

CAMCO Times

A Camco Technologies magazine

June 2024

BEYOND THE BIG BREAKTHROUGHS

How smaller innovations can revolutionize daily operations

INTRODUCING BOXCATCHER GEN4

Our patented flying STS camera system is ready for a new era of efficiency

DISCOVER HITT VIETNAM

Futureproofing a new container terminal together with Camco

CAMCO LOGISTICS

Innovation and customer-centricity in global logistics



SPOTLIGHT

THE BRIDGE

Introducing the first unified browser-based platform allowing to operate, manage, maintain and monitor all Camco products

The Last Piece of the Puzzle



Camco started in 1999 with three people. Exactly 25 years later, we are now the number one in our market with six branches globally, a staff of 240 people, and a turnover close to US\$40 million. When Camco entered the OCR market in 1999, digital cameras were still in their infancy. Camco's first system used analog CCTV cameras and video grabber cards to take pictures of trucks for damage control in RoRo terminals.

In 2000, Camco began developing its first line scan camera to capture container numbers. We aimed to compete with the American leader at that time, SAIC, which was selling OCR portals for half a million dollars. We targeted our solution at one-fifth of SAIC's price, and today we sell at almost one-tenth of that price.

In 2005, Camco reached a milestone by selling its first integrated gate automation system to AMPT Rotterdam, probably the first in the world and still in use. Until 2018, we focused heavily on OCR camera-based systems to automate terminal gates, rail, and ship-to-shore operations. Camco became synonymous with delivering OCR camera solutions.

In 2018, we started developing solutions for yard automation, addressing a gap in our solution portfolio. Yard automation is based on various technologies such as RTG/RMG handover solutions, VMTs (Vehicle Mounted Terminals), and RTLS (Real-Time Location Systems), which allow automated job stepping. All these technologies are driven by a complex backend server called Cheops.

Today, when we look at hardware solutions for terminal automation, we can state that the puzzle is almost complete. The current focus regarding hardware is on rebuilding our products to make

them more robust, easier to maintain, and more economical. Our hardware products are the fundamental building blocks we use to construct smart terminals. The more control we have over these building blocks, the better data they deliver, and the better results we can achieve in the future through AI.

The significant shift for Camco from hardware to a more software-centric approach began in 2020 when we launched the development of Cheops (RTLS with auto job stepping), THE BRIDGE, and our RT Digital Twin solution.

THE BRIDGE is a unified, browser-based platform that provides access to all our technologies in the yard. It's a significant development, and the good news is that the basic functionality is already available and in use by more than 10 terminals. This year, we will add VBS (Vehicle Booking System), BLV (Bay Load Verification), and yard automation (RTLS).

In the near future, THE BRIDGE will offer AI-based tools to optimize terminal processes, generating data-driven insights. Meanwhile, our RT Digital Twin solution, which receives the same real-time data, allows for a more visual analysis of terminal processes.

We can conclude that this is only the beginning of a new and challenging era. While we do not yet know the full impact of these AI technologies on terminal data, we are prepared to deliver the necessary data.

I would also like to thank all our customers for their loyalty to Camco Technologies over the past 25 years.

Jan Bossens
CEO Camco Technologies

Camco's hardware products are the **fundamental building blocks** we use to create smart terminals. They continuously send **large amounts of data** to our backend servers. In the future, our BRIDGE platform will include tools to **transform this massive amount of data into new insights for optimizing terminal processes.**

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1999
PIONEERING
SINCE 1999



250K
TRUCKS REGISTERED
EACH DAY



5000+
GATE AND
GRID KIOSKS



300+
TERMINALS
WORLDWIDE



5
REGIONAL OFFICES
FOR GLOBAL FOOTPRINT



250+
HIGHLY SKILLED AND
SPECIALIST STAFF

Welcome to the World of Camco Technologies

Camco Technologies is the leading technology partner in innovative terminal automation solutions and services. Since 1999, our systems have empowered marine and intermodal terminal operators to increase logistics performance and safety while reducing operating costs.

As a pioneer in OCR and RTLS, image processing, and software/AI development, Camco's mission is to develop solutions that improve terminals' efficiency, cost-effectiveness, and safety. We do this by automating the registration process of containers, trucks, wagons, and trailers. As a result, data becomes available more quickly and serves more purposes, so the process management of terminals increases efficiency.

Already 300+ terminal operators worldwide have successfully optimized their gate, rail, crane, and yard processes using Camco's solution in the container terminal.

Camco's systems accurately register containers entering or exiting the terminal by any means of transport – truck, train or vessel – enabling Terminal Operating Systems to make the right planning decisions, reducing unproductive moves and idle time to optimize operations and improve customer service level.

Our software solutions



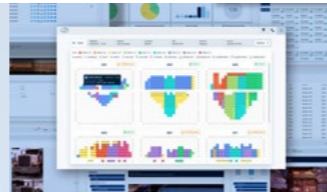
The **Camco Vehicle Booking System** or VBS is a smart truck appointment system connecting truck drivers, trucking companies and terminals, increasing gate efficiency through up-front booking registration.



THE BRIDGE, our **unified platform for all your automation technologies**, ensuring optimal visibility and manageability of your complete container terminal for all levels of responsibility.



Real Time Digital Twin: a **real-time digital representation** of all assets and associated processes and systems. The ultimate automation step for process analysis, optimization and simulation.



Bay Load Verification (BLV) captures precise stowage positions of containers on board a vessel. By incorporating deviations from the load or discharge plan into the TOS, our BLV helps in generating optimized BAPLIE files.

Our hardware solutions



Highly accurate AI-based **OCR/OFR camera technology**: ensuring precise identification and registration of containers, trailers, trucks, and trains for reliable data in terminal operations.



Advanced **real-time location solutions** (AI-based): cutting-edge container and equipment tracking for real-time monitoring and improved operational visibility.



Robust and intuitive **kiosk registration technology**: streamlining registration for trucks, drivers, and loads at terminal entrances, optimizing overall efficiency.



The **Camco Camera portal** is the cornerstone of every terminal automation project. The OCR/OFR camera portal automatically identifies and registers containers and other attributes that determine truck, train and cargo processing.





THE ADVANTAGES OF AN ALL-IN-ONE PROCESS SYSTEM

“THE BRIDGE is intelligently designed to significantly enhance operators’ efficiency, ergonomics, and overall comfort on their workstations,” explains Software Developer Bauwen Demol who has been working on THE BRIDGE for the last two and half years. “By providing operators access to view and manage any source within the system through multiple monitors using a single keyboard and mouse set, it streamlines their workflow. With THE BRIDGE, there’s no need for operators to switch between different applications to gain a comprehensive overview of the current status or flow on the container terminal.”



Bauwen Demol
Software Developer

THE BRIDGE

THE FIRST UNIFIED BROWSER-BASED PLATFORM ALLOWING TO OPERATE, MANAGE, MAINTAIN AND MONITOR ALL CAMCO PRODUCTS

THE IDEA OF AUTOMATION IS TO HAVE SMOOTH INTEGRATED PROCESSES WITH MINIMAL USER INTERACTION. THAT’S WHERE CAMCO’S NEW UNIFIED USER INTERFACE PLATFORM THE BRIDGE COMES IN...

Historically, the user interfaces for GOS, rail OCR (ROS), RTLS and Crane OCRs (COS) differ. To further optimize the user experience and efficiency, Camco Technologies designed THE BRIDGE, a unified web-based user interface platform linking all automation systems in one place. This web-based platform enables users to manage and monitor their terminal under one platform, even on one computer screen. THE BRIDGE can even operate and monitor multiple terminals at once.

In addition, THE BRIDGE is web-based, which simplifies cyber security patching and upgrades. They don’t even have to be on premise or even in the country.

Introducing a new, integrated solution

THE BRIDGE is not just a multi-terminal system; it’s a comprehensive platform. It serves as an operator exception handling tool, an analytics dashboard, a single access point for container pictures and data, maintenance and monitoring of the

“The web-based platform, **THE BRIDGE**, serves as an invaluable tool for all levels of responsibility, ranging from basic operators to supervisors and upper management.

► hardware and, in the near future, an interface to other third-party solutions. In short, THE BRIDGE is an all-in-one user interface empowering operators to monitor, adjust, and validate operations.

New applications in THE BRIDGE

THE BRIDGE is a platform. Every day, our development team works on adding new functionalities and applications. In 2024, we will release the following 3 new applications: Yard Automation, BLV and VBS/ITT.

