



Results of project CASTLE and efficient management of reusable packaging

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1. Aim of presentation



- We have investigated 10 companies in the frame of research activity in international **research project CASTLE** to check **logistic performance** according to the **logistic policy tool**. Aim is presentation part of project.
- Problems as **packaging management and insufficient ERP system occur**. (Insufficient information support for EDI communication on the field of reusable packaging). Presentation of problem.
- **Knowledge and best practice transfer** how to solve the problem of returnable packaging.



1.1. Results of investigation through CASTLE logistic audit tool



CASTLE LOGISTICS AUDIT TOOL



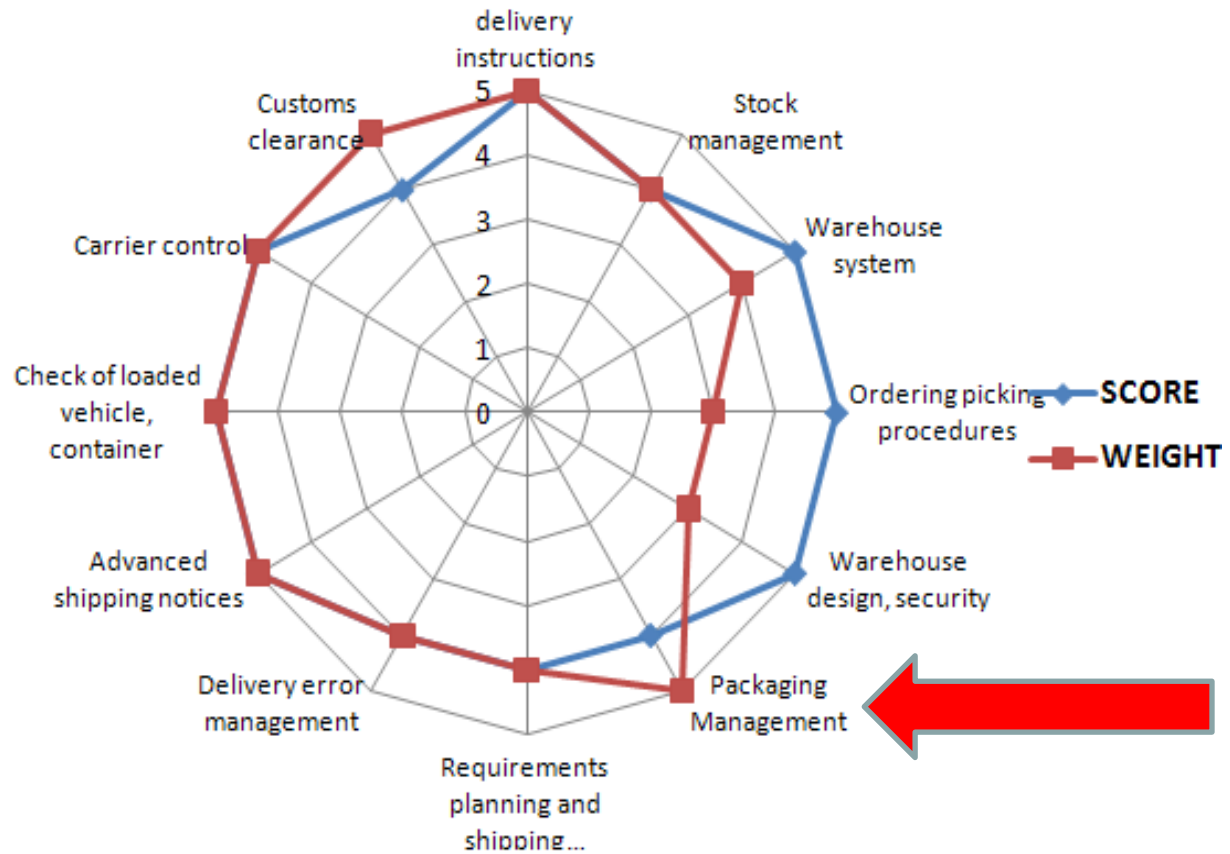
The example of **one chapter**

1. LOGISTICS STRATEGY AND IMPROVEMENT		Please insert "X"			
1.1. Strategy & Goals	<i>Logistics is included in the company's business strategy. Clear goals for logistics are defined. The following key areas are considered: Costs, Material flow, Quality & reliability, Supplier relations, Customer relations, Information system, Human resources, Standardisation.</i>				
