The Global Food Protection Institute in Battle Creek, Mich., is changing the way food manufacturers and state and local regulators take on food safety challenges.

Cover Story pg. 8

A New Approach To Food Safety

8 Cover Story: The Global Food Protection Institute is bringing together food manufacturers and local regulators to strengthen food safety and security around the world.

12 Questions and Answers: Partnering with suppliers that offer comprehensive customer support can help brands get ahead.

14 Spotlight On: Palletizers

16 Brainstorm: Experts weigh in with considerations for acquiring lift trucks.

18 Tech Niche: Camera & Inspection Systems

20 Exclusive Feature: Preventing Dust Explosions
A guide to understanding why dust explosions happen and what can be done to prevent them.

24 Exclusive Feature: Seafood’s Unique Challenges
How seafood processors can mitigate the food safety challenges unique to the industry.

36 Industry Insider: Beverages
Robotic picking systems can enhance the beverage supply chain.

7 What's The Buzz? — Insiders reflect on the latest news

26 Product Review — Latest Product Releases

34 HACCP Update Reader Survey — Seafood Processing
Digital RTD Thermometer for use with Remote Sensor

- Large Backlit Display with 25 mm (1 in) Digits Readable From Over 10.7 m (35 ft)
- NEMA 4 Rated 316 SS Enclosure
- Up to ±0.2°C (0.3°F) or ±0.1% Rdg Accuracy

Visit omega.com/dtg-rtd100

USA MADE IN USA

RTD Sensors with M12 Connectors
Visit omega.com/pr-21

PR-21
Starts at $60

Sanitary RTD Probes Standard and Heavy Duty with Integral Cable

PRS-S-CB Series
Starts at $120

Molded M8 and M12 Thermocouple Extension Cables

M8C and M12 Series
Starts at $11

Because of transmission frequency regulations, these wireless products may only be used in the United States and Canada (915 mHz models) or Europe (868 mHz models).
OUR DEDICATION TO THE ONGOING SAFETY OF YOUR PRODUCT PROVIDES YOU SECURITY AND PEACE OF MIND.

When you’re working hard to increase productivity and stay ahead of the competition, you simply don’t have time for accidents. With Clarion Food Grade Lubricants, you can help keep your operation running efficiently and protect your bottom line. Clarion stands for safety. That’s why we created a full line of NSF H-1 registered and NSF/ANSI Standard 61 certified lubricants and greases that have been specially formulated to inhibit corrosion and provide exceptional performance and protection. With Clarion, you can safeguard your equipment, your product and your reputation while helping build a sustainable future.

Call 855-MY-CLARION or visit clarionlubricants.com For a more sustainable future.
CONTENTS

March 2012

www.foodmanufacturing.com

AD INDEX

American Meat Institute ......................... 31
American Wholesale ............................... 34
Big Ass Fans ......................................... 5
BlowMold Doctor .................................... 35
Brabender Technologie .............................. 15
Bunting Magnetics Company .................... 17
Clarion White Oils ................................. 3
Dorner Manufacturing Corp .................... 10
Douglas Machines Corp ......................... 7
Dynamic Conveyor Corporation ................. 35
Eriez Magnetics ..................................... 38
GoatThroat Pumps .................................. 35
K-Tron America Inc .................................. 27
Kelly Container ..................................... 35
Leem Filtration Products Inc .................... 35
Material Transfer & Storage Inc ............... 26
Omega Engineering Inc ............................. 2, 11
Parker Hannifin Corporation .................... Cover Tip
Polyguard Products ............................... 22
Powder-Solubons Group ......................... 13
Ralphs-Pugh Co Inc ............................... 25
Rogers Machinery Company Inc ............... 30
Ross, Charles & Son Company ................... 34
schenck AccuRate ................................. 19
Sprayon .............................................. French Door
UBM Canon PTX .................................... 23
UBM Canon EastPack ............................. 28
UBM Canon SouthPack ........................... 32
Wabash Power Equipment Company .......... 34

FOOD MANUFACTURING® (ISSN #1056-5078, USPS #006-428), (GST Reg. #844559765) is a registered trademark of and published 9 times a year (monthly, except bi-monthly in January/February, July/August and November/December) by Advantage Business Media, 100 Enterprise Drive, Suite 600, Box 912, Rockaway, NJ 07866-0912. All rights reserved under the U.S.A., International, and Pan-American Copyright Conventions. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, mechanical, photocopying, electronic recording or otherwise, without the prior written permission of the publisher. Opinions expressed in articles are those of the authors and do not necessarily reflect those of Advantage Business Media or the Editorial Board.

Periodicals Mail postage paid at Rockaway, NJ 07866, and at additional mailing offices. POSTMASTER: Send return address changes to FOOD MANUFACTURING, P.O. Box 3574, Northbrook, IL 60065-3574. Publication Mail Agreement No. 41336030. Return undeliverable Canadian addresses to: Imex/Pitney Bowes, P.O. Box 1632, Windsor Ontario N9A 7C9.

Subscription Inquiries/Change of Address: contact: Omeda Customer Service, P.O. Box 3574, Northbrook, IL 60065-3574, 847-559-7560, Fax: 847-291-4816, email: abfm@omedac.
.com. Change of address notices should include old as well as new address. If possible attach address label from recent issue. Allow 8 to 10 weeks for address change to become effective. Subscriptions are free to qualified individuals. Subscription rates per year are $54 for U.S.A., $63 for Canada, $108 for Mexico & foreign air delivery, single copy $7 for U.S.A., $14 for other locations, prepaid in U.S.A. funds drawn on a U.S.A. branch bank.

Notice to Subscribers: We permit reputable companies to send announcements of their products or services to our subscribers. Requests for this privilege are examined with great care to be sure they will be of interest to our readers. If you prefer not to receive such mailings, and want your name in our files only for receiving the magazine, please write us, enclosing your current address mailing label. Please address your request to Customer Service, P.O. Box 3574, Northbrook, IL 60065-3574.

Printed in USA: Advantage Business Media does not assume and hereby disclaims any liability to any person for any loss or damage caused by errors or omissions in the material contained here-in, regardless of whether such errors result from negligence, accident or any other cause whatsoever. The editors make every reasonable effort to verify the information published, but Advantage Business Media assumes no responsibility for the validity of any manufacturers’ claims or statements in items reported. Copyright ©2012 Advantage Business Media. All rights reserved.

March 2012

FOOD Manufacturing

A New Approach To Food Safety

8 Cover Story: The Global Food Protection Institute is bringing together food manufacturers and local regulators to strengthen food safety and security around the world.

12 Questions and Answers: Partnering with suppliers that offer comprehensive customer support can help brands get ahead.

14 Spotlight On: Palletizers

16 Brainstorm: Experts weigh in with considerations for acquiring lift trucks.

18 Tech Niche: Camera & Inspection Systems

20 Exclusive Feature: Preventing Dust Explosions

A guide to understanding why dust explosions happen and what can be done to prevent them.

24 Exclusive Feature: Seafood’s Unique Challenges

How seafood processors can mitigate the food safety challenges unique to the industry.

36 Industry Insider: Beverages

Robotic picking systems can enhance the beverage supply chain.

7 What’s The Buzz? — Insiders reflect on the latest news

26 Product Review — Latest Product Releases

34 HACCP Update Reader Survey — Seafood Processing

February 2012

FOOD MANUFACTURING® (ISSN #1056-5078, USPS #006-428), (GST Reg. #844559765) is a registered trademark of and published 9 times a year (monthly, except bi-monthly in January/February, July/August and November/December) by Advantage Business Media, 100 Enterprise Drive, Suite 600, Box 912, Rockaway, NJ 07866-0912. All rights reserved under the U.S.A., International, and Pan-American Copyright Conventions. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, mechanical, photocopying, electronic recording or otherwise, without the prior written permission of the publisher. Opinions expressed in articles are those of the authors and do not necessarily reflect those of Advantage Business Media or the Editorial Board.

Periodicals Mail postage paid at Rockaway, NJ 07866, and at additional mailing offices. POSTMASTER: Send return address changes to FOOD MANUFACTURING, P.O. Box 3574, Northbrook, IL 60065-3574. Publication Mail Agreement No. 41336030. Return undeliverable Canadian addresses to: Imex/Pitney Bowes, P.O. Box 1632, Windsor Ontario N9A 7C9.

Subscription Inquiries/Change of Address: contact: Omeda Customer Service, P.O. Box 3574, Northbrook, IL 60065-3574, 847-559-7560, Fax: 847-291-4816, email: abfm@omedac.com. Change of address notices should include old as well as new address. If possible attach address label from recent issue. Allow 8 to 10 weeks for address change to become effective. Subscriptions are free to qualified individuals. Subscription rates per year are $54 for U.S.A., $63 for Canada, $108 for Mexico & foreign air delivery, single copy $7 for U.S.A., $14 for other locations, prepaid in U.S.A. funds drawn on a U.S.A. branch bank.

Notice to Subscribers: We permit reputable companies to send announcements of their products or services to our subscribers. Requests for this privilege are examined with great care to be sure they will be of interest to our readers. If you prefer not to receive such mailings, and want your name in our files only for receiving the magazine, please write us, enclosing your current address mailing label. Please address your request to Customer Service, P.O. Box 3574, Northbrook, IL 60065-3574.

