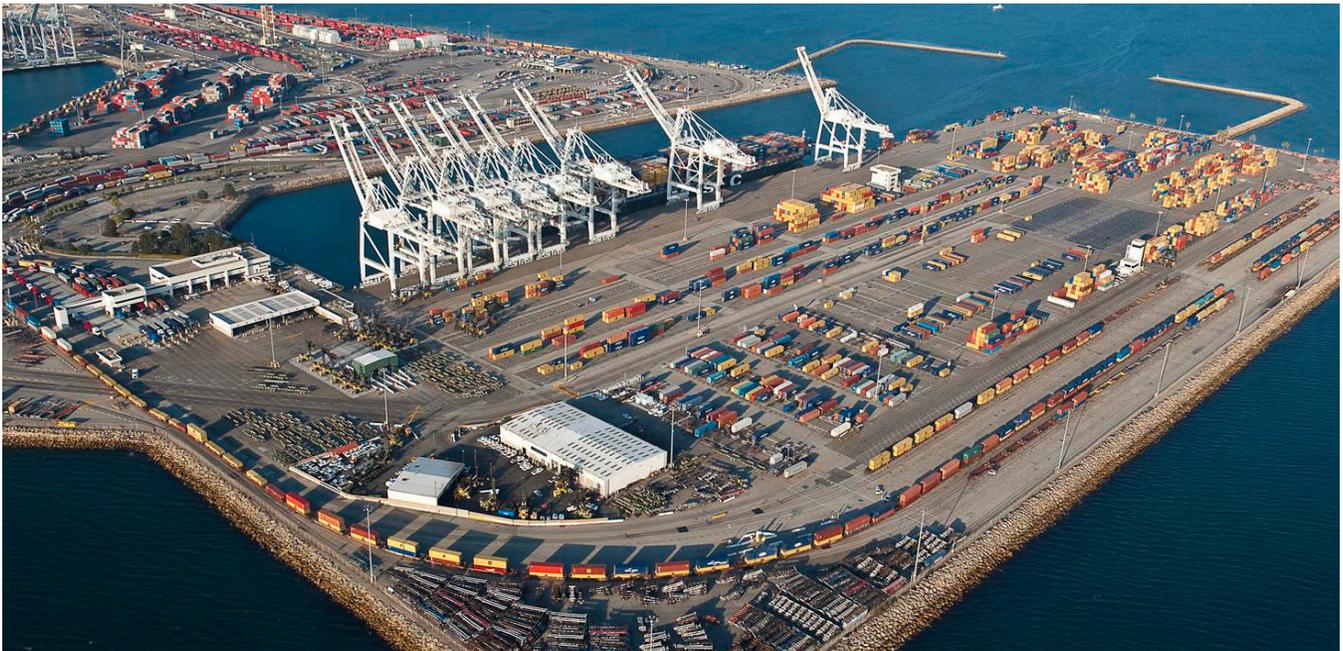# Making TWIC Work

TRL Systems Sets the Standard for Maritime
Access Control at Port of Long Beach

Quick Facts: Port of Long Beach

The Port of Long Beach is one of the world's busiest seaports and a leading gateway for trade between the
United States and Asia. It supports over a million jobs nationally and generates billions of dollars in economic
revenue each year. In 2011, the Port handled:

- 6,061,085 containers (TEUs)
- Cargo valued at $155 billion
- 76.6 million metric tons of cargo
- On average, the equivalent of 16,600 20-ft. containers (TEUs) each day
- 4,898 vessel calls

The Port Employs 30,000 people in Long Beach and has 11,000 drayage trucks to service the terminals.

Situation

Safe Port Act TWIC Mandate Difficult to Integrate

In the decade plus since 9/11, the maritime industry has fallen short in closing the gap in port security as mandated by the Maritime Transportation Security Act of 2002 (MTSA). Because of costs, integration issues and limited resources, ports have been slow to adopt the technology necessary to read the biometric data contained in the now ubiquitous Transportation Worker Identification Credential (TWIC).

The MTSA requires that all individuals who qualify for unescorted access to secure areas of MTSA-regulated ports or vessels must carry a TWIC. To obtain a TWIC, an individual must provide biographic and biometric information, sit for a digital photograph and successfully pass a security threat assessment conducted by the Transportation Safety Administration (TSA).

The issued card contains a computer chip, known as an integrated circuit chip (ICC), which stores the holder's information and fingerprints. The chip can be read by inserting it into a reader or holding it near a "contactless" reader. There is also a magnetic strip (similar to a credit card) and a linear barcode on the back as alternative reading methods.

However, most ports don't have the technology to read and verify the biometric data or compare it to the TSA cancelled card list. As a result, for the first phase of the mandate, MTSA-regulated facilities have used TWIC cards like any other photo ID.

