Eurocrate

A full-scale demonstration of reusable crates and pallets.
The objective of the Eurocrate project has been to perform a full-scale demonstration and evaluation of the functionality and effectiveness of the system. The demonstration project has been operated in two regions in Sweden and within two years aiming to replace 25% of the total flow of transport items in these regions. The system is designed to reduce waste and recycling volumes, make transport and logistics more efficient, plus reduce the amount of damaged goods.

Most of these transport items have before been non-reusable and thrown away or recycled. The use of plastic Reusable Transport Items (RTI) is increasing rapidly. However, there has not been any common standard and every business area or manufacturer runs a different system.

Svenska Retursystem AB (SRS), the company operating the system, has primarily identified three major product categories for the RTIs: fresh produce, meat & poultry and cheese & dairy. For pallets, mainly the grocery industry is the target, where a large number of wooden one-way pallets are to be replaced by the returnable plastic pallets from SRS.

In the long run there is an immense potential for the RTI system on a European basis, regarding the fact that there are:
- 250,000 commodity stores in the EC countries
- 280 million pallets transported in the EC every year
- 8 billion crates used annually in the EC

It is quite obvious that the RTI system has a substantial environmental and cost savings potential.

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**EXPECTED RESULTS AND ENVIRONMENTAL BENEFITS**

- Decrease package waste by 25% or 28,000 tons per year
- Reduce the volume of damaged goods by at least 20%
- Reduce lorry transports by 260,000 kilometres per year
- Reduce energy consumption by 52 million kWh per year
- Decrease transportation costs by 25%
- Decrease total costs for the industry by 3.5 million euro per year

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**SVENSKA RETURSYSTEM - A NON-PROFIT COMPANY**

The Eurocrate system is operated by the non-profit company Svenska Retursystem AB. The company is equally owned by the two organisations DLF (a non-profit association for grocery manufacturers in Sweden) and SDH (a co-operative organisation between the four major wholesalers). Consequently, all major wholesalers and manufacturers have been involved in the development of technology and methodology. Svenska Retursystem today has 23 employees.
One of the major meat industries in Sweden—Atria Lithells—proved to be the first to convert to the Reusable Transport Items (RTI).
The RTI system consists of plastic crates and pallets of different sizes. They can be used at least 200 times and have a life-time of 10-15 years. Presently, 1,750,000 crates and 400,000 pallets are circulating in the system. Day in and day out.

The crates and pallets consist of pure materials to enable easy recycling after the product life cycle end, creating a closed material circuit.

The RTI units are delivered to different manufacturers in the everyday commodity industry and are returned from the wholesalers to the washing plant for cleaning, thus washed after each trip.

In order to save energy, SRS and the transportation company work jointly to use unutilised vehicles in the Swedish network of transportation. Today, lorries with everyday commodities deliveries are continuously running between the wholesalers and the stores but they only use their loading capacity in one direction. Our system can use that free transportation capacity for returning the crates and pallets to the wholesaler. It also eliminates transportation of cardboard waste to recycling plants.

THE SYSTEM IN BRIEF

1. The manufacturer orders RTIs and SRS delivers clean items from the washing plant. The manufacturer then sends the RTIs filled with goods to the wholesaler (or directly to the store).

2. The wholesaler forwards the RTIs with goods to the store.

3. The store empties the RTIs and the wholesaler collects them at the next delivery and returns them to the washing plant.

4. The RTIs are washed and can be delivered from SRS to the manufacturer again.

A LIFE PROJECT OF FIVE TASKS

Eurocrate is a full-scale demonstration which was 2001 chosen as one of the major EC LIFE fund projects, consisting of the following tasks:

Task 1 - Implementation in the region of Skåne
Task 2 - Implementation in the region of Stockholm
Task 3 - Evaluation and documentation
Task 4 - Management and reporting to the EC
Task 5 - Dissemination and input to European standards development
ENVIRONMENTAL AND ECONOMIC BENEFITS

• WASTE REDUCTION
  Once produced the plastic items has a very long life cycle (approximately 10 years for crates and 15 years for pallets) and can be reused hundreds of times. Furthermore, when an item gets broken or simply worn out, all material is reused to manufacture new crates or pallets.

