

ABSTRACT

AS/RS and S/R machine knowledge are the important things for industrial engineering students to solve warehousing problem and make improvement in warehousing activity. There is no research about AS/RS and Robotino[®] in automation group of Telkom University before. The expectation from this research is, there will be an AS/RS simulation so that the students will be able to gain knowledge about item storage and retrieval system. Generally, storage process consists of nine main processes. There are three main requirements in designing Robotino[®] as S/R machine; system requirement, software requirements, and hardware requirements. For software requirements are Windows operation system and Robotino[®] View to communicating computer and Robotino[®]. Then for hardware requirements are computer, Robotino[®], webcam, inductive sensor, battery, and gripper system. For other requirements for supporting the scenario are acrylic structure, sensor trigger, aluminium tape, and item. Time to finish nine main process is 647.1 seconds. The longest time is process 6 which is 83.3 seconds. The least NPV of cumulative cost is the second alternative which is Rp16.657.138. there are seven main factors from internal and external of Robotino[®] which interfere the simulation; exposure, connection, battery, lanes, gripper system, material for slider, workstation, and rack, and engine life.

Keywords: AS/RS, storage process, S/R machine, Robotino[®], Robotino[®] View, NPV of cumulative cost