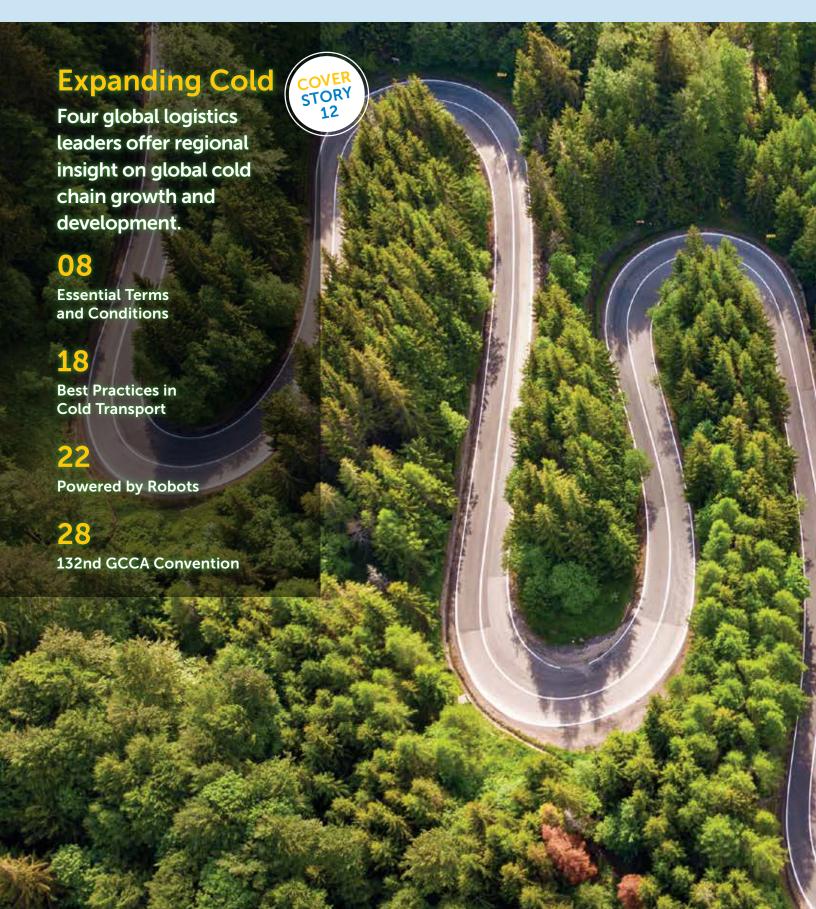


COLDFACTS

CONNECTING A VITAL INDUSTRY

JULY-AUGUST 2023



Corrosion is the enemy. RG-2400 is the solution. Industry leader offering proven products.



ReactiveGel®

1 GALLON PAIL (128 Fluid Dunces; 3.8 Liters)

HMIS Rating: Health - 1, Flammability

OSHA Haza

Skin, Eye,

Polyguard RG-2400 Corrosion Control Gel responds with elements of new and existing steel pipe to form an ultra-thin glasslike protective surface. This layer of protection will fight

off everything nature throws at it.

polyguard

www.Polyguard.com - 214-515-5000





CONTENTS

JULY-AUGUST 2023

DEPARTMENTS

- **32** Cold Chain Development
- **34** Cold Chain Federation Corner
- **36** Cool Solutions
- **40** Member News
- **42** Calendar
- **45** Association News
- **48** New Members
- **50** Ad Index

COLUMNS

6 Leadoff



About the Cover

Cold storage leaders from different parts of the world discuss the state of the industry and its outlook for the near future. See the article on page 12.

FEATURES

Essential Terms and Conditions
NLRB nears completion of joint employer rule.
By Lowell Randel

Expanding the Cold

Four global logistics leaders offer regional insight on global cold chain growth and development.

By Gina Veazey

Best Practices in Cold Transport
The Cold Carrier Certification program turns

By Karen E. Thuermer

Powered by Robots

Rvan Companies deliver auto

four.

Ryan Companies deliver automated distribution center for Kroger.

By Keith Loria

132nd GCCA Convention

Join your colleagues in Scottsdale, September 24-27, 2023!









TO OUR PARTNERS

Our Industry is facing serious issues, including rising electrical costs and USDA and FSMA compliance mandates. But as a Vapor Armour partner, there is no need for concern ...



VAPOR ARMOUR IS 100% AMERICAN-MADE.

AS A RESULT

We guarantee ON TIME DELIVERY and Vapor Armour pricing through 2023.

Our manufacturing processes have experienced ZERO DELAYS.

Our installations provide 17–24% SAVINGS on electrical usage and deliver 3–5 year ROI's.

Vapor Armour is legal in ALL 50 STATES & CANADA with sales representatives in 45 states.





We eliminate icing and condensation (allowing FSMA and USDA compliance) and our installations come with our 15 year "No Ice No Condensation Warranty."

LEADOFF

MESSAGES FROM GCCA LEADERS

Expanding Cold

VER THE LAST FEW YEARS, THE GLOBAL COLD CHAIN ALLI-ANCE (GCCA) HAS EXPANDED ITS EFFORTS TO SHOWCASE THE IMPORTANCE OF THE COLD CHAIN TO GOVERNMENT AND AGENCY LEADERS AROUND THE WORLD.

As Chairman of the GCCA Warehouse Board, I've attended various meetings with stakeholders on Capitol Hill over the past six months along with GCCA staff members as we continue to build relationships with our U.S. agency partners as well as gain increased visibility with congressmen and senators alike.

I recently attended the GCCA Cold Chain Policy Forum held in Washington, D.C. where I had the pleasure of introducing U.S. Representative Randy Feenstra as a keynote presenter. Rep Feenstra's district in Iowa is the second largest agriculture-producing district in the nation and so it is no surprise that he's working on this year's Farm Bill.

Attendees also heard from the Occupational Safety and Health Administration, Environmental Protection Agency, United States Department of Agriculture, Food and Drug Administration, International Trade Administration, and GCCA partners including Feeding America, Scopelitis and Jackson Lewis.

Attendees conducted more than 30 meetings with various congressmen and senators to promote the Fortifying Refrigeration Infrastructure and Developing Global Exports (FRIDGE) Act. Major benefits of the FRIDGE Act will include increasing export market potential for U.S. perishable products, reducing food loss and waste and improving food security and nutrition in emerging markets.

And GCCA is not only advocating on behalf of the industry in the United States. GCCA staff were recently in Ottawa with our Canadian advocacy firm, TACTIX, meeting with government officials to discuss supply chain policy, food security, labor and trade.

In Brazil, Carlos Franco continues to work closely with the Brazilian Government Affairs committee to advance the best interests of members and the temperature-controlled industry.

As Chairman, I continue to hear from many members about how important GCCA's advocacy work is to their business and to promoting the industry as a whole. So I encourage you to stay engaged and up to date on all that GCCA is doing globally on issues impacting the industry. Join us for our monthly Advocacy Update webinars - the next one will be held in late July. Check the GCCA online events calendar for more details and to register. @



MIKE MCCLENDON CHAIRMAN GCCA WAREHOUSE BOARD

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 temperaturecontrolled warehousing, transportation and logistics industry.



CONTACT US:

COLD FACTS Magazine Global Cold Chain Alliance Attn: Megan Costello 241 18th Street South Suite 620 Arlington, Virginia 22202 **United States**

tel +1 703 373 4300 mcostello@gcca.org | www.gcca.org

COLD FACTS welcomes editorial ideas; contact Editor-In-Chief Alexandra Walsh at +1 301 523 3318 or awalsh@associationvision.com. Contact Jeff Rhodes at +1 410 584 1994 or ieff.rhodes@wearemci.com for advertising opportunities in GCCA publications.

Design by SWALLIS Design, Dallas, Texas, USA.

While the material in this publication has been compiled with care, the Global Cold Chain Alliance (GCCA) has not validated all of the information contained herein and does not assume any responsibility for its use, accuracy, or applicability. As used above, GCCA shall mean the organization, GCCA Core Partners, and each organization's directors, officers, employees, volunteers, members, and agents.









BRUCHA

BRUCHA has the highest quality product at the most affordable price.

Contact us today for a quote you will love.



















BRUCHA Corp. Denver, CO

(866) BRUCHA1 infousa@brucha.com

PANELS THAT CONNECT.



ESSENTIAL TERMS AND CONDITIONS

NLRB nears completion of joint employer rule.

By Lowell Randel

n fall 2022, the U.S. National Labor Relations Board (NLRB) released a Notice of Proposed Rulemaking (NPRM) regarding policies for determining joint employer status under the National Labor Relations Act.

The rulemaking is the latest in a series of competing actions taken by recent presidential administrations to clarify the standards for when a company is considered a joint employer. The latest rulemaking would rescind and replace the joint employer regulation finalized during the Trump Administration in 2020, that focused on the standard of "direct and immediate control."

The NLRB proposal would return to the Obama-era policies for determining joint employment. Under the proposal, one company may be deemed the joint employer of a second company's employees not only where it directly or immediately exercises control over the second company's workforce, but where the first company's putative control is indirect, or even simply reserved but not ever actually exercised.

According to the NLRB, the proposed changes are intended to explicitly ground the joint-employer standard in established common-law agency principles, consistent with Board precedent and guidance that the Board has received from the U.S. Court of Appeals for the DC Circuit. Under the proposed rule, two or more employers would be considered joint employers if they "share or codetermine those matters governing employees' essential terms and conditions of employment," such as wages, benefits and other compensation, work and scheduling, hiring and discharge, discipline, workplace health and safety, supervision, assignment and

The Board proposes to consider both direct evidence of control and evidence of reserved and/or indirect control over these essential terms and conditions of employment when analyzing joint employer status.

Key Provisions of Proposed Rule

- The proposed rule states that "two or more employers of the same particular employees are joint employers of those employees if the employers share or codetermine those matters governing employees' essential terms and conditions of employment."
- The proposed rule would define "share or codetermine" to mean "for an employer to possess the authority to control (whether directly, indirectly or both), or to exercise the power to control (whether directly, indirectly or both) one or more of the employees' essential terms and conditions of employment."
- The proposed rule states that "essential terms and conditions of employment" will "generally include, but are not limited to wages, benefits, and other compensation; hours of work and scheduling; hiring and discharge; discipline; workplace health and safety; supervision; assignment; and work rules and directions governing the manner, means, or methods of work performance."



