

## Case Study

### Flexible MES Cloud Solution Lowers Total Cost and Increases Manufacturing Velocity

*With a new factory opening in less than 2 months, a major clean energy OEM was searching for a new MES solution. The new solution had to provide the standard batch genealogy and serialization features along with the ability to capture consistent and precise data from all their manufacturing plants. The new system had to handle both chemical process production as well as highly complex industrial system manufacturing. All of this had to be deployed in a matter of weeks.*

#### **The Challenge:**

A major clean energy OEM needed a Manufacturing Execution System (MES) for two very different types of production that could also provide visibility across multiple manufacturing facilities. This company's product is a complex industrial system with critical subassemblies produced using advanced chemistry and processing. With a new factory opening in a matter of weeks, their existing MES system was not adequate. More importantly, the older system would not be able to scale to meet their new product manufacturing challenges including:

- Flexibility to handle product lines that are both high volume/low mix and low volume/high complexity.
- Traceability of chemical modules produced in one facility, and integrated into systems in another facility.
- Variability and ease of use in the user interface to adapt to different manufacturing and operator setups. For example, if an operator is 10-12 feet away the interface must be legible from that distance.
- Providing complete visibility across several plants around the world.



## Why 42Q:

The customer immediately understood the speed of deployment and flexibility possible with a cloud based solution. They were surprised however by the advanced features and maturity of the solution, including simple integration with major life cycle management and ERP systems such as Oracle and Agile. Updated work instructions can be pulled from Agile and viewed by 42Q users instantly. If training has not been completed by the user, operation is not permitted. Other benefits included:

- No infrastructure to install or maintain.
- Flexibility to handle high and low mix products in one solution.
- A subscription model that provides pricing predictability.
- Complete, proven functionality and seamless integration between lifecycle management and ERP systems:
  - Serial and batch genealogy
  - Parametric data collection and reporting
  - Simplified management of temporary deviations
  - Automatic updates for repair and refurbishment actions

## Approach and Deployment:

The 42Q Deployment services team used a proven approach based on experience with over 30 other facility deployments. 42Q uses a Rapid Production Model (RPM) implementation methodology which is based on structured templates. A structured and weekly deployment plan was implemented:

<b>Weeks 1-4: Design and Infrastructure</b>	<b>Weeks 5-6: Deployment</b>	<b>Week 7-future: Post Implementation Support</b>
<ul style="list-style-type: none"><li>• Onsite visit to review the factory. Develop process flow</li><li>• Business rules and system configurations defined</li><li>• Order bar code scanners, tablets, custom screens</li></ul>	<ul style="list-style-type: none"><li>• Configurations completed</li><li>• Operator and user training</li><li>• Successful CRP 1 and CRP 2 completed</li><li>• Go Live</li></ul>	<ul style="list-style-type: none"><li>• 24/7 Customer Support</li></ul>

## Results

- The 42Q MES cloud based solution was successfully deployed in under 2 months, allowing the new factory to open on schedule.
- Transparency of genealogy and traceability enabled field and product analyses to occur in a matter of days compared to 3 months with their previous MES solution.
- One consistent set of dashboards for multiple plants performing very different types of manufacturing.
- OEM is comfortable planning for new factory deployments based on a predictable, flexible pricing model.