



Operations & Logistics Committee Meeting

Monday, July 24, 2017
12:30 – 5:00 pm Central

Marriott Champions Circle
3300 Championship Parkway
Fort Worth, Texas 76177

Meeting Agenda

I. Introductions

- A. Antitrust Policy Statement
- B. Committee Role and Objective

II. Current Projects

- A. Food Bank Recovery
- B. Physical Barrier Study
- C. Retailer Engagement on Loss Prevention
- D. Industry Lost and Found Online Tool



1:30 – 2:30 PM: Side Session
- *Operation S.T.O.P.P. "How the TRA Put a Dent in Plastic Container Theft."*

III. Asset Labeling and Tracking Technologies

- A. Technologies for Identifying and Tracking Reusable Packaging Assets
 - 1. Current Products and Services Available
 - 2. Trends and Future Developments
- B. Common Industry Interests and RPA Collaboration Opportunities

IV. Preventing Reusable Packaging Asset Loss in Retail Supply Chains

- A. Background and Current State of Problem
- B. Brainstorming Ideas for Joint RPA-TRA Action
- C. Partnership for Impact



3:30 – 4:30 PM: *RPA-TRA Roundtable Discussion on Reusable Packaging Loss Prevention.*

V. Next Steps

- A. Recap of Priority Projects
- B. Timeline for Action Items



SUNDAY, JULY 23, 2017

Time	ADVOCACY TRACK	LEGAL/TAX TRACK	INSURANCE TRACK
12:30PM - 1:45PM	General Session: 85th Legislature Review featuring Members of the Texas Legislature (Lunch)		
2:00PM - 3:00PM	Discussion on Texas Politics with Statewide Advocacy Professionals	Being Prepared for an Active Shooter: Workplace Violence, Texas Gun Laws and Their Impact on Employers Part 1, presented by Fisher Phillips	Preventing Slips and Falls at Your Workplace, presented by EMC Insurance Co.
3:30PM - 4:30PM	Regulatory Panel featuring Representatives from Texas Health & Human Services, Texas Department of Agriculture, and Texas Comptroller of Public Accounts.		
6:00PM - 7:00PM	TRA Industry Awards Dinner Reception		
7:00PM - 9:00PM	TRA Industry Awards Dinner Benefiting the Texas Retailers Education Foundation		

MONDAY, JULY 24, 2017

Time	INNOVATION TRACK	LEGAL/TAX TRACK	ORC/LOSS PREVENTION TRACK
8:00AM - 9:45AM	Keynote Speaker: Mark McKinnon "The Media Guy" (Breakfast)		
10:00AM - 11:00AM	How to Adapt Your Business Model to a Changing World, presented by GameStop	Being Prepared for an Active Shooter: Workplace Violence, Texas Gun Laws and Their Impact on Employers Part 2, presented by Fisher Phillips	Tips and Best Practices for Preventing Organized Retail Crime
11:45AM - 1:15PM	General Session: The Trump Administration 6 Months In featuring Government Affairs Leads from National Retail Associations (Lunch)		
1:30PM - 2:30PM	The Retail Revolution: How Independent Retailers Can Compete & Win, presented by ECRS	Tax Policy & Retailers Part 1, presented by KPMG	Operation S.T.O.P.P.: How the Texas Retailers Association Put a Dent in Plastic Container Theft
3:30PM - 4:30PM	E-Commerce & You: How Social Media & the Internet Can Work for Retailers, presented by BMUSED Imaging	Tax Policy & Retailers Part 2, presented by KPMG	Round Table Discussion with the Reusable Packaging Association and the Texas Retailers Association
6:30PM - 9:00PM	Retail, Set, Go! Closing Night Party!		

ANTITRUST COMPLIANCE POLICY STATEMENT FOR MEETINGS OF MEMBERS AND DIRECTORS

Members and Directors of the Reusable Packaging Association (“RPA”) will avoid actions and discussions at meetings of the Members and/or at meetings of the Board of Directors that constitute potential violations of the antitrust laws. The following is a list of actions and discussion topics that will be avoided by all Members and Directors:

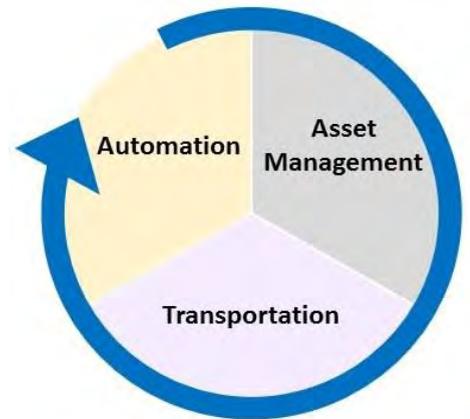
1. Members and Directors will not exclude competitors from membership in the Association, without substantial lawful justification, and not if there is a business advantage in being a member.
2. Members and Directors will not restrict members from dealing with nonmembers.
3. Members and Directors will not limit access to information developed by the Association, unless such information is firmly grounded upon the need to protect trade secrets.
4. Members and Directors will not enforce membership rules arbitrarily.
5. Members and Directors of RPA will avoid discussion of matters of potential antitrust concern at meetings, including:
 - (a) Current or future prices;
 - (b) What constitutes a “fair” profit level;
 - (c) Possible increases or decreases in prices;
 - (d) Standardization or stabilization of prices;
 - (e) Pricing procedures;
 - (f) Cash discounts;
 - (g) Credit terms;
 - (h) Control of sales;
 - (i) Allocation of markets or customers;
 - (j) Complaints to a competitor that his prices constitute unfair trade practices;
 - (k) Refusal to deal with a corporation because of its pricing or distribution practices; and
 - (l) Whether or not the pricing practices of any industry members are unethical or constitute an unfair trade practice.

RPA Operations and Logistics (O&L) Committee

Objective: To facilitate knowledge and develop industry standards for common processes seeking the efficient movement, handling, visibility and return of reusable packaging products.