Printed in USA: Advantage Business Media does not assume and hereby disclaims any liability to any person for any loss or damage caused by errors or omissions in the material contained here-in, regardless of whether such errors result from negligence, accident or any other cause whatsoever. The editors make every reasonable effort to verify the information published, but Advantage Business Media assumes no responsibility for the validity of any manufacturers’ claims or statements in items reported. Copyright ©2012 Advantage Business Media. All rights reserved.
Okay so maybe we’ve got things a little backwards but the way our fans move air, you’ll never question comfort level. Big Ass Fans circulate massive amounts of air ensuring products are stored in comfortable, even ceiling-to-floor temperatures, while employees enjoy fresh year-round air movement.
Leaving A Legacy

Krystal Gabert, Editor

The food industry is under fire — sometimes literally.

On Jan. 8, 14 tractors and several trailers used for hauling animals burned inside a feed lot at Harris Ranch, a massive beef slaughterhouse in Coalinga, Calif. California’s largest beef processor is believed to be the victim of an arson attack, after an animal rights website posted an anonymous note claiming credit for the fire.

Columbia Packing Company, a Dallas-area meatpacking plant, is now under investigation after a citizen complaint about the water quality of a nearby river led investigators to an alleged underground pipe pumping pigs’ blood directly into the river. A criminal investigation is now underway.

An Okla. state senator has introduced a bill to ban the use of human fetuses in food production. Freshman Sen. Ralph Shortey claims his concerns are rooted in the proliferation of stem cell research and the potential for fetal stem cells to be used in food R&D. The Food and Drug Administration told the Associated Press that it “is not aware of this particular concern.”

Sometimes the attacks against the food industry are physical, as in the case of Harris Ranch; sometimes they stem from the alleged bad actions of companies like Columbia Packing, tainting the entire industry; sometimes they spring from the imaginations of the foolish or fanatical, looking for a cause to gin up controversy.

But often overlooked in the midst of these attacks are the food companies and business owners investing in ways to make food safer and Americans healthier.

In 1988, the Bob’s Red Mill headquarters in Clackamas County, Ore., was itself affected by arson. The historic mill was completely destroyed in a criminal fire, and the company’s then-owner, Bob Moore, was faced with a decision: rebuild the business from scratch or move on. Moore chose to rebuild, and Bob’s Red Mill now employs several hundred people in the Milwaukie, Ore., area, and is the largest U.S. producer of whole grain flours.

On his 81st birthday in early 2010, Moore made headlines when he transferred ownership of the business he had spent over 30 years building to an employee stock ownership plan, effectively giving the business to his employees.

In the years since, Moore and his wife Charlee have pledged tens of millions of dollars to help fight the national health crisis in the U.S. According to the company, in 2011 alone the Moores have pledged:

• $25 million to Oregon Health and Sciences University (OHSU) to start the Bob and Charlee Moore Institute for Nutrition and Wellness, aimed at halting childhood obesity and chronic nutrition-related disease.

• $5 million to establish the Moore Family Center for Whole Grain Foods, Nutrition and Preventive Health at Oregon State University, an academic center that’s building on the college’s research on nutrition, childhood obesity and related topics, and helping promote healthy eating throughout Oregon and beyond.

• $1.35 million to the National College of Natural Medicine to fund the ECO Project (“Ending Childhood Obesity”), an ongoing series of free family-oriented nutritional health education and cooking workshops that provide families with the tools and know-how they need to make healthier food choices.

The Moores have provided a generous example with their socially responsible giving, but the pair isn’t alone; food industry giants are often working behind the scenes to improve the food supply and consumer health.

In this issue’s cover story, you’ll read about the Global Food Protection Institute (GFPI), which has been working to improve food safety and protection worldwide. The facility wouldn’t be here today if it weren’t for a generous grant from the W.K. Kellogg foundation, which provided the startup capital needed to begin researching at the GFPI. Though the foundation is a separate entity from Kellogg Company, the majority of its annual funding comes from the cereal giant.

These financial contributions will not only impact consumers, but if the research funded by W.K. Kellogg and the Moores proves successful, these industry giants will be improving health and safety for generations to come. Food manufacturers across the country should strive to leave the industry with such a legacy.
Hang up your gloves.

A better way to wash and sanitize scale parts is right at your fingertips!

Presenting the Douglas Model 1536-SPW.
Meet today’s high standard for cleanliness and sanitation at the push of a button with this versatile, highly effective washing and sanitizing system. Installed in a pit or used with a ramp, this walk-in type batch washer cleans scale parts such as weigh and feed buckets, chutes, funnels, feed pans and other detachable items. This powerfully efficient machine also features pre-programmed wash times and a digital display that monitors key performance criteria and service requirements. And with a typical wash/rinse cycle of just 5 minutes, clean-up is quick and economical!

CALL 800-331-6870 for pricing, literature and specifications on a model suited to your needs.
In 2009, a grant from the W.K. Kellogg foundation—an organization that operates separately from the Kellogg Company, which provides most of the foundation’s operating budget—supplied the startup capital needed to launch the Global Food Protection Institute. The Institute is located in Battle Creek, Mich., also known as “Cereal City” due to the strong presence of cereal makers Post and Kellogg. During early planning for the Institute, urban developers had hoped that an institute devoted to food safety would not only find a natural home in a town known for food production, but would also prove to be an economic boon to the city by providing a hub, attracting regulators and industry professionals from around the country.

With this goal as well as that of securing a safer food supply in mind, the GFPI got to work quickly after receiving its startup grant from W.K. Kellogg. According to the organization, it identified three areas through which it would “improve public health and help reduce mortality and economic costs associated with foodborne illnesses.” The three core initiatives are:

- **International Food Protection Training Institute (IFPTI).** The IFPTI is the training branch of the GFPI. The programs offered here provide intensive training in a variety of areas related to food safety and present an opportunity for food manufacturers to learn side-by-side with local regulators.
- **Imagined Food Futures (IFF).** Complementing the IFPTI, the IFF will provide in-depth symposia tackling the complex issues affecting food security around the world.
- **Emerging Technologies Accelerator (ETA).** The ETA is tasked with developing technology for rapid pathogen detection that can be used in the field.

Last May, Dr. Julia Bradsher was selected as the new CEO of the GFPI. The former CEO of the Food Allergy & Anaphylaxis Network (FAAN), Brasher joined the GFPI with deep knowledge of the food industry. Bradsher said of the role of the GFPI, “Our overarching goal is to be a catalyst to improve the food supply.”

At the time of her appointment, the IFPTI had hit the ground running and was shaping up to be a robust initiative for effective training of industry professionals and regulators alike. Under her watch, Bradsher has overseen not only the growth of the IFPTI, but also the development of the GFPI’s other two initiatives.

“All three initiatives should build off of one another, and that’s really what’s started to happen,” says Bradsher.

In September 2011, the GFPI received a $1.3 million grant from the Food and Drug Administration (FDA) to aid in the implementation of the new Food Safety Modernization Act (FSMA), a bill passed in early 2011 that overhauled the nation’s food safety system.

Charged with the task of implementing the bill but saddled with a limited budget, the FDA is turning to local regulators to pick up the slack. And that’s where the GFPI comes in.

**International Food Protection Training Institute**

In order to properly implement new food safety standards as mandated by the FSMA, local regulators must be briefed on the Act and on how to perform uniform inspections.

“When we first started it was pretty surprising,” said Joan Bowman, GFPI’s Vice President of External Affairs. “There is no uniform standard for inspection. So industry would prepare for inspections based on their current inspector, and when they’d get a new one, they’d fail, or they’d be hit with all this stuff no one had ever done.”

**Unlocking Food Safety**

The Global Food Protection Institute in Battle Creek, Mich., is currently changing the way food manufacturers and state and local regulators take on food safety challenges.

Krystal Gabert, Editor
told them about before.”

The IFPTI was instituted to help create normalized standards of inspection to ensure that state and local regulators across the country are inspecting facilities according to uniform rules. Never is this more important than now, when local food inspectors will be tasked with implementing the national food standards put into place under the FSMA.

Bowman says that she sees these changes as the GFPI building a food training consortium with IFPTI as its administrative hub. The IFPTI is run by an advisory council that helps select course direction and identify key areas of food safety to address.

One of the GFPI’s most expansive projects to date, completed through the IFPTI, is the cataloging of a national food safety curriculum. The institute surveyed universities and professional organizations across the country, pinpointing food safety courses. The board then categorized the courses according to industry focus and level of professional development to place them together into a larger curricula framework. The IFPTI was able to identify and classify over 700 courses nationwide.

In addition to its own coursework and the 700-course national framework it has organized, the IFPTI also runs its Fellowship in Food Protection program, a three-week program of intensive training for top-level students. Bowman says that the GFPI considers this course to be the IFPTI’s “signature course” and that the program is currently being adapted for international students.

Emerging Technologies Accelerator

The GFPI’s third component is just as crucial. The Institute has unveiled each of its three initiatives at different points since it’s inception in 2009, and the ETA is the latest, and perhaps most promising, project to date.

Bradsher says she sees the ETA as a “seeding fund to invest in start-ups” that show promise in developing crucial rapid detection technology. The GFPI hopes, through the ETA, to develop pathogen detection that can be readily applied in the field. The technology the Institute hopes to help develop will be:

• Portable
• Reliable
• Easy to use
• Rapid
• Affordable

Moisture Analysis: An analyst places a weighed cereal sample for moisture analysis on a drying rack.
"The goal," Bradsher says, "is to bring technology closer to the source," and allow inspectors, or perhaps food manufacturers themselves, to test ingredients, products or surfaces for biological contaminants and receive an on-the-spot result. The implications of successfully bringing such products to market are, of course, immense.