- To give determinative weight to the existence of a putative joint employer's authority to control the essential terms and conditions of employment, whether or not such control is exercised, and without regard to whether any exercise of such control is direct or indirect, such as through an intermediary.
- The proposed rule would clarify that evidence of control over matters that are immaterial to the existence of an employment relations or that do not bear on an employee's essential terms and conditions of employment is not relevant to inquiries into joint employer status.
- · The party asserting that an employer is a joint employer of particular employees has the burden of establishing that relationship by a preponderance of the evidence.

The proposed changes have raised concerns across the business community. The regulation would have a significant impact on employers and result in an increase in the number of companies found to be joint employers.

Being found as a joint employer could have a variety of implications. For example, joint employers may be required to bargain with a union representing jointly employed workers. Joint employers may be subject to joint and several liabilities for unfair labor practices committed by the other employer. Joint employers may also be subject to labor picketing that would otherwise be unlawful.

Save Local Business Act

To address concerns with the NRLB proposed rule, Senator Roger Marshall (R-KS) and Representative James Comer (R-KY) have introduced the Save Local Business Act. The legislation would amend the National Labor Relations Act and the Fair Labor Standards Act to make clear that an employer may be considered a joint employer in relation to an employee only if such employer directly, actually and immediately exercises significant control over the essential terms and conditions of employment.

According to Rep. Comer, the Save Local Business Act would:

 Amend the National Labor Relations Act and the FLSA to clarify that two or more employers must have "actual, direct and immediate" control over employees to be

- considered joint employers.
- Roll back a convoluted joint employer scheme that threatens job creation and undermines the American Dream.
- · Restore a commonsense definition of employer to provide certainty and stability for workers and employers.
- · Protect workers and local employers from future overreach by unelected bureaucrats and activist judges.

GCCA recently joined a diverse group of business and industry organizations in sending a letter of support for the Save Local Business Act to Sen. Marshall and Rep. Comer.

This legislation comes at a critical time as the NLRB plans to finalize its proposed joint employer rule by August 2023. GCCA will keep members updated on the status of both the NLRB rulemaking as well as the Save Local Business Act as the process moves forward.

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

EMAIL: lrandel@gcca.org

As demand heats up, ensure your products don't.

Think Tomorrow.



The demand for deep-freeze products continues to grow. As volumes increase, requirements placed upon deepfreeze logistics are getting more complex. SSI SCHAEFER offers flexible, modular, and scalable solutions that optimize storage, picking processes, and profitability within cold storage facilities.

ssi-schaefer.com



@ssischaefer



ssi.schaefer



ssischaefer





FREEZER WEAR PRO.THE PRO.TM

JACKETS • BIB OVERALLS • GLOVES • HEAD WEAR • FOOT WEAR

avaska.com 855-211-0303 BE SEEN IN THE COLD.



Order Today, Warm Tomorrow.

By Gina Veazey

COVER STORY



Four global logistics leaders offer regional insight on global cold chain growth and development.

f you want to know how the global cold storage industry is doing, you should ask leaders in the global cold storage industry. So, that's what we did.

We wanted to know about some of the changes we've seen in the industry over the last decade, specifically a pattern we've noticed with new entrants to the industry. Why are they drawn to the cold storage industry? And why are we seeing new entrants in large numbers all over the world?

We wanted to know what our experts thought about the health of this industry, given the highly publicized risk of a global recession later this year. Do our experts see the cold chain industry as resilient? How painful will the next few years be?

We also asked about big-ticket items, like energy, and about big initiatives, like the environment. We asked about customers, and we asked about consumers.

Our experts, all logistics leaders in a different region of the world, participated in a popular panel with a similar theme at GCCA's European Cold Chain Conference (ECCC).

Minimal Barrier to Entry and Growth

Owing to an extended period of low interest rates and a growing middle class, the global cold chain industry has been ripe for entry by newcomers and investors.

In addition to easing a barrier to market entry, low interest rates have simultaneously driven the value of in-place assets, making smaller companies targets for acquisition, observes Daniel Kaplan, Director of Vertical Cold Storage & Rack Builders Inc. in the United States.

"People will continue eating, even during recessions," says Francisco Moura, CEO of IceStar, part of Agro Merchants Group in Chile. "Double-digit growth around the globe and the industry's resilience have made cold chain logistics very attractive to different types of investors." In the last 15 years, he says these have included big multinational companies, private equity funds, real estate and infrastructure funds and others.

In the Asia Pacific region alone, the cold chain industry is expected to grow substantially over the next five years,

"Kaplan and Moura say it's not just the growing middle class in the Asia Pacific region, but all over the world, that is driving demand for refrigerated and frozen foods, particularly protein products."

consistent with compound annual growth rate (CAGR) of 12% to 14% from 2023 to 2028, says Graham Harvey, Global Vice President, Quality, Safety and Sustainability at NewCold in Australia.

The Middle Class

A rapid rise in Asia Pacific disposable household income is driving dietary shifts toward premium proteins. Cold chain infrastructure requirements are also changing. In China, one of the world's largest consumer markets, Harvey observes a rapidly increasing need for both chilled and frozen facilities to warehouse and transport food.

Kaplan and Moura say it's not just the growing middle class in the Asia Pacific region, but all over the world, that is driving demand for refrigerated and frozen foods, particularly protein products.

The future is bright, says Moura, for cold storage, "as long as poor and middle-class countries get richer and begin eating frozen and refrigerated foods," says Moura.

The Outlier

In contrast to other regions, in Southern Africa, 3PLs are focused on staying relevant as consumers struggle, says Chris Creed, Managing Director of Vector Logistics in South Africa. As in other regions, he says operators in Southern Africa are encountering a period of consolidation.

Creed says disposable income is under pressure, and inflation and interest rates are

trending upward, resulting in vastly altered consumer purchasing patterns. Entire supply chains are experiencing unprecedented cost pressure. Meanwhile, there is a "massive focus on 'just in time' stock availability" and "expectations of increased service and responsiveness to queries."

Taming Energy Costs, Tackling Sustainability

In Latin America, which sources most of its energy from water, cold chain operators enjoy a more favorable energy market than counterparts in Europe or in the United States, Moura notes. With a record rainfall in Brazil, he says energy prices have even declined.

Cold chain operators who aren't as lucky, including those in the Asia Pacific region, have encountered year-over-year increases in energy costs ranging from 30% to 60%, Harvey reports. "On top of this, the move to renewable energy sources can bring an imbalance of supply and demand, adding to the volatility," he says.

For Kaplan, rising energy costs and high volatility in energy supply and demand prove that investments in energy efficiency are a sound strategy. "The playbook is unchanged: invest in long-term energy-efficient design, rather than take the low-bid design," he advises.

In Southern Africa, Vector is putting that advice into action with an approach that tackles energy costs and addresses sustainability on multiple fronts.

"Our industry is heavily reliant on fossil fuels. It is both challenging and unsustainable given the rising costs of fuel, supply constraints and impact of carbon emissions," Creed says. "The downstream effects impact our ability to remain competitive, keep our costs at a minimum as well as meet our sustainability goals.

"Additionally, we know the macro environment in Southern Africa around economic instability, and progressive load shedding is not going to change overnight," Creed continues.

With a desire to become more self-sufficient, Vector has made significant strides to improve the efficiency of its operations, including reducing its greenhouse gas emissions. The company has moved toward a renewable energy business and has minimized negative environmental impact by ensuring a high standard of environmental management. These include:

- Solar panels at major warehouses and on refrigeration units of some of its fleet trucks allow the company to run solar and electrical.
- In July, the company will implement solar on its 15.5-meter (about 50.8-foot) semitrailers running for five days over a very long distance with a high sunlight percentage.
- Also in July, the company will begin converting waste to biofuel and will lead a nationwide conversion to LED lights and lithium-ion batteries.
- · Vector is also reviewing the viability of kinetic energy to operate some components of its trucks.

"We believe any action, no matter how small, towards protecting the environment is a step in the right direction and moves us towards a more environmentally sustainable business and a better planet for all," says Creed.

Serving Customers

Turning to long-term customer goals and needs and how those may impact logistics businesses, Kaplan and Moura both cited increased complexity in the warehouse.

"Customers will continue the move toward complexity in both SKU proliferation and patterns of business rules," says Kaplan. "I don't think it changes how we work, but it does require that we pay attention to expanded warehouse and warehouse management system (WMS) capabilities."



Moura is more skeptical, noting that SKU proliferation "puts pressure on warehouse density," and are in "need of higher service levels in the industry as a whole, which combined with cost inflation and greater competition can lead to lower margins.

We understand that efficiency and productivity are two subjects that will be more important in the coming years in order to have a sustainable business," concludes Moura.

In Southern Africa, Creed says Vector customers face several unique challenges stemming from current economic conditions. This includes the cost of fuel and the increasing cost of distribution above inflation. This is made worse by an expansion of store footprints by major retailers, resulting in a need for more frequent deliveries. Finally, he says the increase in consumer demand for home delivery in a highly competitive market is another strain on Vector customers.

These challenges have led the company to take a hard look at its cost-to-serve model by channel group. "Simplification and insightdriven decision making through digital supply chain visibility has positioned us well to remain resilient and responsive to our customers' ever-changing needs," Creed says.

A Resilient Cold Chain

Although the logistics leaders agreed the cold chain industry will withstand current economic and geopolitical challenges, none of them sees the path to tomorrow unfolding in a straight line.

"I understand our industry will continue very strong, [although] smaller inventories are a quite forecastable outcome in the next months," says Moura. "People will continue consuming frozen and refrigerated foods, even increasing consumption in the less developed countries.

"Climate change and geopolitical wars will benefit some regions like Latin America, which has high potential to increase food exports at very high growth rates," Moura adds.

