OESA AUTOMOTIVE SUPPLIER BAROMETER™ Q1 2021

PRODUCTION, PLANNING & ELECTRIFICATION

MARCH 2, 2021

Executive Summary

Supplier Barometer Index™ (SBI)

SBI Score = 62;

Down from Q4 level of 67

The outlook for the first quarter declined slightly from 4Q-2020 but remains at a very strong level as concerns related to the COVID-19 pandemic eased and demand remained strong. Supply disruptions due to semiconductor and raw material shortages present a new risk to the automotive supply base and is impacting firms of all sizes.

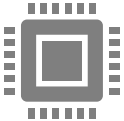
Continued issues related to the COVID-19 pandemic were identified as the biggest threat to the industry

Responses continue pointing towards the pandemic as the biggest risk to the industry but eased sequentially.

There is heightened concern over the ability to fulfill customer volumes as supply chains have been severely disrupted by shortages of semiconductors and raw materials.

Production breakeven level falls to 13.2m units:

Suppliers hold a buffer between production and an estimated breakeven point, with the gap widening compared to 2020.



The semiconductor shortage has had a negative impact on 69% of suppliers, mostly indirectly

Suppliers are experiencing increased costs, short and/or delayed shipments of inputs, delays in customer demand schedules and premium freight charges.

Consequently, the supply base has placed a 6.4% discount in production volume on average, with confidence to recoup lost volume in the second half of 2021 only just above neutral.

Executive Summary

The primary internal and external production issues are supply chain related

Increased costs from tight supplies of inputs in addition to freight surcharges is having a profoundly negative impact on suppliers meeting their required levels of production.

Labor related issues remain as absenteeism and short supply of skilled labor continues to put pressure on the supply base.

Inventories decreased in 2020

Over half of all suppliers reported decreased inventories compared to 2019 as COVID limited production in the first half while demand surged in the second half. However, it is important to note that a significant proportion indicated the reductions were strategic.

R&D spending is unchanged from last year; remaining at 4% of total sales

From the R&D budget, approximately one-quarter goes to research while three quarters is allocated to development. Advanced materials technologies continue as the top investment priority, however powertrain technology accounts for a very close second. Meanwhile, investment in ADAS and Autonomous technology development represents a lower priority versus other applications.

Despite economic and political uncertainty, suppliers feel very committed to R&D investment in the near-term.

Suppliers are already benefitting from the drive to a Battery Electric Vehicle future

Innovation is being driven by new customers and technologies despite potential concern over program profitability, changing the way suppliers do business

Suppliers expect it will still take 5-10 years for BEV production to reach 10% of global vehicle output

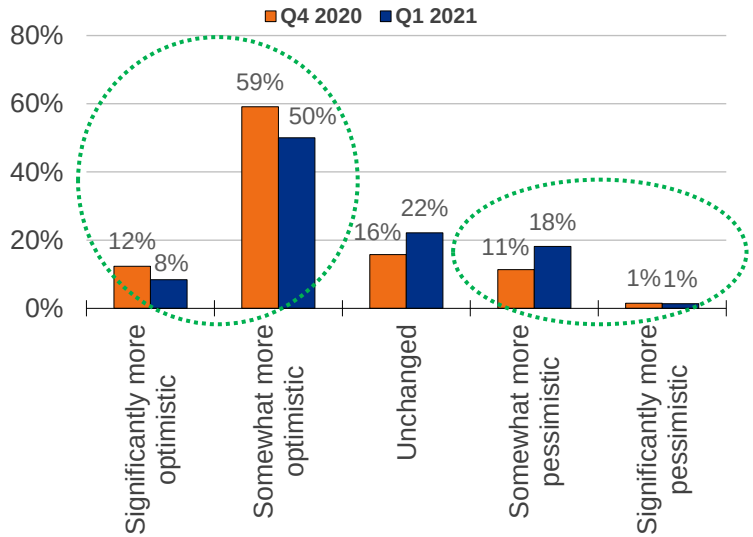
Regionally speaking, suppliers expect a 10% share of BEV production to occur first in China, followed by Europe, with North America taking an estimated 8 years to reach that threshold.

SUPPLIER OUTLOOK

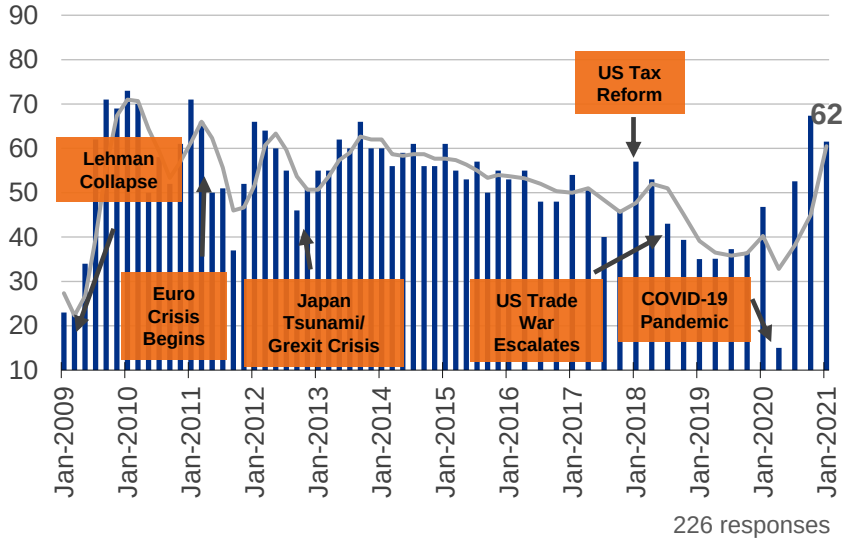
OESA Supplier Barometer: Q1 2021 Results

Describe the general twelve-month outlook for your business. Over the past three months, has your opinion become…?