Areas of Concentration:

1. Automation
 - a. User packing environments
 - b. User warehouse distribution and inventory systems
 - c. Pooling operations equipment and technologies
2. Asset Management
 - a. Common industry guidelines and best practices
 - b. Data development and research reports
 - c. Cooperative loss-prevention and recovery services
3. Transportation
 - a. Awareness of options, providers and services
 - b. Awareness of rules and regulations

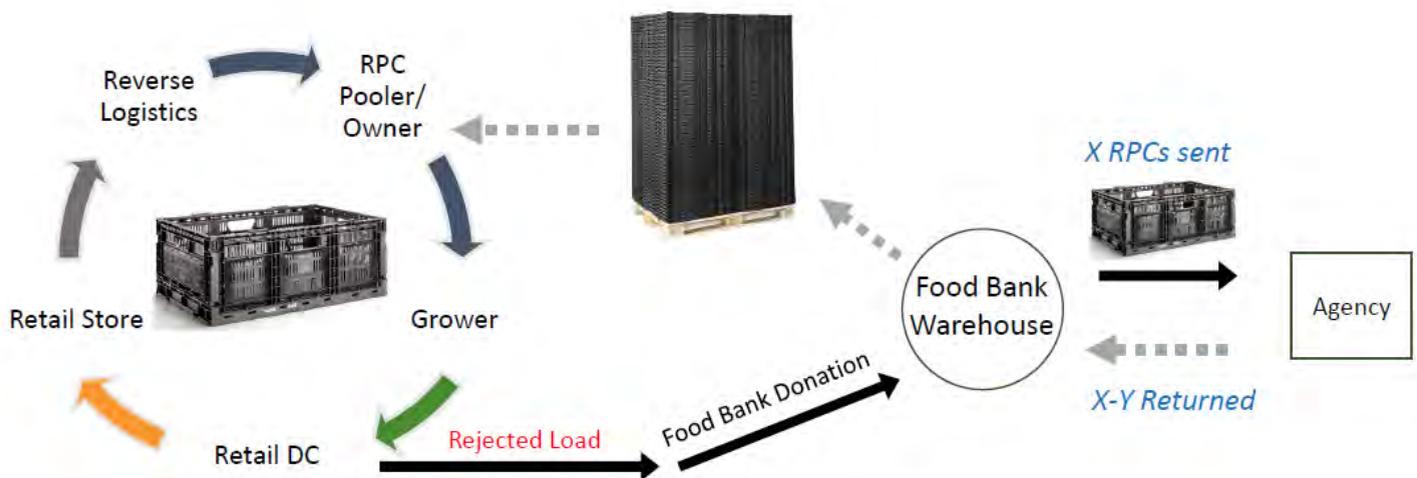


II. Current Projects
A. Food Bank Recovery

A Project to Improve Food Donations Using RPCs



Reusable plastic containers (RPCs) for the distribution of perishable food commodities are owned property and rented in a system designed for return and reuse. At times foods delivered in RPCs may not be accepted by retailers for a variety of reasons, and these loads can be donated to food banks including the rented RPCs which are not intended for sale. The RPCs as part of a food donation often become lost outside of the reuse system requiring replacement and leading to increases in operating costs and food prices.



RPA is working with Feeding Texas and its network of food banks to improve the process for donating food in RPCs that enables more donations of higher-quality food, eliminates costs and packaging waste, and ensures the return of RPCs back into the reuse system. RPA is proposing a research project to document processes and to develop best practices for donations made in RPCs.

II. Current Projects

A. Food Bank Recovery

Summary from RPA-Feeding Texas Meeting on May 31, 2017

Project goal is to develop a collaborative system that:

1. Increases food donations, reduces food and packaging waste, and provides financial and operational opportunities.
2. Compensates the food bank for time and labor in the re-packing of food donations and the return of the RPCs.
3. Provides for the effective communication between food banks and RPC poolers for the arrangement of RPC pick up and return.
4. Explores transportation and logistics synergies between food donations and RPC returns to lower freight costs for all parties.

Research project steps:

- I. Conduct a [review of current processes](#) on how food donations involving RPCs are handled through the Feeding Texas network.
- II. Perform an [opportunity assessment](#) on each area for process improvement with RPCs, establishing best practices to achieve shared objectives.
- III. Run a [pilot program](#) to validate best practices and to quantify impacts.



II. Current Projects

A. Food Bank Recovery

Summary from RPA-Feeding Texas Meeting on May 31, 2017

Members of the RPA Operations & Logistics Committee met with Feeding Texas at their office in Austin to discuss the use of reusable packaging in food bank donations and to propose a joint research project to establish best practices for the handling and return of the reusable products. Attending from RPA included committee chairman Mike Wasson, Tosca; Elliott Kirshner Tosca; Paul Mayo, IFCO; and Tim Debus, RPA. Attending from Feeding Texas included Celia Cole, CEO, and Jose Campuzano, Director of Supply Chain.

Presentation material was provided to Feeding Texas containing background information on RPA, reusable plastic containers (RPCs), the process in which RPCs are part of a food donation, the benefits of RPCs to the food bank network, and an outline of a proposed research project. Mr. Campuzano explained his experience and support for RPCs, having worked previously to set up a RPC program for retailers. He is aware of the benefits and would encourage more RPC use through the Feeding Texas network.

Ms. Cole described the Feeding Texas operation and their role as facilitator and broker of donations to 21 independent food banks throughout the state. In partnership with Feeding America, Feeding Texas established a new “Co-Op” or “mixing facility” in Edinburg, Texas, that is operated by Robinson Fresh, a division of CH Robinson. Approximately 40% of the food donations brokered by Feeding Texas are made through this cold-storage facility. The remaining 60% donated food are transported directly to one of the 21 food banks.

Ms. Cole and Mr. Campuzano expressed their support for the RPA project to improve the handling and recovery of RPCs through the Texas food banks. Feeding Texas has launched a produce initiative to encourage more fresh produce donations, and RPCs would ensure the highest quality while eliminate packaging waste, supporting other organizational objectives in food waste reduction and environmental sustainability. It was emphasized that food bank participation and compliance to any new best practices would have to include an economic incentive and outcome. Food banks would need to see adequate financial return to cover their RPC receipt, inventory, re-packing and return activities. Understanding the financial impact to achieve the effective handling and return of reusable packaging would be part of the research project.

