DRAFT FOR DISCUSSION PURPOSES ONLY

OESA KPMG 2016.5 AutoPulse Survey

Automotive industry insights from the suppliers' perspective

Foreword

Dear Readers,

The AutoPulse survey was developed by KPMG and OESA to provide the OESA membership with unique insights and perspectives on where suppliers view the industry is today and where it is headed. The data within was provided by OESA members from July to September 2016. We will issue the survey twice a year to highlight the evolution of industry trends. This report represents the second half survey for 2016.

We have prepared this 2016.5 report as a means to efficiently share the data and some interesting perspectives that can be garnered from it. We hope that it provides the OESA membership with helpful points of view, an understanding of how the industry is evolving, and insights into where it may be heading.

We anticipate that the results of the survey will be the basis for an ongoing dialogue between you and your fellow employees, your customers and others inside and outside of the industry. Nobody can predict the future with precision, but hopefully this tool helps you better navigate the uncertainties that lay ahead.

If you were one of the almost 350 members that partook in the survey, we thank you for your participation. If you missed taking part, please take the time to participate in the next survey that will be available in the first quarter of 2017. The invitation to participate will come in a correspondence from OESA and KPMG. The more responses we receive, the more rich the data set, and the more beneficial it will be for our membership.

Enjoy the read. We hope it leads to valuable insights, initiates engaging conversations, and stimulates rigorous debate about the exciting future of the automotive industry.

Sincerely,

Julie Fream

OESA, President

Gary Silberg

KPMG, Automotive Practice Lead

Executive Summary

A Dynamic Global Industry with Disruption Looming

Strong data pool

Data collected from almost 350 OESA members. The 2016.5 AutoPulse survey covers diverse topics, including: industry mega trends, talent shortage, supply chain visibility and viability, economic trends and controlling costs, connectivity and digitalization, and global views.

Talent shortage

A lack of the right human capital is a concern to the supply base. The areas suffering the most from lack of talent are: employee morale, innovation, and new product development.

Profits threatened

72% of respondents list expected cost downs as one of the top three threats to profit margins. 61% of respondents list the level of investment needed to win and retain business as one of the top three threats to profits.

Emergence of new players

Disruptive technologies (e.g. electrification, autonomy, and connected vehicles) are threatening to disrupt the conventional automotive market. 81% of respondents believe a major technology company will enter the market as an OEM in the next ten years.

Supply chain risk

Respondents believe that the automotive supply chain is threatened equally by (1) increased launch frequency, (2) tight capacity, and (3) quality requirements. However, 74% of respondents believe that they can manage risk and have complete or enhanced supply chain visibility.

Changing landscape

37% of respondents say their company's are working with start-ups to commercialize a future technology. 31% of respondents say their company's are looking to acquire a start-up for its technology capability.

Consolidation of traditional players

75% of respondents expect one or more major OEM mergers in the next five years.

Industry peaking?

74% of respondents believe that the North American light vehicle sales outlook for 2017 will remain about the same as 2016.

Placing global bets

North America and China lead the pack in terms of revenue growth potential and return on invested capital. South America came in last in both categories.

Reaching CAFE mandates

The majority of respondents believe incremental powertrain and light-weighting technologies will provide the path to meeting future mandates, while innovations such as lighter vehicles brought on by autonomous technologies are not deemed to provide a significant impact.

Cost control issues

77% of respondents say their company's launch costs are at or over budget, while 15% of respondents don't track or don't know how their launches compare to budget.

50 / 50

Half of suppliers believe that it will take more than ten years before an autonomous vehicle will be commercially available at scale

About the AutoPulse Survey

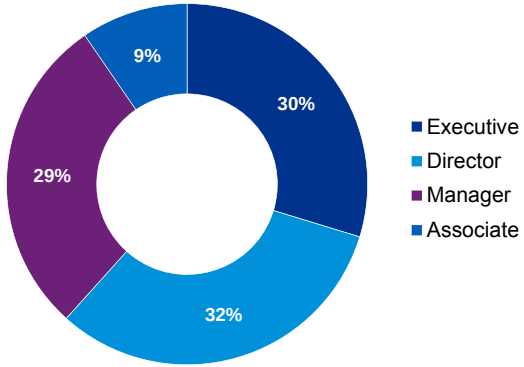
Click here to access interactive data

The Respondents

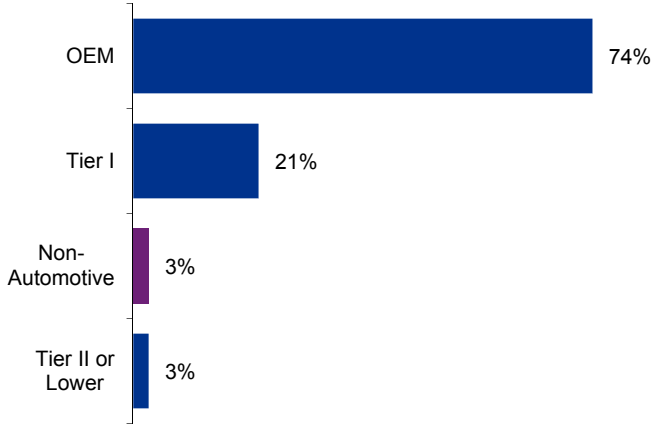
Almost 350 respondents provided their views on the topics covered in the 2016.5 AutoPulse survey.

The depth of participation provides for a robust global data set from which to identify perspectives and formulate conclusions about how OESA members view the current automotive industry.

