

# LED 晶粒製造廠的動態存貨分配模式研究

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## 摘要

The LED chip manufacturing (LED-CM) is a key process in the LED supply chain. Basically, the led chip specification of an order is composed by several bins. Considerable by-products will be accompanied by a production order due to the unstable production output of the LED-CM plants. However, these by-products are not defective products but can fit other specifications of the following orders. Therefore, the feasible inventory will be first allocated to a new order so as to reduce the inevitable inventory. Then a manufacturing order is released for the inadequate quantity of this order. Based on the requirements of customers, both dynamic and static allocation processes are provided by the LED-CM plants. The dynamic allocation process is to allocate inventory once an order. On the contrary, the static allocation process is to allocate inventory to a batch of orders. Although the static allocation process can get better throughput or minimum inventory, the dynamic allocation process provides shorter customer response time. Therefore, when customers require quick response to their orders, LED-CM plants will confront the issues of dynamic inventory allocation problem to get optimal throughput or optimal subsequent orders delivery. A dynamic inventory allocation model for LED-CM plants is thus proposed in this paper. Three allocation rules are described in detailed first, a simulation and experiment process is then designed to evaluate the applicability of these rules in different environments.

**關鍵字：**LED chip manufacturing (LED-CM), unstable process, inventory allocation, bin allocation combination