The most complex application is Yard Automation. It is based on our RTLS products and the server software called CHEOPS. CHEOPS is the central brain and has connections to the TOS and all moving equipment, exchanging location data, telematics, and PLC information. Most moving equipment is equipped with a VMT (Vehicle Mounted Terminal). On this screen, CHEOPS puts jobs for the driver (behind

those jobs are coming from the TOS). The driver can work in manual mode or in fully automatic mode. The latter is called automatic job stepping; our software decides when a job is finished, not the driver. The setup and monitoring of this Yard Automation system is now supported in THE BRIDGE. There is a Yard Stack Manager to set up the physical organization of the stacks with mappings to the TOS and a Yard Operator to follow in real time the status of all jobs and also the location of the mobile equipment.


BayLoad Verification is another interesting application. It checks the loading of the vessel and gives corrections on the BAPLI file. It's based on the PLC information of the STS crane and is used in combination with the BoxCatcher.

VBS (Vehicle Booking System) is the third application we will release this year,

together with ITT (Inter-Terminal Transport). The VBS is a server-based product with an external web and smartphone app interface for the truck drivers. In transshipment terminals, the system can be used to organize the truck traffic due to container transfers between the terminals.

A game changer in the industry

The feedback from initial users has been overwhelmingly positive. While Camco previously offered stand-alone systems such as truck gates, camera systems, rail, or RTLS solutions, THE BRIDGE now connects all these isolated systems into a unified user interface. As a result, users can gain insights into situations across multiple terminals simultaneously, regardless of the device they're using. THE BRIDGE is set to revolutionize the industry by offering comprehensive solutions that cater to operators at all levels of responsibility. ■

 **Watch our movie about THE BRIDGE**



THE BRIDGE, where efficiency meets simplicity in managing your container terminal operations

Even though THE BRIDGE is the pinnacle of a yearlong teamwork, we asked Team Lead Arne Vandeginste what the key benefits of the new platform are.

Combining Data

"THE BRIDGE consolidates data from multiple sources into one intuitive interface. That empowers your users with the right data, from the right system, at the right time. Also, the multiple data streams in one place and smoothly integrates across all connected systems."

purposes, avoiding the limitations of a one-size-fits-all approach."

Securing Data

"Relying on THE BRIDGE, you enhance security by restricting direct access to critical systems while you control data and function access for users. This way, you ensure the right people have the right permissions without providing manual access to connected systems."

Best In Breed

"The new software allows to craft the perfect platform for your container terminal operations by bringing together the best-in-breed applications for each function into a single, cohesive interface. It leverages specialized applications for their specific

Maintenance

"With THE BRIDGE, you monitor all terminal equipment from one single interface and you can identify the need for maintenance of your equipment and integrate it into your planning."

EXPERIENCE A MORE PRODUCTIVE AND LOGICAL WORK ENVIRONMENT WITH THE BRIDGE

- **Single web application** to operate and monitor any number of terminals and Camco installations
- **Real-time metrics and daily reports** for enhanced operational insights.
- **Fine-grained role-based control**, enabling terminals to define which operators can handle specific exceptions or tasks, such as damage jobs or manual barrier opening.
- **Built-in security and access control** supporting Camco Access Control System, Windows Active Directory, or Azure Active Directory.
- **Centralized location** to access pictures and data of specific containers from any of your Camco camera systems.
- **Complete visibility** of gate, crane, yard, and rail operations, including detailed operator actions.



“THE BRIDGE streamlines your business processes by **combining data and functionality** from your existing business systems into a single, powerful platform.

Arne Vandeginste
Software Product Development Lead

**HOW SMALLER INNOVATIONS
CAN REVOLUTIONIZE DAILY OPERATIONS**

FOR OVER TWENTY-FIVE YEARS, CAMCO HAS BEEN AT THE FOREFRONT OF TERMINAL AUTOMATION SOLUTIONS, CONSISTENTLY PUSHING THE BOUNDARIES OF INNOVATION. WHILE OUR FLAGSHIP PRODUCTS IN HARDWARE AND SOFTWARE HAVE BECOME SYNONYMOUS WITH TECHNOLOGICAL EXCELLENCE, OUR COMMITMENT TO INNOVATION EXTENDS BEYOND GRAND ACHIEVEMENTS. BUT ALSO SMALLER, SEEMINGLY LIMITED INNOVATIONS MAKE A SIGNIFICANT IMPACT ON THE DAILY OPERATIONS OF CONTAINER OPERATORS.

BEYOND THE BIG BREAKTHROUGHS

**WHEN OPERATIONAL EXCELLENCE
DRIVES INNOVATION**



BLV



Argus



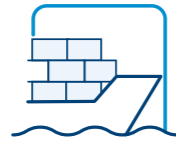
RT
Digital Twin



Real-time
Location



RFID
Technology



BLV

Optimizing container loading

One of Camco's latest groundbreaking advancements is the Bay Load Verification (BLV) system. This system is designed to optimize container loading operations through advanced data monitoring and process automation. Crane OCR systems have revolutionized how terminal operators capture container information during STS crane operations over the past two decades. However, despite these advancements, terminal operators still face challenges such as discrepancies in container data and improper positioning, leading to inefficiencies and financial losses.

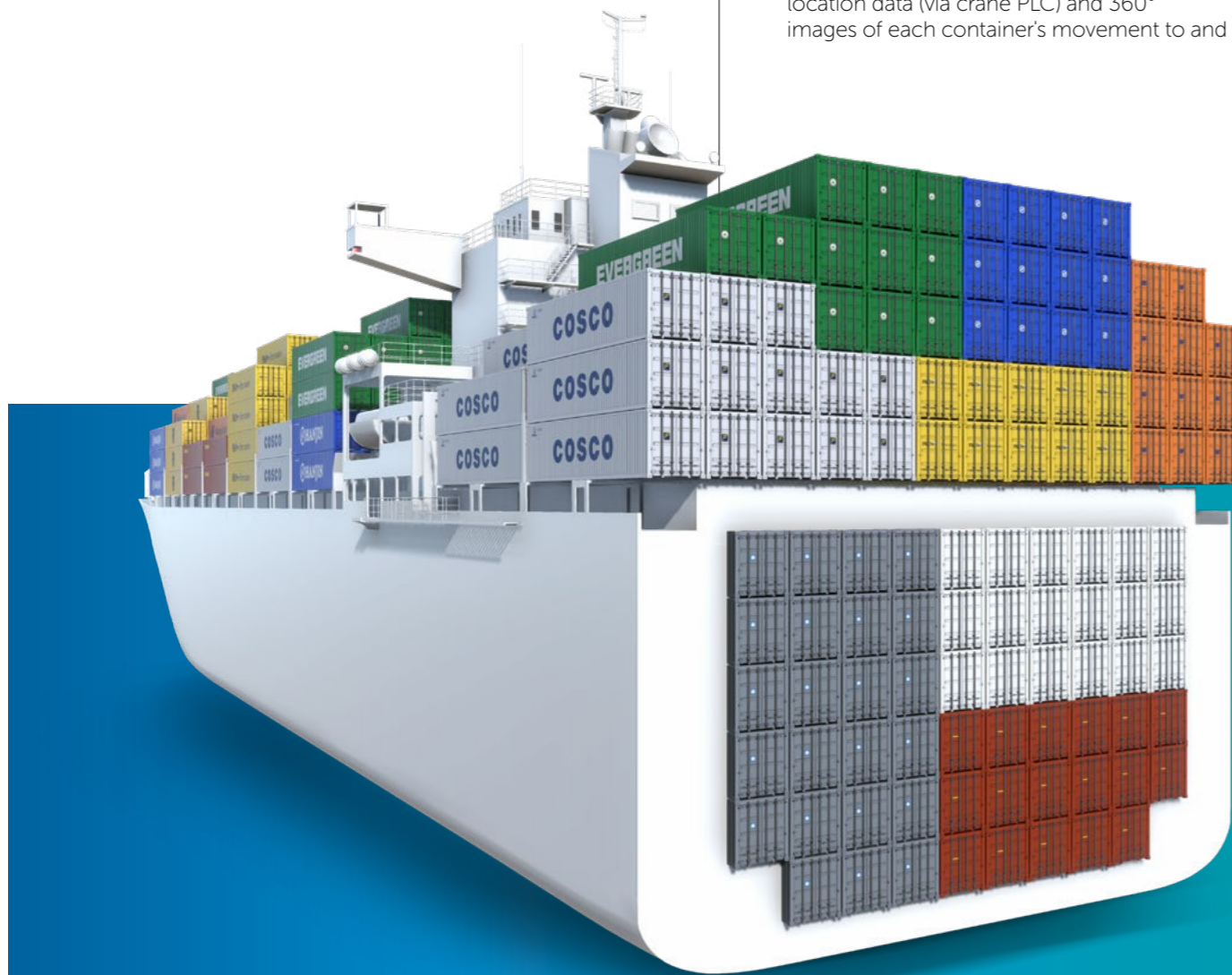
A new feature based on an existing technology

In their quest for a solution, Camco's engineers quickly recognized that many container terminal operators already possessed the means to address the issue. The BoxCatcher OCR system, designed for waterside operations, captures crucial location data (via crane PLC) and 360° images of each container's movement to and

from the vessel. This data provides operators with accurate bay-row-tier coordinates, which can be integrated into their Terminal Operating System (TOS) to produce a more precise BayPlan (BAPLIE). The BLV system further optimizes these BAPLIE files, thereby enhancing operational efficiency and reducing costs for terminal operators. By continuously monitoring container numbers and physical placements, BLV identifies and corrects any discrepancies, ensuring the integrity of bay plans.

