



# 1/ Stock & Material Management of Solar Panel Production [Kalyon PV]



## The Challenge



Efficient stock and material management is essential for smooth solar panel production. Delays in material supply, supplier changes, and logistical issues can disrupt operations. Without accurate inventory tracking, companies face either excess stock—tying up capital and increasing storage costs—or material shortages that halt production. These disruptions reduce efficiency and profitability.

## Current Status



The company currently uses a basic inventory tracking system and maintains regular communication with suppliers. However, forecasting and real-time monitoring tools are limited. Existing systems are not fully integrated across departments.

## Technology Readiness Level (TRL)



8—Systems and processes are operational but need improvement for better integration and predictive capabilities.

## Expected Outcomes



- Fewer production interruptions due to timely material availability
- Reduced inventory costs and improved cash flow
- Stronger supplier relationships through better planning and data sharing
- Increased production efficiency and profitability

## Impact on Operations



Poor material management causes delays, raises costs, and limits scalability. Excess inventory locks up funds, while shortages trigger costly emergency purchases. These inefficiencies reduce competitiveness and make it harder to respond to rising market demand.

## Previous Actions



An inventory tracking system has been implemented to improve stock visibility and reduce excess materials. Key supplier partnerships have been strengthened to ensure timely deliveries. Further digitalisation and predictive analytics are now required to optimise performance.

## About Kalyon PV



Kalyon PV is a vertically integrated solar technology company based in Türkiye, operating a flagship facility that combines ingot, wafer, cell, and module production all under one roof. The plant spans 250,000 m<sup>2</sup> (111,000 m<sup>2</sup> indoor) and achieves over 90% domestic content in its manufacturing. Kalyon PV supplies panels for Kalyon's own large-scale solar plant projects—most notably the Karapınar Solar Power Plant, one of Europe's largest single-site solar facilities. The company also produces high-value solar cells for advanced applications, including satellite use.

## Contact Point

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