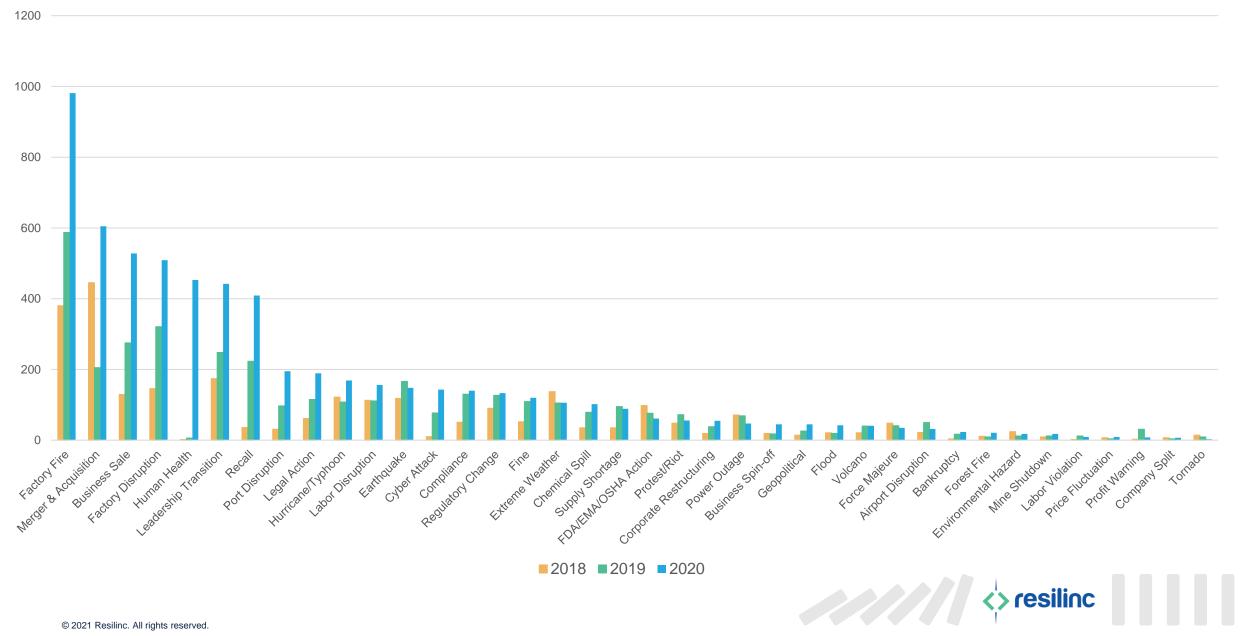
A Chat with Tom Linton: The State of the Supply Chain

April 6, 2021



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EVENTWATCH BULLETINS BY EVENT TYPE (2018 – 2020)



NEWS AFFECTING SUPPLY CHAIN PERFORMANCE BY REGION (2018 – 2020)