On Feb. 22, 2012, the GFPI announced its first investments through the ETA. According to the GFPI, Seattle Sensor Systems has developed "real-time detection of pathogens using custom-
ized nanoparticle biosensors." nanoRETE, on the other hand, "utilizes a portable surface plasmon resonance technology for the detection of biohazards in food and the environment." Both of these companies will receive investment funds from the GFPI in the hope that the funds will, as Dr. Bradsher says, "help fast track these technologies to market."

While the ETA is currently focused on pathogen and other biological detection technologies, Bradsher says that as the Accelerator matures, it may one day be open to processing technology solutions that "eradicate and detect pathogens in food."

Bradsher says that while the GFPI is currently looking at what she calls modest investments of $50,000 to $150,000, the GFPI hopes to grow the ETA into a full equity investment fund.

The Future Of Food Safety

During a meeting in Turkey last month, leaders from the World Bank expressed to Bradsher the urgent need for training and technology like that being developed through the GFPI. "These technologies can help developing countries leapfrog food safety in a matter of months," says Bradsher. "It will take them months to achieve what used to take years."

As the GFPI expands its global reach — offering courses through the IFPTI that cater to an international market, exploring global food security issues with its IFF symposia and developing food safety technology that can be implemented in developing countries with its ETA investments — the work that the Institute is doing now will spread far beyond Battle Creek and, perhaps, impact many generations to come.
Cold Chain Monitoring

OM-84
Mini NOMAD® Series RFID
Data Loggers and Readers
Visit omega.com/om-80_series
- Each Package of Tags Comes with a Certificate Stating NIST-Traceability (No Points)
- Ideal Solution for Cold Chain Monitoring
- Factory Replaceable Batteries
- Accurate Up to ±0.5°C (1°F)
Visit omega.com/video

• Each Package of Tags Comes with a Certificate Stating NIST-Traceability (No Points)
• Ideal Solution for Cold Chain Monitoring
• Factory Replaceable Batteries
• Accurate Up to ±0.5°C (1°F)

OM-84 Matchbook™ Series
Complete Kit
OM-84-TMP-KIT
$297

Portable Low-Cost Temperature Relative Humidity Data Logger NOMAD®
OM-62
©109
Visit omega.com/om-62

3-A Sanitary Turbine Flowmeters
FTB-402A
©1254
Visit omega.com/ftb400

Ultra Low Temperature Data Logger
OM-CP-CRYO-TEMP
Starts at
©199
Docking Station Sold Separately

Visit omega.com/om-62
Visit omega.com/ftb400
Visit omega.com/om-80_series
Visit omega.com/om-84 TMP
Visit omega.com/video

*PATENT PENDING
omega.com

Because of transmission frequency regulations, these wireless products may only be used in the United States and Canada (915 mHz models) or Europe (868 mHz models).
In today's highly competitive market, brands are looking for any means possible to gain an edge. In the food industry, that means looking beyond the packaging format and product formulation and addressing processes, best practices and getting the most from relationships with external partners. Jose Diaz has been involved in customer support for over 30 years. In an informal conversation, Jose shared some of his thoughts on how partnering with a supplier that offers comprehensive customer support can help brands get ahead.

Q: How does working with a customer service team benefit a brand?

A: I think that brand owners have the opportunity to form a collaborative relationship with their customer service representatives. And those representatives can provide a wide range of valuable assistance, from technical support and troubleshooting to ongoing consultation. Working together on a regular basis, rather than just when problems occur, means there is a far smaller opportunity for error and issues may actually be able to be prevented from happening in the first place.

A good customer service team will understand the entire food manufacturing process — not just a particular packaging format. This not only helps them quickly identify and recommend solutions to any problems — especially in circumstances where the issue may not even be with the packaging itself — but it also can help to increase overall efficiency.

Q: Are there any other benefits?

A: It’s all about the partnership. If customer support is deeply involved in the business, from identifying and recommending solutions for issues to providing training on a packaging line for new staff, they can really add value. Working with a support team that is as knowledgeable about their customers’ processes and operations as the customer itself is can be of great help.

The best customer service relationships are built on trust developed over decades. Customers will always respect and appreciate a packaging partner that really knows their business and is able to help them maximize their productivity and improve product quality.

Q: How can a company get the most out of their relationship with customer service?

A: The first step should definitely be to understand the different skills that each team member brings to the table. With the right skills, you are more than halfway to getting a problem resolved.

The most effective teams will have a wide range of industry experience. They are certainly not limited to basic customer service. Crown’s teams consist of food scientists, design engineers, chemical engineers and even microbiologists, all of whom have a deep understanding of food processing and the packaging industry. That’s a consider-
able body of knowledge, and it enables them to very quickly evaluate new technologies, troubleshoot issues and understand which products will work with a customer's existing equipment, and which will not.

So brands should turn to customer service teams for more than just problem solving.

Absolutely. It is important to take advantage of all the services that customer support offers. The range and scope of those services will vary, of course, but a good team should be offering advice on equipment and processing, regulatory advice where necessary, and even undertake audits of key customers' packaging lines if needed.

For example, brand owners that package products in cans need to understand double seaming, which can be a challenging subject. Suppliers should be offering regular training in this area. Crown provides double seam guidelines and training that are used as a reference by the FDA, and can be shown to customers' auditors and any other authorities that examine their facilities.

Do you have any closing advice on how brands can get the most from their supplier's customer support team?

Make sure that your CTS representative has the opportunity to fully understand the scope of your business at the beginning of your relationship. Allowing the supplier to examine your facility and learn about each function and operation will, in turn, enable them to provide the highest quality service. Then make sure you are in touch regularly and maintain an open dialogue on any issues or concerns you're experiencing. Finally, take the time to understand the resources that are available to you as a customer of a company like Crown, and look for ways to take advantage of those resources.

Powder-Solutions Group brings together innovative technologies and process expertise to provide quality, cost effective components and systems for bulk powder handling. As the parent company of Powder-Solutions, Inc. and Powder Process-Solutions, Powder-Solutions Group is your single source for unique powder handling solutions.

Our formula is simple:
Identify unique needs.
Engineer customized solutions.
Deliver superior results.

We offer components and systems for:
- Pneumatic Conveying
- Mechanical Conveying
- Unloading and Storage
- Batching and Blending
- Milling and Sifting
- Dust Collection
- Central Vacuum Cleaning
- Filling and Packaging

Visit our NEW website for a closer look www.powder-solutions.com

Call 877-933-2556 for more information
**SPOTLIGHT ON: PALLETIZERS**

**Palletizer For Plastic Totes**
This compact palletizer automatically accumulates and stacks plastic totes or returnable plastic containers to form interlocking pallet loads that are secure for shipping. The system features an exclusive tier alignment positioning mechanism that gently jogs each layer during stacking to interlock the totes with the previous layer. After depositing the layer, this mechanism automatically squares the pallet to ensure stability for shipping. The system operates at floor level, eliminating the need to build costly overhead platforms and allowing plant personnel to monitor machine operation while performing other tasks. Clean, open construction and low-level access points simplify routine maintenance. From infeed, through accumulation, stacking and full pallet exit, all functions are operated by PLC, which ensures precise operation and simplified control.

A-B-C Packaging Machine Corporation www.abcpackaging.com

**Robotic Palletizer**
The EC-201 Robotic Palletizer has a payload capacity of 440 lbs. and a palletizing capacity of 1,600 cycles per hour. The robot palletizes bags, cases, pails and other products. It also has four axes for maximum flexibility. The weight of the mechanically balanced arm can be supported by a single finger. This design allows the robot to use less energy and reduce stress on the arm joints, bearings, pivot points and floor supports. A standard touch-screen allows personnel to change palletizing programs in under 5 seconds, utilize onboard warning systems, review error occurrences and take corrective measures, monitor I/O in real time, track inventory by specific programs, compare running and powered up hours and monitor the machine in real time.

American-Newlong www.american-newlong.com

**Reinforced Plastic Pallets**
CABKAN is a reinforced plastic material created especially for heavy-duty plastic pallets. A modern combination of various additives gives precisely the special high stiffness and impact strength required for pallets. The pallets display extreme load bearing capacity, even in high racks, and reliable stiffness at ambient temperatures up to 104°F. The pallets are distinguished by their very low creep behavior. Because they molded in one piece, the material’s advantages are available at every point. The pallets are completely recyclable because they are produced from just one material. This is their big advantage over metal-reinforced pallets.

Cabka www.cabka.com

**Casepacker/Palletizer Solution**
Add-a-Pal turns a new or existing case packer into an economical case packer and palletizer. The unit is designed as a “plug-in” robotic palletizer. Using PLC controls to operate the palletizer, the newly formed case packer/palletizer system completes case packing and palletizing functions, even in minimal floor space environments. Equipped with a FANUC robot capable of up to 30 picks per minute, the unit enables high throughput for single or multiple products. Custom end-of-arm tooling options include vacuum, mechanical, fork or a combination of these with or without pallet hooks and slip sheet handling to pick product, stack in the required pattern and palletize. Pallet handling options include manual to fully automatic pallet exchange with pallet dispenser.

