

CADKEY User Profile

Company: **TECHNICAD Engineering**

Specialties: **Design Engineering**

Application: **Machine Design**

TECHNICAD Engineering (Uncasville, CT), a contract engineering company offering design and drafting services, specializes in machine design. As custom work requires in-depth knowledge of engineering technology, TECHNICAD's greatest challenge is to meet the unique requirements of a wide variety of customers. From small switches and product design to large scale industrial machinery, the diversity of work keeps the job interesting.

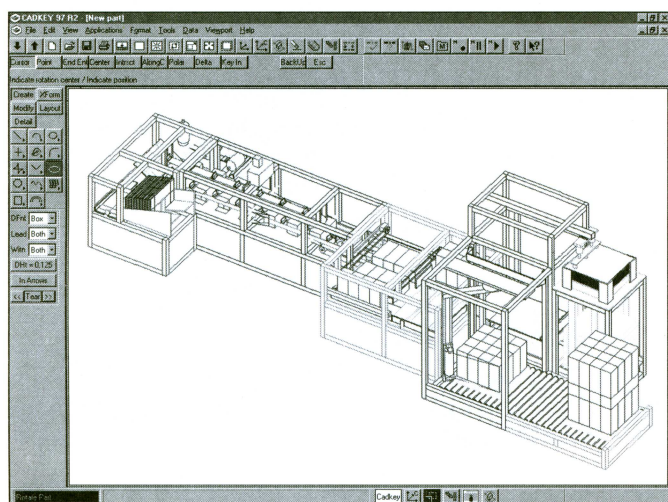
As machine design is a case-by-case, component-by-component study, TECHNICAD also has to consider the man/machine interface. If problem-solving is the heart of engineering, then details are its daily bread. As each job involves the creation and strategic placement of a multitude of inter-related components, every part must be drawn and carefully

been using CADKEY since 1989 for machine design. As an outside contractor, I must focus on the essentials. TECHNICAD has two different types of customers – smaller manufacturing firms that require "on-demand" services of an experienced mechanical engineer and the capabilities of a precision CAD system, as well as large companies that need specialized machine design expertise to handle their overflow of work. Customer interaction is vital to my business. My ability to rapidly design precision parts in 3D not only helps me to visualize and verify my works-in-progress, but helps to communicate design intent to my customers. 2D drafting is critical to machine design as well. This is the most time-consuming effort and with powerful CAD automation tools, I can be highly competitive."

Once the company receives final approval on a project, the race is on. TECHNICAD uses DRAFT-PAK to accelerate routine design drafting operations and to simplify engineering operations repeatedly used in mechanical design. The creation of 3D assembly parts and mechanical components is streamlined using DRAFT-PAK's one step solutions and reduces multiple steps in the design process.

An increasing part of TECHNICAD's services is providing Stereolithography prototypes from 3D CAD models. The company also reverse engineers machines, parts and prototypes, and recreates them in the CAD system for machine documentation and technical illustration via exploded view drawings. Using CADKEY's data translators, TECHNICAD's 3D models and 2D drawings can be exported to a variety of engineering software programs.

"Transferring concepts into the CAD system should be second nature to an engineer", states Papathanasiou. "Time is of the essence for the contract engineering firm. I am in the business of precision and function. In machine design, there can be hundreds of components. All have to fit accurately and interact properly. To meet tight deadlines and stay within budget guidelines, we have to get the job done right the first time. Our CAD solution is the center of this universe and it has to be versatile and intuitive. CADKEY's interface and functionality is easy to use and focused on mechanical design. It's like having the best of both worlds - 2D and 3D."



documented for manufacturing and the installation of parts. TECHNICAD performs kinematic analysis for machines with moving parts such as gears, cams, belts and drives as part of the design process. Developing 3D CAD designs and generated detailed engineering layout from the 3D models is an everyday task at TECHNICAD.

CADKEY 97 and DRAFT-PAK 97 serve as TECHNICAD's in-house CAD solutions. FastSURF™ and FastSOLID™ (FastSURF, Inc., Sonora, CA), add-on modeling programs, are also utilized when a project calls for the creation of intricate, organic 3D models or advanced solid modeling. Peter Papathanasiou, TECHNICAD's founder and mechanical engineer states, "I have