Benefits for customers make the investment worthwhile

The benefits of BLV for customers are manifold. It provides instant, non-blocking notifications for container deviations, allowing operators to rectify weight distribution or hazardous material handling discrepancies promptly. This real-time feedback enhances accuracy, minimizes manual errors, reduces disruptions and costs, aids decision-making, and optimizes processes and efficiency. Continuous monitoring improves loading efficiency, leading to significant operational improvements and cost reductions. A correct BAPLIE file will avoid claims from the next terminal. BLV also streamlines invoicing with accurate documentation, reducing disputes. Its seamless integration with existing systems ensures easy implementation, highlighting its versatility and transformative potential in container port operations. ■



BLV provides instant, real-time feedback which enhances accuracy, minimizes manual errors, reduces disruptions and costs, aids decision-making, and optimizes processes and efficiency.



Argus

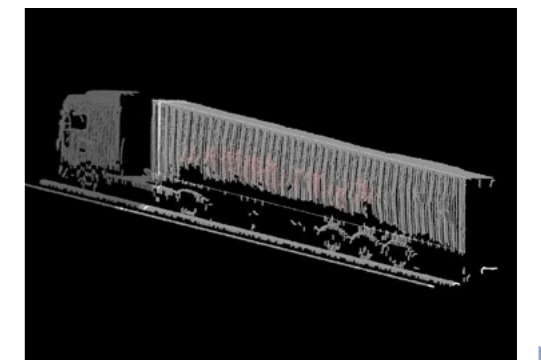
A new feature within Argus sees more than ever

Argus – Camco's automated damage inspection system – plays a crucial role in container terminal operations, where thousands of containers arrive daily, emphasizing the need to protect both people and infrastructure from potential risks. Today, we're excited to further enhance Argus's capabilities. Our engineers have successfully integrated Automatic Oversize Detection using LIDAR technology, specifically designed for flatbeds and containers passing through the gate. Preventing damage starts at the gate, and our enhanced ARGUS, now equipped with Automatic Oversize Detection, serves as an essential line of defense. By identifying and preventing oversized loads from entering your facility, we protect your assets and personnel from potential harm.

A new standard for container terminal security

Previously, Argus excelled in identifying and assessing damaged containers, but it lacked the ability to detect outward bulges, posing a potential danger. "Today, we address this, offering an innovative solution to our clients worldwide? With ARGUS already operational in terminals around the world, our latest integration of Automatic Oversize Detection sets a new standard for container terminal security. This advancement isn't just an upgrade; it represents a revolution in protection. At Camco, we're dedicated to redefining the future of secure terminals, ensuring the safety and efficiency of global trade operations. ■

Right. Preventing damage starts at the gate, and our enhanced ARGUS ensures oversized loads don't enter your facility, safeguarding your people and infrastructure from potential harm.





RT Digital Twin Revolutionizing terminal operations

MEET CAMCO'S RT DIGITAL TWIN TECHNOLOGY. THIS REAL-TIME VIRTUAL REPRESENTATION OF THE ENTIRE TERMINAL ENVIRONMENT USES UP-TO-DATE DATA TO PROVIDE UNMATCHED SITUATIONAL AWARENESS AND OPERATIONAL INSIGHTS.



Container terminal operations are inherently complex and dynamic. As this complexity grows, so does the need for advanced tools to manage and enhance daily operations. Today, Camco's RT Digital Twin technology jumps in to that need by automatic data delivery from existing systems to enhance performance across the industry.

Real-time monitoring and decision-making

RT Digital Twin offers a real-time, three-dimensional view of the terminal ecosystem, enabling operators to monitor container and equipment movements comprehensively. "This technology allows for data-driven decision-making and on-the-spot operational optimization", says Camco Software Engineer Devid Teugels. "By integrating real-time information from OCR/OFR, RTLS, TOS, and IoT systems into a single monitoring platform like Camco's RT Digital Twin, operators gain a complete

overview of the terminal's status, enhancing efficiency and speed."

Virtual scenario analysis

Beyond creating a virtual replica of the terminal, RT Digital Twin technology integrates data from all monitoring equipment to provide deep insights into operational performance. Devid Teugels: "Operators can use a 3D playback mode to review and analyze past actions, improving decision-making for future conditions such as gate and yard congestion or equipment failures. This capability also allows engineers and operators to monitor and manage terminals remotely, eliminating the need for physical presence."

Future advancements in RT Digital Twin technology

Camco's software engineers have developed RT Digital Twin to offer cutting-edge, real-time 3D representations of terminal operations. This technology seamlessly integrates with existing terminal management

RT Digital Twin Technology is set to transform how terminals are managed, offering unparalleled visibility, control, and optimization capabilities. With its real-time and predictive analytics, the technology promises to enhance terminal operations, optimize processes and drive efficiencies.

Devid Teugels
Camco Software Engineer

The greatest innovation of RT Digital Twin technology lies in its real-time visualization of all data available. Even though the technology is relatively new, RT Digital Twin has already overwhelmingly proven its effectiveness and maturity.

Devid Teugels
Camco Software Engineer



Real-time Location Revolutionizing Container Tracking

EFFICIENT CONTAINER MANAGEMENT IS CRUCIAL IN BUSY TERMINALS, AND CAMCO LEADS THE MARKET WITH ITS ADVANCED REAL-TIME CONTAINER TRACKING SOLUTIONS. USING VARIOUS LOCATION TECHNOLOGIES, CAMCO PROVIDES ACCURATE DATA THAT IS ESSENTIAL FOR OPERATIONAL EFFICIENCY.

Camco's image recognition solutions, based on AI-driven cameras, deliver accurate container data at fixed transfer points such as terminal gates. An additional layer of precision is achieved with Real Time Location Systems (RTLS) technology. This dynamic registration tracks container movements in real-time by following not the container itself, but the transport equipment such as straddle carriers, shuttle carriers, terminal trucks, and reach stackers. The combination of static and dynamic data capture provides a unique overview of container locations and optimizes operational planning.

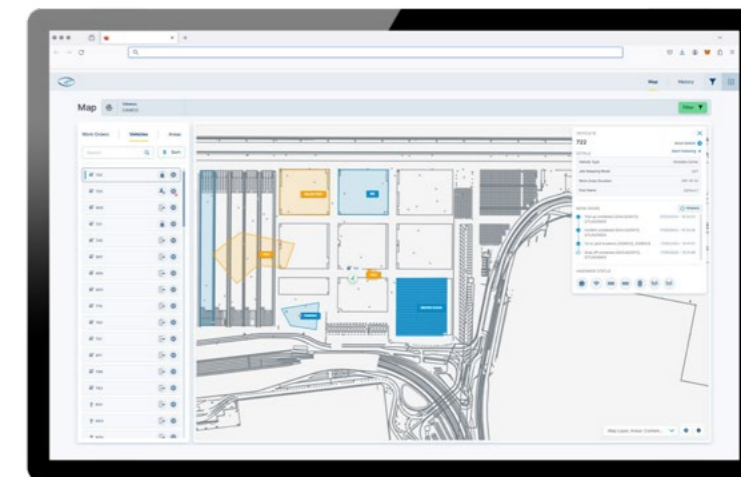
Sensor Fusion for Accurate Location Determination

Camco's RTLS expertise utilizes a combination of Global Navigation Satellite System (GNSS) and Ultra-Wide Band (UWB) technologies. This sensor fusion ensures precise positioning by combining different sources, which is essential for complex applications. With precision up to 5 cm, the MLT-UWB system is highly

effective for aligning straddle carriers and terminal trucks during vessel handling. This system ensures that containers are placed exactly where they need to be, allowing the STS crane to pick up containers in one motion without correction, improving Key Performance Indicators (KPIs) and vessel turnaround. MLT-UWB is the best technology for this alignment and the only solution for back-reach operations.