Current Supplier Outlook (Share of Respondents)



Supplier Barometer Index: (SBI and 6m Average)

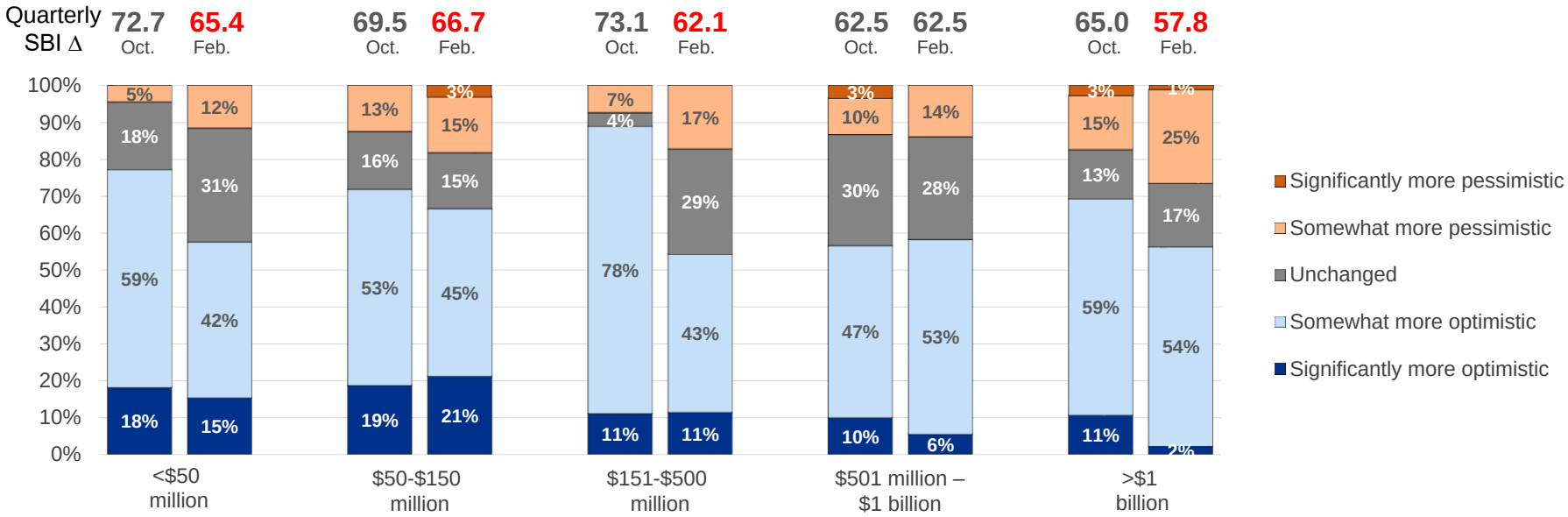


226 responses

The outlook for the first quarter declined slightly from prior quarter but remains at a very strong level. The proportion of respondents indicating a more pessimistic outlook rose 6 ppts. to 19 percent.

OESA Supplier Barometer: Q1 2021 Results By Revenue

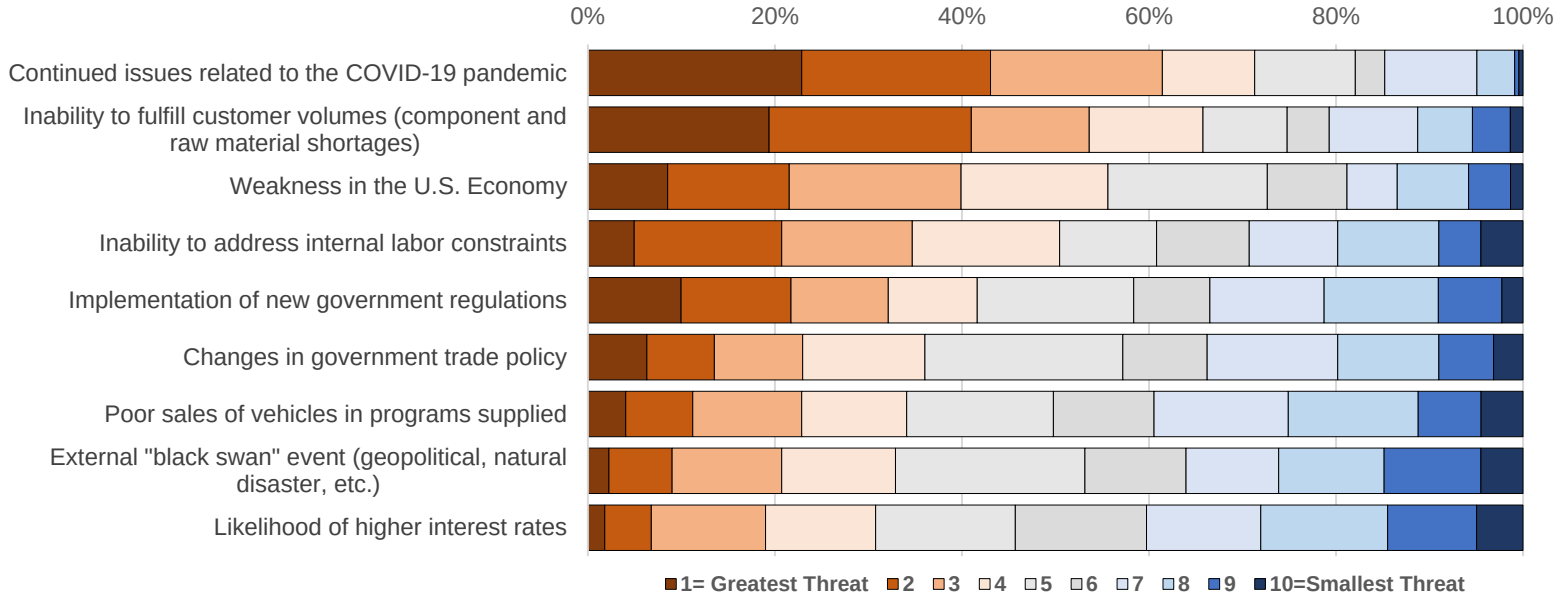
Describe the general twelve-month outlook for your business. Over the past three months, has your opinion become…?



Regardless of revenue size, responses are optimistic on net, however less so in comparison to the end of 2020. The largest, most globally exposed, firms remain the least optimistic on net.

OESA Supplier Barometer: Industry Threats

What are the greatest threats to the industry over the next 12 months?