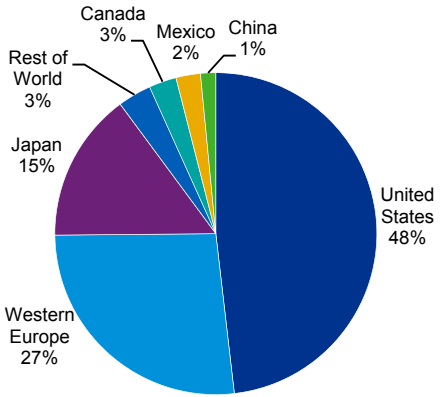
Respondents by Job Title



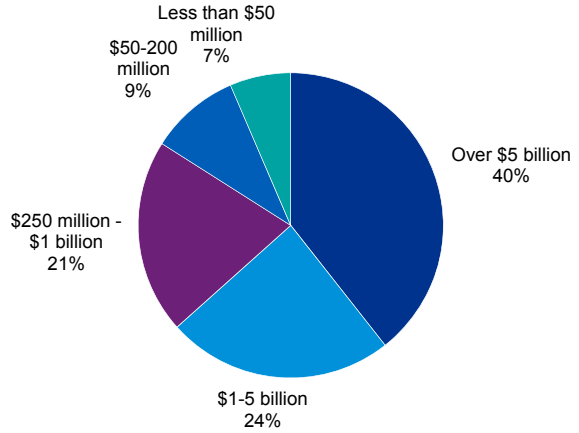
Respondents by Customer Type

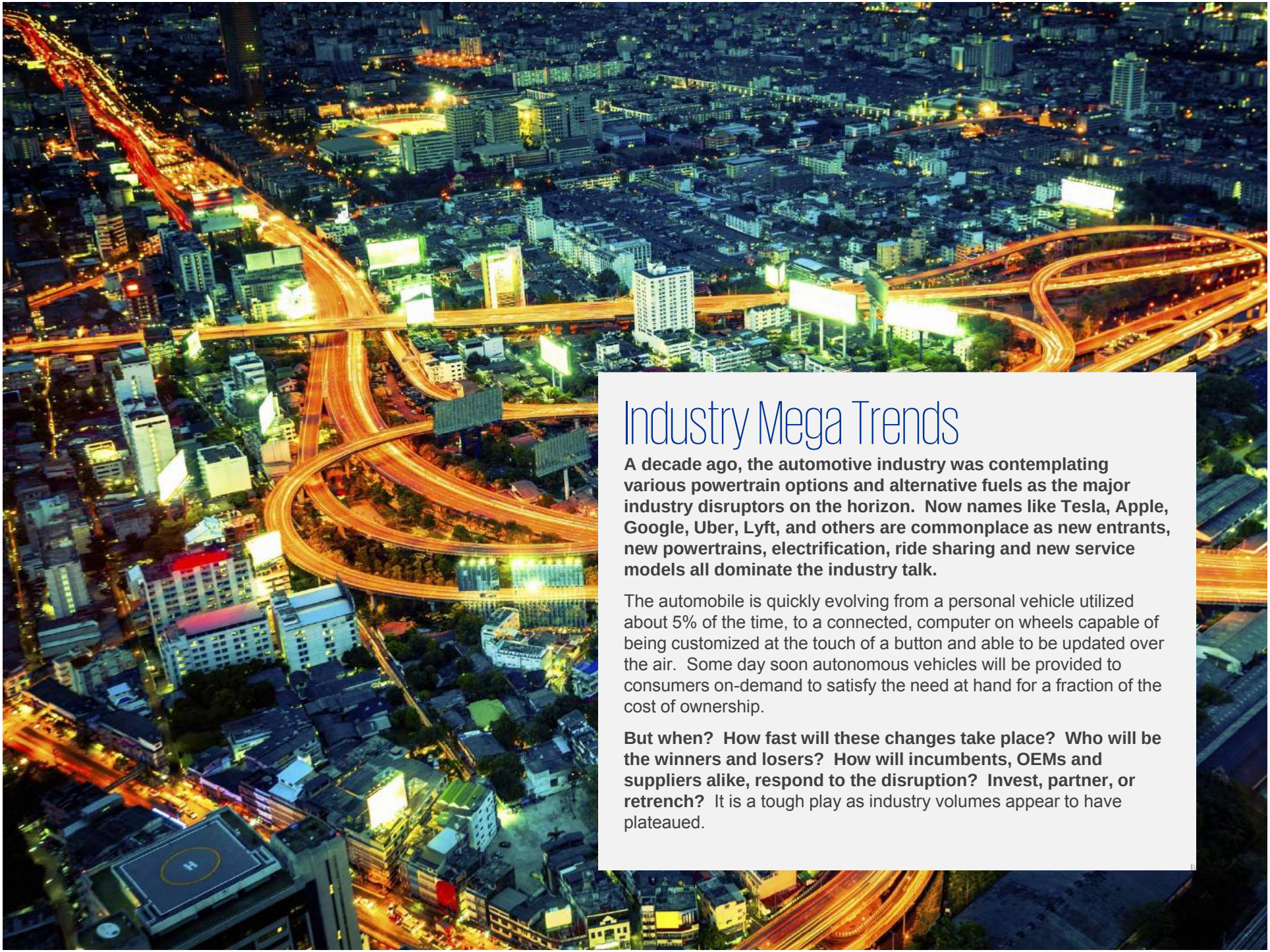


Respondents by Region



Respondents by Company Revenue





Industry Mega Trends

A decade ago, the automotive industry was contemplating various powertrain options and alternative fuels as the major industry disruptors on the horizon. Now names like Tesla, Apple, Google, Uber, Lyft, and others are commonplace as new entrants, new powertrains, electrification, ride sharing and new service models all dominate the industry talk.

The automobile is quickly evolving from a personal vehicle utilized about 5% of the time, to a connected, computer on wheels capable of being customized at the touch of a button and able to be updated over the air. Some day soon autonomous vehicles will be provided to consumers on-demand to satisfy the need at hand for a fraction of the cost of ownership.

But when? How fast will these changes take place? Who will be the winners and losers? How will incumbents, OEMs and suppliers alike, respond to the disruption? Invest, partner, or retrench? It is a tough play as industry volumes appear to have plateaued.

Views on Technology Growth and Investment

Future Disruptions: Are We Prepared?

81% of respondents believe major technology companies will enter the automotive market as an OEM in the next ten years, yet only 37% of the respondents are looking to acquire or partner with start-ups to commercialize future technologies.

Investing in Disruptive Technologies

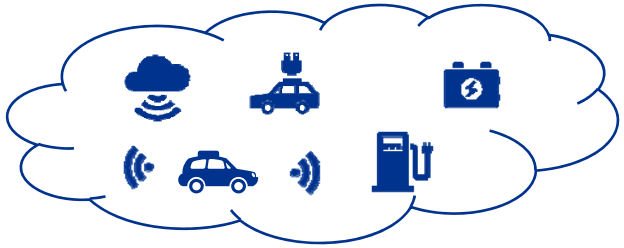
31% *Of the respondents companies' are looking to acquire a start-up for its technology capabilities*

37% *Of the respondents' companies are working with start-ups to commercialize a future technology*

Current State

A fleet dominated by gasoline powered vehicles manufactured by traditional automotive OEMs and sold to individual consumers through dealerships

Future Disruptors



An abundance of disruptive technologies are on the automotive scene, including: autonomous vehicles, collision avoidance systems, light weight materials, electric and hybrid powertrains, connectivity and digitalization, data-driven navigation and guidance systems, transportation as a service business models, and alternative fuel technologies

Great Skepticism, but Desire to Work with New Entrants

New entrants are expected to be disruptors. Will they pave the way for new innovations and business models?

