



DESIGN SYSTEMS, INC.

Manufacturing Engineering & Consulting

Transitioning to Fork Free Material Handling AUTOMOTIVE VEHICLE MANUFACTURER

Project Description

An automotive manufacturer was considering adjusting their material handling methods to exclude all fork trucks. The ideal material handling equipment would include dollies, tuggers and automated guided vehicles (AGVs). Design Systems, Inc. provided a high-level study of the financial, space, and equipment requirements to transition the Assembly Plant to a fork free environment. The current state of production, material flow, and truck docks were analyzed to achieve a fork free environment.



Client Objectives

- Complete a material flow and dock analysis to gather data on the current production rate and work pattern
- Determine cost estimates and modifications for facilities and equipment modifications
- Establish material handling equipment requirements for each dock

PROJECT OUTCOMES

- Constructed Circles of Work of the metering center to understand dock operations
- Calculated an estimated total cost of approximately \$71.4 million dollars for conversion to fork free
- Estimated an increase of 59 tuggers to 8 docks for material handling
- Calculated an increase of 30 dock doors and 82 staging lanes to maintain efficiency of dock operations
- Recommended modifications to the battery room to support additional tuggers

DSIDSC.COM

DESIGN SYSTEMS, INC.
38799 WEST 12 MILE ROAD
FARMINGTON HILLS, MI 48331-2903
800-660-4DSI • 248-489-4300
sales@dsidsc.com

DESIGN SYSTEMS CANADA, LTD.
3585 RHODES DRIVE, UNIT A
WINDSOR, ONTARIO, CANADA N8W 5B3
519-944-8807

DESIGN SYSTEMS de MEXICO
BOULEVARD RUFINO, TAMAYO #304-A
COL. ALPES NORTE
SALTILLO, COAHUILA, MEXICO CP 25270
(011.52) 844-011-2621