Applying Lean Production to SMT Material Preparation Operations – A Case Study of G Company

Student：Yu-Chieh Kuo Advisor：Dr. Chi-Yang Tsai

Institute of Industrial Engineering and Management
Yuan-Ze University

ABSTRACT

With the development of globalization, Taiwan industry faces the pressure of shortened product life cycle, make-to-order production, fast delivery, and so on. Lean production has drawn much attention of manufacturing industries and has become an important management subject. Many nterprises are hoping that,with the implementation of lean production, problems can be sought out and solved, wastes during processes can be eliminated, and unnecessary inputs can be reduced. Thus, the whole supply chain can be strengthened and enterprise compatibility can be improved by cutting process time, reducing movement and personnel, eliminating waste, improving quality, lowering costs, shortening due date, improve customer satisfaction… etc. This study attempts to study SMT material preparation management system under lean production and how enterprises adopt lean production on material preparation management. This research applies lean thinking and develops lean material preparation management system. The process includes six phases of improvement, namely, pre-implementation campaign, value definition, affirming value stream mapping, smoothing the flow, pull process and completion. An auto guidance system company is selected as the subject for the evaluation of the implementation of the proposed system and remarkable improvement on system performance is observed. The goal of this research is to provide plausible suggestions to guidance system firms on SMT material preparation operations such that firms are able to grasp key success factors. The contribution of this research is to help guidance system firms on efficient resource allocation and improve material preparation operations under limited resources.

Keyword: lean production lean process prepare materials the pattern mechanism