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Industrial Automation Project Report: PLC and SCADA Systems

Dr. Shakti Pandey[1], Dr. Savya Sachi[2], Dr. Preeti Singh[3]
Assistant Professor Department of Computer Application[1,2]
Assistant Professor, Department of Management[3]
J D Women's College, Patna, Bihar[1]
L N Mishra Institute of Economic Development and Social Change, Patna, Bihar[2,3]

Abstract: *Industrial automation has revolutionized manufacturing and process industries by integrating sophisticated control systems that enhance productivity, safety, and operational efficiency. This comprehensive report examines two critical components of modern industrial automation: Programmable Logic Controllers (PLCs) and Supervisory Control and Data Acquisition (SCADA) systems. The analysis covers their fundamental principles, applications, integration methodologies, and future trends in industrial automation.*

The study reveals that PLC and SCADA systems have become indispensable in modern industrial operations, with the global industrial automation market projected to reach significant growth in the coming decade. These technologies offer substantial benefits including reduced operational costs, improved safety standards, enhanced quality control, and increased production efficiency.

Keywords*:* SCADA, PLC's, Automation, Cloud.