Seaport Operations & Revenue Maximization

As the globalization of world trade accelerates, the importance of achieving operational speed without sacrificing accuracy is paramount to the success of all stakeholders in the international trading system — from shippers to logistics service providers, terminal operators, and carriers, to retailers, consumers, and end-users of the transported goods. For businesses involved in that supply chain, providing end-to-end visibility and predictability is vital for staying ahead of the competition. Fortunately, automation and digitization are making that possible at levels that were inconceivable just a few years ago. Nevertheless, a great deal of additional progress remains attainable, so long as stakeholders take the next big leap in the process.

The advent of Live Earth's cloud-based, real-time data platform has enabled the automation of global supply chain processes, real-time container-status tracking, and management of revenue-generating events and billing. With the expansion of data into the foundational end-to-end container planning processes, from stowage planning and execution to berth window management and port call optimization, the ideal of a "common operating picture" is now within reach.

This whitepaper examines how an intelligent, real-time data visualization platform can streamline Seaport Operations and Maximize Revenues.

Seaport commissioners and directors are facing an increasingly complex range of operational challenges in their management of highly complex, multi-tenant port environments. The need to safely manage an ever-expanding cargo and passenger load is driving many port officials to evaluate new technologies that drive increased efficiency and revenue for both port authorities and tenants. The notion of the "seaport of the future" is rapidly taking hold as authorities increasingly use technological innovations to improve:

- Security of cargo, including containers, bulk and break-bulk shipments, as well as passengers
- Decision-making and responsiveness
- Compliance and communication with government organizations and other ports
- Flexibility and resource utilization
- Satisfaction of terminal operators and other tenants

Let's see how Live Earth's common operating picture enables operational efficiency.

Situational Awareness

Seaports have a driving mission to move cargo quickly and safely through the port. In the quest to improve vessel turnaround times, seaports are relying more and more on real-time technologies to enhance the flexibility of operations and improve efficiency. In a world where most workers still record container numbers on clipboards, this solution can drive significant cost savings.

Live Earth comes fully integrated with data from our partners and is ready for immediate use. There is no development or engineering work required of our customers. The real-time data provided by Live Earth can be layered and visualized on top of any static overlay files such as Excel, KML, KMZ, ArcGIS, and more, imported by a user. These data feeds include weather, air quality, buses, lightning, flights, traffic, trains, water sensors, parking, earthquakes, traffic, ships, traffic cameras, wildfires, and more, and serve to bridge contextual gaps between our geospatial map and an end-user's proprietary systems.
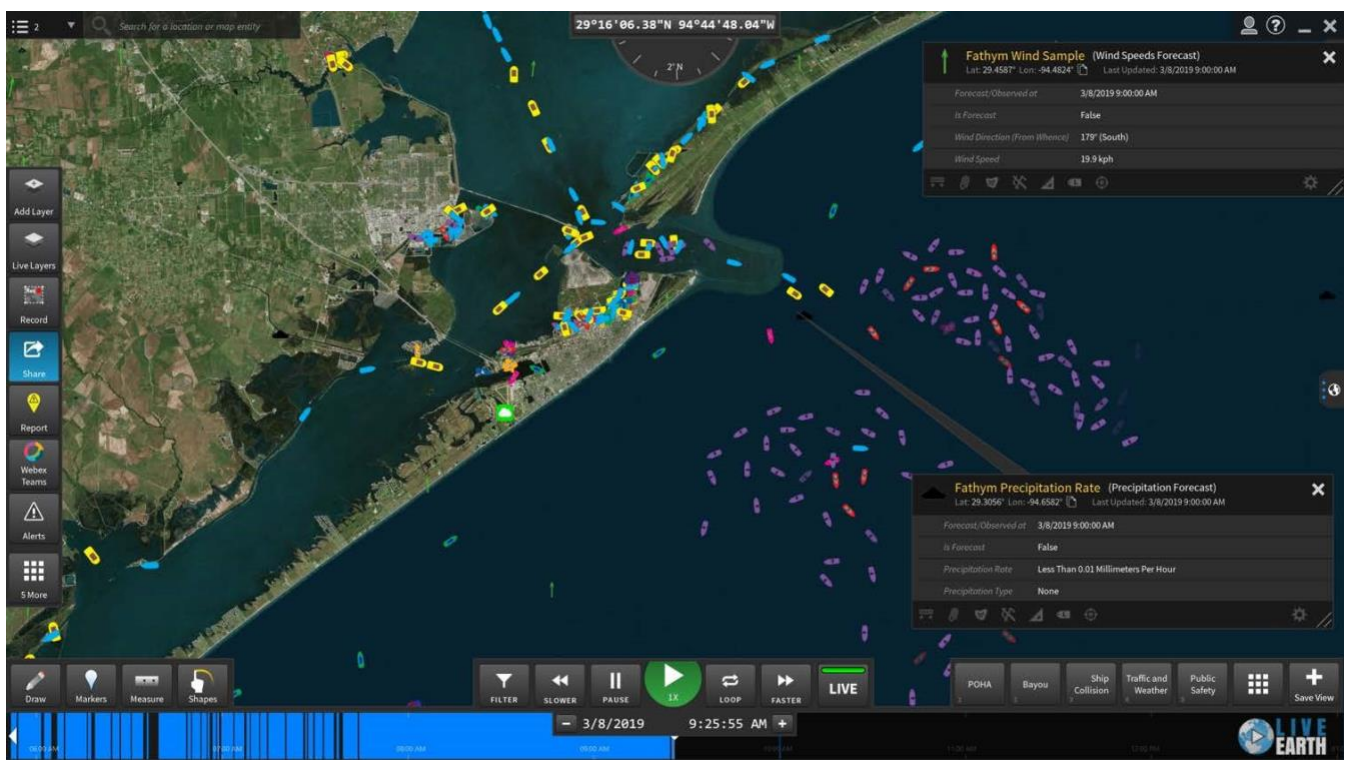

