

## **MICRO-CMMS FOR THE DEVELOPMENT OF MICROSYSTEMS TECHNOLOGY**

**Samik Dutta<sup>1</sup> and Ranjan Sen<sup>2</sup>**

<sup>1</sup>Scientist-B, <sup>2</sup>Scientist and Head,

Metrology Group, Central Mechanical Engineering Research Institute, Durgapur-713209, India

E-mail: s\_dutta@cmeri.res.in, rsen@cmeri.res.in

**Abstract:** *The recent surge of making engineering components in micro scale level has given a new challenge to metrologists to measure in meso and micro scale. Keeping the general advantage of coordinate measuring machine over conventional measuring equipment, worldwide activities are going on to develop micro-CMMs in the range of, say, 25 325 310 mm and the resolution of about 1 nm. This paper deals with the important attributes of a micro-CMM, which is to be capable of measuring sub-micron accuracy intricate parts with minimum settings. Review of several frontier technologies in this field have been made here in order to focus the advantages and disadvantages of the various systems already developed or in the verge of development. Keeping in view the best technology and also the cost involved in such development work CMERI's choice to embark on this emerging technology has also been discussed.*

**Key words:** *Micro-CMM, LDGI, Parallel Kinematics, Interferometer.*