



# Delivering a transition to fully recyclable tray packaging

Together with one of our clients, a large pharmaceutical company, we implemented a tray material replacement initiative focused on improving the recyclability profile of tertiary packaging components used for ampoules and vials.

The project involved replacing existing polystyrene trays with a PET-based alternative as part of a broader transition towards fully recyclable packaging materials within the packaging operation.

## KEY CHALLENGES

### Improving recyclability while maintaining packaging performance

A key challenge was identifying an alternative tray material that could support improved recyclability while remaining compatible with existing packaging operations for ampoules and vials.

The replacement material needed to maintain packaging performance, machinability and product conformity while supporting scale-up within existing manufacturing processes.

### Validating material compatibility within existing operations

The project also required validation of the new tray material within existing packaging operations before full implementation.

This included assessing machinability, evaluating stability performance and confirming conformity prior to scale-up.

## HOW WE SUPPORTED THE PROGRAMME

We worked closely with the customer to evaluate and implement a PET-based tray solution to replace existing polystyrene trays.

The implementation included:

- > line testing of two PET films to assess machinability
- > storage in stability chambers with assessment at multiple timepoints
- > conformity verification prior to scale-up
- > transition towards fully recyclable tray materials within existing operations

The project was implemented within existing packaging processes, supporting improved recyclability without requiring broader operational changes.

## OUTCOME

The implementation resulted in a transition towards fully recyclable tray packaging for ampoules and vials.

Following implementation:

- > polystyrene trays were replaced with a PET-based alternative
- > the new material was transparent, 100% recycled and 100% recyclable
- > approximately 6.4 tons of polystyrene were expected to be avoided annually
- > approximately 12,8 tons CO<sub>2</sub> saved per year

The project demonstrated how packaging material changes can be validated and implemented within existing pharmaceutical packaging operations while supporting improved recyclability and reduced virgin plastic usage.



Before

After