

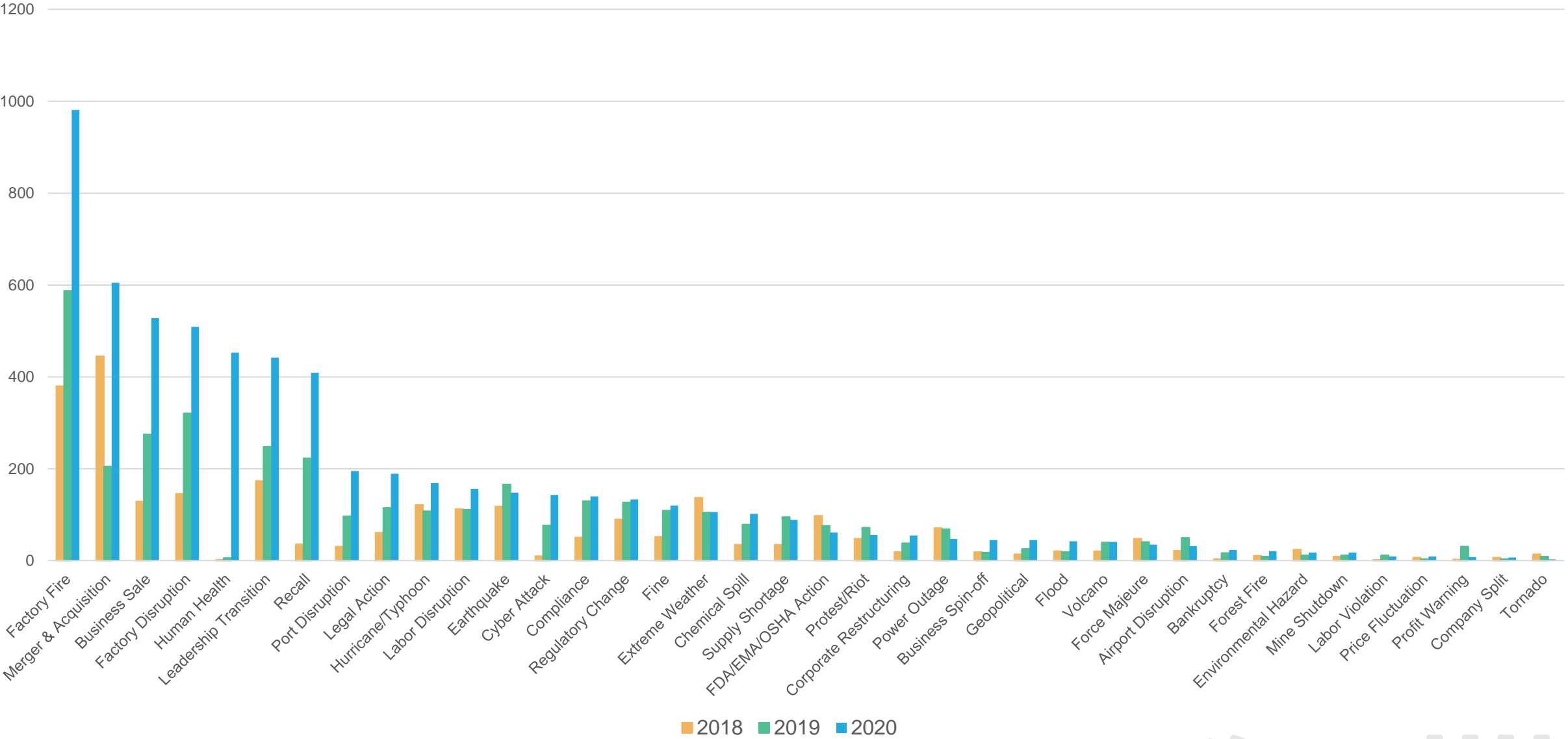
# A Chat with Tom Linton: The State of the Supply Chain

