required to have a certain amount of EV charging stations. By working with planning authorities and tailoring vehicles to the specific needs of a city, OEMs can gain a foothold in this expanding sector.

Asia-Pacific auto executives are the most likely to recognize the significance of urban planning.

Influence of urban planning on car usage and design



Note: Percentage of respondents rating it as likely from the respective region
Source: KPMG's 2012 Global Auto Executive Survey

Mobility services are coming – even to emerging markets

In 2009 the world's urban inhabitants outnumbered those residing in rural areas and by 2050 the United Nations foresees almost 70 percent of the global population living in urbanized areas. And while North America and Western Europe have pioneered this trend for decades, 65 percent of Asians are expected to be city dwellers by mid-century.

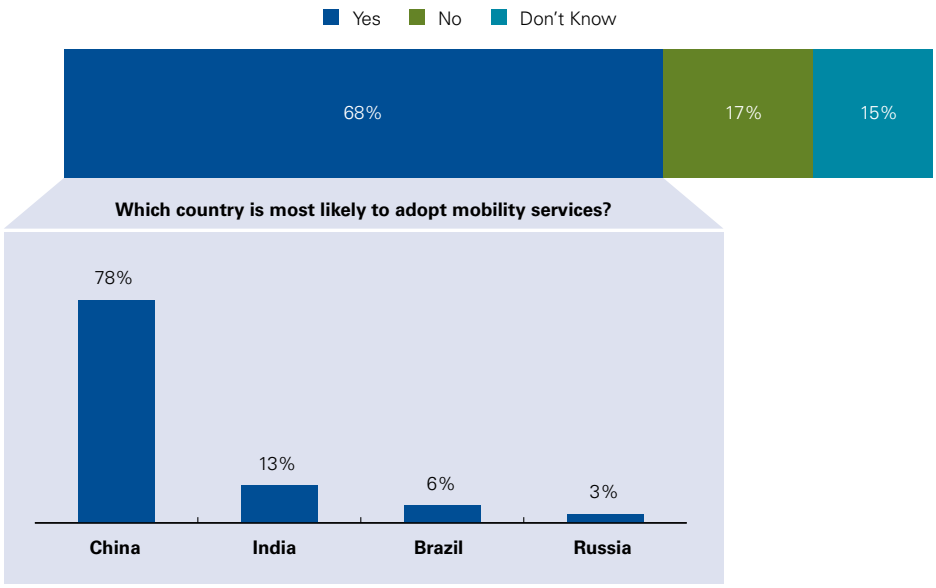
Mobility services are seen as an answer to the spatial, environmental and social issues associated with growing urbanization. Understandably, the use of mobility services is expected to be concentrated largely in more built-up areas, where congestion, pollution and limited parking space is a major concern. Only a small minority anticipate no individual traffic at all in future megacities, with 59 percent of respondents seeing shared spaces accommodating pedestrians, multi-modal and individual traffic.

Interestingly, mobility services are not viewed as a solution merely for the established markets; 68 percent of respondents also see huge potential in the megacities of the emerging markets, with China leading the way.

By 2050, 70 percent of the world's population will live in urbanized areas.

Source: World Urbanization Prospects, United Nations

Mobility services as a promising concept for megacities in emerging markets



Source: KPMG's 2012 Global Auto Executive Survey

Although executives think mobility services will be a promising solution to urban issues, drivers will still be slow to give up their personal cars, with less than 15 percent expected to use some form of on-demand service rather than owning a vehicle outright.

Despite their relatively low vehicle ownership per capita, emerging economies are already looking for alternatives to traditional car ownership. Over two-thirds of respondents from the four BRIC nations acknowledge that mobility services will be relevant to their large and growing megacities – particularly in Brazil. 50 percent of Brazilian respondents believe that inner cities will consist of shared spaces for pedestrians, multi-modal and individual traffic and 42 percent anticipate that mobility services will have over 25 percent market share in 2026. Brazil's first car-sharing brand, Zazcar, is a symbol of how the country's megacities are adopting these new concepts.

It is already common knowledge, that the traditional position of a car as a status symbol has diminished for the younger urban dweller, who tends to be more concerned about the brand of his or her smartphone, tablet, laptop and other personal possessions. The future focus tends to be more on the availability of individual transportation from A to B which does not necessarily has to come with car ownership. Furthermore transport will be seen as a commodity, so OEMs have to ensure they are part of the mobility services, whether it is car-sharing, taxis or public transport. And this need not be restricted to cities; mobility services that connect various modes of transportation (such as planes, trains, buses and cars) could also appeal to those living outside the major conurbations.

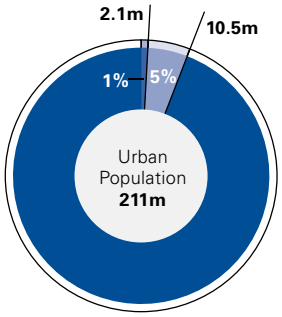
While proportions of mobility service customers may still be relatively small, the sheer size of cities such as Sao Paulo, Beijing, Mumbai and Moscow create a substantial and growing global market for mobility services.

China has 150 cities of 750,000 inhabitants or more, giving a potential target market for mobility services of nearly 100 million people by 2026. Consequently, a vast majority of automotive executives view this country as the number one target for such services.

The world is moving from car ownership to car usership.

Potential mobility services customers in 2026

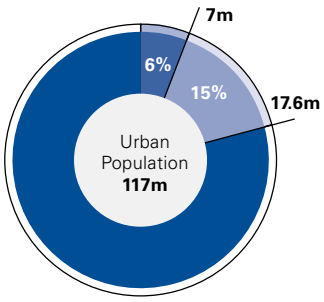
U.S.



47% of respondents from the U.S. believe 1–5% of urban inhabitants will use mobility services in 2026.

Urban inhabitants not owning a car in 2026: 4.2m

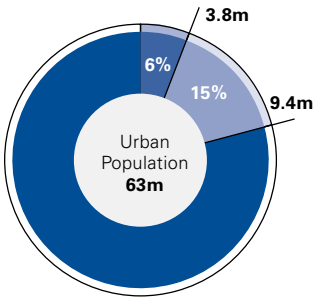
Western Europe



48% of respondents from Western Europe believe 6–15% of urban inhabitants will use mobility services in 2026.

Urban inhabitants not owning a car in 2026: 37.5m

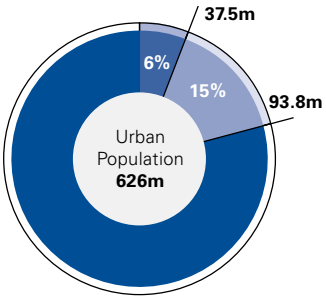
Japan



46% of respondents from Japan believe 6–15% of urban inhabitants will use mobility services in 2026.

Urban inhabitants not owning a car in 2026: 24.4m

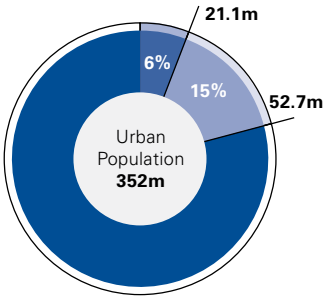
China



47% of respondents from China believe 6–15% of urban inhabitants will use mobility services in 2026.

Urban inhabitants not owning a car in 2026: 513m

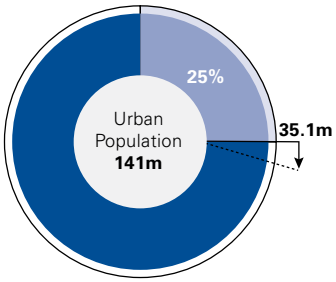
India



42% of respondents from India believe 6–15% of urban inhabitants will use mobility services in 2026.

Urban inhabitants not owning a car in 2026: 306m

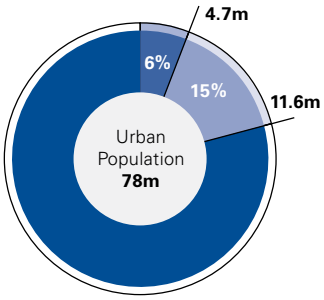
Brazil



42% of respondents from Brazil believe more than 25% of urban inhabitants will use mobility services in 2026.

Urban inhabitants not owning a car in 2026: 115m

Russia



50% of respondents from Russia believe 6–15% of urban inhabitants will use mobility services in 2026.

Urban inhabitants not owning a car in 2026: 36.5m

Source: KPMG's 2012 Global Auto Executive Survey, LMC Automotive, United Nations World Urbanization Prospects

Calculation Scheme

The results are based on the United Nations World Urbanization Prospects, combined with the expectations of survey respondents from the respective countries, regarding urban inhabitants using mobility services by 2026.

Urban Population = Population aged between 20 and 80 years

Urban inhabitants not owning a car = Urban Population x (1-projected car density)

Targeting a new breed of urban driver

Dr. André Stoffels, Audi's Head of Strategy, explains why premium brands will be alive and kicking in the cities of the future.

To avoid the hassle of car ownership, a growing number of affluent young urban professionals choose not to possess a vehicle. Yet this group is poorly served by many of the current car-sharing options, which involve very basic models and time-consuming administration.

Consequently in cities such as Berlin, Munich or New York, where around half the households have no car, there is a large potential base just waiting to discover the joys of luxury urban driving. The Audi Urban Future Initiative aims for a seamless integration of cars into a global urban network in a long-term view, by giving customers easy, instant access to high quality vehicles as part of a premium brand experience, either through car sharing, car clubs or 'pay-as-you-drive' offerings.

For this purpose, Audi continues to invest in third-party businesses and build up a network of partners to bring in relevant services. As a premium carmaker, our brand remains our strongest asset, so it is vital that customers receive an "Audi equivalent" level of service at every stage of their journey.

Regardless of the geography, mobility is ultimately less about converting current car owners and more about winning new customers to the Audi brand. By providing on-demand mobility as a stylish and convenient alternative to taxis and public transport, Audi continues to make its products and services an attractive option for discerning city dwellers.

"In the changing urban environment Audi will continue to offer exciting products seamlessly integrated into local mobility networks."

No clear dominant provider in the mobility services market

The battle for leadership of this growing market appears very open. Although 29 percent see mobility services offered by joint approaches from diverse industry players, OEMs are still expected to be the single biggest provider group. Rental companies and public transport operators will both be potential major forces, but only a small proportion believe that new start-ups will lead the market. Many envisage partnerships of one or more of the main players, along the lines of BMW's and Daimler's relationships with rental companies Sixt and Europcar.

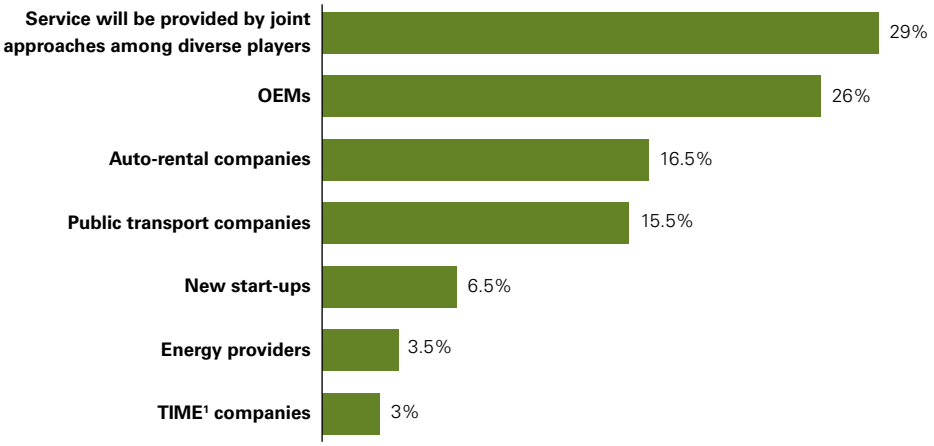
Responses vary by region and country. In Germany a large majority (62 percent) are confident that OEMs will control mobility services, with similar but less emphatic responses from India and China. Meanwhile in Japan, partnerships are seen as the way forward. The most surprising results came from the U.S., where 47 percent expect public transport companies to be the major provider and very few respondents see OEMs in such a role.

Given the limited and not highly accepted U.S. country-wide public transportation network, OEMs have a huge opportunity to build on their strong brand reputation by implementing car-sharing services. Yet to date American OEMs have not invested in these services, although Daimler has already launched its Car2go concept in Austin and San Diego. However this may change, with GM's European subsidiary Opel currently thinking about offering car-sharing services, which if successful could pave the way to similar initiatives in the U.S.

With the concept still at an early stage worldwide, first mover advantage should lead to customer ownership. In the emerging markets, the vast number of city dwellers creates a significant opportunity for integrating multiple forms of transport, based upon relatively low car ownership. These countries present a critical mass of customers, which is essential if providers are to make reasonable returns on their investment.

29 percent believe that joint approaches will be a successful strategy to provide mobility services.

Leading player in mobility services



[1]TIME = Telecommunications, Information Technology, Media & Entertainment
Source: KPMG's 2012 Global Auto Executive Survey

Connected car solutions

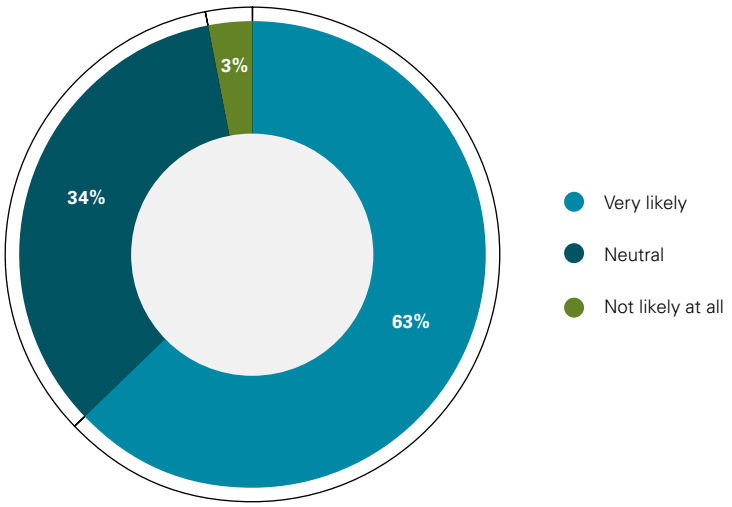
Paving the information highway: the car as access point to a connected world

Car manufacturers and IT companies are realizing the car's potential as a gateway to the internet. But connectivity is about far more than just entertainment; the new technology enhances safety by helping vehicles communicate with their external environment. Respondents are uncertain about who will own the significant revenue streams associated with in-car 'infotainment' and connected solutions.

Having become accustomed to instant internet access at home and in the office, people expect the same connectivity when on the move, with access to smartphones, tablets and mp3 players, as well as satellite navigation. In the future, connectivity will not simply be a 'nice to have' feature but an intrinsic part of every vehicle, with communications to the outside world of other cars, traffic systems and service stations gaining increasing importance. A majority of respondents (63 percent) anticipate a convergence between the automotive and TIME[1] industry.

