

## Job Description: Target Development Engineer

### Background

Scitech Precision Ltd is a spin out company from the Science and Technology Facilities Council making microtargets which are used as the sample material in high power laser experiments for use on national and international research facilities. The targets are small (sub-millimetre) multi-material assemblies, tailored to the individual scientific requirements of an experimental campaign. The successful candidate will be required to work as part of a small team on target design and fabrication as well as increasing the company sales pipeline.

### Responsibilities

An understanding of the challenges faced in handling and assembling micro- and nanometre sized components is fundamental to the work. The fabrication and production processes for sub-components and assembled targets include techniques such as thin-film coating, thermal sputtering, micro-machining and electron beam deposition. The candidate will be responsible for all aspects of target delivery including the following specific activities;

- 1) Work with customer to specify target geometry and parameters.
- 2) Design of appropriate assembly and physical components to meet agreed specification.
- 3) Fabrication of components and final assemblies.
- 4) Ensuring microtargets are delivered to customer defined deadlines.
- 5) Detailed microtarget characterisation using optical profiling, white light interferometry and SEM.
- 6) Introducing novel processes, materials and characterisation procedures.
- 7) Working within a quality management system (ISO9001:2008)

The candidate will also be expected to represent Scitech Precision at a variety of relevant scientific conferences and exhibitions to present research papers and showcase company capabilities as well as networking with the Plasma Physics community to expand the customer base.

### Contacts and Communication

This role will involve extensive discussion and negotiation with individual customers and suppliers to co-ordinate the target production and delivery schedule. You will be required to;

- 1) Discuss experimental requirements with customers and collaborate with them to design targets which will help achieve their scientific aims
- 2) Liaise closely with the members of CLF Target Fabrication group to ensure coordinated use of resources.
- 3) Maintain contacts with existing customers to stay informed of future experimental requirements.
- 4) Co-ordinate delivery from a range of micro-component producers.
- 5) Deliver talks to the group and the wider user community on progress in target fabrication activities.

### Personal Skills and Attributes

- 1) Excellent manual dexterity and co-ordination
- 2) Meticulous attention to detail
- 3) Ability to prioritise workloads to ensure timely target delivery.

### Any other Relevant Information

Experience of technical sales and marketing would be desirable  
Ability to wear cleanroom clothing and PPE for extended periods.

# Position and Person Requirements

## **SHORTLISTING CRITERIA**

### **Qualifications**

#### **Essential:**

- Honours Degree in engineering and/or physical science

#### **Desirable:**

- PhD in engineering and/or physical science

### **Knowledge and Experience**

#### **Essential:**

- Ability to grasp the scientific principles underlying high power laser experiments.
- Ability to work from and generate both technical drawings and technical specifications.
- Demonstrates awareness of scaling issues related to microassembly.

#### **Desirable:**

- Experience in microengineering, microassembly
- Experience of metrology of microengineered components and structures.
- Experience of vacuum coating systems and technology.
- Awareness of quality control issues.
- Experience of cleanroom working procedures
- Technical sales and marketing experience
- Knowledge of high power laser science
- Experience of using CAD packages

## **INTERVIEW CRITERIA**

### **Personal skills/qualities**

#### **Essential:**

- Excellent manual dexterity and co-ordination
- Demonstrates potential to solve challenging technical problems, evaluating alternative courses of action and innovating where necessary
- Meticulous attention to detail.
- Able to fit into multidisciplinary team.
- Demonstrates excellent oral and written communication skills.
- Responds positively to rapidly changing demands and able to prioritise conflicting demands.

### **Special Requirements**

#### **Essential:**

- Able to work with microscopic objects and use microscopes for extended periods.
- Able to wear cleanroom and personal protective equipment, such as gloves and a facemask, sometimes for extended periods.
- Availability to travel overseas to visit labs/attend conferences
- No known allergies to common solvents and adhesives.

#### **Desirable:**

- Availability to occasionally work outside of normal hours to ensure experimental delivery.
- Able to take up the post within 2 months.