II. Current Projects

A. Food Bank Recovery

Summary from RPA-Feeding Texas Meeting on May 31, 2017

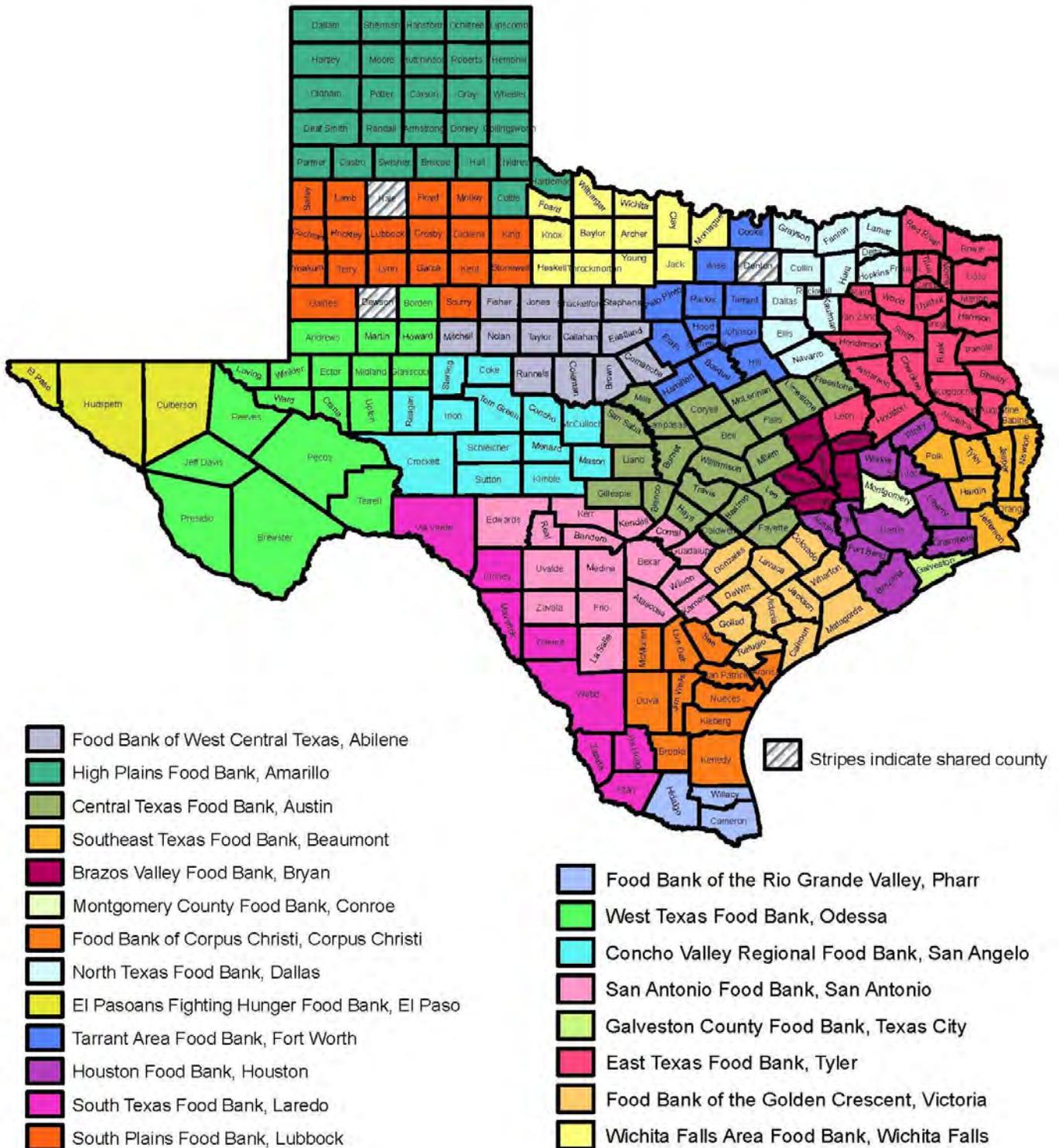
Next steps were identified as the following:

1. RPA to streamline the presentation material and send a revised document back to Feeding Texas for their internal use, which may include distribution to members of their food bank network.
2. Feeding Texas to consider, and RPA to follow up on, an opportunity to present the project at the upcoming Feeding Texas Board meeting on July 8 in Houston.
3. Feeding Texas referenced Dr. Barry Lawrence, Program Coordinator and Professor of the Industrial Distribution Program at Texas A&M, as an expert in the food supply chain and food bank system who could serve as a contact and/or consultant for the project. Ms. Cole agreed to make an introduction for RPA follow up.
4. Feeding Texas can also make introductions to individual food bank officers for RPA contact for possible visits and information exchange.

II. Current Projects

A. Food Bank Recovery

Feeding Texas Counties Served by Member Food Banks



II. Current Projects
 B. Physical Barrier Study

RPA member Tosca has been investigating the loss of reusable packaging assets when left unprotected in storage behind retail stores awaiting for pickup and return. In January and April 2017, Tosca conducted field research to quantify the return rate and number of days for reusable plastic containers (RPCs) to make it from behind 15 stores of a major retailer in the Houston market to the regional Tosca service center. The results are below.



	# RPCs Scanned	# Returned	% Returned	% Still Missing	# Days Out
Jan 2017	605	491	81%	19%	75
Apr 2017	191	139	73%	27%	50

RPA Operations & Logistics Committee Project Proposal

At many end-of-use sites the storage of reusable packaging awaiting pickup and collection can occur in an outside, unprotected environment. This is often the case at retail stores and restaurants where limited inside space forces behind-the-store placement of reusable packaging assets. When left to open and unguarded access, reusable packaging products are more vulnerable to theft. Logically, protecting the assets in storage within a physical structure would reduce access and therefore reduce the risk of theft. But the type and extent of structure needed, and the quantification of impact to justify investment, are unknowns.

This project serves to collect data to determine how an effective barrier to access can deliver a ROI by safeguarding reusable packaging and preventing asset loss.

II. Current Projects
B. Physical Barrier Study

Proposed Solutions at Retail:

- 1. Signage mockup
- 2. Physical barriers along with data collection
- 3. Letter to recyclers
- 4. Information provided from sort providers
- 5. Posters for food banks and food pantries



1. Signage mockup

Metal signs to be distributed and mounted at all stores in the Houston Market to assist in the deterrence of reusable container theft.



