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OESA AUTOMOTIVE SUPPLIER BAROMETER

Q1 2019

PRODUCTION AND
PLANNING

Executive Summary



Supplier Barometer Index (SBI)

SBI Score = 35;

down from Q4 level of 39

Pessimism has soared across all revenue groups due to continued trade tensions and poor sales performance, sending the SBI 15 points below the neutral threshold of 50 to the lowest level since 2009. Pessimism was felt across firms of all sizes but was especially dismal for companies with revenue greater than \$1 billion



Trade policy is identified as the greatest industry threat, followed closely by poor vehicle sales.

Trade policy remains the greatest industry threat, but improved slightly from Q4 2018

Poor sales of programs supplied was identified as the second largest threat to the industry



Production Breakeven Level Falls To 14.7m Units:

Suppliers hold a buffer between production and an estimated breakeven point, yet the gap continues to tighten



The median 'all-in' capacity utilization rate fell to 80% with the range of responses widening a bit compared to last year.

Over the past 6 years, there has been an estimated 5% rise in the median utilization rate.



Suppliers running over 90% utilization are taking the following actions to balance production requirements.

- New Capital Investment
- Production Scheduling Changes
- Expanding Operations
- Outsourcing
- Automation

Executive Summary



The primary internal production issue is a shortage of skilled labor

Engineering talent and availability improved compared to a year ago, but follows the shortage of skilled labor closely

Production overtime premiums and inventory carrying costs worsened compared to last year, while internal manufacturing constraints improved



Material cost premiums continue to be the primary sub-tier issue impacting suppliers' abilities to meet production requirements

Shortages of components and raw materials effected more of the supply base in comparison to last year, while liquidity shortages of sub-tier suppliers picked up



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

From the R&D budget, approximately one-fifth goes to research while four-fifths is allocated to development. Advanced material technologies remains the top priority for investments

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



Suppliers are confident in their customers production releases are aligned to their sales and inventory requirements overall

Uncertainty is most apparent in programs to support car production as well as programs that support HEV/PHEV and BEV production

Suppliers are generally deflating their releases down through their supply chain more frequently compared to last year



Inventories increased in 2018

Nearly half of all suppliers reported increased inventories compared to last year on sales/forecast misses and value based inventory gains

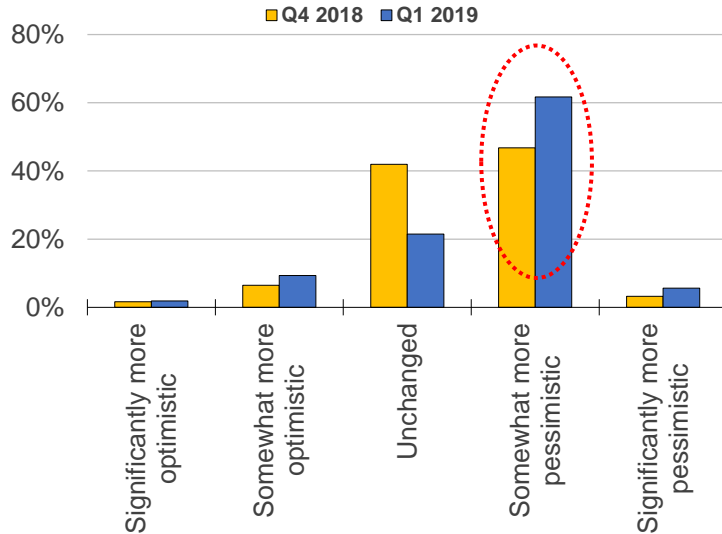


SUPPLIER OUTLOOK

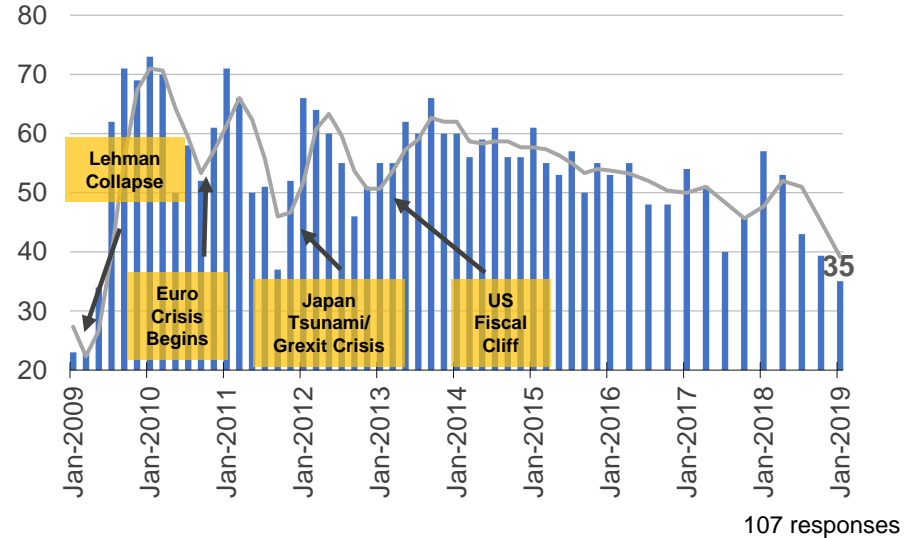
OESA Supplier Barometer: Q1 2019 Results

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

Current Supplier Outlook (Share of Respondents)