People expect the same connectivity when on the move as they receive at home and at work.

Likelihood of convergence between automotive and TIME[1] industry



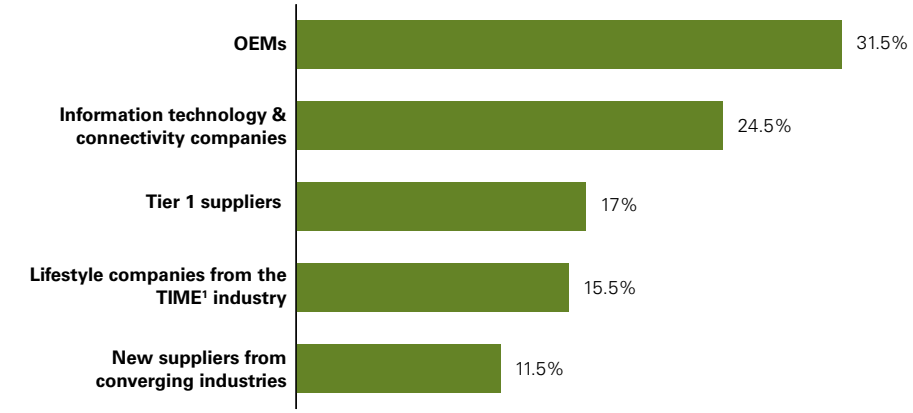
[1]TIME = Telecommunications, Information Technology, Media & Entertainment
Source: KPMG's 2012 Global Auto Executive Survey

The majority of current in-car systems are provided by OEMs via built-in devices and proprietary software. In order to stay in control, the auto industry has to open itself up to technologies and services offered by the TIME[1] industry and provide intelligent plug-in solutions and interfaces. Diverging development cycles are a big challenge; automotive products can take years to come to market, whereas new software and other technologies can be produced in a matter of months. Audi is one manufacturer that has found a way around this problem through an innovative modular approach that enables new products and services to integrate into existing vehicles seamlessly.

Respondents see OEMs as the most likely to control connectivity in the future, although no clear winner has emerged. However, it is doubtful whether this situation can continue, as IT companies are the driving force behind new developments, and with the increasing dominance of plug-in solutions, manufacturers stand to lose valuable revenue streams.

Majority of respondents see the OEM as the leader of in-car revenue streams.

Control over the revenue from in-car connectivity by 2025



[1]TIME = Telecommunications, Information Technology, Media & Entertainment
Source: KPMG's 2012 Global Auto Executive Survey

Infinite possibilities for the connected driver

Steven Bridgeland, Senior Product Manager for Microsoft's Windows Embedded Business, explains how ubiquitous connectivity will enrich the auto experience.

Intelligent systems are an evolution of the embedded market. The combination of network connectivity – coupled with anytime, anywhere access to executable data – has transformed embedded systems of devices into "intelligent systems" that result in tangible, real-time benefits to enterprises. Intelligent systems are quickly growing into a multi-billion dollar industry, so it is no surprise that automakers are tapping into this trend and are seeking new and better ways to help customers communicate with each other and their environment. Fiat Blue&Me™, Ford Sync with MYFORD TOUCH™ and Kia UVO powered by Microsoft all benefit from Microsoft technology and through our other recently announced partnership with Toyota, we're planning to take connectivity to a whole new level by harnessing the power of cloud computing.

The cloud enables us to store the enormous amount of data collected in the car in an easily accessible place, and in the future, Toyota customers around the world will enjoy the benefits of advanced and affordable next-generation, cloud-based telematics.

Advancements in automotive intelligent systems will bring higher safety levels (car-to-car), optimized traffic management (car-to-infrastructure) and even remote analyses of mechanical problems of whole model lines, warning a driver for the need for service before they experience a failure in their car (car-to-OEM). Connectivity will also enhance the everyday driving experience and even the productivity of those in the car, whether they want to work, communicate with others or just be entertained, with infinite possibilities including a host of voice-activated services such as phone and email, all while prioritizing safety.

Over the last 15 years that Microsoft has been involved in this evolving automotive sector, we have been impressed with the intimate, symbiotic relationship between drivers and their favorite auto brands. Because of this, we see OEMs retaining ultimate ownership of the customer interface within the vehicle, while we remain a very close partner and supplier by providing innovative products in the fast-growing intelligent systems market.

Keeping drivers connected

Connected cars will become a regular presence on our roads as future generations demand a symbiotic relationship between their vehicle and IT solutions.

Retail trends

Spotlight on service-orientation and new technology financing

The financing of e-components (e.g. batteries) is having an increasingly important influence upon consumers' purchase decisions. However, above all, it seems there is still no substitute for high quality, personal service.

Customer service is the most important factor when buying a vehicle, offering dealers an opportunity for differentiation. Understandably, dealers are also embracing technology as they focus on new sales channels such as social media. The survey results also show the growing market consolidation, with the last three years seeing a steady increase in domestic and cross-border expansion and acquisitions. In many parts of the world, dealer networks are fragmented, often being small, family-owned businesses. OEMs in particular are now trying to expand their dealership model to a national and ultimately international level, in some cases using franchising.

81 percent expect dealers to invest more in web marketing and advertising, while 72 percent forecast increased investment in IT systems and e-commerce sales platforms.

KPMG insights

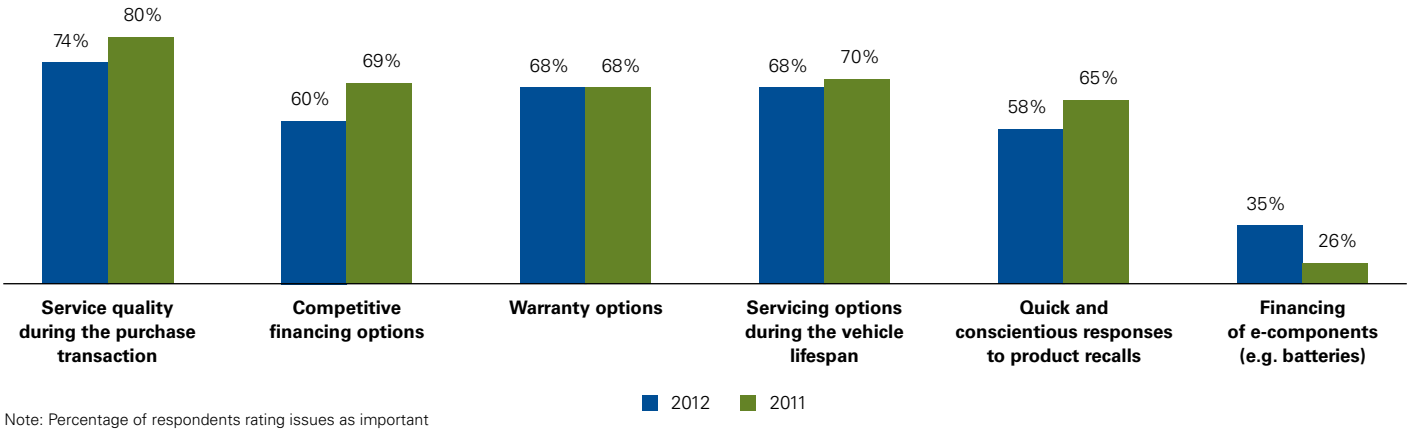
Two of the highest-ranked value-added services – warranty and servicing options – reflect the importance of after sales service in attracting and retaining customers. Although service has a major influence on retailer profitability, achieving true service differentiation is notoriously difficult.

Evolving industry trends also provide retailers opportunities to become more competitive. Firstly, data from connected vehicles allows OEMs and retailers to identify vehicle servicing needs and proactively schedule appointments, giving personalized service to make customers' lives easier and improve loyalty. Secondly, as mobility services become more common, a retailer's ability to offer "business class" service levels to fleet management companies will help drive volume (and profitability) for the retailer.

Gary Silberg
Automotive Sector Leader
Americas
KPMG in the U.S.

It is notable that the financing of e-components has risen significantly in importance compared to the previous 2011 survey. Given the relatively high prices of electric cars, this service provides an attractive opportunity to make e-mobility affordable to the mass market. In China, where finance and lease solutions are less common, e-component financing is ranked even higher, with almost half of respondents (47 percent) saying such an option could influence their purchase decision – far more so than traditional financing options. Battery financing could be a way to help manufacturers establish their brands in the lucrative finance and lease market. Some European OEMs are already offering customers the chance to separately lease batteries to bring down the initial purchase price (as with the Smart electric drive or Renault Twizzy), which is making their e-car propositions more competitive and attractive.

Importance of value-added services to a purchase



Note: Percentage of respondents rating issues as important
Source: KPMG's 2012 Global Auto Executive Survey

KPMG insights

Will the vehicle of the future be available in modules?

Development cycles between the TIME[1] and automotive industries can vary by anything between six months and several years. Therefore, to keep cars equipped with the latest technology, a modular approach can be adopted, enabling new connectivity developments to be continually integrated within the existing chassis. A similar misalignment of cycles occurs in new propulsion technologies, where the 'LifeDrive' architecture invented by BMW addresses the fact that batteries and other components may have a shorter life than the car itself and need to be replaced at least once.

By taking this concept a step further, it is possible to imagine customers putting together their own personalized car using a range of different modules – perhaps even choosing various parts of the vehicle from different manufacturers. Given that such a change would influence the entire value chain, it is no real surprise that the survey respondents attach increasing importance to financing e-components, indicating that modularization is very much at the front of mind.

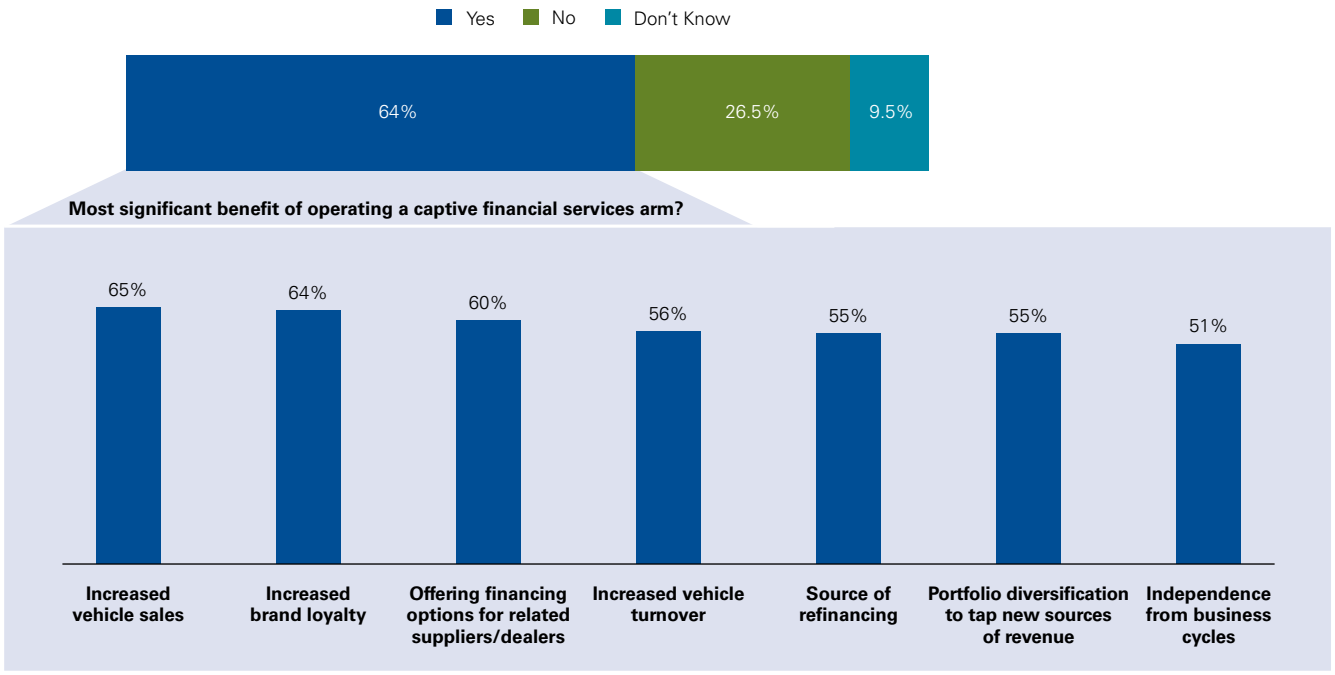
Dieter Becker
Partner, Advisory
KPMG in Germany

[1] TIME = Telecommunications, Information Technology, Media & Entertainment

As a majority (64 percent) of respondents acknowledge, a financial service arm can make a big contribution to an automotive OEM's future retail success. The two biggest benefits are increased sales and brand loyalty. A captive also enables better support for suppliers and/or dealers, which was particularly highly ranked by respondents from the Americas and ASPAC region.

In the existing economic climate, with unstable capital markets, a captive financial services arm can also be a valuable source of refinancing. Indeed, U.S. respondents rate refinancing as the single most important benefit of operating a captive, which is in contrast to the overall survey findings.