Anti-collision for Straddle Carriers

In busy terminals with hundreds of straddle carriers crisscrossing at high speeds, safety is paramount. Camco's anti-collision applications, supported by a network of sensors and antennas, continuously monitor the fleet. When two straddle carriers approach a pre-set safety zone, both vehicles are immediately brought to a stop to prevent collisions, minimizing costly production downtime. Camco's advanced systems not only improve safety and efficiency in container terminals but also provide the precision and reliability needed for smooth operations in this demanding environment. ■



Camco's yard automation and RTLS products as GNSS, UWB, RFID and VMT communication are **fully integrated into THE BRIDGE.**



RFID Technology

Camco's Trittech RFID Reader

CAMCO HAS LONG UTILIZED RFID READERS, PRIMARILY AT GATES, TO IDENTIFY EXTERNAL TRUCKS. INITIALLY, WE USED NON-STANDARD SEMI-ACTIVE TAGS (WHICH REQUIRED A BATTERY), BUT TODAY WE EXCLUSIVELY USE STANDARD EPC CLASS 1 GEN2 TAGS (ISO18000-6C). THESE TAGS CAN BE READ BY ANY RFID READER COMPATIBLE WITH THIS STANDARD.

Today, RFID is mainly used in gate automation. It allows us to identify trucks as they pass through the OCR portal and to match these trucks when they stop at one of the kiosk lanes. In this scenario, we have tag readers both at the OCR portal and in every gate/kiosk lane. Tags are usually used as a backup for license plates; both are used to identify the trucks.

Challenges and innovations

In practice, we have found that sometimes cross-reading occurs, where an RFID reader in one kiosk lane reads the tag of a truck in a neighbouring lane. This causes exceptions in the gate process. It also happens that the tag is not read, causing a truck waiting at a kiosk to go unidentified. To improve the quality of RFID reading, we developed our own reader called the Trittech RFID reader. It combines three technologies: an RFID reader, a radar, and a camera. By adding radar and a camera, we give the RFID reader supplementary eyes. The radar will prevent cross-reading as it can detect a truck in a kiosk lane, and it will also provide feedback if a truck is waiting at a kiosk but the tag is not responding. The cam-

era allows visual identification of the truck in THE BRIDGE operator application.

New functionalities

Along with the announcement of our Trittech reader, Camco is also introducing a separate outdoor LED display that can be connected to the reader to provide feedback to the truck driver. This display can also be used to give instructions to the driver or

to show the license plate or container to be picked up or dropped off. The Camco POE Trittech reader will be fully CE/FCC certified, support the settings for two regions (Europe and the US), and can connect to up to three external antennas (one is built-in). With the introduction of the Trittech RFID reader, Camco sets a new standard in gate automation and RFID technology, further enhancing efficiency and accuracy. ■



ADANI PORTS AND SPECIAL ECONOMIC ZONE LIMITED (APSEZ) IS INDIA'S LARGEST COMMERCIAL PORT OPERATOR, ACCOUNTING FOR NEARLY ONE-FOURTH OF THE CARGO MOVEMENT IN THE COUNTRY. THE DEEP-SEA WATER VIZHINJAM PORT IN KERALA IS BEING DEVELOPED INTO INDIA'S FIRST MEGA TRANSshipment CONTAINER TERMINAL.

Vizhinjam [Adani]

KERALA, INDIA



THE AREA

Vizhinjam is an area located in the city of Thiruvananthapuram, the capital of the state of Kerala in India. Vizhinjam is the only village in Neyyattinkara Taluk which belongs to Thiruvananthapuram Corporation. It is located 16 km south west from the city centre and 17 km south of Trivandrum International Airport along NH66. Adani Ports (APSEZ), India's biggest private port operator, is currently developing India's first deep water Transshipment Terminal Vizhinjam International Seaport Thiruvananthapuram in this area.

THE ONLY TRANSshipment HUB IN THE INDIAN SUBCONTINENT

NATURAL DRAFT OF 20-24 M & MINIMAL LITTORAL DRIFT

CAPACITY IN PHASE 1 IS TO BE 1 MILLION TEUS

IN SUBSEQUENT PHASES, ANOTHER 6.2 MILLION TEUS WILL BE ADDED

STATE-OF-THE-ART INFRASTRUCTURE TO HANDLE MEGAMAX CONTAINERSHIPS

LARGE SCALE AUTOMATION FOR QUICK TURNAROUND OF VESSELS



Camco delivered a complete auto gate system, eight STS crane BoxCatcher systems, an entire RTLS yard automation system, and our latest Real-Time Digital Twin featuring an eye-catching 20 m² overview display in the operator's room. As the cherry on the cake, Camco's unified platform ensures optimal visibility and manageability of the entire container terminal.

THE BRIDGE, our unified platform ensuring optimal visibility of the complete container terminal for all levels of responsibility.

Real Time Digital Twin, a real-time digital representation of all assets and associated processes and systems.

Eight **STS crane BoxCatcher systems** increase efficiency in waterside operations via OCR/OFR in day and night operations.

Complete auto gate system featuring state-of-the-art **kiosk registration** combined with OCR/OFR container registration technology.

Entire RTLS yard automation system for cutting-edge container and equipment tracking for **real-time monitoring** and operational visibility.

HATECO HAIPHONG INTERNATIONAL CONTAINER TERMINAL

IN THE NORTHERN REGION OF VIETNAM STANDS A PROMINENT SYMBOL OF AMBITION AND PROGRESS: HATECO HAIPHONG INTERNATIONAL CONTAINER TERMINAL (HHIT). THE TERMINAL COMPANY STEADFASTLY PURSUES INNOVATION AND GROWTH, AIMING TO BECOME THE LARGEST AND MOST ADVANCED CONTAINER TERMINAL IN VIETNAM. UNDER THE LEADERSHIP OF CHIEF EXECUTIVE OFFICER NGUYEN VAN TIEN, HHIT HAS AMBITIOUS PLANS TO ACHIEVE THESE OBJECTIVES.

Driving Vietnam's maritime ambitions



VIETNAM



- CAPITAL**
Hanoi
- TOTAL AREA**
331,344.82 km²
- LARGEST CITY**
Ho Chi Minh City
- ECONOMICS**
yearly GDP growth of 5.1% in 2023
- EXPECTATIONS**
Vietnam's economy is on a firm recovery track
- EXPORTS**
13.1% (December 2023)
- IMPORTS**
12.3% (December 2023)

SOURCE: CEIC, S&P GLOBAL, HSBC

| | | | | | | |
|---------------------------------------------------------------------------|----------------------------|--------------------------------------------|---------------------------------|-------------------------------------|-----------------------------------------------------------------------------|-------------------------------|
| COMPANY HATECO HAIPHONG INTERNATIONAL CONTAINER TERMINAL (HHIT) | ESTABLISHED 2022 | TOTAL INVESTMENT USD 450 MILLION | PROJECT TERM 70 YEARS | SCOPE OF BUSINESS SEAPORT | ADDRESS BERTS # 5 & 6 LACH HUYEN DEEP-SEA PORT, HAIPHONG, VIETNAM | CEO NGUYEN VAN TIEN |
|---------------------------------------------------------------------------|----------------------------|--------------------------------------------|---------------------------------|-------------------------------------|-----------------------------------------------------------------------------|-------------------------------|

Vietnam is known as a rapidly growing and promising market in Southeast Asia, and HHIT intends to fully leverage this growth. In 2023, the company announced plans to develop two new deep-water berths at Lach Huyen Port in Haiphong City. These berths will attract mega-ships and significantly reduce import and export costs in Northern Vietnam starting from the first quarter of 2025.

Futureproof as a guiding principle
One of HHIT's core principles is a commitment to futureproofing. The company aims to become Vietnam's first smart and green container terminal, in addition to the largest. "To achieve this, HHIT plans to become the country's first semi-automated container terminal, with the long-term ambition to operate fully autonomously," says Nguyen Van Tien, CEO of HHIT. "In line with this, HHIT aspires to utilize automated solutions as much as possible and prepare to operate entirely

on electricity once the power supply allows. This commitment aligns with our vision for sustainable development and innovation within the industry."

Sustainability and efficiency
HHIT's focus is on sustainability and efficiency, and internal expertise will help achieve these goals. By investing in safety, port automation, artificial intelligence, and decarbonization, HHIT can contribute to a successful future for the container terminal in Haiphong. For this, HHIT relies on the expertise of partners such as Camco Technologies. "The collaboration is a milestone for us as well," says Abby, CEO of Camco Asia. "The signing of the first collaboration contract for port automation between the two respective CEOs in September 2023 marked a milestone for both us and HHIT. It underscores our shared vision for the future, emphasizing innovation, sustainability, and technological advancement as we embark on this journey together."

