

## COLDFACTS



## STANDARDIZING KPIs IS KEY

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## LEADOFF

MESSAGES FROM GCCA LEADERS

## WFLO Builds Talent Around the World

UST A FEW MONTHS AGO IN THE LEADOFF COLUMN IN THE MAY-JUNE 2019 ISSUE OF COLD FACTS, IARW CHAIR ANDY JANSON AND I TALKED ABOUT THE IMPORTANCE OF TALENT DEVELOPMENT, ONE OF THE FOUR AREAS OF THE IARW-WFLO STRATEGIC PLAN.

Now I am pleased to report that the World Food Logistics Organization (WFLO) has expanded talent development further than ever before through the first ever WFLO Institute Australia held in Melbourne, 21-23 October. With this expansion into Australia, the WFLO Institute training program is now held in 4 locations across three continents.

I attended this event along with 55 students and faculty members who were enthusiastic about the many learning opportunities this program offered. Instructors came from Australia, New Zealand, Canada and the United States.

The WFLO Institute – also offered in two U.S. locations plus Latin America – has a wellearned reputation as the leading education and training resource in the global cold chain industry. It's a three-year program designed to develop your company's most important asset – talent.

Industry thought leaders and subject matter experts lead these immersive classroom experiences. Students get an added benefit of networking with industry peers and developing relationships with mentors while taking their professional, leadership and cold chain skills to the next level.

Real-time virtual presentations and selfpaced online courses are also offered.

After employees graduate from the threeyear course, they're eligible to attend the Graduate Institute Professional Development Program – a three-day training program for professionals engaged in temperature-controlled logistics held in conjunction with the Global Cold Chain Expo (September 2020). With the ever-changing environment of the temperature-controlled logistics industry, it is important that middle managers are prepared with the knowledge and skills to take on the future challenges of the industry. This program prepares them for those challenges by equipping them with critical thinking and leadership skills needed to succeed.

For me personally, attending the WFLO Institute in Australia was a very rewarding experience to see how many countries have developed their material handling, artificial intelligence and robotics. These advanced technologies will transform our industry in the coming years, and it's critical that we learn and teach this knowledge to our employees.

Customers will increasingly look to the cold chain industry to provide the latest in technology solutions, so let's make sure we are ready when they call.

The next set of WFLO Institute programs are just ahead. WFLO Institute West will be held January 12-15, 2020 in Tempe, Arizona, followed by WFLO Institute East, February 9-12, 2020 in Atlanta, Georgia.

The WFLO Institute Latin America comes later in the year in July, along with the second year of the WFLO Institute Australia in October.

So as the new year arrives, give your employees the gift of learning at one of these events.

Your company will be better for it! @



DON DICK WFLO CHAIR

#### COLDFACTS

COLD FACTS magazine is published every other month by the **Global Cold Chain Alliance** (GCCA), an organization that unites partners to be innovative leaders in the temperature-controlled products industry. The GCCA Core Partners are:

#### The International Association of Refrigerated

Warehouses (IARW), which promotes excellence in the global temperature-controlled warehouse and logistics industry.

#### The World Food Logistics Organization

(WFLO), which delivers education and research to the industry and empowers economic development by strengthening the global cold chain.

The International Refrigerated Transportation Association (IRTA), which cultivates, fosters and develops commercial and trade relations between all those engaged in the transportation and logistics of temperature-controlled commodities.

#### The Controlled Environment Building

Association (CEBA) represents the design and construction industry specializing in temperature-controlled facilities that prioritize product safety best practices. We are the source for best practices of building and maintaining the thermal envelope.

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## TRUMP ADMINISTRATION ISSUES NEW OVERTIME RULE

#### Final Rule is significant improvement over previous iteration.

#### By Lowell Randel

he Trump Administration's Department of Labor (DOL) published a Final Rule on September 25, 2019, updating overtime rules for employers in the United States. The action caps several years of deliberation on overtime policy that began with the Obama Administration's efforts to update the policy late in the president's second term.

The Obama Administration issued a rule that would have dramatically increased the levels for the standard salaries test and for highly compensated individuals, which sparked legal challenges from the business community and halted the implementation of changes.

The Trump Administration picked up the issue and initiated its own rulemaking effort to address overtime policies. GCCA actively worked with coalition partners including the Small Business Legislative Council and the Partnership to Protect Workplace Opportunity in both expressing concerns with the Obama era proposals and support for revisions that would be more workable for members.

The Final Rule represents a significant improvement over the regulation advanced during the Obama Administration and includes many of the provisions GCCA and its coalition partners advocated. According to DOL, the revised policy will allow up to 1.3 million additional workers to become newly entitled to overtime. This is achieved by updating the earnings thresholds necessary to exempt executive, administrative or professional employees from the FLSA's minimum wage and overtime pay requirements.

The Fair Labor Standards Act (FLSA) generally requires employers to provide overtime pay of at least 1.5 times the regular wage, when employees work more than 40 hours in a week. However, there is a "white collar" or "EAP" exemption from overtime requirements for "any employee employed in a bona fide executive, administrative, or professional capacity."

The statute gives the Secretary of Labor the authority to define the terms for exemption.

An employee must meet the requirements of the following three tests to be found exempt:

OUT DAILY HOURS

- The employee must be paid a predetermined and fixed salary that is not subject to reduction because of variations in the quality or quantity of work performed (the "salary basis test");
- The amount of salary paid must meet a minimum specified amount (the "salary level test");
- 3. The employee's job duties must primarily involve executive, administrative or professional duties as defined by the regulations (the "duties test").

The Final Rule updates both the minimum weekly standard salary level and the total annual compensation requirement for "highly compensated employees." These levels had not been revised since 2004, and changes were made to reflect growth in wages and salaries.

DOL asserts that the update to the standard salary level will maintain the traditional purposes of the salary level test and will help employers more readily identify exempt employees. The Final Rule does not make changes to the "duties test."

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#### GCCA Briefs FDA on Cold Carrier Certification

GCCA and Certified Cold Carrier companies recently met with representatives of the U.S. Food and Drug Administration (FDA) to discuss the Certified Cold Carrier program. GCCA provided background on the program and explained that the Certified Cold Carrier provides recognition to cold carrier companies for implementing operational best practices at carrier facilities.

Also discussed was the sentiment that earning the Certified Cold Carrier designation instills confidence that the carrier follows the IRTA Refrigerated Transportation Best Practices Guide and the personnel operating the fleet are also knowledgeable about the best practices.

