



cmNavigo Productivity Suite FOR SOLAR MANUFACTURING

Enhance Operational Efficiency, Increase Quality, Improve Flexibility

cmNavigo Productivity Suite for Solar Manufacturing makes it easy to design, deploy and monitor operations, improving visibility into the factors that impact production decisions. The module is fine-tuned for the specific needs of the solar industry, including mono- and polycrystalline and thin-film PV manufacturing processes. It is easy to implement and provides process insights to help improve consistency, unleash supply chain visibility, and improve yield.

Challenge:

Technology in the solar industry is changing rapidly and manufacture require firm control of production quality parameters to make their high-value products and maintain the flexibility to keep up with changes in the industry.

Advantages:

- Capture data from multiple sources to integrate R&D, quality, and other enterprise systems
- Catalog issues with drill down capabilities and standardized response scenarios
- Integrate with meta-data based Business and Analytics layers
- Achieve full traceability of raw and finished materials

Results:

As a result, solar manufacturers are able to maintain access to critical information systems and to respond to technological advancements that will improve product efficiency and drive down the cost per module.

Learn more: www.criticalmanufacturing.com/en/industries/solar



"For us, one of the key success factors in an MES implementation is having highly conforming modeling capabilities. cmNavigo does this much more easily than other systems we've seen and, since we make a lot of process and product changes, ease of use is an important consideration."

cmNavigo solar customer

INCREASE QUALITY

Advanced Data Collection providing flexible limits, dynamic samples, readings, groupings and calculations in manual, automated or mixed modes. Fully integrated with Statistical Process Control (SPC) and Exception Management.

Out of Control Action Plans (OCAPS) defining role-specific workflows for quality control, analysis, containment, corrective and preventive product or process actions. Protocols are automatically triggered by equipment, SPC rules, EDC limits or any MES action, or by manual operator decision.

Advanced Statistical Process Control integrating automatic data collection, exceptions, resource and materials tracking with trigger quality protocols, notifications and action steps.

Full Traceability allowing easy-to-establish high-performance tracking in single or clustered equipment, across hierarchical flows, while maintaining all sub-material traceability and high-level material integrity. Data can be collected at any level: batch, lot, sub-lot or even at unit ID or serial number level.

Documentation & Specification Management controlling all objects and documents with user-defined approval loops and version-control, publishing and notifications and integrated to enable association with resource tracking. Models or data may be loaded interactively or with mass loading tools, drastically reducing project setup times.

ENHANCE OPERATIONAL EFFICIENCY

Material Tracking providing complete WIP transactional information for complex material structures and containers, including manual or automatic assemble/disassemble, grade, replace, transfer, empty, split-by-product with low effort and high performance.

Advanced Reports, Analytics and Business Intelligence available out of the box, including such critical KPIs as OEE, PPH, cycle time, yield and uptime. A preconfigured data warehouse enables interactive data slicing, analysis, advanced data mining, and real time cost monitoring. Existing reports can be modified and new reports can be created and published on-the-fly.

IMPROVE FLEXIBILITY

Maintenance Management and Calibration allowing Microsoft Outlook™ calendar-friendly equipment management based on ad hoc or usage based schedules including bill-of-parts and checklists, calibration dates and other user defined fields.

Specification Management modeling the factory environment and master data management functions, including version-control and role-specific approvals.

Electronic Failure Catalogue associating failure types with a high-definition image catalog that includes analysis, pass/fail parameters and action protocols with fast, real-time navigation and deep zoom capability.

Automated Platform reducing human error with advanced point & click configuration and service and message mapping over multiple communication protocols. Advanced data collection and recipe management modules eliminate errors in both recipe selection and data collection.

