RFID supports the switch to reusable plant trays in the European green sector

RFID Forum 2025

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Euro Plant Tray

RFID supports the switch to reusable plant trays in the European green sector

Euro Plant Tray eG

Starting point

- Estimated use of one-way plastic trays p.a. with limited/no recycle systems in place for re-use
  - 150 Mio. in Germany
  - 500-700 Mio. in Europe
- Wide variety of existing trays make automation of industry processes nearly impossible
- Existing reusable tray solutions have not achieved market penetration







Resuable plant trays of an industry initiative are the solution

- Reusable saves resources and reduces waste
- Reusable packaging reduces CO2 emissions thanks to shorter transport routes back to the producer
- Return rates for reusable packaging reach almost 100% compared to 55% for disposable trays
- Depending on the key figures of the individual supply chain, reusable packaging is more economical than disposable packaging from as few as 4 cycles per year
- Cradle2Cradle material use with 100% recycling of defective units
- An industry-owned organisation is able to overcome the barriers of such an infrastructure task in an industry with very interwoven European supply chains.

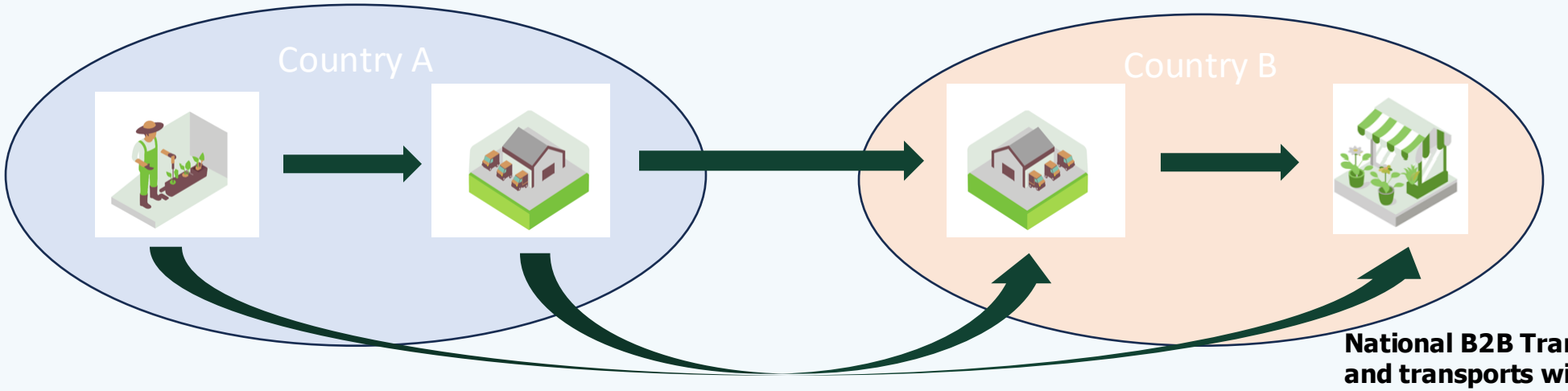


Study by the Fraunhofer Institute for Material Flow and Logistics/Dortmund in collaboration with the Fraunhofer Institute for Environmental, Safety and Energy Technology/Oberhausen

Political framework makes it now additionally necessary

On 24 April 2024, the EU Parliament adopted the Packaging & Packing Waste Regulation (PPWR) by a large majority, which was reconfirmed in November 2024 after linguistic adjustments without substantive changes and finally recognised by the EU Council on 16 December 2024.

Along the supply chain between countries, upstream and downstream processes make 100% reusable the norm. Registrations on the use of packaging will be done centrally.



B2B Transports within the EU
= 40 % Reuse;
as off 2040 70%

National B2B Transports and transports within a company group
= 100 % Reuse

NB: Currently cardboard packaging is still exempt

The Euro Plant Tray members drive the 2023 founded cooperation

Euro Plant Tray

BAUHAUS

bellaflora
DIE WELT DER GRÜNEN NUMMER 1

BGI Verband des Deutschen Blumen- Groß- und Importhandels e.V.