1.2. Measurement (KPI)	<i>Key performance indicators are covering objectives for all key areas of the materials planning and logistics process (delivery, quality, costs). All logistics goals are regularly measured with agreed indicators and all involved are informed. KPI's are periodically revised.</i>				
1.3. Action plans	<i>Action plans, including specific activities, responsibilities, time schedules are implemented in practice covering all areas of logistics. Follow up is assured.</i>				
1.4. Continuous improvement	<i>Well structured improvement programs exist for all key areas (1.1) with documented plans, explicit responsibility and all partners in the logistics function are actively involved.</i>				
1.5. Control of logistics costs	<i>Cost control over transportation and distribution, inventory, staff, administration including system support, packaging, handling, and storage is enabled and followed-up on a monthly basis.</i>				
1.6. Logistics Process Analysis	<i>Flow charts, describing both physical and information flows, including every aspect of the process exist for all logistics activities with clearly defined interfaces between different sub-processes. They are published.</i>				

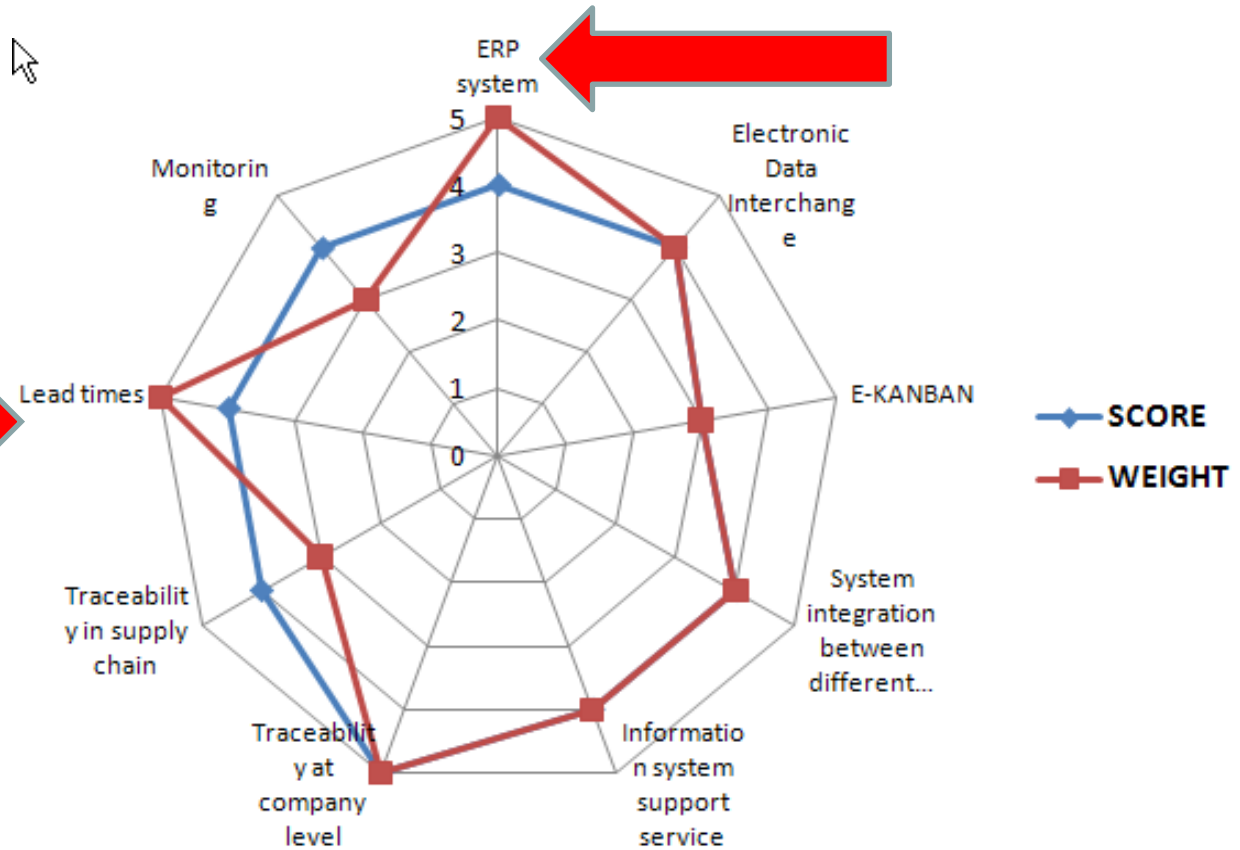
- Each statement is considered as a **STANDARD** !