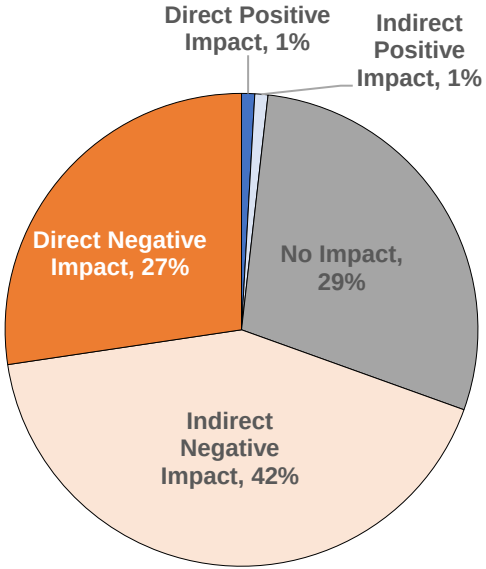


	Average Rating	
	Feb.	Oct.
Continued issues related to the COVID-19 pandemic	3.4	2.9
Inability to fulfill customer volumes (component and raw material shortages)	3.8	5.3
Weakness in the U.S. Economy	4.4	3.5
Inability to address internal labor constraints	4.9	4.6
Implementation of new government regulations	5.0	5.3
Changes in government trade policy	5.3	5.3
Poor sales of vehicles in programs supplied	5.6	4.5
External "black swan" event (geopolitical, natural disaster, etc.)	5.6	7.0
Likelihood of higher interest rates	5.8	6.7

Continued issues related to the pandemic remains as the greatest threat to the industry but eased sequentially. Inability to fulfill customer volumes due to input shortages shot to the second greatest threat the industry faces.

Semiconductor Shortages

Has your company been impacted by the current shortage of semiconductors?



How has your company been <u>positively</u> impacted by the current shortage of semiconductors?

Direct Positive Impact:

- One of parts could shut down an OEM if we do not get a solid plan from the tier 2 chip supplier
- Reduced releases due to the assembly plant stoppages.

Indirect Positive Impact:

- It is starting to relieve the struggle to keep up with OEMS. Allowing us to catch up with inventory.
- Our inability to supply masked by semiconductor shortage

How has your company been <u>negatively</u> impacted by the current shortage of semiconductors?

Direct Negative Impact (Selected Comments):

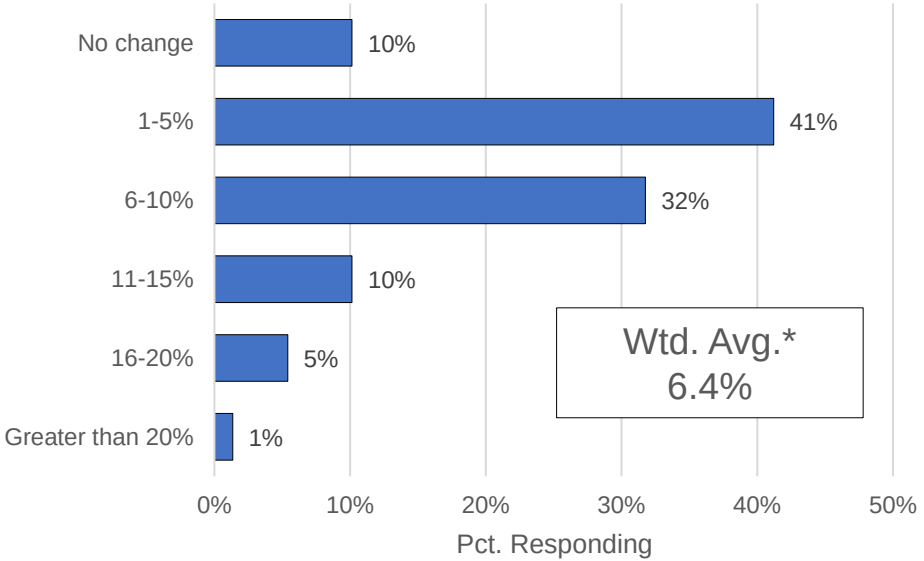
- Incurring expedited freight charges
- Sporadic shutdowns at a variety of OEMs have impacted revenue negatively
- Extraordinary costs
- Our electronics component suppliers are short shipping, causing us to short ship to our customers, also resulting in expediting costs
- Shortages in quantities coming from semiconductor suppliers and Automaker intervention by diverting to priority vehicles.

Indirect Negative Impact (Selected Comments):

- If vehicle builds are being delayed or affected downstream, that indirectly affects our demand or demand consistency from Tier 1 customers.
- Lost revenue due to assembly plant schedule changes.
- A drop in releases from our customers. Also, some issues with our own purchasing of semiconductors
- Volume reductions primarily in EU at this point

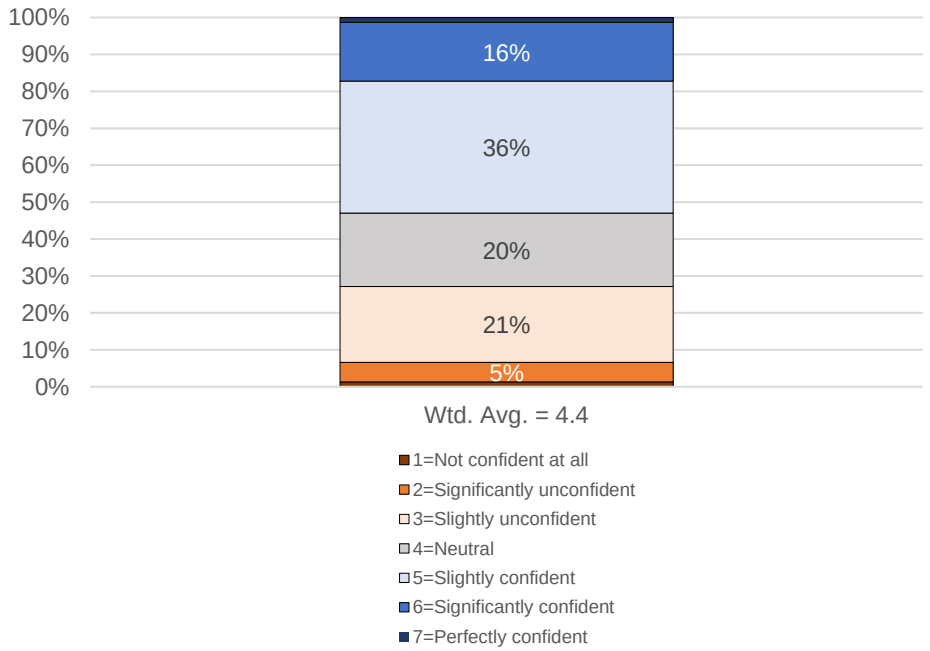
Semiconductor Shortages

Please estimate the North American production volume you are discounting in comparison to before the shortage was prevalent? (Respondents with negative impact)



