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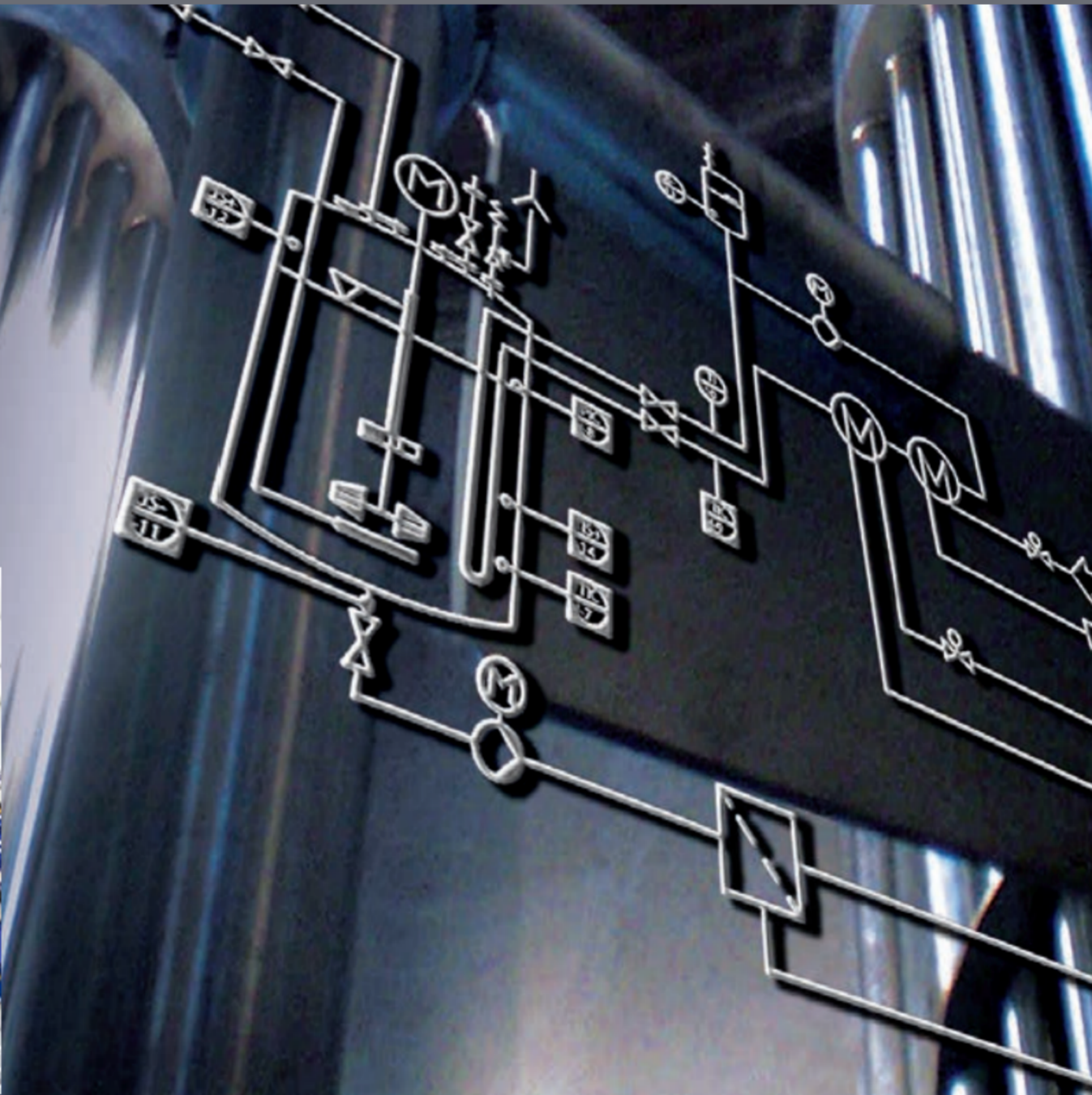


Rockwell
Automation

Case Study Hydrogenator

Hydrogenation Plant Automation: Concept to Commissioning

Hydrogenator Automation Project



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Hydrogenator Automation Project

Challenge

Cadila Pharmaceuticals aimed to establish a new hydrogenation plant within 12 months from concept to commissioning to gain a market advantage through rapid production start-up.

