



Advanced Transportation
Manufacturing Summit Toronto

INTERVIEW WITH

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Please tell us about the work that you're doing and the type of projects you're working on in the transportation manufacturing sector.

Downsview Aerospace Innovation & Research (DAIR) is about facilitating collaboration, specifically for the aerospace sector. DAIR is not, however, a manufacturing hub. Its mandate is to drive R&D and training solutions for aerospace, through collaboration and co-location. Through its academic and industry partners, R&D projects take place across a variety of sub-sectors of aerospace, in addition to skills training and education; all of which are beneficial to the Ontario (and-Canada) transportation-manufacturing sector.

What are some of the key impacts of new technologies on existing manufacturing practices?

New technologies being implemented into existing manufacturers will require additional and new training for employees (and a new way of thinking about training and life-long learning), a different way of looking at hiring – new skill requirements, etc, the need for cybersecurity across all systems and processes, an integration of the design and manufacturing systems and processes (coordination across divisions), potential integration of new systems/technologies/processes with customers (i.e. Tier 1 or OEMs) and certification standards and the potential need for re-certification (depending on new designs or processes).

What are some of the key considerations for companies managing the shift to Industry 4.0 and intelligent manufacturing practices?

Companies shifting to the use of I4.0, intelligent manufacturing, AI, etc. need to look at the return on investment (as any shift will require capital investment, training costs, etc.), compatibility of new and existing equipment, digital leadership – the need for change to be promoted from management, cybersecurity as a key function of the manufacturing process, how to use data from systems (i.e. hiring staff to focus on data analytics, etc.), the need for human-machine collaboration, i.e. how to train existing staff and how to hire the right new staff and the need for a learning culture in the company.

In what ways is workforce development becoming a key challenge for the industry at present, and how are companies looking to address these?

Canada's aerospace industry is experiencing a skills shortage and requires workforce development to be a key consideration across the entire supply chain; challenges in workforce development include the need for multidisciplinary cooperation, companies cannot keep the workforce silo'ed. Designers/engineers need to be connected with the manufacturing process and workers, as an example.

Tomorrow's aerospace worker will also need to be interested in or competent in multiple disciplines. Companies need to acknowledge the need for life-long learning, and that the skillsets required in aerospace today or tomorrow will not be the same skillsets required 10 years from now. Therefore, training programs need to be agile.

Retirements are a key issue in aerospace and requires companies having a plan in place to transition knowledge capital from older to younger generations of workers. Industry needs to be collaborating with colleges to develop next generation (and X.0) curriculums, to assist in the education of tomorrow's workforce. Industry should be open to additional Work-Integrated-Learning opportunities, to ensure the new generation of workers have hands-on and applicable real-world experience. To aid this, Industry should (either independently or through organizations/associations) promote aerospace as a career path to teenage and under-represented groups.

What was your motivation for joining this event?

This type of event brings together the people necessary to make change and drive innovation in manufacturing. DAIR is a consortium which looks to make partnerships, find opportunities for collaboration and look at the type of innovation and training is going to be required to ensure Canada's success in the global aerospace sector.