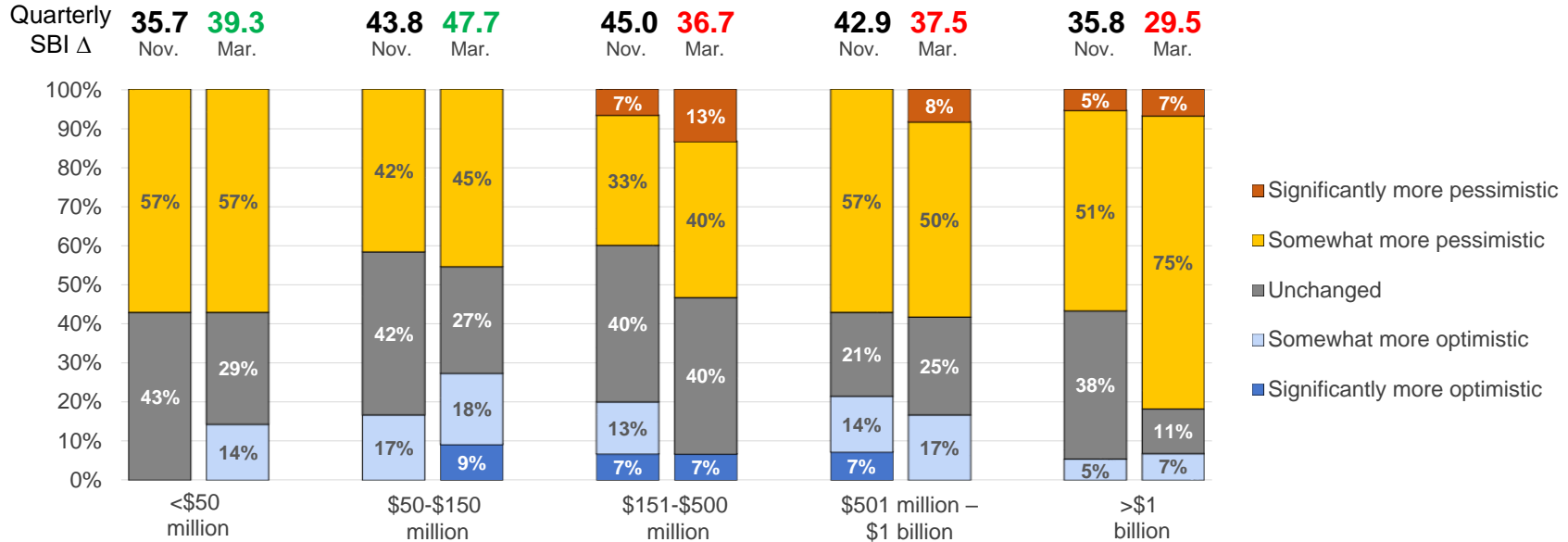
Supplier Barometer Index: (SBI and 6m Average)



Continued concerns over tariffs and trade policy pulled down the Q1 2019 OESA Supplier Barometer Index (SBI) by four points to 35, the lowest level since 2009.

OESA Supplier Barometer: Q1 2019 Results By Revenue

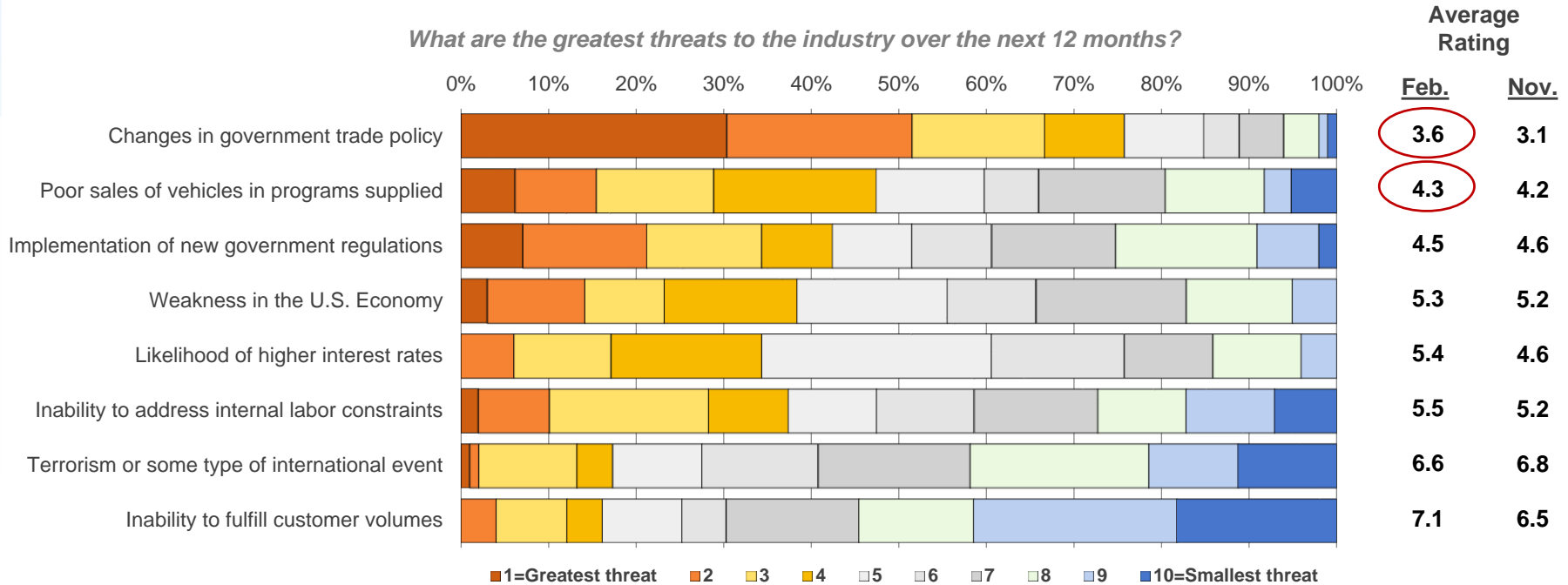
Describe the general twelve month outlook for your business. Over the past three months, has your opinion become..?



