

ICT Project (Group) Proposal Form

Group 06

Project Title: Automated Modern Manufacturing Factory
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Students Qualifications Basic knowledge of Electronic, Electrical and Mechanical methodologies user interface design, Advanced Web development knowledge and programming skills using html, css, java, C++, java, language to code the project.
Statement of Problem <ul style="list-style-type: none">● High cost. One of the most common problems manufacturers face with automation is its cost. Mechanical renovations and their production.● Difficulty in obtaining manufacturing raw materials● Cyber security.

- Automation challenges are manageable.
- More Pollution.
- Big Capital Investment.
- Unpredictable or Unknown Costs.
- Bringing automation into plant requires a major capital investment.

Brief Description of the Project

An automation system is an integration of sensors, controls, and actuators designed to perform a task with minimal or no human intervention. The field related to this subject is called Mechatronics.

Automated manufacturing system relies on computer control systems to operate and manage manufacturing processes. In a fully automated facility, machines and technology are interconnected and managed by these control systems.

This project is being developed for a factory that currently produces and distributes tomato sauce by human labor. This project to take, will reduce the human labor used in the factory by using robotic technology in the process from cleaning the harvest to the production and distribution of the sauce and packing for export.

Background and Motivation

In Sri Lanka this concept can be seen to a lesser extent, almost non-existent. So we wanted to introduce this concept to this country and carry out the work efficiently. Many works are done by human labor in factories. But it is a very troublesome act. Not only that, but through this you can also deal with foreign countries. A big idea for us is the technological development of foreign countries. It is our determination that we can realize those concepts.

Objectives

Overall, the aim of automation in a food processing plant or any production unit is to meet the company need to produce goods safely, in a cost-effective manner, with high and consistent quality and in the appropriate quantities to meet market demand.

- The main objective of a manufacturing business is exponential growth. Always try to increase profits, connect with other companies and build the brand.

- Establishing relations with foreign countries.
- Trying to give idea for factory to autonomous.
- Reduce the labor cost in factories.

Technical Approach and Expected Deliverables

The end goal of manufacturing automation is to increase production capacity while reducing costs. Electromechanical systems can be programmed to perform a variety of tasks, and automation is particularly helpful for repetitive tasks or tasks that require extreme precision.

Factory automation is the incorporation of automation from end-to-end manufacturing processes. In manufacturing environments, automation often leverages technologies such as pneumatic systems, hydraulic systems, and robotic arms to create a more complex system.

References

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