

## PROJECT PROFILE

### OCEAN STEEL & CONSTRUCTION LTD.



#### WORK IMPROVEMENT FOR STEEL FABRICATION USING DYNAMIC VALUE STREAM MAPPING

Ocean Steel & Construction Ltd (OSCo) is the leading steel fabrication company in Atlantic Canada. OSCo fabricates and erects structural steel for all industrial, commercial educational, institutional and residential construction sectors. Projects up to 18,000 tons in size have been successfully completed. The company also fabricates and erects highway and railway bridges on land or over water in accordance with rigid standards used by various highway and railway administrations. The company has two plants in New Brunswick, one in Saint John and one in Fredericton.

#### PROJECT BACKGROUND

In a collaboration between the Off-site Construction Research Centre (OCRC) and OSCo, a project was initiated at the Saint John plant to identify inefficiencies in the steel fabrication process and recommend work improvements by using dynamic value stream mapping (DVSM). The project objectives include integrating a productivity data collection system (PDCS) using scanners and barcodes, developing new productivity and work amount measures via regression analysis, simulating fabrication processes via dynamic discrete models and concluding with lean-based recommendations, according to the DVSM.

#### RESULTS

The project has focused on the manual workstations including the fitting and welding stations. A scan-based data collection system was finalized and is under implementation. Additionally, work amount measures were developed for the two manual stations. An accuracy improvement of 42% over the traditional measures was achieved.

#### RECOMMENDATIONS

The project is still in progress. So far, the work consistency and data collection automation were both highly recommended to facilitating the detection of any inefficiencies and bottlenecks. However, further lean-based recommendations are expected to be identified as this project continues.