Communication is extremely important. Companies are leaning into technology.

Supply chain management has historically focused on optimizing based on constraints. Not as much investment has gone into supply chain collaboration and visibility.

FourKites is investing in communication and collaboration tools beyond transportation alone and extending communications to warehouses so warehouses can anticipate changes in demand. Transportation and warehousing have not historically been in communication.

Automatic alerts have allowed customers to provide real-time updates as they go about daily planning.

FourKites is providing real-time information on container location, including while at sea.

FourKites currently provides, open to the public, border and port congestion maps.

Collaboration technology is key. For example, Sysco and CNS, both food distributors and competitors, formed an alliance to help each other manage food distribution and collaborate on delivery by leveraging each other’s strengths.

- Companies that embrace collaboration will be more at the forefront of industry leadership.

Companies are making a connection between an investment in technology and their ability to manage the crisis and make their supply chains more resilient.

Companies are overcoming bureaucracy to break down walls to share data to understand dwell time, detention time and safety stock, for example.

Alerting and exception management are critical to help make supply chain adjustments in real time.

The ability of grocery to react in real time was a result of deployed technology. Without technology, there would have been a lot more stockouts.

On the future of technology – it is the top of the iceberg of what AI and machine learning can do. However, it is unclear if the industry at large understands machine learning.

- Turning machine learning into something that matters for supply chain professionals is challenging.

Final thought – Covid-19 reminds us of the need to plan for volatility.

Data is NOT the new oil. It is “way better.” It does not create exhaust / pollution, destroy resources, and is the ultimate sustainable resource.

Data – the more you use it, the better it gets.

We need to LISTEN to our customers with empathy and to our data to understand the problem, and find where is the opportunity, informed by data, to pivot to new products, new pricing models to help reinvent their business to the new normal.
Highlights from AVR6 – Leveraging Technology for Supply Chain Resilience under COVID-19

- Large organizations coping with supply chain and other disruptions are constructing virtual data war-rooms, to do scenario planning to allow them to adjust very quickly.
- Current crisis is truly global whereas previous crisis in recent history were localized.
- In a crisis, reinvent for the new normal.
- Covid 19 is a much longer-term disruption than previous crises and waiting for it to go away is just not an option. Need to use data (current data) to adapt to the new situation, since the historical data may not be relevant.
- Summary data is the devil of decision making.
- Decision makers need large sets of detailed data.
- The ability to do what if scenario planning in real time while events are unfolding is important.
- Challenge – adjusting from hyper-optimized systems during a major disruption. Need to able to adjust your optimization based on new data and new KPIs.
- Investment in data requires an investment in data culture.
- Fact-based decision making is better than gut-only based decision making.
- The current supply chain is a pull system (model) (as opposed to the previous push supply chain model), and the data exists to react to demand.
- An MIT study showed that companies making data driven decisions have 4-6% more profitability than those that do not.
- Focus on continuous learning and use machine learning in real time, not just trained on historical data.
- Data mining is the old way – continuous learning automates the learning process.
- The competitive advantage of the future is data.
- One customer said – “we have been talking about going digital for 7 years, but went digital in 7 days under Covid 19.”
- Cybersecurity is not a new threat to the Covid 19 crisis we are in now.
- On the future of technology – blockchain has strong potential to help the returns process of recalled goods more efficient and streamlined.
- Final thought - Covid 19 is forcing industry to go more digital.

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- The overall problem with Covid 19 is that we have a supply and demand problem, as well as a transportation problem.
- A severe recession is coming, and people do not buy in a recession – a demand problem.
- The number one concern for the next 12 months is the safety of employees – there will be a lot more pressure to move to digital where possible. Covid 19 is a forcing function to make this happen.
- Forecasting when Covid 19 will go away is not possible.
Highlights from AVR6 – Leveraging Technology for Supply Chain Resilience under COVID-19

- Supply chain workers unsung heroes. For example, the food supply workers helped enable the shift of goods from restaurant and businesses to supermarkets, reacted to a new demand of staple goods, and adapted at producers to send nearly 100% of goods to markets.
- The two big issues with medical supplies in the U.S. was an overdependence on China and not enough safety stock that was not replenished by either the last and current Administrations.
- Supply chain decision protocols, beyond profits and losses, must be set in advance. Need to determine how to prioritize supplies.
- The essence of resilience is getting back to business.
- Resilient companies prepare, map out the structure of their supply chains, prioritize their suppliers, and understand what customers will be impacted by disruptions in which geographic regions.
- With structural changes in supply and demand, gut managerial instincts and experience are important.
- Even before Covid 19, companies were moving away from China, but: not to the U.S. because the cost structures are not there; China now has good manufacturing so for many companies it will be hard to move; and China is a huge market so companies need to stay.
- The world needs China much more than China needs the world.
- Real time visibility is a “pipe dream” and is limited by the structural layers of the supply chain. Upstream visibility in the supply chain is very difficult.
- On technology:
  - Some companies become too dependent on algorithms. Companies with analytics that did well are those with staff who understand whether the algorithms produce results that make sense. For example, many retails abandoned automatic ordering algorithms during the crisis. It is imperative to know if the data and algorithmic results makes sense.
  - Digital paperwork must come online – still not widely adopted.
  - Use data in an action oriented way and collaborate to enable businesses to become more efficient.
  - Biggest technology impact on Covid 19 is robotics – any technologies that will help avoid close contact will further arise.
  - Blockchain is still a technology waiting for an application.
  - Stop thinking of technology as a strategy. There is no “spreadsheet strategy.”
  - Look for the problems to solve – not the technology to apply.
  - One technology that has real potential is 3D printing
- Advanced companies are putting emphasis on fast solutions, the ability to do quick supply chain network redesign and then update it in real time – the bottleneck is feeding in new data (as opposed to historical, irrelevant data).
- Final thought - when normalcy returns, companies need to maintain social and environmental responsibility.