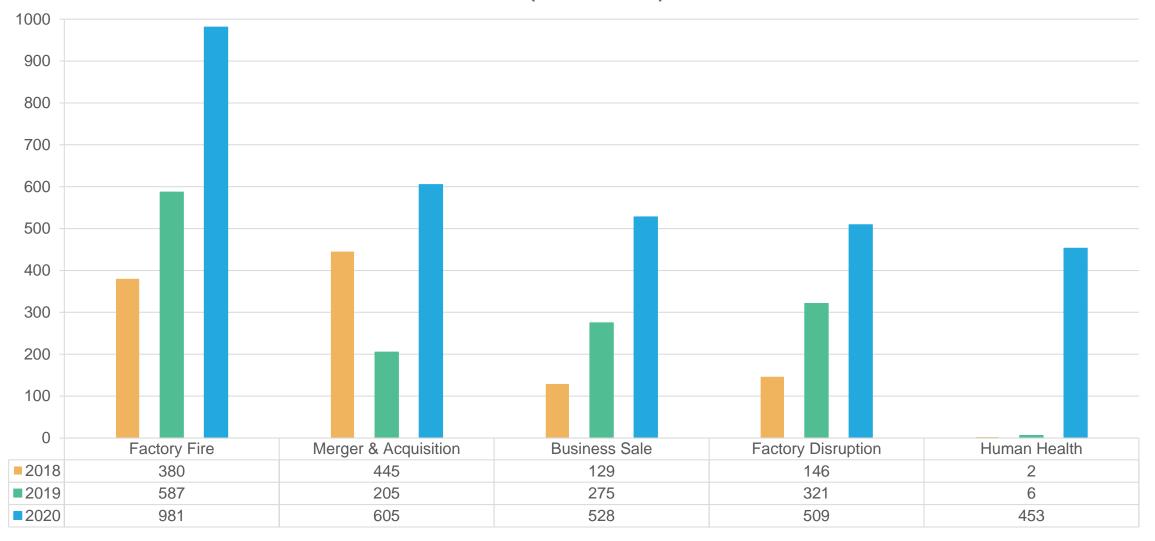


Source: Resilinc EventWatch



3

TOP 5 SUPPLY CHAIN EVENT TYPES BY 2020 (2018 – 2020)

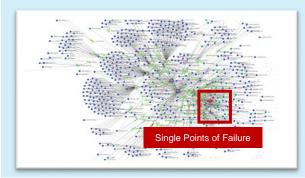




4

Endemic Characteristics of the Semiconductor Supply Chain

- Growing reliance on Semiconductors in many applications
- Cost (\$Bs) and Delay (2-3yrs) to add Capacity
- Moore's Law Next Gen Manufacturing **Every 3 Years**
- 95%+ Wafer Fab Capacity Utilization, little upside flexibility
- Small number of players in the wafer fab & equipment supply chain





Auto IC Sales Trend 30 ⊑ 5 Companies ditching JIT policies due to COVID-19 Resurgence of demand from paused orders in 1H 3 Quarter Wee

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Global Work From Home Policies

Hoarding behavior from Sanctioned Entities

Acceleration of Electric Vehicle timelines.

