How to Increase ROI with Returnables

Presented by:
Michael Chiado
President of Americas
Georg Utz Inc.
Introduction

• Presenter
  • Mike Chiado - President of Americas
    • Georg Utz, Inc
    • Booth #8607
Who is Georg Utz

Utz Worldwide
Our Markets, Products & Customers

- Automotive
- Chemical/Pharma
- Food
- Textile
- Post
- Storage/Logistics
- Electronics
- Retail
- Technical parts
Purpose

- Explore the potential opportunities to:
  - Improve ROI of returnable assets
  - Increase speed to market
  - Reduce development and annual packaging costs
When Does It Make Sense

- Closed supply loops
- High volume
- High value products
- Sensitive products / easily damaged
- Producing families of similar products
- Replace manual pick and place operations
- Need for buffers between operations - repacking
Why Returnables?

• To capitalize on the benefits of returnable packaging.
  • Reduce packaging cost over time
  • Reduce waste management costs – “Green”
  • Improve quality
  • Improve safety
  • Enable standardization
  • Vehicle to drive standardization
Returnable Working With Automation

Customer Specific

Industry Solutions
Typical Supply Loops

Customer Standards

- Overseas Component Suppliers
- Repack/Kitting
- External Components Supplier
- Internal Supplier or Local

Device/Product Manufacturer

External Components Supplier

Buffer Inventory Storage

Final Prep/Pack

Industry Standards

OEM/Distribution Resale

Customer Standards

Industry Standards

Customer Standards

Industry Standards

Customer Standards

Industry Standards

Customer Standards

Industry Standards

Customer Standards

Industry Standards
Vision

• To do more than just pack and transport the product. We want to add value to the supply chain by tying the manufacturing processes together via a common transport unit.
Packaging Strategy Considerations

- Speed to market, speed to sale or duplication
- Scalability
- Flexibility
- Reduction in development time
- Reduce administration costs
- Sustainability
- Reduce packaging costs increase ROI
How

• Think Strategically – Drive Standardization at all levels
  • Families of products
  • Individual loops
  • Across facilities
  • Regions
  • Global
Standardization – Where to focus

• Footprint
• Outside frame
• Pallet / Racking
• Conveyance
• Positioning / Locating features
• Materials
• Business Processes
The Power of Standardization on internal process

CURRENT PROCESS

- Concept
- Sourcing
- Final Design
- Tooling
- Validation
- Production
The Power of Standardization

CONCEPT PHASE

- Develop end user requirements
- Tote spec developed
- Design Concepts created
- RFP Issued
- Quote

Work Based on Standard

SOURCING PHASE

- RFP development
- Next set of concepts designed
- Quotation
- Analysis of Quotes
- Negotiation
- Timeline

PO Issued on Chosen Standard

POWERED BY POSSIBILITIES.
The Power of Standardization

**FINAL DESIGN PHASE**
- Drawing development
- Finalize barcode & label spec/location/orientation
- Drawing approval

**TOOLING PHASE**
- Tooling construction
- Delivery schedule developed
- Induction schedule developed

No Action Req. Standard Drawing

Execute Based on Pre-agreed Schedule
The Power of Standardization

CURRENT PROCESS

Concept ➔ Sourcing ➔ Final Design ➔ Tooling ➔ Validation ➔ Production

FUTURE PROCESS

Agree upon Standard Product and Procedure

Issue P.O. Based on Standard ➔ Execute Based on Agreed SOP
Value of Standardization

INTERNAL COSTS
- Sale/Site Admin
- Purchasing
- Project Management
- Capital/Tooling
- Logistics
- Reliability
- Performance
- Speed to Market
- Working capital to buy and store

TOTAL COST

STANDARDIZATION OF PRODUCT & PROCESS

Value

STANDARDIZATION STREAMLINE PROCESS
HIGH RELIABILITY
PERFORMANCE
SPEED TO MARKET

INTERNAL COSTS

TOTAL COST

Packaging Spend

POWERED BY POSSIBILITIES.
Typical Production Processes

Injection Molding

Thermoforming
Process Comparison

Thermoformed Trays

• Lowest investment
• High level for flexibility
• Lower part density
• Shortest lead time 4-6 wks.
• Highest piece price

Injection Molding

• Highest level of investment
• Flexibility but with cost
• Highest part density
• Tool build 12-18 wks.
• Lowest piece price
Break Even Analysis

Thermoforming vs. Injection Molding Cost Comparison

- Total Cost
- Total Units
Development Time

Timing Comparison

Thermoforming
- Tray Design: 1 week
- Tooling Design: 1 week
- Tooling Manufacturing: 4 weeks
- Sampling: 1 week
- Tooling Modifications: 2 weeks

Injection Molding
- Tray Design: 3 weeks
- Tooling Design: 16 weeks
- Tooling Manufacturing: 3 weeks
- Sampling: 4 weeks
- Tooling Modifications: 1 week

Weeks
0 5 10 15 20 25 30
Approaches to Shift the Break Even Point

• Flexible tooling
• Mother Mold - Inserts
• Combination of processes
Case Study – AS/RS – System Solution
Case Study – Optimize AS/RS
Case Study – Optimize AS/RS

“It’s a very flexible, container design with cups that interlock nicely to the side of master container. You can quickly remove a cup to facilitate a process like order consolidation, such as where you would tip all the SKU items from one cup into another of the same SKU, and then lock the empty cup back into place. We like the cup design because it prevents items from intermixing.”

–Curt Nelson, Engineering Manager Polaris
Case Study – Video Controller

- Overseas Component Suppliers
- Local Supplier
- Internal Processes
- Repack Overseas
- Final Prep/Pack
Video Controller Part
545x365

Designed for full automation
14 different Trays
3mm White ABS
Trays are 31mm - 88mm
Video Controller
600x400
5 different inserts
Insert is 2mm White ABS
Tray is 4mm Black ABS
Trays are 51mm – 110 mm height
Expendable blister to Automation

Current State
• Small electric assemblies ship from China in thin wall expendable tray
• Repack required to support need for automated part feed

Utz Solution
• Expendable tray loaded full on rigid TF tray – 2 up
• Pack operation automate directly from expendable tray
• Elimination of 3 Repack operators
Case Study – Video Controller

- 19 unique components
- 2 frame bases
- 3.5 months development time
- $1.2M savings from standardization
Case Study – Video Controller
Lessons Learned & Things to Consider

- Think strategically
- Standardize both return
- Start the business case early
- Encourage direct communication between automation vendors / System Engineers and returnable solution provider
- Use discipline in the development process
- Develop the returnable transport device on the front side of your project
For more information:

Speaker email: Michael.Chiado@utzgroup.com
Website: www.utzgroup.com

Or visit MODEX Booth 8607