Regardless of revenue size, responses continue to reflect a high level of pessimism over Q4 2018. Sharply lower optimism is evident within the largest suppliers compared to prior quarter.

OESA Supplier Barometer: Industry Threats

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



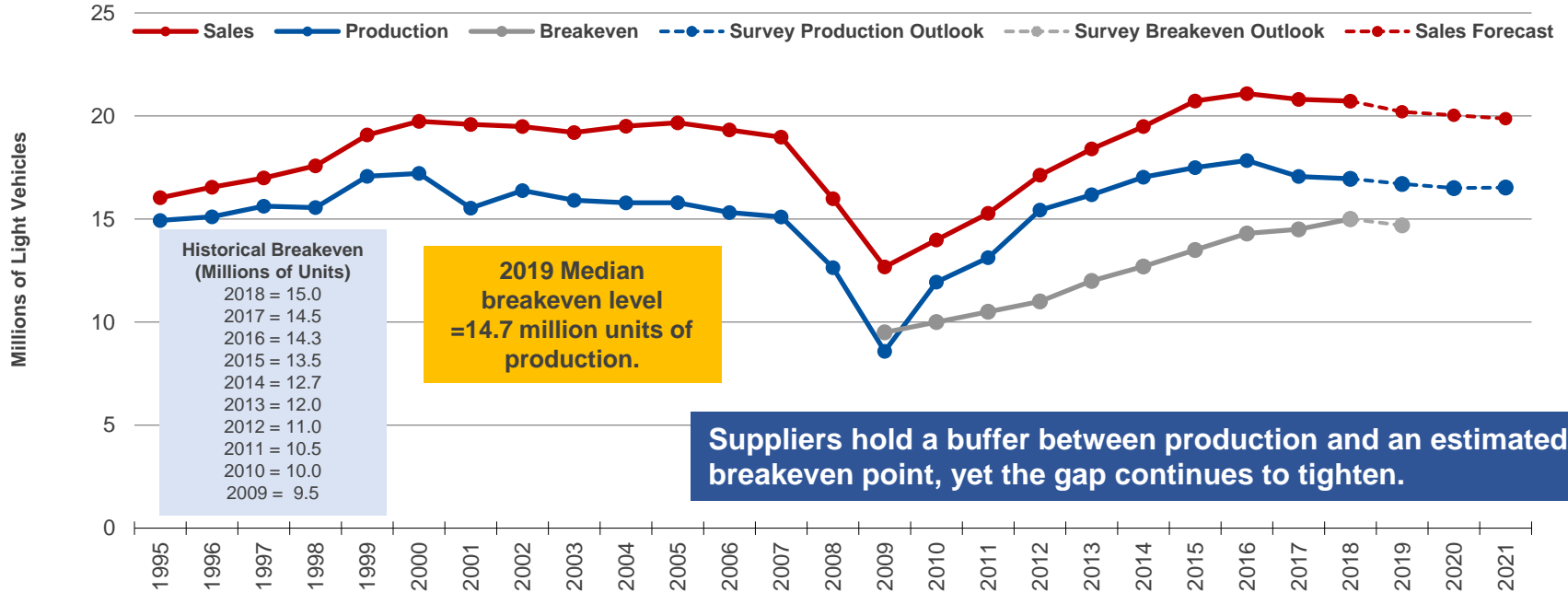
Trade policy remains the greatest industry threat, at 3.6 in the first quarter, but improved slightly from Q4 2018
 Poor sales of programs supplied was identified as the second largest threat at 4.3



PRODUCTION AND PLANNING

Production Planning: Breakeven and Year-End Estimates

Considering North America light duty vehicle production, estimate the required 2019 industry volume needed to achieve breakeven in your North American operations?



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

Production Planning: Capacity Utilization

Please estimate your 'all-in' capacity utilization levels (in percent)

'All-in' capacity is the total of your current capacity utilization (current workforce levels and operating plant and equipment assuming 270 working days and 3 shifts) plus warm-idled capacity (idled capacity but being able to ramp up production within 3 months with minor capital needed) plus cold-idled capacity (idled but being able to ramp up production after 3 months with moderate levels of capital required).

January 2019		
Lower Quartile Value	Median Value	Upper Quartile Value
70%	80%	87%

The median 'all-in' capacity utilization rate fell to 80% with the range of responses widening marginally compared to last year.

