

## ■ Critical Issues

### ■ Don't you have any of the following problems, which affect profitability in your company?

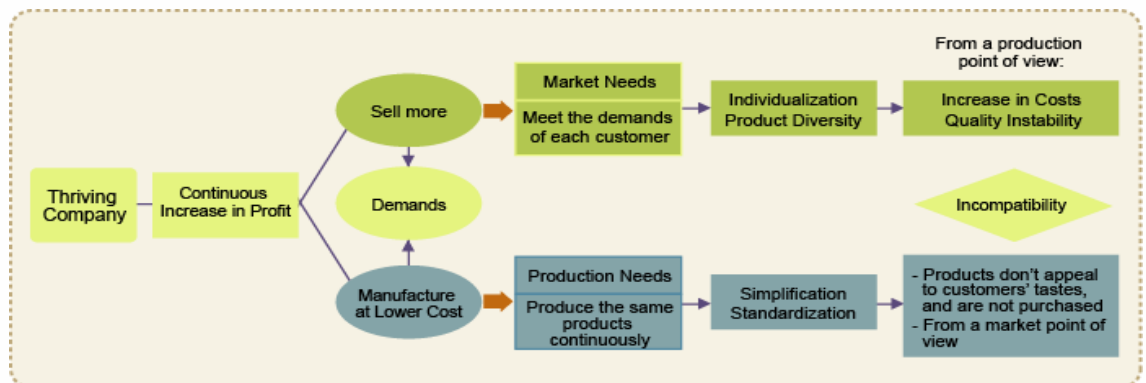
- Increase in product types has not simply delivered a sales increase. Profit has not risen, either.
- Our inventories of parts, devices and products are large.
- We are fully engaged in new product developments, and a large amount of overtime work is spent on design operations.
- The number of design diagrams is increasing all the time, and the number of parts is growing.
- Although we require new dies all the time, product lifecycles are becoming shorter and costs are piling up.
- There are many types of products, and it's very troublesome to change the development processes.

## ■ JMAC Concept

### ■ VRP aims to support the diversification of customer needs while maintaining profitability

With the diversification of customer needs, companies are required to have a large lineup of products to support each customer. However, having many product types contradicts the realization of efficient product development and manufacturing, and results in reduction of efficiency.

In this situation, VRP aims to allow a large number of product types while maintaining profitability.



### ■ VRP aims to maximize profit using product groups rather than single products.

By targeting product groups, VRP realizes profit maximization for product groups to exceed the profit improvement that can be obtained through focusing on individual product units.

### ■ In order to increase product types, VRP optimizes the “total sum of number and types” in parts and manufacturing processes.

VRP aims to maximize profitability by increasing product types with the minimum numbers of parts, parts types, processes and process types.

### ■ VRP uses the concurrent development of design, production and sales as a fundamental.

Generally, cost innovation through VRP targets all sources of costs. As a result, all divisions related to the target product groups will basically participate in the project.

# VRP (Variety Reduction Program)

Optimization of wide product varieties and diversification of customer needs



## JMAC Features

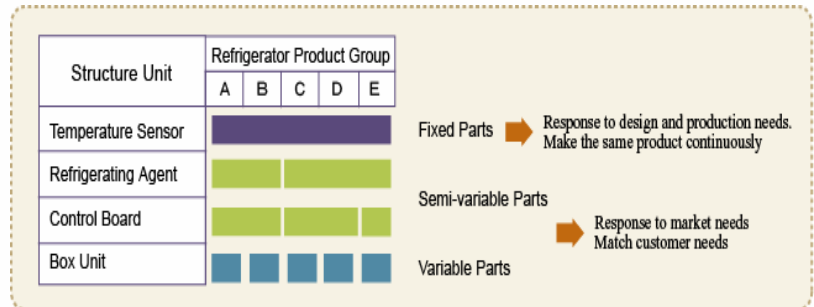
### Features of VRP (Variety Reduction Program) (Including critical points)

In VRP, the product and manufacturing structures of current and future product groups are analyzed from the following five viewpoints in an aim to allow multiple product types while maintaining profit:

(1) Fixed and variable change, (2) Grouping change (modularization), (3) Multifunctionalization and consolidation change, (4) Range change, and (5) Systemization.

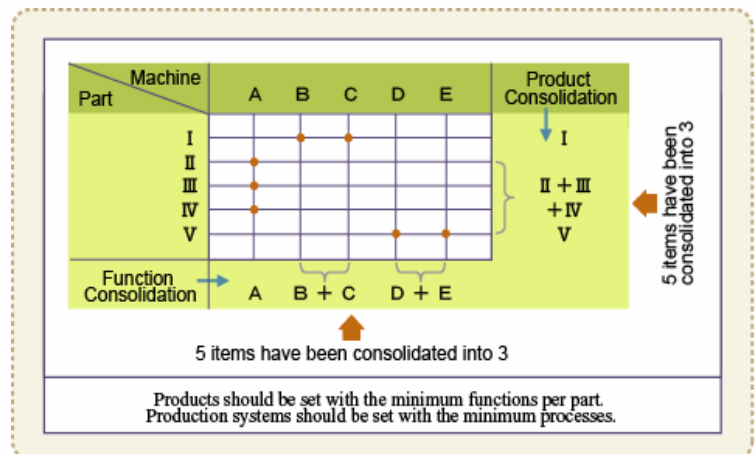
Technique 1:

*Fixed and variable change:* Customers usually don't want overall product changes. VRP aims to reduce the number of part types while continuously adapting to customer demands.



Technique 3:

*Multifunctionalization and consolidation change* aims to reduce the parts varieties and production process to minimum parts and simple product structure while fulfilling the targeted functional level.



## Results

### The following are successful outcomes from VRP

Electronic Equipment Manufacturer

- Profit innovation (Sales increase, cost percentage improvement)
- Design efficiency improvement
- Product planning capability improvement

Household Electronic Product Manufacturer

- Cost reductions
- Market share enlargement
- Engineering development capability improvement

Mechanical Unit Company

- Market share enlargement
- Cost reductions
- Customer satisfaction improvement