Each store to be supplied with rolls of stickers. Stickers are to be placed on all reusable container pallets behind the stores.



II. Current Projects

B. Physical Barrier Study

Proposed Solutions at Retail:

2. Physical barriers along with data collection

Selected 5 locations in the Houston market with existing corrals;

- #2724-1107 Shaver ST., Pasadena, TX 77506
- #5959-111 Yale ST., Houston, TX 77007
- #1062-150 W EL Dorado Blvd, Friendswood, TX 77506
- #3425-9598 Rowlett Rd., Houston, TX 77075
- 0872-1919 N Main ST., Pearland, TX 77581

Tosca to scan and track the data of the returns of the containers housed in these secured corrals

- Compare loss rate after pilot implementation and share with Walmart
- Jointly determine program success

RPA to sponsor and fund pilot program

Based on success, roll out to other locations

If larger roll out occurs, costs should be shared with organizations who will benefit

3. Letter to recyclers

RPA to supply contact information for recyclers in the state of Texas.

RPA to offer draft letter to distribute to recyclers on behalf of their members.

II. Current Projects

B. Physical Barrier Study

Proposed Solutions at Retail:

3. Letter to recyclers

Dear John Doe Recycling Company,

Recyclers can be a key part of the reusable packaging process when containers are damaged beyond use or obsolete. Recyclers are also in a critical position when it comes to deterring or aiding in the theft of reusable plastic containers. Investigations over the past few years into the illegal theft of reusable packing have identified that several recycler businesses have engaged in the purchase and grind of reusable packaging that was stolen from retail or other locations. These reusable plastic containers are the property of their rightful owners and the owner's name is normally embedded in the container. The lawful sale of these items would be highly unusual and especially atypical from an individual who can't prove his affiliation with the rightful owner. Those found engaging in illegal recycling may be prosecuted to the fullest extent of the law.

If you are approached by random individuals soliciting the sales of reusable plastic containers, it should be reported to the Texas Retailers Association (713-416-9728), Walmart Corporate Security (800-775-5944), Tosca (877-457-4011), IFCO (727-365-3253), or the Kroger Company (866-221-4141). Your assistance to end this illegal activity is imperative for lawful businesses to continue to conduct appropriate transactions.

Thank you for help and please contact one of the entities above if you have any questions.

Sincerely,

Texas Retailers Association

4. Information provided from sort providers

Walmart to provide access to Retail Link

This will allow poolers to collect data in order to narrow the focus on poor salvage returns at specific locations

Sorter to provide a weekly report of volume picked up by store

II. Current Projects
 B. Physical Barrier Study

Proposed Solutions at Retail:

5. Posters for food banks and food pantries

What to Do When Your Organization Receives Product in These Containers.



Identify a reusable plastic container (RPC). It may look like one of the following:



ToscaLTD GP Hays Orbis

DO:

1. Do remove the food from these containers and distribute food appropriately.
2. Do collapse sides and stack on pallets in the back.
3. Contact the owner of the asset for recovery.

DON'T

4. Don't assume they're recyclable. These containers belong to their owner; Tosca, IFCO and Polymer.
5. Don't Remove them for your personal use.
6. Do not discard as trash.
7. They are not to be sold.
8. They are not to be used within your organization for storage of other products.

We want to help end food insecurity and promote sustainability, too! As such, it is imperative that these containers be returned to their owners promptly to keep the supply chain healthy.

II. Current Projects

C. Retailer Engagement on Loss Prevention

Past RPA Efforts

- Asset Recovery Committee, 2007
- Asset Loss Prevention Committee, 2010



Proposed Objectives

- Identify and quantify costs of returnable asset loss, opportunities and challenges facing DSD manufacturers, their retail customers and other stakeholders in increasing utilization of returnable assets.
- Develop industry guidelines, including best practices, for storing, returning, reusing and safeguarding returnable assets. Where data are available, quantify the benefits of best practice adoption.
- Describe and evaluate various technologies that might enhance progress in managing reusable assets including GPS, handheld devices to track UPC codes, cellular and 800# processes, and RFID.
- Design an industry communication and education plan to support broader adoption of best practices, including next steps for broadening the scope of local law enforcement initiatives like COMBAT Coalition in the Mid-Atlantic region and national programs like ISRI's ScrapTheftAlert.com.

Defining Guidelines for Managing Returnable Assets

A Proposal to the Food and Beverage Industry

Developed by



To Support the Mission of



This proposal describes a joint industry project intended to broaden industry awareness and adoption of practices that will increase the utilization of several types of returnable assets and reduce industry-wide costs associated with losses and recovery.

June 2012

II. Current Projects

C. Retailer Engagement on Loss Prevention

Today

- Operations & Logistics Committee, 2016



Examples Committee Actions for Consideration

- Develop industry guidelines and best practices for handling, returning and safeguarding reusable assets
- Evaluate technologies and report on results
- Conduct an education campaign to raise awareness and to support adoption of best practices
- Build coalitions of support and strengthen collaborative measures
- Improve communications and networking on issues
- Expand successful models related to investigation and enforcement
- Quantify conditions for benchmarking and impacts for progress

II. Current Projects

C. Retailer Engagement on Loss Prevention



Recommend 32

Authorities Note Increase in Thieves Targeting Storage Bins

Posted: May 25, 2017 7:21 PM EDT
Updated: May 25, 2017 7:21 PM EDT
Reported by Taylor Winkel, Reporter [CONNECT](#)



BROWNSVILLE – Authorities are reporting thieves are targeting plastic containers found outside stores and selling them. The stolen bins are costing businesses hundreds of dollars.

The [Cameron County District Attorney's office](#) [raided a business earlier this week and discovered stolen crates](#). Authorities raided another recycling site on Thursday and discovered more stolen bins.



