GoneShells

The bottle that disappears by itself

Anna Glansén, founder, and Maria Glansén, design director at Tomorrow Machine

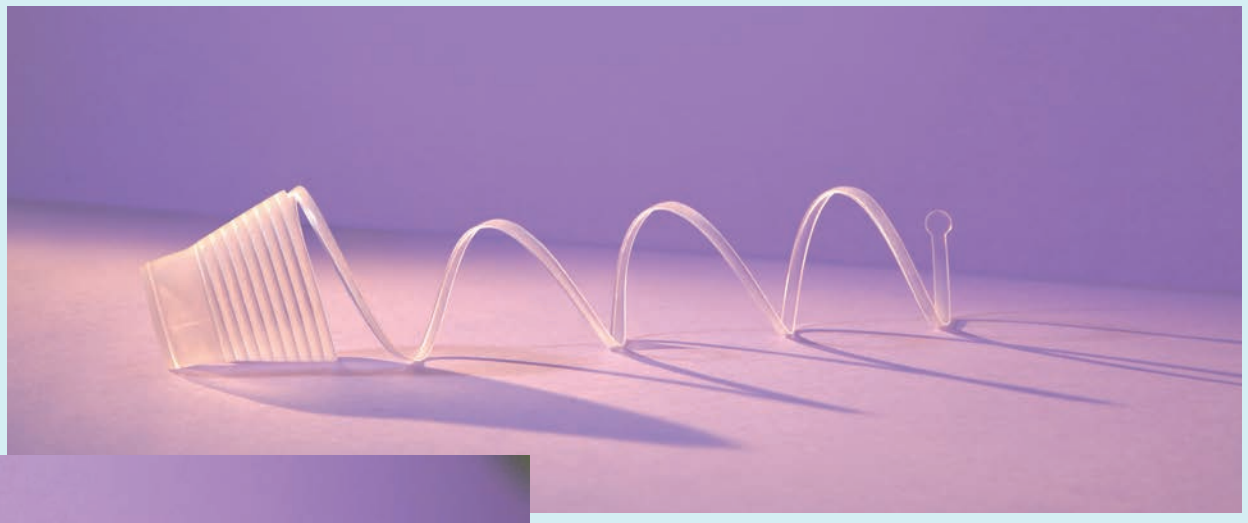
Swedish design studio Tomorrow Machine have worked extensively to develop packaging solutions that replicates the life cycle of fresh products. In collaboration with the global juice company Eckes Granini and their premium brand Brämhults, an innovative biobased juice bottle made from potato is now being developed.

There are many reasons why we need to challenge existing packaging solutions. While the contents inside may degrade after days or weeks, most packaging solutions are made to last for years or even decades. Even many biodegradable packaging materials today require industrial composting.

Tatties gone

The GoneShells bottle is made of an innovative biodegradable material that challenges our conventional idea of how a packaging can be designed. Inspired by the way that nature protects its contents, the idea has been to develop a material so pure you can eat it, and to create a packaging that can decompose without industrial processes, similar to the peel from a piece of fruit. With a bottle designed to be torn apart after it has been used, the idea is that we can help to speed up the decomposition process.

Biodegradable packaging itself is not a new concept. What makes GoneShells innovative is that the biodegradable packaging material is made from potato, allowing for a fast decomposition and multiple alternatives of degradation. When the project is ready to bring to market, the bottle can be eaten, home composted or even dissolved under running water from the tap. When you break the packaging and put it in contact with water, a natural reaction starts to break down the material immediately.



The bigger questions

This research project's aims were to replace fossil-based materials as well as to question the lifespan of today's packaging. The objective was to create less strain on both the environment and recycling systems, as well as reducing problems associated with packaging materials. Supported by the strategic innovation programme BioInnovation, a joint venture by Vinnova, Formas and Swedish Energy Agency and with expertise from RISE Research Institute of Sweden and F&B Happy, development was carried out along with the design of prototypes.

Although the project didn't fully meet the requirements for the preferred area of use, fruit juice packaging, it was able to show that the concept is viable for single-use food packaging such as food trays and dry goods, where the contact time with water is shorter. The combination of starch-based materials coated with a biobased barrier has the potential of substituting single-use plastics for many applications. It also demonstrated that extruding and injection moulding equipment used for conventional industrial thermoplastic processing can be applied to processing the starch-based formulation, which gives potential for the concept of rapid production at industrial scale.

Learn more at

www.goneshells.com

BioInnovation
www.bioinnovation.se/en

Tomorrow Machine is a Swedish design studio, based in Stockholm and specialising in package, product and food concepts. They believe in looking at the world from a creative point of view to shape the innovations of tomorrow.

www.tomorrowmachine.se