*According to Tesla's Q1 2016 shareholder's letter, Elon Musk wants to boost annual output to **one million cars a year by 2020**. Do you believe they will hit that target?*

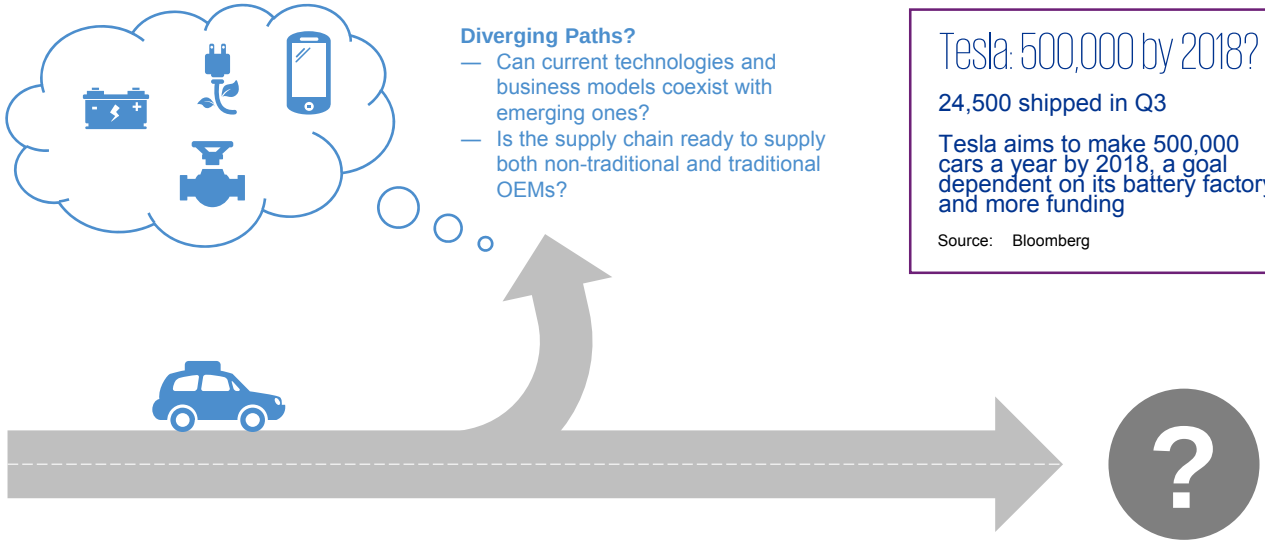
Skepticism 86%

Respondents do not believe Tesla will hit its annual output target of one million cars a year by 2020

Desire 69%

Respondents indicated their companies supply or plan to supply new entrants in the next five years

As new business models emerge and autonomous technologies are developed, the question is not whether disruption will occur in the automotive space, but how soon? Will suppliers invest in new technologies and thrive, or will there be divergence in the supply base with non-traditional suppliers disrupting incumbents?



Diverging Paths?

- Can current technologies and business models coexist with emerging ones?
- Is the supply chain ready to supply both non-traditional and traditional OEMs?

Tesla: 500,000 by 2018?

24,500 shipped in Q3

Tesla aims to make 500,000 cars a year by 2018, a goal dependent on its battery factory and more funding

Source: Bloomberg

The Race to Full Autonomy: OESA Members Appear Split.

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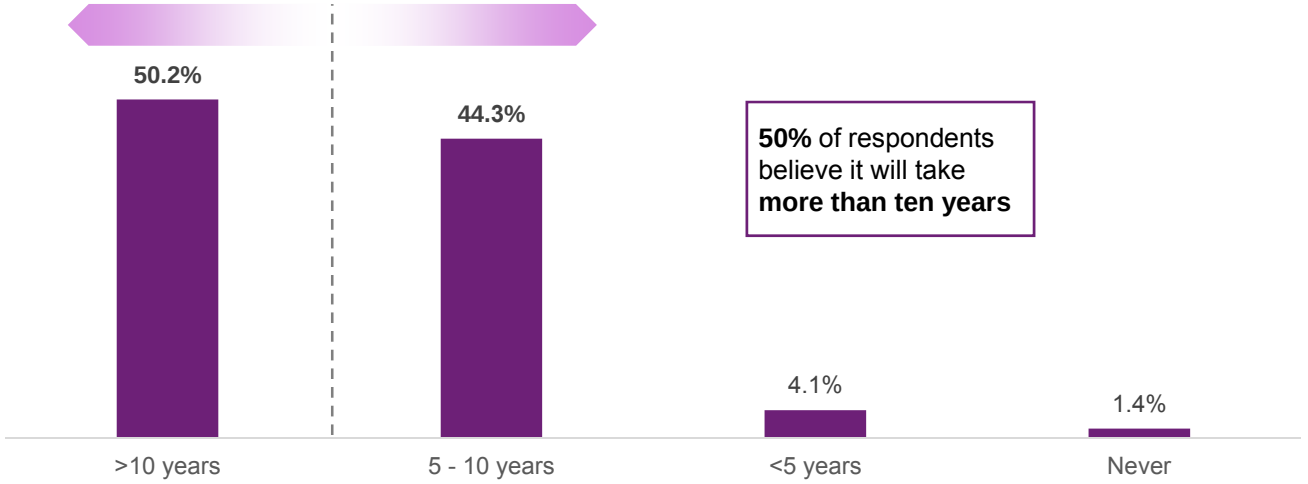
How many years will it be before a Level 4 ***autonomous vehicle*** *is commercially available at scale?*

KPMG Viewpoint

KPMG's influential whitepaper "The Clockspeed Dilemma" highlights how the **clash of cultures and development cycles** in the automotive and technology sectors is **shaping the future of transportation and mobility**.



New entrants, along with significant levels of investment, are accelerating the pace of innovation.

- 2 million miles driven — Google self-driving car program
- $1.6 billion investment in Tesla Gigafactory — Panasonic
- $1.5 billion investment — In Cruise Automation and Lyft by GM
- Toyota & Nissan plan self-driving cars — To be available for the 2020 Tokyo Olympics
- $77 billion, 21 million sales in 2035 — Autonomous vehicles globally[(a)]
- BMW teams with Intel & Mobileye — To bring fully autonomous vehicles by 2021
- Ford targets 2021 — To deliver fully autonomous, high-volume vehicle for ride sharing
- Self-driving cars deployed — By Uber in Pittsburgh, PA

Note: (a) IHS Market estimates 21 million in vehicle sales and Boston Consulting Group estimates $77 billion in sales in 2035