II. Current Projects

D. Industry Lost and Found Online Tool

Example Sites

RTI @ AIAG - Returnable Transport Items (RTIs) Found Here > About > Help > Log in



RTI listings

FIND owners

AIAG other sites





Returnable Transport Items (RTIs) Lost and Found

Find lost RTIs / Return Stray RTIs

Streamline the Supply Chain

Browse RTI Listings

Find RTI Owners

Returnable Transport Items (RTIs) Lost and Found

Connecting those who have lost RTIs with those to whom they belong

KEGRETURN





FOUND A KEG?
Use this database to help you identify a keg's owner by searching for key markings and symbols on the lost keg.



CONTACT A BREWERY
This tool helps you find the keg contact person at a brewery.



FIND STRAY KEGS
Microstar has acquired Tosca's keg repair and maintenance business and will continue the keg repatriation program as a service to the industry. See if your brewery's kegs on their stray keg list.

REGISTER A KEG

Additional Resources

- About
- FAQ
- Code of Keg Conduct
- Keg Etiquette
- Keg Scrapping
- Rental & Leased Kegs
- Find Stray Kegs

Found a Keg
Contact a Brewery
Microstar Kegs
Register a Keg

SAVOR THE FLAVOR RESPONSIBLY

Brewers Association | [Contact Us](#)
730 Pearl St., Boulder, Colorado 80302 USA
+1 303 447 0810 | +1 888.922.6273 (U.S. and Canada only)



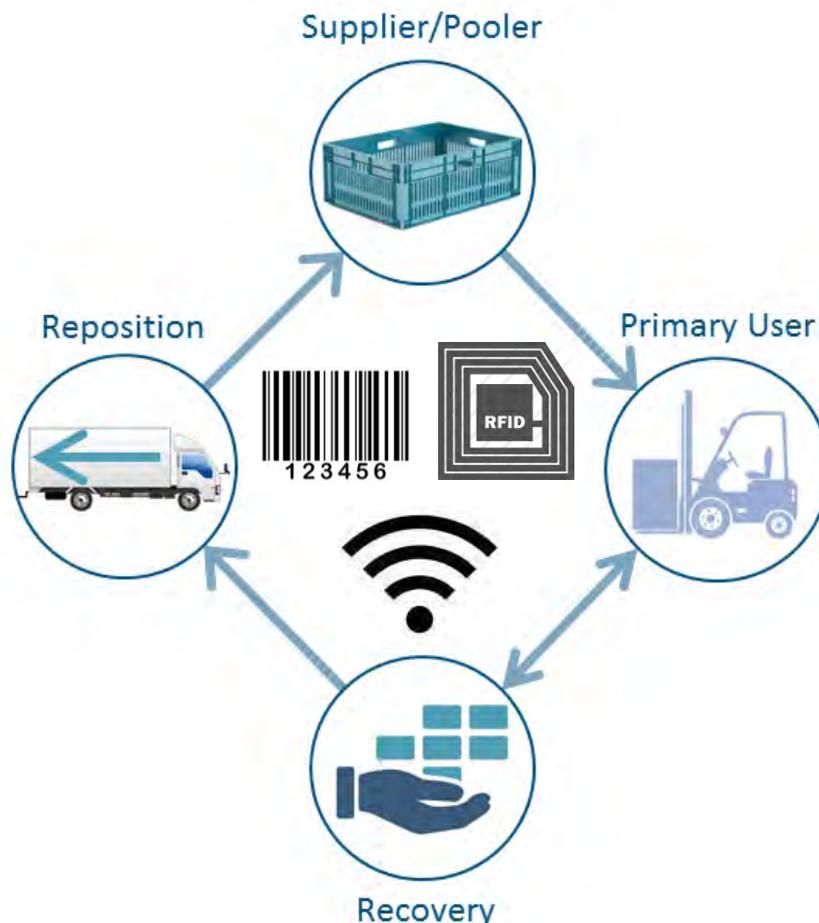
III. Asset Labeling and Tracking Technologies

A. Technologies for Identifying and Tracking Reusable Packaging Assets

1. Current Products and Services
2. Trends and Future Developments

Committee Discussion

- ❑ What are the leading technologies in use today for labeling and tracking reusable packaging?
- ❑ What percent of reusable products across the industry are able to be identified and tracked at any point in the supply chain?
 - ✓ Pallets
 - ✓ Bulk Bins and Large Containers (i.e. IBCs)
 - ✓ Small, Handheld Containers and Trays (i.e. RPCs)
- ❑ How will technology and associated tracking services for reusable packaging change in the next 5 years? 10 Years?



III. Asset Labeling and Tracking Technologies

B. Common Industry Interests and RPA Collaboration Opportunities

Committee Discussion

- ❑ What general questions or issues are being raised across the reusable packaging industry related to the adoption and performance of asset tracking?
- ❑ What are the barriers limiting the adoption and growth of tracking capabilities?
- ❑ How can RPA help to facilitate the awareness, acceptance and performance of technology for effective asset identification and tracking?
 - ✓ Research or field trial
 - ✓ Case study
 - ✓ Guidelines or best practices
 - ✓ Education forum

Technology is the enabler of reusable packaging systems



III. Asset Labeling and Tracking Technologies

Excerpt from:

Deloitte.

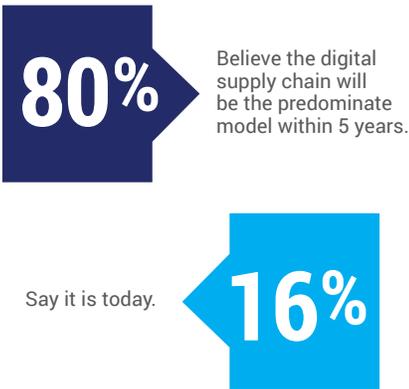


The 2017 MHI Annual Industry Report Next-Generation Supply Chains: Digital, On-Demand and Always-On



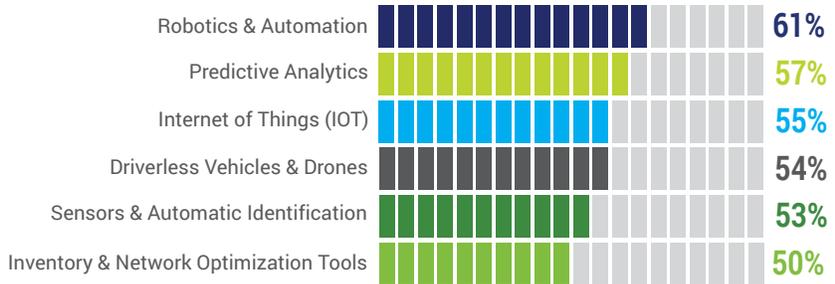
Next-Generation Supply Chains: Digital, On-Demand and Always-On

