
The Emerging and Changing Industry Needs of Engineering Technology Education

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Radical changes in manufacturing and technology, coupled with globalization and societal changes, are creating unprecedented, unmet demand for Engineering Technology skills.

Advances in science, technology and information processing are continually transforming The Manufacturing Sector at widely-published exponential rates. While these advancements create new opportunities, academia fundamentally responds to change logarithmically. These diverging responses result in a widening gap between industry needs and educational provision, which can be modeled by the established "Martec's Law".

The Manufacturing Sector is currently experiencing the key directional change in the rate of technology advancement, commonly described in business as the "knee curve", driving this gap into criticality.

Exacerbating this shortage of technical skills is a shortage in the number of technical employees entering Industry. This is caused largely by societal, rather than business, forces driving an abandonment of technology in the emerging workforce.

This presentation will introduce the divergence model of industry needs, along with the technology advancement model and the specific societal factors driving the industry needs gap. Examples will be presented to illustrate and reinforce these trends.

The presenter will share a perspective on the "addressable market" for Engineering Technology student population, strategies for mitigating societal forces, the expected growth industries for Engineering Technology as well as key technology skills in current and emerging industry needs.

About the presenter:

Shawn Thompson holds an Associate in Applied Science degree in Mechanical Engineering Technology, a Bachelor of Technology degree in Mechanical Engineering Technology and a Master of Science degree in Mechanical Engineering. Mr. Thompson has worked in American and European-American manufacturing for thirty years, including senior leadership roles in manufacturing operations, design and manufacturing engineering in the automotive, machine tool, engineering software, electronics and medical device industries.

Shawn Thompson holds patents in instrument design, has advised, taught and lectured extensively in engineering and engineering technology and currently leads a world-class manufacturing operation for one of Western New York's most successful high-technology manufacturing operations. Mr. Thompson is a member of the Buffalo Niagara Manufacturing Alliance and serves on the Workforce Redevelopment Advisory Committee for the Buffalo Niagara Partnership's advisory panel to Governor Cuomo's Buffalo Billions revitalization initiative.