From the perspective of the Asia Pacific region, Harvey is least bullish on the future of the cold chain industry, saying, "Volatility in the cold chain will last for a long time, and it is unknown when, and if, supply and cost will return to pre-COVID levels. We are certainly in for a period of high inflation and cost pressures from a number of areas, including the obvious aspects of energy and labor, but supply chain disruptions are also increasing from areas like container avail-



LIVE WIRELESS DATA

WWW.LIVE-WIRE.COM

FASTER AT ANY **TEMP**

SMARTER

- Freezing Profiles
- Occupancy Sensing
- IoT Data Logging
- Remote Control

No matter how large or small your freezing, cooling, or tempering operation, we can configure the system to do the job. The QFM system installs quickly into your existing racking and we can have your operation running within as little as one week.

QUICKFREEZE®

THE FASTEST WAY TO FREEZE A PALLET







ability, port congestion and pallet shortages as imbalances continue."

However, Harvey concludes with a reassurance that, "The cold chain is an essential supply chain and there is no doubt it will survive the current pressures."

Pointing to the silver lining, Kaplan notes that, "In my experience, 3PLs are a sector of the economy that tend to be mostly unaffected by recessions, with the possible exception that it eases recruitment and retention difficulties."

Bright Spots

All over the world, a growing middle class continues to consume more protein-rich foods and higher-quality produce, improving the market for international trade, notes Kaplan in a sentiment echoed by others. "Unfortunately," he says, "this bright spot is dimmed by growing protectionist tendencies around the world."

From increased demand, Harvey sees hope for greater energy efficiency. "In the Asia Pacific region, increased demand for cold chain infrastructure and services, combined with an increasing focus on energy efficiency and automation, can lead to investment in

highly efficient and cost-effective facilities," he comments.

Creed, from his vantage point in Southern Africa, sees bright spots in investments into developing countries in Africa, advancements in technology appropriate for the frozen industry, artificial intelligence and machine learning applications to streamline business processes, and decarbonization. He remains concerned, however, over energy issues related to fuel and power supply and their costs, customer centralization trends, supplier reliability and an improvement in government service delivery (water, electricity and infrastructure).

Crystal Ball

Asked to share their predictions for the cold chain industry over the next 12 months, the executives offered relatively upbeat assessments.

Looking ahead 12 months, Harvey predicts, "In the Asia Pacific region, I am cautiously optimistic that growth will be observed in the long run, and the impacts of supply disruptions and cost pressures will be managed. The cold chain is resilient, and it

won't be easy but we will find a way to push through the headwinds!"

Kaplan, meanwhile, says he expects "continued moderate growth and consolidation. That said, the tendency of real estate investors to build speculative cold storage space for lease will decrease as those investments are not yielding the expected interest and returns."

Finally, Creed says, "I believe that the cold chain industry will continue to play a pivotal role in food security and play its part in reducing waste in the supply chain (farm to fork). With focus on developing infrastructure to support cold logistics and environmental, social and corporate governance (ESG) initiatives - generators, solar, electric vehicles, water tanks, etc. to drive the decarbonisation agenda." @

GINA VEAZEY is a writer and editor based in Rehoboth Beach, Delaware, who specializes in health care and business topics.

EMAIL: gina@veazeymedia.com





With an industry-leading R-Value of 9.0 per inch in controlled environments, Kingspan Insulated Panels with QuadCore® Technology are the most thermally efficient panels on the market.

Learn more at KingofCold.kingspanpanels.us

KS Shadowline





BEST PRACTICES IN COLD TRANSPORT

The Cold Carrier Certification program turns four.

By Karen E. Thuermer

n an effort to assist carriers to conform to the Food Safety Modernization Act (FSMA) rule on Sanitary Transportation of Human and Animal Food, GCCA developed the Cold Carrier Certification Program in June 2018.

Over the four years that the Cold Carrier Certification has been in place, the program has helped transportation companies become compliant with FSMA's Sanitary Transportation of Food (STF) requirements. "GCCA is very pleased with the success," says Don Durm, Vice President of Strategic Customer Solutions at PLM Fleet, Board Chairman of GCCA Transportation and Cold Carrier Certification Task Force member.

Overall, the Cold Carrier Certification program is designed to recognize asset-based carrier organizations for their commitment to the sanitary and safe transportation of perishable products.

The program provides independent, thirdparty assurance that an asset-based carrier company is aligned with industry-prescribed best practices for the safe and sanitary transport of food perishables.

Essentially, the value of the Cold Carrier Certification program is twofold. Internally, it invites a review of best practices and creates an opportunity to re-engage drivers and staff on critical temperature control processes. Externally, it differentiates certified carriers from other carriers by demonstrating that cold chain practices relative to the safe transportation of food are verified by a third party, giving customers confidence to entrust their refrigerated and frozen shipments to participating carriers.

It is a best practice to review association industry documents from time to time. The Refrigerated Transportation Best Practices



Guide (BPG) was published in 2016, and is in the process of being updated.

IRTA, at the time a core partner of GCCA, worked with cold chain industry professionals and other stakeholders to develop the "Refrigerated Transportation Best Practices Guide," which Cold Carrier Certification program participants agree to use. The BPG spells out industry best practices to help shippers, loaders, carriers by motor or rail vehicle, and receivers involved in transporting human and animal food to use documented sanitary practices to ensure the safety of that food.

Members of IRTA's successor, GCCA Transportation, have volunteered to review the current BPG and identify any modifications, unclear items or missing subject areas.

The review group will compile a list of issues and decide how and when to address them through the GCCA Transportation Board of Directors. Since the BPG is the foundation reference for the Certified Cold Carrier program, the Transportation Board of Directors will also consider how any modifications affect the Cold Carrier Certification criteria.

The GCCA Transportation members participating in the BPG review group are PLM Fleet, J.B. Hunt, United States Cold Storage Transport, FLGO Freight and Midwest Refrigerated Services, Inc.

Program Components

The Cold Carrier Certification has two components. First, the carrier applicant must complete the criteria table found within the application form by indicating each proof of conformance. Second, members of the carrier's management team - those with direct oversight of drivers - will demonstrate knowledge of best practices in critical aspects of the refrigerated transport industry.

Carrier management takes the Cold Carrier Certification proof of knowledge assessment. The feedback that GCCA has received from participants is that the program has been great in confirming that many of their current operational business practices are compliant with the rule. Additionally, participants note it has been eye-opening to go through the certification process and see the gap analysis of where they needed to strengthen their processes.

Durm points out that another bonus of the Cold Carrier Certification has been the industry's recognition of their participation in the program to achieve the highest industry certification of their commitment to food safety in transportation.

Benefits of Certification

Since the STF Rule specifically states 33 times that it will rely on "industry best practices," the Cold Carrier Certification has provided industry with that benchmark of refrigerated best practices that the U.S. Food and Drug Administration (FDA) has recognized. GCCA has co-presented the Cold Carrier Certification program with FDA at industry conference events.

"This is important because the Cold Carrier Certification program helps carriers ensure they are aligned with industry refrigerated best practices, and also aligned across the carriers' network to ensure they are consistently compliant with the STF Rule," points out Durm.

An additional benefit of the Cold Carrier Certification has been its acceptance by shippers that understand the high standards that certification from GCCA brings to the table in ensuring that shippers' are meeting their FSMA requirements.

"Certification can mean the difference between getting the business and not getting the business," Durm says. "It is much like any food safety certification; I really don't want to go in myself and inspect each and every shipper for everything related to food safety. I am really asking if my carrier has obtained certification by a recognized industry body on the highest standards in food safety transportation best practices and compliance."

In addition, the Cold Carrier Certification program saves transportation companies time and money. "Coming out of the pandemic, warehouse and driver challenges continue to plague the industry with turnover and difficulty filling the open positions," Durm says. "The Cold Carrier Certification program provides documented use of the 'Refrigerated Transportation Best Practices' that reduces food waste, improves operational fleet efficiency, saves on fuel consumption and, of course the core of the program, delivers on our promise to transport safe nutritious food to the consumer."

Specific Outcomes

Companies that participate in Cold Carrier Certification use the program to achieve specific outcomes.

Prime, Inc., a refrigerated, flatbed, tanker, logistics and intermodal transportation company, for example, utilizes it to show compliance with the FSMA when questioned by its customers.

"Essentially, the Cold Carrier Certification validates the company's standard operating procedures," explains Patricia Brewer,

Training Specialist, Prime, Inc. "Going through this process helped us verify we were doing the right things plus some. It is one thing to know that we are compliant but even better to be able to actually illustrate what it is that we are doing to be compliant."

"Since receiving our certification in 2019, more than 80 J.B. Hunt employees have completed the Cold Carrier Certification program," reveals Greer Woodruff, Senior Vice President of Corporate Safety, Security and Driver Personnel at J.B. Hunt. "This program provides third-party assurance that J.B. Hunt is aligned with the industry's best practices for safe and sanitary transportation."

Participation in the Cold Carrier Certification program also helps companies prepare for audits.

"Having all of the information organized helps in accessing and providing the information in a very timely fashion when asked," Woodruff says. "We don't have to scramble around and figure it out. It's right there at our fingertips."

Some participants have commented in the past that they planned to use the certification as a driver recruitment tool (see Cold Facts, "Certified Cold Down the Road," May-June 2020). Brewer admits the program hasn't really had an impact on recruiting, but it has benefited the company by providing information and education.

"For driver education, we know that we have the information for them," she says. "It gives us a way to review more clearly what we are doing and make plans for adjustment for future training."

Attaining Cold Carrier Certification also offers a return on investment. "The certification process provided us a clearer method to communicate the ways in which we are compliant with the Food Safety Modernization Act," Brewer says. "Anytime we are questioned, we have the data to pull out to illustrate our compliance."

"We have a couple of customers who had asked us about having the rating," Brewer explains. "We reviewed the program and

decided that it would be a good process to go through to confirm our compliance. We record having Cold Carrier Certification in our list of certifications."

