

CCC context for Robotics Road-Mapping Effort

USA has a strong record of research in defense related robotics research with leadership for unmanned aerial and ground vehicles. In comparison the R&D on non-military applications is less impressive. Both for industrial/manufacturing and service applications the fields are dominated by efforts in Europe and Asia. The big technology providers are also present in those regions. In a world where significant changes are expected in terms of competitiveness and aging it is essential that the society has access to key technologies for automated manufacturing, assistive healthcare and domestic services for independent living. Consequently there is a need to carefully consider how the USA can ensure availability of these technologies in a 5-15 year perspective.

The Computing Community Consortium (CCC) has through a grant from NSF approved a study to formulate a targeted R&D roadmap for robotics. The process is managed by a broad group of researcher across major US institutions. As a basis for a formulation of the roadmap 4 workshops are organized. The workshops are thematic across

- Manufacturing and Automation
- Medical and healthcare applications
- Professional and domestic services
- Emerging technologies and methods

The first three workshops are targeted at identification of end-user requirements and associated R&D challenges whereas the last workshop is directed as discussion of technology push opportunities based on general scientific progress. Participation in the workshops will be based on evaluation of brief (max 2 pages) proposals submitted in reactions to open calls for contributions. Participation across end-users, industry, R&D laboratories and universities is encouraged. All workshop results will be made available to a wider community for commenting/review.

Based on workshop reports and associated comments a synthesis will be generated with identification of major basic and applied R&D challenges across different domains. The synthesized report will also be available for community review. Broad involvement is essential to the overall success of the effort.

Once a mature roadmap has been developed discussions with possible sponsors will be undertaken to consider how potential programs might be developed.

Questions/comments about the process, participation, progress etc are most welcome at anytime. Please send email to the PI for the effort Prof. Henrik I. Christensen, Georgia Institute of Technology (hic@cc.gatech.edu)