

## **ABSTRACT**

*Nowadays, industrial manufacture has been highly developed which can be seen from the plant are increasingly complex with the number of work stations that more and more. Therefore, companies utilize automation technology to automate and control the course of the plant to run as planned so as to produce a quality product. One of the control system that is effective and often used in a company is Programmable Logic Controllers (PLC). The problem is when the automation system only to be applied to the plant PLC which has a relatively large complexity, then it is possible there will be difficulty in monitoring all work stations in a plant. Another problem is the more complex of a plant, the data generated will be increasing as well. With the increasing production of data it will be more difficult to analyze and report the data.*

*Therefore, we need a monitoring system design automation workstations remotely based SCADA equipped for Active Factory reporting data automatically. In this study, utilizing three work stations in the professionalism Automation Telkom Institute of Technology that are clay cutting, forming, and steaming work stations. The process is done in a sequence starting from the cutting clay on clay cutting work station, then proceed with the formation of clay into the plate at the work station and the latter forming is the process of hardening the plate in an oven at a certain temperature steaming at the work station. The process of monitoring the work stations generate reporting data is automatically displayed in Microsoft Word and Microsoft Excel using Active Factory reporting is no longer so difficult. In addition, the reporting of the data can be directly displayed on the HMI using the Generic Data Grid.*

*From the results of research conducted concluded that the design of the monitoring automation workstations clay cutting, forming and steaming SCADA based Active Factory equipped for automatic and periodic reporting successfully designed. With the monitoring of remote work stations will allow the operator to monitor work stations primarily to facilitate the trouble shooting as well as the more accurate the data acquisition process. In addition, the use of Active Factory company will fast in analyzing the data and making decisions. Reporting the amount of data displayed in the form of clay that is on the cutting clay work station, the amount of clay that has been cut and ready to set up the work station forming, the temperature used during the process of hardening the Steaming work station.*

**Keywords:** Automation, HMI, SCADA, Active Factory, Generic Data Grid