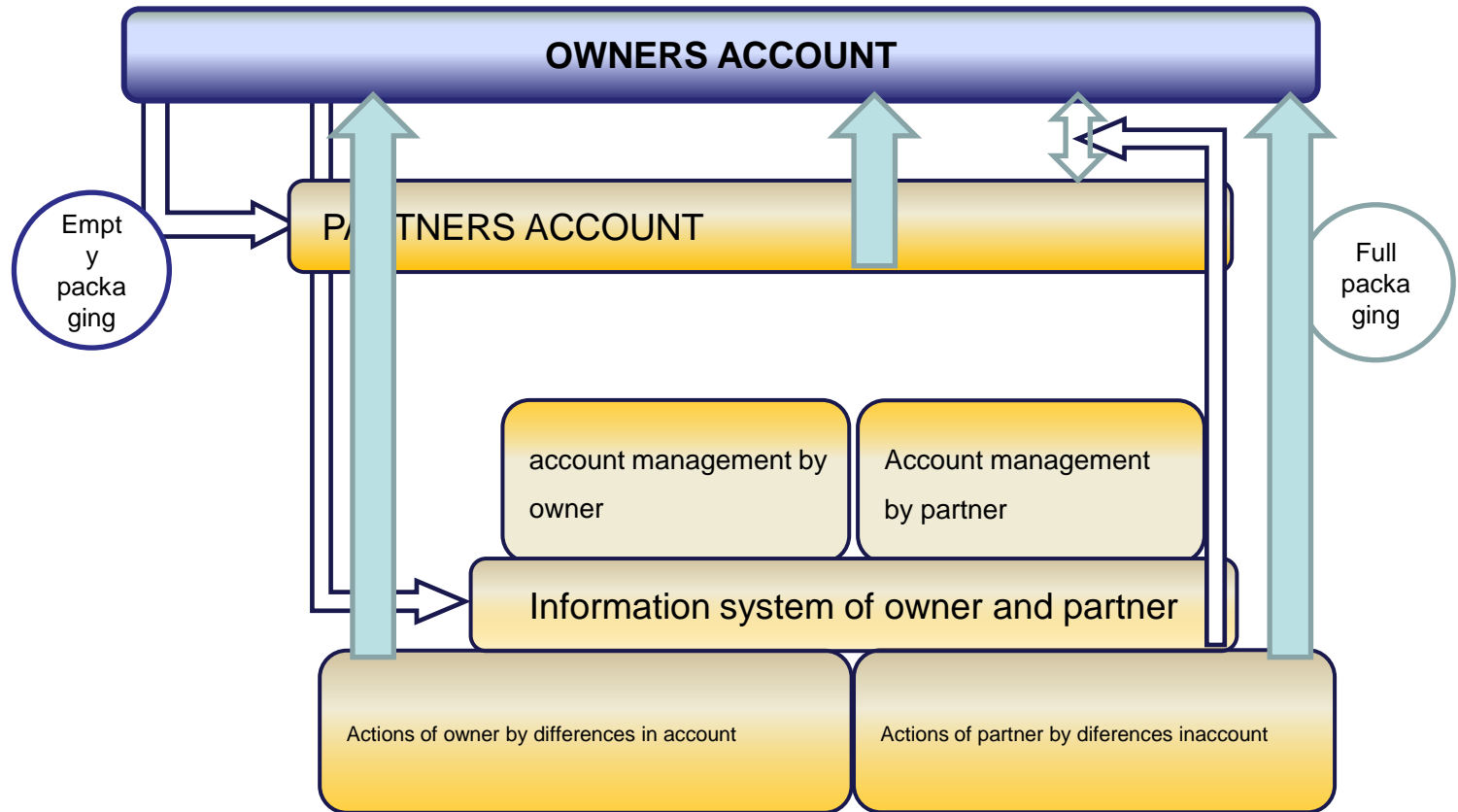
1.2. Results of investigation of distribution process (project CASTLE)



1.3. Results of investigation of information System ERP (Enterprise Resource Planning)



2. Managing of account of reusable packaging



2.1. Managing account of reusable packaging - owner



- Notation and booking of all outgoing **empty** packaging
- Booking of all entry of **full** packaging (integrated in booking of material)
- **Comparison of state of packaging** between outgoing of empty packaging and ingoing full packaging
- **Systematically informing partner** about the state of differences in packaging flow
- **Comparison of state of packaging** between owners account and partners account
- **Acceptance of partners orders** of empty packaging
- **To take measures** in case of differences
- **Inventory of packaging - outsourcing ?**



2.2. Managing account of reusable packaging -partner



- Notation and booking of all entry of **empty** packaging
- Booking the situation of **empty** packaging
- Booking of **full** packaging
- **Ordering** of empty packaging
- **Transport order** for empty packaging - **outsourcing** ?
- **Informing** owner about quantity and quality of packaging
- **Comparison of state of packaging** between partners and owners situation
- **To take measures** in case of differences
- **Inventory of packaging**



2.3. Statement of the account of the reusable packaging

Example of the statement of the account of reusable packaging:

Palettenkonto ab 01.12.2007 bis 31.12.2007

Sehr geehrte Damen und Herren,
anbei erhalten Sie unser Palettenkonto mit der Bitte zur Kenntnisnahme.