Contribution of captive financial services to OEMs' future success



Note: Percentage of respondents expecting the greatest benefit
Source: KPMG's 2012 Global Auto Executive Survey

Cooperation and alliances

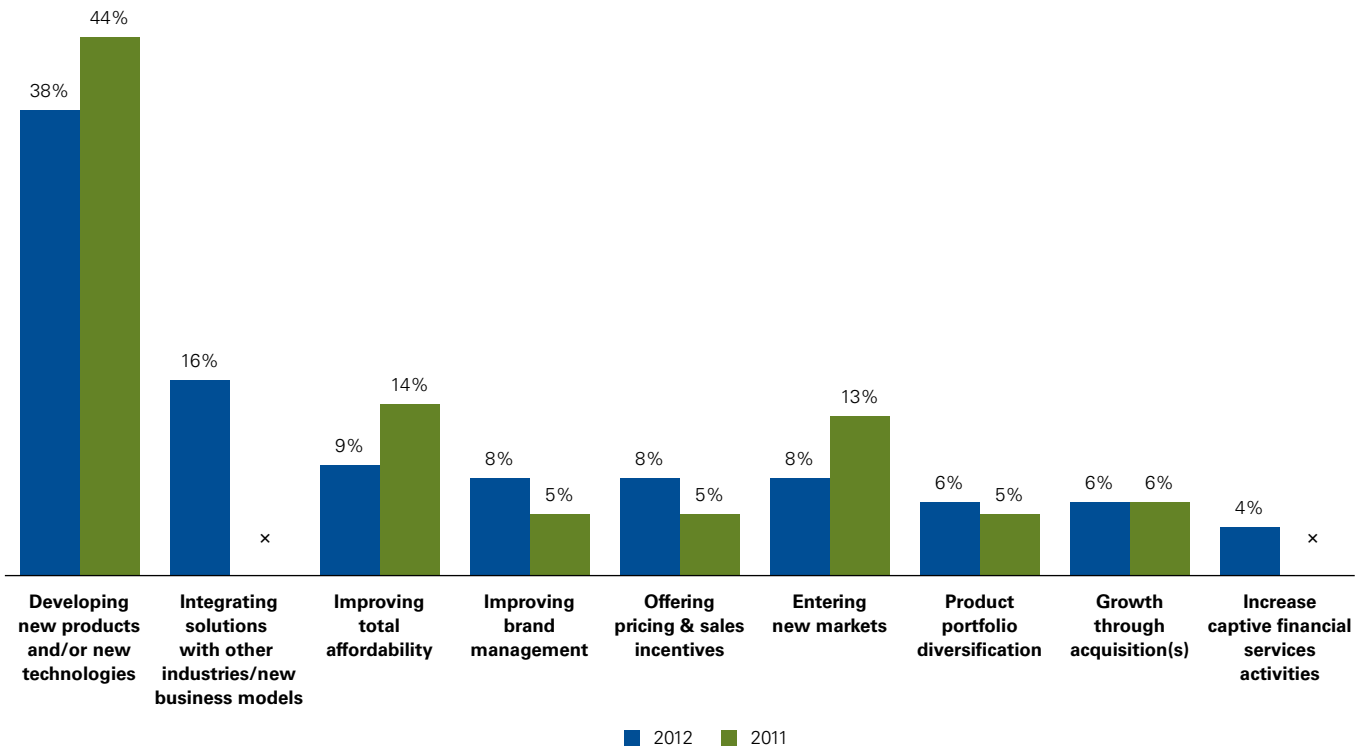
Facing the future together

As automotive companies embrace electromobility, urban mobility concepts and ubiquitous connectivity, and reach out to new markets, partnerships are seen as an essential strategy to achieve further growth. Regionally such joint activity will be focused primarily upon China, Russia and Central/Eastern Europe.

Innovations lay the path to sustainable growth – and these are best achieved through partnership with others.

In a fiercely competitive marketplace, with changing customer behavior, auto businesses see new products and/or technologies as the main path to growth. They are also integrating solutions from other industries, as evidenced by the rise in cross-sector cooperation.

Main tactic to generate growth



Note: Percentage of respondents rating strategy as most likely to generate growth
Source: KPMG's 2012 Global Auto Executive Survey

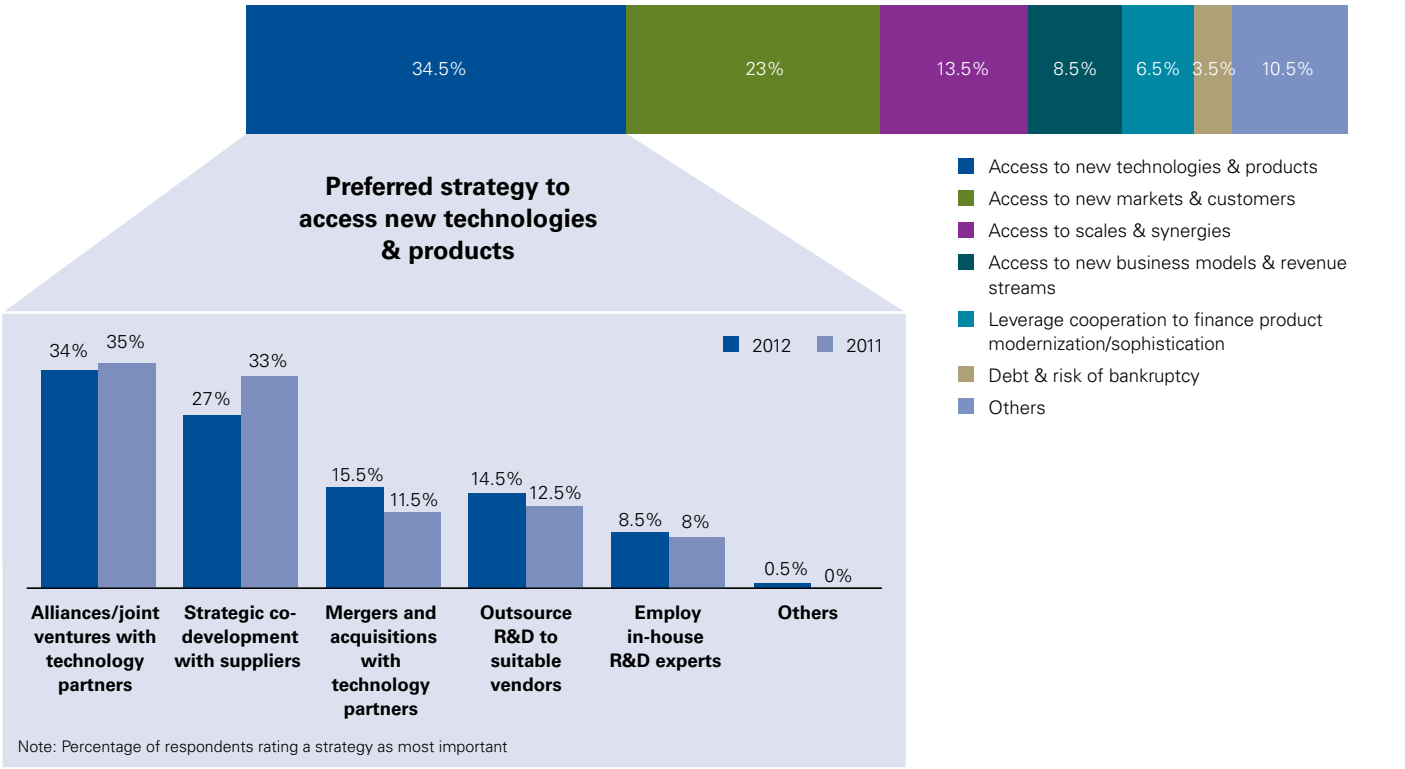
× No data available

As technology becomes ever more complex, with shorter life cycles, it is unlikely that many companies have either the competence or the financial resources to go it alone. Consequently the respondents acknowledge a need for alliances and co-developments with partners from other industries including battery manufacturers, electric component suppliers, telecommunications and even IT companies. As automakers leave certain core competencies to their partners, they will need to place even more emphasis upon effective brand management, which is gaining greater importance compared to last years' results.

In addition to accessing new technology, the automotive executives taking part in this survey also feel that alliances or mergers and acquisitions will help them enter new markets, reflecting the opportunities in the BRIC nations. Respondents to the previous three global automotive surveys (2009 – 2011) saw joint ventures and alliances as a way to minimize debt and risk of bankruptcy. However, in 2012 this was barely mentioned, a sign that the industry has stabilized since the worst of the recession and is now looking to grow, rather than merely survive.

Hedging against debt and risk of bankruptcy has become a lower priority.

Drivers of joint ventures and alliances



Note: Percentage of respondents rating a strategy as most important

Source: KPMG's 2012 Global Auto Executive Survey

KPMG insights

More than just a marriage of convenience

Over their twelve-year partnership, Renault and Nissan have confounded skeptics to together become in 2010 the world's third largest manufacturer by sales. This success has been based on a mutual appreciation of each other's corporate culture in what has been described as a marriage, where the partners invest in each other openly, trustfully and respectfully.

Such an approach has enabled both sides to preserve their independence and brand identities rather than attempt to adopt a single, common mindset. It has also allowed a high degree of flexibility, with each company responsible for its overall strategy and free to decide what to contribute to the alliance and what to keep in-house – and even to work with further third parties (such as Daimler/AvtoVAZ) to bring in additional volumes, skills and technologies.

The cross shareholdings ensure each partner gets a financial return on the other's results, with top-level decisions taken jointly to help shared interests prevail over individual ambitions.

Cooperation has progressively extended to most areas of the business, including purchasing, R&D, manufacturing, product planning and HR. It employs the following principles:

- Define joint metrics and values and support these with a common performance culture
- Develop joint processes and technology modules to reduce cost
- Share investments; increasing business opportunities by lowering the cost of access to new technologies or markets.

This has led to synergies in technological development; mutually beneficial collaborations in production, dealership management and other operations (especially in emerging markets such as Brazil); and market segmentation among relevant brands where appropriate. Despite many similarities and aligned processes, both companies have managed to retain an autonomous market position.

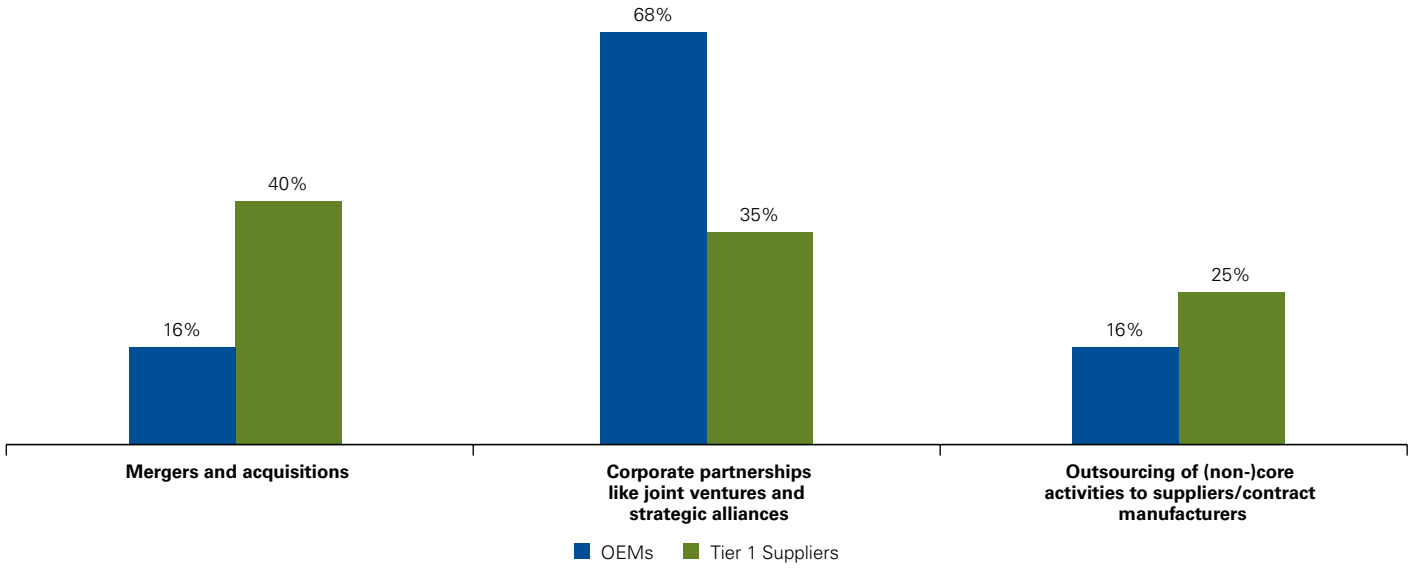
Megumu Komikado
Partner, Business Advisory
KPMG in Japan

Laurent Des Places
Partner, Audit
KPMG in France

When asked about their preferred overall business strategy, respondents confirmed the shift towards partnerships. A large majority (68 percent) of respondents view joint ventures and strategic alliances for the OEMs as the way forward, which reverses a trend of growth by acquisition that goes back several decades. Tier 1 suppliers on the other hand are more likely to favor mergers and acquisitions. Cooperation with competitors is still rare within the supplier industry, but successful examples such as the Nissan/Renault partnership may become the norm not only for OEMs business.

Partnerships and alliances are a far more popular choice than M&A – at least for OEMs.

Preferred investment and business strategy



Note: Percentage of OEMs or Tier 1 suppliers believing a strategy to be most successful
Source: KPMG's 2012 Global Auto Executive Survey

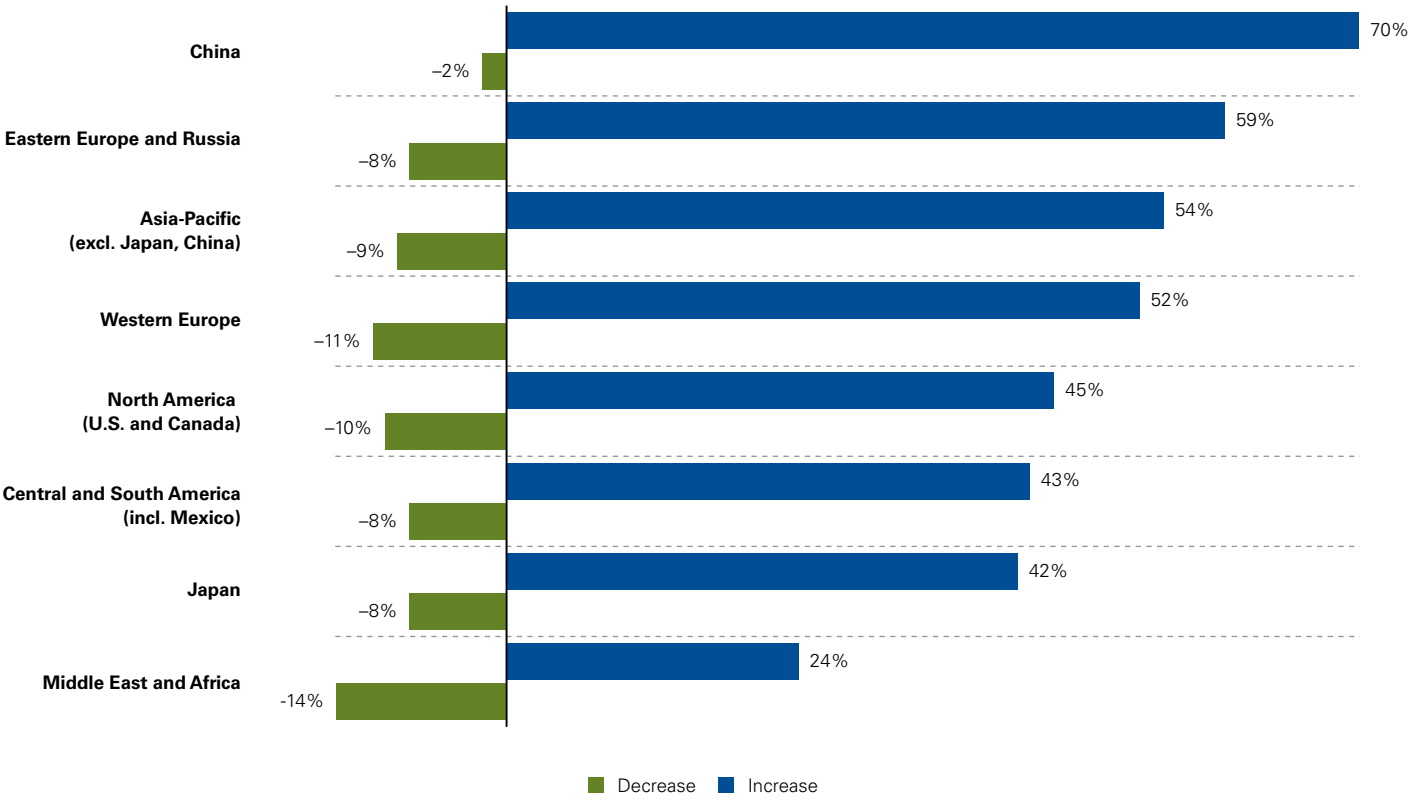
A focus on China

Not surprisingly, China is the main target for alliances or merger and acquisitions, with 70 percent of respondents anticipating increased activity in this part of the world. The next most popular is Eastern Europe and Russia, both are satisfying Russian domestic growth and serving as a cost-effective base to access Western Europe.