GCCA will continue to engage with the FDA regarding the program to ensure that they have a good understanding of the Certification and its benefits to the industry. This follows on the strong engagement GCCA had with FDA regarding the IRTA Best Practices Guide.

In related news, the latest IRTA member company to become certified is Sethmar Transportation headquartered in Overland Park, Kansas.

For a full list of Certified Cold Carriers and more information about the program, visit www.gcca.org/certifiedcoldcarrier.



#### Key Provisions of the Final Rule Standard Salary Level

The Final Rule sets the standard salary level at \$684 per week (\$35,568 for a full-year worker). To be exempt under a "white collar" exemption, an employee's primary duties must be executive, administrative, professional, computing or outside sales (as defined by regulation) and the employee must be paid a salary of at least \$684 a week.

The new salary amount accounts for wage growth since 2004 and uses currently available data by looking to measure the 20th percentile of earnings of full-time salaried workers in the lowest-wage census region (currently the South), and/or in the retail sector nationwide.

The salary threshold increase provided in the Final Rule is considerably less than the \$913 per week (or \$47,476 annually) included in the Obama-era rules.

### HCE Total Annual Compensation Requirement

The Final Rule sets the total annual compensation requirement for "highly compensated employees" (HCEs) at \$107,432 per year. To be exempt as an HCE, the employee must regularly perform one or more of the duties of an executive, administrative or professional employee (as defined by regulations) and the employee must earn at least \$107,432, which includes at least \$684 per week on a salary basis.

This compensation level equals the earnings of the 80th percentile of full-time salaried workers nationally.

The Obama overtime rule would have increased the HCE compensation requirement to \$147,414 (equal to the 90<sup>th</sup> percentile).

#### Treatment of Nondiscretionary Bonuses and Incentive Payments

The Final Rule allows employers to use nondiscretionary bonuses and incentive payments to satisfy up to 10 percent of the standard salary level. For bonuses or incentive payments to count towards the salary level test, the payments must be made on an annual or more frequent basis.

If an employee does not earn enough in nondiscretionary bonus or incentive payments in a given year to retain exempt status, the Final Rule permits the employer to make a "catch-up" payment within one pay period of the end of the 52-week period. This payment may be up to 10 percent of the total standard salary level for the preceding 52-week period. Any such catchup payment will count only toward the prior year's salary amount and not toward the salary amount in the year in which it is paid.

The concept of "catch up" payments was introduced in the Obama overtime policy and is being carried forward in the Final Rule.

#### Updating

The Final Rule rejects the policy of including automatic increases to salary thresholds, as were included in the Obama era policy. Instead, DOL expresses its intent to update the earnings thresholds more regularly in the future through notice-and-comment rulemaking.

GCCA and its coalition partners had expressed concerns about the impact automatic increases would have, particularly on small businesses.

The new overtime policies go into effect on **January 1, 2020.** 

**LOWELL RANDEL** is Vice President, Government and Legal Affairs at GCCA.

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GCCA members are encouraged to become familiar with the new regulation and understand how it may impact their business. DOL has developed a Small Entity Compliance Guide, as well as a Fact Sheet and Frequently Asked Questions, all available at https://www.dol.gov/whd/ overtime2019/. Members can also contact Lowell Randel to learn more about the new overtime rules.

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#### By Alexandra Walsh

### **COVER STORY**



## STANDARDIZING KPIS IS KEY

Industry seeks to identify, define and universalize Key Performance Indicators.

ey Performance Indicators (KPIs) are important to your customers. We know that from the results of the 2018 GCCA Cold Chain Customer Research Report. What the research also revealed is customers want universal standards in KPI reporting from their 3PL partners and identify the need for 3PLs to work with them to identify what metrics they need and want.

#### We heard from your customers. Now let's hear from you.

#### **KPIs and Customers**

"KPIs are important to food manufacturers because they can provide a competitive advantage – whether that's negotiating carrier rates or demonstrating timeliness and logistics as a customer service tool," notes Marty Steinmetz, Vice President, Strategic Partnerships, United States Cold Storage and head of the GCCA KPI Working Taskforce. (*See the sidebar.*)

"KPIs are important because they provide an objective way to measure service performance and can prevent companies from getting distracted by anomalies or one-off issues," notes Tony Leo, President and CEO, RLS Logistics and member of the KPI Working Taskforce. "This big picture view of performance fosters a customer/3PL relationship that is built on trust, mutual benefit and continuous improvement, which ultimately leads to better execution and lower costs."

"In every request for proposal, customers want to know what KPIs we're currently measuring, whether we can measure what's important to them, what kind of reports they'll get and how much flexibility they'll have over the information they get in those reports," points out Joe Del Greco, Vice President Supply Chain Solutions, Interstate Warehousing and KPI Working Taskforce member.

"KPIs allow us to set processes and procedures that we can measure against and our customer knows what that expectation is," Del Greco says. "The ultimate goal of providing KPIs to our customers is so they can service their customers, and we know that."

"KPIs provide our customers with uniform marks of operational expectation throughout our integrated network – something our customers have come to rely on," says Ben Medearis, Director of Business Development, Americold and member of the KPI Working Taskforce.

"Our customers can better plan their activities based on KPIs," Medearis says. "For example, if a facility has a 99.5 percent order accuracy picking rate, our customers do not need to over-order products to account for shortages. Consequently, they may not need to produce, transport, or store as much product, as overages are no longer a concern."

#### GCCA Creates KPI Working Taskforce

The focus of the GCCA KPI Working Taskforce is to identify and define warehouse key performance indicators (KPIs) with a strong value proposition to third party warehouse customers that can be standardized and tracked across the industry.

The taskforce has selected three indicators including turn times, shipping accuracy, and inventory accuracy. Additional indicators are under consideration.

Further work undertaken by the taskforce will be covered in *Cold Facts* in 2020. The GCCA KPI Working Taskforce members representing both 3PLs and their customers include:

- Marjorie DePuy, Food Marketing Institute
- Mark Dienesch, VersaCold
- Mark Dolan, Unilever
- Joe Del Greco, Interstate Warehousing
- Tony Leo, **RLS Logistics**
- Ben Medearis, Americold
- Bedford Monday, The Schwan's Food Company
- Nick Najjar, Land O'Lakes
- Darica Schneider, Jennie-O Turkey Store
- Marty Steinmetz, United States Cold Storage

#### **Customers Want Standardization**

Customers don't just want KPIs, the GCCA Cold Chain Customer Research concluded, they want universal standards in KPI reporting from their 3PL partners. And, they want their 3PL partners to work with them to identify what metrics they need and want.

