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### **Automated Book Packing and Transferring System**

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Industrial scale book manufacturing involves a large number of high-speed machines which need to operate in a synchronised manner in order to deliver higher efficiency and production output with minimum defects. It is a timely requirement to automate such machines in order to increase the production output further. In this background, this project aimed to develop an automated book packing and transferring system for one of the leading book manufacturers in Sri Lanka. At present, the output from the high-speed book making machine of the particular manufacturer is handled manually and fed to the book packaging or lamination machine placed at a different location. This involves considerably high man power and there are ergonomic risks for the involved labour too. Furthermore, there has been defects reported due to these poor material handling practices. Accordingly, an automated book packing and transferring system was developed which can process books at higher speeds matching with the capacity of the upstream high-speed book making machine. Also, the system can stack different sizes of books so that the packaging or the laminating machine can effectively work at higher speeds. The developed system consists of a number of pneumatic actuators, linear guides, bearings, human machine interfaces (HMIs) and a PLC control panel. The proposed system has undergone a number to trial runs in the factory flow conditions found to be performing in an acceptable level. However, a number of further modifications have been identified in order to improve the performance further, which will be addressed in due course.

**Keywords:** bielomatic HMI, automated book packing machine, book wrapping machine, book stacking machine, book packing conveyor system