In this image, predictive weather data from Fathym shows the user wind speeds and precipitation rates in relation to the local pilot buoy, giving real-time awareness at the time of the ships' arrival and departure. Should problem predictions arise, users can share the alert with others in real-time to prevent disasters and communicate with port operations and captains alike.

Increasing Tenant Satisfaction

Port authorities are eager to meet the needs of their tenants, particularly operators of critical terminals, to drive revenue and protect already compressed margins. If seaport tenants cannot safely and efficiently operate their businesses, including moving cargo on and off ships, repairing vessels, and ensuring that ships are adequately supplied, it is the seaport that will ultimately suffer through lost business as shippers move to other ports and volume declines.

Live Earth can help seaports provide ways to generate new revenue and to provide added customer service to seaport tenants.
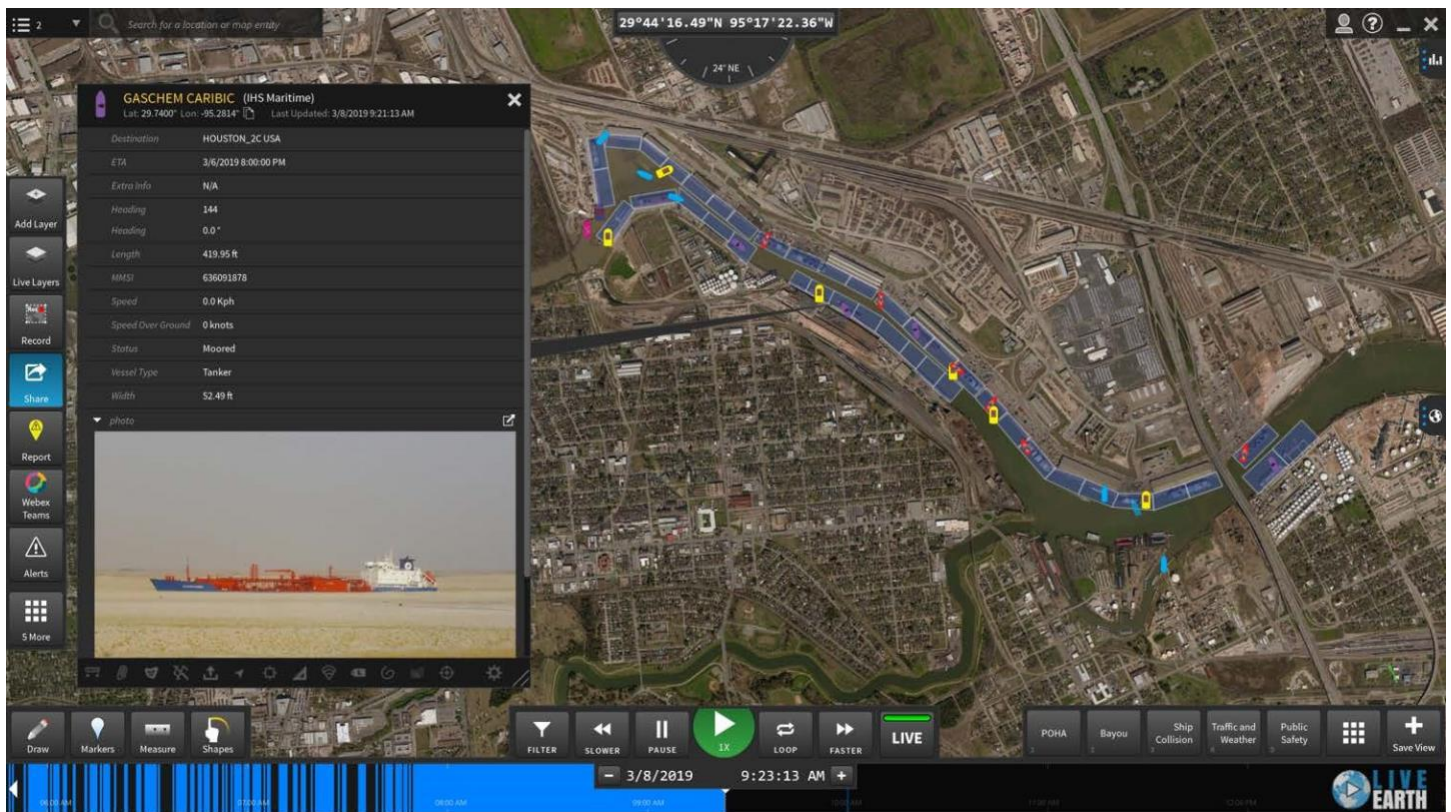
In this image, geofences are created around docks to alert the user when ships enter and leave which adds value to organizations who need a better means to operate at optimal capacity and better manage revenue. These same geofences also provide insight for the length of time ships are docked to increase efficiency for cargo movement and track bunkering activity.

