



### ***3D Printing and 4D Printing for Smart and Sustainable Manufacturing***

As 3D printing technology continues to develop and become more widespread, we are led to potentially discover new or more extensive benefits to society. Today, manufacturers are witnessing advantages of the technology in terms of enabling greater customisation while reducing costs and waste. Sustainability is a central priority for various industries and arguably the world in general. Especially in Singapore, we do not have limitless resources, therefore ways of reducing negative human impact are high on the global agenda. In addition to sharing on how 3D printing can yield environmental benefits, this keynote speech will touch on 4D printing, a revolutionary smart technology which refers to the printing of three-dimensional materials with properties that will transform according to external or environmental stimuli, signifying a radical shift in traditional manufacturing.

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