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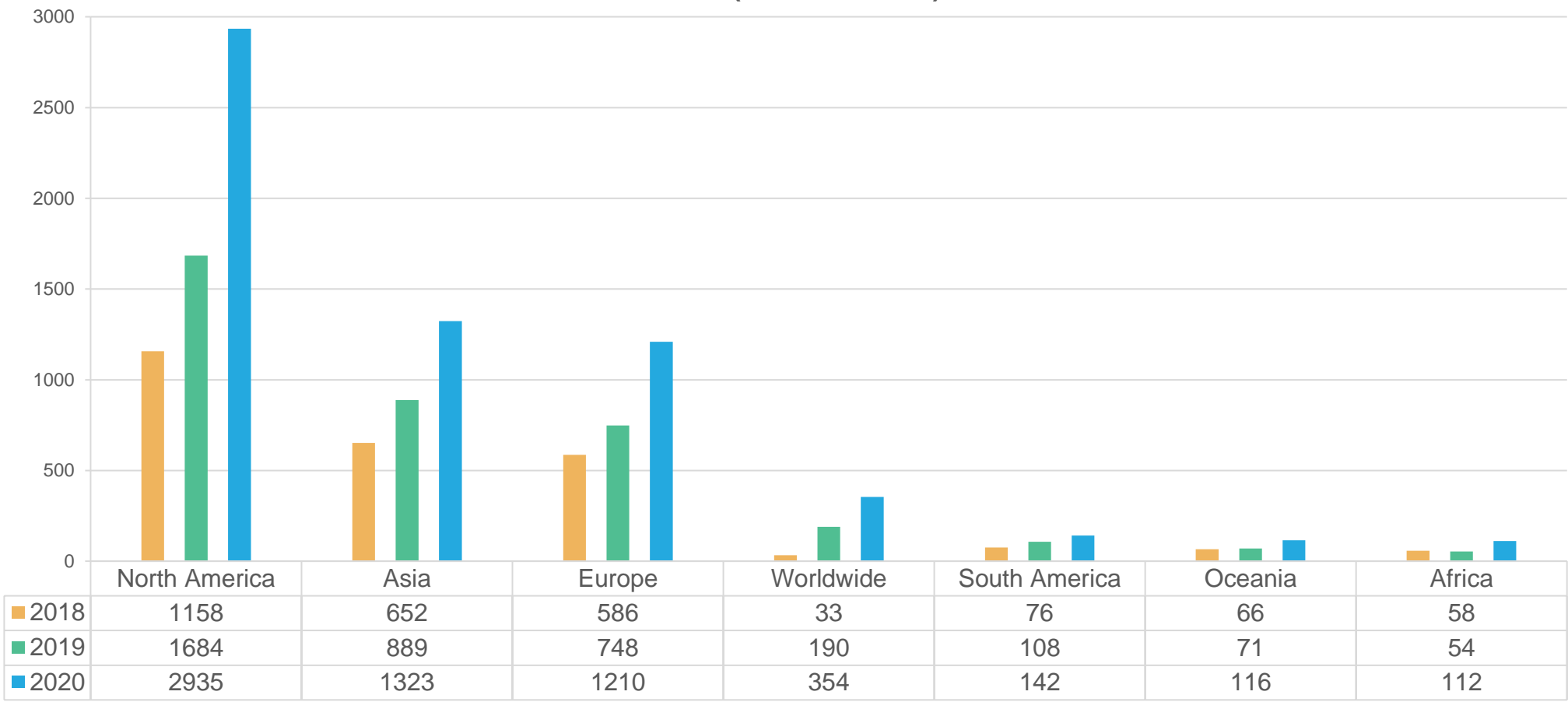
April 6, 2021



EVENTWATCH BULLETINS BY EVENT TYPE  
(2018 – 2020)



