Emerging Trends in Robotic Development in India

Development in the area of Robotics has gained impetus in the past decade nationally. The development has mainly been fuelled by the need of robots for hazardous material handling, surveillance and reconnaissance. Handling of hazardous materials is mainly required in the area of Atomic Energy and Defence thereby giving a boost to technology development and innovation to solve complex and dangerous tasks. The requirements of robots can be classified in the two categories viz. Static Multi-axis or Parallel Manipulators and Mobile Robots. The requirements of Atomic Energy would mainly fall into complex material handling tasks to be carried out indoors by static robots, whereas in Defence applications the environment is normally outdoors with challenges related to mobility and survivability.

Robotic systems development being inherently multi-disciplinary, pose additional challenges to the developers regarding interfaces, inter-operability and scalability. The systems designers need to synergize the efforts of different teams working in unison in order to realize a product for deployment. In addition, issues related to reliability, maintainability and life cycle support call for a well-planned approach and efforts aligned to standardizations.

Development in this area is being carried out with close collaboration between the Research Laboratories, Academia and Industry. The amalgamation of these efforts is leading to robotic solutions to meet the challenging requirements. Speakers from DRDO, BARC, IITs and Industry shall be addressing the delegates to provide an insight into the developed robots and the projects ongoing,

From:

Mr. Alok Mukherjee,

Head Robotics, R & D Engrs, DRDO, GOI, Mod, Pune

and Team from

KPIT cummins, BARC and Hitech Robotic Systems