

SMART Cold Chain (SCC) USA 2020



Cold Chain Logistics

Cold chain logistics is the management of the flow of products from origin to destination in a temperature-controlled supply chain involving an uninterrupted series of refrigerated production, distribution, and storage activities. It sub-divides into two major sectors: Food and bio-pharmaceutical. In 2017 alone, more than 18 billion U.S. dollar in the global third-party logistics revenue was earned in the food and grocery markets, while over 17 billion U.S. dollars was generated from the healthcare market.

GLOBAL REVENUE OF THE 3PL MARKET

273.18bn USD

GLOBAL REVENUE OF THE HEALTHCARE 3PL MARKET

16.8bn USD

GLOBAL 3PL REVENUE EARNED IN THE FOOD AND GROCERIES MARKET

17.5bn USD

Challenge: One of the main constraints to the entry and expansion of local foods is the lack of distribution systems for moving local foods into the main stream markets.

Solution: SMART Cold Chain (SCC) Transport.

Economic Development Program: The SCC economic development program is ready for launch today. We believe that the SCC can significantly impact the food industry. The SCC award winning technology is truly a game changer. It meets the emerging needs of the market, and improves food safety, reduces energy usage and waste, and puts the breaks on inefficient refrigerated trucks, dry ice, and non-reusables. The SCC enables more effective cool chain delivery to restaurants, offices, schools, homes, event facilities, hospitals, etc. The SCC delivery system can be leased for low entry, and existing establishments such as food hubs or CSAs, can be used for cold chain infrastructure. The system is easy to operate and requires minimal labor to maintain.

Technology Discriminators: Smarter and stronger cold chain, without the use of external power.

Packaging: The SCC is an innovative and cost-effective solution for freight because it is made with light recycled materials. It is easy to use and clean. It does not require external power sources to operate, such as temperature-controlled vehicles for transportation.

Smaller and Faster Delivery: SCC enables significantly smaller deliveries directly to customers, and avoids the costs and delays generated by intermediate cold cargo storing. Companies can increase their offerings to customers, while improving flexibility, quality, and speed of service. Improves efficiency in city and short-distance delivery.

Low Carbon Shipping and Transport: SCC uses thermo module packaging and non-refrigerated hybrid or electric vehicles in local delivery.

Savings in Energy and Fleet: Refrigerated vehicles are no longer needed for transportation. Savings in fuel costs and reduced mileage. The same or smaller size vehicle can deliver frozen goods, perishables and dry goods in the same vehicle to customers.

Economic Impact: Real-time business intelligence platform monitors, verifies, and reports that the cold chain is not broken during the transportation. This has not been possible when using conventional technologies and transport equipment, where cargo space doors must be opened thus creating temperature spikes. Verification system has great impact for companies creating significant savings in recompenses and insurance premiums. Risk Mitigation. The risk for spoilage of perishable cargo will be significantly reduced when the cold chain is not broken and even temperatures are maintained.

Savings in Energy and Fleet: Savings in fuel costs and reduced mileage per delivery; the same or smaller size vehicle can transport frozen goods, perishables and dry goods to customers. Storage. The thermo module (packaging) can remain in the customers' premises working as a cold storage for a limited time.

New Business Model: Opens new markets and business opportunities for manufacturers, suppliers, logistics companies, entrepreneurs, and farmers, wholesalers and retailers of temperature-controlled products.

Environment: Eco-efficient, reduces waste, and the use of fuel, materials and water.



SCC Platform: The SCC platform combines the latest in SMART technology where information is dynamically and automatically updated to fit the specific efficiency flows and management needs of a community. The applications of the SCC platform are endless and only limited by the imagination of the users.

Background

In 2009, Chamber of Eco Commerce (CEC) partnered with an international team of cool chain experts to research the concept of a SMART cool chain, and to explore its potential in the U.S. The SCC does not require high academic skills, offering an exciting chance for economic growth that draws from and builds on the community's assets and roots. The SCC workforce training supports entrepreneurial expansion and economic development by allowing individuals in a region access to new technology, tools and know-how they will need to deliver fresh foods and other perishables to customers.