J.B. Hunt finds that its customers value having standardized procedures, expectations and transport solutions. "Our certification has enabled J.B. Hunt to explore new opportunities in the temperature-controlled market," Woodruff says. "Cold Carrier Certification displays our commitment to the safe transportation of our nation's food supply and represents the hard work and attention to detail our drivers and personnel provide on a daily basis."

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

EMAIL: kthuermer@aol.com



FOOD SAFETY IS ALWAYS IMPORTANT ... BUT EVEN MORE SO IN A PANDEMIC.

FIND OUT HOW THE COLD CARRIER CERTIFICATION PROGRAM CAN:

IMPROVE YOUR OPERATIONS:

Guides your review & improvement of company practices for the sanitary and safe shipment of perishables.

DEMONSTRATE YOUR COMMITMENT:

Shows your customers that you're doing your utmost to ensure the safety and sanitation of perishable shipments, protecting their brand.

DIFFERENTIATE FROM YOUR COMPETITORS:

The Certification shows your status as a leader and your commitment to improving the cold chain.

gcca.org/certifiedcoldcarrier



- A tailor-made solution for every situation
- Roof and wall cladding fixed directly on the rack structure
- Cost-efficient solution

we rack the world

$\mathsf{C} \exists \mathsf{B} \mathsf{A}$ BUILT BY THE BEST **CASE STUDY**

By Keith Loria

Powered by Robots

Ryan Companies delivers automated distribution center for Kroger.

In 2019, grocery retailer The Kroger Co. wanted a new fulfillment center built in Forest Park, Georgia. Kroger wanted spaces for distribution, including four levels of mezzanines, office and maintenance and three temperature zones in a warehouse.

Ryan Companies U.S., Inc., was chosen to design-build the 419,317-square-foot Kroger Fulfillment Center. It's one of the first of its kind in the United States, as it offers seamless, efficient and comprehensive fulfillment with direct-to-consumer grocery service. This is accomplished using a heavily automated facility featuring hundreds of advanced robots managed by air-traffic control systems.

"While this was our third project for Kroger with Ocado automation, the schedule dictated that all three sites be designed nearly concurrently," says Eric Morin, Vice President of Architecture, Industrial at Ryan Companies. "Tracking the design iteration and developments across three projects simultaneously required excellent communication with Kroger Fulfillment, Ocado and our field teams."

Building a relationship with Kroger through partnership, vision and innovation enabled Ryan Companies to deliver an entirely new industrial project and establish a vital process for moving forward.

"It also created true partnership as our teams grew together throughout the design experience, sharing common goals and values, high standards, a deep belief in the value of the projects and an appreciation for quality



The 419,317-square-foot Kroger Fulfillment Center was designed and built by Ryan Companies U.S., Inc., has spaces for distribution, including four levels of mezzanines, office and maintenance and three temperature zones in a warehouse. (Photo courtesy of Ryan Companies U.S., Inc.)

work," Morin says. 'By partnering with Kroger to enter a new chapter, we helped translate its vision into this leading-edge automated distribution center that is also a rewarding place to work."

The project broke ground December 2019, and shortly after began one of the rainiest springs in the recorded history of Atlanta, Georgia. The ambient chamber was turned over to Kroger Fulfillment/Ocado to begin

the automation build 12 months later in December 2020, and the cooler and freezer chambers were turned over in February 2021.

Innovative Design

Ocado's automation system is Kroger Fulfillment's latest innovation story. The facility features four distinct levels and uses a combination of robots and humans to fulfill grocery orders for delivery. The robots, carrying totes

with products, dart across huge 3D grids called "the hive" - managed by air-traffic control systems.

To prepare for delivery, the robots retrieve the products from the hive and bring them to pick stations where items are sorted for delivery. Algorithms control the pick-and-sort process to ensure that products are packed intelligently, with fragile items on top and bags evenly weighted. Conveyors carry the food collected by the robots to the lower levels for packing and loading by people.

"Aside from the inherent innovation that resides in the Ocado solution, we led this design with the use of innovative technology," says Matt Obbink, Associate Director of Architecture, Industrial at Ryan Companies. "Our Virtual Design Construction (VDC) team supported our design efforts with everything from video animations to facilitate city approvals, virtual reality headsets to better understand operations within the buildings and renderings to support Kroger internal investment approvals. We were enabled by 3D and 4D modeling to be able to clearly communicate with all stakeholders, smooth the approval process and increase collaboration."

Approximately 50% of the warehouse space is refrigerated to 34 degrees Fahrenheit. There is also a -10-degree freezer and space controlled to typical grocery store ambient temperature.

Sustainable Measures

The project team designed a super-efficient building envelope including a white roof that reduces the heat island effect. The design also includes an enhanced vapor barrier under the concrete slabs on grade and reclaimed cement dust is utilized for soil stabilization.

Ryan Companies diverted 75% of waste from the project, and utilized low embodied carbon finish materials throughout.

All lighting is LED, and occupancy sensors were added throughout the facility so only occupied areas would be lit. Large windows in non-storage areas provide plenty of daylight and less need for electric light.

Overcoming Challenges

Since the prototype for the facility was the first of its kind in the United States, there was no familiarity with the solution and that presented some challenges.



Totes go to the pick station to get Kroger plastic bags inserted. Once the product gets picked by a robot and comes out of the hive, it travels to the pick station, gets placed in these bags and delivered to the consumer. (Photo courtesy of Ryan Companies.)

"The team navigated everything from fire suppression systems and building code expectations to municipalities, entitlement processes, material flow and multiple temperatures."

Ryan Companies took on the heavy lifting from the onset of the partnership. The team navigated everything from fire suppression systems and building code expectations to municipalities, entitlement processes, material flow and multiple temperatures. Ryan Companies also provided Kroger with education on the technical aspects of the project, translating U.K. concepts, and paving the way for future Kroger facilities.

"Our team members immersed themselves in understanding the operational metrics so that they were able to clearly anticipate the needs of the client, allowing them to make recommendations to the Kroger team regarding appropriate size and layout for their operational needs," says Jerry Stout, Director of Business Development for Ryan Companies.

The project is part of a larger industrial park on the closed Fort Gillem Army Base. Building on a former Army base posed its own challenges, from requiring training for unexploded ordinances to watching for remains of foundations, roads and supplies.

"Additionally, the site was graded out by the Army with undocumented fill, requiring removal and re-compaction in order to construct the building pad," Stout says. "In some areas, these excavations went 20 feet."

The building is also adjacent to a nearly 1 million-square-foot Kroger Distribution Center with which it shares parking and several utilities. It also shares a power source that had to be meticulously rerouted during construction to avoid power downtime at the existing building.

"Coordinating the site plan and construction efforts alongside the operations of the existing distribution center were a challenge," Stout says.



Behind the bagging station is the ambient mezzanine and hive. (Photo courtesy of Ryan Companies.)

The design team also needed to meticulously create a design that met the requirements of the robotics placed in the warehouse.

"A focal point of the vision was integration of the automation," Morin says. "Ryan Companies stepped up to help Ocado coordinate their own solution while finding ways to best communicate, share files and support their team members, many of whom were working on their first project."

When Ocado proposed a traditional design-build approach for the facility, the company used its automation solution experience and insight to merge schedules, increase efficiency, reduce costs and shave the timeline from 24 to 14 months.

And even with four months of record rainfall threatening the project at inception, the Ryan Companies was able to deliver the project on time and on budget. This they attribute to a successful plan of stabilizing the soil with cement dust and keeping open communication with subcontractors.

"The Ryan team had to be nimble and work meticulously to create a design that met the requirements of the robotics placed in the warehouse," Obbink says. "By stabilizing the soil with cement dust and keeping open communication with subcontractors, the project pushed forward. Weekly collaboration meetings helped us adapt to fast-paced changes and meet all of Kroger's and Ocado's requirements."

A Team Approach

To achieve the goals of the project, flexibility and trust were essential.

"Kroger knew it could count on us for our foresight, having a clear understanding of their project goals and what it would take to get there," Stout says. "We developed further trust through our ability to anticipate solutions, offer strong attention to detail, incorporate high standards and work quickly through challenges. Our design team remained flexible throughout frequent changes, knowing that it was as much about creating a new process as constructing a project."

As the anchor of the project, Ryan Companies provided seamless integration between

Kroger, Ocado and its own teams resulting in coordinated delivery and consistent outcomes.

"Using 3D visualization as a communication tool to show the facility's building and operations, we were able to provide comfort and ensure trust with the customer," Stout says. "Serving as a funnel among the stakeholders, our design team helped to boil down complex information and carry out consistent messaging."

Up and Running

The facility fulfills around 1,000 grocery



Material handling equipment charging areas. The overhead door leads to the building maintenance area. (Photo courtesy of Ryan Companies.)

orders daily for same-day, next-day or scheduled delivery, within a delivery radius of 90 miles, right to the customer's doorstep.

"This \$55 million project and its new-tomarket advanced warehousing technology is contributing to the first step of the supply chain and supporting change within the industry for more fulfillment of perishable foods," Stout says. "Robots picking orders is more efficient customer procurement compared to customers traveling to the stores. There is also greater quality control of the products than in a traditional store, improving the end product provided to customers."

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.

EMAIL: freelancekeith@gmail.com



The freezer and tote conveyor. (Photo courtesy of Ryan Companies.)







ARE YOU PLANNING TO BUILD OR MAKE CAPITAL INVESTMENTS OR UPGRADES IN YOUR FACILITIES?

- Do you plan to build a new facility or renovate an existing one?
- Do you plan on making any capital investments in refrigeration, material handling, doors or other equipment related to a construction
- Do you plan on fixing any floor, walls, roofs, update your docks or make improvements to anything else inside the building?

If you answered yes, you wont want to miss the Controlled-Environment Building conference & Expo occurring November 11-14, 2023, Omni Rancho Las Palmas Resort & Spa, Palm Springs, CA.