Camco Technologies, a crucial partner for automation
Camco Technologies plays a crucial role in HHIT's automation efforts. The company provides innovative solutions such as the Gate System, the Vehicle Booking System (VBS), and Automated Damage Inspection (ADI). The Gate System enables HHIT to automate and validate truck and container data, while the

“ HHIT plans to become the country's **first semi-automated container terminal**, with the long-term ambition to operate fully **autonomously**. ”
 Nguyen Van Tien, CEO HHIT



25 years of intermodal automation

We have been automating the container handover process for more than 25 years. Our image recognition technology is globally acknowledged as the reference. With automated registration of containers, trailers or even complete trains, you will be processing containers without delay. Do you want to improve operations? Do you want to reduce truck and train turnaround? We are delighted to help. Just as we did in + 100 intermodal terminals across the globe.

Camco Technologies. We automate, you operate.

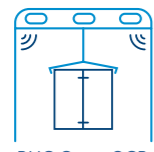
Empowering intermodal terminal operations



VBS



Gate Automation



RMG Crane OCR



Rail OCR Portal



To find out more, contact us at sales@camcotechologies.com or visit camcotechologies.com

CASE STUDY

WHO IS NGUYEN VAN TIEN?

Nguyen Van Tien has been the acting CEO of Hateco Haiphong International Container Terminal since October 2021. Prior to this, he worked for over twenty years at Greenport, VIP Greenport in Haiphong, where he served as both chairman and managing director. His professional experience also includes roles at Viconship, Transvina, Steamer Shipping, and the Port of Haiphong.



► VBS helps reduce congestion and improve terminal safety and efficiency. ADI detects container damage and automatically records it, allowing the terminal to better handle damage claims. Nguyen Van Tien: "The latter is also important for us. In the realm of port operations, damaged containers send shockwaves throughout the system. From revenue loss and delivery delays to reputation damage, the impact on businesses and the supply chain is significant. Moreover, port authorities face safety concerns, financial losses, and operational disruptions as a result."

BoxCatcher: increased efficiency in waterside operations

Another groundbreaking product from Camco is the BoxCatcher, a unique OCR system for STS cranes designed to enhance operational processes at the waterside. Using intelligent cameras, the BoxCatcher automatically registers the location of containers, resulting in smoother and more efficient crane operations. "BoxCatcher has several unique advantages for HHIT," says Abby Zhang. "It captures both valuable data as high-resolution images. The dynamic camera system offers comprehensive OCR/OFR capabilities, encompassing container ID, ISO code, seal detection, hazardous materials labels, and door orientation, facilitating operations around the clock. Additionally, it captures high-quality images to enhance condition monitoring, empowering terminal operators with improved damage claims management."

Looking to the future: Putting Vietnam on the map

Container ports serve as the lifeblood of Vietnam's flourishing economy, driven in part by robust trade connections with the global market. These ports play a crucial role in



facilitating the import and export of a wide range of goods, from textiles to electronics and agricultural products. According to Nguyen Van Tien, "Vietnam has positioned itself in recent years as a regional trade hub in Southeast Asia, with cities like Ho Chi Minh City, Hai Phong, and Da Nang acting as key nodes for goods movement. This strategic location has bestowed upon Vietnam a central role in trade within Asia and beyond. Given the significant growth potential, it's imperative to prioritize sustainability in all its facets with every investment." ■

“ Camco Technologies provides innovative solutions such as the Gate System, the Vehicle Booking System (VBS), and Automated Damage Inspection (ADI)

Nguyen Van Tien, CEO HHIT

1. INTRODUCING BOXCATCHER GEN4: ELEVATING EFFICIENCY AND PERFORMANCE

Since its introduction in 2015, BoxCatcher has revolutionized container terminal operations worldwide, pushing efficiency and safety to new heights. With over 300 operational installations, this patented flying STS crane camera system has become an indispensable tool in the industry. However, with rapid advancements in the field and an ongoing demand for improvement, continuous innovation is imperative. Therefore, 2024 marks a pivotal moment for BoxCatcher as we launch its fourth generation. Make way for BoxCatcher GEN4!

5. REVAMPED RAIL SYSTEM

The demand for higher cranes by our customers necessitated a redesign of the rail system of BoxCatcher. As cranes extend up to 45 meters, the existing system faced limitations. In response, we devised a new approach where rails are mounted individually onto the crane, streamlining the installation process and reducing the need for multiple lifting cranes. This innovation not only enhances cost-effectiveness but also simplifies connection brackets, resulting in a more affordable solution without compromising on functionality.

PREVIEW: BOXCATCHER
Gen4



2. ENHANCED ENERGY AND DATA TRANSFER

Our commitment to reliability led us to refine the wireless energy transfer system, known as IPT (Inductive Power Transfer). By replacing the feedback radio with a magnetic timing belt-based solution, and upgrading the internal data communication system to a 60GHz point-to-point connection, we've bolstered reliability. Moreover, the integration of a battery with extended temperature capabilities ensures optimal performance even in demanding environments. These enhancements are poised to significantly increase the Mean Move Between Failures (MMBF) of our BoxCatcher system.

3. CUTTING-EDGE CAMERA TECHNOLOGY

The latest iteration of BoxCatcher features advanced Sony Starvis 2 sensors, renowned for their compactness and high sensitivity. This upgrade not only reduces the reliance on LED projectors but also enhances energy efficiency and mitigates internal heat. Furthermore, the integration of powerful NVIDIA GPUs empowers the system with formidable AI processing capabilities, paving the way for future innovations.

4. STREAMLINED DESIGN

By consolidating all BoxCatcher electronics onto a single printed circuit board, we've eliminated the need for a separate datarouter. Coupled with a compact battery and smaller camera modules, this redesign results in a sleeker, lighter, and more energy-efficient system.

6. INTEGRATED FIELD ELECTRICAL CABINET (FEC)

To simplify installation procedures, the GEN4 rail system now incorporates an integrated FEC, housing both electricity and data connections. This integration streamlines cabling processes, directly connecting cables from the STS crane's e-house to the integrated FEC on the rail.

7. PERFORMANCE OPTIMIZATION

These comprehensive enhancements not only positively impact pricing and installation time but also elevate OCR performance and, most importantly, the mean move before Failing (MMBF), surpassing with flying colors the 5,000 mark! As a result of these advancements, BoxCatcher GEN4 stands as a testament to our unwavering commitment to delivering cutting-edge solutions that redefine industry standards and propel container terminal operations into the future.