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	China S Automotive Production to Face Disruptions From Chip Shortage According to Reuters, a shortage of semiconductor chips could disrupt automotive production in China well into 2021, with chip companies saying they ar Dec 4, 2020	Nissan to Cut Production in Yokosuka, Japan, due to Chip Shortage According to Bloomberg Quint, Nissan Motor Co. Ltd. has decided to cut down the production of automobiles at its plant in Yokosuka, Kanagawa, J Jan 8	Cuts Production According to See N decided to cut its v	Automobile Dacia ews, Automobile Dacia S.A. has ehicle production due to the iconductor shortage, as report	for its Jetta models will	ATE 22: Volkswagen	Supply Shortage CHIP SHORTAGE: Serv Disruption Might Halt. According to Aju.News, supply of semiconductor firms, including Apple, to Feb 28	Apple Factory a recent turmoil in the	Supply Shortage CHIP SHORTAGE: Quald in Deliveries According to ARCHYDE, X among the companies mo shortage of electronic chij Mar 1	iaomi and Realme are st recently confirming the	According announced	ortage RTAGE UPDATE 38: Innolux Supply Continue in 2021 to Taipei Times, Innolux Corporation 1 on Thursday, March 04, that it expects ally constraints to continue throughout 2
	Smartphone Makers Suffer Severe Chipset Shortage in India According to ET Telecom, Indian smartphone makers such as Lava and Micromax have been facing a severe supply shortage of chipset, which Dec 2, 2020 Supply Shortage	Global Chip Shortage to Cause Manufacturing Delays Across Industries According to Channel News Asia, pandemic-related disruptions, factory shutdowns, and regulatory actions against certain companies have emerged Dec 18, 2020	Chip Shortage: S Production Plan According to Nasda February 5, annour	ubaru to Cut Annual ag, Subaru Corp., on Friday, ced that it has cut its production ear by around 48,000 vehicles	Feb 10 Supply Shortage CHIP SHORTAGE: Ren Tangier, Morocco According to Morocco V informed that it has halt	ault Halts Production in	Supply Shortage CHIP SHORTAGE UPD, Production in Californi According to Bloomberg decided to halt producti Fremont, California, USA Feb 25	a, USA, Quint, Tesla Inc. has	Supply Shortage CHIP SHORTAGE: Hyun Weekend Working According to Donga, Hyur have decided to reduce w holidays in South Korea, a Mar 1	dai Motor and Kia Motor orking on weekends and	According that it is ex	ORTAGE: GM Extends Production Cuts
4	Distributors Suffer Shortfalls of 40 and 5G Chips and Power Amplifiers According to Gizmo China, semiconductor distributors suffer from a shortfall of 4G and 5G system on chips (SoC3) and power amplifiers (PA) Nov 6, 2020	China's Automotive Production to Face Disruptions From Chip Shortage According to Reuters, a shortage of semiconductor chips could disrupt automotive production in China well into 2021, with chip companies saying they ar Dec 4, 2020	CHIP SHORTAGE Cut Production According to Yahoc Ford Motor Compa reducing the outpu Feb 4 Supply Shortage Chip Shortage: M Automotive Produ According to Silico semiconductor sho		Feb 10 Supply Shortage CHIP SHORTAGE: GM Production Cuts According to Reuters, G Company has decided t production cuts due to to Feb 9 Supply Shortage CHIP SHORTAGE:Fiat Stellantis to Cut Produ	Extends Vehicle eneral Motors (GM) o extend its vehicle the ongoing global semico Chrysler, Renault, and	Craiova, Romania According to SeeNews, it to temporarily shut its pi due to the ongoing semi Feb 25 Regulatory Change Biden Signs Executive Chains in the USA According to NBC News, has signed an executive day review of supply cha	Order to Review Supply USA President Joe Biden order that mandates a 100-	Supply Shortage CHIP SHORTAGE: Serve Disruption Might Halt A According to Aju.News, a supply of semiconductors firms, including Apple, to (Feb 28 Supply Shortage CHIP SHORTAGE UPDAT Production in California According to Bloomberg O decided to halt production Generat C suffornia LIS News My Alerts	TE 31: Tesla Halts USA, VICA	Cut Produ According decided to Anhui, Chir Mar 3 Supply She CHIP SHC in Deliveri According among the shortage o	DRTAGE: Electric Carmaker NIO to liction to CNBC, electric car producer NIO has reduce production at its plant in Hefei, na, due to the ongoing shortage of semi Drtage DRTAGE: Qualcomm Announces Delay
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	Supply Shortage CHIP UPDATE: ON Semiconductor to Terminate Additional Employees According to biz journals, ON Semiconductor is planning to terminate around 740 employees across the company, as reported on Friday, March 5.	Supply Shortage CHIP SHORTAGE UPDATE 41: Samsung and Apple Face Chip Shortage According to Gizmo China, Samsung and Apple may need to deal with supply shortages as a common supplier based in Austin, Texas, USA, ha 11h ago	Affects Production According to Reute components used	Component Shortage on at Qualcomm (rs, a shortage of critical or manufacturing systems on a patively impacted Qualcomm's	suspended production a	assembly siness, Volkswagen has	Production in Kolin, C: According to Reuters, To Czech Republic s.r.o has	ATE 53: Toyota to Halt zechia oyota Motor Manufacturing decided to temporarily s plant in Kolin, Czech Re	Supply Shortage CHIP SHORTAGE UPDA' Belvidere, Illinois, USA According to My State Lim America, commonly know decided to temporarily shu 6h ago	Affected e, Stellantis North n as Chrysler, has	According t Automobile	to sources, General Motors Co. and Dacia informed that they will be halting at certain facilities due to the ongoing
	Supply Shortage CHIP SHORTAGE UPDATE 38: Innolux Supply Issues to Continue in 2021 According to Taipel Times, Innolux Corporation announced on Thursday, March 04, that it expects panel supply constraints to continue throughout 2 Mar 4	Supply Shortage CHIP SHORTAGE: Oyak-Renault to Halt Production at Bursa, Turkey Plant According to IntelliNews, Oyak-Renault has announced it will halt production at its plant in Bursa, Turkey, as reported on Tuesday, March 9. Mar 9	Lansing, Michiga According to Detro informed that it pla	: GM to Halt Production at n, USA Plant It News, General Motors Co. ns to halt production at its ansing, Michigan, USA, as rep	Volvo Car Affected According to Gadgets34 and Volvo Cars have wa	DATE 46: Samsung and 60, Samsung Electronics rrned of disruptions due to ctor shortage, as reported	According to Financial E announced on Thursday	san Halts Production at fexico ditorial, Nissan Motor Co. March 18, that it is cutting ssembly plants in the US	Supply Shortage CHIP SHORTAGE: NIO to in Hefei, Anhui, China According to Reuters, elec decided halt operations at China, due to the ongoing 11h ago	tric car producer NIO has its plant in Hefei, Anhui,	According t anticipating	RTAGE: Hyundai Expecting n Disruptions in April to Dally Mail, Hyundai Motors is disruptions in productions beginning in the semiconductor chip shortage, as r
	Supply Shortage CHIP SHORTAGE: GM Extends Production Cuts at Multiple Plants According to Market Soreener, GM has announced that it is extending production cuts at multiple plants in the United States, Canada, Mexico, and Mar 4	Merger & Acquisition Bulcchip Infotech Announces Buccriting to ARN, Bluechip Infotech and DRA Connect have entered into a la Merger & Ac Mar 9	Apple Face Chip : According to Gizmmay need to deal w common supplier b Mar 10	UPDATE 41: Samsung and Shortage D China, Samsung and Apple ith supply shortages as a ased in Austin, Texas, USA, ha	Five plants in USA and According to Nikkei, Ho operations at five facilit	nda to Cut Production at d Canada nda has decided to cease les in the USA and Canada sicconductor shortage and p	shortage, Ford Motor Co		Supply Shortage CHIP SHORTAGE: Ford a Plant in Ontario, Canada According to Windsor Star Stellantis N.V. have annour production at their facilitie Mar 25	, Ford Motor Co. and need their decision to halt	According t Monday, Ma	RTAGE UPDATE 57: Volvo to Halt Juction Globally to The Local, Volvo announced on arch 22, that it is going to implement across its global truck manufacturing
	Supply Shortage CHIP SHORTAGE: Electric Carmaker NIO to Cut Production According to CNBC, electric car producer NIO has decided to reduce production at its plant in Hefel, Anbui. China. due to the ions shortage of semi. News My Alerts EVA Warfloorms All Activities © 2021 Resilinc. All rights reserved.	Supply Shortage CHIP UPDATE: ON Semiconductor to Terminate Additional Employees According to biz journals, ON Semiconductor is planning to terminate are of 740 employees across Planning to terminate are of 740 employees across My Alerts EVA Warltooms All Activities	Production at Bu According to Intelli announced it will h	Coyak-Renault to Halt sa, Turkey Plant News, Oyak-Renault has alt production at its plant in eported on Tuesday, March 9.	Lehi, Uta According Technolog sell its fac	o Sell Chip Factory in h, USA to AnandTech, Micron grevaled that it plans to grevaled that it pl	Anonim Sirketi (Tofas) au have reported disruption		Supply Shortage Chip UPDATE: Ford to F Factory in Dearborn, Mi According to The Detroit N announced it will halt prod through the 28 at its pro- through the 28 at its pro- News My Alerts	chigan, Iews, Ford Motor Co. has uction from March 26 Dearborn. Michigan	CHIP SHO Shortage I According t affected by and the del Mar 22	RTAGE UPDATE 55: Semiconductor Hits MG Motor India to Team BHP, MG Motor India has been the ongoing semiconductor shortage iveries of new cars have been delayed.