FACILITY OWNERS AND EXECUTIVES ANNUALLY SEND THE FOLLOWING EMPLOYEES TO LEARN AND CONNECT WITH THE WORLDS TOP PROVIDERS:

- **Chief Engineers**
- Facility Engineers & Maintenance
- Heads of construction or individual that oversees/liaise with general contractors, refrigeration contractors
- Anyone involved in the procurement or planning for capital investments equipment related to construction projects to the annual conference

BENEFITS OF ATTENDING



CEBA Construction Café is to create an exchange of ideas and stimulate facilitated discussion on critical industry issues. Participants choose from 10 different topics, join the table at which the issue is being discussed, and spend 20 minutes sharing ideas. Participants then switch tables to discuss another topic.



Engage with leading solutions provider in the expo. Over 50 providers of doors, floors, racking, roofing, thermal envelope, refrigeration equipment & contractors, fire protection, automation & material handling and more.



GLOBAL COLD CHAIN

REGISTER ONLINE AT GCCA.ORG/EVENTS

Cold Storage Commercial Real Estate

BROKERAGE | ADVISORY | FINANCING | RESEARCH

Williams Industrial Group believes in a better approach to commercial real estate. Through hyper-focused research and advisory in specific product types we provide our clients the most exceptional, specialized, and professional service.

AVAILABLE NOW: 2023 U.S. INDUSTRIAL INVESTMENT OUTLOOK

Trends, Insights and Outlook for Industrial Investors

Rent Growth Widespread Across Port, Major Hub and Local Service Markets

Change in Average Asking Rent: 2019-2023*



Industrial real estate proved to be one of the most resilient major commercial property types during the health crisis and is positioned for another strong year in 2023. The industrial landscape is changing, as new shipping routes and reshoring efforts begin to take effect. To help investors capitalize on these and other nuances, Marcus & Millichap presents the 2023 Industrial National Investment Forecast.

Key Features Include:

- A detailed outlook for the U.S industrial sector in 2023
- Supply and demand forecasts for 36 major markets across the country
- Analysis of post-pandemic rent growth trends by industrial market type

Receive your complementary copy with luis.ortega@marcusmillichap.com

WILLIAMS INDUSTRIAL GROUP



Kent R. Williams, SIOR

Senior Managing Director Investments

Direct: 858.373.3193

kent.williams@marcusmillichap.com

License: CA 00823860



Luis Ortega Cold Storage Specialist

Direct: 858.373.3214 luis.ortega@marcusmillichap.com License: CA 02071282



Mark Antinucci

Beverage Manufacturing/ Distribution Specialist

Direct: 858.373.3241 mark.antinucci@marcusmillichap.com

License: CA 02186109



Vince Krantz *Airport-Served Specialist*

Direct: 858.373.3180 vincent.krantz@marcusmillichap.com License: CA 01976199



Pablo Ortega

Rail-Served Specialist

Direct: 858.373.3168
pablo.ortega@marcusmillichap.com

License: CA 02100280



Shawn Arnett

Fiber Lit Specialist

Direct: 858.373.3207 shawn.arnett@marcusmillichap.com License: CA 02080620



Matt Taylor

Crane-Served Specialist

Direct: 858.373.3179 matt.taylor@marcusmillichap.com License: CA 02105908



Tino Acuna

Incubator Space Specialist

Direct: 858.373.3139 tino.acuna@marcusmillichap.com License: CA 02101557



Fred Copley

Heavy Power Specialist

Direct: 858.373.3234 fred.copley@marcusmillichap.com License: CA 02141490

Marcus & Millichap
WILLIAMS INDUSTRIAL GROUP

858.373.3100 | www.marcusmillichap.com | NYSE: MMI

Marcus & Millichap is a service mark of Marcus & Millichap Real Estate Investment Services, Inc., © 2022 Marcus & Millichap. All Rights Reserved.



JOIN YOUR COLLEAGUES IN SCOTTSDALE SEPTEMBER 24-27, 2023!

he 132nd GCCA Convention will be held September 24-27, 2023, in Scottsdale, Arizona, at The Westin Kierland Resort and Spa. You are invited to join hundreds of cold chain industry executives for a few days of education, networking and relationship building. This event is designed specifically for temperature-controlled warehousing, transportation, logistics and design/build leaders as well as all the industry suppliers that support the cold chain industry through their products and services.

Keynote Presentations

J. Walker Smith, Knowledge Lead, Kantar J. Walker Smith has been described by Fortune as "one of America's leading analysts on consumer trends." He is co-author of four highly regarded books, a blogger, a former marketing management and Marketing News columnist, and a former public radio commentator. He will join the Convention to discuss Consumer Marketing Trends.

Sarah Thomas, the NFL's First Female Official Thomas is the NFL's First Female Official and one of Sports Illustrated's 100 Most Influential NFL Figures of All Time. Thomas changed the game in the world's most quintessential male-dominated sport -football - when she became the first female NFL official. Now she's inspiring others to dream big and believe anything is possible. She will share her story of how she became the first fulltime female



I. Walker Smith, Knowledge Lead, Kantar



Sarah Thomas, the NFL's First Female Official



official in NFL history and how her historymaking career has opened doors for other women to follow in her footsteps.

Supplier Showcase

The Supplier Showcase is where attendees can connect with the top industry solutions providers and stay informed on new automation solutions, equipment, technology, construction trends and other industry solutions to innovate their businesses. Designed to offer conventioneers a place to meet, relax and recharge, the Supplier Showcase is open daily and located next to the General Session room. All coffee and refreshment breaks will take place in the Showcase, providing ample time for sponsors to engage with attendees as they enjoy a cup of coffee while discussing business needs. Sponsors may also utilize their space in the Supplier Showcase throughout the event for one-on-one meetings. See a current list of Showcase exhibitors in the side bar.

Cold Chain Café

The Cold Chain Café creates an exchange of ideas and discussion on critical issues facing the industry. Participants choose from a list of different topics, join the table at which the issue is being discussed and spend 20 minutes sharing ideas. Participants then switch tables to discuss their ideas. These roundtable conversations provide attendees a chance to share ideas, ask questions and solve problems with their peers in a small group setting. The moderator will guide the participants through questions they have submitted in advance, diving into the subjects that matter most to attendees and the industry.

NextGen Future Leader Award

The GCCA NextGen Future Leader Award recognizes outstanding young professionals in the global cold storage industry. Each of the candidates competing for the NextGen Award at the Convention are recipients of their regional Future Leader Award. Each candidate will present at Convention as well as engage in one-on-one interviews with the judges. The award recipient will be named during the Convention's Closing General Session.

Networking

Prominent social activities and the supplier showcase all give attendees and industry suppliers unparalleled access to build partnerships with key decision makers. Other

132nd GCCA Convention Supplier Showcase & **Exhibitor List**

networking opportunities include an opening night reception, a golf tournament, a themed party, an after-hours party as well as coffee breaks, breakfasts and group activities.

Tech Talks

Industry thought leaders will deliver informative presentations on innovations in the cold storage industry. The GCCA Education team works with Tech Talk presenters to create a high-level industry perspective on how their solutions, tools and/or technology can help support their customers' businesses, and how they see the industry evolving.

Focus Sessions

This year, attendees can choose three of the six focus sessions offered during the convention. These smaller, more focused educational offers cover topics including:

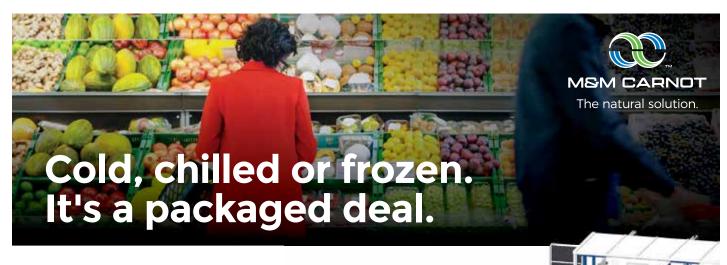
- Innovations in Warehouse Technology & Automation
- Evaluating & Investing in Sustainable Technology and Aligning It to ESG Goals
- · Food Loss and Food Waste in the Cold Chain



- · End-to-end Cold Chain Solutions
- Trends in Warehouse Legal Liability Insurance
- Maintaining Warehouses of the Future
- Case Study in Energy Excellence The cold chain industry is growing and changing. From advanced technologies to new

regulations as well as political and economic uncertainties, our industry must be nimble, flexible and ready for change. Throughout the Convention we will focus on the top challenges and opportunities facing the industry and discuss solutions for your business. Make sure to register your team today!



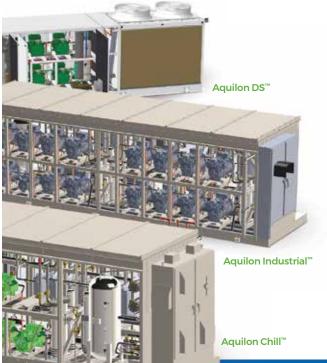


For over 50 years, we've pioneered the design and production of industrial refrigeration products, systems and controls. Now, we're leading the way with natural refrigerant-based packaged systems that are safe, sustainable, and energy efficient in all climates.



- Low charge ammonia packaged chillers from 40-400 tons at 5°F to 50°F outlet fluid
- Low charge ammonia condensing units from 30-160 tons at -20°F to 45°F SST
- Packaged cascade ammonia/CO₂ Systems from 40-200 tons at -20°F to -60°F pumped CO₂







- Transcritical CO_2 industrial chillers from 50–500 tons at -40°F to 40°F outlet fluid
- Transcritical ${\rm CO_2}$ condensing units from 10–85 tons at -40°F to 40°F SST
- Transcritical CO_2 industrial racks from 50-400 tons at 40°F to -50°F SST or 50°F to -40°F fluid temperature

mmcarnot.com • 410-754-8005



Contact us to learn how you can increase operational efficiency.

COLD CHAIN DEVELOPMENT

NEWS ABOUT GCCF INTERNATIONAL PROJECTS

This column features news about key projects of the Global Cold Chain Foundation (GCCF) 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.