Source: Wall Street Journal, KPMG

CAFE Mandates: Incremental Solutions... Revolutionary Needs

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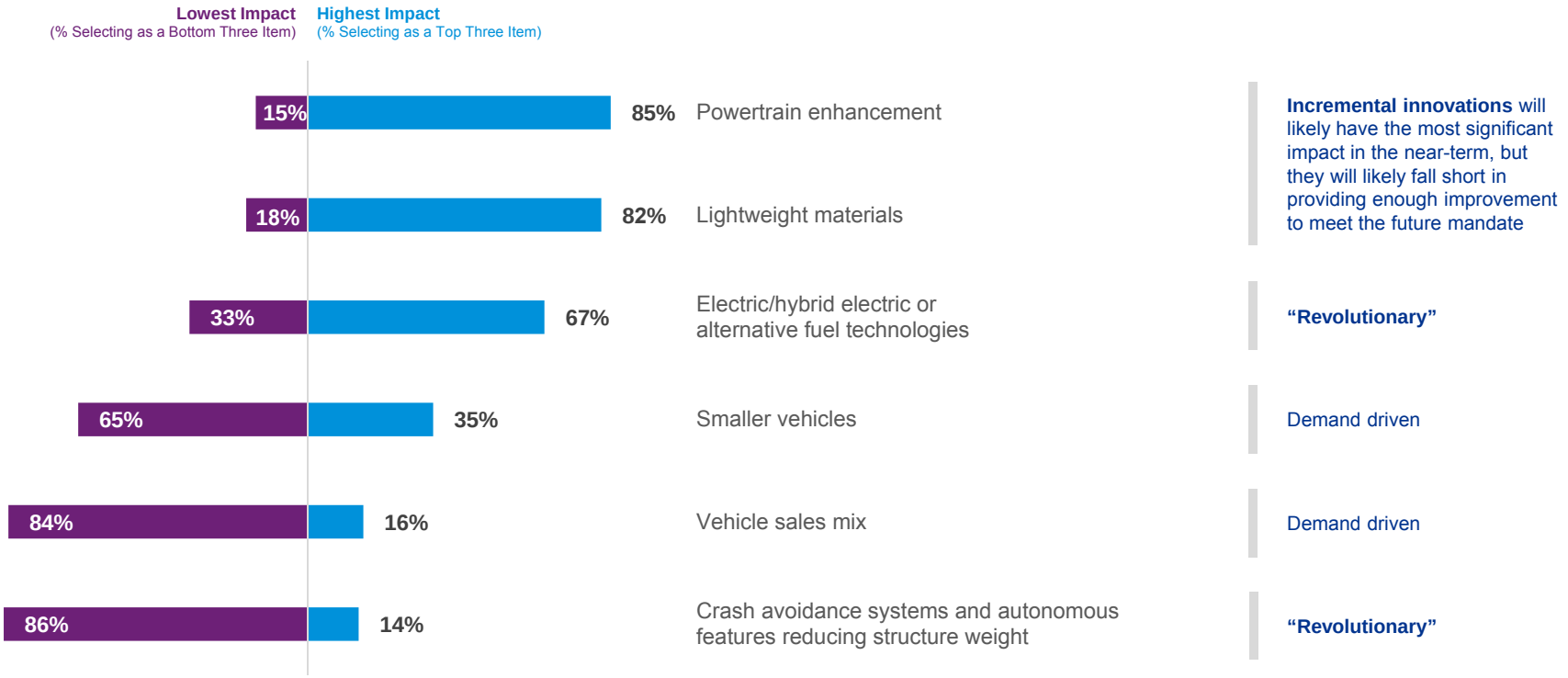
In light of CAFE mandates increasing, rank the following drivers of OEM fuel economy improvement in terms of impact over the next ten years



KPMG Viewpoint

The U.S. government has mandated a CAFE increase to 54.5 mpg by 2025. With this increase only two to three development cycles away, significant changes are required. However, the majority of AutoPulse respondents believe incremental powertrain and vehicle light-weighting solutions will be the main drivers of fuel economy improvement in the next decade.

Although strategic and disruptive innovations are currently considered least likely to drive the fuel economy improvement, we expect that an electrified powertrain and crash avoidance features will lead to significant long-term improvements in fuel economy.

One thing is clear. With the flurry of recent activity in the automotive space, the race for a solution is on.

Talent Shortage

North American production levels are at historical highs. Requirements for new technology and innovative vehicle content continue to grow. A shortage of skilled human capital has become a real issue in the automotive industry for OEMs, suppliers, and other technology companies entering the space.

OESA members have expressed concerns about the impact from talent shortages in the industry. Responses to the 2016.5 AutoPulse survey highlight the areas impacted, including: reduction in performance improvement and new product development, delivery issues, and cost increases.

Securing the right talent to address critical needs will continue to be a key success factor as the industry evolves in the coming decade.

The Need for Talent is Clear. How to Secure it is Not.

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How do you view the industry's talent shortage issue trend **over the next 12 months?**

60% Staying the same

31% Getting worse

The top two initiatives that have been the **most successful** in addressing talent shortage…

57% Employee referrals

45% Retained search

…the least successful in addressing talent shortage issues?

40% Social Media/ Internet outreach

38% Acquisition or joint ventures

What do you think is the **primary cause** of industry's talent shortage?

31% Perception of the industry by Millennials

27% Other industries attracting specific talent types

If cost was not a constraint, how would you **secure your innovation talent?**

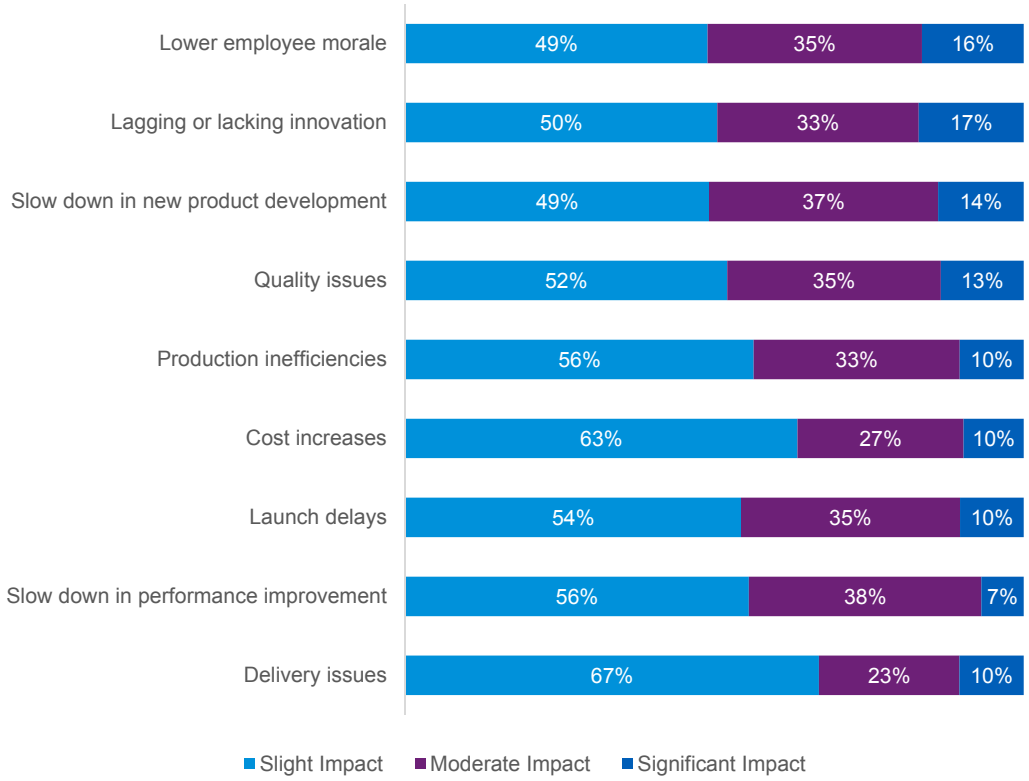
43% Hire from outside the automotive industry

32% Develop internal resources

While suppliers focus on getting quality product out the door today, it may be at the expense of getting the right product out the door tomorrow.

