

## 64. Ship Planning System for Efficient Crane Operation of Container Terminal

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In case of the container terminal, as something affecting in the productivity, the terminal working plan for loading and discharging the container is probably divided by berth allocation plan, yard allocation plan, loading and discharging plan, gate operation plan.



Loading and Discharging plan is classified the gantry crane allocation plan, loading, discharging plan to take the responsibility of the ship loading and unloading work. The basic purpose of these working plans can reduce unloading time that is for loading and discharging activities of container. Reducing the discharging time can reduce not only additional cost at the position of the shipping company, but also can increase the rate of service at the position of the terminal. therefore it can be expected attracting shipping company. It can be said that the total discharging time that is for loading and discharging activities of containers are generally the work time and the setup time. Because the need time for loading and unloading depends on machine's efficiency, it is the more reliable in machine's efficiency than in a mathematical analysis. Therefore, the efficient working plan can reduce setup time, and it is directly connected to reduce loading and discharging time of containers.

In this paper, it suggest the mathematical model about yard's amount of the materials for the allocation and hatch allocation per gantry crane to take the responsibility of the ship loading and unloading work after the berth allocation and the yard's amount of the materials.

