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TEQ's use of Finite Element Analysis leads to boosted packaging functionality and sustainability

Leading international thermoformer TEQ is benefiting from using cutting-edge computer simulation techniques to boost packaging functionality and sustainability.

The global company uses Finite Element Analysis (FEA) to support Simulation-Driven Product Development (SDPD) which allows the prediction of product specifications in the early design phase.

With the advantage of reducing manufacturing time considerably, software simulations – aided by FEA - are now firmly established as a key priority for many manufacturers.

FEA has emerged in recent years as the most widely used numerical analysis for solving problems of engineering and mathematical models. It works by using a set numerical method to solve partial differential equations in two or three space variables.

Anne-Sophie Belamine, European Sales Director at TEQ, said: “By using FEA to assist with structural analysis, we are able to determine the optimum shape, material and thickness that will meet all aspects of a customer’s packaging requirements whilst eliminating the guesswork.

“With the ability to predict product specifications at the early design stages simulation is a very intuitive tool during the development process.”

Computer-aided simulation techniques have increased rapidly in the last decade and their adoption worldwide has played a leading role in reshaping the manufacturing industry.

Other benefits of SDPD include:

- Enabling engineers to think more freely on new design ideas
- Shortening design cycle times and increasing speed to market
- Anticipating potential problems and reacting more quickly to design changes
- Improving alignment with customers
- Reducing development costs
- Reducing physical prototyping and testing

TEQ, which was acquired last year by global packaging solutions leader Sonoco, offers a complete range of cleanroom-manufactured and injection-moulded packaging to the medical, pharmaceutical, and commercial sectors.

Alongside TEQ, which operates two European sites, in the UK and Poland, Netherlands-based Sonoco Plastics produces millions of injection-moulded parts with high optical properties for use in diagnostic and clinical chemistry instruments.

In the US, TEQ has three thermoforming facilities and one extrusion operation. With more than 50 locations across the world, TEQ, as part of Sonoco, is now a truly global packaging business.

As customers work to address critical health requirements associated with Covid-19, TEQ also continues to offer a range of high-quality medical packaging solutions.

The company's specially commissioned Class 7 and 8 cleanroom facilities in Hucknall, near Nottingham, and Poznan, Poland are both certified to ISO 13485: 2016. This enables TEQ to meet medical device and pharmaceutical manufacturers' most rigorous packaging requirements.

TEQ's medical packaging range includes clamshells, dosage cups, trays, tubs, lids and sterile barrier blisters. It also manufactures custom thermoformed handling trays, including dry powder inhalers, auto-injectors, injection-moulded components, pre-filled syringes and pharmaceutical bottles.

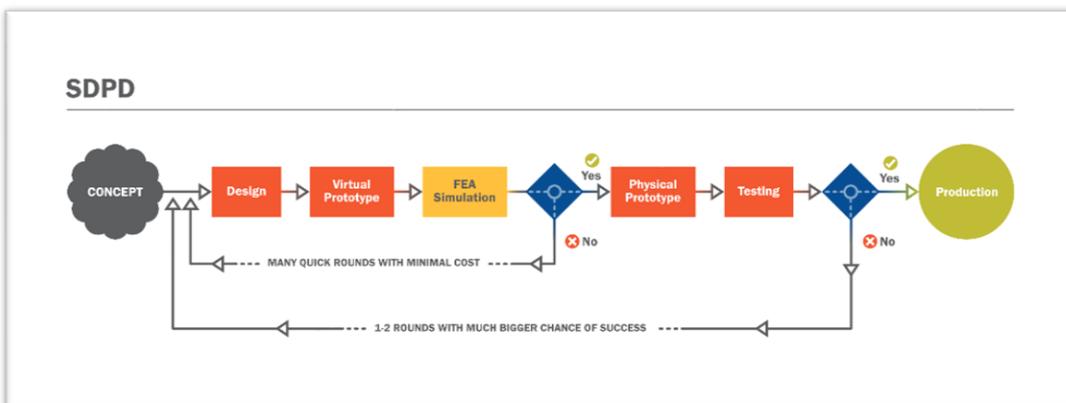
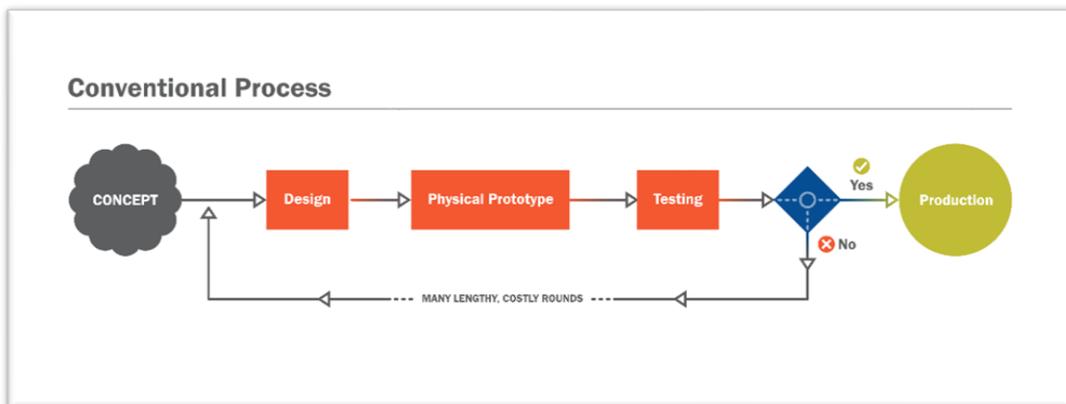
The company also produces recyclable, moulded-pulp-fibre packaging under its Fibrepak sub-brand for commercial customers.

Visit: teqnow.eu

Ends



TEQ has state-of-the-art cleanrooms at Hucknall Industrial Park, near Nottingham, and in Poznan, Poland



Diagrams demonstrate the difference between conventional processes and Simulation-Driven Product Development (SDPD)

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Notes to Editors:

TEQ manufactures innovative thermoformed packaging for the world's leading companies.

The company develops products for a range of markets, including consumer, component handling and medical from its ISO- and BRC-certified production facilities in the UK and central Europe. This includes state-of-the-art cleanroom facilities.

As well as rigid plastic solutions, the company develops custom designed moulded-fibre packaging with a paper smooth surface from natural and sustainable fibre.

About Sonoco Healthcare

Where the Science of Packaging Empowers the Science of Medicine. Sonoco offers a variety of packaging, shipping and display solutions designed to meet the unique needs and exacting standards of the medical, pharmaceutical and biotech industries. From sterile, non-sterile or temperature assured packaging to the fabrication of diverse medical device components, Sonoco has a solution for your business.

About Sonoco

Founded in 1899, Sonoco (NYSE: SON) is a global provider of a variety of consumer packaging, industrial products, protective packaging, and displays and packaging supply chain services. With annualized net sales of approximately \$5,2 billion, the Company has 20,000 employees working in more than 320 operations in 34 countries, serving some of the world's best known brands in some 85 nations. Sonoco is committed to *Better Packaging*, *Better Life*, and ranked first in the Packaging sector on Fortune's World's Most Admired Companies 2018-2019-2020 lists. For more information visit www.sonoco.com.