"Before companies leveraged standardized operational metrics, service performance was determined by how each party believed the service provider performed," Medearis points out. "This approach was appropriate when performance matched expectations, but did not always offer learning opportunities to improve performance levels or drive innovation. With agreed upon KPIs, a standard level of expectation is set and performance objectives become based on factual metrics."

Medearis also points out that they work with their customers to identify specific KPIs for their business since customers' needs vary. "We have a Customer Scorecard in testing right now."

"3PL customers have different expectations, and oftentimes a single service failure can lead companies down the path of making changes that are costly and usually ineffective at solving the root cause of the problem," Leo says. "When a customer and a 3PL can agree on service levels, and more specifically tie those expectations to industry accepted standards and definitions, it allows everyone to stay focused and work on initiatives that will have a bigger impact on the business."

"Even though members of the cold chain industry work tirelessly to grow the frozen food industry, we're very focused on providing great customer service and having KPIs that are all measured the same way helps benchmark our performance against our customer's expectations and our customers can use standardized KPIs to benchmark within their own operation," Steinmetz explains. "Standardized KPIs also help us see how we stand against our competition."

Steinmetz says, "In the past, customers would ask us what we measure and we would sometimes respond that we could measure whatever they wanted us to measure. We were more accommodating but we were missing an opportunity to be prescriptive in our feedback to our customers because we realized that each company most likely measured KPIs slightly differently than others, so it might be an apples to apples benchmark."

Steinmetz adds, "The key to effective KPIs is everybody measuring the same way so food manufacturers are not skeptical when some results are different – a uniform approach gives KPIs, and the overall industry, additional credibility."

#### Important KPIs

"Turn times on the dock and case-fill percentages are the most important KPIs to our customers because they drive their business," Del Greco says.

"Any time you're talking about the speed of turn times, it's a direct reflection on the efficiency of the warehouse operation and how well planned labor is to accommodate the peaks and troughs of the shipping process," Steinmetz notes. "Inventory control and warehouse shrink tells you how the warehouse operates inside the box, not just on the dock. Effective housekeeping impacts inventory accuracy as well and gives a strong indication of how a facility is managed overall."

Steinmetz adds that of course KPI safety metrics – like incidence or near-miss rates – are highly important.

"In partnership with our customers, we have developed four core KPIs – inbound trucks turned within two hours, outbound trucks turned within two hours, order accuracy and inventory accuracy," Medearis explains. "Our Operating System has elements supporting the achievement of these KPIs with continuous improvement incentives included as standard."

Leo says their customers tend to care the most about indicators that affect their customers directly or their own internal production or purchasing planning.

"The KPIs that speak to how well we are servicing our customer's customer are shipping accuracy and on-time delivery. Shipping accuracy is inclusive of fill rate, correct quantities and items, damage free and the correct temperature," Leo explains. "Probably the most important KPI that relates to a customer's production or purchasing planning is inventory accuracy. Having an inventory that is correct and reliable allows the customer to be proactive in determining what to produce or what to purchase for companies who outsource their manufacturing."

Leo notes that over years, they realized when they performed well in terms of lost time incidents, quality audit results, shipping and inventory accuracy, truck turn times, pallets per hour, energy usage, among others, their customer service complaints were minimized and financial results improved. "We were able to summarize these KPIs into five main areas – safety, housekeeping, accuracy, productivity, and efficiency – which helped us stay on target and measure what was important." "When a customer and a 3PL can agree on service levels, and more specifically tie those expectations to industry accepted standards and definitions, it allows everyone to stay focused and work on initiatives that will have a bigger impact on the business."

> -TONY LEO, RLS Logistics

#### The Future for KPIs

"I encourage all 3PLs in the cold chain to embrace the standardized KPIs we're working on within the GCCA KPI Working Taskforce," Leo says. "These KPIs are meant to finally give the 3PL cold chain industry, and its customers, industry-accepted definitions of performance measurement. In addition, it's important to not confuse KPIs with metrics – KPIs simultaneously tell a story and predict future results, whereas metrics are just a snapshot in time."

As an example, Leo points to a 3PL with an average shipping accuracy of 99.97 percent that has demonstrated what its performance has been, and what is probable in the future. A metric, such as cases or pallets shipped, is just a measure or statistic and does not speak to performance.

Leo adds that it's a good practice to have periodic business reviews with clients where successful KPI results are celebrated and failures are viewed as opportunities for improvement. "Taking a positive approach leads to a more productive outcome and better service to the end customer."

"In today's business environment, speed of reporting and access to advanced technologies are key to meeting and exceeding customer expectations," Medearis points out. "Traditional quarterly business reviews no longer present the optimal timeframe to review performance – instant evaluations and availability of data are in demand and becoming the norm. As business needs change, customers grow, and inventories spread across regions and countries, incorporating facilities with different warehouse management capabilities and an integrated supply chain management system is a necessity."

Medearis adds that the ability for a customer to access all supply chain information within a single-window visibility tool is a differentiator between temperature-controlled supply chain solution providers.

"The standardization of basic KPIs is coming, and that's important, but we all know every customer is an individual and has different needs and questions," Del Greco contends. "Standardized KPIs will allow us to provide information that's truly useful to our customers while retaining the ability to be flexible about what additional information we can provide based on a specific request from a customer. Because one thing that's never going to change – customers will always be customers and we will always want to respond to their needs." **@** 

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## **CERTIFIED FRESH**

CEIV certificate gives assurance to perishables shippers.

#### By Karen E. Thuermer

ransporting perishables via air is complicated. For one, airfreight space may be booked, but the produce is not ready for harvest. Restaurants may be promoting premium dishes, but deliveries may be delayed due to bad weather. Or a shipment may sit on a hot tarmac and arrive spoiled.

Uncertainties associated with air transport are many and further complicated by the cold chain requirements varying from product to product.

For example, asparagus is especially delicate since its temperature must be maintained during cargo handling. And in damp weather, the vegetable has to be protected from moisture, or there's a risk of premature spoilage and rubbery and mushy asparagus spears.

It's a delicate balancing act that, to be completely successful, requires that every stakeholder along the cold chain acts within accordance. In recent years, some shippers have turned to steamship lines that have developed specialized packaging and controlled-atmosphere containers to extend produce lifecycles. But while ocean transit offers value, industry executives maintain that transit in controlledatmosphere containers also impacts taste.