Blomsterringen

coop

Cox
Mit wachsender Begeisterung.

Dehner

Dutch Flower Group

EPS
Dem Markt gewachsen

EUROFLEURS
... immer einen Schritt voraus.

FLORPARTNER
SYSTEMLOGISTIK PFLANZE

FM Group

GLOBUS BAUMARKT

PFLANZEN UND KONZEPTE

hagebau

Heufs
Gartenbau

HORNBACH

INTERMARKT THIELEN

Landgard

Martin
Bloemen- en Plantengroothandel B.V.

mvb plants worldwide

OBI

PLANTES POUR TOUS

Plantify Partners Europe

PLUSPLANTS
for a green planet

Royal Flora Holland

SAGAFLOR

südblume
Wir blühen vor Ideen.

VAHLDIEK BLUMEN

VDP Van der Plas Group

VGB

Roadmap of the Euro Plant Tray



DUH Symposium 2021

Project Flowertray moderated by Stiftung Initiative Mehrweg 2021-2022

Founding of EPT eG 23.08.2022



Founding of EPT GmbH 1.7.2023

In summer 2024 EPT counts 30 members



Development of 4 EPT models until January 2024

Confirmation of the co-operation within EPT eG by the Federal Cartel Office



Awarded with 3 innovation prizes

Partnerships with HBRTS and inotec label excellence for Pool Operations and RFID labelling



Start of production August 2024

WIWIN nachhaltig investieren

GLS Crowd

Financing the pool set-up through crowdinvest

The current EPT offer – up to 8 - 10 trays should cover the market

EPT 400

775



8 – 10 x 10,5-13 cm

in production since 2024

777



10 x 12 cm

in production as off Q1/2025

EPT 200

769



8 – 12 x 9-10,5 cm

768



6 – 8 x 10,5-13cm

in production as off Q2/2025

RFID tags were integrated right from the start to support the supply chain processes

Steps to decide for RFID

1. **Technical framework**
   - EECC
   - CC / Lyngsoe
2. **Establishing technical specifications**
3. **Talks with potential suppliers**
4. **Coding**
   - GS1 GTIN (1D)
   - Data Matrix (2D)
   - RFID (Auto-ID)
   - Fustcode (RFH)

