

## **Adaptive Model of the Human Body - A New Tool for Fashion Designers**

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The new dynamics of global trade demand change in the traditional ways of designing fashion. The new generation of fashion designers is driven by forces of globalization of trade and the corresponding change of pace in global supply chain; changing demographics and body shapes; increasing demand for better fit and sizes; and, faster changes in fashion trends fuelled by emergence of new mediums like internet. One of the consequences is that just about every piece of equipment in any aspect of the clothing and textile world is connected to a computer of some sort. The new age designers will be designing his new ensemble on a virtual mannequin on a computer. As his client may be any shape, size and origin, based anywhere in the globe, he will be working with body measurements captured in a remote body scanning booth & electronically communicated to him by adapting his virtual mannequin to the new measurements.

This paper presents work carried out at ENSAIT on creation of a virtual adaptive 3D mannequin using the actual human body measurement data captured by a 3D body scanner. The first part of the paper discusses the changes in the world trade that are driving developments of new tools for designers, and positions this study in the larger project framework of directly designing clothing on a virtual body in three dimensions. In the second part the representative model of human body developed using various interactive sciences such as anthropometry & biometrics is presented and in the third part the model is adapted in 3D CAD. Simulations carried out to validate the model are also presented.