"A mango shipped by air has a different taste and quality than one shipped by sea," says Uta Frank, Product Manager for Lufthansa Cargo's Frankfurt-based Fresh/td Perishables Division. "The decision of whether to ship by air or sea comes down to what value a producer is willing to put over taste." But lack of standardization and best practices within the air cargo industry have led to service inconsistencies. Air carriers may promise fast connections, but ground handlers may act slowly in moving a shipment off a hot or cold tarmac. An airport may not have adequate cold chain facilities, or there's a lack of communication between involved parties.

While perishables were among the first commodities carried by air, for years little attention was given to their handling practices or quality control despite shrink caused by factors such as extreme temperatures and humidity. Even today, airport, airline and shipper workers do not always have the knowledge, facilities or equipment to adequately maintain cold chain integrity for perishables.

This is only exacerbated by growing demand for perishable food items that are being shipped longer distances as markets and consumers expect a variety of food choices year round.

#### **Fresh Best Practices**

To handle the demand, some airports and their warehouse providers have implemented best practices to ensure proper handling and transport. At the forefront, the International Air Transport Association (IATA) – following the success of its CEIV Pharma certification program – expanded this program in March 2019 to include CEIV Fresh for perishables products.

IATA officials explain the CEIV Fresh certification program was created to improve the processes for transporting perishables by air and, ultimately, to grow air cargo business for perishables. It was also designed to enhance standardization of handling and transportation of cargo (in this case perishables), reinforce trust through transparency and communication and improve welfare and safety through appropriate quality and risk management.

"Perishable goods are a growing market for air cargo. Ensuring that these delicate and short shelf-life products reach the customer unspoiled with minimal waste and loss is essential," says Alexandre de Juniac, Director General and CEO of IATA. "Shippers will have assurance that CEIV Fresh certified companies are operating to the highest quality and standards in the transport of perishable products."

#### **First for Hong Kong**

The Airport Authority Hong Kong (AAHK) – with partners Cathay Pacific, Cathay Pacific Services Limited (CPSL) and Hong Kong Air Cargo Terminals Limited (Hactl) – is the world's first airport community to receive the IATA CEIV Fresh certification.

This was accomplished because of AAHK's high standards at Hong Kong International Airport (HKIA) for efficient, dedicated facilities and services using stringent temperaturecontrolled processes. As an example, AAHK provides more than 30 cooling dollies for the airport community and is building apron shelters to protect perishables from ambient weather elements.

Hactl and CPSL achieved IATA CEIV Fresh certification because of their IATA-compliant standards in handling perishable products, with respect to both facilities and operations. The two cargo terminal operators offer cold rooms at HKIA. These are set at customized temperatures for various kinds of perishable cargo, such as live seafood, fruits and vegetables and frozen meat. Staff training and handling processes have also been assessed and certified for compliance with global industry standards.

Hactl began preparations for IATA CEIV Fresh in October 2018, which included IATA training for key staff and refining its terminal facilities and processes.

Hactl identified four critical control points where improvements could be made such as the use of thermal dollies to maintain optimum temperatures. Other upgrades included the segregation of different perishable commodities through dedicated truck docks and the mapping and visual marking of optimum storage positions in its cool rooms. Hactl also installed dedicated active ULD charging areas, tightened already stringent hygiene and pest-control practices and

Continued on page 20.



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#### Continued on page 20.

instructed suppliers regarding what they must do to comply with the new standard

As a result, Hactl created "Fresh Lane," a fast-track process that organizes perishables handling through its facility to minimize unloading times and cargo release to customers or the placement perishables shipments in temperature-controlled storage.

Cathay Pacific, the home-based carrier at HKIA, is the world's first airline to be awarded CEIV Fresh.

"Acquiring this new certification shows our commitment to continuous improvement in service quality and our special handling throughout the shipment journey gives our customers peace of mind," said Cathay Pacific General Manager Cargo Service Delivery Frosti Lau. Lau maintains that this collaborative approach further boosts Hong Kong's reputation as a key international gateway for the handling of perishable products.

#### **Fresh is Spreading**

Other airports and their stakeholders are striving for CEIV Fresh certification. One is Miami International Airport (MIA), which handles 63 percent of all perishables that enter the United States by air.

MIA proved its high standards when, in 2015, it was recognized as the first IATA Designated Pharma Hub Airport in the United States and only the second in the world after Brussels Airport. MIA has approximately 450,000 square feet of refrigerated facilities, along with airlines, ground handlers and logistics companies that have expertise in handling perishable products. "Perishable shippers can take advantage of MIA's excellent connectivity with markets in Latin America and the Caribbean with over 1,200 weekly direct flights to 82 regional destinations," adds Rodrigues Ernesto Rodriguez, Chief Aviation Marketing /Air Service Development, Miami-Dade Aviation Department. **②** 

**KAREN E. THUERMER** is a freelance writer based in Alexandria, Virginia, who specializes in economic and logistics issues.

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## STAYING ON TOP OF SUSTAINABLE

Reviewing new technologies ahead of budget season.

#### By Keith Loria

en engineers from warehouse member companies attended the GCCA Capital Investments in Sustainable Technologies Seminar at the association's headquarters in September.

They came to hear from vendors and suppliers on various topics around investments in sustainable technologies.

GCCA's intention with this special showcase was to provide information on cuttingedge technology and trends in warehouse construction, highlighting sustainable technology investments.

Information on new sustainable technology included the latest advancements in solar, fuel cells, battery storage, battery technology like lithium ion, lighting, Variable Frequency Drives (VFDS), ECM motors.

Also discussed were automated and semiautomated solutions such as reach trucks, AGVs, or fully automated "lights out" facility offerings.

#### Capital Planning

With budget season upon so many members, the goal was to provide information to include in capital budgeting processes. So various suppliers and experts discussed the technologies in the market, return on investments and available incentives.

Adam Rushby, EVP, Engineering and Solutions with AGRO Merchants Group, attended the seminar. He hoped to explore opportunities for energy efficient and sustainable investments to continue to upgrade the company's assets around the world.

Joining him from ARGO was Mike Stella, Energy and Refrigeration Manager, who was interested in refrigeration control systems, LED lighting and other sustainability-related investments, as well as the data analytics around energy usage and pricing.

"We also were searching for an opportunity to network with industry peers, meet and share ideas and experiences," he says. "It can always help to improve our business results, and our ability to manage our asset base in the most reliable and value-creating manner."

Stella added that sharing ideas with industry peers allows the cold chain to improve as a market sector.

