UNITED STATES COLD STORAGE
AND GRAMENER PRESENTS:

USING DATA SCIENCE TO IMPROVE TURN TIMES AND OPTIMIZE TEAM SIZE

CASE STUDY // IAS   FALL 2021

At United States Cold Storage

WE SUPPORT AMERICA'S FOOD SYSTEM

We pride ourselves on serving and supporting America's food system with our relentless pursuit to continuously evolve the cold chain industry. As part of our pursuit, we constantly look for ways to best support our carrier community whose sole responsibility is to transport temperature-controlled food across America. When carriers are ready to offload hundreds of pallets of refrigerated and frozen foods at a cold storage facility, safety and efficiency are of primary significance.

First and foremost, the safety of the driver is our focus. On average, truck drivers log 70+ hours of drive time over an average 8-day period. Our goal is for every US Cold facility to be prepared for a carrier's arrival so we can expediently unload their trailer so they can maximize their hours of service.

Secondly, the safety of our customers' products transferred off the trailer and into our warehouse is equally important. Proper staffing with adequate team members allows for the timely transfer of product from truck to warehouse.

Thirdly, the less time an 18-wheeler is idling is much better for the environment. Just one hour of truck idling consumes one gallon of fuel.

Lastly, large retailers like Walmart are imposing hefty fines to carriers who are not arriving on time and/or with their full order, so it is imperative to turn the trucks quickly at cold storage warehouses to avoid penalties at the receiving retailer warehouse.

Predicting the arrival of in-coming carriers used to be a multifaceted and complex guessing game. There are multiple dependencies that impact a driver's ability to forecast a precise arrival day and time – fluctuating weather, mechanical issues, previous pickup location delays, and traffic. These unforeseen elements all contribute to the challenges of accurately predicting carrier arrival times. Without the ability for a facility to accurately forecast the arrival day and time of carriers, properly planning for staff is challenging. Late trucks, in particular, can be disruptive to the staffing and support plan for afacility and cause delays for all incoming carriers. In addition, facilities could potentially be either understaffed – causing long turn times for the carriers, or overstaffed – causing increased costs to the facility.

Compounding these issues was the fact that quantitative or qualitative tracking of transportation metrics or data patterns has not been exploited to their full extent to better predict carrier arrivals. There was a need for an evolved, data-driven system able to schedule carrier appointments with precision. US Cold's goal was to implement a smart, predictive system that automated carrier appointments in a waythat the facility was optimally staffed throughout each hour of the day without compromising carrier experience or safety.

OUR
SUCCESS

United States Cold Storage

PARTNERED WITH GRAMENER TO CREATE THE INTELLIGENT APPOINTMENT SCHEDULER

Built on Gramener's flagship low-code Gramex platform, the Intelligent Appointment Scheduler (IAS) evolved US Cold's manual scheduling process to an intuitive, data-driven, predictive platform.

Since its implementation, the IAS has completely revolutionized carrier appointment scheduling. Using predictive data, IAS recommends and schedules appointments by evaluating various historical parameters such as order complexity, the effort taken to process an order, warehouseload, and the propensity of delay at the carrier's end. This enables the facilities to schedule appointments in a way that the warehouse load is optimally distributed throughout the day.

IAS is also a smart system that continues to analyze all incoming data to make intelligent, predictive recommendations. IAS leverages machine learning to propose the optimal schedule for all outbound appointments based on order complexity and estimated pick-up. It also programmed to be flexible enough to survey other data metrics in order to make recommendations. One of the most notable aspects of IAS is that it is tightly integrated with US Cold's Warehouse Management System, providing even broader insight into how to best serve and support our carriers, crew, and customers' products.

US Cold has successfully deployed the IAS across 26 facilities with the goal of implementing it at the remaining facilities by the end of 2021. US Cold staff responsible for scheduling carrier arrivals adopted the system and now successfully schedule more than 650 appointments per day. In addition, the facilities are reporting a **15% improvement in average turn times** across all the warehouses. This resulted in **savings of over $300,000** on potential detention charges in Q1 2021.

Because the IAS application examines order complexity, pallets, and case-picks, and is able to review historical data based on that complexity, US Cold is able to effectively plan for the specific needs of that carrier's load which increased their ability to serve them while decreasing the time required to do so. This is a tremendous win-win.

