Scheduling Software

Avyx, Inc., Englewood, Colorado has introduced a new software product — called ASE™, for Advanced Scheduling Environment — designed to provide "scheduling solutions" for complex manufacturing environments. ASE is an evolutionary development based on a resources management software system originally developed for NASA use in such activities as scheduling Space Shuttle flights and satellite activities.

Avyx describes ASE as "a powerful suite of software modules for the modeling and solution of complex scheduling problems." It is primarily applicable to process manufacturing scheduling situations, but it can be applied to any other environment where competing objectives contend for limited resources. ASE, says the company, offers problem solving capability for manufacturers and such other organizations as hospitals, telephone companies, airlines or utilities that schedule large crew and equipment pools for repair and maintenance services.

ASE's utility is illustrated by the case history of BFGoodrich facilities in Santa Fe Springs, California, where the company makes carbon disc brakes for heavy aircraft. The manufacturing process involves multiple steps and the number of alternatives for assigning manufacturing resources is large. It is particularly difficult to schedule use of chemical vapor deposition (CVD) furnaces used to produce brakes of different sizes. BFGoodrich was able to handle the scheduling task with a manual system until a large

influx of orders required operation at full capacity. Then it became obvious that the manual system could not keep up with new demands for schedule changes. Major rescheduling took as long as two weeks. The cost to Goodrich was underutilization of the expensive CVD furnaces.

Goodrich adapted an ASE-based Avyx Scheduling Solution designed specifically for the disc brake processing operation. Through use of the ASE software, the plant is now able to schedule more accurately the exact processes required for any part in current or future production. Use of expensive assets, such as CVD furnaces and machine tools, has been optimized. Avyx reports: "The financial returns, from both improved throughput and higher equipment utilization, resulted in operational cost savings in the first year greater than the

investment required to install the Avyx system."

Other Avyx clients in the tobacco and paper industries have reported similar experiences.

Both the ASE product and Avyx, Inc. owe their existence to aerospace technology transfer. Avyx is an offshoot of a company formed in 1981 to provide computer-related services to NASA and other government agencies. The initial commercial product — called TREES-pls — was a software tool for more efficient management of resources — people, machines, dollars — by industry. TREES-pls became the programming language module for the ASE system and Avyx has expanded the "tool kit" with the addition of other modules. ●

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