



How a defense contractor re-engineered its business processes to double productivity.

“The management procedures we had been using to fulfill our U.S. defense contracts were obviously out of step with the methods required to compete in the international arena,” said the president of this well-known high-tech engineering company. “In fact, we had abandoned many of those guidelines in favor of informal, ad hoc shortcuts, which were killing us.”

The company’s shift toward international business had primarily been driven by an unpredictable U.S. defense market and subjected it to a more intense level of competition, complicating its product mix and pricing. It also put tremendous pressure on margins, to which management responded by cutting costs through early retirements and layoffs. Unfortunately, many who left were the most senior managers, causing an abrupt exodus of product knowledge and management control.

What made these losses even more devastating were the multiple, complex steps required to complete every task. The company had a matrix organization whereby a group of engineering and manufacturing disciplines was dedicated to each major customer and led by a program manager. Since most products were built on a common platform configured with customer-selected options, resources were often shared. Personnel, both technical and non-technical, were assigned in and out of programs as called for by workloads and program life cycles.

Unfortunately, scheduling was so unreliable that parts inventories were also shuffled between programs - usually according to which was furthest behind schedule - resulting in a destructive internal competition for parts and costly preemptive overloading by program managers. Yet, the similarities in programs made it easier to gain acceptance of proposed changes across all programs; and, since most new programs were starting to ramp up, it was also an ideal time to streamline the

flow of materials and improve shop floor control.

They decided to seek outside assistance and, ultimately, retained the services of USC Consulting Group, a process improvement firm with



Key Metrics

Drawing cycle time shortened	25%
Returns for rework decreased	45%
On-time releases improved	40%
WIP inventory slashed	50%
Build-time cut	32%
Defects reduced	97%
Productivity increased	121%

This USCCG-led project produced significant improvements across the entire company.



over 30 years' experience and broad expertise in the area of operational effectiveness, to help them redesign and update their business processes.

USCCG began by working with key managers to identify root causes of wasteful delays, mistakes and misunderstandings that increased costs.

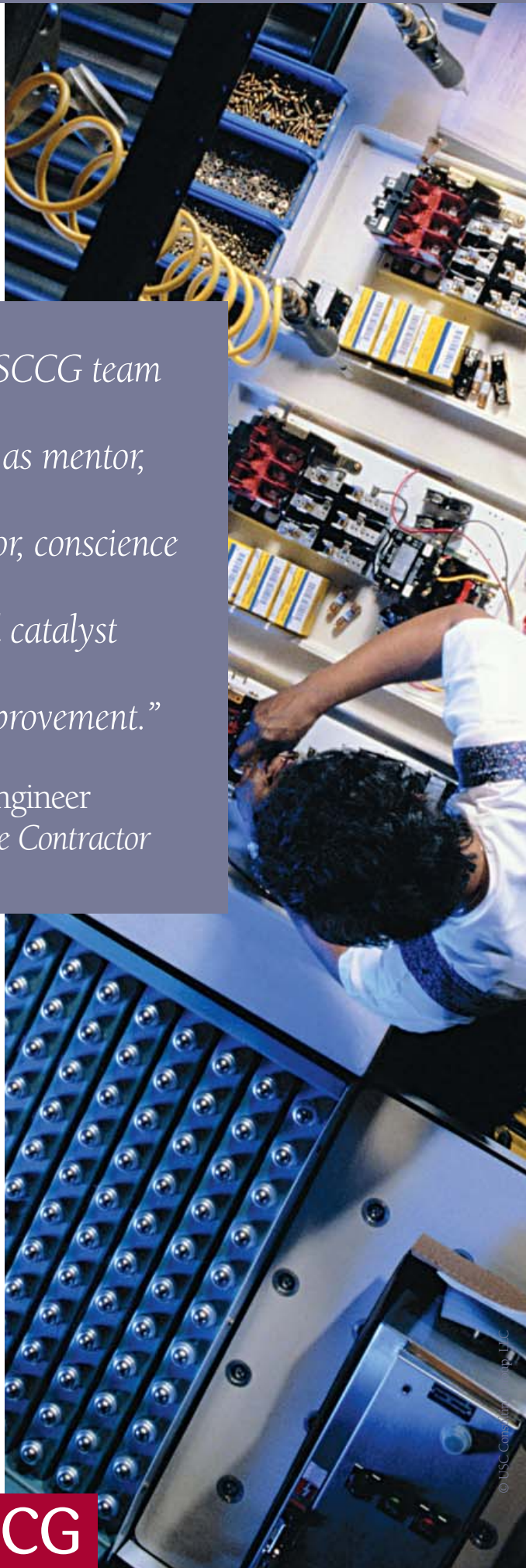
In the engineering design-services area, a cross-functional team was assembled to analyze the coordination and timing so essential to efficient material planning. They were asked to list their suggestions for improvement by priority, using ideas that came out of the focus group sessions conducted by USCCG during the kick-off phase.

The focus sessions, known as Employee Involvement Prototypes (EIP), were held to involve all participants in the change process, to explain project goals to them, and to gain their commitment. The sessions were also used to raise concerns about obstacles, and to solicit suggestions for overcoming them. "It was in the EIP sessions during that first week," said the engineering director, "that USCCG's ability to navigate us through the turbulent times that lay ahead became most apparent."

Another engineer noted that the USCCG team members were hands-on implementation specialists with the necessary technical skills. He said, "The consulting team acted as mentor, facilitator, conscience and catalyst for improvement. They were always careful to avoid finger-pointing and other negative behaviors that can surface when people are asked to comment on things not going as well as they could be."

Relationships and structure were established for regular progress reports. Metrics were developed and readily adopted. The reporting system monitored and communicated changes, among the most striking: a 121% improvement in productivity accompanied by a 45% decrease in return of drawings for rework.

Commitment to goals intensified as everyone also saw a decrease in assembly build-time along with a significant drop in the number of defects. As the engineering director put it, "We had to get past the fear of being measured to embrace the attitude of continuous improvement."



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Engineer
Defense Contractor



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