

42Q

**SMART CONNECTED
MANUFACTURING**

A SANMINA DIVISION

"I was very impressed with the speed at which the 42Q team delivered solutions to issues. The team was very knowledgeable, flexible and willing to work with us. This was one of the best supplier IT teams I ever worked with".

Andreas Schild

Global Head Smart Manufacturing

Case Study

42Q Enables Production Readiness to **Double the Volume** at Comet's Penang Facility.

About Comet:

The Comet Group is a global technology leader based in Switzerland. For 75 years, the company has been developing and producing innovative high-tech components and systems based on x-ray and radio frequency (RF) technology. Comet's RF Power Delivery System, consisting of impedance matching networks, RF generators and vacuum capacitors, is critical for semiconductor manufacturing. The company has an excellent reputation for product quality and works with leading semiconductor companies.

Goal:

Comet's facility in Penang, Malaysia needed to double the production volume of matching networks within a period of six months. While the manufacturing process itself could support the increase, the manual data collection process had reached the limits of its capability. The company needed to increase efficiency, improve quality, enhance traceability and wanted a single source of truth for all manufacturing data. They decided to implement a Manufacturing Execution System (MES) and eliminate all spreadsheet and paper based processes. They also wanted the system to seamlessly integrate with their ERP system and a variety of manufacturing equipment.

Why 42Q?:

With only 6 months to research the MES market, select and deploy a system, Comet selected 42Q because of its cloud-based architecture, its rapid implementation, and its integration capabilities with other IT systems.



The combined Comet and 42Q implementation team with the first system produced using 42Q.

Approach:

- Comet assigned a small team of 3 people who were dedicated to lead the project.
- 42Q and Comet conducted an on-site analysis of the manufacturing process.
- An extensive program of training for the operators and operations leadership team was delivered to ensure that everyone was familiar with the new system and to drive cultural change on the shop floor.
- The implementation was divided into two phases.
- To ensure the deadline was achieved, it was decided that the priority for phase one was the implementation of 15 base MES functionalities and the integration of manufacturing systems to achieve a complete digital production record.
- Based on advice from 42Q, Comet decided to integrate 42Q with their ERP in phase 2.
- The project team had to manage substantial changes to the manufacturing process during implementation. A LEAN improvement project was taking place in parallel to the MES project and the MES project itself drove some major changes (e.g. serial number generation was moved from the ERP system to 42Q).
- Extensive conference room pilot testing took place.

Results:

- 42Q went live on schedule and enabled the doubling of production volume.
- 42Q has become the backbone of all aspects of manufacturing from efficiency improvements to digitalization in general including process control.
- The volume of operating instructions has been significantly reduced by up to 70%
- Real-time visibility of all manufacturing data in user-friendly dashboards has enabled faster decision making.
- 42Q has been integrated with five IT systems.

