

ABSTRACT

These days, Green Manufacturing has established become a new thing for professional engineers and manufacturing workers to be an important part in the business world. Green manufacturing is one of method for manufacturing that can minimizes waste and pollution. Green Manufacturing was created to reflect the new manufacturing paradigm techniques to make something become more eco-efficient by reducing the energy consumption.

Jacquard punching machine is a machine that designed to cut a hole in material such as card stock named jacquard card. This card controlled the weaving process in textile industry to enabling produce the patterns of fabric. This machine is still working manually with the flexibility less than 90 percent that led to the longest production time in meeting the demand, thus causing the electrical energy released for this machine is also very high. On the basis of these problems required a system to improve the flexibility of the machine in order to be able to reduce energy consumption and make the company become more green environmentally friendly.

From this research generated an automation system which will be applied on a jacquard punchine machine that can increase 9 percent of flexibility machine to be more than 90 percent. This system has saving the electricity consumption of 2092 KWh every making a complete curtain pattern.

Keywords: Green Manufacturing, Automation System, Jacquard Punching Machine, Flexibility