With 91% of respondents believing that the talent shortage will stay the same or get worse, the challenges will likely continue for some time.

Views on how human capital shortages impact business:



Supply Chain Visibility and Viability

A robust supply chain is paramount in a just-in-time production environment. No supplier wants to cause an OEM plant shutdown.

56% of respondents see supply chain failure as a risk to their companies' growth agenda.

Events such as a natural disaster, severe weather, or a tiered supplier's financial distress can cause supply chain disruptions. The 2016.5 AutoPulse survey provides a look into how suppliers view their supply chain visibility and viability.

Views on the Supply Chain: Prepared, But not Confident

Click here to access interactive data

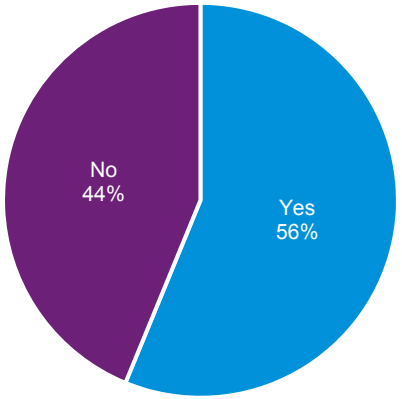
KPMG Viewpoint

Supply chain disruption in the automotive sector is a grave proposition with the cost of shutting down an OEM assembly facility quickly running into the millions of dollars. One slip in this area can severely hamper or bury a supplier.

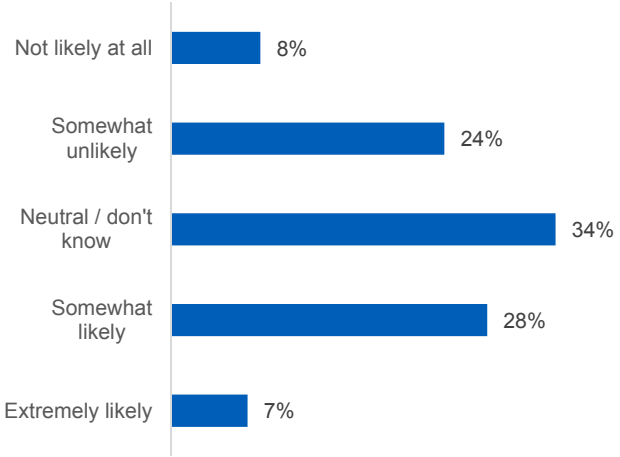
Suppliers that manage their supply chains well have implemented early warning detection systems and institutionalized the responses to signs of potential disruption.

Although most companies have in-place personnel and tools to identify supply chain risk, they likely do not produce strong views on the longer-term chance of a supply chain disruption.

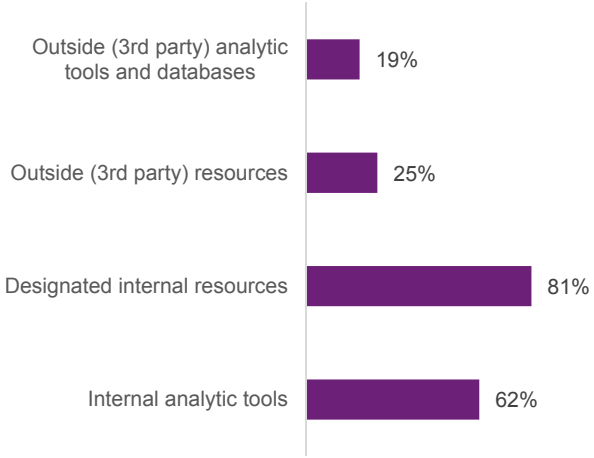
Do you consider supply chain failure a significant risk to your company's growth agenda?



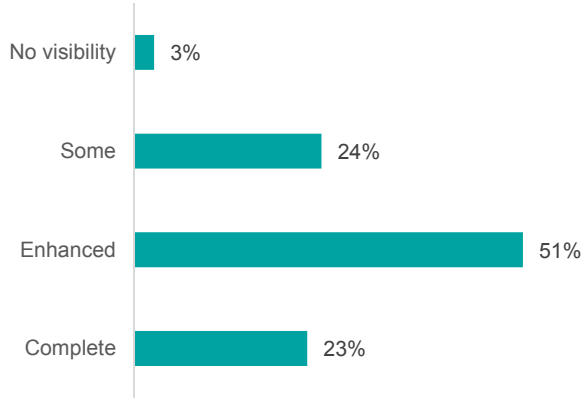
How likely do you view the chance of a disruption within your supply chain over the next 12 months?

