

# NGen Supply Chain Summit

## Report- Out: Industrial Equipment

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Next Generation  
Manufacturing Canada

# Report-out: Industrial Equipment

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## Panelists:

- Peng-Sang Cau, VP, LS Emerging Markets and Symphoni™, ATS Automation
- Mike Andrade, CEO, Morgan Solar
- Jay Davis, CEO, AWC Manufacturing LP
- Pavel Abdur-Rahman, Partner, Enterprise Data & AI Ecosystem, IBM
- Pierre Ayotte, Operations & Change Management Consultant
- Gina Succi, CEO, Westhill Innovation Inc.

## How can we strengthen our SC? Opportunities and actions immediately? SC of tomorrow look like? What role does AM play?

### Session 1: Current State

- We have data, but don't know how to access it or use it.
- Adoption of Ind 4.0 technologies in the past, but no pressure to use them.
- SMEs: Be aware that you need to create your product with the supply chain in mind. If you're an SME, you are at higher risk as you will be at the bottom of the list.
- Showed us that we don't go deep enough in getting data and predict supply chain stability.
- Highlighted SMEs don't have access or influence on design and rely on their customers to dictate their supply. We need to be looking at Design and engineering and have a heavier focus than what we have today.
- Chips crisis. Steel purchasing - Tariff issue. Other commodities impacted.

### Session 2: Future State

- Can we benchmark against other countries, see what practices they are embracing?
- Contracts – suppliers and customers – redefine these, rebalance the risk. OEM fairness with SME suppliers. We are in this together.
- SC diversity – OEM support help develop SMEs supply chain with tech adoption and commercialization.
- Start with our SMEs – the backbone of Canadian manufacturing.
- Toyota mentored their SMEs - treated them as their strategic partners. OEMs cascade their SC strategies to support them. 2-way street, SME SC supplying multiple sectors.
- Combine innovation and SC. Industrial innovation. Good ideas without the ability to implement does not result in an innovative economy.

## Session 1: Current State

- Lack of connectivity between our own sectors
- Canada was not as connected to SC as a sector. It elevated SC visibility to urgent.
- How did impact relations with suppliers and customers.
- SC not a new concept but we need to pay more attention to it.
- Impact of social-political pressures. Seeing grave issues with ability to be able to supply and the lack of continuity between public health and border crossing.
- Talent - harder look at how we are protecting each other and environment. Clean tech industry with renewed focus putting Canada in the forefront.

## Session 2: Future State

- Cross sector ecosystem bi-lateral innovative new SC flow
- Make it part of your strategy for your business to create a sustainable and innovative SC.
- Emerging patterns – intelligent workflow, custom customer experience...people, process, technology and data.
- SME commercialization struggle - who can support you? How can you build your supply chain? Support infrastructure is not there for clean tech. Cultural change to support SME, IP commercialization. Need early adopters. Inability to take our homegrown IP global.
- Innovation not just for today but can prepare us for the future.
- Canada ranked low on digitization. We need to accelerate to keep pace with other leading countries. Who owns this responsibility? Starts with leadership. Strategy, investment, business models. \$ going into AI and data analytics.

## Session 1: Current State

- US-based supply chains are wide open for business, we are not.
- SME - ESG supply chain focusing on entire SC  
Government puts a framework in place. balance score cards, safety, logistics, quality delivery, health of the employee, environment.
- A global SC continues, not possible to re-shore everything.

## Session 2: Future State

- Developing a path to value to deliver revenue for company.
- Creating Centres of Excellence – clustering together to share workload.
- Industry 4.0 ROI can be very quick, piece projects together. Your own revenue feeds your own growth. Move your business model. Remove adoption stigma.
- Make sure your existing processes around operational excellence are good before adopting new technologies. Then figure out how to digitize. Step by step to a certain maturity level. Develop your methodologies.
- Learn from other countries, use them as benchmarks. What have they done? What can we adopt? What is government doing to support the SCs?
- Business value discussions. Lots of Ferrari's on gravel roads.
- Don't limit yourself as a Canadian SME to domestic business. Look for markets looking for innovation.