At AGRO, the acquisition/approval process for capital expenditures currently begins with the annual budget (capex needs identification, review and approval), followed by implementation with regular reviews on project progress, spend and project quality and timing.

All of the company's engineering site leads, corporate engineering, and members of the finance team are involved. The executive team and board of directors make the final approval of the budget.

"Once the final budget is approved, individual project investments are approved Oisin O'Brien with GridMarket, leads a presentation on the opportunities and benefits from distributed energy resources. Starting front right going clockwise is Mike Stella, Adam Rushby, Tracy Bashaw, Mike Lynch, Lisa Ableman, Daniel Lolomeets-Darovsky, James Rogers, Frank Shum and John Einarsen, Ryan Sausser, Tony Easterwood, Brian Dunn and Ted Royals.

according to a delegation of authority schedule," Rushby says. "The annual budget is set in Q4, with weekly reviews of project implementation."

#### **Cross-Functional Approach**

Lineage Logistics was represented by Tracy Bashaw, Senior Project Manager and Joe Braga, Director, Engineering.

Bashaw went into the seminar with an open mind. As this was her first interaction with the group, she wasn't sure what to expect.

"I found it beneficial not only to discuss the sustainability gaps and opportunities we share as an industry, but also to brainstorm collectively on how to close those gaps and meet those opportunities," she says. "The lighting option in the last meeting was beneficial. For sites with lower energy rates where a complete LED transition and implementation is not a savings opportunity, the lighting option presented is an interesting alternative option. Additionally, I was interested in measurement tools for the industry."

Lineage Logistics takes a cross-functional approach to ask questions and prioritize capital improvements and expenditures across the company. Functions involved in the decision-making process include finance, analytics, engineering, as well as the project team and up through executive team. It is an ongoing discussion year-round.

In the near future, the company plans to invest in solar, battery storage, updated control systems and ice cooling.

#### **Building Partnerships**

Four representatives from Americold attended including Ted Royals, Manager of Energy, Ryan Sausser, Director, Maintenance Engineering, Tony Easterwood, Senior Director, Refrigeration and Maintenance Training and Brain Dunn, VP, Maintenance and Energy.

Royals says he was looking for a turnkey solution that can review their portfolio, provide quotes with estimated savings and handle the process for any rebates for all the vendors.

Dunn's goal was to gain greater understanding and awareness of the initiatives and projects that Americold and its customers could participate in that support sustainability. Specifically, he's interested in avoiding wasting water through the refrigeration process and increasing energy efficiencies.

"When [we] first started this discussion, I had shared that I wanted us to foster innovation within the industry by inviting thought leaders on energy and sustainability to share the latest tools, technologies, and programs that we as an industry must adopt to promote sustainability within communities by leading the way," he says. "Knowledge and understanding the opportunities is key to being able to drive the change. Equally important is building partnerships with others in the industry, as well as vendors that

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share our vision for the future. It all benefits our industry."

The seminar was not just about the materials and equipment available, Dunn says, but also about understanding the companies Americold partners with and purchases from.

"Over the next few years, it is important that we are developing relationships and stewarding our vendors in this space to be green and ensure that they are equal opportunity employers," Dunn says.

For Americold, capital expenditure decisions fall under maintenance and energy, which includes engineering. The company has a team that oversees maintenance, engineering, and refrigeration. The team evaluates the technologies, and proposals run through a separate procurement team.

"Like most public and private companies, there are hurdle rates, and we look at the ROI (return on investment), IRR (internal rate of return) and MIRR (modified internal rate of return) to help us evaluate potential projects," Dunn says. "In 2019, we will have invested greater than 70 percent of our ROI/ Maintenance Technology category of spend in projects that deliver greater energy efficiencies and kwh reduction (LEDs, VFD, thermal energy solutions, rain water harvesting, realtime energy metering and more)."

Decisions on capital expenditures start with a 20-year capital plan for asset preservation/ sustainment, which is then broken down at the site level to three to five year plans.

"From an energy and sustainability perspective, we look minimum three years out, and those are reviewed, edited and updated through the year, and then we make the final decisions as to what projects we want to go after in the upcoming year at the end of the third quarter of the prior year," Dunn says. "Upcoming, Americold plans on investing in rain water harvesting, thermal energy cells, micro-grids, and, where it makes sense, solar." @

KEITH LORIA is an award-winning journalist who has been writing for major newspapers and magazines for close to 20 years, on topics as diverse as sports, business and technology.

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#### CAPITAL INVESTMENTS IN SUSTAINABLE TECHNOLOGIES SEMINAR ATTENDEES\*

#### WAREHOUSE ATTENDEES

AGRO Merchants Group Adam Rushby EVP, Engineering and Solutions

AGRO Merchants Group Mike Stella Energy and Refrigeration Manager

Americold Ted Royals Manager of Energy

Americold Brian Dunn VP, Maintenance and Energy

Americold Ryan Sausser Director, Maintenance Engineering

#### SUPPLIER ATTENDEES

Danfoss Eric Teale Business Development Manager

Danfoss Jim Hower Marketing Director

**Energy by 5 Jeff Schiefelbein** Co-Founder

Energy by 5 Jon Moore Chief Strategy Officer

**Evapco Inc.** Jim Nesbitt Director, Industrial Refrigeration and Marketing

GridMarket Lisa Ableman Director, Customer Outreach & Community Engagement

As of September 3, 2019

Americold Tony Easterwood Senior Director, Refrigeration and Maintenance Training

**Lineage Logistics** Joe Braga Director, Engineering

Lineage Logistics Tracy Bashaw Senior Project Manager

**US Cold Mike Lynch** Corporate VP of Engineering

GridMarket Oisín O'Brien Vice President of Data Analytics and Project Development

Logix Refrigeration Controls Mark Ghan General Manager

Logix Refrigeration Controls Mike Micak Sales Manager

Mayekewa Quinn Vo Vice President, Corporate Engineering

**OEO Energy Solutions John Einarsen** Chief Executive Officer

**OEO Energy Solutions Frank Shum** Chief Technology Officer

## COLD CHAIN INNOVATIONS

### NEW INTERCHANGE FACILITY IMPLEMENTS INNOVATIVE SEMI-AUTOMATED FORKLIFT TECHNOLOGY

The new InterChange cold storage facility in Mount Crawford, Virginia, United States is the first cold storage facility in the world to use Jungheinrich semi-automated forklifts. The proprietary Warehouse Navigation uses RFID chips embedded in the concrete to track the lift truck's location, both vertically and horizontally, to within millimeters. This, by itself, can be used to prevent the truck from doing unwanted tasks even if an operator tries to override the system.

