Murata is introducing a new software product "CAMPATH TRM$^+$". This has been developed as an operator support tool for shop floor operations at our turret punch press and loader systems. It aims to improve the machine operation rate and quality of the products by providing guidance to the operators for processing of NC programs and tooling data. It provides many functions to do this.

- **Scheduling Operations**: Scheduled job production guides the operator on a standalone machine and controls automatic operation using a loader system. A running production count is tracked as each part is run. NC programs are automatically downloaded to the machine control improving operator efficiency during standalone and automatic operation.

- **Optimized Scheduling Operations**: This function creates an efficient production schedule by analyzing the production data. The software determines the optimum sequence to minimize "Material", "Tool Change" and "Work Holder" setups.
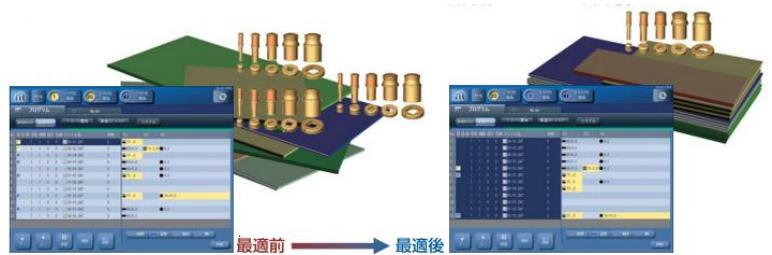
- **Turret Monitor:** Easy to understand guidance is provided to the operator for tool changes in scheduled jobs. The software tracks and shows tool information in the current turret layout. Scheduled job tool data is automatically reviewed in the NC code. Instructions are provided to the operator to load necessary tools.

- **Tool Management:** All the customer's tooling can be managed using a Tool List. Hit counts for all punch and dies can then be tracked. Using 'maximum hit count' and 'alarm hit count' settings, regular tooling maintenance is more easily controlled.

- **Tool Navigation system:** Historical tooling usage is analyzed so the best turret configuration can be established to provide minimum tool changes during normal operation.

- **Processing Simulation:** Examine a simulation of the punching code prior to processing on the machine. The NC program code can be simulated, visually examined and changed if necessary in this utility.
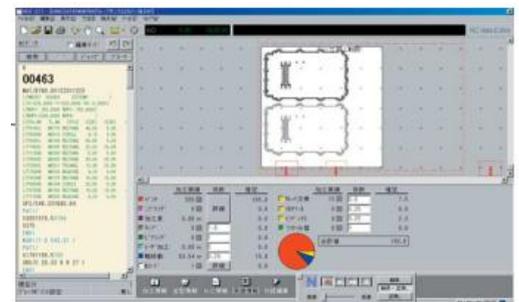
- **T Code Conversion Operations**: This powerful tool allows T-codes to be automatically updated in the NC programs before sending to the machine. If the tool location was not programmed correctly, this function will analyze the NC code and change all instances of the incorrect tool number. This software also allows analysis of the current tool load to provide a more efficient tool load and update NC programs accordingly.