

ABSTRACT

PT Dirgantara Indonesia (PT DI) is one of Asia's indigenous aerospace company with core competence in aircraft design, development and manufacture of civil aircraft and military regional commuter. Efficiency of production processes is demanded to be met by PT DI in order to compete in the aircraft manufacturing industry. Hence the accurate and real time production planning and control are needed in order to operate efficiently.

This study focused on the production planning and monitoring of a Toshiba 80R machine with 2 pallets. The jobs of the production of various parts are scheduled on a machine by optimizing both of the pallets to minimize tardiness, average of waiting time, and makespan using a heuristic and fuzzy logic approach. In the execution of production, the important production process parameters are monitored automatically based on Supervisory Control and Data Acquisition (SCADA) and built a warning system that is integrated with scheduling system.

Scheduling models that designed using a heuristic approach and fuzzy logic method which is doing the grouping and sequence job based on the weight of the interests results no tardiness, the average waiting time of 1.7 hours with a reduction from the actual condition of 10.8%, and the makespan of 144.6 hours with a decrease from the actual conditions of 6.65%. The final results in this study is a sequence of work and information of production needs of Toshiba 80R machine equipped with an automated simulator monitoring of pallet work based on SCADA at Toshiba 80R machine.

Keywords: Integration, Scheduling, Automated Monitoring