

Innovative Solution for Aftersales Spare Components

An international service and support provider serving the automotive, home appliance, and industrial machinery sectors, shipping high volumes of spare parts and components to dealers, service centres, and end users.

The Challenge

An international service and support provider, shipping high volumes of spare parts and components to dealers, service centres, and end users, needed a packaging solution that could address multiple pain points:

- **High SKU variability** – Hundreds of small to mid-sized parts required protective yet adaptable packaging.
- **Weight-sensitive shipping** – Most components weighed under 5 kg, demanding lightweight packaging to control courier costs.
- **Damage in transit** – Fragile items such as control panels, switches, and plastic housings were prone to cracking, scuffing, and denting.
- **Sustainability targets** – Pressure from stakeholders to move away from plastic and foam-based solutions.
- **Storage constraints** – Packaging needed to be flat-packed to optimise warehouse space.

The client sought a cost-effective, scalable solution that would minimise damage, align with sustainability goals, and work seamlessly across a wide SKU range — all without the heavy upfront investment of custom tooling for each product.

Our Solution

100% Recyclable Modular Inlay Suspension Packaging

By implementing our innovative modular inlay suspension system, we delivered a packaging solution that combined protection, flexibility, and sustainability.

- **Modular Suspension Inlays** – Customisable to fit a wide range of part geometries using our patented adaptable lattice design.
- **Optimised Outer Carton** – Built to FEFCO standard styles, easy to assemble, and precisely sized to match product and courier requirements.
- **Eco-Friendly Materials** – Manufactured from FSC-certified fibreboard and 100% curbside recyclable, eliminating single-use foam or plastics.
- **Flat-Pack Efficiency** – Both cartons and inlays are supplied flat-packed, maximising warehouse space and reducing transport costs and carbon footprint.

KPI	Before (Mixed Packaging)	After (Suspension Packaging)
Transit Breakage Rate	4.10%	0.40%
Avg. Packaging Time (per unit)	6 mins	3.5 mins
Storage Footprint (protective packs)	10 Pallets	2 Pallets
Pack Material Weight per unit	2.8kg	0.9kg
Recyclability of Materials	55%	70%

Results & Impact

Following design approval, the new packaging system was quickly integrated into the client's operations. Key steps and outcomes during the rollout included:

- Developed three standardised carton sizes with interchangeable inlays to fit over 85% of spare components.
- Trialled successfully across automotive sensors, appliance control knobs, printed circuit boards, and plastic brackets.
- Reduced pack time with pre-folded inlay formats and clearly labelled packing instructions.
- Trained warehouse packers in under 30 minutes, with zero disruption to order fulfilment.

"This has been a transformative shift for us. We've reduced glass damage dramatically while freeing up space and reducing packaging waste. Our warehouse team love the simplicity, and AIR|SHIELD gave us a flexible packaging model for our growing product range."

Logistics Manager

EU Automotive Aftersales Division