* Assumes mid-point of each range,
Greater than 20% = 23%

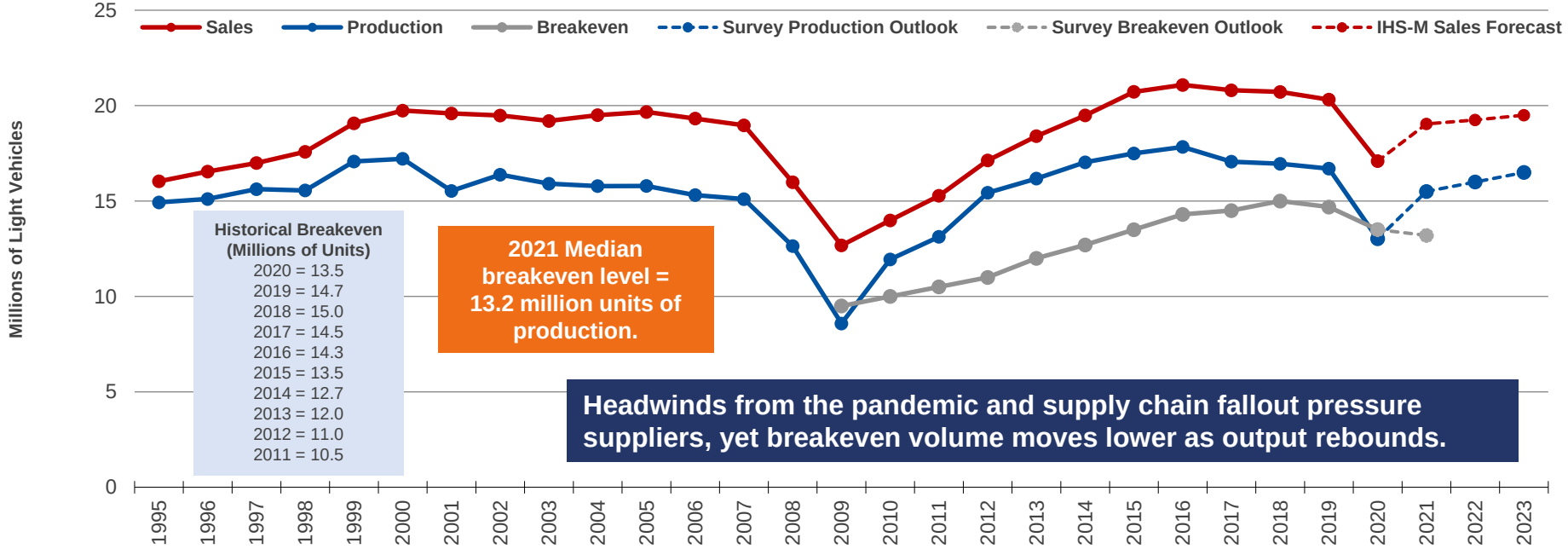
How confident are you that the industry will be able to recoup any North American production losses in the second half of 2021? (Respondents with negative impact)



PRODUCTION, PLANNING & ELECTRIFICATION

Production Planning: Breakeven and Year-End Estimates

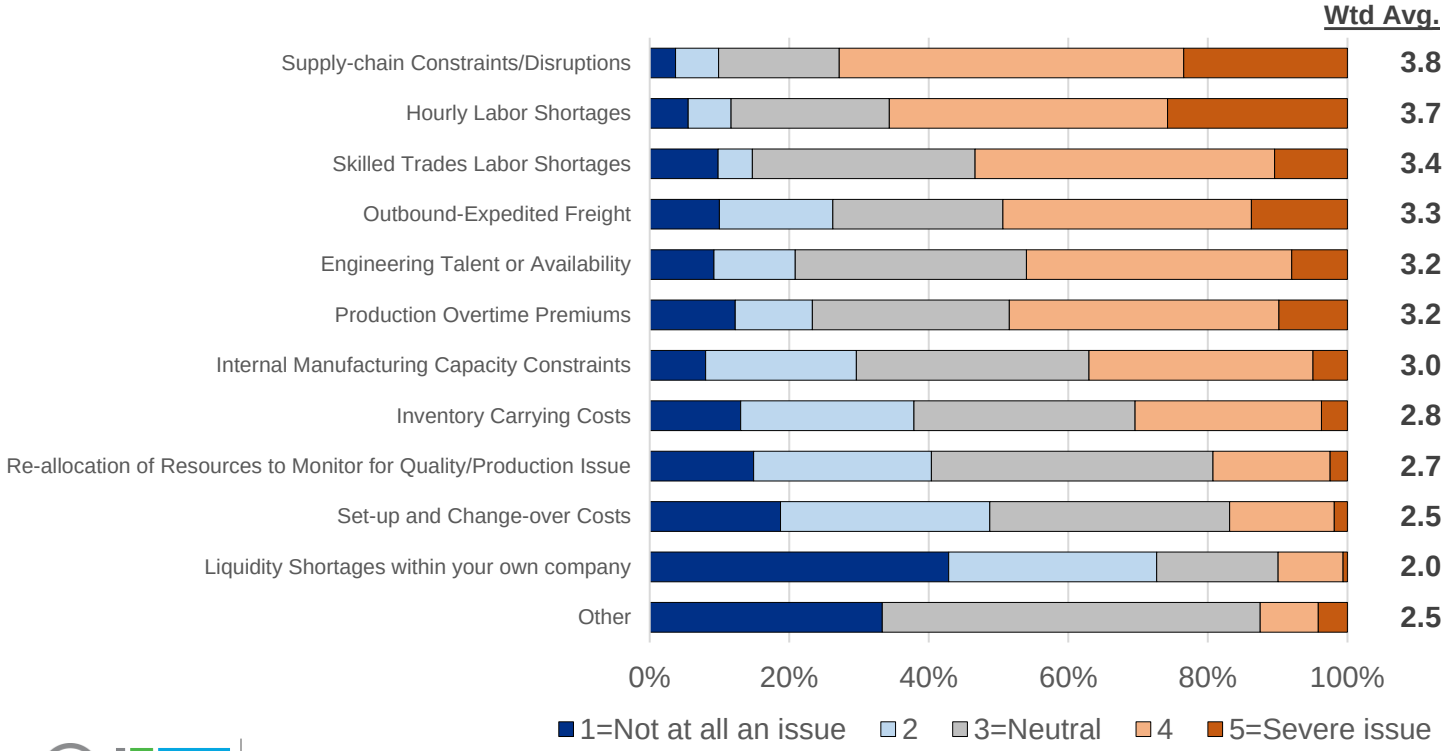
Considering North America light duty vehicle production, estimate the required 2020 industry volume needed to achieve breakeven in your North American operations?



