



Case Study

CFAN Manufacturing Facility

With more than \$2 million in government incentives, CFAN undertook a \$30 million expansion of its composite fan blade manufacturing facility -- based in San Marcos, Texas -- to keep pace with demand for the airplane engines its fan blades help propel, notably the Boeing 777 and 787 Dreamliner models.

Project Snapshot

CFAN
Manufacturing Facility
Expansion
San Marcos, TX
264,500 sq ft

A well-designed and integrated manufacturing facility requires a comprehensive understanding of the company's operational goals, unique requirements and workflow processes.

As a joint venture between two of the world's largest aerospace companies, GE Aircraft Engines and Snecma, CFAN was experiencing growth pains as demand for its fan blades was rapidly outpacing the company's ability to produce and deliver the products.

To meet current production and delivery requirements, it was essential that CFAN ramp up their production capabilities in a very short time frame, without interrupting daily production or impacting product deadlines.

CFAN selected TAG International, as part of the project team, to help the company navigate the complex process of evaluating, planning, redesigning and expanding their existing 137,500 square foot facility -- while dramatically improving manufacturing efficiency and accommodating future growth. A critical component of the evaluation and planning process was to assess and determine the company's facility requirements to accommodate the phase-in of new equipment over the next six years.

TAG worked closely with CFAN to implement lean manufacturing process improvements and to fast-track the design and construction of the expanded facility. Based on the company's specific equipment needs, TAG created a comprehensive equipment plan with fully integrated utility requirements.



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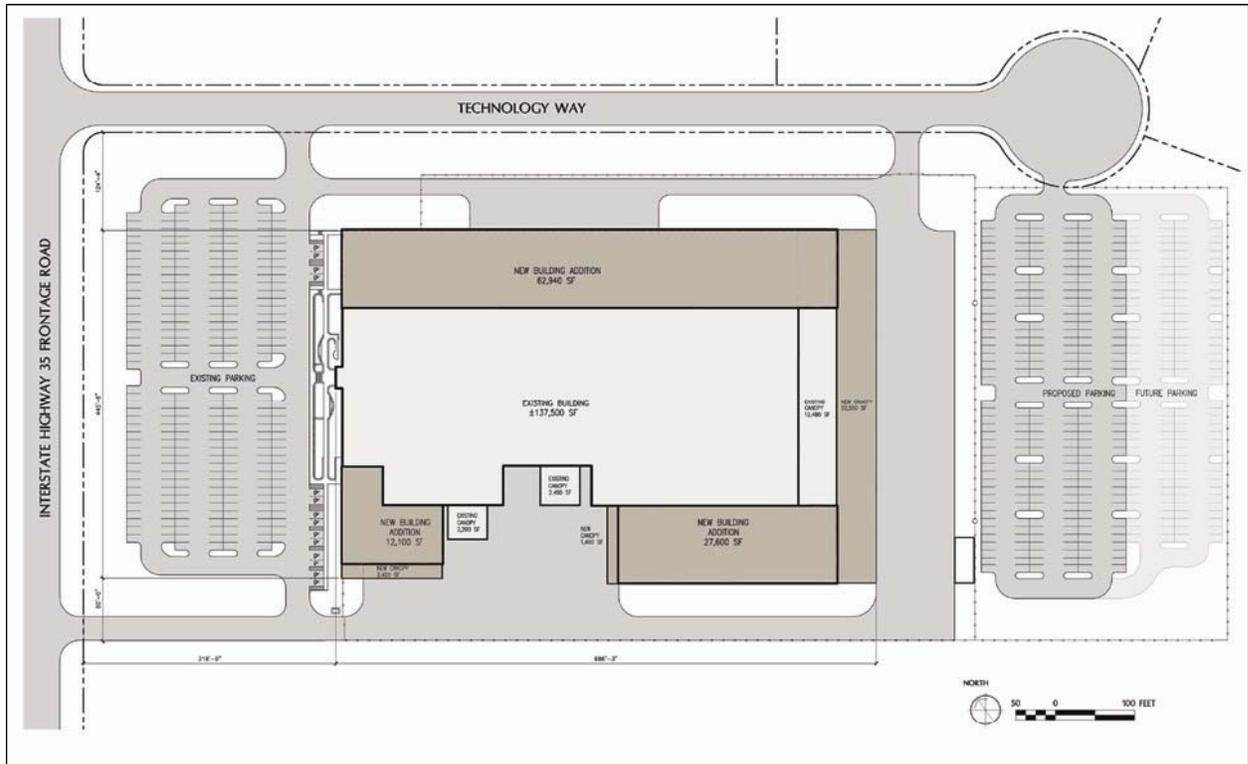
Services provided:

- Concept Planning & Strategy
- Site Evaluation & Planning
- Feasibility/Due Diligence
- Architecture & Design
- Process Management

TAG created a site plan and project implementation approach that would allow CFAN to simultaneously reconfigure its operations in an efficient layout, keep the existing production areas in full operation, and maintain a highly compact footprint.

TAG collaborated with CFAN throughout the design phase to minimize the impact of the expansion on existing operations by providing square footage on each side of the production line, relocating shipping and receiving, and carefully phasing construction. As part of the initial site planning process, TAG analyzed the flow of truck traffic to and from the facility, employee shift changes, the use of existing storm water detention areas, and the location of support facilities such as security checkpoints and hazardous material storage.

In addition to improved process flow based on lean manufacturing principles, the 127,000 square foot expansion increased the manufacturing area and provided additional space for non-destructive testing (X-Ray/CT-Scan), paint booth, and clean room capabilities. By reconfiguring key areas of the facility, CFAN also made significant improvements in the overall working environment including additional storage and office space to relieve overcrowding, as well as newly upgraded and expanded cafeteria and training facilities.



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