ACTIVE PROJECTS

Bangladesh Trade Facilitation (BTF) Project, 2020 - 2025

Partnered with Venture37 and LixCap May 31 to June 1, the Global Cold Chain Foundation (GCCF) partnered with the regional American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) to implement training to Bangladesh engineers led by GCCA engineering expert Harshal Surange. During the event, GCCF announced the virtual cold chain trainings led by Amanda Brondy, Harshal Surange, Bob Tippman (QuickFreeze) and Don Durm (PLM Fleet). Training was delivered in English, then transcribed and dubbed into Bangla for the local market. It covered an introduction to the cold chain, cold storage design, energy management and sanitary transportation.

Cambodia Market Systems Program, 2022 - 2023

Partnered with LixCap and Khmer Cold Chain Company (KCCC)

GCCF is advising on the construction and startup of the Khmer Cold Chain Company facility at the LM17 port on the Mekong River in Phnom Penh, Cambodia. In May, Rusty Eason (Bright House Consulting) traveled to the facility to review the equipment installation and advise on appropriate warehouse management systems (WMS).

Dominican Republic TraSa Project, 2021 - 2025

Partnered with International Executive Service Corps (IESC)

Since March, GCCF has completed a series of virtual cold chain best practices training to participants in the Dominican Republic. Training covers warehouse operations essentials, trends and technologies in warehouse management, supply chain basics and analyzing refrigeration systems. It is led by industry professionals in Latin America.



During the Cold Chain Study Tour in Indonesia, participants visited a cold storage under construction in Jakarta.

North Africa Cold Chain Assessment & Capacity Building, 2021 - 2023

Partnered with USA Poultry and Egg Export Council (USAPEEC)

Cold chain technical experts Manuel Cabrera-Kabana (Friopuerto) and Roudy Akiki (CT Technologies) and GCCA staff member Madison Jaco presented at the USAPEEC Buyers' Conference in Casablanca, Morocco, on May 14. The team shared information about emerging trends in cold chain investment and design-build as well as GCCF's ongoing project in North Africa. In the week after the conference, the trio visited several cold chain operators near Casablanca to provide consultation on cold chain best practices including energy efficiency, warehouse operations and design-build and engineering.

Southeast Asia Emerging Markets Program, 2019 - 2023

In close collaboration with Hasan Yasni (Indonesian Cold Chain Association) and Marc Dizon (Cold Chain Association of the Philippines), GCCF hosted a study tour to a variety of cold storage, refrigerated transportation and cold chain equipment suppliers in Indonesia from May 7 to 13. Twelve participants from Cambodia, Thailand and Vietnam attended the tour. They had the opportunity to network with other cold chain operators in the region, learn from international experts and visit a range of cold chain logistics facilities in Jakarta and Bali, Indonesia. Jaco supported the tour in-country, and the team was joined by GCCF Chairman Greg Laurin (Conestoga) later in the week.

Egypt Rural Agribusiness Strengthening (ERAS) Project, 2019 - 2024

Partnered with Abt Associates Inc. Dr. Elhadi Yahia will return to Egypt in May and June 2023 to provide training and technical assistance on best practices for post-harvest handling of mangoes. He will return later in the year for a similar assignment on pomegranates.

Georgia Agriculture Project, 2018 - 2023

Partnered with Cultivating New Frontiers in Agriculture

GCCF is working with three individuals to support different Georgian stakeholders. In May, remote logistics was organized for small and medium-sized businesses looking to grow their exports of fresh fruits and vegetables. In addition, training will be organized remotely to deliver food safety training to retailers.

Finally, a blueberry logistics expert traveled to Tbilisi in June 2023 to advise blueberry producers and exporters on best practices.

Ongoing Industry Support to Reduce Food Loss and Waste

In March, Madison Jaco attended the Food Bank Leadership Institute (FBLI) in Mexico City. Hosted by the Global Foodbanking Network, one of GCCA's partners in reducing food loss and waste and increasing food security, the event brought together food bank leaders from more than 50 countries to network and share expertise with others in the maximizing food industry.

GCCA members Juan Afanador (Emergent Cold LatAm) and Ana Guzman (Grupo Arcosa) joined the discussion to identify areas where the association's members can support food banks. @



Roudy Akiki demonstrated cold storage design best practices during a consultation in Morocco.





COLD STORAGE WAREHOUSING

DESIGN/BUILD CONSTRUCTION

QFR ZONE® **BLAST FREEZING**

No other company combines the knowledge and experience in cold storage construction and warehousing that Tippmann Group offers. As owners & operators of more than 115,000,000 cubic feet of temperature-controlled space, Tippmann Group is your single source for cold storage excellence.

FAMILY OWNED & OPERATED SINCE 1968

TIPPMANNGROUP.COM

9009 COLDWATER ROAD FORT WAYNE, IN 46825 (260) 490-3000



COLD CHAIN FEDERATION CORNER

NEWS FROM THE UNITED KINGDOM

In April 2022, the GCCA and the United Kingdom's Cold Chain Federation announced a partnership agreement signalling a renewed commitment to building knowledge, networking opportunities and insights across borders.

Here, Cold Chain Federation Chief Executive Shane Brennan continues his series for COLD FACTS exploring hot topics for our industry in the United Kingdom and beyond.



Throughout the global cold chain, one vital asset is without doubt the beating heart of our industry. Over the coming years, this asset will determine how cold chains will grow, meet changing needs, innovate, reduce carbon and respond to as yet unknown local and global challenges. This powerful asset is, of course, our people.

As temperature-controlled logistics continues to grow and change, our industry requires new people coming into the cold chain, and the development of new skills and responsibilities within the workforce. This is particularly the case across areas such as decarbonization, digital technology and automation engineering.

In the United Kingdom, many cold chain operators are preparing for the years ahead by making significant investments in their people. They are creating new career opportunities and increasing support for skills development alongside their investments in offering an attractive proposition for recruiting the next generation.

This investment in the industry's future will yield the greatest benefits for people working in the cold chain, for operators and for the United Kingdom as a whole when it is supported by the right policies from the U.K. Government. In May 2023, the Cold Chain Federation created a vital opportunity for our membership to make the industry's case to our politicians face-to-face at our latest parliamentary reception. More than 150 representatives of the United Kingdom's cold chain met with U.K. Government Ministers and Members of Parliament at a reception held to celebrate people in the cold chain.

This parliamentary reception celebrated the remarkable achievement of the people working throughout the United Kingdom's cold chain in the face of the unprecedented challenges of the past few years. It was also an opportunity to demonstrate to our politicians



(Photo courtesy of Cold Chain Federation.)

the cold chain's importance in the United Kingdom's future.

The United Kingdom has certainly experienced 12 months of turbulent politics and, with a general election taking place sometime before Fall 2024, we can't hope for a significant period of political stability or policy certainty any time soon. However, policy decisions over the coming months will have major impacts on our food supply chains far beyond the current political maneuvering. They will affect international trade beyond Brexit; navigating the energy crisis; decarbonizing our roads; and transitioning to a net zero U.K. economy by 2050.

The Cold Chain Federation continues to speak up for the U.K. cold chain with vigor and purpose, work constructively with politicians and civil servants and use unique research, expert analysis and regular dialogue. We make a strong case for policy decisions that will help our industry address key challenges such as bringing new people into our growing industry and upskilling for the cold chain of the future. Meeting with politicians in the Houses of Parliament in May was crucial in showing them why our issues matter, directly from people working across our industry.

The U.K. cold chain workforce is resilient, dedicated, creative and experienced. As we look to the future, this is a powerful foundation for the growth and new skill development that will enable our industry to meet the United Kingdom's evolving needs in the years and decades ahead.



ARE YOU USING AN ENERGY EXCELLENCE CERTIFIED WAREHOUSE AS YOUR COLD CHAIN PARTNER?

Over 160 member facilities of the Global Cold Chain Alliance (GCCA) have made a commitment to:

- ✓ MAINTAINING A CULTURE OF ENERGY EXCELLENCE
- **✓ IMPROVING ENERGY EFFICIENCY**
- ✓ ACCURATELY TRACKING ENERGY CONSUMPTION
- ✓ EXPLORING TECHNOLOGIES FOR CONTINUOUS IMPROVEMENT

Energy Excellence Certified Companies Include:















The Confined Space Entry experts

Innovative inspection methods pinpoint and prevent potential problems

In-depth cleaning minimizes downtime and maximizes efficiency



www.molemaster.com

740.374.6726 800.322.6653 (USA)

05/2023 02912

COOL SOLUTIONS

SCIENTIFIC ANSWERS TO COLD CHAIN CHALLENGES

Is there an industry best practice concerning how many square feet per ton of refrigeration (TR) is recommended to store ice cream at -20F?

A general "rule-of-thumb" is from 300 to 500 square feet per ton of refrigeration. The actual value depends on many variables including, but not limited to, freezer room insulation, storage temperature, forklift traffic, incoming product temperature and incoming quantity of daily product.

Answer provided by Refrigeration Engineering Expert Dr. Donald Fenton, Kansas State University. @

> The Global Cold Chain Foundation's Scientific Advisory Council provides cutting-edge research and advice to members of the Global Cold Chain Alliance and its Core Partners. Submit your burning cold chain questions to the Scientific Advisory Council at www.gcca.org/inquiry or at inquiry@gcca.org





FACILITY SOLUTIONS COOL & CONTROLLED. WE PROMISE.

DESIGN-BUILD FACILITY EXPERTS

Automated Facilities / Cold Storage / Distribution / Pharma-Cold / Processing

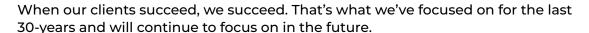






When you make the decision to take your business to the next level and need advice on the design and construction of your food facility, ESI will deliver the expertise to get you there.

- Facility flow analysis
- Sustainable design
- Quality construction
- On-time delivery



Take control, call (866) 369-3535 today.





SUPPORTING COMPANIES THAT SAFELY FEED THE WORLD.





The Global Cold Chain Foundation (GCCF) Scientific Advisory
Council is an eminent group of food scientists, logistics, and
packaging experts from around the world. The council provides
cutting-edge research and advice to members of the Global
Cold Chain Alliance and its Core Sectors.



