

Naini Group - A Step towards Industry 4.0

Abstract: *The world around us has been changing on a daily basis along with development of human civilization. Therefore, technical and technological developments of production are changing as well. Industry 4.0 is a model that shows how industrial production follows the latest developments and changes over time. Thereby, the man, machine and the production itself constitute the force in one intelligent and independent network*

The aim of this paper is to show the direction of industry 4.0 future development and the future concepts which is implemented in Naini Group of Industries. For this we have implemented PIMS (Plant information management system) in the plant. These applications of new technology based on cyber physical systems and the internet leads to significant improvements, such as increase of automation, shorten inter communication times, shorten period between the development of new product and its market launch.



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Introduction to Plant Information Management System (PIMS)

- One more step closer to achieve Industry 4.0
- PIMS Functionality
 - Increases Operator Empowerment
 - Improves Operational Decision Making
 - Production & Process Data are better-organized.
- Availability of Plant-wide data at centralized location, distribution of relevant related user points.
- More effective troubleshooting of Quality Problems.
- Real-Time data helps in better management of resources and This gives potential saving on input costs.

System Description

PIMS is a plant historian , Information and management System to achieve the safe, reliable and optimum plant operation

Broadly It is a

- Real-time Database and Historian
- MIS/MES integration tool

- Real-time Process Data and Alarms & Events
- Have Offline Data Integration capability
- Communication integration to One or many OPC server data sources
- Supports a large number of clients (Web Client/ Local Client)
- Single System license with 500 - 500,000 tags

Expected Benefits

- Immediate information on the desktop, tablet or Mobile phone
- Information from multiple systems
- Integration with PC applications
- Advanced reporting (shift, day, month ...)
- Accurate information on quality control and better analysis
- Long-term history of process and events
- Availability of accurate, timely information involves everybody in the improvement cycle

Benefits Achieved

- Interface different PLC, DSC, DCS on a single platform
- Centralization of Plant Data

- Easy Monitoring
- Operator Empowerment
- Trend Analysis
- Lab Reports

Conclusion

PIMS is the result of a tipping point in technology innovation. The centralized data, and more is pushing industry 4.0 forward.

This industry promises to change the way business is done. Business models will be redefined, more processes will **one step forward to APC (Advance Process Control)**, and organization will optimize their process parameters value even further.

So stay alive in this competitive environment, organizations will want to use the benefits of PIMS to develop a competitive advantage and better process operational experiences.

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