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Developing Solutions for our Customers

Tamarack offers a number of flexible photolithography and laser ablation platforms, highly adaptable to customer specific needs. Whether the requirement calls for customization of an existing system architecture, or an entirely new tool, Tamarack approaches the task with an integrated, holistic engineering outlook, intended to optimize the tool for the task.

1) Defining the Requirement

One of our first steps is to work with the customer to clearly understand and define the requirement and develop a specification for the solution. This is a highly interactive process between the customer and Tamarack's team.

2) Developing a Solution

Next, our team of engineers works closely with the customer to develop unique solutions to meet their specific manufacturing or process requirements. Tamarack maintains a development laboratory where a target process can be tested. This includes the capability of performing the vital proof of concept laser ablation and lithography experiments required to determine process viability.

3) System Engineering

Once a solution has been defined by the team and approved by the customer, Tamarack's system engineers take over to develop detailed specifications for the machine or process. In some cases the process is developed at the same time as the machine.

4) Engineering Team

The next step is to assemble an engineering team led by a Tamarack designated project engineer. Depending on the specification for the solution, the team leader will call upon the appropriate specialists from Tamarack's talent pool.

Tamarack maintains a talented engineering department consisting of systems, mechanical, electronic, optical and software engineers. These are highly creative individuals with the ability and experience to develop unique solutions for a number of advanced technology requirements.

Manufacturing

Tamarack's engineering team is supported by a highly trained group of manufacturing technicians, working in well equipped facilities.

1) Plant



Tamarack is located in a modern new 75,000 square foot building located in Corona, California. This new building was designed for developing process solutions and equipment for high technology customer requirements. The facility has 20,000 square feet of engineering and administration offices. The remaining space is dedicated to specific manufacturing activities including, machine shop, sheet metal, welding, laser labs, optical fabrication, and a 7,000 square foot clean room for final assembly.

2) Machining and Sheet metal fabrication



Tamarack has an extensive machine shop with NC mills, lathes, grinders, welders and sheet metal fabrication. In addition the company also utilizes a number of machine shops in the area for production work.

3) Optical Fabrication



The company maintains an optical fabrication department, which provides many of the reflective and refractive components used in projection and laser ablation systems. In addition the company utilizes a number of outside optical fabricators and thin film optical coating labs.

4) Assembly



With any complex automated equipment, final system integration is critical to its performance. Assembly of major electronic control, mechanical and optical subsystems is an exacting task that requires significant skills. The company has a number of highly experienced assembly technicians, specializing in optical, electronic and mechanical precision assembly. A number of the optical systems are assembled in a clean room using air bearing alignment fixtures and laser interferometers for precision placement of components.

5) Test, Verification and factory installation



For this function the company has a staff of engineers dedicated to testing the system to ensure it meets the customer requirements and specifications prior to shipping. In addition, these engineers travel to the customer's plant, install the equipment, verify it meets specification and insure the customer is trained in its operation.