Most importantly, this improvement in turn time and the drastic reduction in unexpected delays have led to improved customer experience. The most significant impact has been attributed to decreased turn times for our carriers. Given our staff is able to prepare for their predicted arrival in advance, we are able to have team members available and ready to receive our carriers and offload their trucks as quickly as possible.

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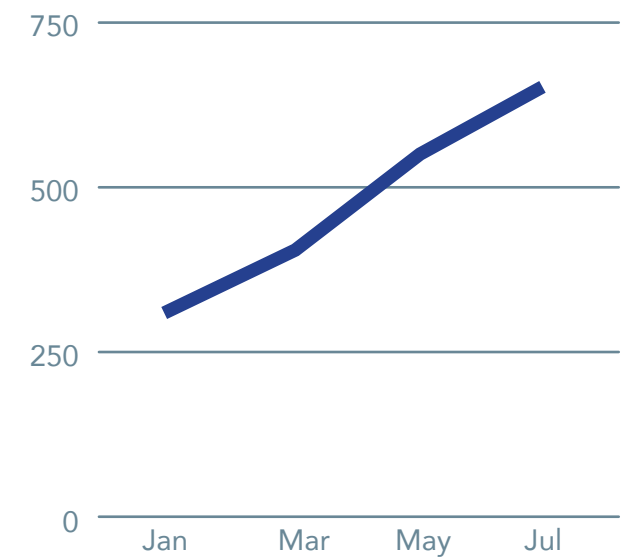
" A tremendous benefit of the IAS system is it helps identify the best opportunity to process late trucks. IAS assists our team with properly scheduling late arrivals without compromising the turn times of other carriers. It demonstrates that our Cold Crew equally cares about all our partner Carriers. "

David Salazar
Operations Manager
Wilmington IL

Between June 2020 and May 2021, US Cold's Business Intelligence Team surveyed more than 83,000 carriers to gauge their experience unloading and loading at US Cold facilties that implemented IAS. This experience was captured via Happy or Not kiosks located in USCS dock offices. For those facilities that implemented IAS, the Happy Index was 86%, indicating superior carrier satisfaction with the dock experience at USCS IAS sites.

When the IAS was rolled out in one of our largest facilities, the management observed a 35% decline in facility turn time. This led to USD $25,733 savings in loading detention charges in Q1 2021.

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US Cold's digitization evolution is a critical component for advancing the way we support the cold chain. We believe digital is the key to that advancement. We're pushing the limits of data science to provide predictive, cost effective, and innovative solutions. Our Intelligent Appointment Scheduler is proof of that."
"

Larry Alderfer
President & CEO
United States Cold Storage

About United States Cold Storage

United States Cold Storage, Inc. (USCS), Camden, NJ, is a premier provider of public refrigerated warehousing (PRW) and related logistics services throughout the USA. With roots dating back to 1899, USCS has long served a diverse customer base with requirements ranging from primary storage to fully integrated third-party logistics. The company offers more than 330 million cubic feet of temperature controlled warehouse and distribution space in 43 facilities located in 13 states including California, Delaware, Florida, Georgia, Illinois, Indiana, Nebraska, North Carolina, Pennsylvania, Tennessee, Texas, Utah and Virginia. USCS is the third largest PRW Logistics provider in North America. It is a subsidiary of the U.K.'s John Swire & Sons Ltd.

About Gramener

Gramener is a design-led data science company that helps solve complex business problems with compelling data stories using insights and a low-code analytics platform. We help enterprises large and small with data insights and storytelling by leveraging Machine Learning, Artificial Intelligence, Automated Analysis, and Visual Intelligence using modern charts and narratives. Our services & technology has been recognized by Gartner and has won several awards.

About our partnership

Gramener partnered with US Cold Storage to design and develop a more intelligent scheduling system. As a design-led data science organization, Gramener rapidly builds custom data and AI solutions that improve business processes using their low-code platform Gramex. Gramener partnered with USCS in creating a machine learning-based Intelligent Appointment Scheduler, also known as IAS, that enhanced the efficacy of the dock scheduling system.

The Intelligent Appointment Scheduler (IAS) is built on Gramex, Gramener's flagship low-code platform. Gramex is a PaaS (Platform as a Service) data platform that rapidly builds customized data applications using over 200 pre-built components and microservices. The platform has zero learning curve because of its easy drag-and-drop visual features that allow even non-developers to build and create enterprise-grade data applications.