Schneider Packaging Equipment Co., Inc. www.schneiderequip.com
Double Leg Ratchet Pallet
The ProStack® Double Leg Ratchet Pallet has a telescoping double leg design to produce superior strength and damage protection to both the pallet and the bottled water products stored and transported on it. Featuring a series of interlocking “teeth,” the pallet’s telescoping double legs interlock via ratchet-style construction that secures the top deck to the base. This yields a connection three times stronger than welded or snap pallet construction designs, forming nearly 1 centimeter (0.5 inches) of damage protection, two to three times thicker than that of traditional, single leg pallets. With enhanced strength and rigidity engineered into the legs, the pallet offers resistance to potential damage caused by forklift and pallet jack impacts. The pallet’s bottom deck is designed to prevent damage caused by pallet jack over-pumping.
Polymer Solutions International Inc. www.prostackpallets.com

Bulk Bag Filler With Pallet Dispenser
The new Dual Bulk Bag Filling System integrates two Swing-Down® Bulk Bag Fillers with a Pallet Dispenser and Powered Roller Conveyors, allowing safe, high capacity filling of bulk bags of all popular sizes. Programmable controls allow the fillers to operate separately or simultaneously, filling bags of the same size or two different sizes. When a filling cycle is initiated by push button or contact closure, pallet dispenser forks lower the stack of pallets onto the roller conveyor, withdraw from the bottom pallet and raise the remaining pallets, allowing the roller conveyor equipped with photoelectric eyes to move the dispensed pallet into position below the filling station. The system then automatically pivots the bag connection frame back to horizontal, raises the entire fill head, inflates the bag to remove creases, fills the bag at a high rate, finishes filling accurately at dribble feed rate, deflates the spout seal, releases the bag loops, raises the fill head to disengage the spout, rolls the bag out of the filling area and rolls a new pallet into place to begin another cycle.
Flexicon Corporation www.flexicon.com

Dry Ingredient Feeders
Continuous Feeding & Batching
Loss-in-Weight/Volumetric

Flexicon Corporation www.flexicon.com

Bulk Bag Filler With Pallet Dispenser
The new Dual Bulk Bag Filling System integrates two Swing-Down® Bulk Bag Fillers with a Pallet Dispenser and Powered Roller Conveyors, allowing safe, high capacity filling of bulk bags of all popular sizes. Programmable controls allow the fillers to operate separately or simultaneously, filling bags of the same size or two different sizes. When a filling cycle is initiated by push button or contact closure, pallet dispenser forks lower the stack of pallets onto the roller conveyor, withdraw from the bottom pallet and raise the remaining pallets, allowing the roller conveyor equipped with photoelectric eyes to move the dispensed pallet into position below the filling station. The system then automatically pivots the bag connection frame back to horizontal, raises the entire fill head, inflates the bag to remove creases, fills the bag at a high rate, finishes filling accurately at dribble feed rate, deflates the spout seal, releases the bag loops, raises the fill head to disengage the spout, rolls the bag out of the filling area and rolls a new pallet into place to begin another cycle.
Flexicon Corporation www.flexicon.com

www.foodmanufacturing.com
What important safety features should manufacturers consider when acquiring lift trucks for warehouses or loading docks?

Steve Cox, Instructional Designer, The Raymond Corporation

There are a range of features available to lift truck users that make their operations more efficient — audible alarms, warning lights, work lights and mirrors. The value of these features is often dictated by a lift truck’s various environmental conditions and applications. For example, a truck and feature that is beneficial in dock-to-stock applications may not be beneficial in orderpicking applications. The right lift truck in the right environment is a vital element to increasing efficiency.

However, there is one feature available for all lift trucks that will benefit any operator in any environment — operator training. Studies have shown that a well-trained operator will operate his or her lift truck more effectively than an operator who is not familiar with the proper operation of the equipment he or she is using on the job. In 1984, a study done by H.H. Cohen and R.C. Jensen in the Journal of Safety Research found that, after proper training, operators improved their lift truck operation by 70 percent. Almost 30 years later, training is still a crucial part of lift truck operations.

Required by federal regulation, training programs are designed to develop equipment knowledge and provide the proper experience in lift truck operation. Training also helps the operator understand his or her work environment by identifying the obstacles that may exist in the workplace and how to work around them. Trained and knowledgeable operators are able to more efficiently manage a lift truck and respond to situations quickly.

When evaluating features that may benefit a lift truck fleet, consider the pros and cons of each feature and how it will compliment a specific lift truck in a specific operating environment. Most importantly, place a high importance on lift truck operator training. After all, a trained lift truck operator is the most effective lift truck asset.

Mark Hoch, Director of Sales, Hyster

Safety is a crucial topic in our industry, and as a manufacturer of lift trucks, we have a responsibility to provide products that can be safely operated in a variety of work environments. Efficiency and productivity do not have to be at odds with safety gains. At Hyster, we are always looking at our products and their features to work toward providing greater levels of safety for not only the lift truck operator but also pedestrians or others working around the warehouse or loading dock areas.

One of the features we have included in our lift trucks that can enhance safety is a traction control system. This type of system improves stability and lift truck control for operators, including elevation for reach trucks or order selectors. Another feature is speed limiters for standard lift trucks. Controlling the speed of a lift truck within a given environment can help reduce the likelihood of a speed-related incident. For loading docks and other tight work areas, Hyster also offers a zero-turn radius truck that provides greater maneuverability when compared to standard four-wheel trucks, allowing the lift truck to safely operate in a much tighter space. Our customers have also pointed out that by replacing the LP lift truck units with electric lift trucks, they are reducing the level of emissions found in the work environment, and thus providing a healthier working environment for their employees.
Jeff Mueller, Manager of Vehicle Safety Standards Engineering, Jungheinrich Warehouse Products (North America)

Protecting people, product and property is critical to the food manufacturing industry. Material handling equipment, and its use, plays an important role in helping accomplish this objective.

First, ensure your equipment meets the ANSI/ITSDF B56.1 Safety Standard for Low Lift and High Lift Trucks. This industry safety standard not only governs the design and testing criteria for material handling equipment, but also sets forth the requirements for the proper operation and maintenance of the equipment.

The food manufacturing process offers unique applications and challenges. Many manufacturers offer common equipment options to the industry such as backup alarms, travel alarms, headlights and strobe lights. In addition, some equipment can be ordered with “configurable” or adjustable options like speed limit control, acceleration control and shelf height selection. The specific work environment will dictate what options are appropriate.

What is not “optional” is having a well-trained operator of the equipment. U.S. OSHA Regulation 29 CFR 1910.178 requires operators to complete a thorough training program and obtain certification on the type of material handling equipment he or she will be operating. Training shall consist of a combination of formal instruction (e.g., lecture, discussion, interactive computer learning, video tape, written material), practical training (demonstrations performed by the trainer and practical exercises performed by the trainee), and evaluation of the operator’s performance in the workplace. Employers must remember that each operator must be re-evaluated and re-certified every three years.

Having the appropriate equipment in the right configuration, along with a well-trained operator, will go along way in helping to reduce the potential for worker injuries and product damage in your workplace.

Rejection is Good
It is when you want to protect your equipment and keep your product pure.

USDA Certified
Bunting was the first company to earn, USDA, AMS Acceptance for our products. Our specially built food grade or sanitary-grade magnetic separators help you meet today’s increased marketplace demands.

Avoid Contamination
Bunting products exceed governmental requirements for safer and purer food, pharmaceuticals and chemicals.

BUNTING...your premier choice for magnetic separation equipment.

Check out all of our magnetic separation and metal detection options at www.TakeTheMetalOut.com
**TECH NICHE: CAMERAS & INSPECTION SYSTEMS**

**Sorter For Cherry Packing**

Optyx® sorters are designed specifically for packers of fresh sweet cherries including Bing, Chelan, Skeena and other varieties. The sorter uses color cameras and lasers to inspect each cherry’s size, shape, color, and structural properties. The system automatically removes limb, bark, rocks, and fruit with defects from the production line. The unit eliminates the need for hand sorters to touch and roll the fruit, which slows inspection and can damage good fruit. The unit includes a water spreader and dewatering belt to deliver product to the sorter. As product passes through the sorter, it is inspected from the top while still on the conveyor belt. Product is then launched off the end of the Optyx belt for in-air viewing from the bottom. Using proprietary image processing technology designed specifically for cherries, the sorter quickly analyzes the images, comparing each object to previously defined accept/reject standards. When foreign material or a defective cherry is identified, the system activates the ejector system, which is made up of a series of air jets that span the width of the system. While still air-borne, the air jets pinpoint the object to reject and remove it from the product stream. Good cherries are gently discharged from the sorter into a water flume.

*Key Technology, Inc.  www.key.com*

**MXG Board Level Cameras**

MXG board level cameras are designed for individual integration into almost any small installation space. The cameras feature a 28 x 28 mm sensor board that is connected to the system circuit board via flexprint, allowing the user to individually adjust the cameras to environmental conditions. The series includes four monochrome and four color cameras, all with resolutions ranging from VGA up to 4 megapixels. Three of the cameras feature Sony CCD sensors, and a fourth features the CMOSIS four megapixel CMOS sensor. A trigger delay feature simplifies synchronization between the camera and the application.

*The Baumer Group  www.baumerelectric.com*

**HMI Panel Mount PCs and Monitors**

The Type 4/4X (IP66) VisuNet IND 8200 Series HMI Panel Mount PCs and Monitors are Windows-based, all-in-one panel PC and remote monitors that mount directly to OEM process machinery or manufacturing equipment and interface with the control system. Each unit is manufactured using all industrial-grade components. They are shock and vibration resistant, globally certified for Class I, Division 2 and Zone 2 (pending) operation, and are rated for 24/7 operation in extended temperature environments. The design allows for indoor-outdoor use. The monitors’ chamfered bezels are also well suited for pharmaceutical MES and clean room functions. VisuNet workstations are available in KVM remote monitor, Ethernet Remote Monitor and Panel PC configurations. The units feature a chemically-resistant 15 in. or 19 in. touchscreen, with a variety of touchscreen options to satisfy unique application needs including LED-backlit, anti-glare, transflective LCD, and hardened resistive glass.

