Panasonic's manufacturing operations optimizer automatically draws up production plans to reduce man-hours and enhancing production efficiency.

Manufacturing operations optimizer (MFO)

FeaturesThe Manufacturing Operations Optimiser (MFO) is a newly developed product for drawing up production plans required for on-site operations to reduce the man-hours needed for the production plan and, at the same time, to enhance production efficiency. MFO creates detailed schedules for productions and pre-set-up operations and calculates the required resources for production by simulating the manufacturing process of the entire SMT production floor. By simulating the planned production, the MFO answers questions about estimated production completion, indicates which production sequence is to be used for higher efficiency, proposes optimal machine set-up for higher efficiency, and indicates the number of staff needed to achieve the plan. MFO models the required production line, taking into account errors that can occur at the production machines, such as parts exchange. It optimises production taking into account multiple production lines. The off-

manufacturing operations optimizer (MFO) is the line management system to create detailed production schedules including pre-set-up operations. Those production plans are mandatory to optimize manufacturing processes and thus improves cycle times and

Key Features

Drawing up production plans required for on-site operations

Detailed schedules for productions and pre-set-up operations

Calculates the required resources for production by simulating the manufacturing process

plans for production, process set-up and operator management plus simulation reports. Beside this, it provides various optimization function, like mounting process, production plan, production-set-up plan and operator count, including a table of function list and machines.

Panasonic CONNECT

Manufacturing operations optimizer (MFO)

https://ap.connect.panasonic.com/ph/en/manufacturing-operations-optimizer-mfo

Mounting process simulation	In consideration of “error occurrence in production machines," “parts exchange by operators" and “operators’ travel time," it models a mounting floor, and simulates production conditions including multiple mounting lines and off-line setup processes. This ensures highly accurate simulation results.
[Optimization function] Production plan optimization	In consideration of multiple production lines, it optimizes a production plan based on the production conditions set up in [mounting process simulation]. This allows the “production line" and “production order" of each PCB to be calculated / provided automatically.
[Optimization function] Setup plan optimization	It optimizes “off-line setup" sequence according to the production plan developed in [production plan optimization]. This allows automatic calculation / provision of “priorities for setups in multiple lines," “a setup plan that takes into account the shred use of carts" and “effects of an increase / decrease in the setup number of operators on the production plan." *The optimization function of “In-line setup" is currently under development.
[Optimization function] number of operators optimization	Based on the production conditions set up in [Mounting process simulation], it optimizes the number of operators required for each line and setup, allowing you to automatically calculate / provide “the number of the operators required."
Applicable machine NPM-X/NPM/AM series	NPM-DX, NPM, NPM-D/D2/D3, NPM-TT/TT2, NPM-W/W2/W2S, AM100
Applicable machine CM/DT series	CM602-L, CM232-M/212-M, CM101-D, CM402-L/M, CM401-L/M, DT401-F/M
Applicable machine Screen Printer	SP60/70/80/18, SPG/SPD/SPV
Applicable machine NPM-VF series	NPM-VF
Applicable machine Panasonic’s former machine	Machines not included in the ones mentioned above
Applicable machine Competitor’s machine	Competitors’ machines (loader, screen printer, SPI, placement machine, AOI, reflow, etc.)