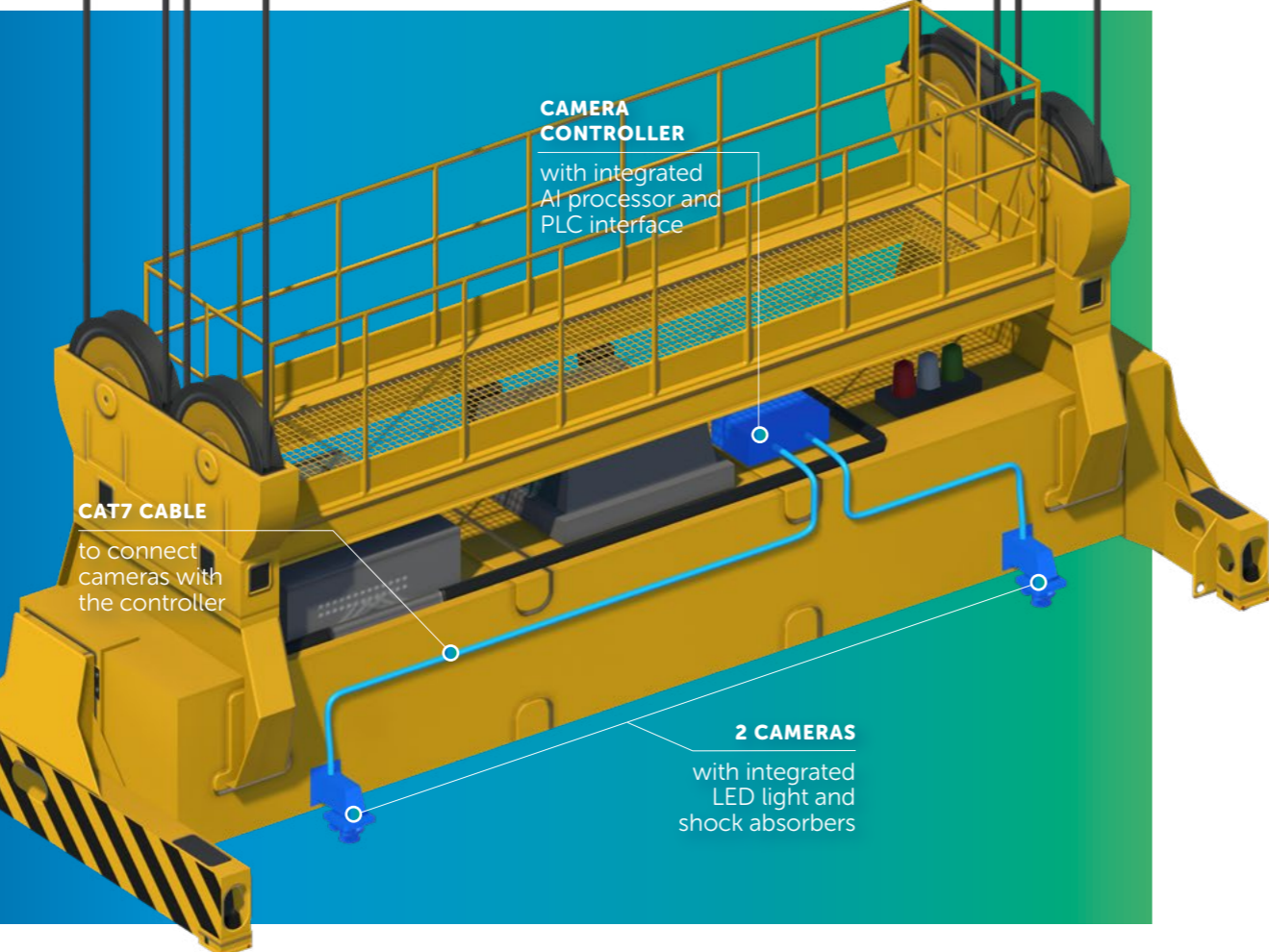
With the unveiling of **BoxCatcher GEN4**, we're not just introducing a new generation of technology; we're ushering in a new era of efficiency and performance for container terminal operations. As we continue to innovate and adapt to the evolving needs of the industry, BoxCatcher remains committed to pushing the boundaries of what's possible, ensuring that our customers stay ahead in an ever-changing landscape.

Jan Bossens
CEO Camco Technologies



Scan the QR code
and find more information
on the Boxcatcher GEN4

A spreader camera, how does it work?



A missing link: the spreader camera?

TRANSFORMING PORT LOGISTICS WITH CUTTING-EDGE TECHNOLOGY

IN MODERN PORT LOGISTICS, INNOVATIVE TECHNOLOGIES PLAY A CRUCIAL ROLE IN IMPROVING EFFICIENCY AND SAFETY. ONE SUCH TECHNOLOGY IS THE SPREADER CAMERA, A VERSATILE SOLUTION THAT CAN BE INSTALLED ON VARIOUS TYPES OF EQUIPMENT. IN THIS ARTICLE, WE DELVE DEEPER INTO THE APPLICATIONS, BENEFITS, CHALLENGES AND TECHNICAL SPECIFICATIONS OF SPREADER CAMERAS.

Spreader cameras are specially designed cameras that can be mounted on spreaders of various port equipment such as STS cranes (Ship-to-Shore), RTG/RMG cranes (Rubber Tyred Gantry/Rail Mounted Gantry), reach stackers, and empty handlers. Their main use is helping in identifying containers by reading the top container numbers, especially with equipment like RTGs and reach stackers.

Applications on ship-to-shore cranes

On ship-to-shore cranes, there are two primary applications for spreader cameras. The first application is damage inspection during handover from the vessel to the

yard. This includes checking for damage of the container roof, particularly holes near the corner castings that can occur due to improper hard landings of the spreader pins. The second application is reading container numbers. Although this is possible, there are better alternatives such as the BoxCatcher, which achieves nearly 99% read rates. Roof numbers are often of lower quality, and rain affects their readability. A third application of spreader cameras on large STS cranes is giving a live view to the crane operator, with today's large vessels with deep bays this technology can help during the discharge (empty spreader) of a vessel.

Robust designs for extreme conditions

The physical conditions in which spreader cameras operate are extreme. A spreader on an STS crane can experience shocks of up to 100G. Without protection, an off-the-shelf camera would break after a few days. On RTG/RMG cranes and reach stackers, these shocks are less frequent but still present. Camco provides solutions for both groups of cranes with extended warranty periods of up to four years. Our cameras are equipped with specially designed shock absorbers that can easily handle these high shocks.

Data transmission: a technical challenge

One of the biggest challenges with spreader cameras is transmitting the data to the computer room. On STS and RTG/RMG cranes, the wiring system between the spreader and the crane control room is very limited. For instance, it is rare to have an Ethernet connection on the spreader. Usually, we use power-line modems on some of the spare wires if available. Although we also have Wi-Fi installations, this is usually not the most reliable solution. But it doesn't end here, even when the data reaches the crane control room, there is no guarantee that it will arrive in the data center. Tire-based

equipment such as RTGs and reach stackers do not have a wired cable connection to the data infrastructure of a terminal. Here again, a wireless solution such as Wi-Fi is often the only option. Another challenge is to get data from the PLC, mainly the status of the twist locks. This is particular the case for older RTG's and the many brands of reach stackers. The twist lock status is used as a confirmation to the TOS that a container is picked-up or dropped. There is a lot of legacy interfacing here.

5G, a perfect alternative

A promising alternative to Wi-Fi is using 5G, directly from the spreader to the data center. To address these challenges, Camco has added a 5G modem to its spreader camera solution, eliminating the need for a PLC connection. This solution is already operational at some sites and appears to be very reliable.

The system behind the spreader camera

The spreader camera solution consists of two devices: one or two camera units installed on the spreader, and a camera controller with a built-in AI processor. The cameras are connected via a cat5 cable and feature 50-watt built-in LED lights and a radar to measure the distance to the container. All devices are integrated into one housing and protected by the shock absorber system.

Installation and integration

The camera controller is installed inside the control box of the spreader. For reach stackers, it is usually installed inside the cabin, often in combination with an RTLS controller that checks the container and location. The spreader camera controller has a Profibus interface to communicate with the crane PLC and ideally receives information about the twist lock status of the spreader.

Fully supported by THE BRIDGE

Spreader cameras are fully supported by THE BRIDGE, meaning you can rely on a dependable and efficient operation of your port equipment with this advanced technology. With the continuous evolution of port operations, the spreader camera is a valuable addition that enhances both safety and efficiency. Whether it is for damage inspection, reading container numbers, or providing live view to crane operators, this technology sets a new standard in the industry. ■

“ Our cameras are equipped with specially designed shock absorbers that can easily handle 100G shocks! ”

CAMCO: INNOVATION AND CUSTOMER FOCUS

CAMCO OPERATES ON SIX CONTINENTS AND REMAINS COMMITTED TO STAYING CLOSE TO ITS CUSTOMERS THROUGH INNOVATION AND INVESTMENT. THIS COMMITMENT EXTENDS TO ITS LOGISTICS DEPARTMENT, WHICH PLAYS A CRUCIAL ROLE IN DELIVERING PRODUCTS AND SERVICES TO CUSTOMERS WORLDWIDE.

Camco delivers up to 60 projects a year across the world. Those projects need a lot of hardware products to be shipped on time. Logistics is more than just the transportation of goods from one place to another. It encompasses everything related to organizing, planning, controlling, and executing a flow of goods from the initial to the final stage. At Camco, a team of 7 people are responsible for processing an average of two containers per week to customers and approximately 400 shipments per month via partner FedEx.

It all starts with inbound

At Camco, everything begins with the receipt and inspection of goods from suppliers. These are thoroughly checked and intensively tested as needed. They are then entered into inventory, with over 80% going to the production department for assembly. After assembly, the products are stored in inventory by the logistics department. The products then go outbound, for new projects and as service support, such as replacing damaged or defective parts.

Inventory management and challenges

Camco has nearly 7,000 references in stock,

amounting to over 900,000 pieces. A major challenge in recent years has been the need for certification, such as BIS certification in India or SASO certification in Saudi Arabia. Two employees are responsible for staying up-to-date with the necessary approvals and ensuring that the company always complies with applicable regulations for each country. There are numerous specific rules to consider, such as the prohibition on shipping untreated wood to China to prevent the spread of foreign fauna. These rules also apply in Australia. Other rules relate to shipment value, specific procedures, and safety. Certain rules must also be followed when importing materials. For example, imported metal must demonstrate that it does not originate from Russia. Additionally, Camco's lidar and AI technology, which can be used in military applications, requires explicit certification and/or approval in some countries.