*Pepperl+Fuchs  www.pepperl-fuchs.us*
Rapid Deploy Video System
The RD-MZ-3630-01, a rapid deploy wireless video solution, consists of a high definition color camera as well as an internal wireless radio. The camera is capable of transmitting over 30 frames per second of video in 1280 x 1024 resolution. It also comes equipped with an IR illuminator, allowing for clear, high resolution images from over 200 feet in complete darkness. The camera system can be placed anywhere for security surveillance purposes, to monitor a process system, or to watch over a machine, remote pumping station, pipeline, power substation or anywhere there is an immediate need for video monitoring. The system immediately connects wirelessly to an IP network for remote viewing and recording under the control of IVC’s camera management software. The camera has secure clamping hooks, letting it easily attach to rails and walls up to 1-1/2” thick. The included antenna is mounted on an ultra-high-pull encased Neodymium-Iron-Boron rare-earth magnetic base for secure mounting to sites that may move or vibrate. Weighing less than 22 pounds with the antenna attached, the camera comes in a rugged, all-weather enclosure equipped with a heater and blower. Industrial Video & Control Company (617) 467-3059

Electromagnetic Flowmeter
The Promag 53 electromagnetic flowmeter with EtherNet/IP connectivity is designed for easy integration with the Rockwell Automation PlantPAx process automation system. The flowmeter measures electrically conductive liquids (> 5 μS/cm). The unit features an integrated Web server that allows authorized users to remotely view flow data, conduct diagnostics, configure the flowmeter or perform process optimization. Data can also be securely accessed by higher-level software such as ERP systems, process historians, control loop tuning programs, and asset management systems. By using EtherNet/IP, up to 10 variables can be configured, including volume flow, calculated mass flow and totalized flow for remote access. Endress+Hauser, Inc www.us.endress.com

Dirty Secret
Not all weighing & feeding equipment meets today’s sanitary process standards!
To make certain it does, choose Schenck AccuRate. Our complete line of sanitary screw feeders, weighbelt, and vibratory feeders meet stringent food safety standards as verified by the USDA and 3-A inspectors.

Call: (800) 558-0184
E-mail: mktg@accuratefeeders.com
www.accuratefeeders.com
The vast majority of powders in the food industry can form explo-
sible dust clouds if the particle size is small and moisture con-
tent is low. Although exploisible dust cloud concentrations are not
normally expected to be present within processing buildings, explo-
sible dust clouds are regularly formed inside material handling or processing
equipment when bins are being filled, powders are being transferred or
dust is being collected in a dust collector.

The particle size of the dust is a property which influences the explosi-
bility of the dust cloud. The finer the particles the greater the surface area
per unit of mass and thus the more exploisible a given dust is likely to be.
When the cloud is composed of a series of particle sizes ranging from fine
to coarse, the fine particles play a prominent part in the ignition and the
explosion propagation. The presence of dusts should therefore be antici-
pated in the process stream, regardless of the starting particle size of the
material.

The moisture content of a product will also
affect the explosion risk. A dry dust contains
less than five percent moisture. Dry dusts of
small particle size will be more easily ignited
and produce more violent explosions. It must
be noted that particles with moisture contents
in the range of 12 to 18 percent, as found
naturally in many agricultural products, can
still be exploisible.

Assessing Dust Explosion
Hazards
A systematic approach to identifying dust
cloud explosion hazards and taking measures
to ensure safety involves:
• Determining the dust cloud’s ignition sensi-
tivity and explosion severity characteristics
through appropriate laboratory tests on
representative dust samples
• Identifying areas of the facility where com-
bustible dust cloud atmospheres could exist
under both normal and abnormal conditions
• Identifying potential ignition sources that
could exist under both normal and abnor-
mal conditions
• Preventing the formation of exploisible dust
clouds in the plant and reducing the extent
and duration of any clouds that may form
• Taking measures to eliminate and control
ignition sources
• Taking measures to protect against the
consequences of dust cloud explosions.
Dust Explosions In The Food Industry

Explosion protection measures include explosion relief venting, explosion suppression, explosion containment and explosion isolation. Where practical, one could consider the application of inert gas purging or padding to prevent the combustion process.

Laboratory Testing
To assess the possibility of an explosion in a facility and to select the most appropriate basis of safety, explosion characteristics of the dusts that are being handled and processed in the facility should be determined.

The explosion characteristics of powders normally fall within one of two groups, “likelihood of an explosion” and “consequences of an explosion.” Taken together, these two characteristics determine the dust explosion risk of a material.

The following tests provide information on the likelihood of a dust explosion:

- Explosion Classification (Screening) Test (ASTM E1226, Standard Test Method for Explosibility of Dust Clouds): This test answers the question “Can this dust explode?”
- Minimum Ignition Temperature (MIT) of a Dust Cloud (ASTM E1491, Standard Test Method for Minimum Auto-ignition Temperature of Dust Clouds): The MIT Cloud is an important factor in evaluating the ignition sensitivity of dusts to such ignition sources as heated environments, hot surfaces, electrical devices and friction sparks.
- Self-Heating (JA Abbott (ed.) “Prevention of Fires and Explosions in Dryers,” Institute of Chemical Engineers, 1990): The minimum onset temperature for self-ignition of a powder depends mainly on the nature of the powder and its dimensions. If these variables are predictable, a reliable assessment of the onset temperature for self-ignition and also the induction time to self-ignition can be made by appropriate small-scale laboratory tests.
- Electrostatic Volume Resistivity (General Accordance with ASTM D257, Standard Test Methods for DC Resistance or Conductance of Insulating Materials): Volume Resistivity is the

Dust Explosion Test Data Requirements for some Specific Unit Operations

<table>
<thead>
<tr>
<th>Unit Operation</th>
<th>Explosion Screening1</th>
<th>MIE (mJ)</th>
<th>MIT – Cloud (°C)</th>
<th>MIT – Layer (°C)</th>
<th>Explosion Severity – Kst (bar.m/s)</th>
<th>LOC2 (%)</th>
<th>MEC (g/m3)</th>
<th>Volume Resistivity3 ( .m)</th>
<th>Chargeability4 (C/Kg)</th>
<th>Self-Heating (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual Handling / Pouring</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sieving / Screening</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tumble / Double Cone Blending</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ribbon Blending</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milling</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jet Milling</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spray, Fluidized Bed, Tumble Drying</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tray Drying</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumatic Conveying</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Screw Conveying</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transfer to Hopper / Bin / Tote / Container</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dust Collector and Exhaust Ventilation</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 Explosibility Screening test is only conducted if the combustibility of the powder/dust (as being present in the process/facility) is not yet established. If the powder is found to be non-combustible, other tests in the table may not be required.
2 LOC is determined if the basis of safety is inert gas blanketing.
3 Volume Resistivity should be considered if the Minimum Ignition Energy is less than 25mJ.
4 Chargeability should be considered if the Minimum Ignition Energy is less than 25mJ.
primary criterion for classifying powders as low, moderately or highly insulating. Insulating powders have a propensity to retain electrostatic charge and can produce hazardous electrostatic discharges.

- Electrostatic Chargeability (General Accordance with ASTM D257, Standard Test Methods for DC Resistance or Conductance of Insulating Materials): This test provides data that can be used to develop appropriate material handling guidelines from an electrostatic hazards point of view.

- Minimum Explosible Concentration (MEC) (ASTM E1515, Standard Test Method for Minimum Explosible Concentration of Combustible Dusts): This test answers the question “How easily can an explosible dust cloud be formed?”

- Limiting Oxidant Concentration (LOC) (EN 14034-4, Determination of the Limiting Oxygen Concentration of Dust Clouds): The LOC test is used to study explosion prevention or severity reduction involving the use of inert gases and to set oxygen concentration alarms or interlocks in inerted vessels.

This test determines the consequences of an explosion and explosion severity:

- Maximum Explosion Pressure, Maximum Rate of Pressure Rise, Deflagration Index (Kst Value) (ASTM E1226, Standard Test Method for Explosibility of Dust Clouds): The maximum explosion pressure and maximum rate of pressure rise are measured and the latter is used to calculate the Deflagration Index (Kst) value of the dust cloud. These data can be used for the purpose of designing dust explosion protection measures such as explosion relief venting, suppression and containment and to classify a material’s explosion severity. This test answers the question, “How bad is it if it happens?”

**Approaches To Process Safety Testing**

The table below specifies the type of data that might be required to assess dust explosion hazards associated with some common unit operations in the food industry.

**Explosion Prevention and Protection Measures**

Safety from dust cloud explosions includes taking measures to avoid an explosion (explosion prevention) or designing facilities and equipment so that in the event of an explosion people and processes are protected (explosion protection).

Safety from dust cloud explosions includes taking measures to avoid an explosion (explosion prevention) or designing facilities and equipment so that in the event of an explosion people and processes are protected (explosion protection).

The risk of an explosion is minimized when one of the following measures is ensured:

- An explosible dust cloud is never allowed to form
- The atmosphere is sufficiently depleted of oxidant ( normally the oxygen in air) that it cannot support combustion
- All ignition sources capable of igniting the dust cloud are removed
- People and facilities are protected against the consequences of an explosion by “protection measures” such as explosion containment, explosion suppression or explosion relief venting

Housekeeping activities must ensure that secondary fuel sources are not available. Of key importance is the evaluation of dust release points and exhaust ventilation needs. It is much easier to replace a gasket, refit a manway, install local dust aspiration systems, etc., than to spend the time cleaning up the dust that has escaped.