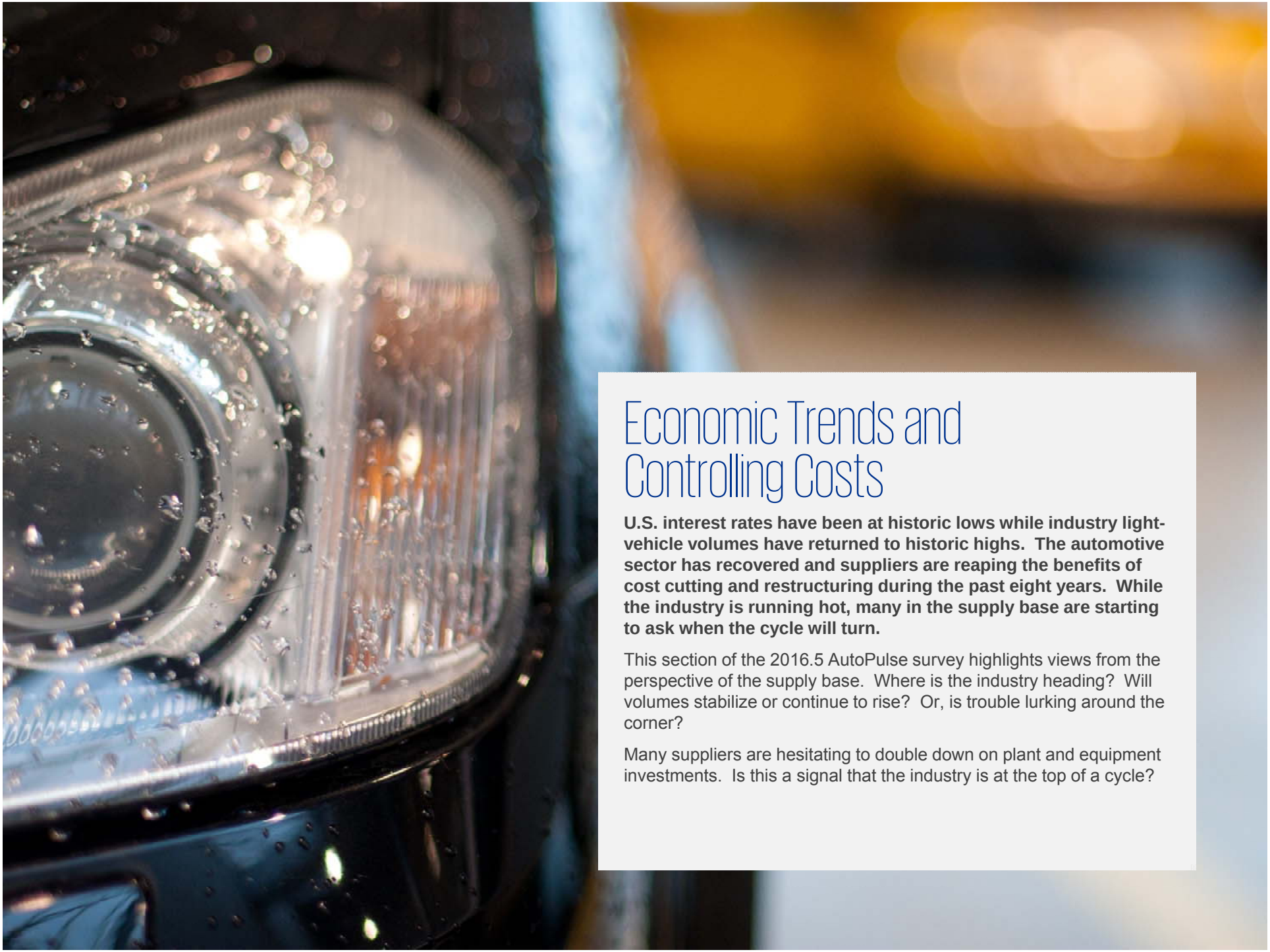


Which of the following systems, processes, or resources does your company have in place to manage supply risk?



Which of the following best describes your level of visibility into your supply base?





Economic Trends and Controlling Costs

U.S. interest rates have been at historic lows while industry light-vehicle volumes have returned to historic highs. The automotive sector has recovered and suppliers are reaping the benefits of cost cutting and restructuring during the past eight years. While the industry is running hot, many in the supply base are starting to ask when the cycle will turn.

This section of the 2016.5 AutoPulse survey highlights views from the perspective of the supply base. Where is the industry heading? Will volumes stabilize or continue to rise? Or, is trouble lurking around the corner?

Many suppliers are hesitating to double down on plant and equipment investments. Is this a signal that the industry is at the top of a cycle?

Trends and Outlook: Have We Peaked?

KPMG Viewpoint

The rising costs and investments required for OEMs to meet CAFE mandate compliance, and to develop cleaner, safer and autonomous features are the driving forces behind the expected trend of industry consolidation.

Smaller players may face difficulties keeping up with substantial investments in more efficient powertrains, development in and eventual shift to electric and alternative fuel technologies, as well as autonomous technologies. If capital costs remain low, the likelihood of consolidation of global players will remain high.

North American light vehicle sales are currently running at an annual rate of 17.3 million units in 2016. Which of the following best describes your view of the North American light vehicle sales outlook in 2017?

74% Respondents believe that the North American light vehicle sales outlook in 2017 will remain about the same as 2016

What is your view regarding the availability of corporate automotive credit in the next 12 months?

81% Respondents believe that the availability of corporate automotive credit in the next 12 months will be about the same

What is your view of US interest rates in the next 12 months?

53% vs 44% Respondents believe that U.S. interest rates will likely remain the same. 44% believe interest rates will likely to increase

In the past year, Fiat Chrysler CEO Sergio Marchionne has been touting the benefits of a merger with another automaker, saying industry consolidation is inevitable.

75% Respondents believe that there will be one or more major mergers of OEMs in the automotive space in the next five years

Controlling Costs - Where is the focus?

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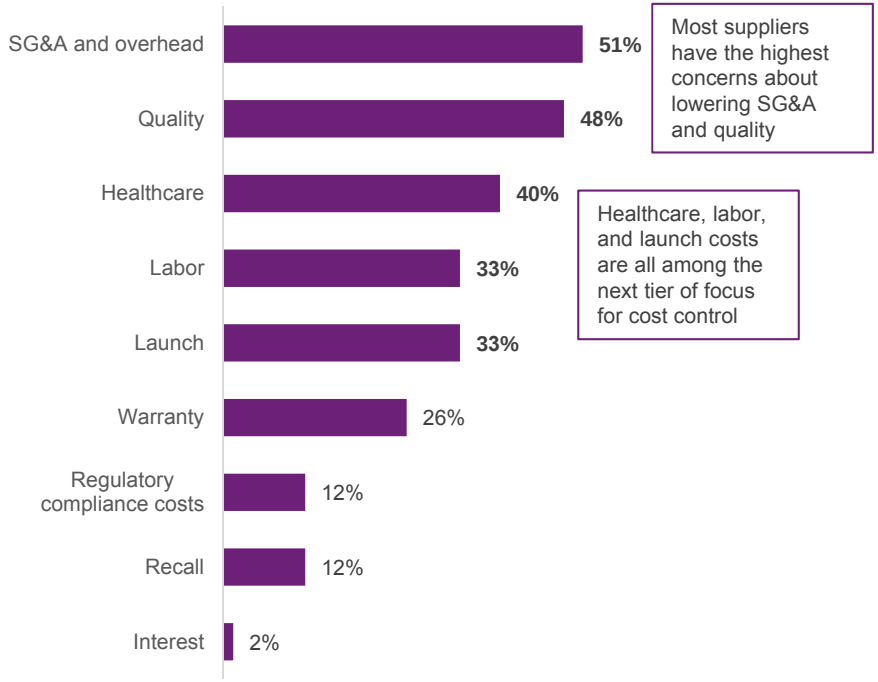
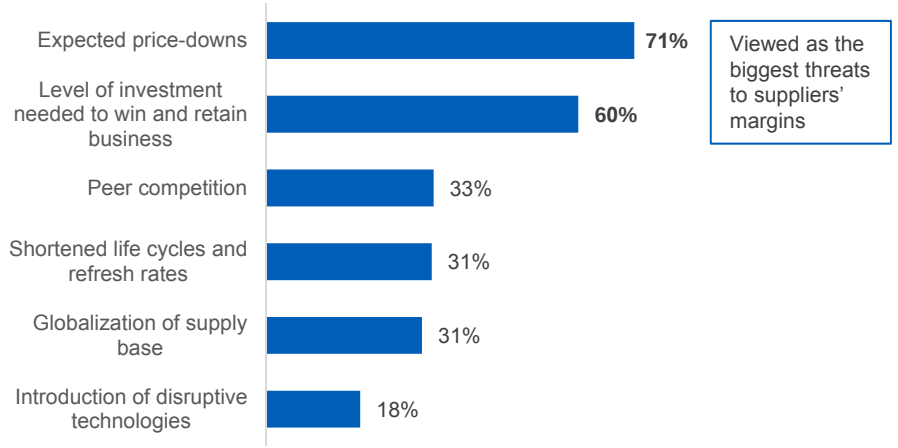
KPMG Viewpoint

