



Skills and education issues in the development of additive manufacturing capacity

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Abstract:

The promotion of additive manufacturing (AM) as a set of enabling technologies has been a prominent feature to revolutionising the industrial landscape. Due to AM technologies, differences from traditional manufacturing technologies have removed many of the manufacturing restrictions that may previously have compromised a designer's ability to make the product desirability of consumer products because. Interest in additive manufacturing (AM) continues to grow in many industries aside from requirement of a distinct set of human and capital resources. The high demand for jobs in AM design, engineering and production has overtaken the supply of workers, particularly for engineers with AM experience. In order to meet the challenges of a digital and connected industry (Industry 4.0) where additive manufacturing (AM / 3DP) plays a significant role, the education and training issues identified to enable the effective deployment of AM technologies in the short to long-term. Stating with the AM industry needs to understand what skills are demanded by the industry, and what sort of talent is required to enable the industry growth and accelerate innovation to support businesses in various industries including engineering, manufacturing. On the other hand the digital transformation journey and industrial adoption of AM as a new digital manufacturing for the industry and small and medium-sized enterprises involves making large changes at the organizational level and re-skilling employees, which is generally demand a high to cover the IT and machinery expenses.

In this connection, to overcome the AM workforce skill gaps the concept of ongoing feasibility study project called "AM on the road" will be presented. The aim of the AM mobile concept is to develop and provide the foundation of knowledge and capabilities within the industry sector, such as "R&D know-how, advanced process development, engineering skills, and manufacturing competencies related to AM technology. The versatility of mobile AM on the road relies on the solution to overcome logistic barriers and ensuring continuous printing on demand and quick supply of parts directly at the site of interest. In addition, to the benefits

of creating a theoretical, experimental education platform it is promising pathways to conceptualize the challenges faced by groups of small enterprises when adopting new technologies and a decentralized policy effort to systematically increase the use of advanced manufacturing technologies successfully and realize AM technology manufacturing capabilities within industry.

Biography

Sima Valizadeh is Director at 3D Printing and Sustainable Manufacturing, Advisory Board Member. responsible for initiating and driving efforts that are required in the challenge area Smart Industry, and AM as new technology for small and medium-sized companies, (SMEs). My goal is to mediate and support the cross-sectoral collaborations and skills within the Industry 4.0 and digitalisation of the manufacturing process. I am appointed as a Gävleborg County representative at EU Vanguard imitative program to support the SME with information about founding opportunities including research and innovation projects. My additional activity is acting as member at Research & Innovation Group in the Automation Region center. It is a center at Mälardalen University that brings together small companies, large companies, academia and the public sector into an industry-independent cluster. The R&I group task is to map the future Research and development needs within Automation in the Region

Publication of speakers

1. Sima Valizadeh et al; Motor aphasia as a rare presentation of fat embolism syndrome; a case report,2015 Jan 15
2. Sima Valizadeh et al; Management of Hip Fractures in Lateral Position without a Fracture Table, 2014 sep 15

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