Western Europe also appears to be an attractive proposition due to the high level of existing R&D resources in this region and the attractiveness of combining research power. However, there is very little interest in Middle East and Africa. Given that Africa is possibly the last truly underdeveloped set of markets in the world, there may be greater potential here than many realize. Respondents from India are more likely to see partnership opportunities in Africa and the Middle East, due to the similarity of infrastructure in the two continents.

The Middle East and Africa are considered a less attractive prospect for joint-ventures/ alliances or M&A activity.

Development of JVs/alliances/M&A activities by region/country



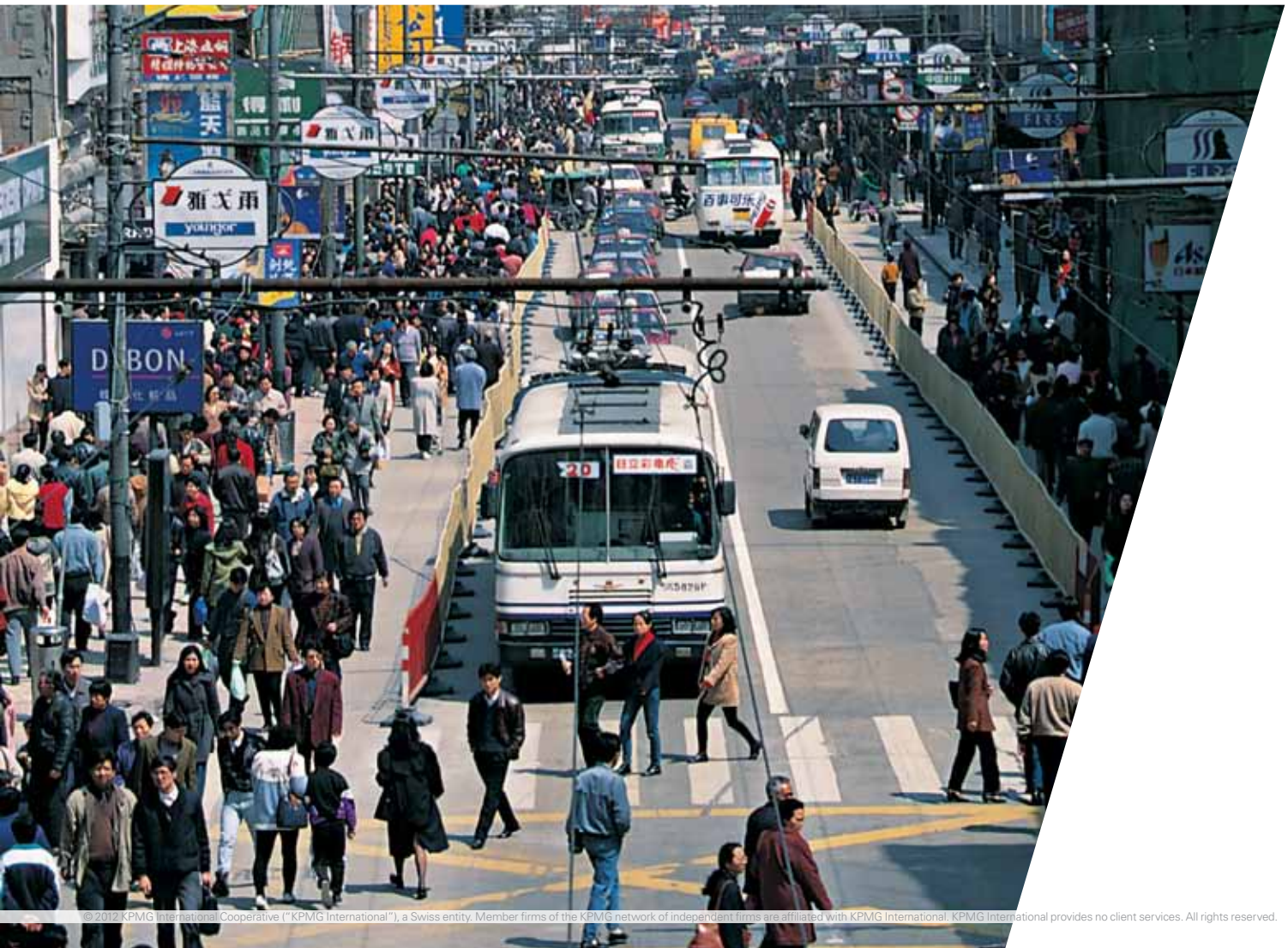
Note: Percentage of respondents expecting JVs and M&A to remain the same are not shown
Source: KPMG's 2012 Global Auto Executive Survey

Emerging markets

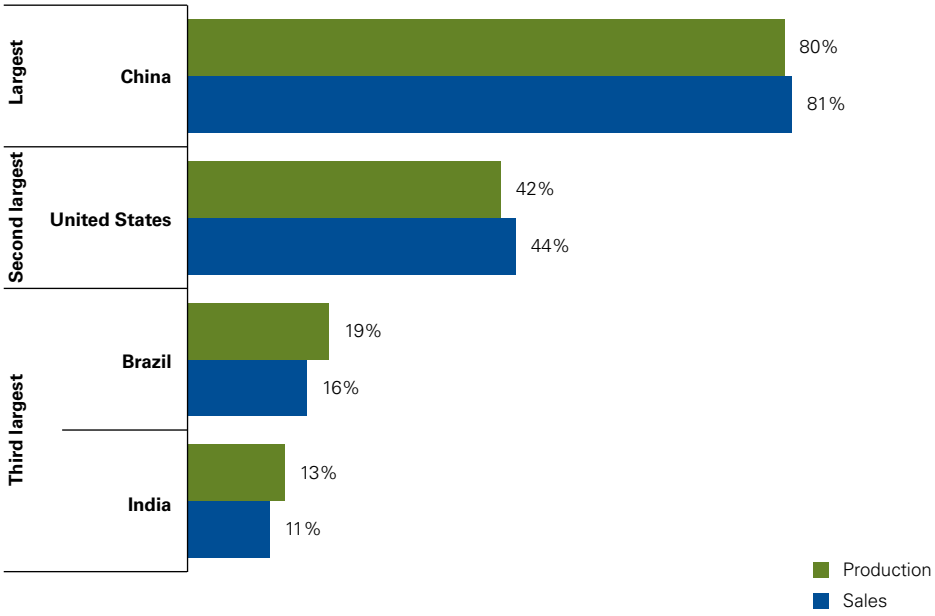
The BRICs continue to be the new powerhouses – but Chinese exports are also gaining momentum

While China remains by far the world's largest domestic market, the export drive from the BRICs is gathering pace, as they look for suitable hubs to access the more mature economies.

As expected, 80 percent of respondents see China continuing to be the biggest automotive market in terms of both sales and production in 2016. The U.S. is a clear number two while Brazil and India fight for the third position.



Top three countries by sales and production in 2016

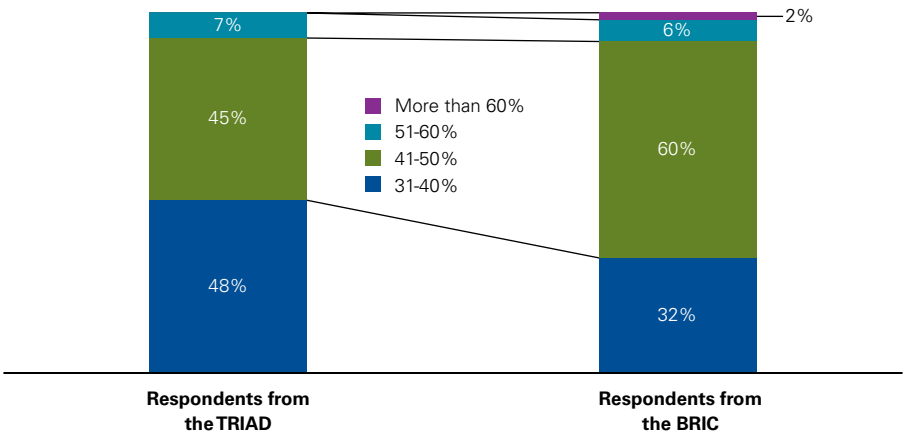


Note: Percentage of respondents expecting the country to be either the first, second or third largest.
Source: KPMG's 2012 Global Auto Executive Survey

LMC Automotive (LMCA), a major global research company, forecasts the four BRICs to have a combined global market share of 43 percent in 2016; a phenomenal rise from 24 percent in 2008 (the 2011 share is 36 percent). This forecast is roughly in line with the KPMG 2012 survey results, where the majority of respondents estimate a share of over 40 percent. Respondents from the BRIC nations are more bullish about their prospects than those from TRIAD countries.

The world market share of the four BRICs is set to rise to over 40 percent by 2016.

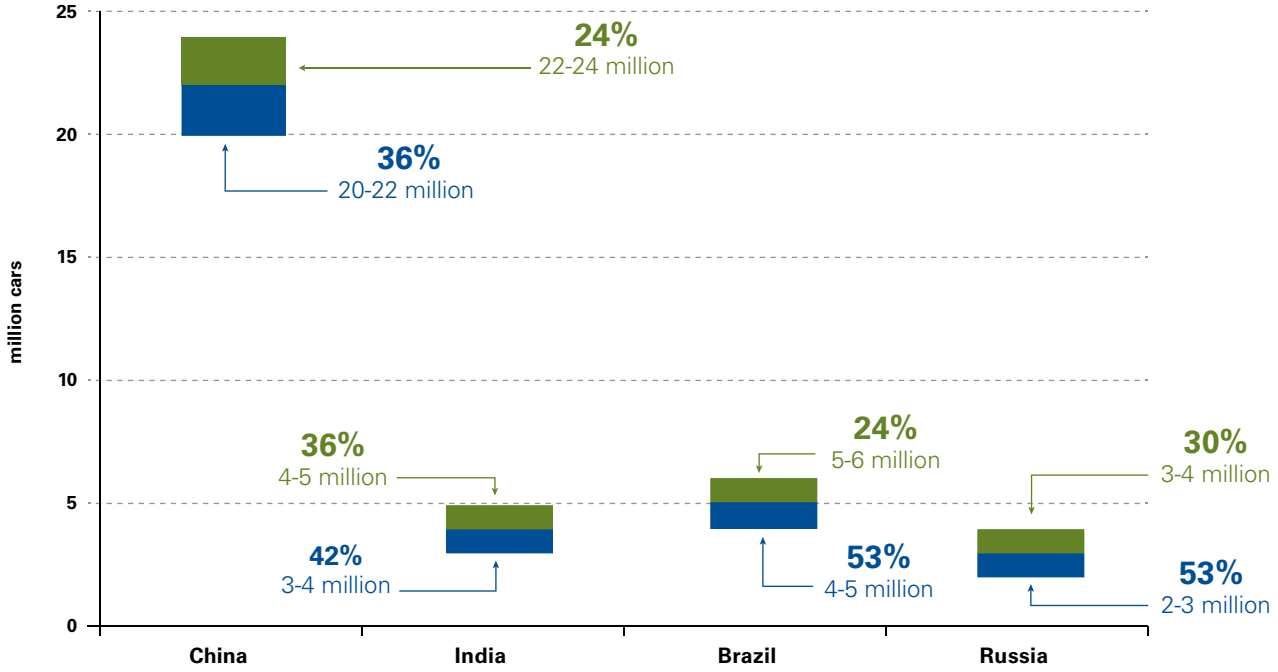
Expected world market share of the BRICs



Source: KPMG's 2012 Global Auto Executive Survey

A majority believe that China's sales in 2016 will be between 20-24 million. And most think sales in India will be 3-5 million vehicles. Compared to the LMCA sales projections for 2026, survey respondents are less optimistic for China and India. Estimates for Brazil and Russia are closer to but still slightly below the official LMCA figures.

Annual sales volume expectation for 2016



Source: KPMG's 2012 Global Auto Executive Survey

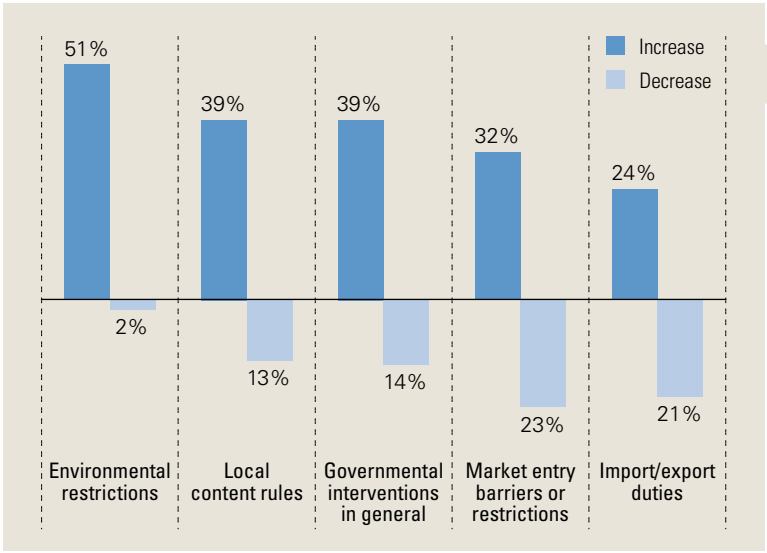
Environmental issues take greater priority

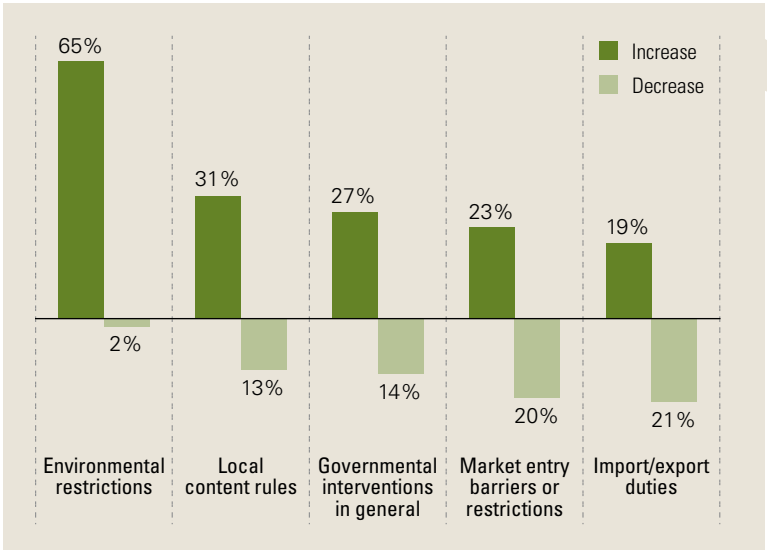
'Green' issues are not just a luxury afforded by developed markets; the majority of the respondents believe that environmental restrictions will also significantly increase within all BRIC countries. Local content rules are also expected to become tougher, especially in Russia, where the existing decree 166 only permits custom-free import of components in line with an expanded production capacity and a higher degree of local production.