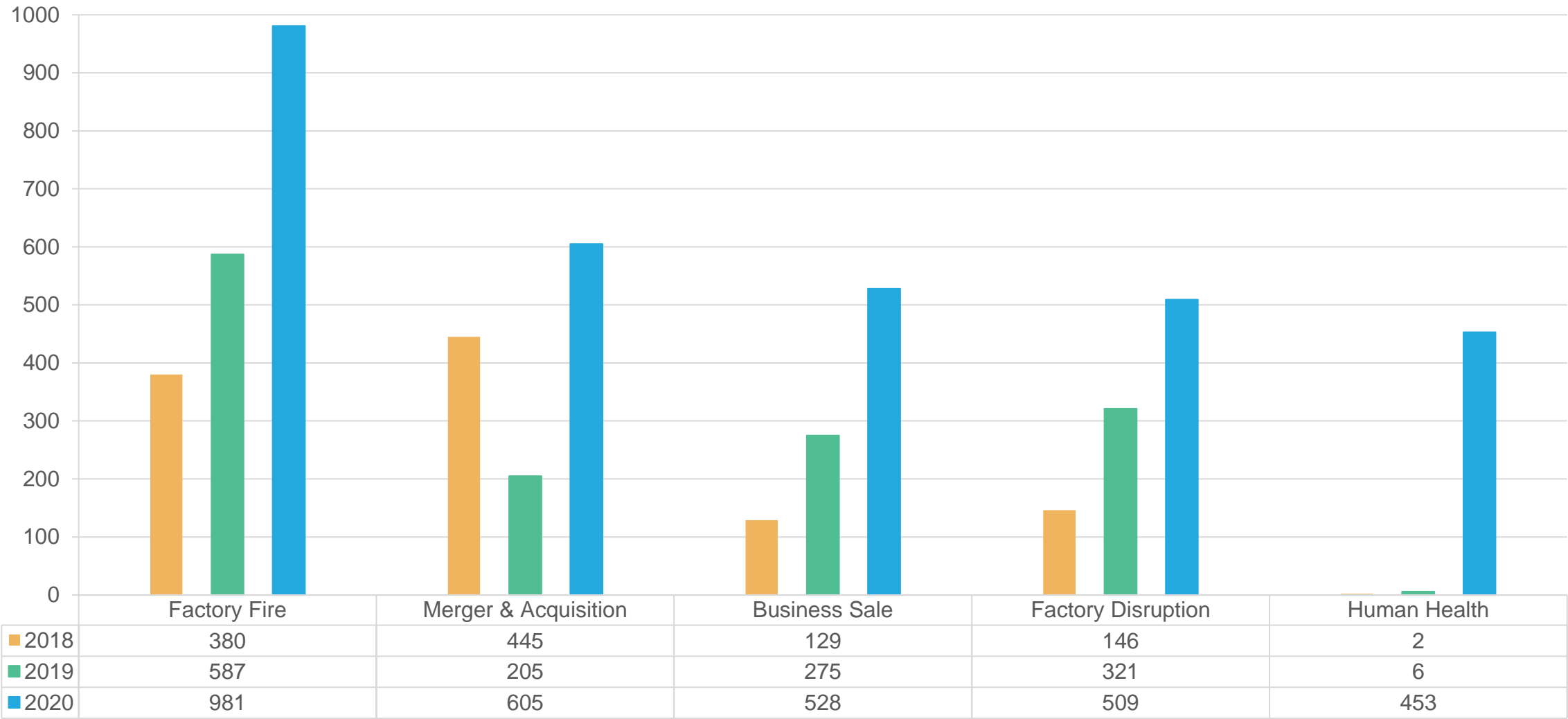
NEWS AFFECTING SUPPLY CHAIN PERFORMANCE BY REGION  
(2018 – 2020)



Source: Resilinc EventWatch



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



# Endemic Characteristics of the Semiconductor Supply Chain



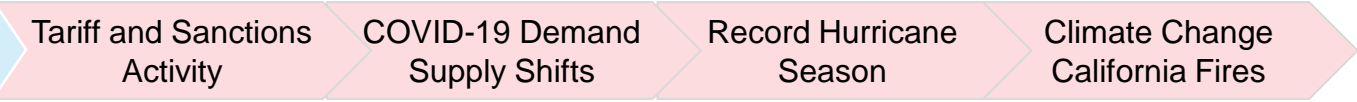
- Growing reliance on Semiconductors in many applications
- Cost (\$Bs) and Delay (2-3yrs) to add Capacity
- Moore's Law – Next Gen Manufacturing Every 3 Years
- 95%+ Wafer Fab Capacity Utilization, little upside flexibility
- **Small number of players** in the wafer fab & equipment supply chain

2017-2021

1H 2021

2H 2021

2H 2021



Further compounded by Supply side disruptions...