Supplier efforts if over 90% capacity utilization:
21% of responding suppliers

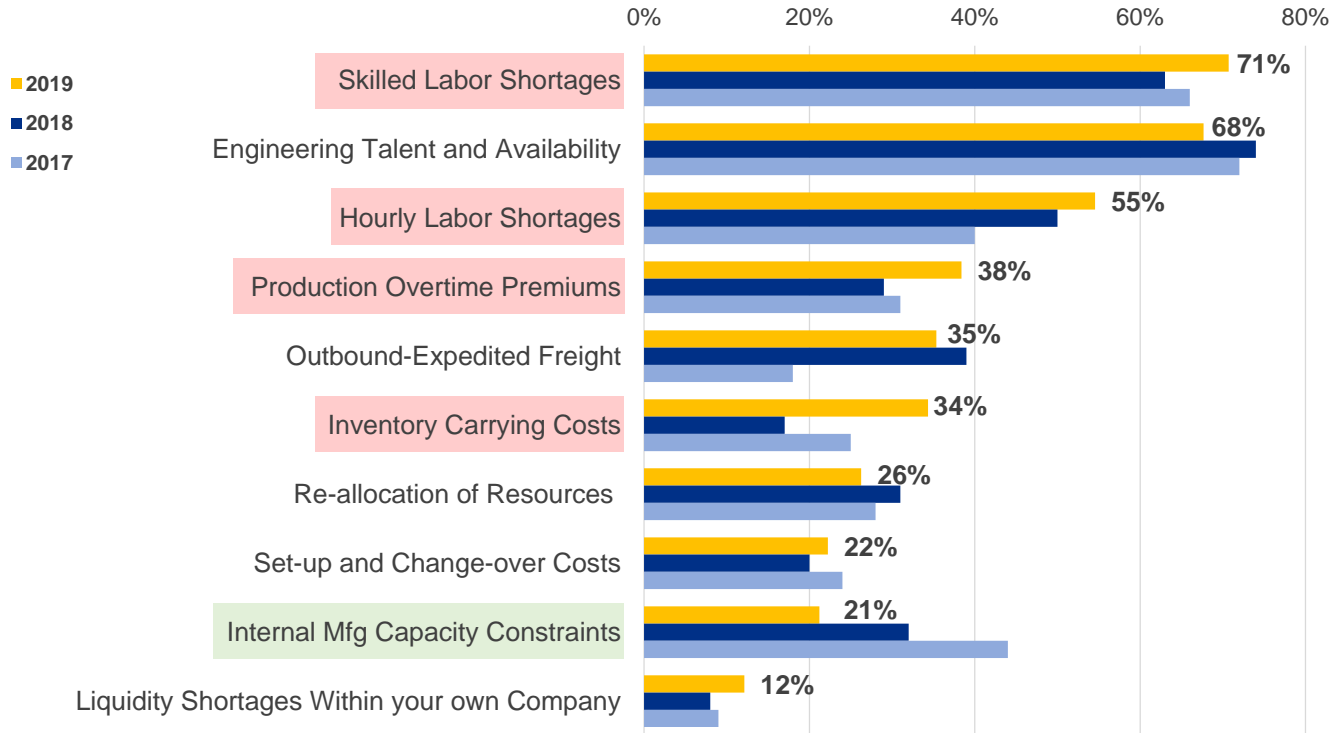
- New Capital Investment (5)
- Production Scheduling Changes (4)
- Expanding Operations (3)
- Outsourcing (2)
- Automation

January 2018			January 2017			January 2016		
Lower Quartile Value	Median Value	Upper Quartile Value	Lower Quartile Value	Median Value	Upper Quartile Value	Lower Quartile Value	Median Value	Upper Quartile Value
75%	85%	87%	74%	85%	90%	75%	85%	90%

January 2015			May 2014			May 2013		
Lower Quartile Value	Median Value	Upper Quartile Value	Lower Quartile Value	Median Value	Upper Quartile Value	Lower Quartile Value	Median Value	Upper Quartile Value
66%	80%	86%	70%	80%	90%	65%	75%	85%

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 (6% Yes)

- We see many of our customers leaving the business. The people buying them tend to be clueless. A lot of talented people are looking to leave.
- EBIT
- New requirements for cyber security and functional safety
- Expansions into other countries is still a big push so we are "prepared" to support the next wave of programs, but very few programs to support current activities are increasing risk levels.
- Negotiations with customers for tariff relief

Production Planning: Internal Issues

What steps are you taking at your firm to address the issues identified?

Engineering Talent/Availability

- 
- Training and development (6)
 - Outsourcing (4)
 - Targeting recent graduates (3)
 - Increasing salaries and benefits (3)
 - Using consultants (2)
 - Internships, co-ops, and apprenticeships (2)
 - Marketing (2)

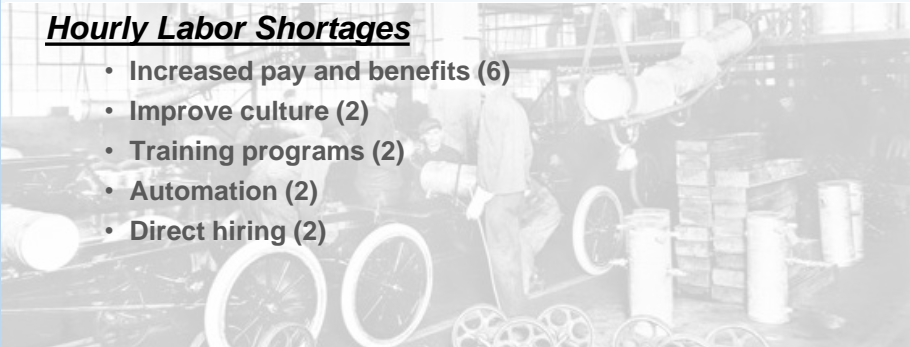
Production Overtime Premiums

- Efficiency improvements (3)
- Expansion (2)
- Additional hiring
- Temporary employees
- Driven by labor shortage

Skilled Labor Shortages

- Internal employee development (8)
- Increasing salaries and benefits (4)
- Internships, co-ops, and apprenticeships (4)
- Targeting recent graduates/Young Talent (3)
- Trade school/community college collaboration (2)

Hourly Labor Shortages

- 
- Increased pay and benefits (6)
 - Improve culture (2)
 - Training programs (2)
 - Automation (2)
 - Direct hiring (2)

Production Planning: Internal Issues

What steps are you taking at your firm to address the issues identified?