Command and Control

Live Earth is an integrated mapping platform that consolidates information onto one screen. Nearly 75 million events per day are seamlessly processed and synchronized into one place. Our platform ingests a large variety of data all at different refresh rates and quickly stitches data together for visualization.

Live Earth provides a command-and-control solution for digital surveillance of remote sites and large outdoor environments. While a lot of effort has been invested into migrating technology systems onto digital platforms to ease the burden of managing the volume of data, minimal attention has been paid to the ergonomics of operators interacting with these systems. Live Earth addresses this deficiency by providing a geospatial (map-based) user interface to allow simple hardware interaction and increased situational awareness.

Live Earth offers the opportunity for consistent execution across an organization by creating one common operating picture, empowering users to interact with the platform by whiteboarding, dropping markers, attaching files, and more, and then allowing recordings of scenes with a user's interactions included to be shared. Whether an organization can consistently and accurately create assessments that answer the above questions, determines whether they should move on to...

User Interface

Live Earth is a real-time data visualization platform that offers near-instant access to high volumes of data, applies rules to that data to filter out background noise, and provides notifications of incidents that require swift attention.

Live Earth's platform is based on GIS-style maps, providing latitude, longitude, and elevation information for all aspects of the user display. Hardware appears on the map in the true geographic location allowing users to easily select, view and control them. The display can consist of single or multiple monitors and enables the configuration of walls that combine video, charts, and individual asset details.

