



## Practical Task – 3D Optical scanning system

Optical scanning technique is based on stereovision. The principle behind white light triangulation is rapidly recorded the geometry 3D coordinate of the part. A beam of white light is projected onto the part surface being scanned. Reflected light is collected as the means of acquisition of the part geometry data.

### Objectives:

By performing assignment with 3D Digitizing System, trainees are required:

- ♦ To understand the working principle and procedures of 3D Digitizing System;
- ♦ To acquainted with the specification of a 3D Digitizing System;
- ♦ To appreciate the preparation of work and machine;
- ♦ To be able to perform digitizing a 3D geometry part;
- ♦ To understand how to handle and export the 3D data to downstream process;

### Working Principle of the system

The Optical sensor projects a grid onto the object that is to be measured. This grid is phase shifted and rotated at various intervals throughout the digitization cycle. The phase shifted and rotated grid creates points on the object, and the camera in the optical sensor records these points. The points are calculated mathematically by software and are then displayed as clouds on the monitor.