The technology integrates with a customer's Warehouse Management System (WMS). Because InterChange's WMS knows where the product is, and now can track where the lift truck is, it can be directed to the exact next pick location with one push of a toggle.

Because of this system's speed and accuracy, and eliminating the need to scan bar codes at each location, we have seen productivity increases of up to 25 percent over a manual system.

"Similar models used in Germany, where the company is headquartered, operate completely autonomously," says Devon Anders, CEO, InterChange Group Inc. "The lifts will eventually be upgraded to be fully autonomous, but as of now, InterChange employees drive the Jungheinrichs." **@** 



Cold Chain Innovations, a column brought to you by Tippmann Innovation, features the latest technologies, cutting-edge solutions, and innovative practices that the cold chain industry has to offer. Featured in each issue of COLD FACTS Magazine, the Cold Chain Innovations section gives readers thought-provoking ways to optimize their supply chain and improve operational efficiencies. The information presented in the Cold Chain Innovation section is sourced from GCCA members. To feature your news, press releases or submit your idea for a future Cold Innovation article, contact James Rogers at jrogers@gcca.org or call 703.373.4300.



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TIPPMANN INNOVATION

### COLD CHAIN DEVELOPMENT NEWS ABOUT WFLO INTERNATIONAL PROJECTS

## THE EMERGENCE OF 3PLS IN DEVELOPING MARKETS

#### By Keith Loria

This column features news about key projects of the World Food Logistics Organization (WFLO), a GCCA Core Partner, and its work with members, aid organizations, and international development partners to help emerging economies and lower-income countries meet the challenges that arise when growing a safe and efficient global cold chain.

The cold storage industry in most developed countries has evolved from vertically integrated cold chains to true third-party logistics (3PLs) companies, focusing on providing logistics services as a core business focus.

However, in developing and emerging markets, the reverse is often true, with operators in the cold storage industry acting as their own best customer with the core focus of the business being fruit and vegetable trading, food processing or even QSR (quick service restaurant).

Richard Tracy, GCCA's Vice President of International Programs, explains as markets mature, they move towards specialization that drives economy of scale to develop the cold chain. And while developed markets moved through this stage already, some are looking at these areas as potential revenue sources.

"When you look at mature markets in the developed world, you see decades during which people really honed in on their particular core capacity and focused on third-party logistics, as opposed to being a manufacturer, producer or processor," Tracy says. "What they knew was the natural business cycle of demand and availability of agricultural products created peak times when huge amounts of storage space were needed, and then the season was over and the space wasn't needed."

But 3PLs in many emerging and developing markets are still a novel idea.

Tracy explains that typically, cold storage is initiated by fruit and vegetable growers

and sellers and moves into processing and once that becomes established, the sellers and growers realize they can make more money by handling other people's products as opposed to trying to do it themselves.

That's the evolution that happened in the United States, Australia and most developed markets, but many others involved in the cold chain are still struggling as they move forward and need guidance on how to grow.

"For example, some of our members in South Africa say becoming a 3PL is not relevant to them today, but they know the trend will be coming in the next 10 years," Tracy says. "What they are doing is staying abreast of what's happening in our world, by knowing it's coming in the future."

The WFLO is working with other countries to help as well.

#### **Chilled in Georgia**

WFLO Board Member Steve Tippmann, Executive Vice President of the Tippmann Group, recently travelled to Georgia to offer his expertise and guidance to some of the country's cold storage warehouses.

"For the most part, all of the warehouses we saw are new builds, the oldest was about six years old. It's a very emerging cold chain industry over there, primarily supporting fruit and other produce grown in somewhat remote markets, a little bit out from the cities," Tippmann notes. "The initial refrigeration projects are mostly to enhance the longevity



A new warehouse and juice puree facility in Georgia. (Photo courtesy of Steve Tippmann.)

of that produce and they are doing a good job. We toured a lot of facilities that were sorting and packaging stone fruit, apples, nectarines and berries."

Five to 10 years ago, the harvest to table process in Georgia was very local. Now, thanks to the ability to get perishables into temperature-controlled environments quickly, perishables are even exported, which is doing a great deal for the country's economy.

"There are several areas where we can advise the local industry on next steps," Tippmann says. "They have beautiful, wellmanaged produce, but some of the things they need to take a look at are training, food safety, and security. This is where we hope to help."





The facilities in Georgia's emerging cold chain are doing a much better job today of quickly moving

perishables into temperature-controlled environments. (Photo courtesy of Steve Tippmann.,

Most of the warehouses in Georgia are new. (Photo courtesy of Steve Tippmann.)

#### Slow Change in India

Daniel Kaplan, former CEO of Cloverleaf Cold Storage Company, recently went to India and visited numerous cold storage sites.

"It's an old industry there and the warehouses are designed to meet the needs of years ago – bulk facilities handling a couple of crops and often in close proximity to the local fruit and vegetable market in very densely built-up areas," he says. "They are multi-story facilities with small rooms because they store a lot of fresh product at different temperatures and when they do store meat or poultry, they have to keep it separate because of the cultural imperative."

Existing among those older warehouses large facilities are developing, many in port areas. Still, Kaplan notes, congestion is a huge issue.

"You have both local and foreign companies building these large facilities, and some of them are as large as 20,000 square feet," Kaplan says. "The quality of construction is an issue because they are still learning the design and they are not used to forklifts. They are not aware of damage they could do or how much space is needed for battery charging." He adds that only a very small percentage of food moves through the modern retail chain as fresh food is primarily sold by street vendors and peddlers.

"They do have a very developed cold chain for handling dairy and ice cream," Kaplan says. "But consumer habits aren't there yet for the proteins, or fresh and frozen produce."

#### **DR Market Maturing**

Brian Beazer, GM/CEO, WCS Logistics, has been involved with the WFLO in Latin America for the past 12 years and in that time, has seen a lot of progress in the cold chain industry.

"The Dominican Republic, in particular, has made progress and the government is involved in advancing their cold chain," he says. "As the cold chain matures, it begins to happen – the local market and exporters begin to concentrate on their core business and 3PLs start to play an intricate part as the pivotal point in keeping the cold chain together from beginning to end."

Beazer says he has witnessed this happening as emerging markets begin to mature in Latin America, and 3PLs that started initially as consolidation points, then grow into distribution points.

