

FB FOOD & BEVERAGE TECHNOLOGY REVIEW

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Company:
Lightning Technologies

Description:
Offers a hybrid pallet that actively monitors the real-time metrics of the food items across the supply chain

Key Person:
Jeffery Owen
Founder and CEO

Website:
lightningtechnologies.com

Top 10 Food Tech Startups– 2019

The driving forces that are shifting the interest in food tech include climate change, digitalization opportunities, as well as health-focused consumers. Improved technologies focused on animal product substitutes continue to grow and get new investments. And as prices decrease, these products will gain more popularity among users. Foodservice robots are making their way into many e-restaurants. These robots bring together the convenience of ordering online, personalization of meals, access to healthy and nutritious elements, and the speed of getting food to a table.

While some companies focus on the food itself, many others are exploring how to process, package, and distribute this new wave of sustainable, healthy, and innovative food. Further, food preservation companies

are also leading the way in reducing food waste while improving product quality during transportation. Changing consumer preferences of quality, convenience, and gourmet products in foodservice have led to a rise in the category of fast-casual restaurants and placed pressure on fast food restaurants to rethink their delivery models. Innovators in this segment are focused on traceability, sustainability, improving freshness and eliminating food waste.

Inspired by the innovative trends revolutionizing the food tech landscape, this issue of Food and Beverages Tech Review is elaborately crafted to assist you in fostering productive partnerships. In this edition, we have compiled a list of the top 10 food tech startups to highlight their significant contributions in the space. We present to you Food and Beverages Tech Review’s “Top 10 Food Tech Startups– 2019.”

Lightning Technologies

Hygienic Pallets for Safer Food Shipment



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We have developed a sustainable pallet that protects food quality for produce and proteins, which ensures enhanced safety and shipping efficiency
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The food supply chain industry, including producers, distributors, and retailers, always operates under tremendous pressure to secure the food items from spoilage. In one such instance, a pallet pooling vendor received a huge contract of shipping food products in wooden pallets from South America to North America. The pallets had to be shipped through a route that ran through a rain forest. The damp atmosphere in the forest moistened the pallets, resulting in the germination of various bacteria and molds. The vendor had to burn the pallets after reaching North America to prevent the organisms from degrading the quality of the food products, which, in turn, gave rise to the necessity of shifting the products to new pallets. This unnecessary process overhead resulted in excessive revenue loss. The vendor engaged Michigan-based Lightning Technologies to avoid such massive losses in the future. Lightning Technologies’ hybrid pallet, built using wood and plastic, is lightweight, hygienic, easy to clean and repair, and skid-free. As a consequence, the vendor was able to save millions by using the same pallet, from the farm to the retailer.

“We have developed a sustainable pallet that protects food quality, including produce,

and protein-related goods like meats, fish, and poultry, ensuring enhanced safety and shipping efficiency,” states Jeffrey Owen, Founder and CEO of Lightning Technologies.

Owen and his experienced team founded Lightning Technologies in 2015 to meet the need for an innovative and safer pooling pallet that can tackle the rising frequency of foodborne diseases and infections, such as e-coli and salmonella. It was then that the government introduced the food safety modernization act (FSMA) to curtail the spread of these diseases. Lightning Technologies is one of the first companies to have built a solution that aligns with the FSMA regulation, thus proving its commitment to improving biosecurity in the food supply chain industry.

“We have developed our pallets after a thorough consultation and brainstorming with various producers and retailers in the industry,” says Owen. The company’s pallets are disrupting the food and beverage market because of its superior composition. Exobond™, a proprietary polyurethane hybrid coating, increases the pallets’ durability and fire-resistance as well as makes them impervious to fluid penetration—one of the most



The real beauty of Lightning pallets is the data gathered through the smart sensor called lightning intelligent module (LIM), which transmits a signal to multiple wireless Bluetooth networks to help clients track the location of every single pallet. Team Lightning puts up a series of network gateways in the buildings of their clients. The sensors gather real-time data from the pallets and store it on a cloud. "LIM also provides clients with metrics such as temperature, humidity, stock, and vibration data of the food products in the pallets as they move through the supply chain," says Owen. Lightning provides clients with a dashboard to deliver these real-time metrics seamlessly on their devices, from tablets to PCs. Lightning also offers an effective API for easy integration with the clients' existing systems and business intelligence to assess the parameters of the trucking firms and the food handlers.

Effective Pallet Delivery Process

Lightning offers the pallet as a complete assembled solution with the coating, wood, sensor, and carbon savings. "We lease the pallet just as the previous wooden design, the only exception being that our clients get a much higher value in terms of services as we have a much longer life on our new product," highlights Owen.

Lightning's client onboarding process begins with the distribution of the pallets to the pooling vendors via trucks. The vendors then bring the pallets into their incoming inspection area, where they keep all of the packaging materials. The pallets are also taken through a processing area, where the food products are packaged and shifted to the pallets. The pallets are then moved to the cold storage area, where they are prepared for shipment.

The Promise of a Better Future

Lightning stays focused on enhancing its existing hybrid pallets by adding more features and functionalities. The company aims to continue flourishing in this niche area on a global scale. The blueprint of its second plant in the US is getting ready, and the future looks exciting for Lightning. 📦

significant necessities to ensure product freshness and food safety. The coating is embedded with antimicrobial and antifungal features to kill any bacteria or fungus within 24 hours. A one-of-its-kind pallet in the market, Lightning pallet holds a national sanitation foundation (NSF) certificate, which tests and certifies products to verify they meet public health and safety standards.

Bringing Variance in the Market

What differentiates Lightning from its competitors in the marketplace is its focus on an in-house integration of every part of the offering. The company has taken a centralized approach to the engineering and purchasing of the plywood, the whole assembly, CNC router, polyurethane spraying, as well as software and hardware development. Lightning pallets' lightweight is due to the plywood core. In addition, Lightning follows verified carbon standard to help its clients reduce carbon footprints. As these pallets are 30 pounds lighter compared to existing pallets in the market, they can generate carbon credits for the pooling vendors and retailers. When vendors achieve a full carbon offset on their sustainability reports, they can fine-tune their operations to achieve higher efficiency, while reducing greenhouse gas emissions simultaneously.