Source: IHS Markit (History, Sales and Production); IHS Markit (Sales Forecast)

Production Planning: Internal Issues

Over the next 12 months, identify which of the following internal issues you will face as you meet required levels of production?

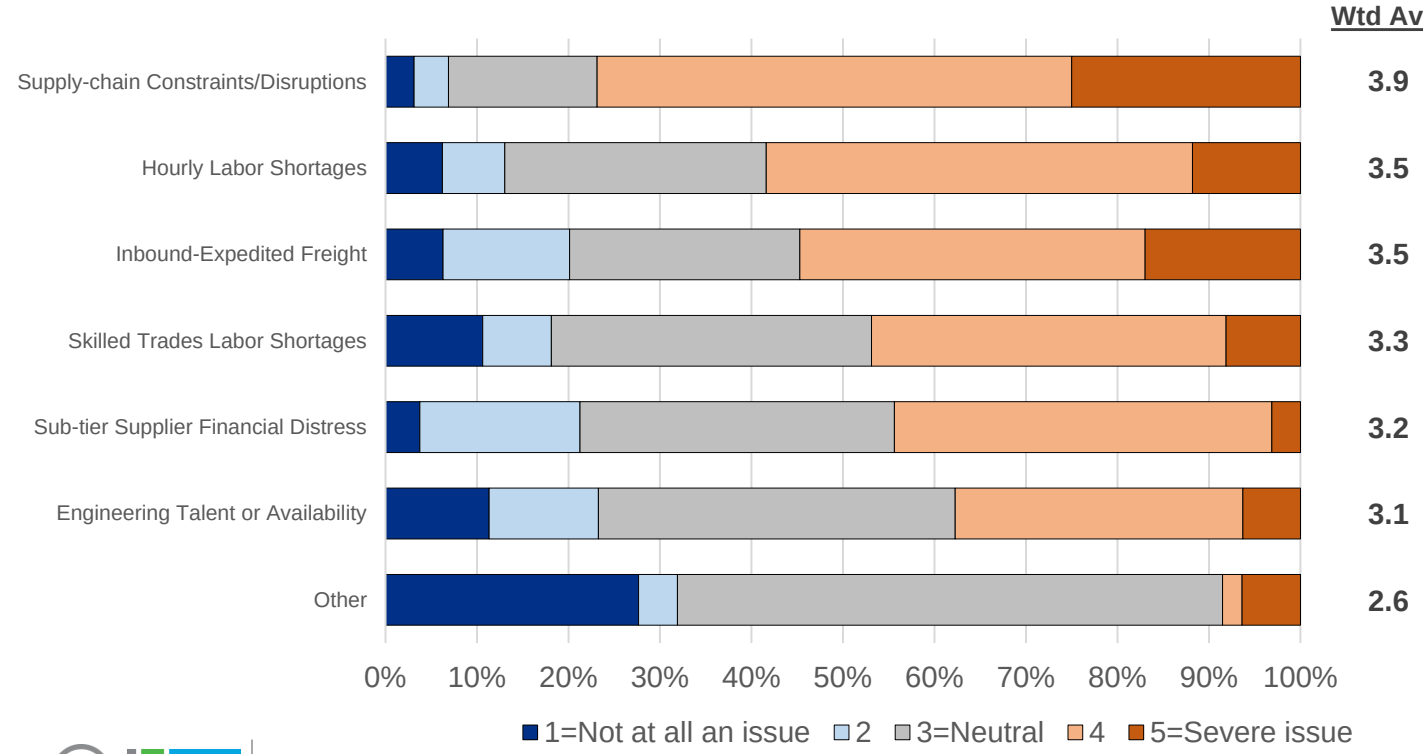


Other Issues and Comments:

- OEM's need to support the supply chain with firm raw material releases that go out beyond current forecast to ensure supply and reduce cost impacts.
- COVID
- Potential COVID labor Impact remains high risk
- Customer pressure on margins; price decreases, unwillingness to assist in issues related to Pandemic, etc.
- Variability in OEM order patterns that are constantly changing in mix so that they create additional overtime cost and excessive inventory carrying costs and in some cases obsolescence
- Labor turnover

Production Planning: External Issues

Over the next 12 months, identify which of the following external issues you will face as you meet required levels of production?