Dr. Michael JahnckeVirginia Tech University,
Fish Products Expert
SAC CHAIRMAN



Dr. Brian FugateUniversity of Arkansas, Supply Chain Management Expert



Dr. Jeffrey BrechtUniversity of Florida, CoolClimate Fruit & Produce Expert



Dr. Cody GiffordUniversity of Wyoming, Meat Products Expert



Dr. Patrick BrechtPEB Commodities, Refrigerated Transportation Expert



Dr. Dennis HeldmanThe Ohio State University, Food Process Engineering Expert



Dr. Paul DawsonClemson University, Poultry
Products Expert



Dr. Faris KarimKansas State University,
Ammonia Contamination & Food
Toxicology Expert



Dr. Donald FentonKansas State University,
Refrigeration Engineering
Expert



Dr. Barbara Rasco, BSE, Ph.D., JD University of Wyoming, Food Safety & Food Safety Regulations Expert



Dr. S. Paul SinghMichigan State University,
Packaging & Labeling Expert



Dr. Kees Jan RoodbergenUniversity of Groningen,
Logistics & Operations
Management Expert



Dr. Donald Schaffner
Rutgers, The State University of
New Jersey, Microbiology Expert



Dr. Victoria SalinTexas A&M University, Agriculture Economics Expert



Dr. Charles WhiteMississippi State University, Dairy Products Expert



Dr. Subramaniam SathivelLouisiana State University,
Frozen Food Quality Expert



Dr. Elhadi YahiaUniversidad Autónoma de
Querétaro, Mexico, Postharvest
Technology, Tropical Fruit &
Produce

SAC Emeritus

R. L. (Bob) Henrickson, Oklahoma State University, Meat Products Expert
Joseph Sebranek, Iowa State University, Meat Products Expert
Daryl B. Lund, University of Wisconsin, Food Science Expert
Joseph Slavin, Jos. Slavin & Associates, Fish Products Expert
W. F. (Will) Stoecker, University of Illinois, Refrigeration Engineering Expert

Have a burning cold chain question?

Submit an inquiry to the Scientific Advisory Council at www.gcca.org/inquiry

MEMBER NEWS

NEWS FROM MEMBERS OF GCCA CORE PARTNERS

AMERICOLD will co-locate its warehouse facilities on Canadian Pacific Kansas City's (CPKC) transnational, single-line service network, the two companies reported. The intent is to build the first facility in Kansas City, Missouri, United States, bringing together cold storage and value-added-services with expedited intermodal transportation solutions connecting key U.S. Midwest and Mexico markets.

CONESTOGA COLD STORAGE LIMITED,

with help from NDUSTRIAL, is expanding operations with the construction of a brand-new greenfield facility in Halton Hills, Ontario, Canada. With a capacity of more than 96 million cubic feet (2.7 million cubic meters), the new facility will span a height of more than 150 feet (47 meters) and will leverage automation and advanced logistics systems.



EMERGENT COLD LATIN AMERICA

announced the acquisition of Hook Chile, an operator in the country's salmon industry and a food importer. Hook Chile operates a 10,500-pallet warehouse located in close proximity to the Port of San Antonio and an 11,800-pallet facility in Puerto Varas.

RLS LOGISTICS is named by *Food Logistics* as one of the winners of this year's Top 3PL & Cold Storage Providers Award.

TRENTON COLD STORAGE (TCS) has achieved Gold Level status under the GCCA Energy Excellence Recognition Program. NDUSTRIAL, creator of the Nsight™ Energy Intensity Platform helped TCS achieve Gold Level status by analyzing two years of electricity usage data and helping create a culture of energy intelligence.

VERTICAL COLD STORAGE finalized

the purchase of MWCold, operator of two temperature-controlled warehouse facilities in central Indiana. The MWCold Indianapolis warehouse is a 390,000 square foot multimodal facility with 33,000 pallet positions and 46 dock doors. The MWCold Pendleton warehouse can handle a variety of temperature zones and is 159,000 square feet with 19,600 pallet positions and 15 dock doors.



remain in continuous motion – never stopping. Reliability, durability and doors built to last – day in, and day out – are a must. High-performance doors for cold storage applications can help your facility stay productive.

Learn more or request an energy analysis today. Rytecdoors.com/Analysis









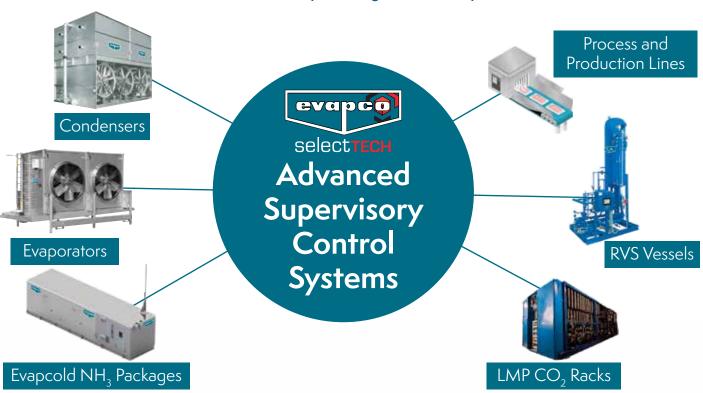


Industrial Refrigeration Automation and Integration Solutions

Since 1991, EVAPCO SelectTech has helped customers achieve increased efficiency and performance throughout their food processing systems. EVAPCO SelectTech is a systems integrator specializing in designbuild installation, plant ammonia/utility systems, production line automation, process systems, material handling.

EVAPCO SelectTech delivers a total coordinated turnkey approach to projects. This thorough methodology creates a cost-effective, detailed, and reliable system even in the most challenging circumstances.

Our team has comprehensive industry experience and has earned a reputation for innovative, cost-effective solutions, complete integration, and responsive service.



EVAPCO SelectTech provides integration services in the following major areas:

- Electrical Design
- PLC Control System
- Electrical System Installation
- Control Panel Assembly & Testing
- Startup & Commissioning
- Post Tuning of System Operation Training of Maintenance Personnel

The Natural Leader



2023-2024 GCCA, GCCF and CEBA Education, **Training & Networking Events**

GCCA events bring together thought leaders and subject matter experts to not only discuss but solve issues facing the temperature-controlled supply chain. All GCCA, GCCF and CEBA events are open to members and non-members. Become a member to save on event registration fees. Interested in sponsoring an event? Email James Rogers at irogers@gcca.org

JULY **GCCF INSTITUTE LATIN AMERICA**

17-19 JULY 2023

Mexico City, Mexico | Hilton Mexico City Reforma

This event, designed for employees with clear management potential and executives new to the industry, features extensive classes in warehouse management and transportation management taught by leading experts in the industry.

Large Company Audience: Warehouse managers, operations managers, warehouse supervisors, shift leads, workers with high potential for management, customer service managers, business development managers, transportation managers, executives new to the industry.

Small to Medium Company Audience: Warehouse managers, operations managers, workers with high potential for management.



AUGUST

GCCA AFRICAN COLD CHAIN CONFERENCE

2-4 AUGUST 2023

Cape Town, South Africa | The Westin Cape Town

This event is South Africa's one and only venue bringing together cold store operators, controlled-environment builders, equipment suppliers and service providers to discuss opportunities and innovations of this essential sector. The conference provides leadership experience, knowledge, and exclusive networking with decision makers from across South Africa and beyond, in a relaxed yet professional atmosphere.

Audience: Executives and managers from temperature-controlled, third-party logistics companies.



SEPTEMBER 132ND GCCA CONVENTION

24-27 SEPTEMBER 2023

Scottsdale, AZ | The Westin Kierland Resort & Spa

This annual gathering for IARW and WFLO features education, networking and business development opportunities for third-party logistics companies and warehouse operators.

Large Company Audience: Owners, CEOs, presidents, executive leadership teams.

Small to Medium Company Audience: Owners, presidents, senior executives.



OCTOBER

GCCA BRAZILIAN COLD CHAIN CONGRESS

19 OCTOBER 2023

Sao Paulo, Brazil | InterContinental Sao Paulo

This educational event focuses exclusively on the temperature-controlled logistics industry and features opportunities and solutions for business development.

Audience: High-level executives in temperature-controlled warehousing or logistics.



NOVEMBER GCCA LATIN AMERICAN COLD CHAIN CONGRESS

6-7 NOVEMBER 2023

Cancun, Mexico | Hotel Presidente InterContinental

This meeting enables GCCA members and leaders in the temperature controlled industry to interact, learn about industry trends and expand their knowledge. The Congress also serves as a discussion forum for issues of interest to multi-regional cold chain industry leaders.

Audience: Senior executives in temperature-controlled warehousing or logistics.



43RD CEBA CONFERENCE & EXPO

11-14 NOVEMBER 2023

Palm Springs, CA | Omni Racho Las Palmas

This annual meeting of CEBA members offers education, business development opportunities and networking for company executives managing the building of new cold storage facilities and cold storage builders.

Large Company Audience: Chief engineers, regional facility managers, regional facility maintenance leads, construction engineer managers.

Small to Medium Company Audience: Owners/CEOs who are building or expanding facilities, chief engineers.



FEBRUARY

59[™] GCCF INSTITUTE EAST

4-6 FEBRUARY 2024

Atlanta, Georgia, United States | Georgia Tech Hotel & Conference Center

This event, designed for employees with clear management potential and executives new to the industry, features more than 40 classes in warehouse management and transportation management taught by leading experts in the industry.

Large Company Audience: Warehouse managers, operations managers, warehouse supervisors, shift leads, workers with high potential for management, customer service managers, business development managers, transportation managers, executives new to the industry.

Small to Medium Company Audience: Warehouse managers, operations managers, workers with high potential for management.



59[™] GCCF INSTITUTE WEST

27-29 FEBRUARY 2024

Tempe, Arizona, United States | Tempe Mission Palms Hotel at Arizona State University

This event, designed for employees with clear management potential and executives new to the industry, features more than 40 classes in warehouse management and transportation management taught by leading experts in the industry.

Large Company Audience: Warehouse managers, operations managers, warehouse supervisors, shift leads, workers with high potential for management, customer service managers, business development managers, transportation managers, executives new to the industry.