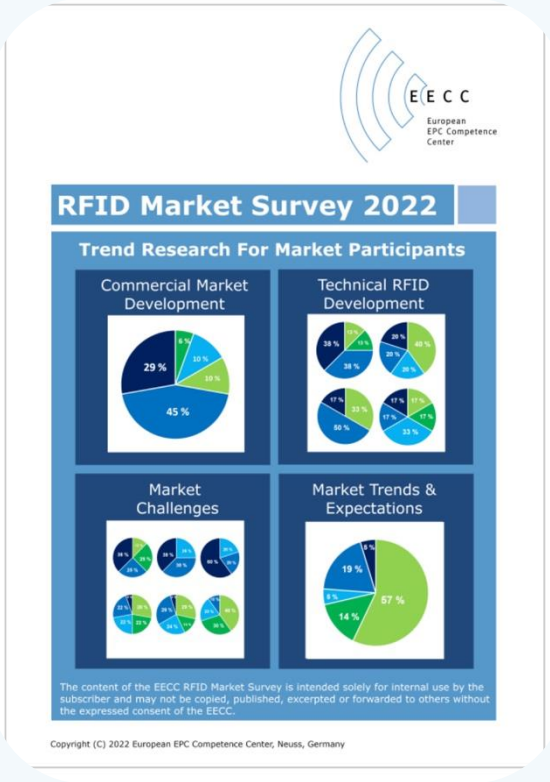


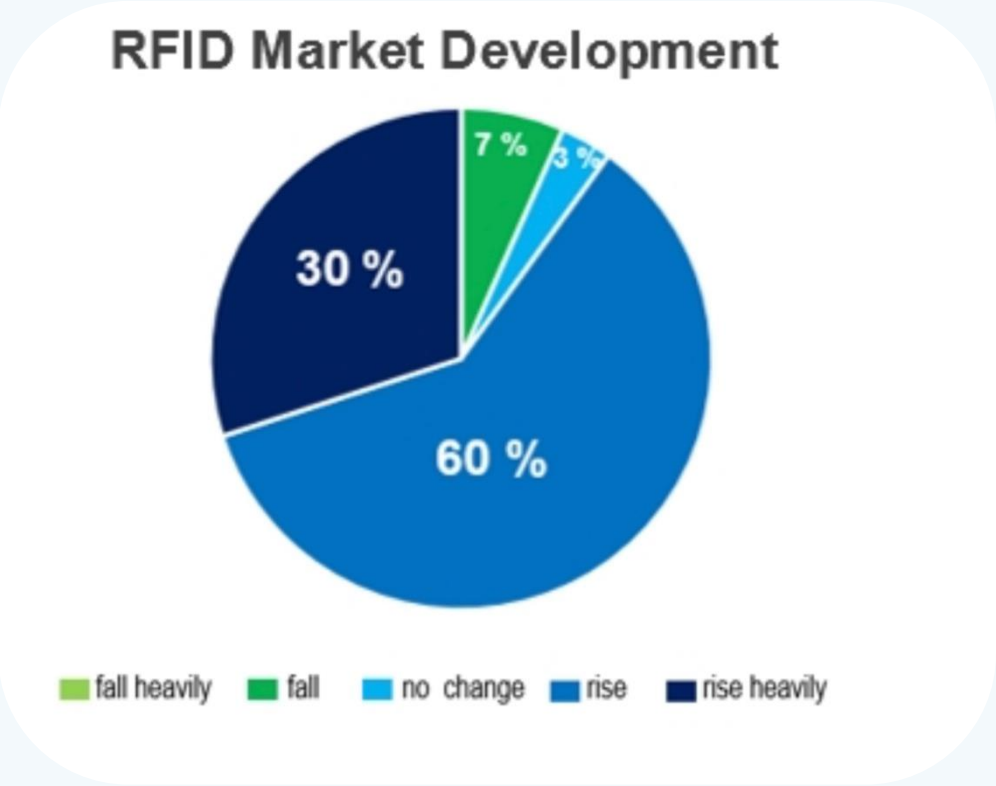
Inmould production ensures long-term usability!



EECC helps to explain opportunities of RFID in the EPT organisation

The studies of the EECC - European EPC Competence Center clearly show the trend towards Auto-ID / RFID, 90 % of the study participants expect a growth or a significant growth of RFID, as a supplement to optical technologies such as barcode and QR code.





Option top speed up processes and automatisation

Data capture with Auto-ID / RFID extremely performant and securely complete compared to barcode scanning.

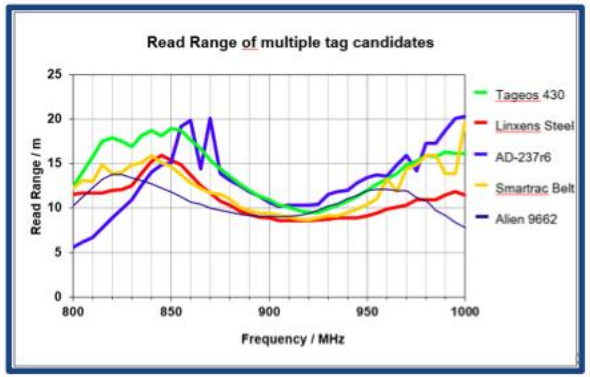


Frist test showed the feasibility

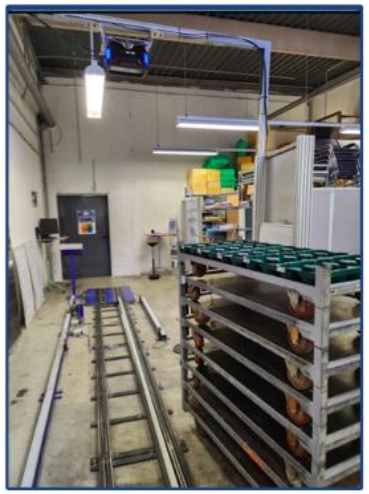
An initial validation of the functionality and operability of RFID on the EPT trays with the EECC - European EPC Competence Center was successful: **The RFID tags are excellently detectable in the stack and in motion on CC's!**