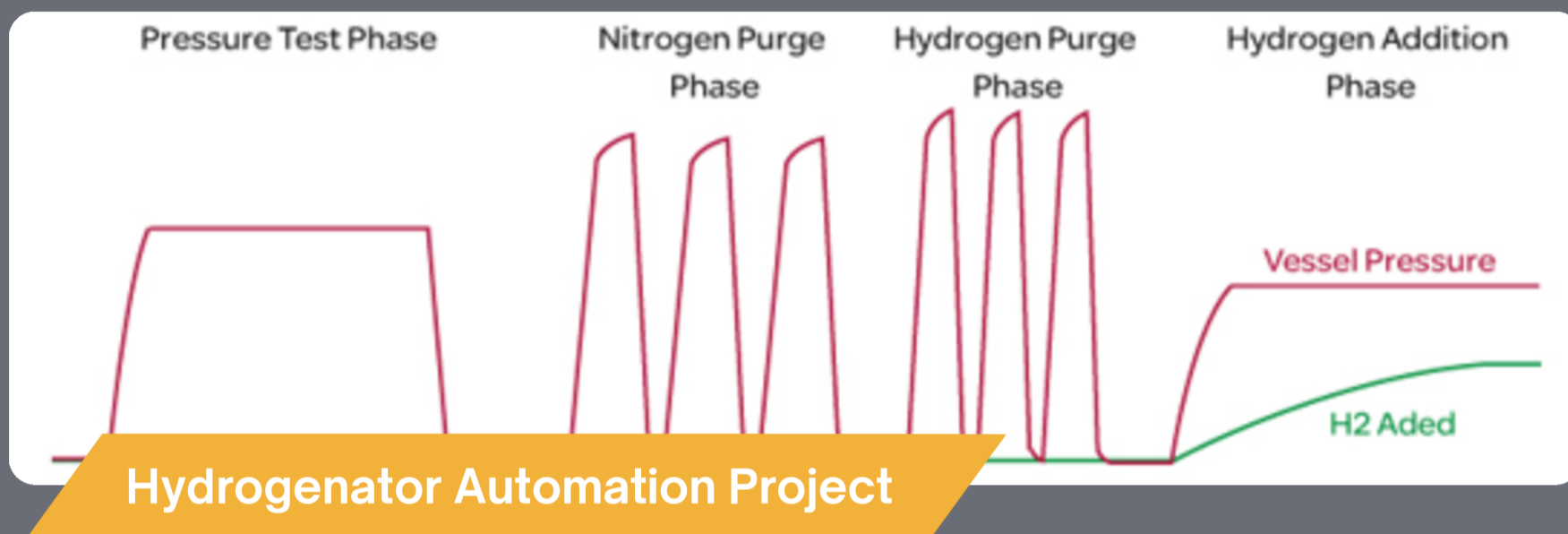
The main challenges included ensuring safe operations with hydrogen gas, maintaining temperature and pressure control, reducing human error, achieving consistent product quality, meeting safety standards, implementing real-time monitoring, training operators on automated systems, and developing an effective emergency shutdown sequence.

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Solution

Sierra designed, built, and commissioned the hydrogenator plant automation, selecting instruments suitable for material of construction and high pressure.

A redundant Distributed Control System (DCS) with Intrinsically Safe Ex HMI was implemented for safe operation of the hydrogenator cycle, including N₂ inertisation, H₂ intake, % oxygen absence, H₂ addition, flushing, and venting control. An emergency shutdown sequence ensured quick responses to critical situations. Temperature control utilized valves on heating and cooling utilities, while agitator speed control ensured homogeneity and % oxygen monitoring mitigated fire hazards.

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Results

Cadila Pharmaceuticals achieved rapid production startup within the same month of installation, enhancing safety for high-pressure hydrogen gas addition with automated sequences.

The project, completed in 12 months, optimized process control, reduced costs, and ensured consistent product quality while minimizing human error. Cadila awarded Sierra a trophy for exceptional engineering and delivering a world-class automation solution.

Sierra

Your Automation Partner
from Concept to Commissioning

Contact us today to discuss your automation needs!

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