2017 MHI Annual Industry Report Key Survey Findings



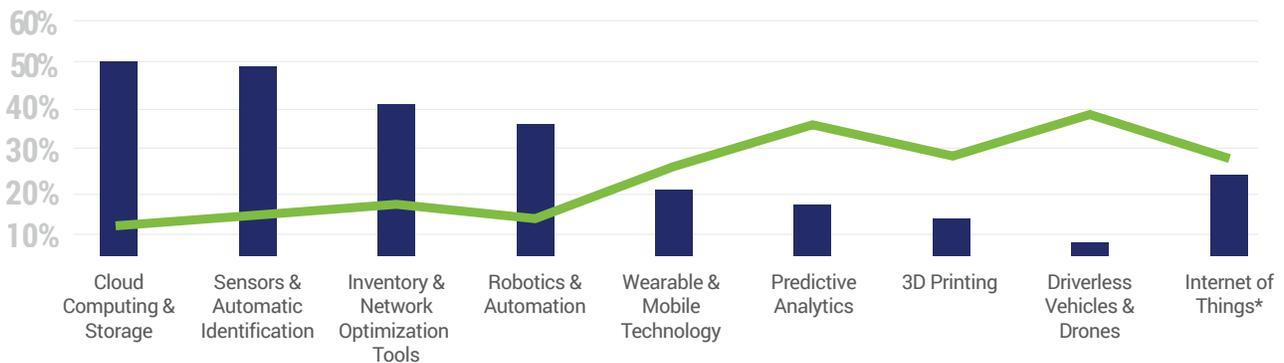
DISRUPTIVE TECHNOLOGIES Top 6 out of 9

Potential to disrupt or create competitive advantage.



ADOPTION RATE

■ In-use Today ▲ 5-Year Compounded Annual Growth Rate



* First year of data

TOP CHALLENGES

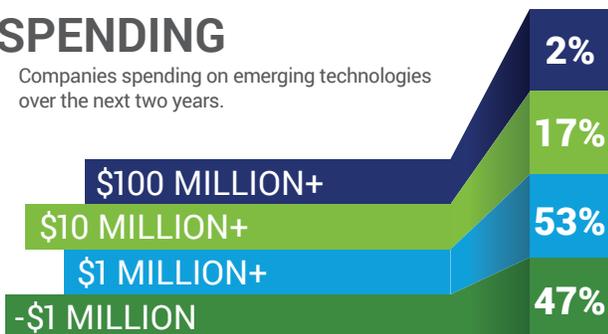


BARRIERS TO IOT ADOPTION



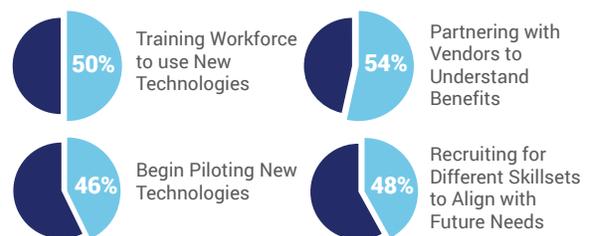
SPENDING

Companies spending on emerging technologies over the next two years.



PREPARATION

Actions being taken to prepare for next generation supply chain.



Innovations and Technologies Driving Next-Generation Supply Chains



Sensors, Automatic Identification and IoT

Sensors Expand Possibilities and Manage Information

Visibility and control are high priorities for those responsible for managing supply chains. Smart sensors provide data on the condition and location of a firm's supplies and products as they are transported across a facility or around the globe. This capability provides the end-to-end visibility and the operational intelligence that Next-Generation Supply Chains demand.

This year's survey respondents reported that 49% of them have sensors and automatic identification in-use today, which is up from 43% in 2015. Another 38% predict that

they will adopt the technology within the next five years — taking the adoption rate to 87%.

The data these sensors provide, combined with cloud-based applications connected to the same networks, can be applied to analytic models that uncover supply chain patterns that reveal actionable intelligence.

The potential benefits for supply chains include end-to-end visibility and predictive modeling capabilities that result in optimized agility and performance, reduced risk, improved operational processes, faster delivery times and reduced costs.

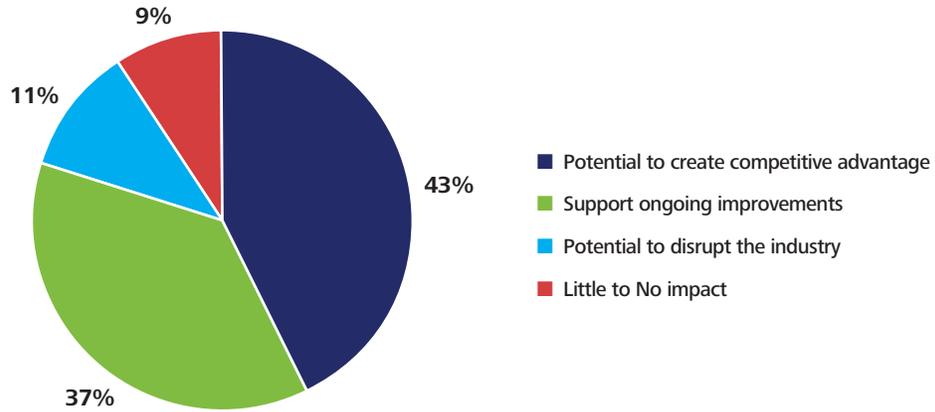
Survey respondents are experiencing these benefits, with 53%, up from 42% in 2015, saying that these technologies have potential to create competitive advantage or to disrupting supply chains (see Figure 15). Another 37% say sensors and automatic identification support ongoing supply chain improvements.

Sensors often are implemented as part of or alongside other supply chain technologies such as robots and drones, making them not only versatile, but also supplementing other supply chain technologies covered in this report. Early adoption is becoming an advantage as it makes adjusting to other technologies easier because workers are already familiar with sensing functions.

