

# RECP Best Practice Catalogue

*Introducing reusable plastic boxes*

*Developed within the framework  
of MED TEST II*



UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION



The SwitchMed Programme is  
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# Best practice - Introducing reusable plastic boxes

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SECTOR:	<b>Food &amp; Beverage</b>
SUBSECTOR:	Processing and preserving of meat and production of meat products
PRODUCTS	Cold Cuts – Mortadella, Roast, Luncheon
CATEGORY	Process control or modification
APPLICABILITY	Utilities

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COMPANY NAME	---
COMPANY SIZE	200 Full time employees and Turnover of 4.254 million EURO / an

# Best practice - Introducing reusable plastic boxes

**Description of the problem**  
(Base scenario):

Carton boxes used for transport of products from the company to the local market were used only once and become waste. In this way about 50,000 pieces of carton boxes were used and wasted per year.

**Description of the solution**

After quantifying the losses related to the use of single shot carton boxes the company asked a producer of plastic products to design a plastic box similar to the original carton box which would be reusable. Design of the new plastic box proved to be feasible and ready to replace the original carton boxes. The company ordered 6,000 new plastic boxes.

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## Economic Benefits

- Reduction of number of carton boxes used per year is 50,000 pieces (in volume 16,8 t/y)
- This represents operational saving 20,000 EUR/year
- Costs of cleaning plastic boxes is 2,000 EUR/year
- There is saving on rejected products due to damage of carton boxes, however-this was not quantified

**TOTAL Saving: at least 18,000 EUR/year**

## Environmental Benefits

- Reduction of wasting 50,000 carton boxes / year
- This represents 16.8 ton/y of solid waste
- This corresponds with reduction of total solid waste produced by company by 7.8%

## Health and safety impact

N.A

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## Capital investments & financial indicators

- 48,220 Euro Capital investment into design and production of 6,000 new plastic boxes
- 2.5 year Payback period
- Expected lifetime of the plastic boxes is 5 years and company works with the supplier to further increase it

## Suppliers

## Other aspects

Other positive impacts:

- Reduction of rejected products due to damage over the transport (carton boxes were more soft and were often damaged at the bottom of the transport container)

This measure has also some negative impacts:

- Cleaning the boxes
- Extended storage area needed (already available in the plant)

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**Implementation** The company received pilot batch of plastic boxes for trial and after three month approved feasibility of their design. Another three months lapsed to design of the new mold.

The company implemented this action for the local market and found that actual savings exceed 18,000 Euro/year. The actual saving is calculated based on number of shipments of a plastic boxes to customers (which would had to be done in carton boxes before).

The table shows monitoring of shipments starting from number of containers per day (one container is shown on the picture). This calculation is based on monitoring number of new plastic boxes used to deliver at least 5 containers /day, each containing 35 plastic boxes with the same capacity as the carton boxes. So the company saves 175 carton boxes per day and 4,375 per month. This represents around 52,500 carton boxes/ year.



No of containers/day	Carton boxes/day	Saving carton boxes /month	Saving carton boxes / year	Cost savings / year
5	175	4,375	52,500	20,000 Euro/an