Inventory Carrying Costs

- Tight inventory controls (4)
- Slower orders driving inventories higher (2)
- Managing tariff impact (2)

Re-allocation of Resources - Quality/Production

- Improving plant independence
- Minor issue
- Reflected in pricing
- Redesign work process

Set-up and Change-Over Costs

- SMED (2)
- Driving inefficiencies
- Kaizen events, customer/product line streamlining
- Training

Internal Manufacturing Capacity Constraints

- Adding capacity (2)
- Adding equipment (2)
- Utilization improvements
- Program delays

Outbound-Expedited Freight

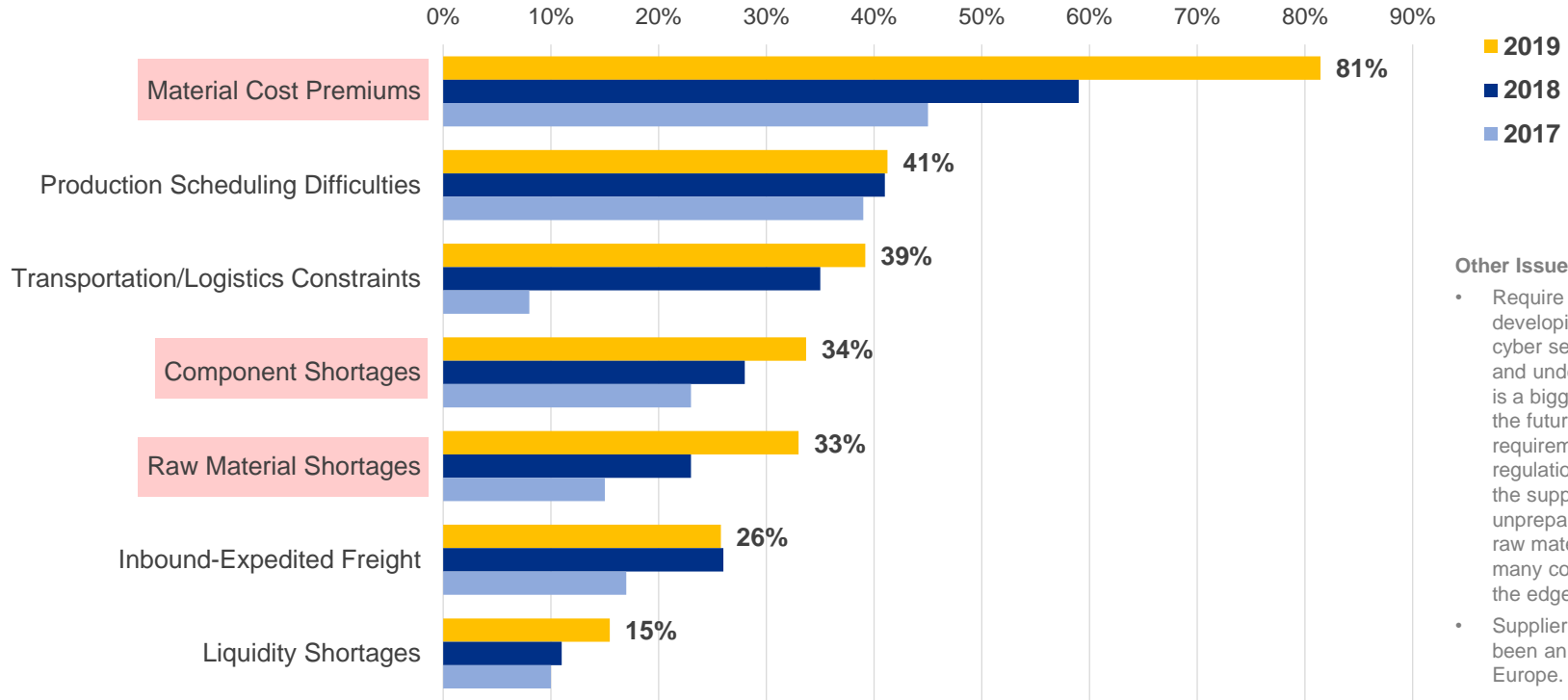
- Efficiency improvements (4)
- Driven by labor shortages (2)
- Utilize a 3PL provider

Liquidity Shortages Within Your Own Company

- Driven by customers (3)
- Delaying payments
- Capital expense reductions and cash flow management
- Working through defined process

Production Planning: Sub-Tier

Over the next 12 months, identify which of the following issues your sub-tier suppliers will face as you meet required levels of production?



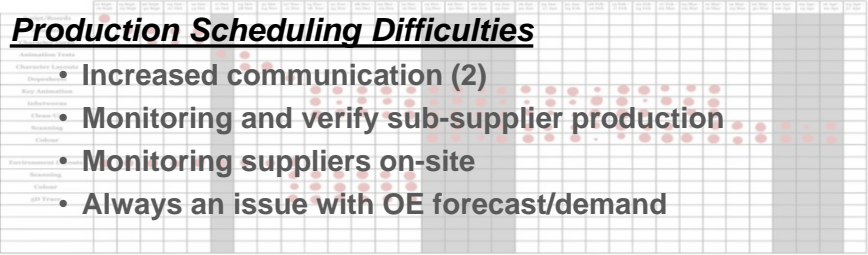
Other Issues (4% Yes)

- Require much help in developing reasonable cyber security processes and understanding. This is a bigger challenge in the future when new requirements and regulations surface and the supply chain is unprepared. Commodity raw material pricing on many commodities is on the edge to increase.
- Supplier bankruptcy has been an issue for us in Europe.

Production Planning: Sub-Tier

What steps are you taking at your firm to address the issues identified?


Production Scheduling Difficulties

- 
- Increased communication (2)
 - Monitoring and verify sub-supplier production
 - Monitoring suppliers on-site
 - Always an issue with OE forecast/demand

Transportation/Logistics Constraints

- Driver shortages (3)
- Slowing demand relief for logistics
- Customers requesting DDP terms

Component and Raw Material Shortages

- 
- Electrical components (3)
 - Resourcing (3)
 - Chemicals (2)
 - Chargebacks to supplier

Material Cost Premiums

- Resourcing (6)
- Tariff impacts (4)
- Renegotiate with customers (4)
- Renegotiate with suppliers (2)