According to the survey (see Figure 16), firms are using sensors and automatic identification technology for lot tracking and tracing (55%), supply chain monitoring (37%), security (24%), event management (23%). Companies are also using these technologies in point of sale operations, reported at 20%, such as automatic check-out, inventory consolidation, and replenishment, showing a growing



Figure 15. 2017 survey results: Potential impact of Sensors and automatic identification



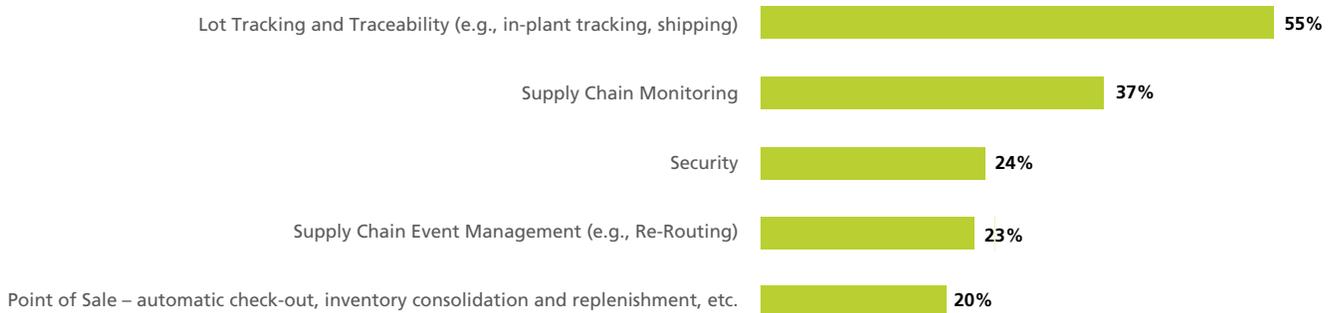
dependence on technology to manage sales and reduce inventory error.

Smart sensors are changing supply chains in some very basic ways. One way the use of sensors is being expanded is by companies who monitor their equipment after it has been sold to customers. Manufacturers can check on equipment remotely and ensure proper working order, leading to fewer maintenance calls and fewer customer complaints⁷. Using sensors can also allow companies to aggregate data to build better products in the future.

Manufacturers can move from simply providing products to providing services associated with managing the life cycle of those products. Sensors also allow for extended networks of equipment that all share an information pool.

Sensors and automatic identification (auto ID) allow information to be collected in ways and at rates that were previously unavailable to supply chain professionals. Visibility and control are high priorities for those responsible for managing supply chains. Timely information about materials movement and status from one link of the chain to the next and on to customers is critical. Technologies

Figure 16. 2017 survey results: How companies are using sensors and automatic identification today (or planning in the next 1-2 years)



"If you could monitor customers' usage rates so you know where their stock levels were, you could optimize your delivery schedule. Knowing that there is enough capacity on site, you can leave a customer's delivery for another couple of days and schedule it for when you can get it there more efficiently. Having some insight into what's happening with the end customer has just given you the ability to improve your logistics and logistics efficiency."

**Steve Baker,
Business
Development
Manager at
The Technology
Partnership**

such as barcode readers, radio frequency identification (RFID) tags and readers, point-of-sales systems, imagers and beacons are being used to capture, verify, store and communicate supply chain data, replacing the cumbersome, costly and error-prone manual processes of yesterday.

Auto ID applications give companies information about the precise identity and location of each physical item in the supply chain in an automated and timely manner. This real-time information enables companies to gather other related information about the product in order to assess both its current state and future required actions.

Adopting such technologies provides a major opportunity for a supply chain operation to quickly enhance its tracking and tracing systems, process control and inventory management. The use of sensors expands the reach of these automatic identification applications and has potential to give a company complete visibility to its supply chain by removing a number of traditional supply chain limitations associated with latency and distance.

Internet of Things (IoT) is Foundational

The Internet of Things (IoT) has been added to the list of innovative technologies this year because it is foundational

to the application of business process improvement through collaboration with many of the other featured innovations within this report. By definition, it is the interconnectivity of physical devices (smart devices) through a network that ties them all together for transfer of information.

Although the concept for IoT has been around since the 1980s and started to become reality in the 1990s with the commercial emergence of the Internet era, the IoT is just starting to take-off as the number and variety of connected devices has been growing exponentially over the past few years. The IoT is enabled by the combination of the other innovative technologies working together to provide the digital information driving the Next-Generation Supply Chain.

Survey respondents are recognizing the growing importance of IoT, with 55% saying that it has potential to create competitive advantage or to disrupt the industry (Figure 17). Another 33% say that IoT can support ongoing supply chain improvements.

Connected devices are being introduced into all areas of the supply chain from cellular and GPS-based sensors on cargo containers to robotics in warehouse operations. The interconnectivity of these devices is unlocking the potential

Figure 17. 2017 survey results: Potential impact from the Internet of Things (IoT)