TWIC Reader Pilot Program "Insurmountable Challenge"

The SAFE Port Act of 2006 created a TWIC pilot program to test the business processes, technology and operational impact of deploying TWIC readers to access and verify the biometric data on the credential and check the card with the TSA database/cancelled card list.

One of the early obstacles encountered by pilot participants has been difficulty in integrating TWIC readers with physical access control systems. Because of delays in successfully implementing TWIC card reader technology, along with the absence of a "TWIC Final Rule" from the TSA, the massive challenge of implementing biometric port perimeter access control has, until now, remained largely insurmountable.

SSA Marine West Coast Terminals had first-hand experience with the challenges inherent in the pilot project. After the first attempt at creating an integrated TWIC reader system on Pier A at the POLB did not meet TWIC compliance requirements, Curt Campbell, SSA Marine's Director of Maritime Security, hired TRL Systems, recommended to him by TJ Hicks at LVS Consulting, to design a system for SSA terminals at the POLB. Although Campbell had been mislead before by a security contractor who failed to deliver an integrated TWIC reader, LVS Consulting was sure about TRL Systems because it had already successfully implemented the first ever TWIC and Lenel integration for another client. The company's confidence was well placed.

TRL Systems Successfully Integrates TWIC for Port of Long Beach

Reverse Engineering TWIC

The TRL Systems team quickly realized that one of the hurdles was that, unlike other types of access control projects, SSA Marine had no way of creating a database of approved users. SSA needed to verify the identity and authorization for thousands of truck drivers daily while maintaining the ability to quickly ban entry for individual drivers.

To begin, the TRL Systems engineers worked with 3M to decipher code and capture the data that would be needed to make it work with the 3M cogent reader. Then they went to work finding the right access control platform, CCTV and intercom manufacturers to include in the integrated system. After rigorous in-house testing of several options for each of the components, TRL Systems choose the 3M Cogent reader with the Lenel Access Control platform, Genetec CCTV, and Stentofon intercom.

TRL engineers choose partners based on capabilities and efficacy of the products as well as the willingness of the manufacturer to customize the product to the required specifications. The TRL team identified the gaps in each product, developed specifications to close the gaps and partnered with the manufacturers to create a single, stable system.

The "Beast Box" is Born

SSA Marine's goal was to implement a TWIC integrated access control system to exceed the expected TSA standards in the long-awaited final ruling. TRL Systems created a custom-designed system which provides all Maritime Security (MARSEC) levels for verification including visual verification via CCTV and instantaneous TSA card list verification and Finger print matches.

Housed in stainless steel boxes located at all entry points, the system monitors and records each transaction as truckers insert their TWIC cards. When a trucker inserts his card, the reader checks it against the TSA cancelled card list. At the same time, the CCTV captures an image of the card, the driver and the area immediately surrounding the driver, including the truck registry numbers and license plate or the person standing at a turnstile. From a central monitoring station, guards verify that the person pictured on the card matches the person in front of the Beast Box.

TRL Systems Creates First Effective TWIC Integrated Access Control System

The result of the successful development of the first fully integrated access control system, incorporating all the available technologies presented by a TWIC credential while maintaining the flexibility of meeting all future MARSEC and TSA requirements, is a much safer and more secure port, as intended by MTSA.

The new TWIC card readers heightened security at the perimeter of the facility by allowed guards to verify authorized personnel in two databases. First, the cardholder is verified against the Department of Homeland Security's TWIC "Hot List." Secondly, the TWIC card is checked by the SSA Fast Pass Mode.

"Our system creates a transaction of every entry into the terminal and allows us to create a manifest of who's on the terminal 24 hours a day," says Campbell. "In the event of an incident, we have a record of everyone who's come through the gates including video."

As a result of the success as Pier C, TRL Systems rolled out the system at a Pier A at the POLB and at SSA facilities in Ports of Oakland and Seattle.

Pier C, Port of Long Beach

TWIC Access Control System Project Logistics

To support the TWIC Access Control system, TRL Systems configured and installed a new server located in the Administration Building server room. The Lenel TWIC system included four computer workstations for viewing and allowing remote access. The TWIC Access Control system consisted of four TWIC compliant card readers installed in the "Beast Box" casing with a Voice Over IP Intercom (VOIP). TRL Systems also integrated closed circuit television (CCTV) into the system. These devices including the "Beast Box" casings were installed at each location below.

- Guard Shack Main Entrance Lane low
- Guard Shack Main Entrance Lane high

- Employee Parking Lot Entrance Turnstile #1
- Employee Parking Lot Entrance Turnstile #2

In addition to the above Beast Box locations, TRL Systems supplied two TWIC compliant handheld readers.