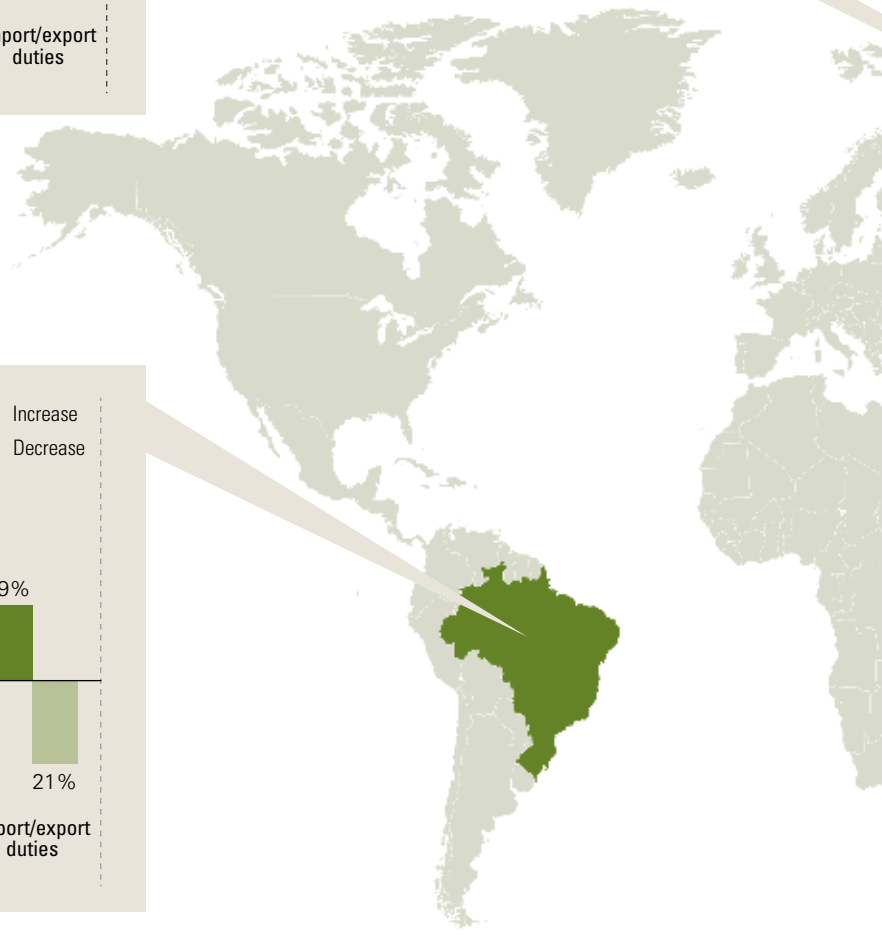
Not surprisingly the biggest fear of government intervention comes from China and Russia, with the latter felt to have the greatest barriers to entry, which could potentially hold back growth.

Environmental restrictions are expected to increase within all BRICs.

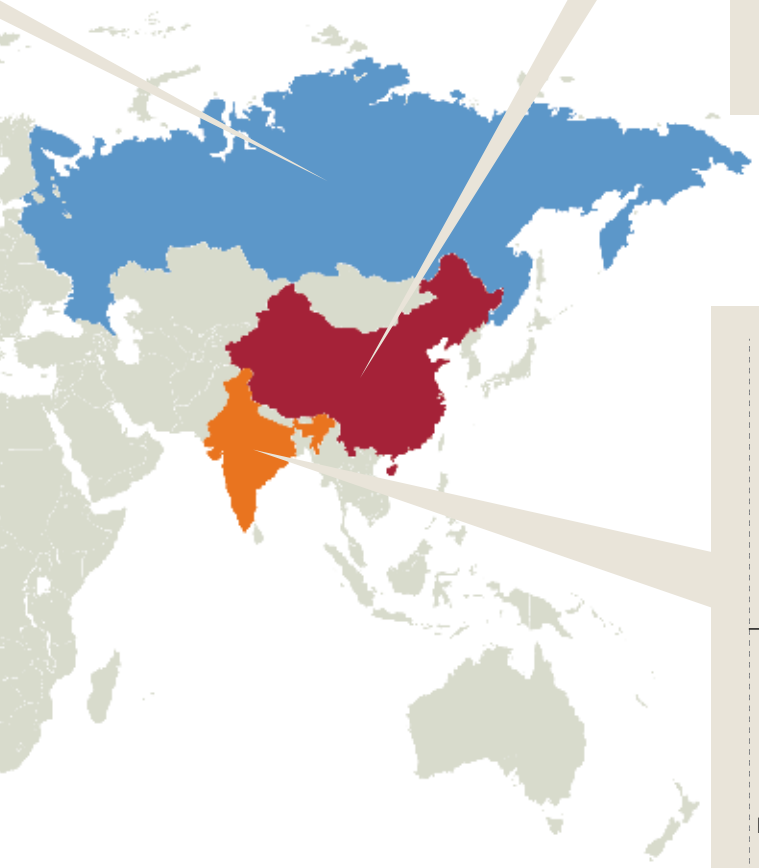
Development of market conditions and barriers in the BRICs

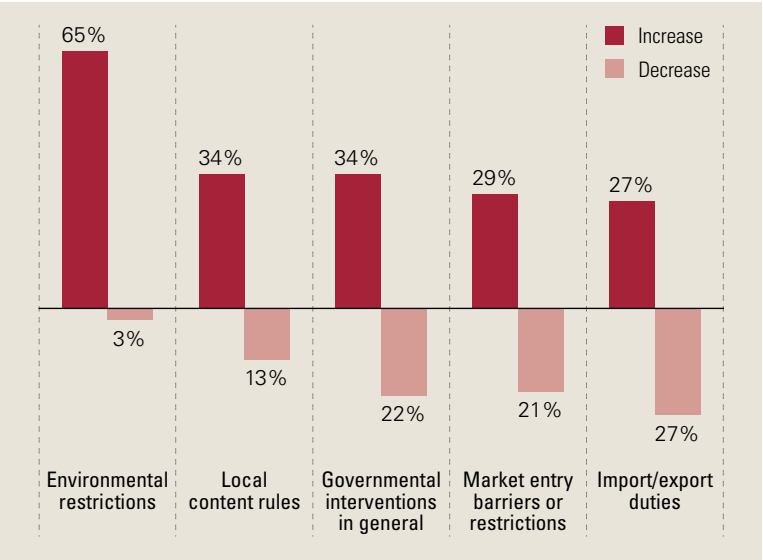


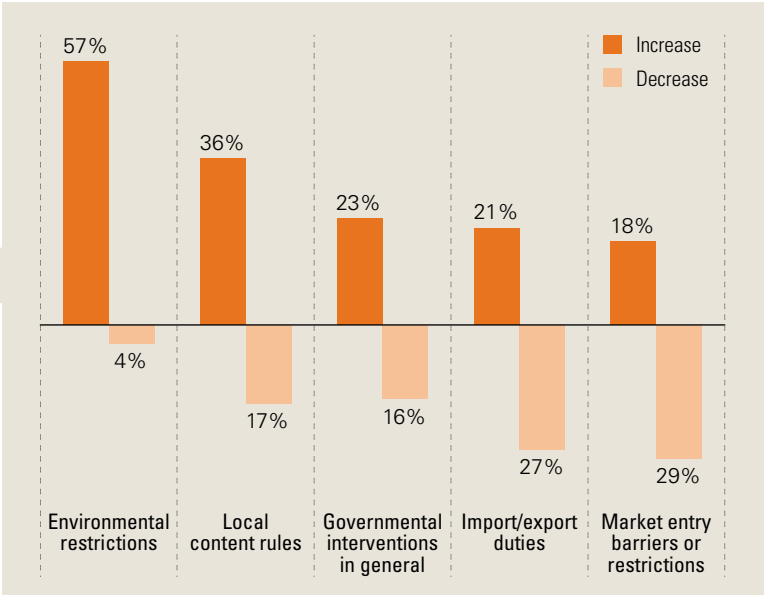




Note: Percentage of respondents expecting conditions and barriers to remain the same are not shown
Source: KPMG's 2012 Global Auto Executive Survey







KPMG insights

Will the Russian automotive market open up?

Following the global economic crisis the Russian government took several measures to help its ailing auto industry, introducing further restrictions to reduce imports and boost local manufacturing. In particular, a new industrial assembly regime emerged with significantly increased requirements for local content. The key requirements under the new industrial assembly regime to avoid the high tariffs are production capacity of at least 300,000 cars annually with up to 60 percent localization as well as specific requirements for stamping of body parts and R&D operations in Russia.

With such significant production and localization requirements there has been a recent increase in planned investments in the Russian automotive industry, especially from overseas automakers and related suppliers. Around 200 companies are applying for the new industrial assembly regime, which is believed to be significantly changing the landscape of the Russian automotive industry, resulting in many new formations of partnerships and collaborations.

Although Russia's imminent accession to the World Trade Organization (WTO) may reduce government intervention, a 7-year transition period for the automotive industry will minimize any immediate import duty reductions. Some movement is essential to comply with WTO requirements, but it is unclear what the impact will be, for example, for each individual company already enjoying preferential tariffs.

Ulrik Andersen
Partner, Audit
KPMG in Russia

KPMG insights

Chinese automakers spread their wings

Following the landmark US$1.8 billion acquisition of Volvo by Geely in 2010, further anticipated mega-deals have yet to materialize, with Chinese companies perhaps being wary of repeating the experience of past automotive industry transactions, where value was destroyed rather than created.

Nevertheless, M&A remains a viable strategy for Chinese players. Reduced asset prices and financial uncertainty, especially in the Eurozone, are also likely to stimulate increased M&A activities. Although the likelihood of another acquisition of a major foreign brand cannot be dismissed completely, the immediate focus of Chinese companies will probably be on sub-US$200 million deals in the components sector, particularly for power-train technologies, advanced electronics, safety systems, 'new energy' innovations and key materials.

For the acquisition of key technologies, the US and Europe offer strong brands and a reputation for quality, while markets South East Asia, South America, Eastern Europe, Russia and the Middle East also offer potential as markets for Chinese automotive products. Whether such expansion will be via greenfield development or M&A will be determined by the strategy and capabilities of Chinese companies, the reaction of governments in these regions, and the Chinese government's own view of the best entry approach.

Andrew Thomson
Co-Head of Automotive
KPMG in China

The Chinese are coming!

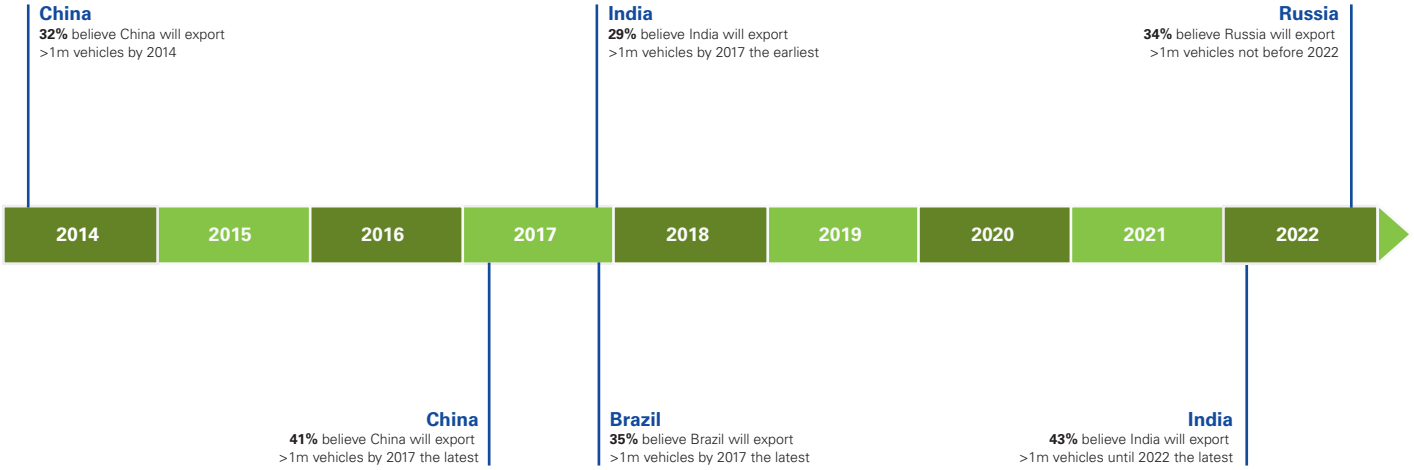
Emerging markets can no longer be viewed merely in terms of latent domestic potential, as their growing automotive industries rapidly expand into other territories.

Just a decade ago, manufacturers from BRIC nations produced basic, low-cost cars aimed solely at domestic consumers. Now they are starting to export vehicles that will compete head-to-head with the established players in developed markets. The Chinese government expects at least one of its OEMs to be in the world's top ten by 2016, while KPMG's global survey suggests China will export a million or more cars by 2017 at latest – a rather conservative prediction given that exports for 2011 alone should total 800,000 units (mainly for commercial vehicles). Ultimately, the speed at which Chinese OEMs expand overseas will be dependent on their ability to first satisfy the surging domestic market which is their first priority. Chinese firms' longer-term aim is to evolve into quality brands, by treading a path similar to that taken a few years previously by Korea's Hyundai and Japan's Toyota. And by insisting that TRIAD technology companies partner with domestic firms, China's government is helping its automotive industry make giant leaps in technical know-how to help it climb a steep learning curve.

And it is not only China that is focusing on foreign markets. The respondents forecast India and Brazil to both export one million or more vehicles between 2017 and 2022. Russia on the other hand will have to wait considerably longer to hit such a figure.

By 2017 at the latest, China is expected to export more than 1 million vehicles annually.