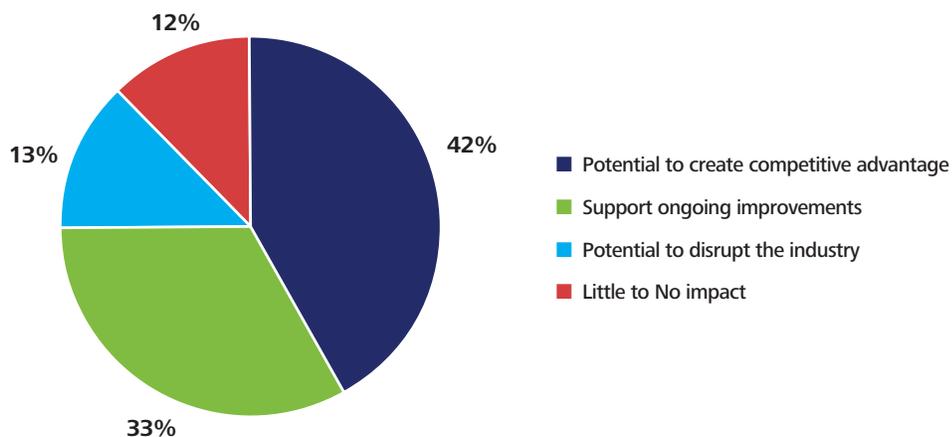
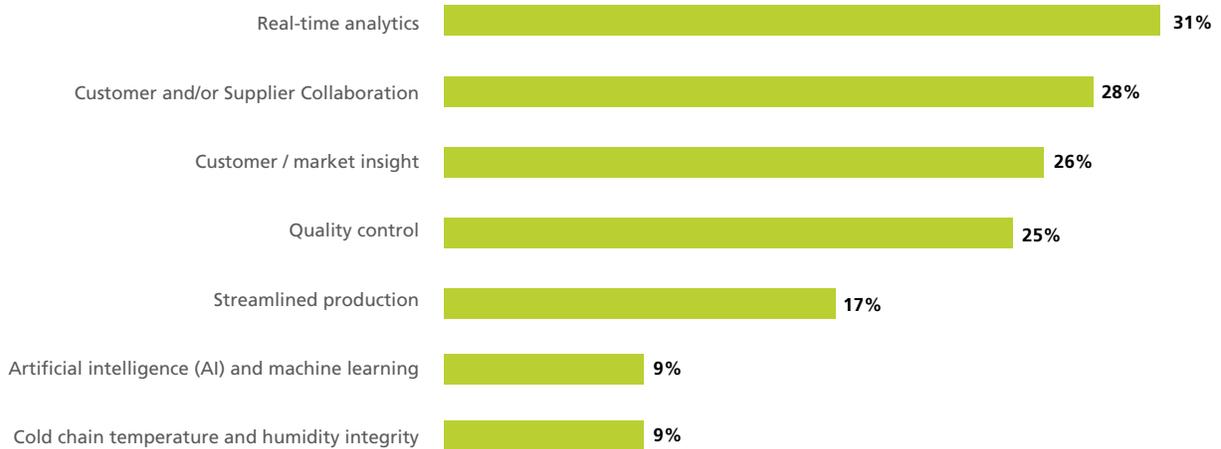


Figure 18. 2017 survey results: How are companies using the Internet of Things today (or planning to use it over the next 1 - 2 years)



to collect real-time digital information about areas of the supply chain like never before. Sensors for example, are becoming smaller, more sophisticated and less expensive to implement into areas of the supply chain that have typically been manual in nature. Smart devices have been utilized in transportation vehicles for some time now to monitor the equipment conditions for maintenance, but that same technology is now being implemented on railcars to track the bearing conditions and monitor impact reports for the cargo. As the catalog of smart devices continues to grow and infiltrate into all areas of business, the potential benefits produced from the interconnected workings between them will produce great opportunities.

According to the survey (see Figure 18), the top 4 ways that firms are using IoT for are for real-time analytics (31%), customer and/or supplier collaboration (28%), customer/market insight (26%) and quality control (25%). Companies are also using these technologies to streamline production, enable artificial intelligence and machine learning and to support cold chain temperature and humidity integrity.

The Internet of Things is the underlying platform in which the next-generation supply chain will breathe and operate. Through the interconnectivity of the smart devices embedded throughout the supply chain, all of the digital, on-demand and always-on communications are possible. This will also be the case for the future of Smart City Logistics. The smart city urban cores will be completely immersed in the transfer of digital information between devices throughout. Smart sensors placed on final mile, ground drones will be able to communicate with sophisticated software to follow a pre-determined route for delivery, navigate the crowded streets and sidewalks, and adjust based on blockages and detours to reach the ultimate destinations all while providing real-time tracking capabilities for the end consumer. The future for the Next-Generation Supply Chain and Smart Cities is endless in the potential for efficiency and effectiveness through the interconnectivity of smart devices through the IoT.



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MHI is an international trade association that has represented the material handling and logistics industry since 1945. MHI members include material handling, logistics and supply chain equipment and systems manufacturers, integrators, consultants, publishers, and third party logistics providers.

MHI offers education, networking and solution sourcing for members, their customers and the industry as a whole through programming and events. The association sponsors trade events, such as ProMat and MODEX to showcase the products and services of its member companies and to educate manufacturing and supply chain professionals on the productivity solutions provided through material handling and logistics.

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IV. Preventing Reusable Asset Loss in Retail Supply Chains



RPA-TRA Roundtable Table Discussion
Monday, July 24, 2017, 3:30 pm – 4:30 pm
Texas Retailers Forum 2017

Objective: To initiate a joint conversation and to discuss collaborative opportunities on the prevention of loss and theft of reusable transport packaging products such as pallets, bins, containers and trays at retail environments.

Participants: RPA Operations & Logistics Committee
TRA Loss Prevention and Operation S.T.O.P.P Members

Background:

The use of reusable transport packaging through retail supply chains offers benefits such as improving product protection and quality, creating handling and operating efficiencies, and eliminating waste. As these packaging products are not for sale but rather are passed through operations in a system involving collection and relocation, the timely and secure handling of these assets may not be achieved on a day-to-day basis and thus may be subject to long duration of inactivity or even conditions leading to their loss. In addition, the value of reusable packaging products goes beyond their continuous movement for their intended purposes. The packaging material, whether it is plastic, wood, metal or a composite makeup, for example, has market value in a recycled form, and the extent of criminal activity in stealing these products is well documented. It is estimated that over \$1 billion worth of reusable pallets and containers are lost or stolen each year in the United States across all markets.

Through greater and stronger industry collaboration, reductions in the loss and theft of reusable packaging products can occur, leading to lower supply chain costs, consumer prices and system waste. As part of the TRA Forum Organized Retail Crime and Loss Prevention (ORC/LP) track, and in building from the success of the TRA Operation S.T.O.P.P. program, a roundtable discussion involving suppliers and service provider members of the RPA and retail loss prevention members of TRA is organized to openly discuss the issue and ideas in which both organizations can partner for better results.

V. Next Steps

A. Recap of Priority Projects

B. Timeline for Action Items

- Monthly Committee Calls

- Committee Projects

- Asset Management Track at RPA Learning Center at PACK EXPO 2017

- Opportunity for a New “Reusables Technology” Event Spring 2018?

- Other Priorities