Small to Medium Company Audience: Warehouse managers, operations managers, workers with high potential for management.



APRIL

27TH GCCA EUROPEAN COLD CHAIN CONFERENCE & EXPO

10-12 APRIL 2024

Brussels, Belgium | Brussels Marriott Hotel Grand Place

Here, delegates gain a better understanding of market trends, industry challenges, business solutions and technological innovations. The conference also provides ample networking opportunities enabling attendees to meet and connect with professionals from throughout Europe and around the world.

Audience: Executives and managers from temperature-controlled, third-party logistics companies.



DELIVERING VALUE



GCCA Convention 24–27 September 2023 Scottsdale, Arizona

EDUCATION AND NETWORKING

REGISTER TODAY!

Learn more at gcca.org/events/convention

ASSOCIATION NEWS

NEWS ABOUT GCCA CORE PARTNERS

GCCA released the Q1 2023 Cold Chain Index (CCI) in late June. In the current release, the CCI reports the growth rate in expenses in the first quarter of 2023 compared with the first quarter of 2022.

Members of GCCA and their customers may access a template to better understand the index and customize cost shares to the experience of their business, and to account for variation across geographic regions.

Reported since the end of 2018, the CCI tracks the growth of costs associated with cold storage using predominantly official sources of economic data. The CCI can be customized to the region, state and metro area where a warehouse facility operates. The CCI includes five classes of expenses: labor, electric power, supplies, repairs and rent. Labor was the largest share of expenses, at 35% of the total. Rent/ lease represented 31% of total expenses. Electric

power accounted for 10% of total expenses. The "other" category included the leases on material handling equipment, expenses on utilities other than electric power, and unspecified other expenses.

The cost shares used in the Q1 release of the CCI are based on the 2021 IARW Productivity and Benchmarking Survey results (FY2021).



Two keynote presenters were just announced for the upcoming GCCA Convention to be held in Scottsdale, Arizona, United States, September 24-27, 2023.

J. Walker Smith, Knowledge Lead, Kantar will provide the Opening Keynote on Monday, September 25. Smith has been described by Fortune as "one of America's leading analysts on consumer trends." He is co-author of four highly regarded books, a blogger, a former marketing management and marketing news columnist, and a former public radio commentator.

Sarah Thomas, the NFL's First Female Official and one of Sports Illustrated's 100 Most Influential NFL Figures of All Time, will keynote the Closing General Session on Wednesday afternoon, September 27. Thomas changed the game in the world's most quintessential male-dominated sport - football when she became the first female NFL official. Now she's inspiring others to dream big and believe anything is possible.





ADVOCACY | INDUSTRY PROMOTION | RESEARCH | INTERNATIONAL



GCCA STANDS WITH YOU. THE TIME TO ACT IS NOW.

Never before has our industry faced such uncertainty and vulnerability from America's policy makers, both in the White House and in both chambers of Congress. The Administration and Congress represent challenges and opportunities that we will need to face as an industry, together.

The Administration and Congress are considering a wide range of policies that could impact the cold chain in 2023. Key issues:



FARM BILL

- Congress is working to reauthorize the Farm Bill in 2023.
- GCCA will be actively engaging with Congress to advance cold chain industry initiatives and priorities.



CLIMATE CHANGE

- Pursuing aggressive policies to address climate change, through both executive action and legislation
- Implementation of the AIM Act to phase down HFCs



TAXES

- Increasing the corporate tax rate, phasing out deductions for pass-through entities
- Raising the top marginal income-tax rate



LABOR

- Strengthening worker organizing, collective bargaining and unions through executive action and legislation such as the PRO Act
- NLRB advancing labor initiatives, like 'micro-unit' organizations and joint employer policies



BURDENSOME REGULATIONS

- Revising EPA's Risk Management Program (RMP) regulation and making additional requirements
- Changes to OSHA's Process Safety Management regulation
- Implementation of FDA's Food Traceability Rule

THERE IS SOMETHING YOU CAN DO.

To learn more about how you can contribute contact Lowell Randel (Irandel@gcca.org) or visit advocacy.gcca.org.

Visit ADVOCACY.GCCA.ORG for more information.



ASSOCIATION NEWS

NEWS ABOUT GCCA CORE PARTNERS

More than 100 association members participated in the 2023 GCCA Cold Chain Policy Forum held in Washington, D.C., United States, from June 19-21. Speakers included U.S. Representative Randy Feenstra (IA), and representatives from the Environmental Protection Agency (EPA), Food & Drug Administration (FDA), International Trade Administration (ITA), Occupational Safety & Health Administration (OSHA), USDA's Food Safety Inspection and Feeding America.

On the final day, GCCA Members traveled to Capitol Hill and met with 30 House and Senate offices to build support for the Fortifying Refrigeration Infrastructure and Developing Global Exports (FRIDGE) Act. The FRIDGE Act would add authority to the Trade Title of the Farm Bill to focus on strengthening the global food supply chain for frozen and refrigerated products. Major benefits of the FRIDGE Act will

include increasing export market potential for U.S. perishable products, reducing food loss and waste, and improving food security and nutrition in emerging markets.



Nominations for the 2023 CEBA Built by the Best Award are now being accepted. The award acknowledges project teams moving the industry forward in the design and construction of controlled environment facilities. Buildings recognized with the Built by the Best Award represent some of the most innovative and complex facilities built around the globe according to the intricate, unique standards set forth by the controlled environment industry. The award is open to project teams in all regions/continents comprised of contractor/design-build companies and processor/end-user/warehouse/third-party logistics companies that are association members. Any of these parties can submit an application.

The award finalists will be announced during the closing General Session of the CEBA Annual Conference and Expo being held in November. @





NEW MEMBERS

NEW MEMBER COMPANIES OF GCCA CORE PARTNERS



GCCA WAREHOUSE MEMBERS

Chlodnia Gdansk sp.z o.o. Gdansk Nowy Port, Poland

Colds Mexico Nuevo Leon, Mexico

GCCA ASSOCIATE MEMBERS

African Infrastructure Investment Managers

Newlands, Western Cape, South Africa

APSM

Orem, Utah, United States

Ifria Cold

Wilmington, Delaware, United States

NCK Europe

Hoofddorp, Netherlands

Slate River Systems, Inc.

Irving, Texas, United States



CEBA MEMBER

Midland Industrial Services

Elkins, Arkansas, United States



GCCF MEMBERS

Banque Alimentaire de Madagascar Ambosary Anosy, Madagascar

Calanda Eiendom

Oppaker, Norway

Food Banking Kenya

Nairobi, Kenya

Food Quest Eswatini

Lubombo, Eswatini

No Hunger Food Bank

Galadimawa, Nigeria

Red BAMX

Ciudad de Mexico, Mexico @







From fresh produce to life-saving pharmaceuticals, cold storage has become a vital and rapidly-growing part of the supply chain. Whether you're building a new facility, upgrading a warehouse, or converting an existing building to cold-storage use, find the expertise you need by talking to a GAF cold storage specialist. gaf.com/coldstorage



AD INDEX

Avaska Front Cover Wrap, 11, 36, 47
Bonar Engineering & Construction Company 50
BRUCHA Corp
ESI Group USA
Evapco, Inc
GAF49
Gamma Graphics Services 50
Jamison Door Company Cover 3
Kalman Floor Company Cover 4
Kingspan Insulated Panels 17
M&M Carnot
Mac Rak Inc9
Marcus & Millichap 26, 27
Mole Master Corporation 35
Polyguard Products 2
Primus Builders, Inc 47
Rytec High Performance Doors . 40
Schaefer Systems International
Stow US Inc
The Kaiser-Martin Group 48
Tippmann Engineering 15
Tippmann Group 33
TrueCore Panels
United Insulated Structures Corp (UISC, LLC)45
Vapor Armour



Gamma Graphics Services, A LIXI) Company. Trusted by end users, contractors and consultants.



Costco Poultry Processing, Fremont, Nebraska

If you want to be green and reduce your plant's carbon footprint, use natural refrigerants, evaporative condensers, and minimize the number of compressors and condenser fans in your system. The facts are: for every 5-pound reduction in head pressure using evaporative condensers, you save 2% in compressor power.

That can be a 30% reduction in power!

Call Hank Bonar today! 904-631-8966 hank@bonarengineering.com



Bonar Engineering, Inc. PO Box 60009 Jacksonville, FL 32236



Every Day

Our customer had a big idea that they could increase sales by creating a completely different shopping environment. Working with the HCR team, their big idea has resulted in

Why Choose Us

increasing their sales by 5X's.

Using a completely fresh engineering approach and the principles of psychrometrics, the refrigeration engineers at HCR developed new technologies that pioneered the re-circulatory air door industry.

HCR doors can be found inside the facilities of the largest, most demanding and cost conscious grocery and food distribution centers, food processing plants, refrigerated warehouses, and grocery stores.

HCR is the only air door manufacturer to have independent third party test results to back up their claims.

When you buy Jamison HCR, you buy more than a door. You buy the expertise and experience of a company with demonstrated leadership in the design and manufacture of doors for all types of environments.



Improved Productivity Elimination of moving door parts and majorly reduced safety concerns.



Temperature Control Wide open environment with consistent temperatures maintained throughout space.



Increased Sales

Remarkably increased energy savings and beer sales by 5X's.

JAMISON

Contact Us

- 55 JV Jamison Drive, Hagerstown, MD 21740
- m www.jamisondoor.com
- (1) 800-532-3667



ECO FREEPLAN®

Environmentally Sustainable SFRC 'Jointless' Concrete Floors

www.twintecusa.com



3 Reasons Why You Should Talk to Twintec Kalman

Design

To reduce embodied carbon by up to 66%

2 Build

For fast-track construction output with skilled, experienced workers

3 Guarantee

Total Offer Concept - above the industry norm

Discover the Twintec Difference

Contact the Twintec Kalman USA team for further information. **Tel:** +1 704 896 5955 **Email:** jointfree@twintecusa.com **Office:** 10616 Metromont Pkway, Suite 204, Charlotte, NC, 28269, USA