

U3M

THE FIRST OPEN-SOURCE 3D MATERIAL FORMAT

for the Apparel Industry

The Need for Digitizing the **Material Supply Chain**

3D apparel materials consist of physical properties, such as bend, thickness, stretch, and drape parameters, and visual properties, including color, structure, and opacity. These are both crucial factors for accurate garment simulation, and achieving a 3D digital twin. However, when leveraging multiple proprietary software applications, from measurement tools to simulation and rendering platforms, the interoperability between all of the different systems and formats is almost nonexistent, and the data cannot be utilized across applications.

That's where U3M comes into play.



U3M Explained

[U3M](#) was developed by [Vizoo](#), a leading provider of material digitization technology, to enable apparel brands to manage data efficiently when working with multiple applications and ensure visual alignment of digital materials throughout the end-to-end apparel process. The single open-source format enables apparel organizations to leverage a standardized format for all of their digital materials.



“A material format that covers both visual and physical parameters will lead to a deeper vertical implementation of 3D in the material process. With U3M as an essential 3D simulation tool, fabric suppliers are finally able to digitize their materials without regard to their client’s software environment.”



Renate Eder | Chief Commercial Officer [VIZOO](#)



U3M 1.1 Exposing Raw Fabric Data

As the second phase of U3M, to get even closer to the digital twin, Vizoo, in collaboration with Browzwear, released U3M 1.1 which enables apparel organizations to leverage fabric raw measurement data, to support the standardization of digital materials. Therefore, each fabric’s physical data obtained by Browzwear’s [Fabric Analyzer](#) (FAB) and Vizoo’s [xTex Scanner](#), can be captured in its raw form, for uncompromisingly accurate garment simulation.

The Benefits of U3M:

- 1 Aligned fabric visualization throughout
- 2 A collaborative working environment
- 3 Combined visual and physical data
- 4 An efficient and streamlined workflow



U3M represents materials from the physical world in the 3D virtual world, a basic building block for the digital garment. It captures the complexities of materials with rich and accurate readings, from high-end visual information to the physical properties of the fabric. When used with physics obtained from Browzwear's Fabric Analyzer, it enables true-to-life 3D simulation of any pattern with any fabric. U3M is a standard open-source format, making it interoperable and easy to share and re-use between different users and across different software applications."



Guy Aharoni | VP of R&D BROWZWEAR

About U3M

Unified 3D Material (U3M), a unique single open-source format developed by Browzwear & Vizoo works to combat this challenge by providing a brand new, standardized format for digital materials to create visual alignment between applications. This includes physical properties data and texture maps, all combined into one file. Having the ability to depend on a single format for fabric means that vendors and suppliers can enjoy a more efficient process for transferring or sharing digital materials. In addition, the openness of U3M enhances their collaboration by allowing everyone involved to contribute to the process.

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