Aerospace Industry
Delivery Improvement

Project Start Date: March 20, 2006

Project End Date: December 8, 2006

Company profile

This client is a leading edge company providing aerospace solutions. Solutions include: sensors measuring shock, vibration, as well as pressure. A large part of the company's business comes from selling accelerometers which measure both the acceleration and deceleration of airplanes.

Business situation

The company had a past due of **$1 million** on orders. At any given time, an assembler or operator would have multiple job orders open simultaneously. Great distances had to be traveled to accommodate the manufacturing and building of the accelerometers. Some operations required that the part be baked in a high temperature oven for one or two days. This created much work in process, as the operator would have to begin another job while waiting on the parts in the oven to cure. As another job was started, eventually the previous job would be ready to be removed from the oven. Ultimately, the operator would forget about the previous job needing to be removed from the oven. The unbalanced job times combined with the chaotic flow led to each assembler managing multiple jobs at once. On average, it took **6 weeks** to complete a job, when the total assembly time for the assembler (excluding oven or weld or outside process) ranged from only 19 minutes to 74 minutes. As new orders continued to be processed, orders continued to exceed their past due dates. The client looked to Strategy3 to figure out how to end the recurring cycle of past due orders.

Implementation Approach
First, Strategy3 took a macro-level approach to the business. Diving into each job traveler, Strategy3 separated the processes performed by the operator from the processes performed by an outside area. Next, Strategy3 time studied all of the jobs and collected the times for the tasks or operations performed by the operator. Introducing a color-coded matrix by job for each part number, Strategy3 created a very visual display of where the job started and what operation or task the job would go through at each level of the process. It also reflected the cycle times at every step

along the way. When completed, the matrix for the part numbers had a visual feedback display that reflected expected operator time per step, and a color code for each step.

Next, Strategy3 split the business up into two segments: the part numbers constituting 20% of the business in sales (or 80% of the part numbers), and the part numbers constituting 80% of the business in sales (or 20% of the part numbers). The main focus was on the parts that made up 80% of the business.

Once this was established, with the help of the plant, Strategy3 identified commonality between the processes of different part numbers. Of the 20 part numbers that made up 80% of the business, only 10 unique subassemblies existed. When Strategy3 discovered along with the plant that only 10 unique subassemblies went into 80% of the finished goods product of their business, it was time to begin building stock for those 10 unique subassemblies. Doing so allowed production to focus into two areas: a subassembly team, and a final assembly team.

Strategy3 then introduced a runner to the team which did **all** material handling from each step to the next step along the way. Creating a runner allowed the assemblers to focus on assembling. The runner would take jobs away from assemblers and feed the assemblers with new jobs. Creating this type of focus introduced speed in the build times of the assemblers. It also took away the distractions that the assemblers previously had when having to constantly stop and start their jobs for other jobs.

Results
The overall gain was realized in the past dues dropping from **$1 million** to just **$4 thousand** in only 12 on-site visits. Lead times for a job dropped from 6+ weeks to just 2.5 weeks, for an overall lead time to the customer reduction of 58%.

PE Past Due