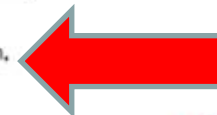
EUR
Europalette 1200 x 800mm

Datum	Beleg Nr.	Fahrer/Fahrzg.	Eingang	Ausgang	Bemerkung
Summe bis 01.12.2007			519	582	= 63
04.12.2007	305335	NOM TT-120	0	1	
05.12.2007	305441	NOM KV-622	0	3	Diese Bemerkung ist besonders lang um den Zeilenumbruch zu demonstrieren!
05.12.2007	305442	NOM KK-100	0	1	
06.12.2007	305445	unbekannt	0	2	Fahrzeug war zu schnell vom Hof...
06.12.2007	305444	NOM TT-120	0	1	
18.12.2007	305221	PAU SE-88	13	11	Eine Eingangspalette defekt
19.12.2007	307118	BIT TE-74	1	1	
Summe			533	602	= 69

IND
Industriepalette 1200 x 1000mm

Datum	Beleg Nr.	Fahrer/Fahrzg.	Eingang	Ausgang	Bemerkung
Summe bis 01.12.2007			120	111	= -9
11.12.2007	3054471	NOM KK-100	8	8	Sondertour für Testbuchung
17.12.2007	3051552	NOM TT-120	11	15	
19.12.2007	3052224	NOM KV-622	20	11	
Summe			159	145	= -14

Sollten wir innerhalb der nächsten zwei Wochen keine gegenteilige Nachricht von Ihnen erhalten, erachten wir die o.s. Kontostände als akzeptiert.



Important notice !!!



2.4. System of comparison of accounts of reusable packaging



- **Responsibility of partner is to check and compare the accounts of packaging**
- **Situation by owner account** - checking of information from owner or checking the situation on owners internet portal to find any differences.
- **Comparison of situation of packaging.** The situation is stated by goods accompanying documents confirm by both sides.
- It is possible to make **assessment of event** when it comes to the difference in account of reusable packaging.
- **Differences** must be cleared up and solved immediately. Arrears of clearness cause later les possibility to be sufficient cleared up.
- **Clearness of differences** are tied to time limit so late clearness is a **burden** for the partner.



2.4. System of comparison of accounts of reusable packaging



- **Possibility of account clearing of reusable packaging** demand suitable activation at owner and at partner.
- Archived data on electronic portal can be of time limited and **secure limited approach**
- **Normally is booked:**
 - The date of transaction
 - Quantity before transaction (account)
 - Quantity in transaction (nr of pallets on dispatch document or in EDI dispatch document)
 - Nr. of transaction document
 - Difference
 - New situation after transaction
 - transport vehicle,
 - additional notes
- **On time order for reusable package is very important (lack of packaging in case of delay)**



2.4. System of comparison of accounts of reusable packaging



- **Quantity of reusable packaging by partner is limited** - limitation depends on transport quantities, allowed time of warehousing and destination between customer and supplier.
- **Bigger quantities are expensive** - daily rent rate -additional costs for partner
- **Quality of booking is very important.** No booked quantities are additional to rent costs treated as **missing quantities** of packaging - are later invoiced as total cost of missing packaging



2.5. Responsibility for management of reusable package



- **At very big companies** with big pool of reusable packaging are responsible special companies connected with mother companies. The companies work mainly on reusable packaging.
- Management of reusable packaging can be provided from the site of **specialised outside company** linked to big companies. This companies can provide rent of reusable packaging
- Management of reusable packaging by **big transport logistic companies !**



2.5. Responsibility for management of reusable package



- In middle big companies is management of reusable packaging organized through **logistic department** with suitable personal for that job.
- In **smaller companies** is the importance of managing reusable packaging **underestimated**. Main goal is to get reusable packaging on time for production or for shipping. Danger of unpleasant financial consequences.
- Suitable **information systems** have important role by leading and managing of reusable packaging.



2.6. System of additional communication by managing of reusable packaging



Managing of reusable packaging demand **superb additional communication:**

- with representatives of **partner company** dealing with reusable packages
- **inside company** communications with **users** of reusable packaging.
- **inside company** communications with **specialists** for information system
- with **transport company** that transports reusable packaging,
- with **information specialists** of partner company



2.7. System of transport by managing of reusable packaging



- Transport is important as calculation part - reverse transport
- To big transports increase the binding days (especially collapsible packaging), small transports increase transport...
- Transport of empty package is relatively simple. (simple custom duty, quick loading, less documentation...)
- Transport of packaging is supplementary load to reach optimal loading quality.
- By using pool of reusable packaging is possible to additionally reduce packaging costs by packaging inbound materials from the supplier locations nearby customer.
- Importance of transport on time!



