SCANTIST 3D—discover the first 3D scan spray that evaporates automatically after 20 minutes

An interview with Dr Sebastian Gell, co-owner of Scanningspray, the company that developed SCANTIST 3D

By Claudia Duschek, Dental Tribune International

When using even the most modern extra-oral scanners, it is usually necessary to use matting sprays to achieve great accuracy in digital models. With the aim of improving scan quality, a German company has developed SCANTIST 3D, a new 3D scan spray that was specifically developed for extra-oral CAD/CAM applications in dentistry. In this interview, Dr Sebastian Gell explains the main features and advantages of the spray, which allows, for example, accurate scans of transparent objects.

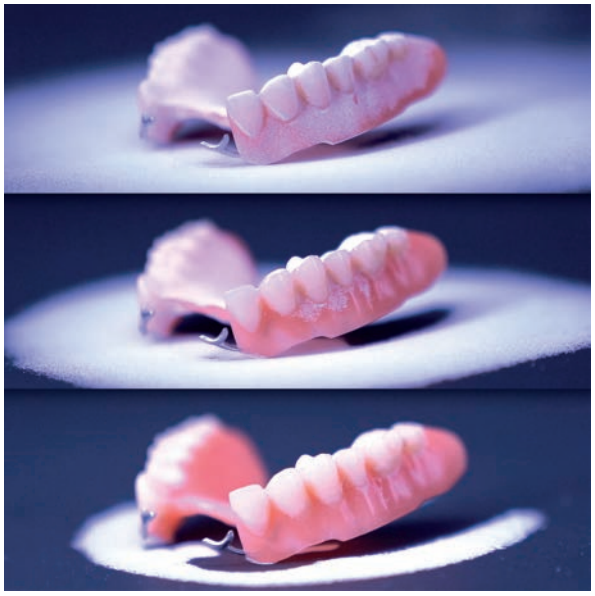
Dr Sebastian Gell is a professor of business administration at FH Aachen University of Applied Sciences in Aachen in Germany. He is also a co-founder of Scanningspray, the company specialising in surface matting for optical 3D scanning that developed SCANTIST 3D. *(Image: © Sebastian Gell)*

Dr Gell, could you please tell us more about the need for digitisation in dental laboratories?
Nowadays, the number of dental restorations such as prostheses produced by conventional means is continuously decreasing. The desire for restorations made of high-performance ceramics, which increases aesthetic demands and high-precision requirements, has led to the development of digital manufacturing processes using computer-aided design (CAD) and computer-aided manufacturing (CAM). Digitisation has therefore become an essential process in the fabrication of dental restorations in modern dental laboratories.

The surface of the scan object is digitised with the help of a 3D scanner, and a 3D model is created from the data obtained. The digital model can then be compared with actual parameters and, in the event of deviations, changes can be made to the physical model. In the additive manufacturing process, digital models also serve as input data for a 3D print.

In order to ensure exact 3D scan results, it is often necessary to apply a coating to the scan object. How can optimal scanning conditions be achieved with SCANTIST 3D?
Three-dimensional scanning requires that light emitted by the scanner is reflected from the scan object back into the sensor of the scanner. In the case of a transparent or translucent surface, for example, the light passes through the surface instead of being reflected from it. As a result, the scanner is not able to capture the surface structure. For this reason, it is often necessary to apply a coating before scanning objects that are transparent, translucent, reflective, shiny or highly structured with deep pockets. SCANTIST 3D forms a thin layer of white, homogeneous coating which eliminates reflections and other inhomogeneities and thus provides ideal conditions for optical scanning.

The handling is extremely simple and comfortable. SCANTIST 3D is applied evenly to the surface of the scan object at a distance of 5 to 10 cm. The spray cans are equipped with a special valve with a very fine nozzle. This makes handling easy and efficient, as the spray is applied with pinpoint accuracy and precision. The coating has a layer thickness of about 2 µm and adheres to all materials, even to very smooth surfaces.



Dental 3D scan sprays form a matt, white and homogeneous coating when applied. This reduces reflections and other inhomogeneities and thus creates excellent scanning conditions. *(Image: © SCANTIST 3D)*

> "SCANTIST 3D eliminates the fundamental application problems of conventional 3D scan sprays and thus greatly increases efficiency and productivity within the digitising process."

SCANTIST 3D is the first evaporating extra-oral 3D scan spray. Why is this a crucial advantage for dental laboratories?

Conventional extra-oral 3D scan sprays are based on ground white colour pigments. The disadvantage is that the applied coating must be removed again after scanning. The cleaning process is very tedious, costly and time-consuming. Unlike conventional sprays, the coating of SCANTIST 3D VANISHING evaporates about 20 minutes after application. The spray does not contain pigments and thus avoids the pigment-contamination of sensitive areas, such as laboratories, equipment and users. You can even apply SCANTIST 3D VANISHING directly, on the spot, without taking any costly precautions to avoid pigment-contamination. Overall, SCANTIST 3D eliminates the fundamental application problems of conventional 3D scan sprays and thus greatly increases efficiency and productivity within the digitising process.

This new scanning spray is free from titanium dioxide. Why is this important?

In a scientific opinion issued on 14 September 2017, the Committee for Risk Assessment of the European Chemicals Agency proposed the classification of titanium dioxide as a Category 2 carcinogen by inhalation. Based on this opinion, titanium dioxide has now officially received its carcinogenicity classification according to the EU Classification, Labelling and Packaging Regulation. The classification as a carcinogen by inhalation applies to mixtures in powder form containing 1% or more of titanium dioxide which is in the form of, or incorporated in, particles with an aerodynamic diameter ≤ 10 µm. This criterion is met by many of the sprays used for scanning containing titanium dioxide. Based on this drastic change, I expect that many dental laboratories will be looking for less harmful spray alternatives.

New 3D scan spray developed for extra-oral CAD/CAM applications in dentistry. *(Image: © SCANTIST 3D)*

Is the product globally available, and how can technicians order it?

We are currently building our global reseller network and are therefore very happy about dealer inquiries. Dental technicians can contact their usual sources and dental retailers and make them aware of SCANTIST 3D.

Editorial note: More information about SCANTIST 3D can be found online at www.scantist3D.com.