

Can 3D Virtual Prototyping Conquers the Apparel Industry?

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Abstract : Imagine an apparel industry where fashion design does not begin with a paper-and-pen drawing which is then translated into pattern and later to a 3D model where the designer tries out different fabrics, colours and contrasts. Instead, imagine a fashion designer in the future who produces that initial fashion drawing in a three-dimensional space and won't leave that environment until the product is done, communicating his/her ideas with the entire development team in true to life 3D. Three-dimensional (3D) technology - while well established in many other industrial sectors like automotive, aerospace, architecture and industrial design, has only just started to open up a whole range of new opportunities for apparel designers. The paper will discuss the process of 3D simulation technology enhanced by high quality visualization of data and its capability to ensure a massive competitiveness in the market. Secondly, it will underline the most frequent problems & challenges that occur in the process chain when various partners in the production of textiles and apparel are working together. Finally, it will offer a perspective of how the Virtual Prototyping Technology will make the global textile and apparel industry change to a level where designs will be visualized on a computer and various scenarios modeled without even having to produce a physical prototype. This state-of-the-art 3D technology has been described as transformative and "disruptive" comparing to the process of the way apparel companies develop their fashion products today. It provides the benefit of virtual sampling not only for quick testing of design ideas, but also reducing process steps and having more visibility. A so called "digital asset" that can be used for other purposes such as merchandising or marketing.

Keywords : 3D visualization, apparel, virtual prototyping, prototyping technology

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