Emerging market car export expectations

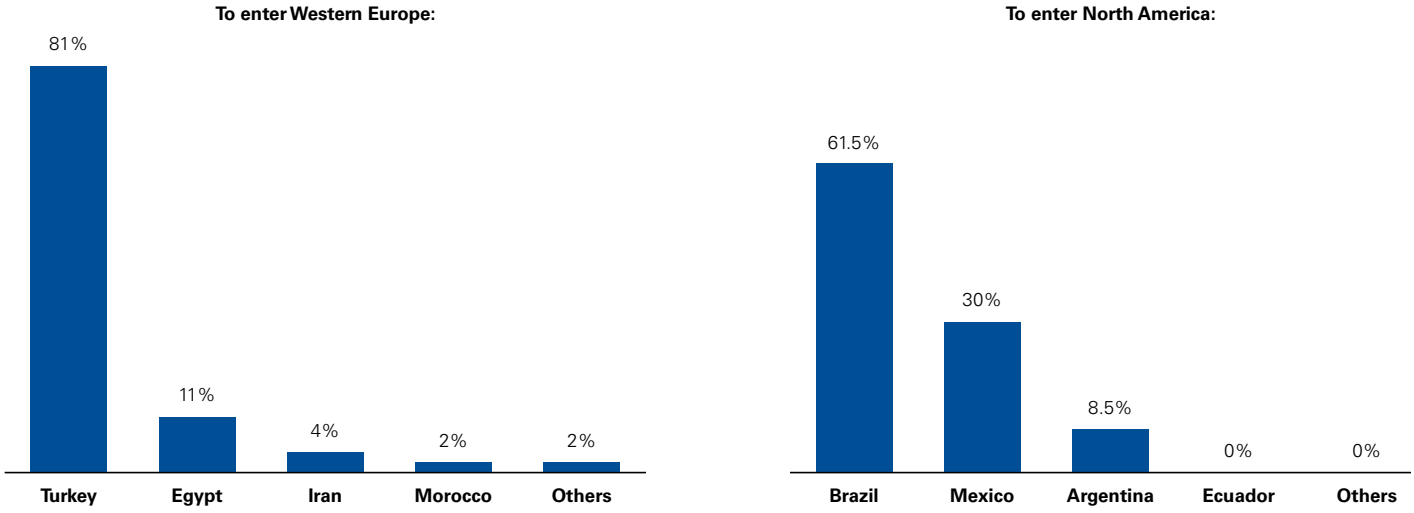


Source: KPMG's 2012 Global Auto Executive Survey

As the BRICs look to enter the more established automotive markets, they are seeking manufacturing hubs in relatively low-cost countries. According to the survey, the most popular choice to access Western Europe is Turkey, where 80 percent of the 1.1 million vehicles produced annually are bound for other lands. Asian automakers, notably from India and China, are attracted by Turkey's customs union with the European Union and the short transport routes to Central Europe. Toyota and Hyundai already produce in Turkey and are expanding capacity, while Chinese firms Chery, Dongfeng Motors and FAW Haima, along with India's Tata Motors, have plans for factories in the country.

Brazil is easily the most popular access point for the lucrative North American market, particularly for Chinese OEMs, 80 percent of whom see it a perfect hub.

Best hubs for BRIC players to enter developed markets



Note: Percentage of BRIC respondents considering country as best hub
Source: KPMG's 2012 Global Auto Executive Survey

Overcapacity

The specter of overcapacity and excess production will haunt the industry

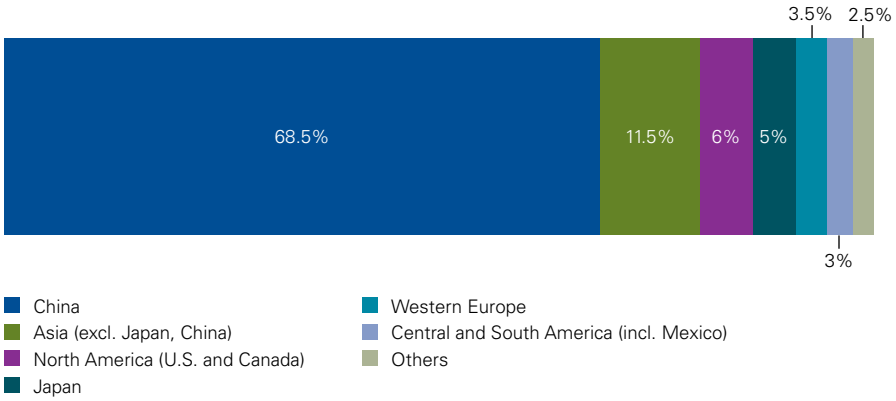
Global manufacturing capacity is forecast to rise significantly over the next five years. The vast majority of respondents see Asia-Pacific as being the driver, with China leading the way. Balancing capacity building and production volumes will be of utmost importance for OEMs striving to expand their global footprint while keeping down fixed costs to maintain healthy margins.

Global production volume will rise to over 100 million vehicles by 2016.

Source: LMC Automotive

The main catalyst for the increased global manufacturing capacity is the rapid rise in demand from emerging markets. 68.5 percent of survey participants feel that China will build up the most capacity by 2016, almost doubling its current level. The rest of Asia (excluding China and Japan) is expected to be the next fastest growing region.

Region/country building up the most manufacturing capacity until 2016



Source: KPMG's 2012 Global Auto Executive Survey

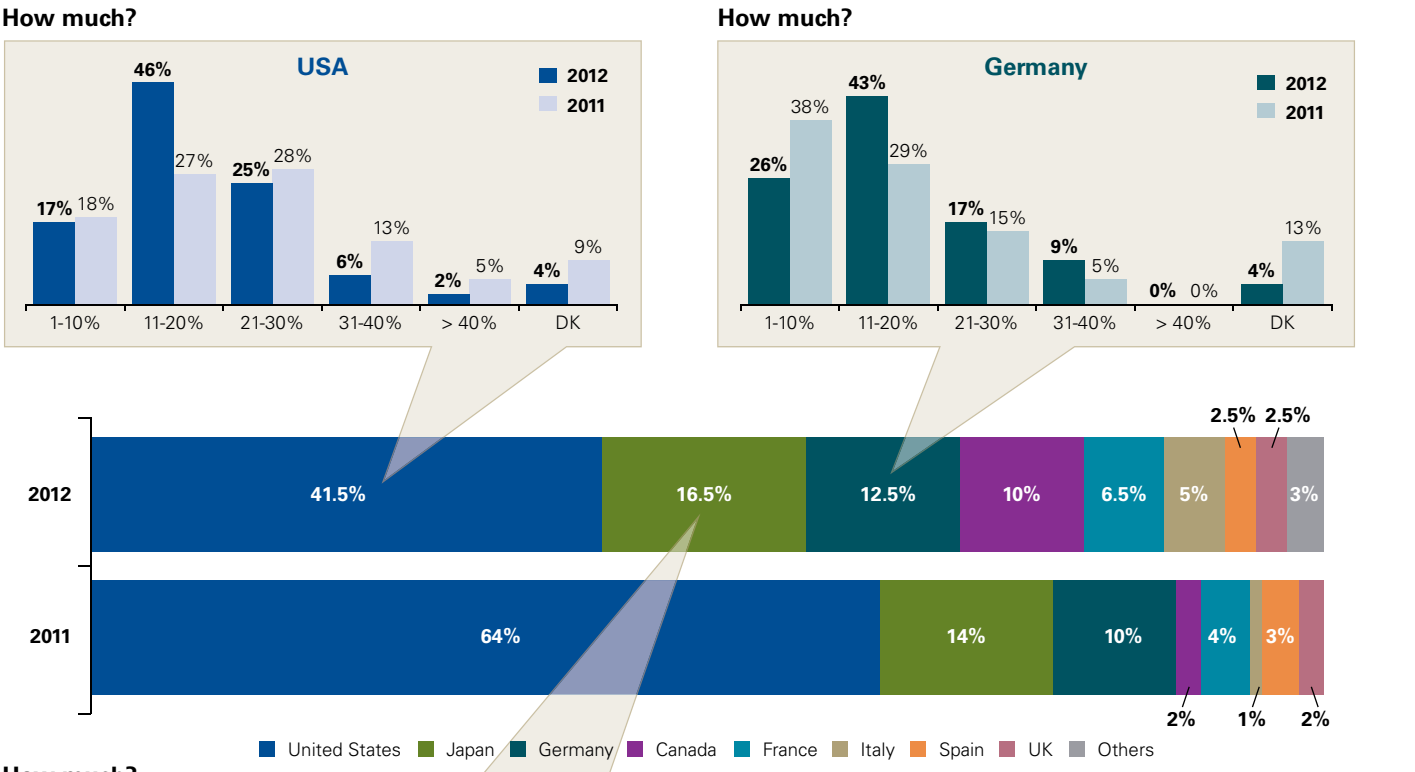
Some 41.5 percent of survey respondents still consider the U.S. to be the most overbuilt automotive market. Yet thanks to its rationalization efforts over recent years, this country is already doing better than many realize. Indeed, from 2008 to 2010, U.S. manufacturers managed to reduce their manufacturing capacity by over one million vehicles.

Interestingly, the U.S. is the only mature automotive market that relies significantly on imports. In recent years, sales have far exceeded domestic production levels, with 2011 domestic demand for vehicles over 4 million more than actual production on U.S. soil in the same period.

Respondents feel the automotive markets of both Germany and Japan have overcapacity between 11 and 20 percent. According to LMCA's historic data, Germany is actually less overbuilt, while Japan is in a far worse state, with excess capacity between 30 to 40 percent in recent years.

The perception of the U.S. as the most overbuilt market is outmoded as it has actually shrunk manufacturing capacity by more than 1 million vehicles since 2008.

Issue of overcapacity in the mature markets



Note: Percentages may not add up to 100 due to rounding off
Source: KPMG's 2012 Global Auto Executive Survey

As global manufacturing capacity continues its inexorable rise, it is not just established markets that have to manage their capacity utilization. BRIC manufacturers face the same challenges as their peers in the TRIAD markets.

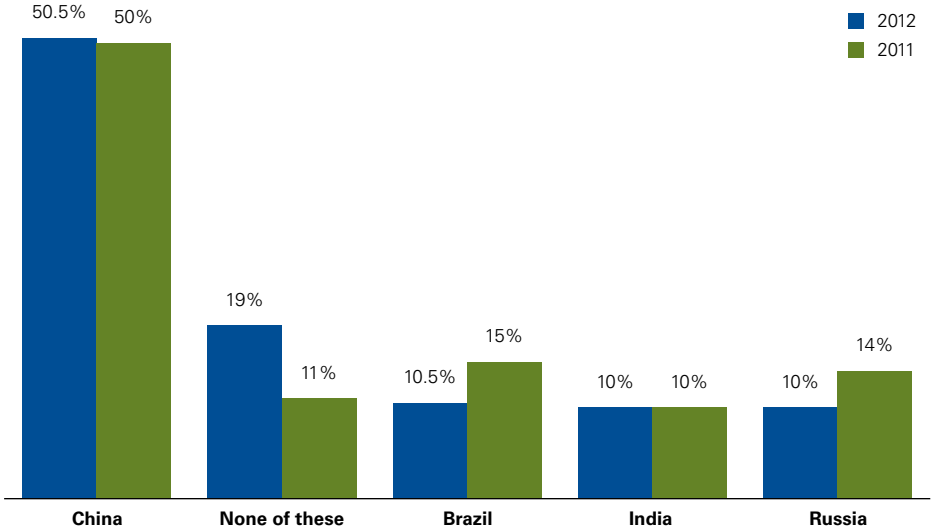
Over half of the respondents believe China's automotive market will be the most overbuilt BRIC market in 2016. According to LMCA, China already has an unutilized capacity of 6 million vehicles, which will rise to more than 9 million in 2016.

Despite all this evidence, almost one-fifth of respondents still do not consider overcapacity to be an issue in the BRICs. This is in line with last year's result. Alarmingly, most auto executives still seem to regard the risk of overcapacity and excess production as a necessary evil to remain competitive. As the rapid growth of recent years eventually slows down, manufacturers that fail to address overcapacity could face some tough decisions.

China is estimated to have 6 million units of unutilized capacity in 2011 – that is double the size of the German car market.

Source: LMC Automotive

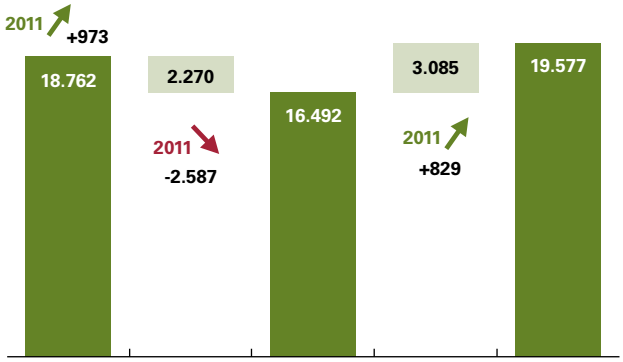
Emerging market likely to be most overbuilt in 2016



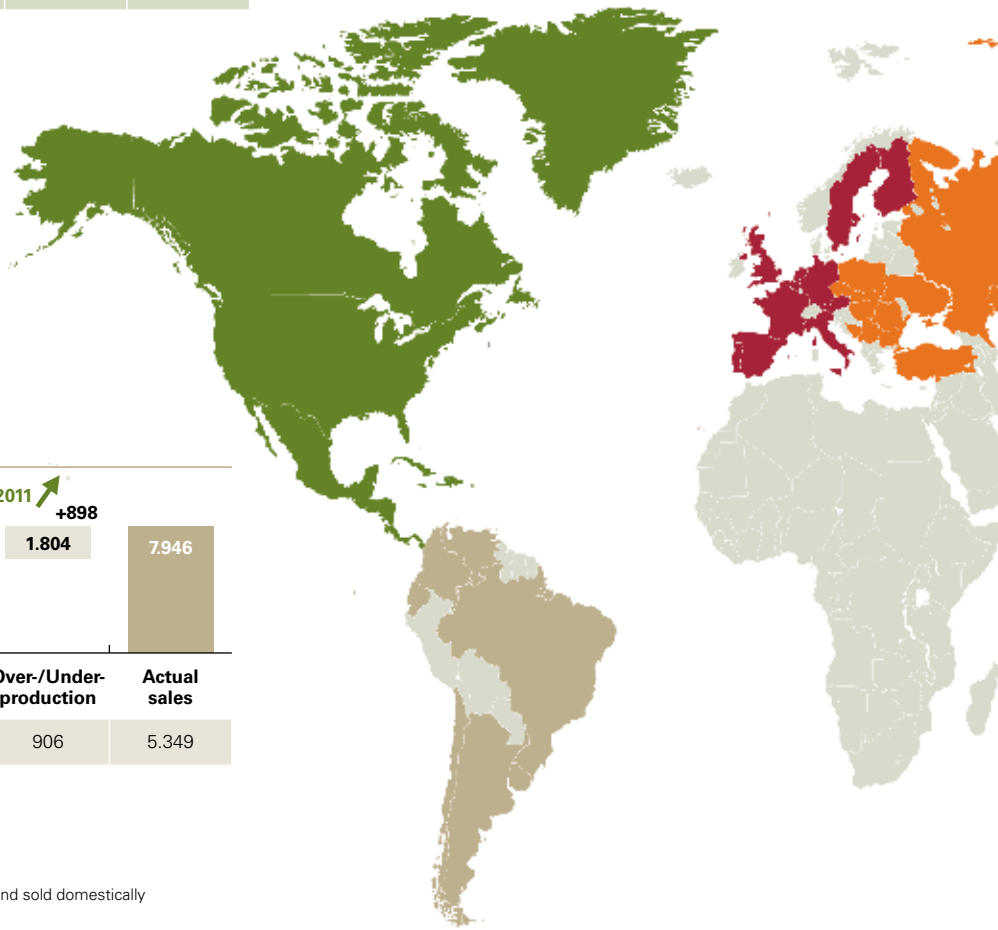
Note: Percentage of respondents rating country as most overbuilt
Source: KPMG's 2012 Global Auto Executive Survey

