

# SKC Reduces Costs for Revamping Polyol Plant By Relying on Emerson's PlantWeb<sup>®</sup> Architecture



## RESULTS

- 10% total savings in CAPEX costs
  - \* 46% reduction in materials costs
  - \* 26% reduction of installation costs
  - \* 50% reduction in commissioning time and labor
- Seamless and easy migration path to improved plant performance
- Investment protected with complete system lifecycle solution



## APPLICATION

Located amongst other plants in the SKC Ulsan Complex in South Korea, this plant manufactures primarily polyol, a derivative of propylene oxide. A colorless, poison-free viscous solution, polyol is the main raw material for polyurethane foam, which is commonly used in furniture, mattress, and coating materials.

## CUSTOMER

For the past 40 years, SKC has been a great contributor to relevant industries with a steady production of propylene oxide, propylene glycol, polyol (polypropylene glycol) and styrene monomer, both at home and abroad. It has also developed into a company with a competitive edge for propylene oxide and styrene monomer in South Korea with a total production capacity of about 690,000 tons/year. Polyol production capacity is about 60,000 tons/year.

*“We are extremely pleased that Emerson's PlantWeb architecture was able to help us achieve confirmed CAPEX savings of 10 percent. This provides a set of reference data for future projects.”*

**C.G. Lee**  
Instrument Engineer  
SKC Polyol

For more information:  
[www.AP.EmersonProcess.com/PlantWeb](http://www.AP.EmersonProcess.com/PlantWeb)  
[Enquiries@AP.EmersonProcess.com](mailto:Enquiries@AP.EmersonProcess.com)

### CHALLENGE

To cope with a rapidly changing business environment, SKC needs to strengthen its competitiveness through innovation and technology. In revamping its polyol plant in Ulsan, SKC faced the common challenges of increasing production throughput, increasing plant availability, and improving product quality. A quick and cost effective way was also needed to update its existing technology. In order to meet these challenges, a control system was needed to not only control the production process, but that would also be capable of managing and optimizing plant assets. Smart field instruments were needed to generate predictive intelligence to help detect evolving equipment problems and avoid the kinds of failure that can lead to costly unplanned downtime.

### SOLUTION

For a reliable, quick, and cost effective way of meeting their challenges on the Polyol plant upgrade, SKC chose Emerson's PlantWeb digital architecture with FOUNDATION fieldbus™ technology. To gain the full benefits of latest technologies, including intelligent field devices and advanced asset management software, the project included:

- DeltaV™ process automation system
- AMS™ Suite: Intelligent Device Manager software
- Rosemount® pressure, level, and temperature transmitters
- Fisher® FIELDVUE® Digital Valve Controllers (DVCs)

Overall, the CAPEX costs were found to be about 10 percent lower with PlantWeb, with major cost savings in the areas of materials, installation, and commissioning. Fast installation and commissioning contributed to the successful on-time start-up of the revamped plant despite a tight and demanding schedule.

Emerson provided a seamless migration path to improve the performance of the plant, assuring long-term investment protection with a complete system lifecycle solution.



***“We are also pleased that the commissioning and start-up phase went through without any major glitches and we were able to start up fairly easily and quickly despite a tight and demanding schedule.”***

**C.G. Lee**  
Instrument Engineer  
SKC Polyol

**Emerson Process Management  
Asia Pacific Pte Ltd**  
1 Pandan Crescent  
Singapore 128461  
T (65) 6777 8211  
F (65) 6777 0947  
**Enquiries@AP.EmersonProcess.com**  
**www.AP.EmersonProcess.com**

The contents of this publication are presented for informational purposes only, and while every effort has been made to ensure their accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services described herein or their use or applicability. All sales are governed by our terms and conditions, which are available on request. We reserve the right to modify or improve the designs or specifications of our products at any time without notice.

PlantWeb, DeltaV, Rosemount, Fisher, FIELDVUE, and AMS Suite are marks of one of the Emerson Process Management group of companies. All other marks are the property of their respective owners.

© 2008 Emerson Process Management Asia Pacific. All rights reserved. The Emerson logo is a trademark and service mark of Emerson Electric Co.

Printed in Singapore.