



Advanced Transportation
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Talent Development in the Industry 4.0 Era

By Carla Larkin

We are in the midst of the fourth industrial revolution, evolving the ways in which manufacturing is operating. Driven by big data, increased connectivity, powerful analytics and a rise in computing power, this transition is pushing advanced technologies such as 3D printing, robotics, Internet of Things (IoT) and artificial intelligence (AI) to the forefront of manufacturing. As new technologies are transforming the traditional factory, so it follows that workforce requirements are rapidly changing: certain roles are being redefined, others becoming obsolete, and entirely new skills sets and qualifications are necessary. Which poses the question: what does this mean for the manufacturing talent of today and how can companies prepare, recruit, and retain the best people for the jobs available?

It is clear that the shift toward Industry 4.0. is set to change the style of work performed by humans. Tasks are shifting away from predictable physical work, data processing, and information collection, towards decision-making based on data collected, managing others and applying expertise. Investment in long-term training programmes is therefore key in order to effectively prepare the workforce for these emerging roles within the sector, as outlined by Andrew Petrou, Executive Director at Downsview Aerospace Innovation & Research: '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.'

As innovation in technology continues to progress at a rapid pace, existing skills are becoming redundant at a rate of roughly 2.5 years. As Airbus' Process Improvement and Digital Lead Michael Jobity points out, this means that 'preparing workers with the necessary skills for a job with career development opportunities is very important' as 'rapid advancements in technology often create gaps in skill-level'.

While employers must ensure they are equipping future and potential talent with the appropriate resources and support, the success of the technology is also dependent on the existing workforce. Dr Mihaela Vlasea describes what she has observed as Assistant Professor at University of Waterloo, Ontario: 'I have noticed that there is a growing interest and excitement from existing workforce to be re-trained on new manufacturing technologies, as opposed to pushback.' As such, 'this interest should be leveraged through a mature education program'.

But aside from educational training, attention also needs to be paid to changing mindsets around careers in manufacturing today. 'There needs to be an awareness created of the employment opportunities and lifelong career paths which exist in the manufacturing sector,' Walter Garrison, Advanced Manufacturing Business Integrator at the City of Mississauga tells us. 'Myths about manufacturing, i.e. that it is dirty, need to be dispelled. It is parents and guidance counsellors that need to know this as well.'

Irrespective of how the challenge is framed, it is clear that the companies that will thrive in this new era will be those that ensure they invest in the resources needed to find, attract, educate, and retain the best existing and future talent.