The automotive industry requires heavy capital investment. Without a defensible technology or service, suppliers often face compressed margins due to heavy competition. For suppliers to compete, survive, and thrive in the automotive sector, they must be able to **develop market leading products and control costs with relentless focus**.

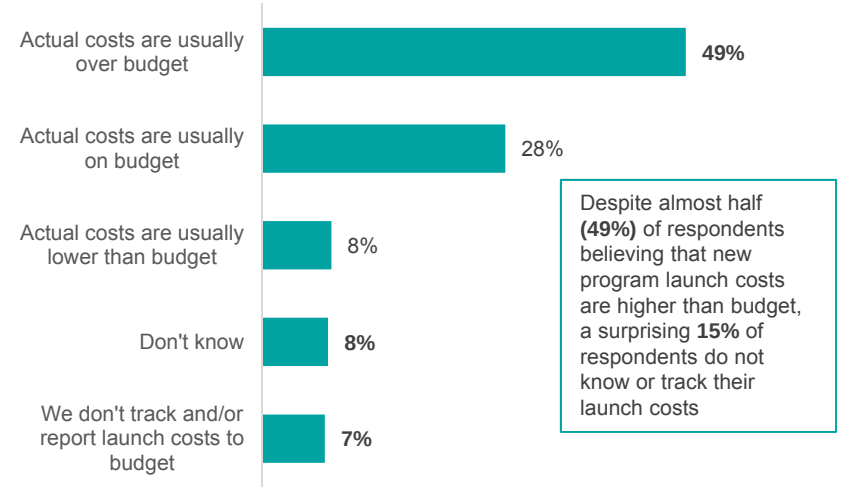
Which of the following costs is your company most concerned with lowering/controlling? (select top three)



Which of the following factors do you think pose the biggest threat to supplier profit margins? (select top three)



Which of the following most accurately describes your organization's management of new product program launch costs relative to budget?



Connectivity and Digitalization

Connected vehicles are on the road today and many believe connectivity will be a consumer requirement in the future. GM's OnStar platform allows for emergency assistance, concierge service and internet connectivity. Tesla is able to upload software to its vehicles and sees the automobile as a computer on wheels. Several OEMs have introduced or are introducing connected platforms as they see the power in managing occupant lifestyles and data.

KPMG's 2014 whitepaper "Me, My Car, My Life" highlighted how "the convergence of consumer and automotive technologies and the rise of mobility services are transforming the automotive industry and the way we live our lives."

KPMG further stated that, "The winning companies will be nimble, future oriented – and prepared to invest in new technologies, new talent, and new strategic alliances." With that said, the results of the 2016.5 AutoPulse survey suggest that much of the supply base is still viewing their business in a very traditional way.

Is the Supply Base *Connecting* the Dots?

Do current perceptions about the speed of technology adoption impact the supply base's views on investing in technology today? Or, do OEMs still hold the keys when it comes to connectivity?

Based on responses to questions relating to connectivity and digitalization of the automobile, it appears that although the vast majority of respondents work with products that interface with the occupants, the majority do not gather or analyze customer data. With only 16% of respondents saying that OEMs view them as innovators, it appears that the OEMs still hold the keys when it comes to critical connected vehicle technologies.

Connecting the dots of vehicle connectivity

36% of respondents produce interior components, 26% of respondents produce electrical architecture components and modules, 19% of respondents produce consumer-facing electrical components, and 12% of respondents produce vehicle software. With such a rich sample of suppliers that directly or indirectly interface with the occupants, why are only 43% of respondents actively producing, developing or investing in connectivity and digitalization technologies? Perhaps it is because many believe that the future is not as close as many tout. Perhaps it is because the OEMs are controlling the technology. Nonetheless, it begs the question, a decade from now, will many suppliers that aren't future-oriented wish they had connected the dots today?

50% Respondents do not believe a fully autonomous vehicle will be commercially available until at least ten years or more

69% Respondents' companies are not looking to acquire a start-up for its technological capabilities

63% Respondents' companies are not working with a start-up to commercialize a future technology

53% Respondents' companies do not produce or install sensors into their components

57% Respondents' companies do not gather or analyze customer data

57% Respondents' companies are not actively producing, developing or investing in connectivity and digitalization technologies

Global Views

The U.S. and China markets are the most attractive to the survey respondents both in terms of growth potential and expected return on capital. The South American market currently lags all other markets in terms of growth potential and return on capital.

The automotive industry is global in nature. However, that does not mean that all regions are created equally. Some are perceived winners and some losers. Each has their own challenges and risks.

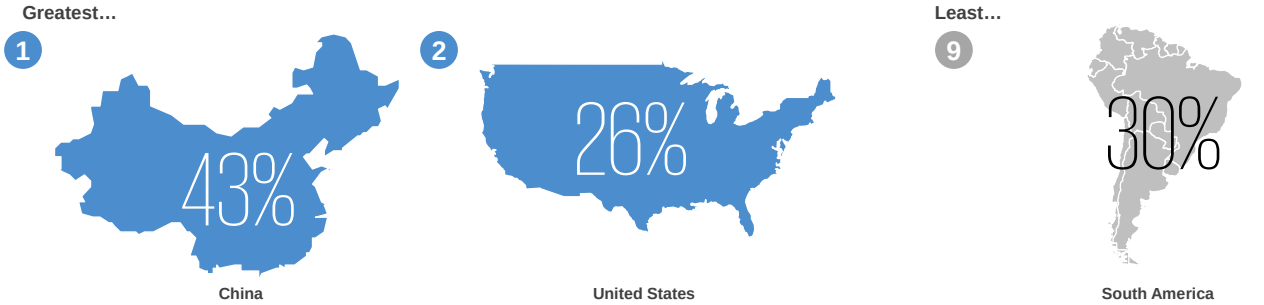
— The majority of respondents believe that the top three issues impacting their companies' non-U.S. operations are (1) currency and tax exposure, (2) legal and regulatory issues, and (3) talent availability.