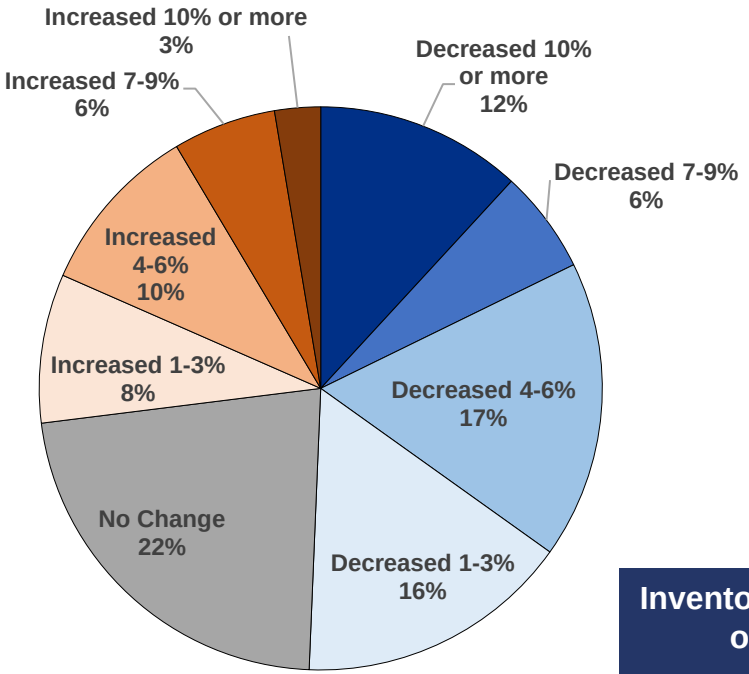


Other Issues and Comments:

- COVID mandates - Mexico in particular
- Inflation. Materials impacts.
- VISA constraints for foreign workers
- Raw Material prices and also the capability of our equipment suppliers to meet the new timing industry standards moving from 3 years to 12-18 months for full industrialization
- We have one supplier of a unique raw material that has constrained capacity so there will be shortages and relatively significantly affect us.

Production Planning: Finished Goods Inventory

Compared to average 2019 levels, how did your average 2020 finished goods inventory levels change?



Percent of suppliers with increased inventory…

Through CY:
2020 = 27%
2019 = 42%
2018 = 48%
2017 = 32%
2016 = 38%
2015 = 34%
2013 = 51%

Comments:

Decreased
- Inventory strategy (15)
- Component/material shortages/delays (7)
- Decrease in demand/COVID Shutdown (6)
- High production demand (4)
- Labor shortages (2)

Unchanged
- We intentionally increased the inventories before the shutdown to protect our customers, after the shutdown we reduced below the norm to support our financials, and at the end we came back to our standards

Increased
- Slow down of demand not aligned to incoming material
- Managing workforce
- Very volatile throughout the year
- New customer
- Extra inventory to protect against COVID outbreak in the plant
- Volume reduction
- Sales growth
- Increased cost of raw materials
- Less demand but need to keep availability
- OEM production changes

Inventories decreased on net across the supply, with the percentage of suppliers reporting an increase down 15 ppts. to 42%, as demand surged late in 2020

Production Planning: Research & Development Spending

For 2021, estimate your R&D spending as a percent of total sales.

	Lower Quartile	Median Value	Upper Quartile
R&D Share of Total Sales			
2021	**2%**	**4%**	**6%**
2020	2%	4%	7%
2019	2%	4%	6%
2018	3%	4%	5%
2017	2%	4%	6%
2015	2%	3%	5%
2014	2%	3%	5%

R&D Spending is essentially unchanged from last year, at ~ 4% of total sales. Approximately 75% of the R&D budget is allocated towards the development of specific programs, while 25% is allocated to researching future technologies, equal to last year.

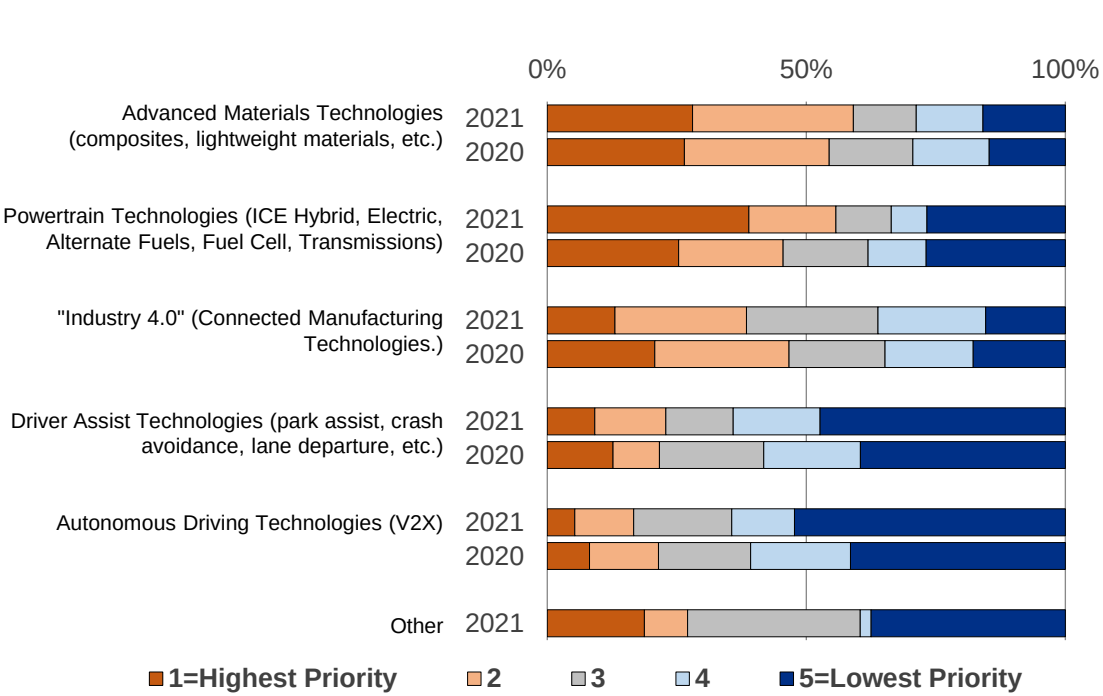
For 2021 R&D budget, estimate the percent allocated to research and percent allocated to development.

	Lower Quartile	Median Value	Upper Quartile
Research budget (for future technologies)			
2021	**20%**	**25%**	**38%**
2020	10%	25%	40%
2019	10%	20%	30%
2018	20%	32%	44%
2017	10%	20%	40%
2015	20%	30%	50%

	Lower Quartile	Median Value	Upper Quartile
Development budget (for specific programs)			
2021	**63%**	**75%**	**80%**
2020	60%	78%	90%
2019	70%	80%	90%
2018	50%	67%	80%
2017	58%	75%	85%
2015	35%	67%	80%

Research & Development Technology Investments

If you had additional dollars for R&D investment, rating in terms of importance, how would you allocate it across the following technology areas?