Dr. Vahid Ebadat has worked extensively as a process and operational hazards consultant for the chemical, pharmaceutical and food industries. Dr. Ebadat is a regular speaker at training courses on gas and vapor flammability, dust explosions and controlling electrostatic hazards. He can be reached at (609) 799-4449 or safety-usa@chilworth-global.com.
Whether you need to transport, analyze, weigh, batch, mix, grind, dry, shape or package you’ll find the solution at…

Exhibition & Conference: May 8–10, 2012
Donald E. Stephens Convention Center • Rosemont, IL (adjacent to O’Hare Airport)

Meet Industry Leaders with Thousands of the Latest Processing Solutions:

- Accessories
- Conveyors and Elevators
- Dryers
- Dust Collection/Control
- Energy, Environmental & Pollution Control
- Filtration/Separation
- Feeders
- Instrumentation & Controls
- Material Handling & Transportation
- Mixers & Blenders
- Packaging & Bagging
- Particle Enlarger & Formers
- Plant Maintenance/ Safety/Health Products
- Processing/Mixing/ Blending Equipment
- Size Reduction
- Storage
- Thermal Solids Processors
- Weighing Systems & Scales
- …and much more

Follow the Tag to Register or log on to:
PowderShow.com

Produced and managed by: UBM Canon • 11444 W. Olympic Blvd. • Los Angeles, CA 90064-1549 • Tel: 310/445-4200 • Fax: 310/996-9499
While there are some similarities between process seafood and other animal protein procedures, the seafood processing environment carries with it some unique challenges driven by the nature of the organisms involved and their generally higher degree of handling.

**A Matter of Time**

Time is a critical factor in the seafood business. The process period for fish, shellfish and other marine organisms begins from the moment of harvesting to delivery of the finished product to the consumer. With other animal proteins, the processing period begins when the animal arrives into the slaughter facility, not when the product is “harvested” from the farm.

**Temperature Troubles**

If being kept alive, the product must be stored in cold water, similar to the environment from which it was harvested, to reduce loss. Otherwise, the product must be hygienically eviscerated, which is usually done onboard the boat or ship, either by hand with a knife or with the use of a gutting machine on larger vessels. The only exceptions are small, fatty fish, such as herring, which are not usually eviscerated.

The temperature of harvested seafood must be maintained by freezing or icing the product to prevent protein degradation. Within this cold storage, hygienic conditions must be maintained in order to avoid contamination, including the ice that is typically spread over and into the seafood products to maintain temperature. The ice itself must be made hygienically to avoid contamination. On some of the larger or more modern boats, the product is frozen rather than iced. While frozen product is not intended for the fresh market, freezing is quite effective at minimizing the risk of protein degradation.

**Hygiene is a Priority**

In addition to the storage facility, personnel, clothing and equipment must be maintained in a sanitary manner. Waste must be disposed properly to reduce the risk of contamination to the product and to the environment.

While large ships may have entire processing operations aboard that operate under a full food safety program, some smaller vessels have begun instituting HACCP plans and GMPs over the last 10 to 15 years. These practices start with the condition of the boat itself: The structure must be designed to process, handle and store the seafood. Any equipment being used, such as the knives or other eviscerating tools, shovels, etc., must be cleaned, sanitized and stored in a sanitary manner. The ice production and storage must be clean and sanitary. The temperature at which the seafood is held generally becomes the critical control point, while there may actually be other critical control points, depending on the boat’s structure and any processing that is being done on board.

In the case of whole fish, the processing challenges may not end there. Whole fish must be moved from the boat to a container that allows the product to be sold straight to the consumer. This transfer creates the potential for contamination and safe-temperature violation. To avoid the risk, industry best practices dictate the seafood must be placed on ice into sanitary, insulated fiberboard boxes or other hard plastic containers while on board the vessel, thus reducing the handling requirements for transferring the product from the boat to the consumer.

When the seafood reaches what the other animal protein industries would consider the “processing facility,” seafood typically must undergo more manual handling than other animal proteins. Most seafood is wet packed or placed on ice, while the remainder of animal proteins is sold under dry pack conditions. Even live seafood products, such as shellfish and finfish, must be kept in proper water or proper moisture to keep them alive. These tanks require maintenance and, if not done properly, the tank itself can be a source of contamination.

**Contaminant Concerns**

In addition to unique handling requirements, seafood is subject to a host of contaminants other animal proteins need not worry about, such as mercury, clostridium botulinum E, vibrio, scombrotoxin (histamine), and other natural toxins like ciguatoxin and neurotoxins, just to name a few. In 2011, the Food and Drug Administration (FDA) updated the list of hazards found in their Fish and Fishery Products Hazards and Control Guidance. Species, water source and harvest location dictate which types of contaminants must be tested for and how the test must be conducted. Fortunately, in the past few decades, the seafood industry and government regulatory bodies have worked together to develop systems to test and inspect the water and the products to reduce and eliminate these contaminants from entering the food supply wherever possible.

Given the recent development of aquaculture practices, veterinary drugs — once only a factor in other animal product industries — have now...
become a concern in the seafood business as well, and the entire animal protein industry now battles constantly to eliminate illegal or improper use of veterinary drugs.

Species Identification

The seafood industry is especially unique due to the large variety of species involved. Throughout the processing chain — from the boats and processing plants to the wholesalers, importers and retailers — there exists a good chance for misidentification of the species. While this is less likely with whole fish and more likely with processed fish, the problem can be eliminated. To combat the risk, the industry has established traceability systems to track the properly-identified whole fish throughout the entire processing system, and the regulatory industries are utilizing PCR-DNA analysis to reduce fraudulent practices.

Industry, Government Cooperation Drives Quality and Safety

To control issues associated with seafood production, the industry has turned to food safety programs that include HACCP, GMPs, traceability of sourcing, and certification of materials and handling for the products. Many of these programs have been developed and enforced by regulatory personnel. There are many of these programs throughout the world, but in the U.S., this is primarily done through the FDA Seafood HACCP program and the U.S. Department of Commerce National Oceanic and Atmospheric Administration (USDC-NOAA) audit, inspection and testing programs.

The U.S. Department of Agriculture (USDA), which oversees the safety of catfish, is also developing a program that will combine meat inspection regulations with the FDA and USDC-NOAA specs for other seafood species. This program will be handled by the Office of Catfish Inspection Programs (OCIP).

To control issues associated with seafood production, the industry has turned to food safety programs that include HACCP, GMPs, traceability of sourcing, and certification of materials and handling for the products.

In addition to mandatory regulatory programs, there are also industry-backed programs, including the Global Aquaculture Alliance Best Aquaculture Practices. This program is a seafood-specific program that has been benchmarked against the Global Food Safety Institute (GFSI). The industry and the government regulatory personnel have combined their efforts to develop systems of auditing, inspection and testing to remove companies that supply adulterated or misbranded products and to ensure the delivery of high-quality, safe seafood products to consumers throughout the world.

CONVEYOR ROLLER AND COMPONENT SPECIALISTS

Ralphs-Pugh Co.

Troughers & Idlers

Available in PVC, Galvanized and Stainless Steel with ABEC-1 Precision, Stainless Steel or Bushing Style Bearings.

Applications Include:
- Grading & Inspection
- Fruits, Grains & Vegetables
- Fertilizer
- Corrosive Materials
- Fish / Processed Meats
- Food Products

FOR CUSTOM APPLICATIONS CONTACT US

toll-free: 800.486.0021 • fax: 800.995.3942
www.ralphs-pugh.com • sales@ralphs-pugh.com
Clear Screen Covers
Clear, plastic screen covers provide a window for constant, visual monitoring of product in process to quickly detect screen blinding without requiring removal of the cover, machine disassembly or shutting down the operation. Ideal for use in separating pelletized food products and other dry, granular products, the product features a hinged design that retracts for easy access to quickly clear any blockages before the process can be disrupted and returns to position without any tools. The clear, plastic units also minimize the release of dust particles into the plant environment for enhanced hygiene and safety while helping to safeguard the product from contamination.

The Witte Company, Inc.  www.witte.com

Bulk Bag Conditioner
The BLOCK-BUSTER™ Bulk Bag Conditioner with two hydraulic rams and specially contoured end plates presses opposing sides of bulk bags, loosening material that has solidified during storage and shipment and enabling bulk bag unloaders to discharge it through bag spouts. A cantilevered I-beam with motorized hoist and trolley allows loading and unloading of bulk bags without the use of a forklift. The bag can also be raised and lowered using the hoist and rotated manually for conditioning at any height on all sides. The system controller and hydraulic pump can be mounted on the exterior of the safety cage or remotely. The unit is fully enclosed on all four sides for operator safety and includes full-height doors that are interlocked to disallow operation of the system when the doors are open.

Flexicon Corporation  www.flexicon.com

Patented design delivers superior performance

Choosy about bag handling? We hear you. Take a closer look at the features of our Material Master Discharger:

- Patented technology
- Exclusive dust-tight and flow enhancement options
- Loss-in-weight or gain-in-weight feeding systems
- Modular design, customized for your application
- Stainless steel or carbon construction to your specification
- Unmatched quality, service, integrity and value

Ask about our complete line of drum and container dumpers, bulk bag fillers, and bulk bag conditioners.

MATERIAL TRANSFER

call: 800.836.7068  visit: www.materialtransfer.com
Who can: deliver superior pneumatic conveying solutions engineered from industry leading application experience?

K-Tron can.

The World’s Most Reliable and Accurate Processes Start with K-Tron.

No matter what you process—plastics, chemicals, food or pharmaceuticals—you can turn to K-Tron for pneumatic conveying systems that will optimize your process and lower your production costs. Our customers around the world rely on our engineering and manufacturing excellence for guaranteed performance and reliability. We can guarantee the same for you.