Inbound-Expedited Freight

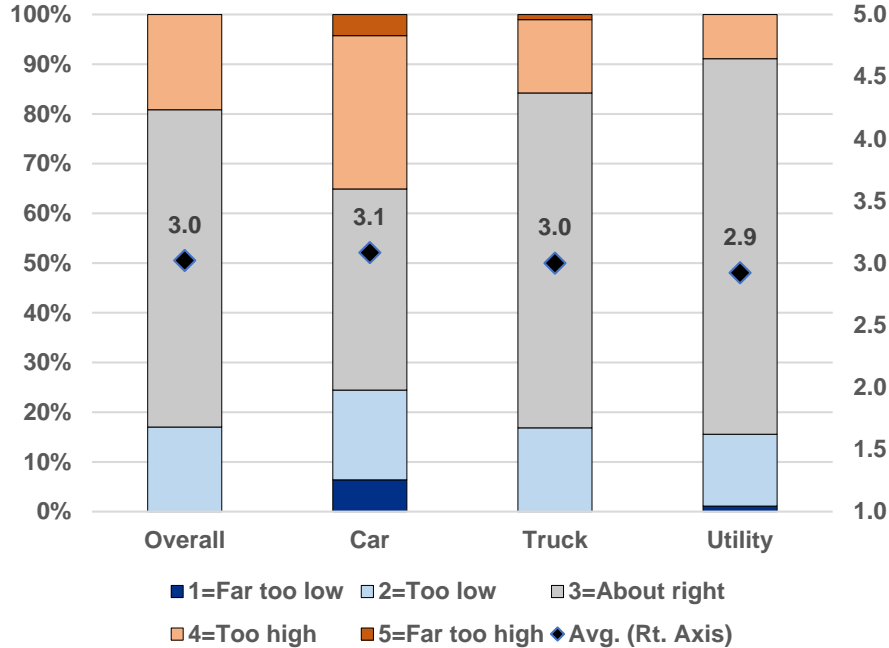
- 
- Resourcing
 - Linked to component shortages

Liquidity Shortages Within Your Supply Base

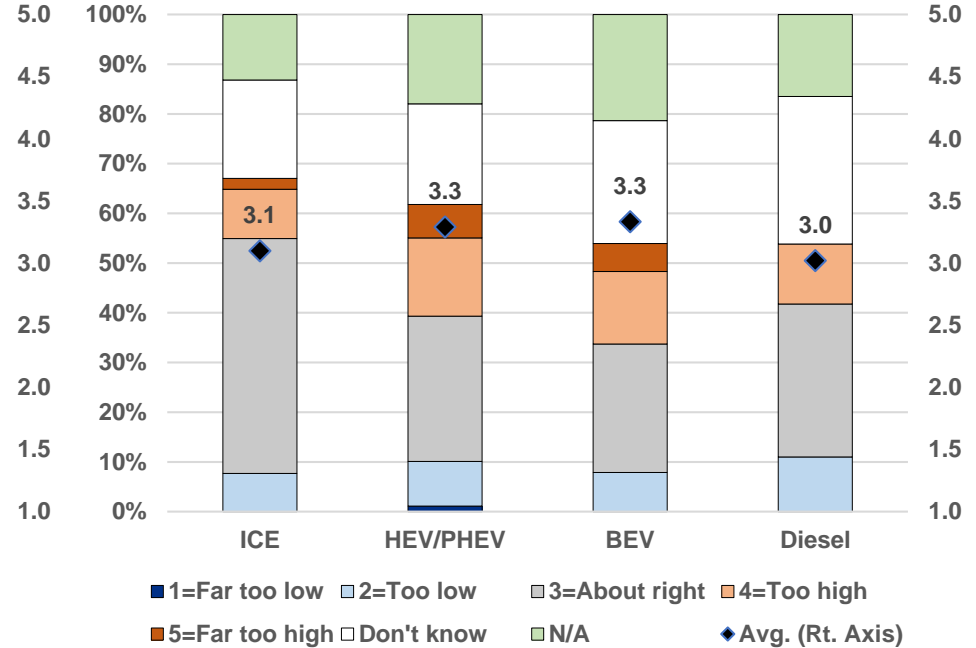
- Negotiate between Tier 2 and OEM

Production Planning: Confidence in Customer Releases

Are your customers' 2019 production releases aligned to their 2019 sales and inventory requirements?

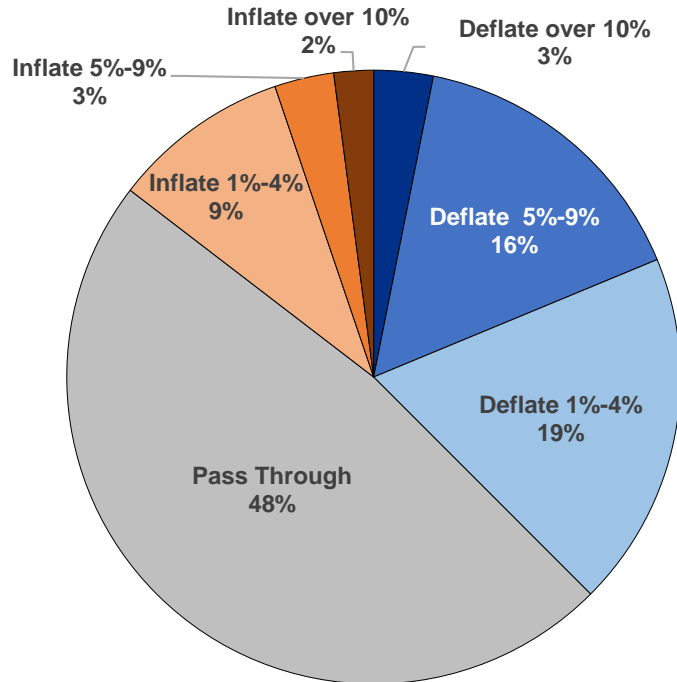


Are your customers' 2019 production releases aligned to their 2019 sales and inventory requirements by powertrain platform?