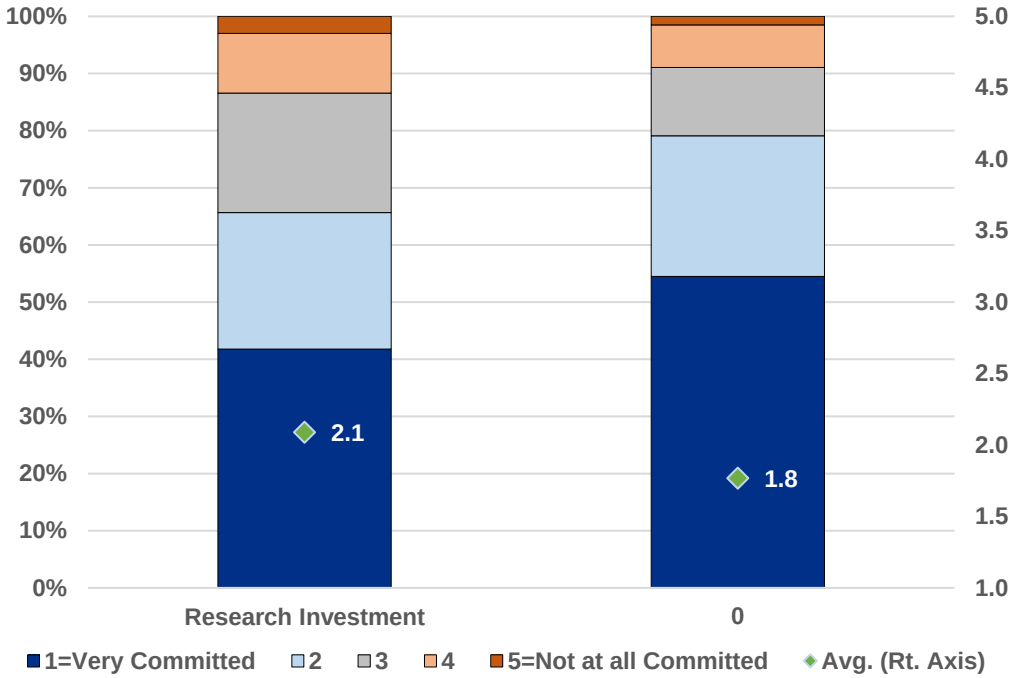
	2021 Average	2020 Average
Advanced Materials Technologies (composites, lightweight materials, etc.)	2.6	2.6
Powertrain Technologies (ICE Hybrid, Electric, Alternate Fuels, Fuel Cell, Transmissions)	2.7	2.9
"Industry 4.0" (Connected Manufacturing Technologies.)	3.0	2.9
Driver Assist Technologies (park assist, crash avoidance, lane departure, etc.)	3.8	3.6
Autonomous Driving Technologies (V2X)	3.9	3.7
Other	3.3	3.5

Advanced material technologies continue as the highest investment priority, yet powertrain technologies are close second.

ADAS & Autonomous technologies remain vital, yet priority has slipped vs. others.

Research & Development Technology Investments

How committed is your organization to its R&D spending over a 2-3 year time horizon in the face of economic uncertainty?

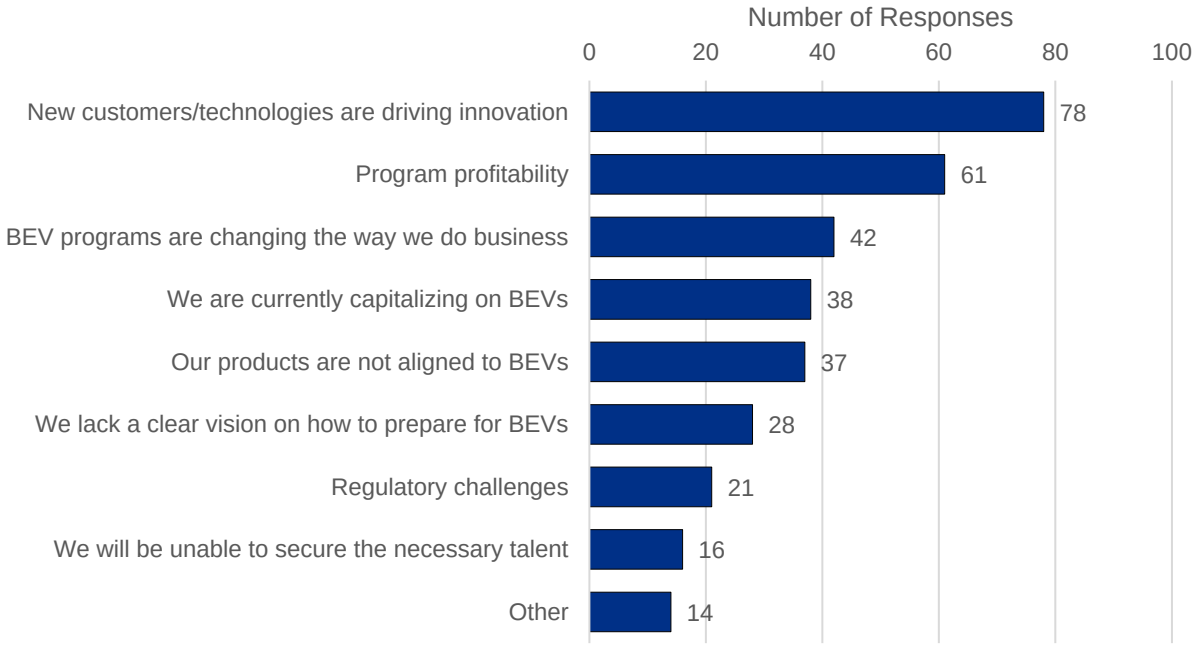


Comments:

- As 5G, CV2X, BEV and AV technologies progress, will see an increased amount of R&D over the next 3 years.
- Developing and executing new technologies is focus
- Staying the course for next few years as new products are required
- Was and will always be high
- We are committed to spend it, the problem is to engage our customers or find partners

Electrification: Risks and Opportunities

What are your biggest challenges/opportunities as the industry prepares for a Battery Electric Vehicle (BEV) future?