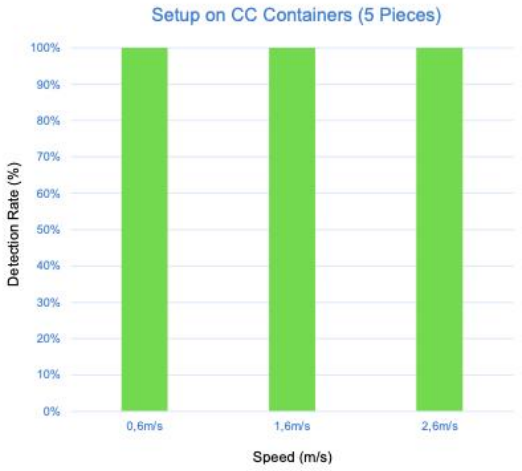
Static Read Tests





Dynamic Read Tests





11.08.23

RFID works when traditional ID systems strumble

RFID ensures excellent readability even if the optical identification (barcode and QR code) is soiled or covered by plants.

ADVANTAGE OF RFID OVER BARCODE



High error rate with barcodes

Reliable detection with RFID

Through use, the containers will become dirty over time. This leads to the fact that they can no longer be detected with a barcode reader.
RFID does not have this problem and allows constant detection despite heavy soiling of the container.

Performance Proved RFID Equipment – European EPC Competence Center – Certificate of Quality 2023

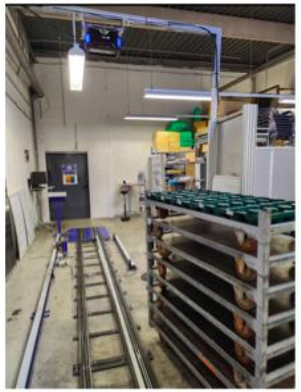
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MULTIPLE READER POSSIBILITIES



Handheld Solution



Gate Solution

5

First user feedback is very positiv

- Simplified handling thanks to greater stability
- Less damage to goods due to greater stability
- Uniform appearance at the POH
- Positive feedback from end customers for the sustainable commitment
- Fewer product write-offs due to preservation of freshness with irrigation
- Hardly any soiling of the trays in circulation

But:

- Challenge at self-scanner checkouts when serving to the end customer
- Manual counting is time-consuming and error-prone
- Return logistics and employee communication must to be organised



A Pooloperator supports the processes

- On 1.7.2024 the Dutch company HB RTS has been announced as neutral pool operator for Euro Plant Tray GmbH.
- Services for EPT:
  - Europe-wide network
  - Issue and return of EPTs
  - Replacement of defective ones
  - Inventory management with lessees
- Optional services for users:
  - Cleaning
  - Transport
  - Balance management
  - Full service models

Roll out of depot network and washing facilities within Europe will be done step by step and in cooperation with the markets where services are required.



Euro Plant Tray results

- Development of 4 market-ready models with corresponding sales system within 2 years
- Cost savings possible from just 4 cycles p.a.
- International cooperation along the entire supply chain increases acceptance of the new industry solution
- Implementation of the EU packaging guidelines PPWR
- Opportunities through fulfilment of the requirements of the Taxonomy Regulation
- Cost benefits from the plastic tax

Together, we are positioning ourselves for more sustainability in the green industry with the aim of avoiding 40,000 tonnes of single-use plastic or 220,000 tonnes of CO2 equivalent every year!