— Respondents prioritize North American truck and SUV programs as the most coveted new vehicle programs, while the lowest priority programs are global luxury car and autonomous vehicle platforms. Global small car and global mid-size car programs fall in the middle.

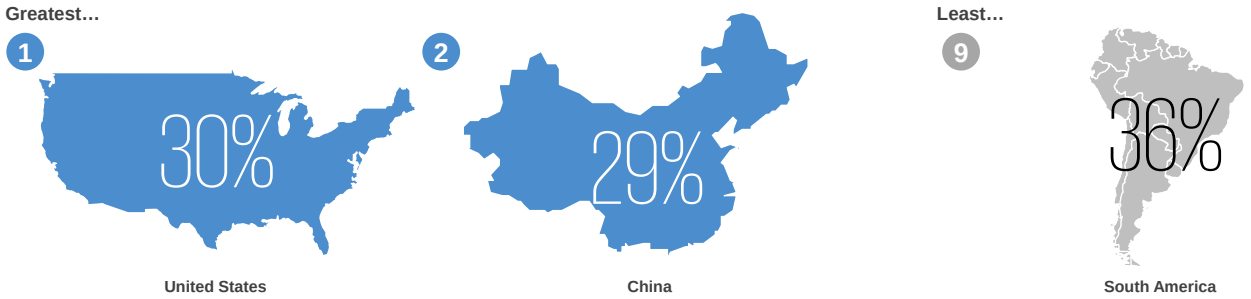
Regional Attractiveness

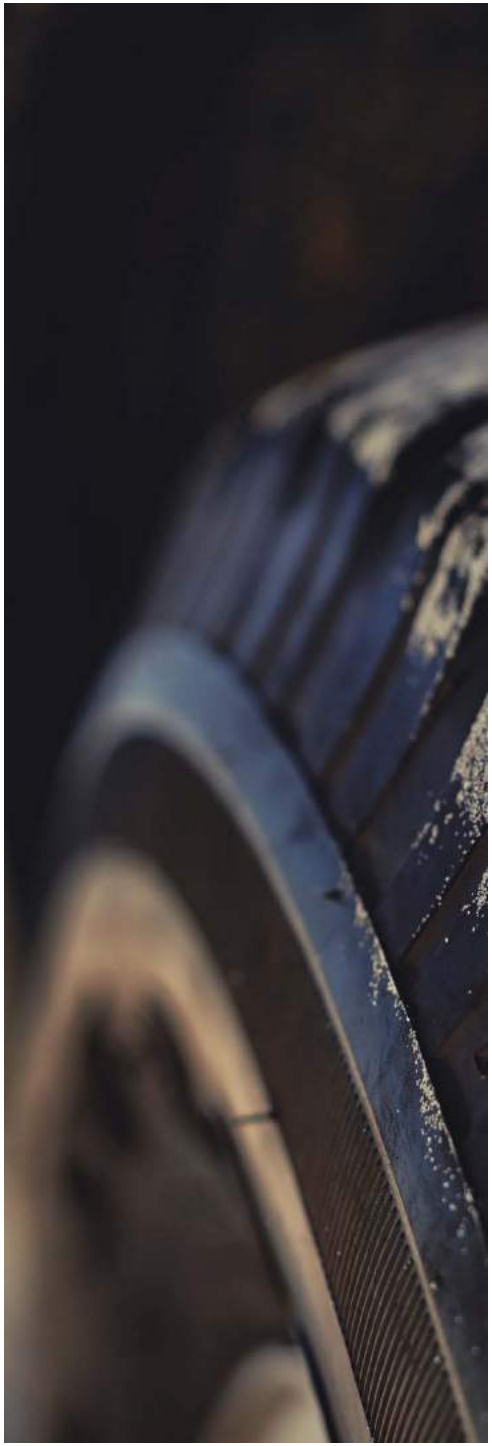
United States and China are the most attractive countries in the next ten years. Meanwhile, South America is the least attractive in terms of growth potential and return on invested capital as identified by the survey results.

Revenue Growth Potential in the Next Ten Years



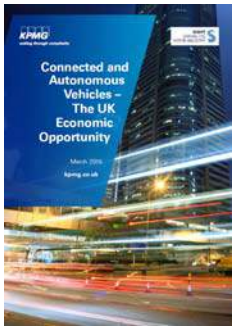
Expected Return on Invested Capital in the Next Ten Years



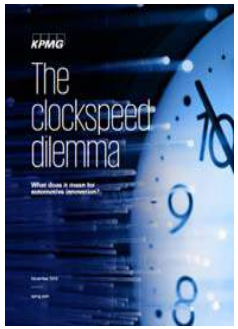


KPMG Global Automotive Thought Leadership

Connected and Autonomous Vehicles – The UK Economic Opportunity



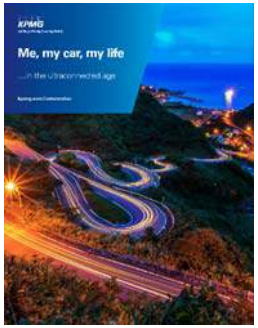
The Clockspeed Dilemma



The Future of the Car

Your Connected Car Is Talking. Who's Listening?

Me, My Car, My Life



Metalsmith or Grid Master

Global Automotive Executive Survey 2016

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Contact Us

KPMG LLP

Gary Silberg
The Americas Head of Automotive
KPMG LLP
200 E. Randolph Drive, Floor 55
Chicago, IL 60601
gsilberg@kpmg.com

William J. Wildern, IV
Managing Director, Deal Advisory
KPMG LLP
150 West Jefferson, Suite 1900
Detroit, MI 48226
wwildern@kpmg.com

Anthony Y. Lo
Senior Associate, Deal Advisory
KPMG LLP
150 West Jefferson, Suite 1900
Detroit, MI 48226
anthonyylo@kpmg.com

William G. Diehl
Managing Director, Deal Advisory
KPMG LLP
150 West Jefferson, Suite 1900
Detroit, MI 48226
wdiehl@kpmg.com

Jack Williams
Manager, Deal Advisory
KPMG LLP
150 West Jefferson, Suite 1900
Detroit, MI 48226
jackwilliams@kpmg.com

OESA

Julie A. Fream
President & CEO
OESA
25925 Telegraph Road, Suite 350
Southfield, MI 48033
jfream@oesa.org

Charlie Chesbrough
Executive Director, Strategy
OESA
25925 Telegraph Road, Suite 350
Southfield, MI 48033
cchesbrough@oesa.org

kpmg.com/automotive
kpmg.com/socialmedia

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