"Transportation seems to still have room for much improvement. I see a lot of nonrefrigerated trucks and/or open trucks used to transport refrigerated or frozen product, mainly from the field to the processor or from storage to the local market," Beazer says. "With regard to export, there has been much greater progress as product leaving the producer or storage is remaining refrigerated, but there are still issues at the outset."

As the markets expand, especially with regards to export, Beazer has seen great progress in keeping the cold chain intact.

And this in turn has helped see the rise in importance of 3PLs in these markets.  $\bigotimes$ 

**KEITH LORIA** is an award-winning journalist who has been writing for major newspapers and magazines for close to 20 years, on topics as diverse as sports, business and technology.

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#### COOL SOLUTIONS SCIENTIFIC ANSWERS TO COLD CHAIN CHALLENGES

This column highlights a cold chain question and answers submitted through the GCCA Inquiry Service to the team of experts on the WFLO Scientific Advisory Council (SAC).

To get instant advice from a private, online community of over 4,000 cold chain professionals, simply post your inquiry in the GCCA Online Community. All GCCA Members and their employees can access the GCCA Online Community at community.gcca.org/home. There are active forums for Construction & Engineering, Government Affairs, and Third Party Logistics.

If you are not a GCCA member, or are unsure how to post in the GCCA Online Community, contact the GCCA Inquiry Service at www.gcca.org/resources/industry-topics/gcca-inquiry-service. GCCA Members can also browse the full archive of inquiries and responses in the GCCA Inquiry Service Archive. Access to previous inquiries is restricted to members of GCCA core partner organizations.

#### **Q**: Do you know if there is available information on how the product temperature changes when the ambient temperature of the trailer changes?

Yes, there are many, many variables. The correlation between air and product temperatures in transit vehicles has been an ongoing topic of discussion for decades.

As background, our stationary and live load tests over many years have demonstrated that air and product temperatures within the cargo space of the single and multi-temperature reefer trailers can vary greatly from one location in the load to another, depending on an array of factors. Accordingly, recorded air temperatures in one portion of the load are often not indicative of air or product temperatures in other locations within the load.

Temperature differentials create microenvironments within the cargo and the air surrounding the cargo. These microenvironments represent distinct and unique environments within the cargo space of the refrigerated trailer. A microenvironment may be a very small, specific area, distinguished from other microenvironments and potentially influenced differently by its immediate surroundings such as the placement and stacking of the cargo within the truck trailer, air infiltration into the truck trailer, the airflow and temperature stratification in the load and other factors, as well as the amount of radiant heat load of the sun, road heat, humidity, rate of speed of the transit vehicle, and/or diurnal temperatures. Answer provided by the Scientific Advisory Council's Patrick Brecht, PhD, PEB Commodities and expert in the field of temperature-controlled transportation. **@** 





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#### SAC MEMBER SPOTLIGHT



Dr. Barbara Rasco, BSE, Ph.D., JD Dean, College of Agriculture and Natural Resource, University of Wyoming

Dr. Barbara Rasco is internationally recognized for her expertise in food law, processing and food quality. She recently served as the Director of the joint Washington State University (WSU) & University of Idaho School of Food Science. Dr. Rasco also has substantial experience in the private sector and with economic development programs across the rural West.

Dr. Rasco received a BSE (Engineering, University of Pennsylvania), Ph.D. (Food Science, University of Massachusetts) and JD (Seattle University) and is licensed to practice law. Her research is in food microbiology, food quality (safety, regulatory compliance and nutritional properties), and process design. She taught in food science, nutrition, and natural resource programs at WSU and the University of Washington.

Dr. Rasco has worked extensively in agricultural and food sectors in both small and large scale operations in the United States and in 37 countries improving food security and safety, reducing non-tariff trade barriers, improving export markets and creating jobs.

Much of her recent work has involved adaptations to the cold chain through improvements to physical infrastructure, packaging, handling and agricultural practices necessary to extend the harvest season for perishable crops and seafood products to improve cash income for small producers.

Dr. Rasco is a Fellow with the Institute of Food Technologists and recipient of their Elizabeth Fleming Stier Award for humanitarian service. She is recognized by the Washington State Bar Association for her 27 years of pro bono service.



Dr. Elhadi M. Yahia, Professor and Senior Research Scientist, University of Querétaro, Mexico Elhadi Yahia is professor and

senior research scientist at the University of Querétaro, Mexico, where he teaches, conducts research and supervises graduate students on postharvest technology, food science and technology and human nutrition, and the global food industry.

He published 20 books in three languages, and more than 300 book chapters and scientific and technical articles on technology and handling of perishable foods.

He acted as Agro Industry Officer at the Food and Agriculture Organization of the United Nations (FAO) where he helped launch the Global Initiative on Food Loss and Waste Reduction, and developed national and regional agroindustry strategies among other activities. He served as consultant to many organizations such as FAO, the World Bank, the Asian Development Bank, the World Food Logistics Organization (WFLO), USAID, USDA, ICARDA, among others.

He is member of the Mexican Academy of Sciences, the New York Academy of Sciences, the Scientific Research Society (Sigma Xi), the Scientific Advisory Council (SAC) of the World Food Logistics Organization and several other national and international organizations.

He holds a B.Sc. from the University of Tripoli, Libya, M.Sc. from the University of California, Davis, Ph.D. from Cornell University, Ithaca, New York, and Postdoctoral training at the University of California, Davis.



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**Dr. Brian Fugate** University of Arkansas, Expertise: Supply Chain

**Dr. Dennis Heldman** Ohio State University, Expertise: Food Process Engineering

**Dr. Faris Karim** Kansas State University, Expertise: Ammonia Contamination and Food Toxicology

**Dr. Barbara Rasco** Phd JD, University of Wyoming, Expertise: Food Safety, Food Safety Regulations

SAC EMERITUS Dr. R. L. (Bob) Henrickson Oklahoma State University, Expertise: Meat Products

**Dr. Daryl B. Lund** University of Wisconsin, Expertise: Food Science

**Dr. Joseph Sebranek** Iowa State University, Expertise: Meat Products **Dr. Kees Jan Roodbergen** University of Groningen, Expertise: Logistics and Operations Management