Production Planning: Releases to Supply Chain

Generally, across customers and programs, are you currently tending to inflate or deflate your releases down through your supply chain?



Comments:

Deflate

- To optimize inventory levels, and based on recent history, tending to reduce releases somewhat
- Especially for Passenger cars (non-light truck or SUV/CUV platforms)
- We see reductions in the forecasts when comparing 3-month, 2-month and 1-month data. Anticipating this trend to continue.

Pass Through

- A couple are deflated and a few are inflated. On average we are pass through.
- It depends on the customer

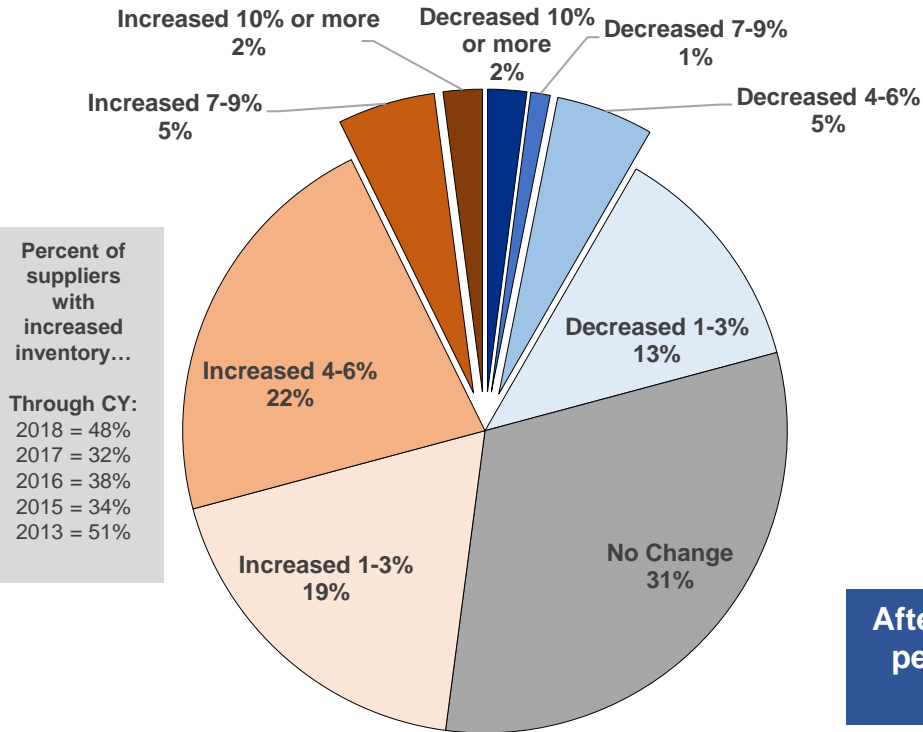
Inflate

- Short window release fluctuations are driving to inflate

Suppliers are generally deflating their releases down through their supply chain more frequently compared to last year, with 38% indicating deflation in 2019 up 14 ppts. from 2018

Production Planning: Finished Goods Inventory

Compared to average 2017 levels, how did your average 2018 finished goods inventory levels change?



Percent of suppliers with increased inventory...

Through CY:
 2018 = 48%
 2017 = 32%
 2016 = 38%
 2015 = 34%
 2013 = 51%

Comments:

Decreased

- Improved inventory/release management (5)
- Cash control

Increased

- Sales/forecast miss (8)
- Productivity improvements (2)
- Value based inventory increase (2)
- Changing Production wheel to reduce late deliveries
- Complexity of parts delivered
- Transition from steel to aluminum
- Cut in call-offs in the last 6 weeks of the year left us with increased inventory
- Several program had product banking for new programs
- Inventory associated with delay of new powertrains
- Electronic components shortage pushed the company to increase its inventory to face coming months and eradicate premium freights and premium expense from brokers

After a successful year of inventory management in 2017, the percentage of suppliers with increased inventories rose 16 ppts. to 48%

Production Planning: Research & Development Spending

For 2018, estimate your R&D spending as a percent of total sales.

	Lower Quartile	Median Value	Upper Quartile
R&D Share of Total Sales			
2019	2%	4%	6%
2018	3%	4%	5%
2017	2%	4%	6%
2015	2%	3%	5%
2014	2%	3%	5%
2012	2%	3%	5%

R&D Spending is essentially unchanged from last year, around 4% of total sales. Approximately 80% of the R&D budget is allocated towards the development of specific programs, while 20% is allocated to researching future technologies

