

ACADZ inc.

# Efficiency Solutions for Semiconductor and Electronics Manufacturers

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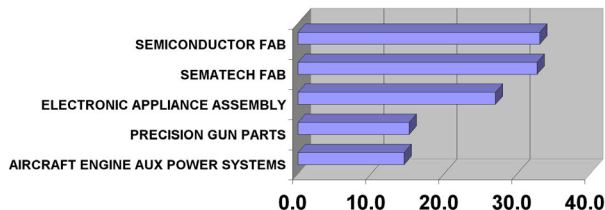
*"Cycle time and cost reductions of up to 33% are obtained by implementing MIVP®"*

## Products

### MIVP® - Cycle-Time & Cost Reduction System

Our Minimum Inventory Variability Policies® or MIVP® work to decrease cycle time and cut the costs of carrying excess inventory on the factory floor. MIVP® does this by dynamically and constantly reacting to events in the FAB to ensure an optimal level of product at each machine so they are neither starved, nor accruing large bottlenecks. MIVP® has been shown to reduce cycle time 7% up to 33% in semiconductor manufacturing.

CycleTime - % Reduction by Industry



MIVP® Results in Select Industries

### Q-Efficient™ - Scrap Reduction System

ACADZ inc.'s WIP tracking and control system - Q-Efficient™ - increases efficiencies in decision making abilities to help maximize profit. The intelligent Q-Efficient™ devices ensure each product's recipes are faithfully followed by preventing operators from putting a LOT on the wrong tool or process at the wrong time. Eliminating product miss-feeds saves you both time and money by reducing re-work, scrap and WIP. In addition to process control, the Q-Efficient™ system can be integrated with the MIVP® Cycle-Time & Cost Reduction System to dynamically direct product starts and flows. Finally, the Q-Efficient™ devices can be interfaced with your MES, SCM or ERP for more accurate forecasting, reporting, and decision-making.

### ACADZ Semiconductor Libraries™ - Simulation Software

ACADZ Semiconductor Libraries™ are a set of tools designed for the popular Extend™ simulation software. Including over 88 icons that can be used to represent more than 100 semiconductor tools, these Libraries enable an elegant and powerful solution for modeling a FAB with easy, cut and paste tools. The package also includes sample factory simulations and the corresponding

help files to show how FAB models can be used to calculate and create reports in MS Excel™ on cycle time of devices, capacity of machines and/or machine groups, bottlenecks, and changing batch sizes.

Simulation models built with ACADZ Semiconductor Libraries™ allows management to measure the benefits of implementing MIVP® Cycle-Time & Cost Reduction System. Cost of preparing a MIVP® model and implementation depends upon the amount of data needed to be collected, size of factory, number of process flows, and number of steps in each process flow.

## Consulting Services

### Data Collection

ACADZ inc. can assist you with the collection of cycle time data including both machine and product flow information. Collection services can include any combination of the following:

- Equipment loading capacities
- Mean time before failure (MTBF)
- Mean time to repair (MTTR)
- Factory layout
- Number of steps in process flow,
- Travel, Set-up and Process times
- Load and unload times.

### Capacity Modeling to Maximize Efficiency

Theoretical models show the average capacity of each piece of equipment on the factory floor making bottlenecks and factory constraints apparent. Factory models are made to mirror actual factories using simulation software to accurately mimic real life scenarios including machine downtime and repair time with 95% confidence.

### Simulation Modeling for Risk Analysis & Bottleneck Detection

Simulated factory models can be set up by our staff to your specifications to provide quantitative solutions to factory scheduling problems. These models are run off line to determine different scenarios. What-If-Scenarios could include changing the current product mix to see how machine's capacity, cycle time and overall manufacturing cost are effected.

### Simulation Modeling For New Plants

We provide factory simulation models to determine equipment capacity and labor requirements for each section in the factory for current and future product mixes. Once a model is built different equipment and labor comparisons can be made. This data determines if a new plant can handle future orders.