**Dr. Vicky Salin** Texas A&M University, Expertise: Agriculture Economics

**Dr. Subramaniam Sathivel** Louisiana State University, Expertise: Frozen Food Quality

**Dr. S. Paul Singh** Michigan State University, Expertise: Packaging & Labeling

**Dr. Donald Schaffner** Rutgers, The State University of New Jersey, Expertise: Microbiology

**Brian Strouts** AIB International, Expertise: Bakery Products

**Dr. Charles White** Mississippi State University, Expertise: Dairy Products

**Dr. Elhadi Yahia** Universidad Autónoma de Querétaro, México, Expertise: Tropical-Climate Fruit & Produce

**Joseph Slavin** Jos. Slavin & Associates, Expertise: Fish Products

**Dr. W. F. (Will) Stoecker** University of Illinois, Expertise: Refrigeration Engineering

## 2020-2021 CALENDAR

#### JANUARY 12-15, 2020

**56th WFLO Institute West** Tempe, Arizona, United States

#### FEBRUARY 9-12, 2020

**56th WFLO Institute East** Atlanta, Georgia, United States

#### MARCH 18-20, 2020

23rd GCCA European Cold Chain Conference Rotterdam, Netherlands

MAY 5-8, 2020 129th IARW-WFLO Convention Bonita Springs, Florida, United States

SEPTEMBER 28-30, 2020 Global Cold Chain Expo Dallas, Texas, United States

NOVEMBER 10-12, 2020 40th CEBA Conference & Expo Rancho Mirage, California, United States

JANUARY 10-13, 2021 57th WFLO Institute West

Tempe, Arizona, United States

JANUARY 31-FEBRUARY 3, 2021

**57th WFLO Institute East** Atlanta, Georgia, United States

APRIL 11-14, 2021 130th IARW-WFLO Convention Austin, Texas, United States

\*For more details go to www.gcca.org/events

### MEMBER NEWS NEWS FROM MEMBERS OF GCCA CORE PARTNERS

FREEZ CONSTRUCTION, a new thermal contracting firm, has been launched by industry veteran Vince Free. FREEZ's mission is to provide a first-class experience in the controlled environment construction industry by consistently delivering on commitments, executing clear communication and cultivating trust. Free has been a member of CEBA (Controlled Environment Building Association) since 2006 and currently sits on the board as Vice Chairman.

**PREMIER REFRIGERATED WAREHOUSE** is taking the anchor position in a new cold storage development in the Dallas Ft. Worth Metroplex in Dallas, Texas. The 400,000-square-foot, multi-tenant cold storage facility is expected to be completed in **A M KING** began renovation on a Greensboro, North Carolina, facility chosen by Southern Foods to house its meat and fish processing operations. The 88,000-squarefoot building allows the company to move to a modern space, shore up its Southeast business operations and open the largest test kitchen they have developed to date. The project is scheduled to be completed by the end of 2019.

 $\bullet \bullet \bullet$ 

LINEAGE LOGISTICS bought PREFERRED FREEZER SERVICES in Lynden, Washington, as part of a larger deal. The combined company will result in more than 1.3 billion cubic feet of temperature-controlled capacity at more than 200 facilities. Its global footprint will encompass North America, Europe and Asia. @



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#### ASSOCIATION NEWS NEWS ABOUT GCCA CORE PARTNERS



The **WORLD FOOD LOGISTICS ORGANIZATION (WFLO)**, a Core Partner of the **GLOBAL COLD CHAIN ALLIANCE (GCCA)**, held its flagship training program 21-23 October in Melbourne, Australia. The WFLO Institute is a three -day industryspecific program for professionals engaged in temperature-controlled logistics, offering more than 40 classes taught by leading experts in the industry. The inaugural WFLO Institute Australia had 36 participants registered as year one students from companies including Americold, Breeze Logistics, BSL Logistics, Doboy Cold Stores, Emergent Cold, Laverton Cold Storage and Woolworths Group.

"We had a strong level of support for our initial launch of this program in Australia," stated Don Dick, WFLO Chairman and President of Dick Cold Storage. "I was so impressed with how engaged and invested the students were in the classes."

In addition, there were 20 faculty members teaching 16 classes over the three days. These leading experts taught classes ranging from warehouse operations to customer service, food safety and automation to warehouse and personal development. The program enabled students to participate in group activities, share stories and experiences and build relationships with their peers. The WFLO Institute Australia will return to Melbourne in October 2020. The next set of WFLO Institute training programs will take place in the United States – 12-15 January 2020 in Tempe, Arizona, and 9-12 February in Atlanta, Georgia. **②** 

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#### WFLO MEMBERS

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"We operate in the same supply chains as our thirdparty partners, so we welcomed the chance to share information and elevate the KPIs that will bring additional standardization to the industry."

#### MARJORIE DEPUY

Senior Director, Supply Chain and Sustainability Food Marketing Institute

#### CF: What brought you to the Food Marketing Institute (FMI)?

**MD:** I couldn't resist the opportunity to join an organization so closely connected to our daily lives, and more specifically, to continue working with industry leaders who are identifying and piloting better supply chain management practices with their trading partners and even with competitors.

In these times, we are all focused on moving beyond process improvements to building more sustainable supply chains, which requires creativity, tools and a collaborative approach.

#### Why did you agree to participate in GCCA's KPI Working Group?

**MD:** Any business and all industries are geared toward performance metrics. The challenges come in comparing one company's metrics to another's and aligning on what are truly key performance indicators at a more universal industry level.

When Corey Rosenbusch (GCCA President and CEO) mentioned the work GCCA is doing around KPIs, I appreciated the opportunity to learn more and to get involved. We operate in the same supply chains as our third-party partners, so we welcomed the chance to share information and elevate the KPIs that will bring additional standardization to the industry.

#### CF: What is the impact of KPIs on your constituents – food retailers?

**MD:** In practical terms, do we have the right inventory on the shelf at the right time? And did we manage our costs effectively to make that happen?

There are a host of KPIs that bump up to that question – from on-time delivery; store order fill rates; on-shelf availability; logistics cost per case; and other warehouse utilization measurements.

#### CF: Which KPIs do you think are most important to the food retail industry and why?

**MD:** We have devoted considerable attention to transportation and delivery metrics in recent years, as they impact service levels and store-order fill rates. Food inventory is often perishable, temperature controlled and easily subject to damage unless handled properly throughout the supply chain. Delays in the chain of delivery and distribution have a domino effect at the end of the line: the shelf.

Compared to other industries, the cost to handle the product is a significant percentage of the cost of the product, so we are continually focused on lowering cost to distribute while maintaining the right levels of inventory to meet rapidly evolving consumer demand.

Attention to on-time, in full (OTIF) deliveries will continue, and similar to the work GCCA is doing, FMI and GMA (Grocery Manufacturers Association) have together proposed common definitions to the OTIF measurement.

Clearly defined and developed KPIs support more responsive supply chains. **②** 

#### Contact Us

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