CASE STUDY

LOGISTICAL CHALLENGE

RETAIL

HOW REDESIGNING AN EGG BOX FOR MEAL KITS CUT ASSEMBLY AND PACKING TIME BY 75%

THE CLIENT
A leading online retailer of meal kits for home consumption

PROJECT CLASSIFICATION
- Efficiency
- Environmental

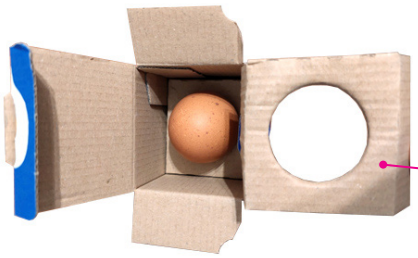
PROJECT OVERVIEW
Development of transit packaging for a single, fresh hen's egg

THE CHALLENGE

This subscription-based meal kit retailer experienced significant growth in 2020 and 2021, driven by demand during Covid-19 lockdowns.

The meal kits are chilled, and all the ingredients, which often include eggs, are fresh. However, the company's existing packaging for individual eggs – a hand-assembled die-cut box – took approximately 40 seconds to assemble and pack. With over 8,000 eggs a week sometimes being sent, this was both laborious and costly. As a consequence, the company made the decision to reduce the use of individual eggs in the meal kits in 2022 while they looked for a solution to the issue. It was important that, as well as being easy and quick to assemble, the replacement packaging should be as sustainable as possible to support the company's status as a Certified B Corporation.

THE ANTALIS SOLUTION



The original packaging: a die-cut box that took 40 seconds to assemble and pack.



The new packaging: a moulded, self-locking, pulp-based box that can be assembled and packed in under 10 seconds.

SMART PACKAGING SOLUTIONS

antalis

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THE PROCESS

Using a clear framework, the Antalis packaging team set to work developing a solution:

1. Explore Antalis visited the company's packing operation to assess the current situation and process. The original box being used to protect the eggs was made from die-cut corrugated kraft and was time-consuming to assemble and pack, taking almost 40 seconds per unit. As over 8,000 single eggs could be sent in a week, four people were required to assemble and pack the egg boxes each day in order to meet demand.

2. Propose At Antalis, we looked at the challenge in a number of ways, always with a view to providing a more sustainable option with regard to materials used, weight of pack and logistical efficiency in order to reduce the carbon footprint of the operation. We put forward eight different solutions, all of which offered a significantly higher performance level than the current solution. Drop tests helped to refine the options until we arrived at a design that met all of the client's requirements. For the chosen pack, we worked with Ezee Group International, a third party manufacturer, to adapt an existing, off-the-shelf egg box design to create a single, moulded, self-locking, pulp-based egg box. The material used is 100% recycled compared to the virgin kraft of the original pack. The pack is also 20% lighter in material use and offers 25% more units per pallet.

3. Test Assembly and packing of the chosen pack takes under 10 seconds. Transit trials brought a success rate of over 98%.

4. Implement The client has fully implemented use of the new egg boxes. Stocks of the egg boxes are held by the manufacturer for the client to call off as required.

THE SUMMARY

CHALLENGE	GOAL	SOLUTION	BENEFIT
Efficiency	Reduce time taken to pack and assemble each unit	Moulded, self-locking, pulp-based, single egg box	Reduction in assembly and packing time from approx. 40 seconds to under 10 seconds 81% reduction in cost 25% more units per pallet than previous packaging, reducing storage requirements
Environmental	To provide a more sustainable packaging option with regard to use of materials, weight of pack and logistical efficiency	Use of 100% recycled pulp v. virgin kraft used for the original packaging	20% less material used 25% more units per pallet, reducing costs and carbon footprint associated with transportation of materials

ADVANTAGES OF THE SOLUTION

EFFICIENCY

Assembly and packing time per unit reduced to under 10 seconds.

Significant reduction in material, labour and transport costs.

ENVIRONMENTAL

20% less material used.

25% more units per pallet.



Stacey McDonald, Packaging Account Manager - Antalis UK

"Packaging of a hen's eggs for safe transit must be one of the more challenging projects I have worked on, but the results we achieved for the client made all of the effort worthwhile. The ability of our team to take a brief and deliver a concept that meets every requirement and, in fact, surpasses client expectation, is incredible and hugely satisfying. When we are working to identify or develop a new packaging solution, sustainability is always a key criteria for us at Antalis, and it is always pleasing, as in this instance, to work with a client who shares those goals. The chosen solution wasn't the cheapest, but it was by far the most sustainable and actually delivers the greatest savings overall."

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