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Multiple ripples currently intersecting through the supply chain ecosystem

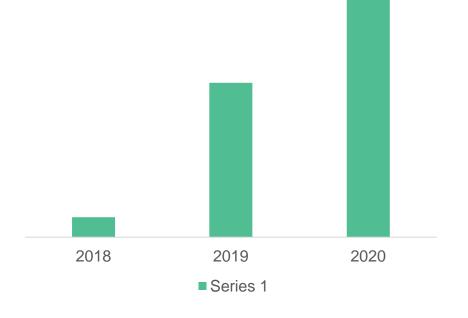
- COVID-19 : Still disrupting global supply chains
- Sudden extreme and widespread demand shifts
- Record hurricane season
- California fires
- Multiple large factory fires
- Texas freeze
- Semiconductor shortages
- Container shortages
- Plastics shortages
- Renesas fire (semiconductor)
- And now... SUEZ CANAL delays...

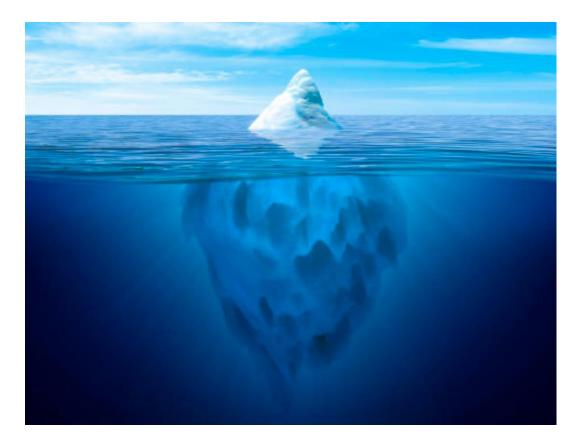
Outlook for the next 9 months



When it comes to cyber attacks, what we know is the tip of the iceberg

Cyber attacks reports growing exponentially EventWatch Data







2021 March: Cyber attacks reported by Resilinc EventWatch

What we know...