Leonardo Olavarrieta
General Manager
Corn Flour Producers, LLC

- COnsulting & Planning
- Project Management
- Process Equipment
- Installation Services
- 24-Hr Service
- Training

BULK MATERIAL CONVEYING
FILTRATION
BAG DUMPS, SILOS & BLENDING
ROTARY VALVES
There’s No Simple Solution for All Your Packaging and Processing Needs.

Or, maybe there is...

Portion Pack Thermoformer
The Farmo Res Prima K7-Food Thermoformer is designed for the portion packaging of liquid food products such as jam, honey, sauces and spreadables. The machine has an output of up to 600 packs per minute, depending on tub dimensions and dosing volume. The unit handles multiple stages of the packaging process, including small tub forming; precutting (for easy user opening); dosing; sealing; and cutting (for separation of individual tubs). It can produce a variety of portion pack shapes including round, oval and square — as well as customized casts — and can dispense a wide range of dosing volumes. Dosing — which can be performed along multiple channels for high production or product variations (such as different flavors of jam) — is performed with special nozzles to handle lumps or granules in certain liquid food items.

MG America    www.mgamerica.com

Material Handling Robot
The Adept Viper™ s1700D is a 6-axis robot featuring faster and more efficient motors. The machine offers a long reach and high payload capacity within a small footprint. Designed for applications that require fast and precise automation, the system is ideal for material handling, machine tending, packaging, cutting and assembly. The unit offers a long reach of 1.7 m and a payload capacity of 20 kg. The product is seamlessly integrated with the company’s portfolio; interchangeable robots and controllers ease deployment, support and maintenance, including improving parts availability. This unit offers advanced self-diagnostics for proactive monitoring and quick troubleshooting. The Ethernet TCP/IP capability allows the robot to be controlled through a PC, PLC, or controller.

Adept Technology, Inc.
www.adept.com
Air Sine Pumps For Juice Processing
With quick unloading time and ease of maintenance, the company’s pumps are the ideal solution in both the fast-growing ready-to-pour and frozen concentrate market segments. The units offer superior speed of transfer, powerful suction, low shear and low pulsation. The units are used in several phases of juice processing, including loading and unloading of takers that transport the concentrate, pumping concentrate to a blending process and pumping concentrate to filler for packaging as frozen concentrate. One rotor, one shaft and one seal equate to simple and economic maintenance. Units are capable of being cleaned-in-place (CIP) and various CIP modifications are available depending upon the product being pumped and the cleaning protocol used. It is also easily disassembled for manual clean-out-of-place (COP). In addition to pumping straight concentrate, units can be used in other areas of the blending and filling operation, including filling lines for blended and single-strength juice and for pumping corn syrup or high fructose corn syrup in the blending operation.
MasoSine Process Pumps www.masosine.com

Serial Device Connector
The 3rd Generation NEWPORT® iServer3G connects any Serial Device (RS-232, RS-485) to an Ethernet network or the Internet in minutes. The system can send notifications by email, and has SNMP for remote management. The system can make an existing Serial device a “node” on an Ethernet network with a unique IP address that is accessible from any authorized computer on the LAN, WAN or Internet. It can also convert Serial Modbus to Modbus TCP/IP over Ethernet. A facilities manager can monitor electric power over the LAN from anywhere in the facility, or anywhere on the Internet. A payroll clerk can download data from time clocks to a PC anywhere on a local area network, or anywhere in the world. A manufacturing technician can use a handheld computer with Wireless Ethernet connectivity to change settings on a process controller.
NEWPORT Electronics, Inc. www.newportelect.com

Free Mixing/Blending Resource
The Ross “Mixing Technology Insights” provide many useful tips and techniques on dispersion, dry blending, emulsification, homogenization, particle size reduction, high viscosity mixing, sub-surface powder induction, sanitary mixing and other topics. Each two-page bulletin includes a sample application or mixer installation from various industries. Solutions to improve the processing and manufacture of food products and other materials are discussed.
Charles Ross & Son Company www.mixers.com

Washing Scale Parts
Developed in cooperation with manufactures of multihead weighers, Douglas Scale Parts Washers are designed to quickly and efficiently wash, rinse and sanitize weigh buckets; chutes; and feeder pans in as little as 6 minutes. Specialized wash racks can be loaded at the weigh station and transported to the washer for easy cleaning. Specialized wash racks are available for all brands and are designed to protect the parts during cleaning and extend their lifetime. Machines can be installed on the mezzanine or used in a centralized wash room. Reduce turnaround time while saving water, labor and energy.
Douglas Machines Corp. www.dougmac.com
Multi-Piston Depositor
The 4P-16 multi piston depositor with servo shifting technology is ideal for use over horizontal vacuum formers, tray lines and conveyors. The system utilizes a servo motor shifting mechanism to move the entire filler during the depositing cycle to spread product. It is ideal for many products such as spreading barbeque sauce over ribs, spreading mashed potatoes into trays or meat sauce onto pasta. The device is also ideal for filling a wide variety of products into multiple packages formed by vacuum formers.
Hinds-Bock Corporation    www.hinds-bock.com

Bulk Bag Unloader
The bulk bag unloader system handles highly caustic, severely agglomerated material and operates as a closed process, ensuring the protection of operators from migrant, airborne material and eliminating the possibility for contamination of material in-process. The product utilizes a sequential, 4-stage process:
• Hydraulic de-blocking rams, each with 28,000 pounds of force
• Hydraulic massage paddles, each with 2,200 pounds of paddle pressure
• An E3™ enclosed, bag spout interface to collect dust and aid discharge
• Automatic bulk bag loop retractors to ensure complete material discharge
Material can be conditioned from football-sized chunks to ¼” or smaller particles. The enclosed system conveys the material downstream at a rate of 18,000 pounds per hour.
National Bulk Equipment, Inc.
www.nbe-inc.com

Photoelectric Sensor
The Q26 Series photoelectric sensor features a polarized retro coaxial design and provides reliable detection of clear, translucent or opaque objects, including mirror-like surfaces. With the ability to operate at very short distances and deliver precise leading edge detection, the unit is an ideal solution for detection applications such as filling and bottling machines, bag filling machines, or any high-speed application where positioning is critical. The product features a compact cubic shape with 20 mm mounting hole spacing, enabling quick installation in tight locations. Additionally, the coaxial optics permit operation over a wide range of distances with the reflector mounted as close as 5 mm for applications with restricted spaces. The unit operates on 12-30V dc with a response speed of 250 microseconds. It is also protected against damage from potential mis-wiring during installation and transient voltage spikes during operation.
Banner Engineering
www.bannerengineering.com
MORE
SAFETY. RESEARCH. TRENDS.
MANAGEMENT. OPERATIONS.
SUSTAINABILITY.
MORE
world-class education from renowned meat and poultry experts, offered at no additional charge, for every AMI Expo attendee.

APRIL 30–MAY 3, 2012 • DALLAS CONVENTION CENTER • DALLAS, TEXAS, USA

Search the complete education schedule and register at www.amiexpo.com
Food Former
The 720 all hydraulic, microprocessor-controlled, multi-outlet forming machine easily adapts to changing production requirements with some simple tooling changes. Processors can run up to 3,600 patties per hour with the 1-hole mold, and up to 7,200 patties per hour with the 2-hole set-up. The product combines accurate weight control, minimum leakage and quick changeovers with mobility. A vane pump feed system uses a rotating spiral to gently move product to the rotor, eliminating overworking, bridging and backflow.
NuTEC Manufacturing  www.nutecmfg.com

Clean-Fill Flexible Packs
The SurePOUCH stand-up flexible pack styles will allow for multiple packaging and fitment options for a high level of flexibility and shelf differentiation. High hygiene standards are achieved as the product is filled directly into the pouch rather than through the spout. The spout is ultrasonically welded to the exterior of the pouch, so the product does not come into contact with the spout until opened by the consumer. The new lightweight pack styles also present benefits due to their ease of disposability and collapsibility once vacant.
Bosch Packaging Technology  www.boschpackaging.com
The Advantage Business Media Manufacturing Display Network’s integrated portfolio of print, electronic, and online media make more than 10 million direct contacts every month with high-level engineers, plant operations supervisors, senior level managers, and purchasing decision-makers across the manufacturing industries.

www.advantagebusinessmedia.com

Contact Tom Lynch, Group Publisher, at 973-920-7782, tom.lynch@advantagemedia.com, for advertising information.
The HACCP Update section of Food Manufacturing is designed to offer our readers insight into the state of HACCP implementation and compliance across the Industry. We received hundreds of responses to this month’s survey on seafood processing.

This month, Food Manufacturing is revisiting a survey topic from our November/December 2011 issue. With the International Boston Seafood Show (March 11–13) just around the corner, we again asked readers from the seafood industry to report on how HACCP is being implemented in their facilities and how the regulatory environment is impacting production.

Like meat, poultry and dairy, the seafood industry has its HACCP planning guidelines set by the Food and Drug Administration. Under last year’s Food Safety Modernization Act (FSMA), HACCP planning is mandatory for all food processing facilities, but whether all vertical industry segments will receive specific plan guidance like the poultry industry remains unclear.

As noted in the chart at left, when asked about the ease of mandatory HACCP planning compared to less regulated industry segments, seafood processors returned a split result. Only a third find mandatory HACCP planning to be more difficult than non-mandatory planning, while slightly fewer respondents found mandatory HACCP planning to be easier. The remaining respondents reported little difference across the industry.