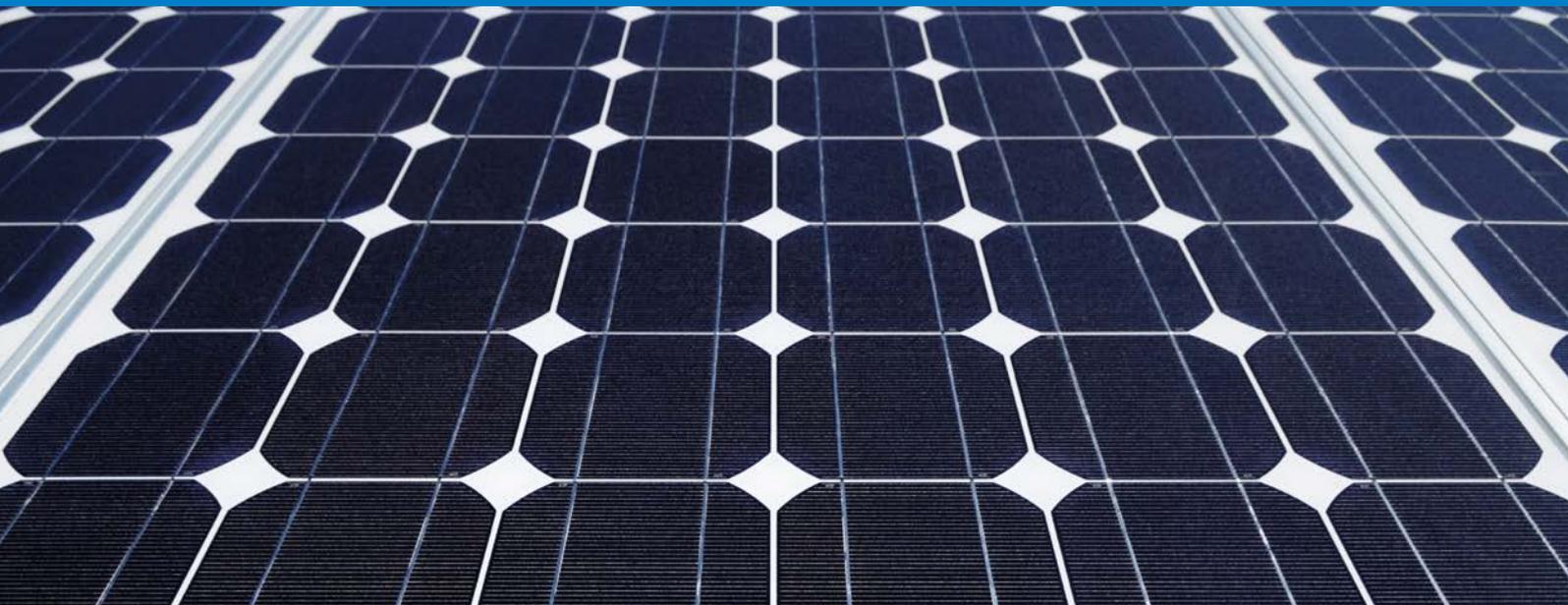
Operator Training and Certification defines necessary training and certifications, including scope and expiration, and is easily configured for a range of operational roles.

Robust Security ensuring highly-compliant control and protection in multi-level security options allow different configurations for visibility or execution permissions at the graphical user interface, API and object level.

Critical Manufacturing provides manufacturers in complex industries a manufacturing execution and intelligence system that empowers organizations to achieve their goals. Our state-of-the-art products and services enable users to drive down cost, flexibly meet market demands, and ultimately achieve greater agility, visibility and reliability. To achieve that success, we have gathered an experienced team of internationally renowned industry experts to continue to innovate, lead the industry, and serve our clients. With headquarters and main technical center in Porto (Maia), Portugal, our phenomenal growth has inspired the establishment of additional operations in Europe, China, Taiwan and the US. Contact us to learn how we help our clients use IT to achieve greater success in their enterprise.

Manufacturing & R&D
America, Europe and Asia

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Critical Group

Provides business critical solutions across industries such as aerospace, defense and telecommunications, under stringent quality certifications like NATO and CMMI Level 5.

Experience

Our engineers provide solutions for some of the most challenging MES green-field and migration projects worldwide. Their experience is at your service.

Innovation

Our solutions address the most important industry challenges through cutting-edge innovative products and technologies.