## 2020-21 Demand Shifts...

## Causing a Bullwhip Effect...



- Global Work From Home Policies
- Hoarding behavior from Sanctioned Entities
- Companies ditching JIT policies due to COVID-19
- Resurgence of demand from paused orders in 1H
- Acceleration of Electric Vehicle timelines



Months of Supply Chain Disruptions affecting Semiconductors

Jul 2020: Nitto Boseki Fire

Aug 2020: Huawei Sanctions

Sep 2020: SMIC Sanctions

Oct 2020: Asahi Kasei Fire

Oct 2020: Unimicron Fire

Feb 2021: Unimicron Fire 2

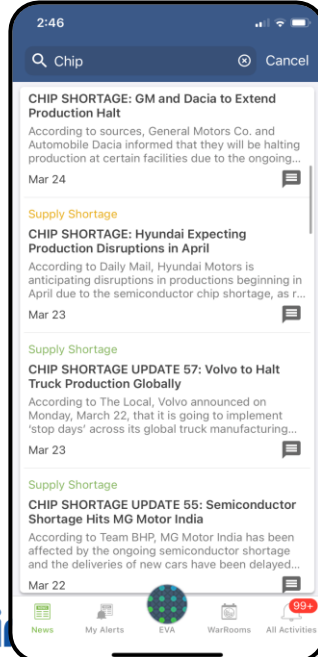
