



Port Container Management & Logistics First Steps

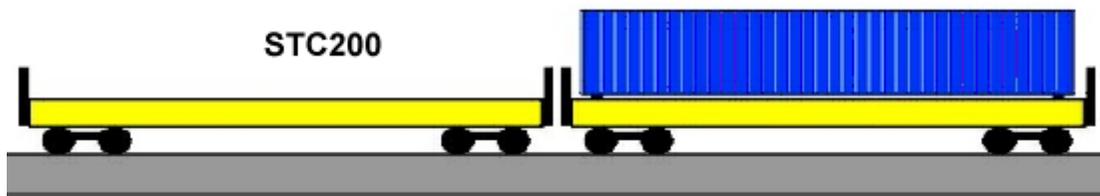
July 08, 2016

Considering that Port Automation has come a long way, Sky Train (STC) would like to suggest an incremental approach to improve container handling. This focus is on what we believe to be a First & Last Mile step; involving the movement of containers within port boundaries.

Informed by a recent meeting at Bromma spreader manufacturing in Sweden, Bromma defined the present state of the art and their latest innovations. Briefly, Bromma has incorporated long time memory storage of electronic feedback regarding container weight; thus having the ability to make continuous adjustments to the lifting procedure. These data are also made available by a communication link to monitoring equipment, so the spreader status can be followed.

The automated movement of containers at this point has been accomplished by rubber tired vehicles. This first step then is to modify the vehicle to be a rail vehicle on tracks, with automated programmable switches working with those vendors. This would allow stacking containers vertically at least two high, possibly higher with empty containers.

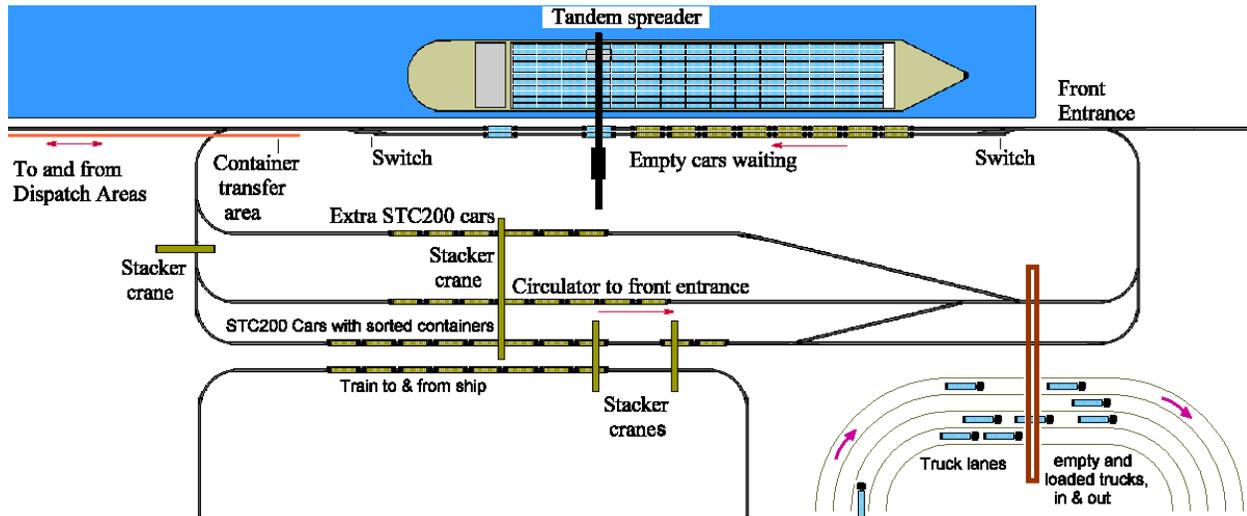
STC has a design called STC200. Over many years we have assembled associates and a prototype shop to this end. Although propulsion could be Hybrid, we have the ability to go to the extreme and supply hydrogen/fuel cell propulsion enhancing the port image.



As shown below (illustrating the loading of a ship), STC envisions a fleet of Enhanced automated self-propelled rail-carried flatcars, labelled “STC200”, moving individually in a circulatory fashion between the container handling cranes and transfer points, where the containers could be transferred to/from Stackers or beam carried vehicles, labelled “STC150”.

The track along the pier will consist of a rail with the following sections (from right to left):

- 1) A “front entrance” where the rail(s) merge;
- 2) A switch that separates the cars onto 2 parallel rails with 6” or safe space in between cars;
- 3) The loading/unloading area, which is at least as long as the biggest anticipated ships;
- 4) Switches that merge the two rails into one;
- 5) A container transfer area using Rail Transport or Trucks for Containers & Trailers ;



Outlining the benefits of this system, we get:

- 1) Ship loading time of empty containers pre-assembled in vertical pairs upon receipt by using manual twist locks reduces time of loading and unloading of empties by 50%:
 - a. For the Pacific Coast exports are 1/3 lower than imports therefore saving around 9% of total load/unload time per ship using vertically connected empties;
 - b. If prudent, connected empties could be one layer higher allowing use of existing tie-down systems securing to the lower of the pair, increases ship capacity < 5%;
- 2) Stacker time in the yard has also been reduced 50% once they are connected;
- 3) The loading of full containers can use the automatic twist locks double stacking for yard movement safety:
 - a. Stacking reduces the needed yard service vehicles by 50%;
 - b. This frees up space needed for these vehicles for container sorting etc.
 - c. Reducing many tractors, drivers and trailers;
 - I. Service lifetimes of a rail vehicle = 3 sets of (c.) in 40 years;
 - II. Electric rail propulsion saves more than 85% of energy and requires less maintenance and tires;
- 4) Select Sky Train innovators interface as consultant guides to make use of latest technologies, assisting in the operator and manufacturing selection process;
 - a. We act as coordinators to train, transplant technologies and participate in new innovation dissemination to other desired locations as designated by management;
 - b. We participate in the transition to use Cloud Coordinated Integrated Software
 - c. STC does not replace existing vendors or system operators; is non-threatening to unions or existing vendors, operators or transporters;
 - i. Most ports have existing rail operating talent for hire nearby;
 - ii. We pride ourselves working to integrate our new systems with existing technologies;

- iii. We already have an international reach to work in international locations;
- iv. We are a technical library documenting and registering technology;
- 5) We are identifying international partners that will become stockholders of STC, creating a comfortable partnership to increase mutual profits;
- 6) We contently dwell on the first and last mile of delivery speeding and prioritizing throughput; freeing up capital and inventory in a logical safe secure manner;
 - a. Port delay especially effects perishable product: India claims 25%, Nigeria 75% loss, a huge penalty to shippers and increased prices to growing populations;

We look forward to share a conversation regarding our plan to implement these and other improvements.

Respectfully: The Sky Train Associates & Innovators