Post Evaluation of 3D Body Scans from Worldwide Surveys

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Abstract

3D body scanners have already been used successfully for many years in the context of measurement surveys worldwide. In addition to accuracy and speed, the availability of the 3D data of the individuals also plays a major role beyond the measurements, as it allows any form of post   evaluation of the data at any time.

Today, products are increasingly tailored to the needs and requirements of specific target groups. For this reason, special measurements that go beyond the standardized body dimensions from worldwide standards are also required more frequently in order to create an optimal product fit and comfort.
For the post-evaluation of scan data, Avalution has built a complete integrated process chain that provides tools for all stages of the evaluation process.

A prerequisite for the management of large scan data pools is a database-supported infrastructure that allows the fast and targeted selection of relevant data. Not only are the body scans of a person in different postures and all socio-demographic characteristics of the individual scans stored here, but also all body measurements that have already been finalized. In addition, quality assessments of the scans are available, which, for example, provide a good basis for selecting and compiling scans for post evaluations.

If specific additional measurements are to be evaluated, these must be clearly described using measurement specifications and reference points on the body. These are then integrated into a computer-assisted evaluation scenario, which is run through by evaluation specialists, in which the required reference points on the individual scan are marked and evaluated in the most suitable posture for each scan. A higher-level quality assurance system checks whether all evaluators are working consistently.

When the reference points on the scans are available, the new body data can be programmed on this basis in an automatic algorithm for measurement, which creates all additional dimensions for the scans. The new body dimensions can then be measured automatically for all available scans and also for all subsequent measurement surveys.

After that, avatars or specific 3D typologies can also be created, where the post-evaluated body data can be used as target features to verify the fit and comfort of the newly developed products, both digitally and physically, in the form of e.g. 3D printed or milled 3D bodies.

In the final step, the evaluated additional dimensions can then be made available in the international body data portal iSize from Avalution for individual evaluations in combination with already existing standard measurements.

* https://www.avalution.net