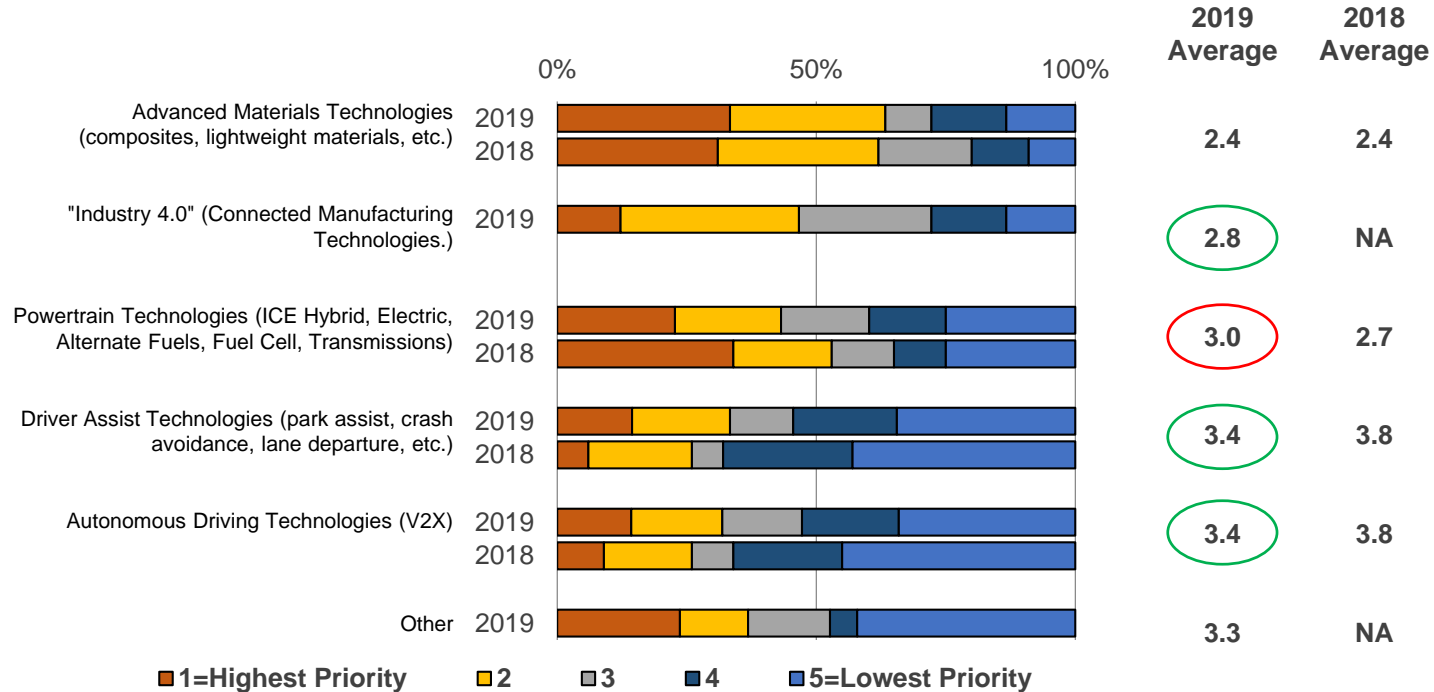
For 2018 R&D budget, estimate the percent allocated to research and percent allocated to development.

	Lower Quartile	Median Value	Upper Quartile
Research budget (for future technologies)			
2019	10%	20%	30%
2018	20%	32%	44%
2017	10%	20%	40%
2015	20%	30%	50%
2014	16%	30%	50%
2012	20%	30%	50%

	Lower Quartile	Median Value	Upper Quartile
Development budget (for specific programs)			
2019	70%	80%	90%
2018	50%	67%	80%
2017	58%	75%	85%
2015	35%	67%	80%
2014	50%	70%	84%
2012	50%	70%	80%

Research & Development Technology Investments

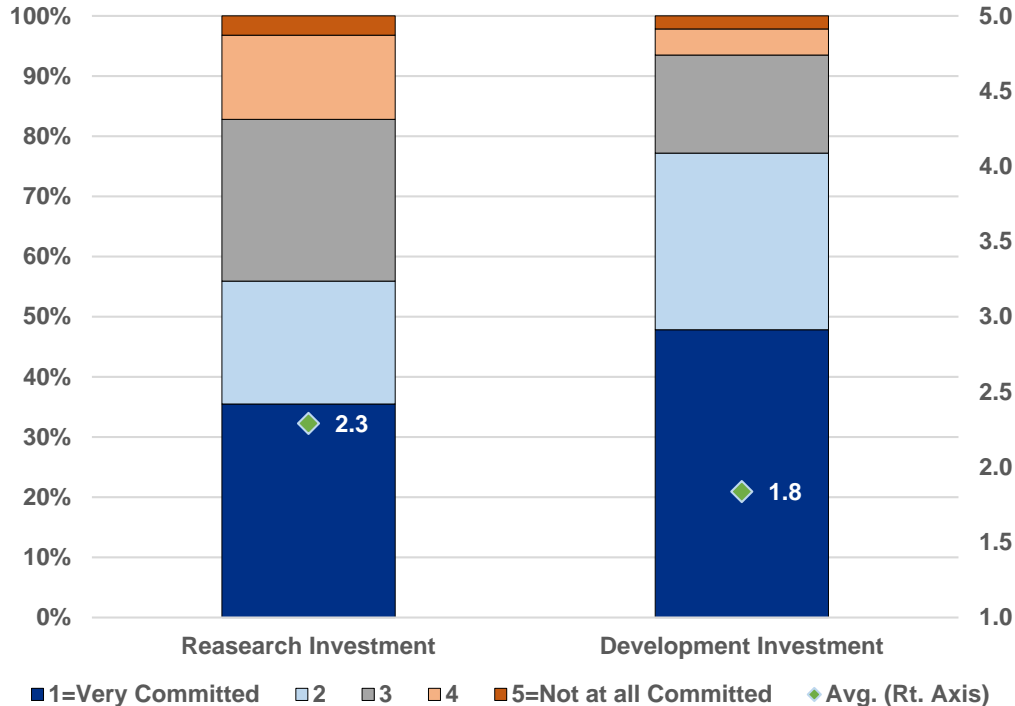
If you had additional dollars for R&D investment, rating in terms of importance, how would you allocate it across the following technology areas?



The order of top supplier R&D priorities remains consistent with last year.

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:

- Can't waste commitment
- Added new CTO and team and roadmaps and deliverables recently
- Large amount of launches are consuming more resources than planned as additional customer requirements are pushed downstream
- Not all business units are getting an equal % spent. More mature ones are getting a lower % and newer technologies are getting a high % spend
- It is key as our customers continue to off load engineering challenges on us
- We expect to stay course on advance development plans though cash/resource issues could impact



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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.

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Survey Methodology

- Data collected February 14- March 1 via invitation to online survey.
- Executives of OESA supplier companies.
- 107 survey responses were received.

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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