Shortening the path

With the success of the BoxCatcher, Camco decided to produce the rails in China. After milling and anodizing, these are transported straight to the ZPMC production island in Shanghai, the largest STS crane builder in the world. In no time, these are installed on the cranes. This concept is a big win for delivery times. It also means a huge cost cut, as the rails are both bulky and heavy, so shorter shipping lines have a significant impact.

Paperwork optimization

Logistics means paperwork. It starts with checking the contractually agreed Incoterms, from a simple one like EXW (Ex Works) to the complex DDP (Delivery Duty Paid). Additionally, every shipment must be accompanied by shipping documents listing all the goods with the corresponding HS codes (Harmonized System). Although it's a world standard, every country is free to adjust the number with 2 to 4 digits.

Future challenges

The future brings its own challenges. Speed remains a crucial factor in logistics, and certification will not become any less important. Maintaining sufficient inventory without creating overstocks remains a delicate balance. By continuing to focus on these aspects and constantly innovating, Camco remains able to meet the needs of its customers quickly and efficiently. By continuously investing in people and technology, we ensure that our customers always receive the best service and products, regardless of where they are in the world. ■

Global logistics



Camco's logistics operations are a testament to **dedication to customer focus and innovation**. With a strong team and robust processes, we continue to overcome challenges and **strengthen our position as a leader in the industry**.

New Camco projects



Mundra can push India to the centrestage as a global transshipment hub

**NORTH SEA
TERMINAL
BREMERHAVEN**
GERMANY



The North Sea Terminal connects Bremerhaven with over 130 ports worldwide. It boasts 18 gantry cranes and 102 straddle carriers. Camco will outfit this year all these 18 gantry cranes with its crane OCR system, BoxCatcher. Additionally, Eurogate has engaged Camco's services for the installation of two rail OCR Portals. Most recently, Eurogate awarded Camco an additional contract for the installation of an 4 RMG Cam system.

CCT PANAMA
PANAMA



The Colon Container Terminal is a modern container handling facility featuring two berths. With the development of two additional berths, the terminal's total area expanded to 74.3 hectares. Camco is implementing a gate automation solution, 11 BoxCatcher Crane OCR systems, RTLS for 90 TT's, 34 RTG's and 11 STS cranes, automatic damage inspection, and an under-vehicle scanner system. CCT Panama will also utilize Camco's new unified platform, THE BRIDGE.

ADANI MUNDRA
INDIA



Adani Ports and Special Economic Zone Limited (APSEZ) is India's largest commercial port operator, handling nearly one-fourth of the country's cargo movement. The deep-water Vizhinjam Port in Kerala is being developed into India's first mega transshipment container terminal. Camco signed a contract with Adani Mundra port for delivering of an auto gate system.

HUPAC PIACENZA
ITALY



Piacenza, an important economic center about 50 km south of Milan, hosts the Terminal Piacenza. With an area of 95,000 m², of which 10,000 m² is designated for storage, the terminal is well-equipped with 8 mobile cranes, 2 shunting locomotives and 3 terminal tractors, along with 3 transshipment tracks of 600 meters and one of 500 meters. Camco is installing two truck portals with four kiosk lanes and one rail portal at the terminal.

NIT NORFOLK
ENGLAND



NIT Norfolk has awarded Camco the contract for the installation of two rail OCR portal systems. The semi-automated container terminal is divided into North, South, and Central Rail Yard sections, with a current annual throughput capacity of 2.2 million TEUs. Undergoing expansion to increase capacity to 3.6 million TEUs, it will feature 58 semi-automated stacks and 96 stacking cranes.

**PORT HALIFAX
/ FAIRVIEW
CONTAINER
TERMINAL**
USA



The PSA Halifax Fairview Cove Terminal spans 70 acres of land and includes 2,297 linear feet of dock space, along with an impressive 11,000 feet of on-dock, double-stack rail infrastructure. In a bid to further enhance operational efficiency, Camco is set to install a comprehensive Truck Gate system at the terminal. Additionally, the implementation of Camco's new unified platform, THE BRIDGE, promises streamlined operations and advanced oversight capabilities.

**HUTCHINSON
PORTS – PORT OF
FELIXSTOWE**
UK



The Port of Felixstowe stands as Britain's largest and busiest container port. In anticipation of further growth, the Port of Felixstowe enlisted Camco for the installation of new gate kiosks, a haulier control system, and a gate operating system across three different terminals: Dooley, Trinity, and Landguard. The project involved the installation of 51 new kiosks, comprising a mix of the recently launched All-in-One Kiosk, as well as kiosks designed for both personnel and truck use

MRCT RIO
BRAZIL















MultiRio is recognized for its exceptional service among Brazilian ports, serving various shipping lines, importers, and exporters. In addition to its outstanding services, MultiRio is poised to implement cutting-edge technology from Camco, including the STS crane OCR system BoxCatcher on the 5 cranes and the new BLV software. This initiative positions MultiRio as the first terminal in Latin America to embrace these innovative solutions, showcasing its commitment to leading industry advancements.

**INTERPORTO
PADOVA**
ITALY

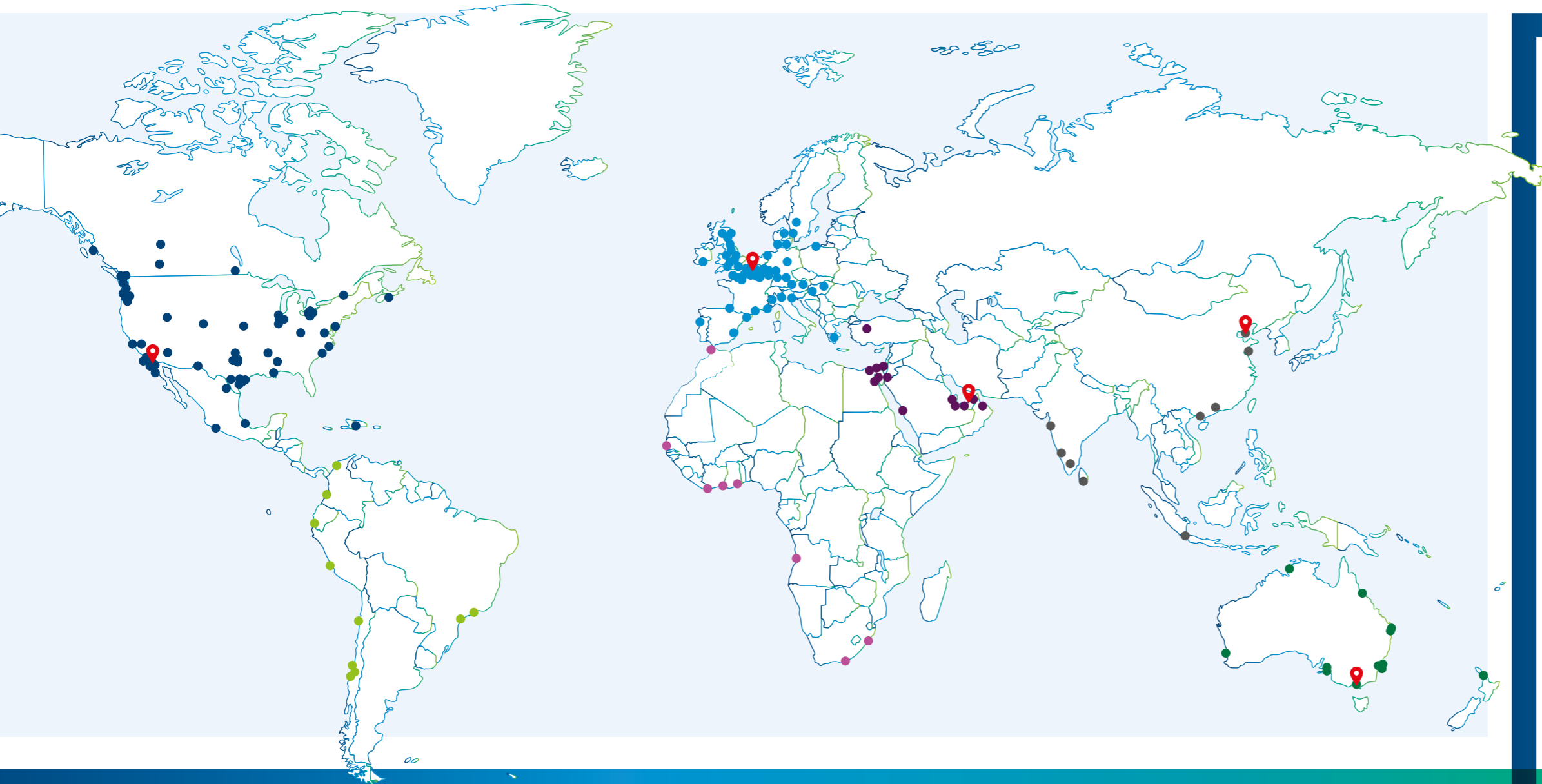


Interporto Padova is renowned as the most advanced land terminal in Italy. Camco was engaged for their RMG yard automation – LSTP kiosks designed for container handover at Interporto Padova. Within the container yard area, user-friendly and interactive grid kiosks assist truckers during container transfers, providing a safe and efficient solution for RMG crane operators. During the actual load transfer process, drivers are required to exit their cabins and activate the presence button, ensuring a safe working environment.