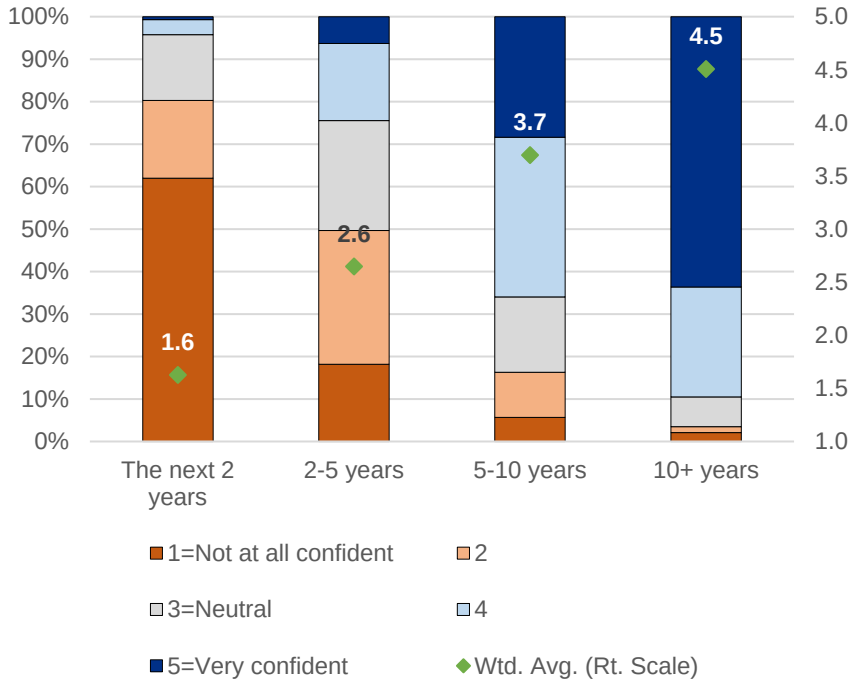


Other Issues and Comments:

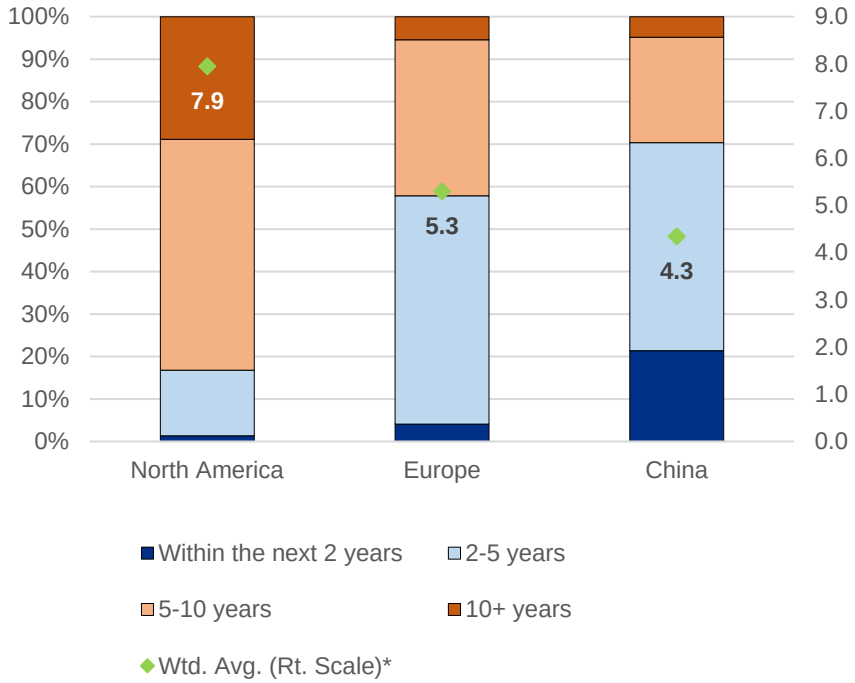
- This does not affect my business
- New BEV Customers
- Capital requirements for lower volume platforms
- Developing the right products
- Consumer sales will determine profitability. Unclear what the consumers are going to accept in terms of range, cost, and time to charge
- Timing of the programs
- Operation model from OEM's
- How to coexist ICE and BEV, uncertainty volumes, long ramp ups, long phase outs
- Low initial volumes
- Transition period from ICE to BEV products and manufacturing
- Across buyer platform knowledge that current suppliers can also supply parts needed in other platforms - cross platform buyer shared information continues to be void
- Volume volatility in OEM estimates for these programs
- Understanding how our products fit in and what the OEM will pay.

Electrification: Supplier Outlook

How confident are you that global BEV production will reach a substantial portion (10% of total production) within...



How confident are you that global BEV production will reach a substantial portion (10% of total production) within...



* Assumes mid-point of each range,
Greater than 10 Years = 11.5 Years

Appendix

Join. Engage. Advance.

OESA Automotive Supplier Barometer is a survey of the top executives of OESA regular member companies. The OESA Automotive Supplier Barometer takes the pulse of the suppliers' twelve month business sentiment. In addition, it provides a snapshot of the industry commercial issues, business environment and business strategies that influence the supplier industry. www.oesa.org.

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Survey Methodology

- Data collected Jan. 27 – Feb. 9 via invitation to online survey.
- Executives of OESA supplier companies.
- 158 complete survey responses were received, with 226 responses total.

The information and opinions contained in this report are for general information purposes. Comments are edited only for spelling and may contain grammatical errors due to their verbatim nature. Responses to this survey are confidential. Therefore, only aggregated results will be reported and individual responses will not be released or shared.

Antitrust Statement:
Respondents/participants should not contact competitors to discuss responses, or to discuss the issues dealt with in the survey. It is an absolute imperative to consult legal counsel about any contacts with competitors. All pricing and other terms of sale decisions and negotiating strategies should be handled on an individual company basis.

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