Awarded with the Reusable Innovationprize from the German Environmental Agency in 2023



Awarded with the BGI Innovationsprize 25.1.2024



Awarded with the Innovationprize from the German Ministry for Food & Agriculture September 2024

TASPO AWARDS 2023 2. PLATZ

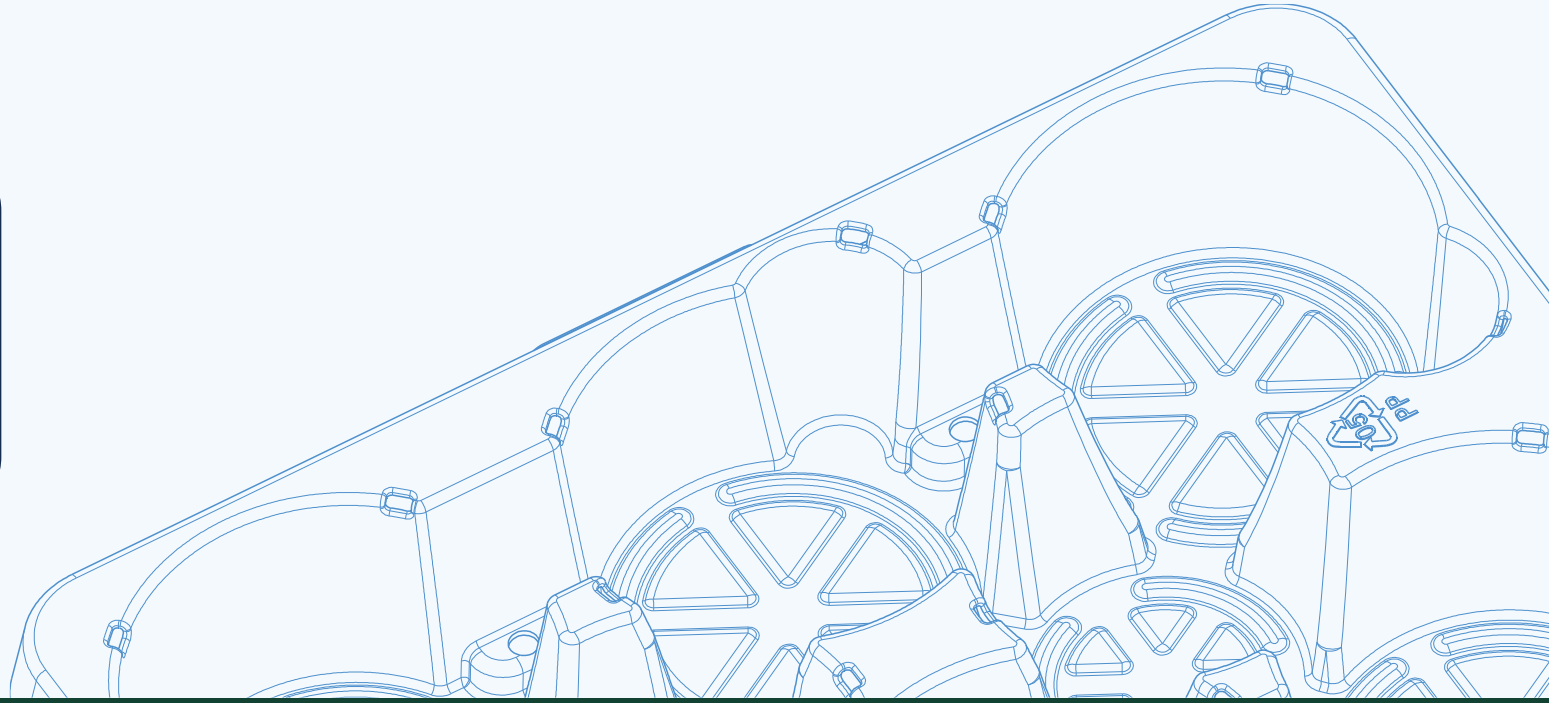
2nd at the Taspo Award 2023 "Cooperation of the Year

TASPO Awards 2024 FINALIST

Nominated as finalist in 2 categories of Taspo Award in 2024

Euro Plant Tray

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