

ABSTRACT

Indonesia is a country that has a large green area. The green areas are also widely used as a plantation that has a variety of crops planted. Particularly on the commodities tea, Indonesia've put ourselves as a country to five largest tea suppliers in the world. But these achievements began to decline because banyaknya Kasis land conversion resulting in reduced ability to supply Indonesia. Therefore, one of the actions that can be done is to mekasimalkan existing production capacity. When the tea production takes place there are some obstacles that resulted in total production to be reduced, which are scattered tea powder and drying with excessive temperatures. When these conditions occur then it will dilakukan decline in grade at tea powder. To avoid these conditions, in this final project is to design tools by using rational product design and system design controlling and monitoring by using SCADA comprising system design automation, and Human Machine Interface (HMI). Rational product design was chosen because with this method can facilitate the translation of customer needs into detailed product specifications. From this final project produced a proposed aids, powder container vessel on the top and bottom of the machine useful for reducing the number of piles and scattered at the work station drying. Containers that are above memili machine dimensions 2000 x 500 mm and mounted at an angle of 10o to the bottom of the container and the container is at the bottom of the machine has a width of 2150 mm on the part attached to the engine and 500 mm on the part of the drive to the conveyor. In addition it is also produced control and monitoring system that incorporates SCADA system database recording automatically so as to facilitate the recording of data at the work station drying.

Keywords : Rational Product Development, Supervisory Control and Data Acquisition (SCADA), Human Machine Interface (HMI), Tea drying process, Automation.