Manufacturing capacity, production and sales outlook for 2016

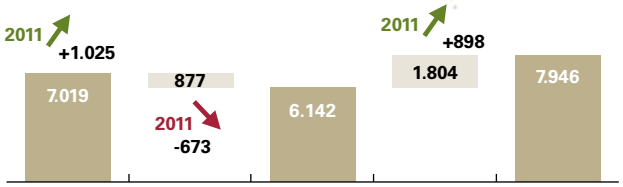
North America



	Production capacity	Unutilized capacity	Actual production	Over-/Under-production	Actual sales
2011	17.789	4.857	12.932	2.256	15.188



South America



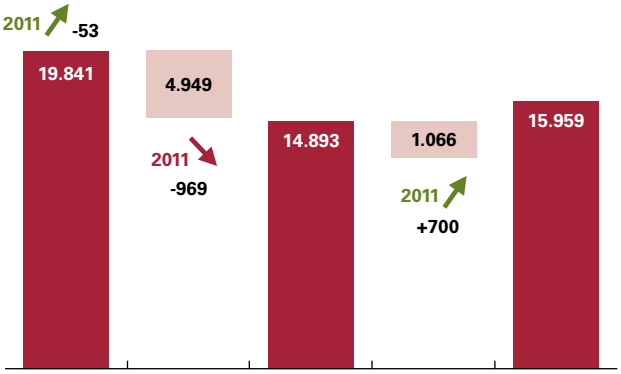
	Production capacity	Unutilized capacity	Actual production	Over-/Under-production	Actual sales
2011	5.994	1.550	4.444	906	5.349

Definition per region:
Production capacity: total available production units fully utilized
Unutilized capacity: unused capacity as a percentage of total
Actual production: actual units produced
Over-/underproduction: difference between number of cars produced and sold domestically
Actual sales: new car sales

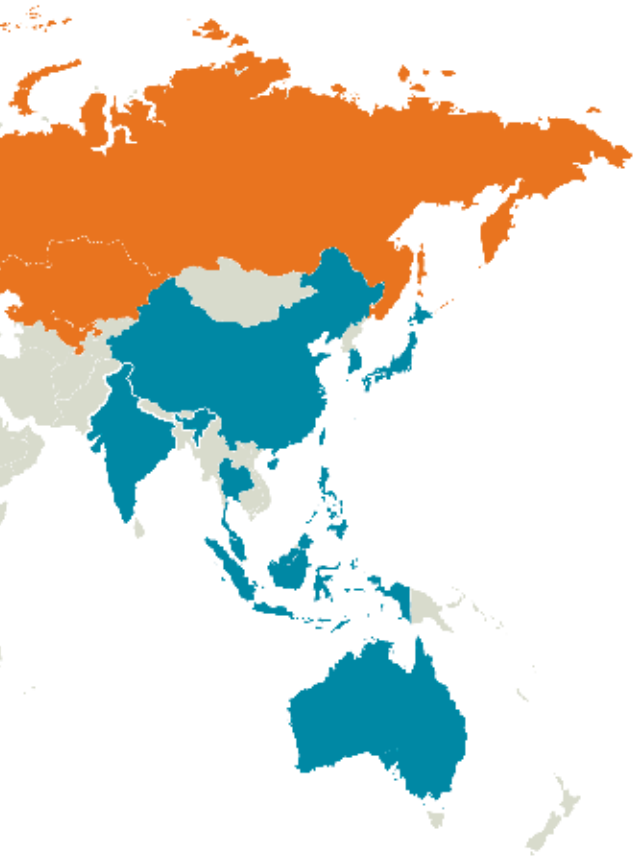
Please note:
Countries shaded grey are not included in the regional breakdowns. Additional potential sales volume in 2016 of approximately 3 million vehicles

Source: LMC Automotive

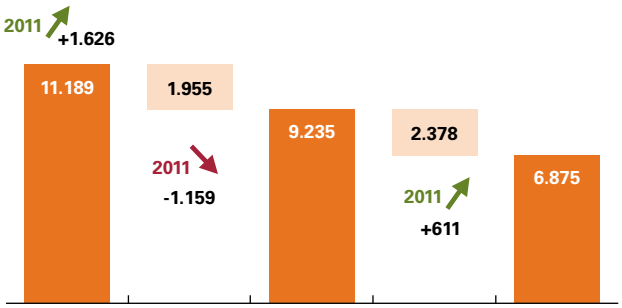
Western Europe



	Production capacity	Unutilized capacity	Actual production	Over-/Under-production	Actual sales
2011	19.894	5.918	13.976	366	14.342

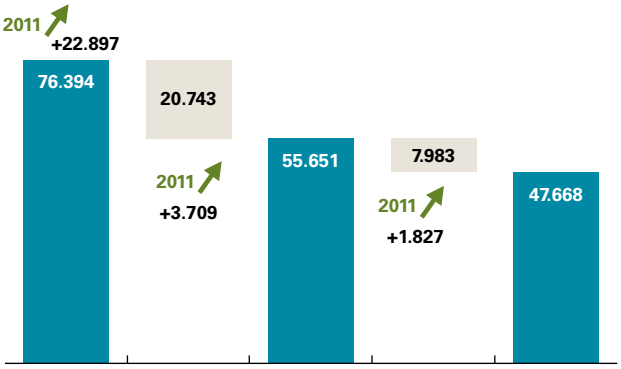


Eastern Europe



	Production capacity	Unutilized capacity	Actual production	Over-/Under-production	Actual sales
2011	9.563	3.114	6.450	1.767	4.683

Asia-Pacific



	Production capacity	Unutilized capacity	Actual production	Over-/Under-production	Actual sales
2011	53.497	17.034	36.462	6.156	30.307

A detailed analysis of expected global manufacturing capacities and projected production and sales figures suggests the global automotive market is at risk of overheating. Research from LMCA estimates global overcapacity of over 30 million cars for 2011. In addition to the BRICs and TRIAD, other countries are also increasing manufacturing capacity and production volumes to meet growing demand in booming nations. "Next-11" countries like Thailand, Mexico, and Turkey are already making a significant number of cars for export.

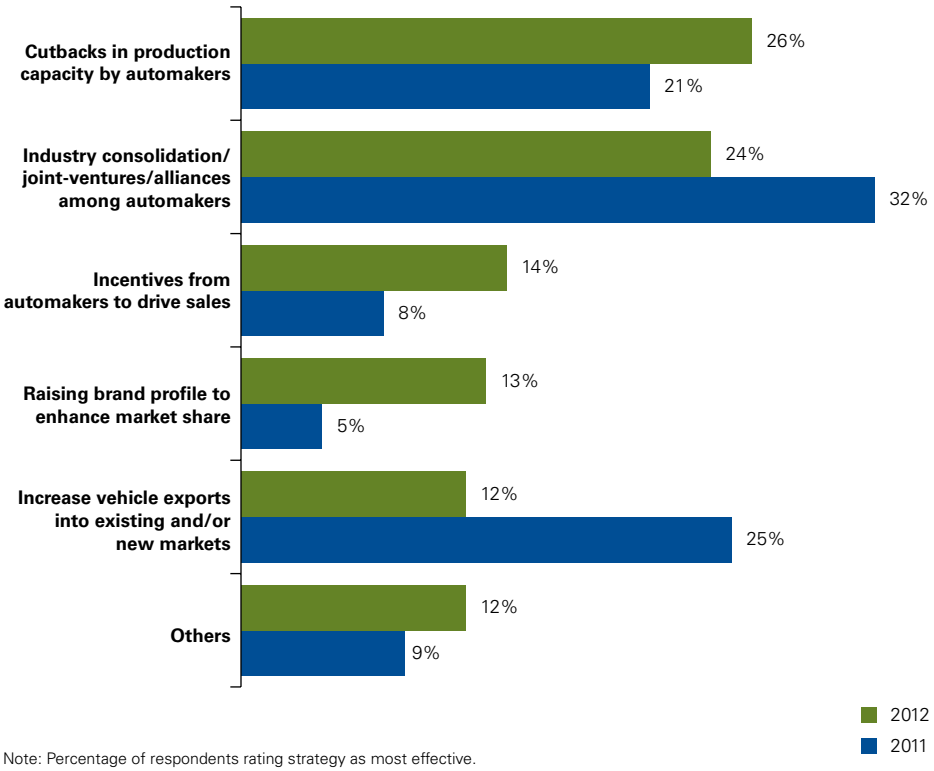
Most executives seem to be aware of this issue, viewing direct cutbacks in production capacity as the best way to realign supply with demand, with further industry consolidation or collaboration as the next most effective approach.

With new production plants scheduled to open in several emerging countries, any cutbacks are likely to take place in more established markets. Some of the plants due for opening in the near future are Audi and Honda in Mexico, Chery, Fiat and Nissan in Brazil, and FAW-VW and Toyota in China.

The global automotive market will be overbuilt by 20–30 percent by 2016.

Source: LMC Automotive

Most effective solution to overcapacity

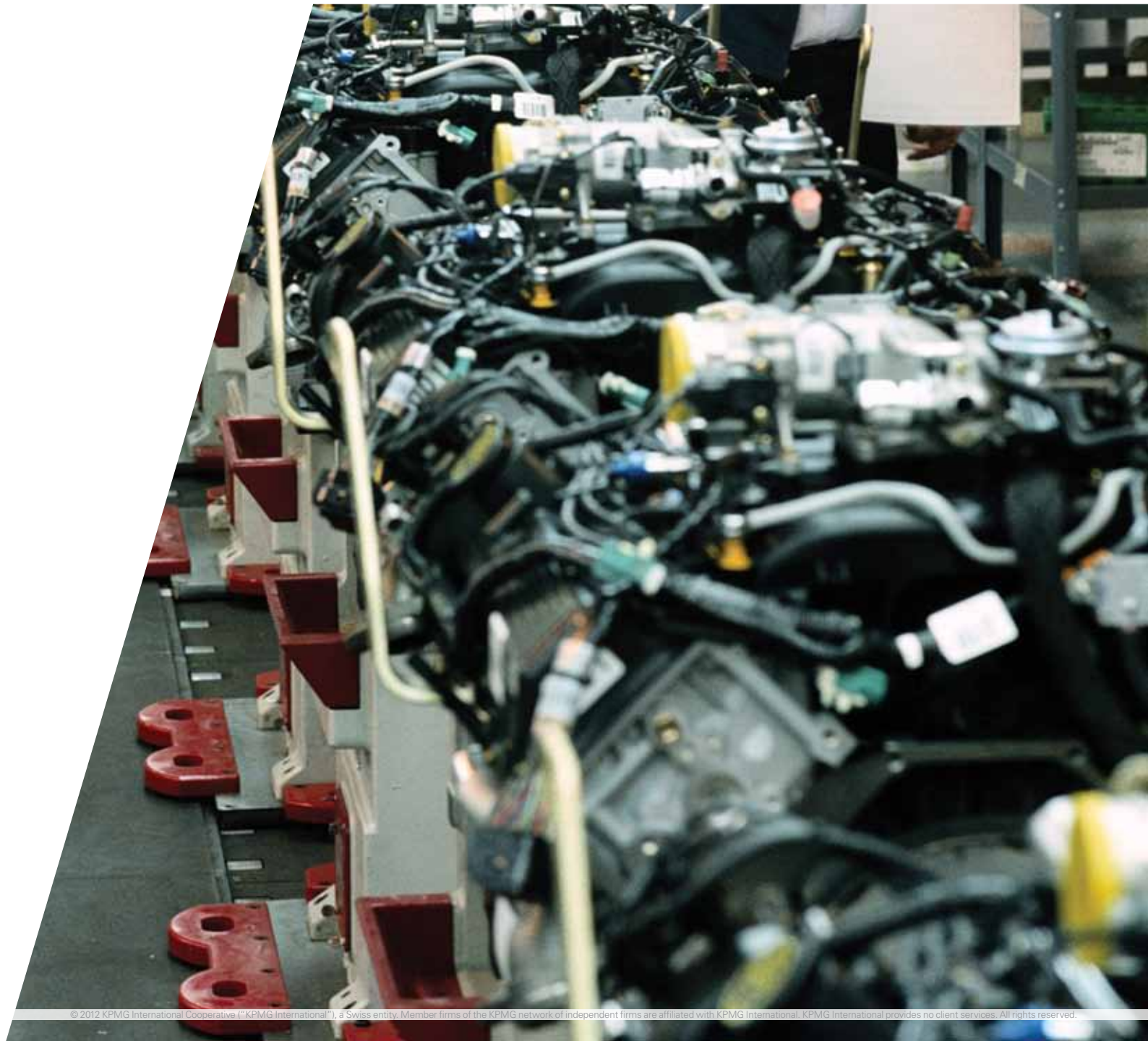


Note: Percentage of respondents rating strategy as most effective.
Source: KPMG's 2012 Global Auto Executive Survey

Closing down capacity in established markets is undoubtedly tougher due to stringent employment laws and greater union power. However, the success of U.S. manufacturers in reducing capacity during the economic crisis may yield some lessons on how to approach this critical issue.

The emergence of new technologies impacts industry capacity

With a mass market for electric cars looking increasingly likely, a new breed of engine producers will enter the arena, putting even more pressure on traditional internal combustion engine (ICE) manufacturers to address existing overcapacity. Converting existing ICE production lines to electric is costly and complex, so spare capacity will either have to be utilized in other ways or disposed of entirely. OEMs face a similar dilemma over new materials such as carbon fiber, as well as for telecommunications and electronic equipment, where outsourcing is the expected route, although automakers still expect to retain overall ownership of the customer interface.