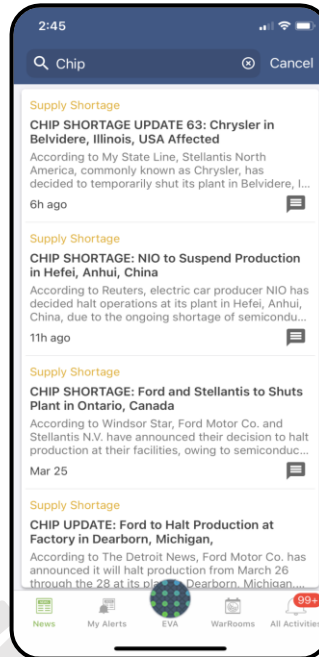
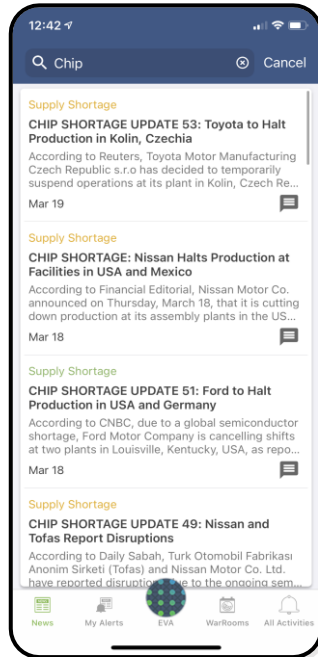
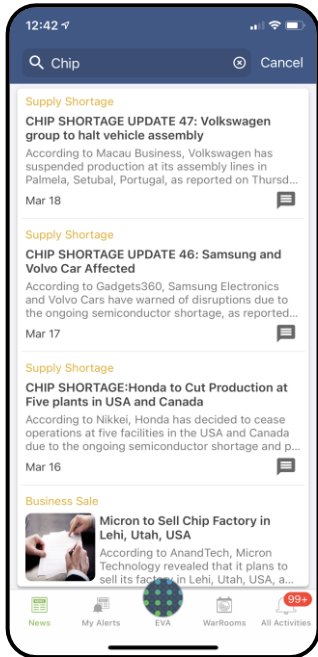
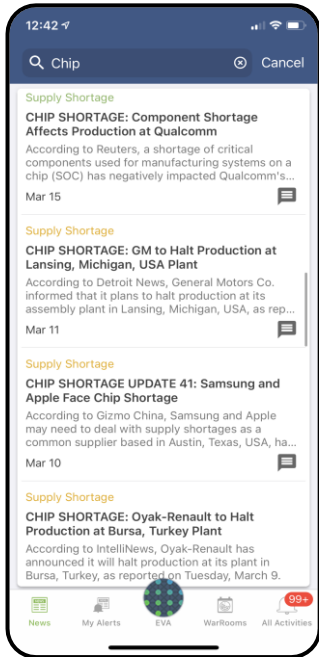
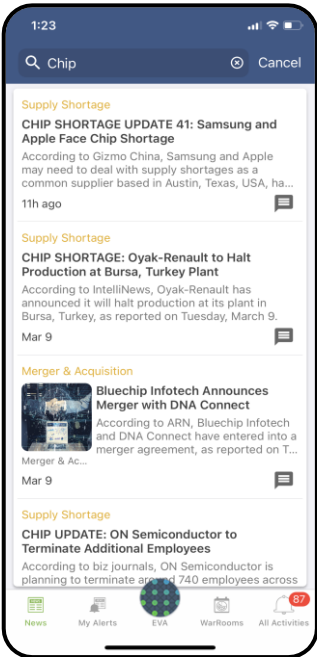
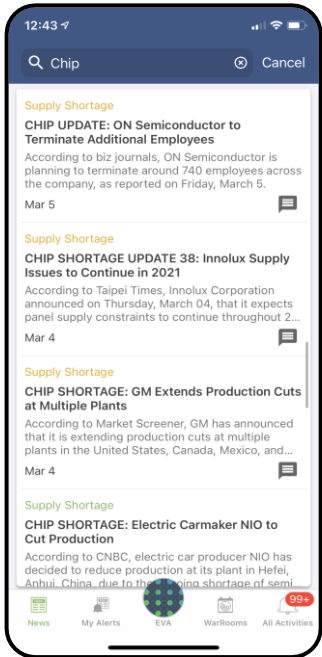
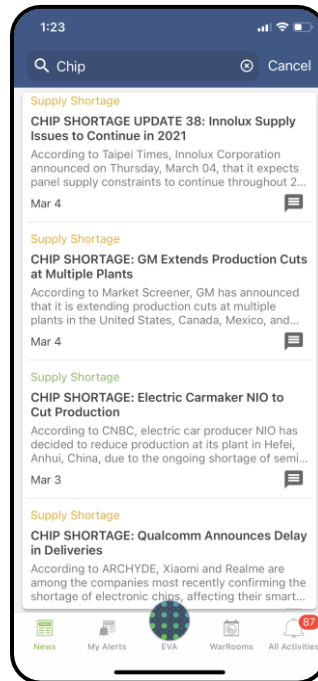
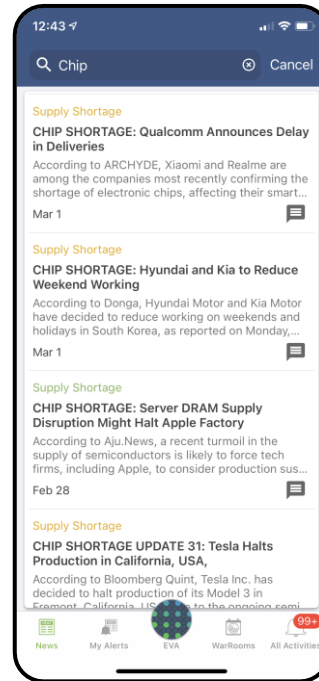
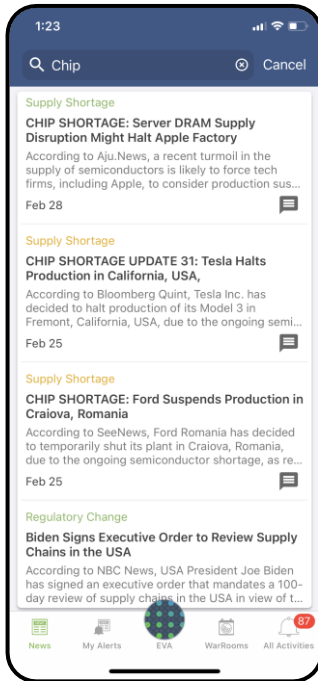
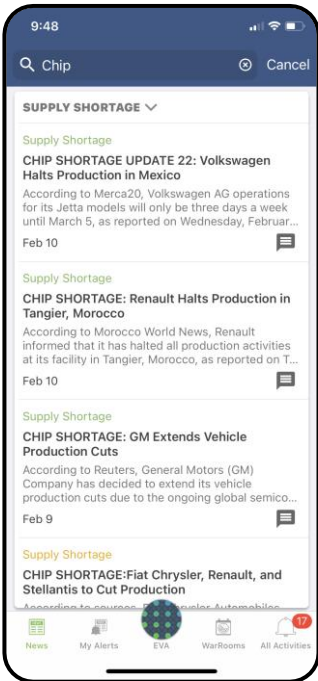
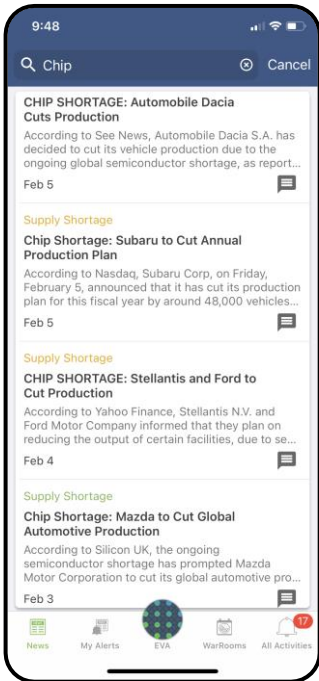
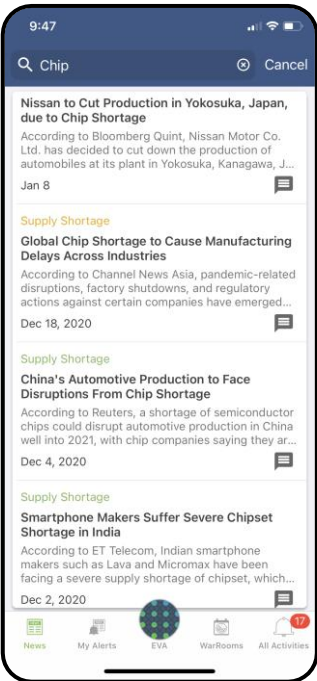
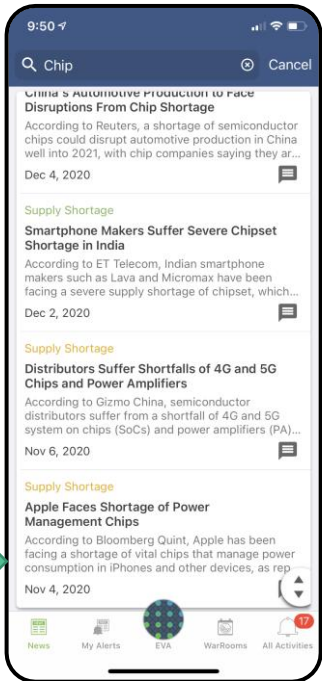
Jan 2021: Container Shortage

