

## ABSTRACT

Visual identification using the *human* use their eyes as the main senses, but the eye has limited durability and fatigue factor for identifying vision repetitive - again, therefore in this study developed automation systems to minimize *error* or *human error* in the process visual identification in mensorting kinds of leather shoes based on the *structure* of the skin. The development of today's shoe industry has been growing rapidly in Indonesia making company in charge to have a good competitiveness in terms of quality and quantity of the products it produces. The use of automation technology can result in increased production speeds, mengurangi *human error*, and a high degree of accuracy with *human* labor less.

Vision System using MATLAB language can be applied in a variety of automated systems by way communication between a C program by program leader diagram, one of them in the processing of leather base material on a variety of products such as shoes, handbags, and wallets. At this time the textile industry, the process of identifying clusters leather base material still use manual metodes thus causing a lot of *human error* in the application.

Vision System works begins with the user input *samples* of his skin through the graphical user interface in matlab assisted with lighting Tabel. Then the results of the sampling will be processed by matlab the results will be stored in the database which is then actuated by pneumatic system controlled by a programmable logic controller.

Based on the research that has been done, it can be concluded that the design of the shoe leather sorting automation system based on the *structure* of the skin using cluster metode integrated identification S7-1200 PLC has successfully designed, the results of the study consisted of *miniplant*, the workings of the machine, *human* interace machine (HMI), and database sorting of results.

**Keywords** : industrial automation, vision system, programmable logic controller, *human* machin interface,