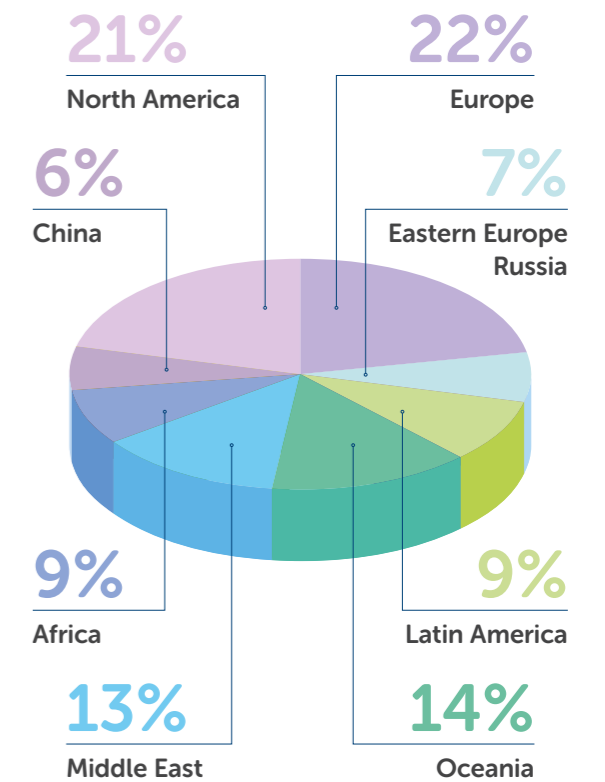
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| <p>TNMSC SETO (LE HAVRE) FRANCE</p> |  | <p>Camco will install its BoxCatcher system on the nine new STS cranes at TNMSC Le Havre. The container terminal in the Port 2000 area of Le Havre, operated by MSC has a 1,400-meter-long quay allowing MSC to dock any of its ships, including 14,000 TEU units, regardless of weather conditions and tides.</p> | <p>CHINA RAILWAY CHINA</p> |  | <p>China railway is the national passenger and freight railroad corporation of the People's Republic of China. Camco sold a first spreader camera system for the railway terminal in Nanchang.</p> |
| <p>APMT LAZARRO MEXICO</p> |  | <p>The first phase of APM Terminals Lazaro Cardenas was inaugurated in 2017, marking the inception of Mexico's first semi-automated and highly advanced container terminal. Upon the completion of its final phase of development, expected between 2027 and 2030, the terminal will boast a capacity of 4.1 million TEUs. Camco has been entrusted with the contract to install its crane OCR system, the BoxCatcher on the 7 STS cranes including the new BLV (Bay Load Verification) software.</p> | <p>PSA MERSIN TURKEY</p> |  | <p>Mersin International Port (MIP) is connected by railways and highways to Turkey's industrialized cities such as Ankara, Gaziantep, Kayseri, Kahramanmaraş, and Konya, as well as to neighboring countries like Syria, Iraq, and the CIS countries. It is one of the main container ports in the Mediterranean Region, with transit and hinterland connections to the Middle East and the Black Sea. Camco will supply seven truck portals, comprising a total of 26 kiosk lanes.</p> |
| <p>EUROGATE BREMERHAVEN GERMANY</p> |  | <p>With the longest container quay on the entire European continent, the Eurogate Bremerhaven terminal offers ample space for large container ships and direct access to the North Sea. Eurogate Bremerhaven is already a long time Camco customer and has awarded Camco the contract to install a comprehensive Rail OCR System.</p> | <p>APM TERMINALS MAASVLAKTE THE NETHERLANDS</p> |  | <p>The terminal is located in Rotterdam, on the Second Maasvlakte, and was opened in 2015. The terminal remains the world's most advanced fully automated terminal. Approximately 80% of crane movements are automated. Our customer has already gate, rail and Crane OCR systems from the start. Recently we signed a contract for supplying OCR systems for nine STS cranes, 3 QC cranes, and one RMG crane.</p> |
| <p>PORT OF KIEL GERMANY</p> |  | <p>The Port of Kiel is distinguished as one of the most versatile ports in the Baltic region. Its strategic geographical location, consistent depth for seagoing vessels, and seamless connection to the national rail and road network make it highly attractive for both cargo and passenger traffic. Kiel benefits from its position as the gateway to the world's busiest artificial waterway, the Kiel Canal. Camco will install two OCR rail portals and upgrade the truck gate system, comprising four portals.</p> | <p>CMA CGM KHALIFA PORTS ABU DHABI</p> |  | <p>AD Ports Group and CMA CGM Group have entered into a 35-year concession agreement for the development of a new container terminal at Khalifa Port. The terminal is expected to open in 2025 with an initial capacity of 1.8 million TEU. Situated between Abu Dhabi and Dubai, the terminal will benefit from easy access to local roads and highways and will also be connected to the new Etihad Rail network for further connectivity. Camco signed a contract for delivering gate and yard automation solution (RTLs).</p> |
| <p>WANHAI LINES, KAOHSIUNG BERTH NO.5 TAIWAN</p> |  | <p>Wan Hai Lines, established in 1965 as an Inter-Asia log carrier, evolved into a specialized container liner in 1976, now offering premium quality, customer-first services globally across Asia, Europe, and North America. WHL is also a proficient terminal operator and operates three self-owned terminals. For Taiwan Kaohsiung Berth No.5, Camco will provide a complete gate automation system and a Radiation portal monitoring gate.</p> | <p>HHIT VIETNAM</p> |  | <p>Located in the northern region of Vietnam, HATECO Haiphong International Container Terminal (HHIT) stands as a prominent symbol of ambition and progress. The terminal company is dedicated to pursuing innovation and growth with the goal of becoming Vietnam's largest and most advanced container terminal. Camco Technologies different solutions, including the Gate System, the Vehicle Booking System (VBS), Automated Damage Inspection (ADI), and BoxCatcher.</p> |
| <p>PORT OF NEOM SAUDI ARABIA</p> |  | <p>The Port of NEOM will serve as a crucial gateway for goods and materials needed for the development of NEOM, the ambitious new city of the future in Saudi Arabia. The Port of NEOM will play an essential role in the construction, operational activities, and economic ambitions of NEOM – both during the development phase through the import of goods and materials, and later as a new global port serving the region. Camco will equip the 10 ZPMC STS cranes with the BoxCatcher systems.</p> | <p>PORT BOTANY AUSTRALIA</p> |  | <p>Our new customer in Port Botany, Australia, employs unmanned kiosk gate lanes featuring Camco's kiosks. These kiosks, installed for TYNE Container Services, enhance transaction processes for both trucks and cars. They streamline access control, driver identification, traffic flow, and truck driver direction on site. The installation comprises three inbound and two outbound kiosks. Moreover, remote access control is facilitated through Camco's advanced user platform, THE BRIDGE, which seamlessly integrates all gate automation components.</p> |

Staying close to our customers, on all four corners of the world

With over 300 projects on six continents, we pride ourselves in staying close to our customers. We also keep close to our values and our own strengths. That's why at Camco Technologies we continue to innovate and invest. Because we automate, you operate.



SHARE OF EXPORTS



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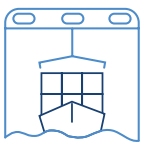
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Maritime



Intermodal



Ro-Ro

No box escapes the BoxCatcher

The flying STS crane camera.

It takes only 2 BoxCatcher per STS crane to register every box. Mounted on vertical rails and linked to the spreader PLC, the BoxCatcher travels automatically to the best position to identify every container and to provide 360° pictures. The system even includes a washing station for automatic front cover cleansing without disrupting crane operations. Designed for minimal Opex and maximum uptime, BoxCatcher operates 24/7 in terminals across the globe.

Camco. We automate, you operate.

PATENTED
300+ INSTALLED

To find out more, go to
camcotechnologies.com