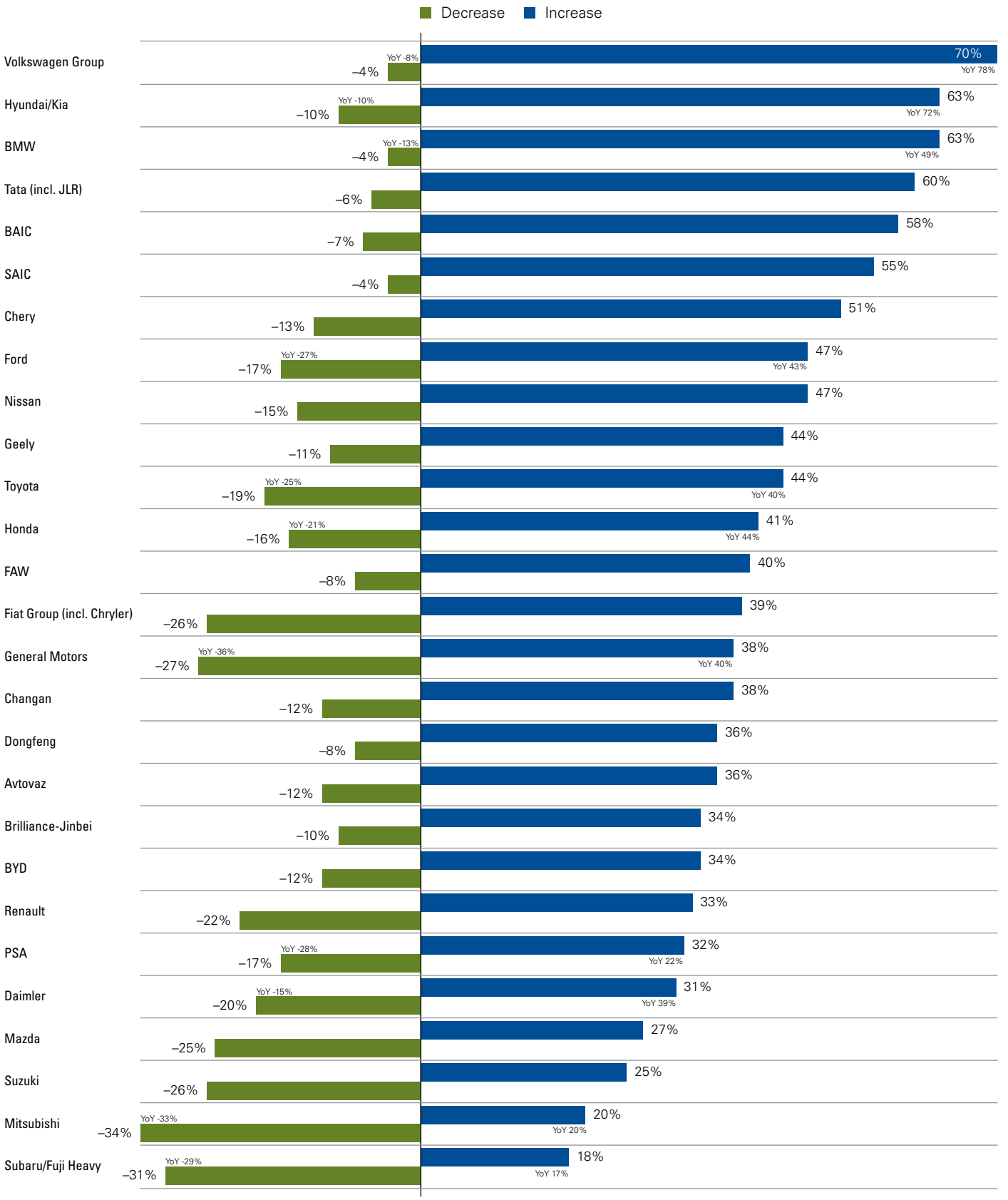
Conclusions

What does it take to succeed in the new mobile landscape?

Respondents to KPMG's 2012 survey believe European and Asian OEMs are the most likely to gain global market share over the next five years, with the current undisputed leader, Volkswagen, forecast to maintain its fast growth rate. Volkswagen is closely followed by the rising Korean giant Hyundai/Kia and the German premium car maker BMW. Less than half feel Volkswagen's strongest rival, Toyota, will increase its share, probably due to the ecological disasters which hit Japan in 2011.

Of the top ten fastest growing manufacturers, seven are from Asia, including five from emerging markets (four from China and one – Tata Motors – from India). The highest ranking U.S. OEM is Ford in eighth place, while General Motors is only thought to have modest growth prospects. However, compared to the 2011 and even 2010 survey results, U.S. manufacturers have grounds for greater optimism.

Respondents expecting global market share to increase/decrease by 2016



Note: Percentage of respondents expecting market share to remain stable are not shown
Source: KPMG's 2012 Global Auto Executive Survey

YoY: Data from 2011

KPMG insights

Hyundai-Kia emerges as a global force

The astonishing success of Hyundai-Kia has been built on lightning-quick R&D cycles and aggressive overseas expansion in tandem with its parts suppliers, making the group the world's fastest growing automotive company. By investing in quality and design – even throughout the global recession – the Korean automaker has developed a stream of new cars and technologies that are transforming its previous low-quality, low-price image.

With a new product development cycle of just 24-36 months and an emphasis on fuel-efficient small and medium-sized cars, Hyundai-Kia has strengthened its competitiveness amidst challenging economic conditions and high oil prices.

New production bases in North America, Europe, China and India ensure the company can meet varying consumer tastes and deliver popular vehicles faster, as well as providing a hedge against regional downturns and sudden currency fluctuations. And by encouraging key auto part suppliers to support the new overseas facilities, the group has maximized synergies in local R&D and design, production and quality management, and cost targeting, to help it adapt to a changing automotive industry landscape.

Chang Soo Lee
Automotive Sector Leader ASPAC
KPMG in Korea

The findings from this year's survey suggest that future success is based on a number of key levers:

OEMs HAVE TO ENGAGE IN...

New technology: Electromobility

Electromobility will be a central part of future powertrain design across both developed and emerging markets, with great potential in the BRICs and especially in China. The biggest challenge will be to identify the most promising technology. According to the survey, fuel cell technology has not yet realized its full potential, although Daimler, Hyundai/Kia, Toyota and GM are already very active in this area.

Innovative urban mobility concepts

The industry has to move from vehicle-oriented to human-oriented urban design and mobility concepts. Among the more progressive OEMs are Volkswagen with its car sharing concept Quicar and the Audi Urban Future Initiative. BMW also combines car sharing and urban design with DriveNow and its sub-brand BMWi.

Connected car solutions

It is becoming increasingly important to connect the driver, the car and the environment to make driving more comfortable and safer. To be effective, this technology needs a large take-up, so it may soon be available in most new cars. Ford (with Sync) and BMW (with ConnectedDrive) are two examples of mass-market products, already out there.

Service-orientation & e-financing solutions

Besides more service-orientation there is likely to be a surge in innovative financing offerings, particularly for e-components, with huge potential in emerging countries. Renault and Smart already have established products in the market.

...AND FOCUS ON...

Cooperation and alliances

Manufacturers cannot manage everything alone. Many advances in technology and services have flowed from other industries. For example, the mobility services concept is very different from the traditional OEM model. Collaboration is the obvious way to manage such change and brings a number of additional benefits, including joint R&D spending, access to new technologies and products, new business models and the potential to pool risk and investments.

...AND HAVE TO BE AWARE OF...

Growing strength of the emerging markets

In BAIC, SAIC, Chery and Geely, China provides four of the top ten predicted fastest growing automotive companies, reflecting the country's enormous importance. Chinese automakers have already started to grow overseas, which will intensify competition in established markets. BAIC's global expansion strategy is just the start of a sustained export push from the developing nation's automotive industries.

The lingering shadow of overcapacity and excess production

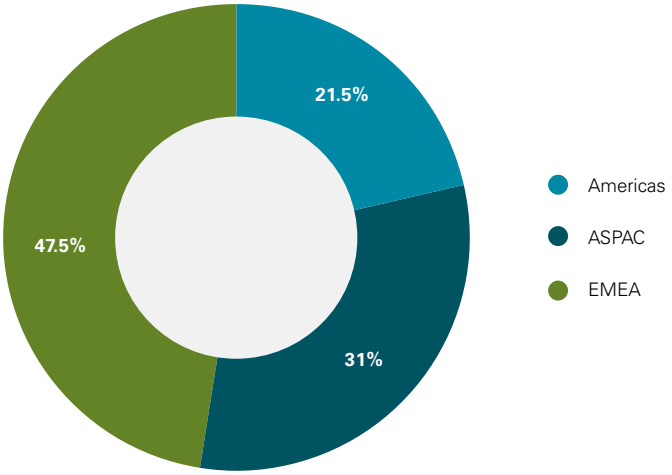
As global manufacturing capacity increases, automakers have to address excess production seriously. The BRIC markets already have immense overcapacity and could also be heading for excess production as a result of growing production volumes in other markets. Manufacturers have to get the right level of capacity to cope with up- and downswings in demand.

About the survey

A total of 200 automotive executives participated in the survey, over half of whom are business unit heads or higher. The respondents come from all parts of the automotive value chain including vehicle manufacturers, Tier 1, 2 and 3 suppliers, dealers, financial service providers, and for the first time mobility service providers.

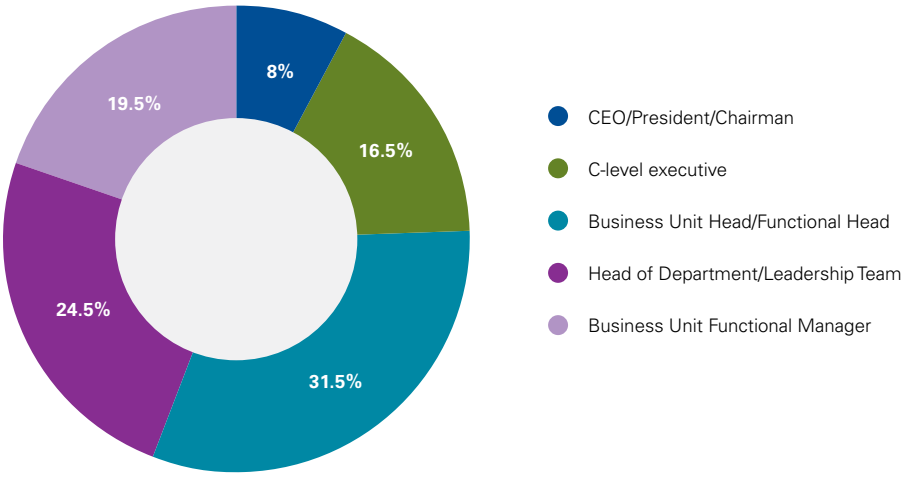
47.5 percent of the executives are based across Europe, Middle East and Africa, 31 percent in the Asia-Pacific region and 21.5 percent in the Americas. 97.5 percent of the participants represent companies with annual revenues greater than US$100 million and more than a fifth work for firms with revenues greater than US$10 billion. The respondent interviews, which were held by phone, took place in August, September and October 2011.

Geographic distribution of respondents



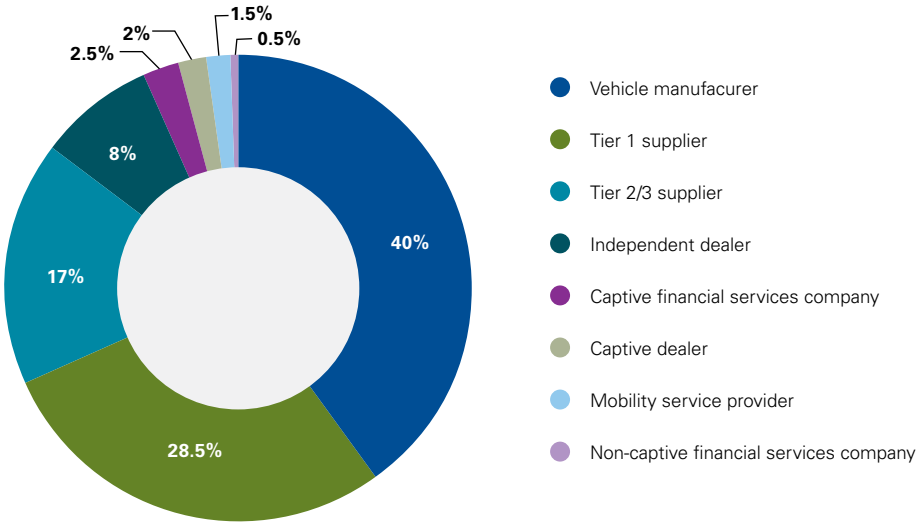
Source: KPMG's 2012 Global Auto Executive Survey

Respondents job titles



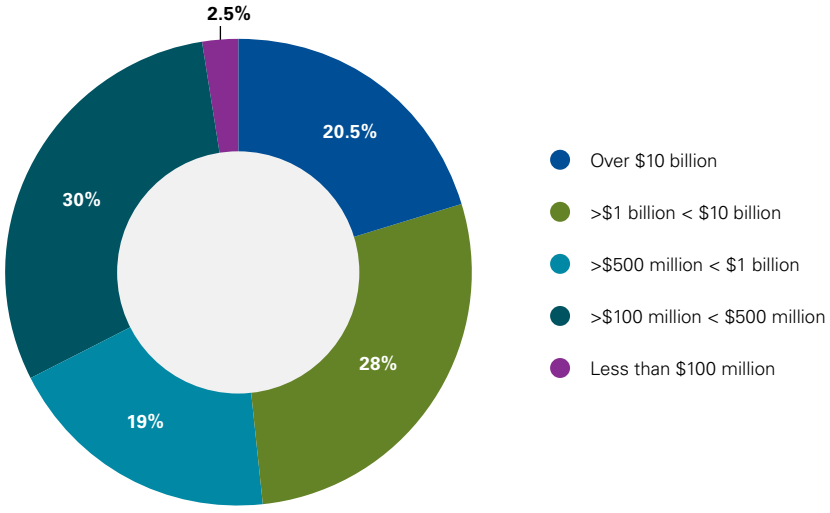
Source: KPMG's 2012 Global Auto Executive Survey

Company category



Source: KPMG's 2012 Global Auto Executive Survey

Company annual revenue



Source: KPMG's 2012 Global Auto Executive Survey

Contact us

Global Automotive contacts

Mathieu Meyer
Global Head of Automotive
T: +49 711 9060 41730
E: mathieumeyer@kpmg.com

Simone Beutel
Global Executive for Automotive
KPMG in Switzerland
T: +41 44 249 31 80
E: simonebeutel@kpmg.com

Regional Automotive contacts

ASPAC
Chang Soo Lee
Samjong KPMG in Korea
T: +82 2 2112 0600
E: cslee@kr.kpmg.com

The Americas
Gary Silberg
KPMG in the U.S.
T: +1 312 665 1916
E: gsilberg@kpmg.com

Europe
Mathieu Meyer
KPMG in Germany
T: +49 711 9060 41730
E: mathieumeyer@kpmg.com

Designed by Evalueserve.

Publication name: KPMG's Global Automotive Executive Survey 2012 (Global version)

Publication number: 111218

Publication date: January 2012