Stackable and collapsible packaging



3. Information support by managing of reusable packaging



- Three levels of information support in the frame of common ERP (additional with **approach to customers - owners package information system**)
 - **Dates** connected with reusable packaging
 - **Needs** for packaging (part of material needs)
 - **Accounts** of packaging



3.1. Impute of basic dates for reusable packaging



- **Impute of dates** about reusable packaging and connected data with reusable packaging :
 - **Partners**
 - **Products**
 - **Processes**
- Sometimes additional obligation to input basic data of packaging and packaging quantities in the **information system of customer** with periodically orders of packaging



3.2. Information system of needs for reusable packaging



- **Planning the needs of reusable packaging.**
- **Part of material needs**
- **Part of planning**
- **Information system of distribution process - to assure necessary quantities of reusable packaging on time.**
- **Amortization**
- **Repairing of reusable packaging**



3.3. Information support of managing accounts of reusable packaging as part of warehouse and bookkeeping management



- **Online booking** as part of EDI process or as part of booking other material documents.
- **Right databases for packaging.**
- **Reports** for reusable packaging to check accounts.
- **Systems of approach** to the database for packaging.



3.4. System of managing account of reusable packaging by hand



- By insufficient information system - booking for account of reusable packaging by simple methods according to:
 - **Time intervals.**
 - **Art of packaging identification numbers.**
 - Booking of **empty** and **full** package. (return of reclamation!)
 - Booking of **differences** or booking of quality of package.
 - Managing of **account** of packaging.
 - Booking of **event important for reusable packaging.**



4. Periodic activity by managing accounts of reusable packaging



- Aim
 - **Daily comparison** of accounts
 - **Weekly checking** of account and of quantity of disposable reusable packaging. (connected with weekly material demands)
 - **Monthly adjustment** of accounts and solving problems with differences.
 - **Yearly inventory** of all possible forms of reusable packaging (in warehouse in production, on the truck...)
 - **Yearly adjustment** according to a results of inventory



5. Special activity by managing reusable packaging



- **Special financial adjustment** according to the inventory results - differences as consequences of booking failures.
- Adjustment of situation as a consequence of **lost or stolen packaging**.
- Adjustment by important changes of orders as increasing or reduction of emblaze in circle.
- **Beginning of use of new reusable packaging** in the beginning of production new product. Input of new data in database in the company and by customer- partner.
- **End of use of reusable packaging**, adjustment of accounts, arrangement of obligations and commitments eventually return of not used package.
- **Recalculation and eventually return** of amortized reusable packaging.



5.1. Negotiations before use of reusable packaging



- Negotiations from the side of **owner**, if the **owner is supplier**. (price of logistic costs for reusable packaging, transport costs, quantity of reusable packaging in circulation, time of circulation, transport quantities)
- Negotiations from the side of **buyer**, if the **owner is supplier** (price of logistic costs for reusable packaging, transport costs, quantity of reusable packaging in circulation, time of circulation, transport quantities, amortization time of packaging)
- Negotiations from the side of **supplier**, if the **owner is customer(buyer)** (price of logistic costs for reusable packaging, transport costs, quantity of reusable packaging in circulation, time of circulation, transport quantities, price of rent, important- responsibility for empty packaging)
- Negotiations from the side of **owner**, if the **owner is buyer** (price of logistic costs for reusable packaging, transport costs, quantity of reusable packaging in circulation, time of circulation, transport quantities, price of rent)



5.2. Outsourcing of managing reusable packaging



- Outsourcing of reusable packaging as **part of common outsourcing** of warehouse logistic services.
- Price of services is a lot of time point of negotiations. Price of services for reusable packaging can be in many times **responsibility of supplier** especially in case of information problems with data transfer.
- To solve the problem - **system of efficient management** of reusable packaging through suitable information system (EDI).



6. Final conclusions



- Through investigation in project CASTLE is stated **problem of management of reusable packaging.**
- System of efficient **management of reusable packaging** is more **important** as it seems on the first view.
- System of efficient management of reusable packaging demands **high level of knowledge of personal** (higher demands of knowledge as knowledge and education for supply or sell business activity).
- System of efficient management of reusable packaging demands **suitable information system (EDI).**





Thank you for your attention !

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Baltic to Balkan network for logistics competence