

SMARTTECH 3D SCANNER USED IN THE CREATION OF KRONES PRODUCTION LINES IN US

Krones company is a global supplier of the best automatic production lines for filling and packaging. The main North American engineering center is located in Franklin, Wisconsin, USA.

The machine park at Krones Corporation has expanded with the recently purchased 3D scanner SMARTTECH3D UNIVERSE 5Mpix with automated rotary table.

The specific of Krones case study can be discussed in the example of a bottled beer production line, where the entire technological process is focused on the bottle

Each project starts with the creation of a bottle prototype to which beer will be poured in this case. Then, a range of equipment is selected for particular applications that will create a unique production line.

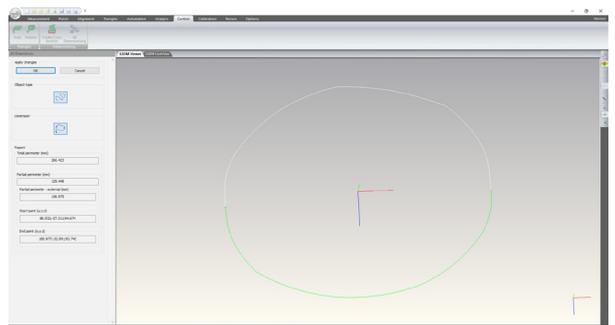
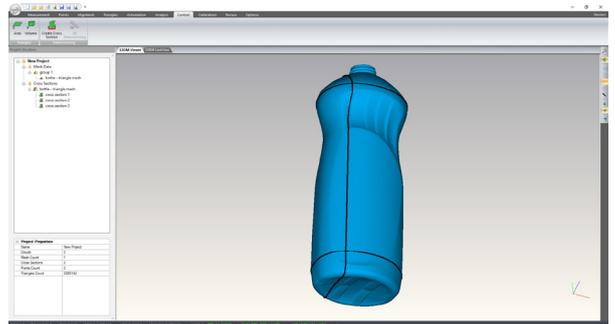
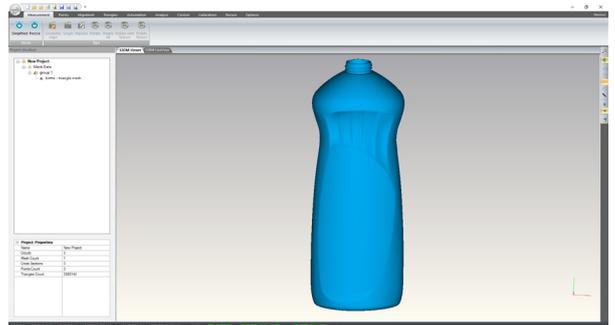
Krones engineers, unfortunately, encounter many technological and designer barriers on their design way. Each client wants his packaging to have an original look and high quality. By executing the physical prototype model (some times 3d printed) that has been accepted by the client, specialists at a later stage must move it to the digital world to perform the appropriate production forms. Engineers later also need to perform quality control of produced product. That is why Krones has always wanted to find a way to quickly and accurately obtain information about a physical bottle.

In the past, measurements were made by using a manual measurement arm with a laser scanner. However, this process, was very time consuming and made a lot of troubles due to the number of measurements that were needed to be made by operator manually.

After the decision to change the measurement technology Krones began the process of searching new different methods of digitizing the bottles. Krones invited a lot of producers of 3D scanners to make demonstrative measurements of packaging and present the advantages of their technologies.

Among the invited guests was INTO3D - an North American distributor of SMARTTECH 3D scanners. INTO3D engineers made demonstration measurement of several bottles. 3D scanning was carried out on site at the Krones factory. A SMARTTECH3D UNIVERSE 5Mpix scanner was used for all measurements. Krones was looking for the most advantageous option of increasing throughput while reducing the time of work of the operator, and highest accuracy of the obtained 3D models.

Finally Krones choose the SMARTTECH3D scanner. The ease and the speed of the 3D scanning process by SMARTTECH3D scanner (thanks to automated rotary stage) and the ability to make a virtual crossection at SMARTTECH3Dmeasure software (generating as IGES files), finally led to the conclusion that this is the best product for KRONES.





After the implementation of the 3D scanner in the design process at Krones, the estimated throughput and accuracy doubled, compared to the previous measurement method.

Another aspect in which 3D scanners turned out to be very helpful are the errors on the product made during production. Even a small change in the shape of the bottle is associated with the risk of errors on the production line. Therefore, the decision was made to carry out bottle geometry checks by scanning the sample bottle from each batch. The scanned samples are compared with a CAD model, and thanks to the Geomagic ControlX software, all changes are presented as a color map of deviations. This way, the 3D scanner gained an additional application that previously engineers did not assume.

Quality and competitiveness of the SMARTTECH measurement technology was confirmed in the attached testimonial.

More about SMARTTECH:



The company for 18 years has been engaged in the production and sales of specialized 3D scanners. SMARTTECH is constantly developing its products adapting them to various industries, such as manufacturing, medicine or archaeology. With numerous international distributors the company has global sales on all continents from both Americas, through Europe, all the way to Asia. More at www.smarttech3d.com

More about Krones:



Krones AG - the world's leading manufacturer of equipment for bottling and packaging of beverages and liquid food products as well as pharmaceutical, cosmetic and chemical products in glass bottles, PET bottles and cans.

More at www.krones.com



Testimonial

We confirm with great pleasure that the company SMARTTECH Ltd. is a solid and proven business partner. The professional optical measuring system UNIVERSE 5 MPix together with a rotary stage and the software SMARTTECH3Dmeasure were provided on time and in accordance with the contract. The unit was hand delivered by a SMARTTECH representative to generously accommodate our need of the scanner as soon as possible.

In addition, the company SMARTTECH Ltd. provided as part of the delivery; the installation, the initial launch of the equipment, as well as professional training covering the use of the measuring machine and software. We also greatly appreciate the after-sales technical support package. The SMARTTECH specialists are competent and provide the highest level of support. We have yet to run into any problems with the scanner or the software and we find much comfort in the fact that we have a reliable and trustworthy company to help us if we do.

The optical measuring system provided by the company SMARTTECH Ltd. is used by the engineering department at Krones Inc. where it works very well and meets all expectations. This piece of equipment works perfectly for us and our scanning purposes. Thanks to the SMARTTECH 3D scanner we gain the ability to perform quality control of various types of containers very quickly and efficiently.

When considering many different 3D white light scanners, the SMARTTECH Universe scanner and its distribution partner Into3D LLC (located in Milwaukee, WI) stood out among the others. Due to the fair price and the best scanning demonstration/results of all the products we'd considered, it was the obvious choice. Even though we made a thorough analysis of all the specifications each company's scanner provided, we knew almost immediately that SMARTTECH was the solution to our needs.

Therefore, considering all the above, we recommend the company SMARTTECH Ltd. as a reliable business partner.

Sincerely,

A handwritten signature in blue ink that reads 'Nathan Reed'.

Nathan Reed
Mechanical Design Engineer/Customer Objects Specialist
LCS NA Retrofits and Engineering, Krones Inc.