Alerting

Fully customizable notifications provide key decision-makers with timely, relevant, and actionable knowledge. These predictive alerts and immediate incidents are built by creating a set of rules relating one group of data to another. Incidents and alerts are engineered from any sensor or GIS data in the platform, and send notifications on screen, by text, and through email. Predictive alerts warn about anything, from ship collisions to heavy storms and more. Real-time alerts are recorded as they take place and stored in an Incidents Panel for future analysis, allowing you to manage by exception.
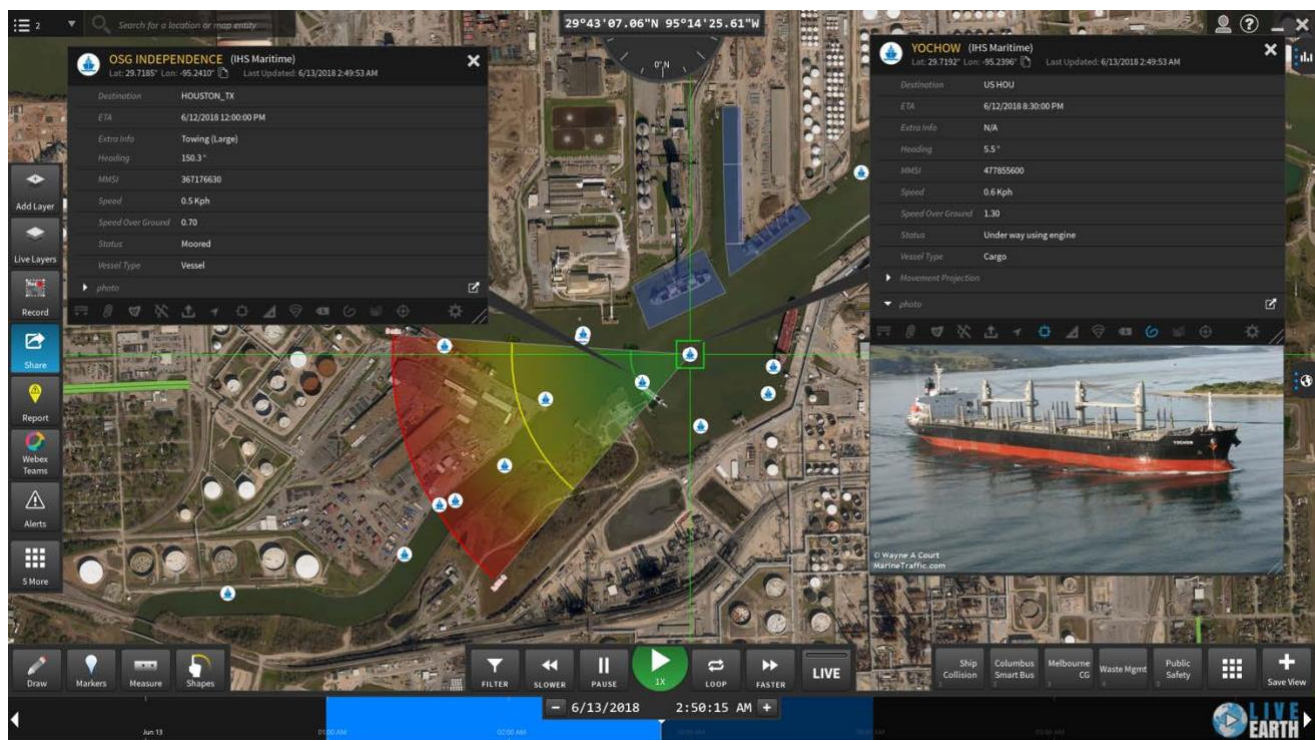
In this image, tracking ships entering and leaving the port and within the port channel provides the user the ability to see how ships behave in relation to one another. With alerts in place based on the distance between ships, users can act in real-time with port operations to avoid or respond to a collision.

Historical Reference

Live Earth is not only a tool to manage ongoing or impending events, but also offers additional capabilities unique to its platform. The Play, Pause, Rewind feature allows you to play your map and time travel anywhere from a few seconds to weeks in the past, to reconstruct important data. Pausing gives the opportunity to process and assess every facet of information from different angles. Save the scene for later use like in-depth analysis or discussion. Press the "Live" button to go back to the real-time feed. Live Earth is not only a tool for triaging but a historical means of forensic analysis.

Optimizing Investments

Ensuring technology will work together is key. Live Earth proactively alleviates this pain point by offering an extensible platform that is completely data agnostic. Integrate existing systems and assets into Live Earth to view them live and synchronized them together in conjunction with all our provided data layers. These proprietary systems can be added or replaced at any time, allowing the platform to grow and evolve with any organization, and visualize only the most pertinent data in real time on one screen.

Live Earth's simple setup wizards allow for quick integrations of proprietary Video Management Systems, Access Controls, Shot Detection, License Plate Readers, Social Media, and more. The data layers panel allows customization of the view at any location by turning layers on or off as needed.

Prevention is the cardinal objective of situational awareness. Examining security and safety from a holistic viewpoint can help prevent threats from materializing. Live Earth's real-time data visualization paints a holistic picture of your world and allows for extremely well-informed decision-making.

For more information or answers to any questions, please contact Live Earth at www.liveearth.com.

LIVE EARTH

A WORLD OF INSIGHT AND ACTION

Live Earth was originally developed for military use and is still trusted today to manage complex and critical operations. Live Earth has had the opportunity to assess and analyze dozens of different operations centers over the years, and through this experience engineered a solution to streamline operations and solve the issues of multiple systems, incongruent teams, and slow response times. The platform is proven and tested in battle, CJIS ready, SOC II compliant, FedRAMP certified, and designed to protect sensitive information. Live Earth is a trusted solution for providing critical information and helping solve real-time problems that require a combined operational view. Live Earth continues to expand and integrate new partnerships, ensuring your most relevant information will always be accessible to you.

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