Success Story

# Delivering a Comprehensive Roadmap for Everlight's Smart Manufacturing Transformation

## Everlight Chemical Industrial Corp.

**Location:** Taoyuan City, Taiwan
**Order date:** August 2022
**Completion:** February 2023
**Industry:** Specialty & Fine Chemical

## Executive Summary

Everlight Chemical Industrial Corporation is a Taiwan based company that operates in the chemical industry. The company was founded in 1972 and is a leading producer of color chemicals, specialty chemicals, toner, electronic chemicals, and pharmaceuticals.

Everlight Chemical's vision is to "become a high-tech chemical group making contributions to the well-being of mankind". The company is committed to sustainable development and has implemented a number of initiatives to reduce its environment impact.

In recent years, Everlight Chemical has been focusing on developing smart manufacturing practices to achieve its sustainability goals by improving product safety, minimizing disruptions in supply, reducing waste and energy consumption, promoting green chemistry, and initiating the transition to zero carbon emissions.

## The Challenges and the Solutions

Everlight Chemical operates in the specialty chemical industry. Since the start of the pandemic, there has been a renewed global focus on the impact of climate change and, along with that, demand for sustainability management has accelerated. As a specialty chemical manufacturer, Everlight Chemical faces a myriad of challenges. On the carbon management front, such challenges include the need to communicate carbon reduction commitments with upstream raw material suppliers, improve energy management policy, and make sure that customers' requirements for green chemical products and supply chain carbon reduction are met.

As part of this effort, Everlight Chemical has sought to implement technologies that move plants towards smart manufacturing. To ensure the success of this smart manufacturing transformation, Everlight Chemical was looking for a partner that could help them prioritize the initiatives into a feasible roadmap and provide the guidance needed to ensure that implementation achieves the desired results.

Yokogawa was selected to provide a consultancy service and conduct a smart manufacturing assessment workshop for Everlight Chemical's Plant II, a facility in Taoyuan City that produces color chemicals, electronic chemicals and pharmaceuticals. With the valuable inputs collected from the workshop, Yokogawa used its rich industry experience and expertise in IT/OT integration to develop a transformation roadmap that will enable Everlight Chemical to take the next step in its transformation journey.

**Smart Manufacturing Assessment Workshop**

Renowned for its proficiency in smart manufacturing, Yokogawa held a Smart Manufacturing Assessment Workshop to establish a comprehensive transformation roadmap for Plant II. In conjunction with this workshop, the Yokogawa team of smart manufacturing consultants and subject matter experts carried out site surveys and interviewed site managers and technicians. During the workshop, the team evaluated the existing manufacturing procedures, workflows, and work practices and designed a plan for transformation. They utilized the Smart Industry Readiness Index (S.I.R.I.), a global standard tool, to assess digital maturity across different core element of the organization and identify priority areas for transformation.

Major activities of the Smart Manufacturing Assessment Workshop were as follows:
**Aligning vision –** Yokogawa conducted interviews with leaders of different departments to understand their expectations and establish common objectives and agreement on what was needed for smart manufacturing transformation.

**Assessing digital maturity –** Measuring digital maturity is an essential step to lay down a strong foundation for digital transformation. Yokogawa conducted a detailed and holistic assessment to measure the digital maturity of the plant. This not only measured the maturity level of technologies but also the readiness of the workforce and existing production, supply chain, and business processes.

**Identifying digital priority –** Yokogawa identified focus areas that would generate the greatest value based on cost factors, business goals, and the company's current level of digital maturity.

**Evaluating performance of functional areas –** Using various tools, Yokogawa's domain experts carefully evaluated current work practices and performance in different functional areas to identify areas for improvement. To ensure the delivery of value from the targeted transformation, it was important to measure performance in different functional areas along with digital maturity.

**Assessment Workshop Report**
Yokogawa submitted a detailed report to Everlight Chemical after the completion of the Smart Manufacturing Assessment Workshop. The report comprised the outcomes of each assessment and evaluation activity and included recommendations and a three-phase transformation roadmap.

Based on the information that was gathered through factory tours, interviews, and the workshop, Yokogawa provided an assessment of Everlight Chemical's digital maturity across 16 core elements of smart manufacturing. Digital maturity scores aided in giving Everlight Chemical a comprehensive understanding of its current digital readiness, highlighting both its strengths and areas for improvement. Additionally, Yokogawa provided Everlight Chemical with benchmarking of its digital maturity level compared to the global manufacturing sector and the chemical industry. This benchmarking will help Everlight Chemical understand how its digital transformation compares to that of other leading organizations around the world.

Yokogawa also assessed the functional areas where transformation could have the greatest impact and identified the most promising areas for improvement. These results will help Everlight Chemical prioritize the allocation of resources for maximum effectiveness. Furthermore, following the performance evaluation of different functional areas, Yokogawa reported on the current situation and identified key improvements that could be made. The report also included recommendations on strategic decision-making, and listed the most impactful quick wins for business operations and associated benefits. This information will help Everlight Chemical prioritize their efforts and allocate resources more effectively, while justifying investment decisions.

Yokogawa developed a three-phase smart manufacturing transformation roadmap based on insights gathered from different assessment results. The roadmap includes areas for improvement, technology enablers, reaccommodated solutions, and an action plan. This roadmap will enable Everlight Chemical to achieve a balanced approach towards its goal of smart manufacturing transformation.

## Customer Satisfaction

"The Smart Manufacturing Assessment Workshop was a well-organized approach that provided valuable insights and a clear roadmap for moving forward to our smart manufacturing transformation goal.

Your team's expertise and professionalism were evident throughout the entire process, from the initial consultation to the final presentation. The workshop provided us with valuable knowledge and perspectives, and your team was able to effectively communicate complex concepts in a way that was easy to understand.

The feedback we received from our team members who participated in the workshop was exceptionally positive. We are grateful for the opportunity to work with such a knowledgeable and dedicated partner. Your diligence and enthusiasm are very appreciated.

Once again, thank you for your outstanding work, and we believe your report will be beneficial to Everlight Chemical as we continue our smart manufacturing transformation journey."





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