• MORE EFFICIENT TRANSPORTS
  The system will, when working fully in the two regions, lead to annual savings of approximately 260,000 kilometres of transport by lorry with trailer, equal to 180 tonnes of CO₂, which means cost savings of 0.5 million euro annually.

• REDUCTION OF ENERGY CONSUMPTION
  The energy consumption per time the crate is in use, including the washing, equals 0.2 kWh. This means savings of 52 million kWh annually when the system is fully functional, or 1.5 million euro, compared to a system with one-way cardboard boxes.

• MATERIAL SELECTION
  All products in the system are made of polythene. It is a solid and endurable material, decreasing the quantity of damaged goods and increasing the life time of RTIs. Worn out or damaged RTIs can be 100 % recycled for production of new RTIs or other plastic products.

• ECONOMIC BENEFITS
  Implementing the system all over Sweden should give savings of at least 15 million euro per year in distribution costs. If the system would be introduced all over the European Union, it would give annual savings of 700 million euro.
A promising evaluation

Since the start, late 2000, the process has generally very well followed the outlined time frame. SRS has initiated and started the building of a totally new company from a scratch position. Today, the company has two running washing plants, a staff and a complete system working on a full scale basis.

The project budget was prepared mid 2000 before the system had even reached its starting point. To this date, we have not reached the anticipated volumes. The basic reason for the shortfalls compared to budgets, is that implementing the system has taken considerably longer time than planned.

ENVIRONMENTAL RESULTS

Reduced energy consumption
Due to the production and use of SRS crates, energy consumption has been reduced by 16.1 million kWh during the project period. This energy saving corresponds to production of 10.7 million cardboard boxes.

Decrease in transports
The transport volume for the RTI users has decreased by 12,100 kilometres during the project period, representing 308,000 kWh or 83,000 kg of CO₂.

Waste reduction
One of the major problems for the everyday commodities industry is the enormous volume of waste from one-way cardboard boxes. During the project period the SRS crates and pallets have reduced the waste volume by over 12,000 tons.

Lifecycle analysis
To evaluate the total RTI system from an environmental perspective, SRS initiated an analysis by the Life Cycle Analysis method. The result of the study was that the RTI alternative in general is fully competitive to, or better than, one-way cardboard boxes.

Commercial advantages
The Eurocrate system has also proven to be very advantageous commercially and practically, especially for the retail outlets.

• The fresh food sector has identified substantial savings in the cost of packing materials and in reduction of damaged goods.
• The handling of packing materials has been simplified
• The possibility to stack higher in the lorries has meant more effective utilisation of vehicles.

DISSEMINATION ACTIVITIES AND DELIVERABLES
An important part of the project is the spreading of knowledge and information about the system. The newsletter U-svängen (The U-turn) has been continuously issued since spring 2001, reaching a wide audience within the Swedish trade. The newsletter informs about the development of the system as well as general news in connection with the company. The website www.retursystem.se is frequently visited and is kept updated with relevant information. Among other activities, SRS has advertised in trade press, participated with presentations on fairs and conferences, and welcomed numerous visitors to our washing plants.
A REALITY FOR THE REST OF EUROPE

The SRS’ RTI system is the first completely integrated and environmentally sustainable system for all business areas within the everyday commodity industry. The solutions and standards in this system are clearly transferable to other national everyday commodity supply chains. Since the efficiency of the system improves in densely populated countries and regions, it could be implemented all over Europe.

One first step in spreading the system over Europe has been to start exports of crates and pallets to other European markets, for manufacturers of food to pack and distribute their goods for Sweden in SRS RTIs. Plans are to export more than 2 million crates last quarter 2003.

A CHRONOLOGICAL SUMMARY

1999
The company started its operative business and tests of developed solutions.

2000
The first washing plant was established in Helsingborg in Skåne, in the south of Sweden.

2001
Breakthrough in the fresh produce market sektor. Chosen as one of the major EC LIFE fund projects.

2002
The second washing plant was established in Örebro, west of Stockholm. This plant is technically a duplicate of the first one.
Reusable plastic crates and pallets integrating the whole supply chain.