Feb 2021: Boeing 777s Grounded

Feb 2021: Taiwan Water Restrictions

Mar 2021: Renesas Factory

Nov 4





# Multiple ripples currently intersecting through the supply chain ecosystem

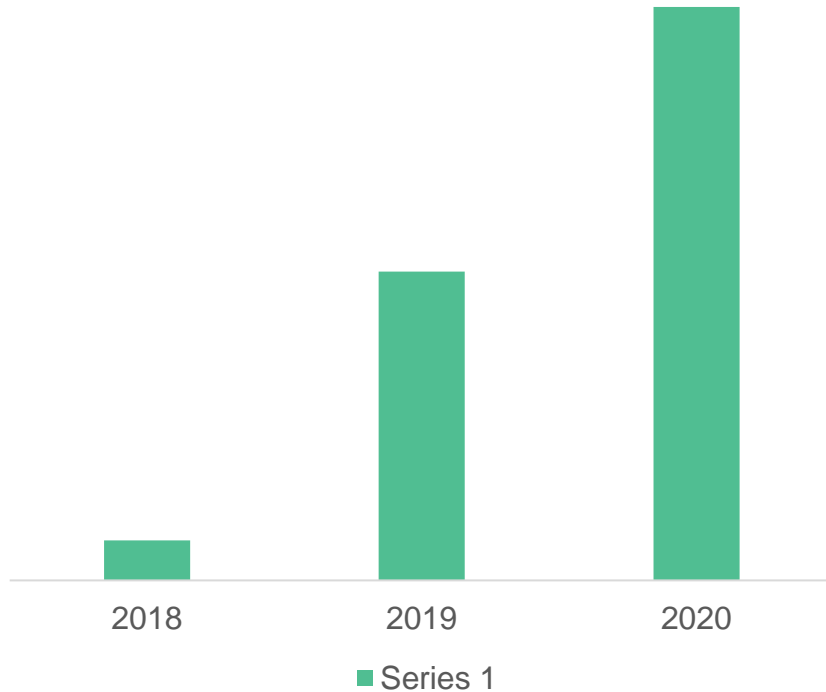
- COVID-19 : Still disrupting global supply chains
- Sudden extreme and widespread demand shifts
- Record hurricane season
- California fires
- Multiple large factory fires
- Texas freeze
- Semiconductor shortages
- Container shortages
- **Plastics shortages**
- Renesas fire (semiconductor)
- And now...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