The SCC program is now ready to expand across the U.S. The groundwork for this has been laid in terms of program development, market research, and strategic alliances. The program is now at a stage where it is of the highest priority to penetrate the market quickly and efficiently. We seek to improve existing cool chain infrastructure, help build stronger regional food systems, and enable transformative supply chain change across the regions.

We support entrepreneurial expansion and micro-enterprise development by providing training to individuals and organizations; how to handle, deliver, and market fresh foods effectively for public consumption and sale. This summary is an overview of the concept of SCC workforce training program and its potential as an economic development tool.

The recommendations contained herein should be used to advise stakeholders and partners. The SCC training is delivered to the U.S. communities through SMART SMARTx cloud-based platform.

The demand for temperature-controlled food and non-food delivery services is increasing in many markets across the U.S. and globe. One important factor is the movement of manufacturers and retailers to urban markets, as well as the changing tastes and lifestyles of consumers in more mature markets. This has resulted in high levels of investments by logistics companies and their associate suppliers, as they have acquired or partnered local players in order to access these markets and to open temperature-controlled operations in these regions to serve the growth in prosperity of local populations. In addition, temperature monitoring and control are essential

mechanisms in cold chain management, because they are necessary for maintaining food safety and quality. The SCC program efforts are centered on four key program areas including hands-on training, entrepreneurial and enterprise development, and marketing and branding.

In 2011, Chamber of Eco Commerce commissioned a study that defined the needs and opportunities for SMART projects in the US. The SCC was among the recommendations that emerged from that study. The SCC workforce training program became an economic development program, and the U.S. plan was drawn from the document. Stakeholders saw the potential of the U.S. workforce development and training program to help promote local entrepreneurial and microenterprise development playing on the local assets.

The stakeholders also realized this project's potential to address their own goals of community support, and savings in energy and resources. CEC partners met in 2019 to discuss and further explore the SCC economic development model and launch of SMART Cool Chain 2020 community initiative.

All partners recognize its ability to serve all key partners as an economic development tool. The income and poverty level data suggest that there is a significant need for new and innovative economic development opportunities in rural communities across the U.S. Educational attainment data demonstrates that economic development initiatives need to consider and suit the comparatively low education levels of current residents.

A SCC program can provide hands-on training and advisory for this population and provide a bridge to new jobs as communities look at long term economic development strategies and plans. Of note, many micro-enterprises (defined as 5 or fewer employees) are currently helping to bolster the economy of communities across the US.

Drawing from their roots and the unique cultural heritage of regions, many small businesses are producing locally inspired products and services but lack professional development support. With these limitations, however, these entrepreneurs struggle to grow their businesses to scale and to have a true impact on their local economies.

SCC program can serve as an economic engine, both local and regional in scope, which draws from and builds on the community's assets. It can be a comprehensive approach to economic development by combining resources, technical support, access to capital, marketing strategies, and even value-added food tourism opportunities to support local entrepreneurship and a community's economic growth and revitalization. This collective endeavor is not only a more efficient use of capital, it also adds to the support, visibility, and capacity of individual businesses, leading to the long-term sustainability and success of the SCC project.

Workforce development and training has numerous benefits for a community and its local entrepreneurs. With local roots, communities are primed to benefit from the SCC. As a general rule, SCC does not require high levels of academic skill; therefore the SCC program can benefit target populations with comparatively low levels of educational attainment, while growing and fostering an entrepreneurial spirit in communities which can translate beyond the food industry sector.

Small businesses are the backbone of the American economy and remain a strong fiscal constant, especially in times of economic downturns and recessions. Micro-enterprises contribute significantly to job creation and help our nation's economy, in addition to fostering the entrepreneurial spirit and encouraging SMART community investment in communities across the county.

SMART Communities 2020 Partnership

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Contact

info@SMARTCommunityExchange.com