A case could be made that HACCP-mandatory facilities have an easier time writing plans; workers in those facilities have a guide and don’t have to write HACCP plans from scratch. An equally compelling case can be made that facilities with non-specific HACCP guidelines have an easier time writing plans; workers in those facilities can write plans that address the actual problems in their plants instead of writing plans simply to meet regulatory standards. One survey respondent noted that “[HACCP planning is] easier without [mandated plans] because regulatory agencies can inadvertently direct a processor in the wrong direction to satisfy regulation but not necessarily mitigate risks specific to each facility.”

But despite some hesitance about the ease of writing HACCP plans under specific directives, survey respondents report overwhelming satisfaction with the food safety culture brought about by mandatory HACCP planning. When asked, “Do you think that processors operating seafood facilities with mandatory HACCP plans have better HACCP plans than less regulated facilities?” Food Manufacturing readers reported:

- Seafood facilities have HACCP plans that better protect the food supply because the FDA guides the seafood industry toward best practices—52.4%
- Plans are probably roughly equal in their effectiveness in all facilities—28.6%
- Less regulated facilities have HACCP plans that better protect the food supply because they are able to specifically tailor HACCP plans to their needs instead of worrying about complying with FDA mandates—33.3%

Seafood industry readers also believe that, regardless of whether specific HACCP guidance is written for all industries, mandating HACCP planning across the industry is the right thing to do. When asked whether the FSMA mandate was an appropriate change, readers reported:

- Yes, all food segments should be required to write and implement HACCP plans—85.7%
- No, HACCP planning should be mandatory only in the industries for which it is currently mandatory—9.5%
- No, HACCP planning should not be mandatory for anyone—4.8%

Seafood industry readers even feel overwhelmingly positive about the specific plans for the seafood industry. Exactly two-thirds report that “FDA guidance for HACCP planning in seafood processing facilities is appropriate to address the specific challenges and critical control points associated with seafood processing.”

Though seafood processors report some hesitance about over-regulation and mandated HACCP planning, this report suggests that if problems are to be solved, the HACCP planning protocol for seafood needs only be tweaked, not abolished, to achieve maximum food safety in seafood plants. Processors report a high level of comfort with their plans and a high level of confidence with the safety culture they produce.

March 2012 FOOD Manufacturing
We sell your equipment, find that talented job applicant and bring your consulting service to the industry decision-maker. FOR INFORMATION, OR TO RESERVE SPACE, CALL: Andrea Wertz, Advantage Business Media, at Phone (973) 920-7774; Fax 973-607-5460 or e-mail at: andrea.heffner@advantagemedia.com.

EQUIPMENT AND MATERIAL

Wedge Wire Products

- Wedge Flow™
- Underdrains
- Basket strainers
- Nozzles
- Lateral systems
- Line strainers
- Wire cloth
- Vessel Internals

Total in-house capability in all filtration media provides control of quality, cost and delivery. Complete design and engineering services. Fabricators of stainless steels, Hastelloys, Alloy 20, titanium, Monel, nickel, CPVC, PVC and other synthetics.

LEEM/LSS Filtration

A Division of North American Filtration, Inc.
25 ARROW ROAD • RAMSEY, NJ 07446
Phone: 201-236-4383 • Fax: 201-236-3004
www.leemfiltration.com

Refrigerated Containers

Practical! Inexpensive! Quick!

We’ll Sell World Wide!

- 20’x8’x8’6” & 40’x8’x8’6”
- Three Phase 230/460 volts 50-60 Hz
- Temp Range -15F-40F
- Blast Freezer -30 Starting at $34,500

Used Carriers in 20’ and 40’ sizes starting at $9,500
New BOHN coolers/freezers starting at $10,500

NOW RENTING!

Toll Free: 866-713-6307 • Fax: 860-668-2871
www.kellyfreezer.com

Win a Free Conveyor

Let Dynamic Conveyor Corporation help you design a conveyor system that meets your needs today and in the future.

Register to win a free conveyor at www.dynamicconveyor.com/free

Freen re-design when you're ready
to re-configure!

5980 Grand Haven Road • Muskegon, MI 49441 USA
800.840.6890

DynaClean

Dynamic Conveyor Corporation

FOOD Manufacturing

March 2012

Can Help You Reach Your Goals!

We sell your equipment, find that talented job applicant and bring your consulting service to the industry decision-maker.

Advertise in the Classifieds.

Call Andrea Wertz at 973-920-7774
Robotic Picking Systems Enhance The Beverage Supply Chain

Track-and-trace systems and tighter inventory control helps beverage operations meet legislative, food safety and productivity demands

Derek Rickard, Distribution Systems Manager, RMT Robotics, a Cimcorp Oy Company

The U.S. FDA Food Safety Modernization Act (FSMA) (P.L. 111-353) was signed into law in 2011 in response to a growing public concern about the integrity of both local and imported food supplies and the inability of officials to trace the sources of many tainted products. As those involved in the beverage supply chain begin to calculate the impact of FSMA, one requirement of the act is particularly striking:

• "The Secretary [is required] to establish a product tracing system to track-and-trace food that is in the United States or offered for import into the United States." (FSMA 204 ©)

• Although FSMA focuses on products under the jurisdiction of the U.S. Food and Drug Administration (FDA), its provisions reflect a larger push for traceability across the entire food and beverage supply chain. According to Dr. Don Ratliff, Regents and UPS Professor and Research Director at Georgia Tech’s Integrated Food Chain Center, any organization involved in the importation, manufacturing, production, storage, transportation and sale of food and beverages needs to understand the consequences, requirements and cost of compliance associated with FSMA. Automating material handling systems is one key way to meet track-and-trace demands in this sector while maintaining long-term profitability and efficiency.

Robotic order picking provides built-in track-and-trace capability

Unique product data is often lost in manual operations as pallets are broken apart and cases become indistinguishable from one another. If this information is lost at the case pick level, the ability to trace contaminated product back to its origins is lost. Originally designed to meet the demands of high-throughput, high-SKU applications common in the beverage industry, robotic case and layer picking systems can also meet legislative requirements by capturing precise information on the location of all shipments down to the case level. Items are tracked throughout the entire process, and stored in secure and redundant databases.

Isolating suspect product at the case level

In the case of a product recall, robotic gantry systems make it easy to trace shipments forward and back without the investment required for additional barcode readers or RFID tracking equipment and software. Robotic controls integrate seamlessly with warehouse management systems, providing real-time reporting on task statuses from goods receiving, buffering and picking, replenishment, order consolidation, palletizing, loading, and dispatch.

Robotic order picking software can readily trace and isolate shipment data from at-risk production batches, providing vital case-level handling information including the SKU number, lot code, production line and location, and manufacturing date of contaminated products.

Robotic integration also offers long-term profitability and efficiency

While integrating robotic case and layer picking systems will make it easier for beverage suppliers to comply with traceability demands, the tighter control of inventory that comes with automation provides numerous additional benefits.

New robotic gantry systems allow warehouses and distribution centers to handle smaller individual order volumes, greater product variety per order and significantly higher throughput, more profitably and with a smaller footprint. Significantly reduced product damage and security concerns are another notable benefit for beverage distribution operations.

Finally, material handling automation also meets growing labor concerns in the distribution center as risks of lifting injuries, theft and high turnover rates are eliminated, and a more efficient use of manpower allows for reduced labor cost.

Supply chain visibility and better “sell” life

An additional benefit to supply chain visibility and attention paid to automating material handling is that products are moved more quickly and with less risk of spoiling and a greater focus on accountability. Supermarkets, retailers and suppliers can all benefit from increased “sell” life, better order management, tighter inventory control, fewer rejected loads and less waste because of better handling.

For a beverage warehouse or distribution facility, gantry robot systems with 100-percent order accuracy and data scanning and backup systems will meet any mandated track-and-trace requirements and increase visibility of the entire supply chain from farm to fork.

Derek Rickard has been with RMT Robotics since 1998. RMT Robotics, a Cimcorp Oy Company, is a material handling industry leader that provides automated robotic gantry systems in warehouse and distribution applications. Contact Derek at derekrickard@rmtronics.com or +905.643.9700, ext. 223.
Your 24-Hour Manufacturing News Resource

Breaking news, insight and in-depth reporting on the global manufacturing market for today’s busy manufacturing professional.

Monthly performance:
- 300,000 unique visitors
- 1.5 million+ page views

Contact Tom Lynch, Group Publisher, at 973-920-7782, tom.lynch@advantagemedia.com, for advertising opportunities on www.Manufacturing.net.
Contaminant Removal
...it’s our Top Priority

Quick Ship E-Z Tec® Metal Detectors
Eriez® stocks eight E-Z Tec® metal detector aperture heights and three stainless steel, wash down conveyor widths for quick assembly and delivery. The variable speed conveyors are available in 12, 18 and 24-inch widths with a food-grade polypropylene belt. E-Z Tec® metal detectors offer the highest level of protection against metal contamination. Visit purity.eriez.com for details.

Features include:
- Easy Set Up and Validation
- High Sensitivity without False Positives
- Xpress Delivery on Standard Models

Metal Detector Quick Ship!

FREE!
Vibratory Selection Guide & How-to-Use Brochures

Vibratory Inspection Feeders
- Sanitary wash down and quiet operation
- Replaces unsanitary belt conveyors

X-Ray Inspection
- High speed final product inspection
- Detects foreign objects, damaged product, package voids and more

Metal Detectors
- Detects ferrous and nonferrous contaminants
- Xtreme™ Sensitivity

Vibratory Screeners
- Scalping, screening and sizing
- Variable speed for precise control

Magnetic Separators
- Removes ferrous contaminants from free flowing materials
- Xtreme™ strength at low costs
- Liquid or dry process

Visit purity.eriez.com Call 888-300-3743