### Session 1: Current State

- We are not sustainable as a stand-alone country with getting supplies deemed essential during the pandemic
- 16-to-17-week lead-time is now 9-month lead-time. Sales are up so hard to keep up with supply.
- SMEs don't have the cash to stock-pile commodities. How does this impact them? Who do they rely on? Do they outsource that activity?
- SMEs - Beware to design your product/process with consideration of supply and demand and access to resources. Consider these factors at the same time you develop your product strategy as it could kill your business if you don't. The risk is that your business could be shut-down based on one component .
- Does it make us competitive or add to our cost? The reality has changed. Sectors not recovering at the same rate. Work-force migrating from aerospace to other sectors. Lost talent!

### Session 2: Future State

- Look at our contracts and our agreements with our Customers and Suppliers.
- Total cost of Manufacturing/outourcing/shipping costs.
- The focus has been on Automotive sector. The pandemic highlighted that we need to have inclusion to support all SMEs in all sectors.
- Payment terms affect SMEs.
- We have a lot of support for Innovation and R&D but very little funding for supporting commercialization and be a part of the Supply Chain.
- Fewer OEMs, do we push money to SMEs directly or towards the OEM and incentivize them to spend more time with the SMEs? We need strategic partnership programs.
- Need direct resources to SMEs as not all are involved with OEMs.

## Session 1: Current State

- SC Strategy what does this look like now? Companies scrambling to create and develop
- Supply Chain was not on the radar prior to pandemic but now is in the forefront
- SC risk mitigation strategies what does this look like now?
- Focus on safety, quality, delivery, health of the environment. Balanced scorecard.

## Session 2: Future State

- New technologies like industrial equipment – sensors etc., all coming from different sources. Need a lateral innovation flow.
- Combination of activities and we should be sharing that.
- We are seeing five emerging patterns. Intelligent workflow is the core of it. People, process, technology plus data and is changing the discussing from a process to an intelligent workflow. Customized customer experience. Transparent ethical network and dynamic computing.
- End-to-end value chain work.
- If you don't have a cornerstone partner, it will be very difficult for commercialization. This is a big challenge for SMEs. Convincing a big strategic partner to take a chance on you is difficult.
- Support systems aren't in place the way they should be especially for clean tech.

## Session 1: Current State

- We need to operate as a nation to have a unified Supply Chain so we can react. This was something positive that came out of the pandemic
- Global trade is critical to our success. Key resources we need as a nation so we can react quickly to shortages so we can take of our own. We are too small as a nation, we still have to outsource so must be more strategic.

## Session 2: Future State

- The amount of financing that's needed from SMEs to take a viable product and make it Global is too high.
- Generation gap especially in Aerospace sector. The technology coming out of Universities and how do you marry the two together?
- Productivity has gone up 25% since the pandemic started.
- Companies working with Universities has seen great successes.
- Indicators for technologies, human beings etc., we need to look.
- Canada was ranked 5 out of 8 for Innovation capabilities and 7 out of 8 in Industrial digitization in NGen Recover and Lead report. Canada is not moving fast enough.
- Toronto is a mecca of AI and yet we are implementing these things. Starts with leadership.



## Session 1: Current State

## Session 2: Future State

- Second thing is the way organizations are structuring their business models. More money is going into data and analytics rather than physical investment.
- Third thing is Path to value.
- Will it be the larger organizations that will lead the way? SMEs don't have the resources or funding. How do we make it a priority?
- Different types of funding models. Ecosystem base marketing models. No longer diluting equity, they are using their balance sheet to fund.
- ROI is quick with Industry 4.0. (Start with) piece projects you can do to generate revenue and then use it to invest further.
- It isn't one size fits all for all the different sectors. Work with an automation expert and an academic partner.
- We have come a long way in Industry 4.0 in a short amount of time.

## Session 1: Current State

## Session 2: Future State

- Make sure your processes are good before you spend money on equipment. Then digitize and automate and then implement machine learning.
- We have to make sure we don't put the cart before the horse. You have to have a company strategy, and it needs to match what you are competing with.
- Few industries and markets that are Canadian. Canada is a tiny country in everything but Geography.
- Does government have a role to play here? Germany took a partnership approach and was very successful. We could do that here.
- Canada has improved its thinking - before it was about creating jobs and now it's creating businesses.
- Techno tourism.
- Partner up locally or globally to get us out of this spot.
- Where do you find your talent? Colleges, Universities, High Schools. Talent is in many different places. Leadership need to open-up to access.

## Session 1: Current State

## Session 2: Future State

- COVID has opened up opportunities for us and we should embrace them.
- Reshoring strategies. We can look at our global footprint and not limit ourselves.