



CCC – Robotics

Introduction & Welcome

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Rationale

- The general theme
 - From internet to robots: the next transformative technology
- An effort to formulate an agenda for robotics in the US
- Trying to address problems across:
 - End users, providers and academia



Introduction

- Robotics as an industry was born in US
- The field of robotics has diversified since the start
- Today industrial robot manufacturing is largely in Europe and Japan
 - FANUC, ABB, KUKA, ...
- The service industry still has a strong presence in the US
- Military robotics has a leading position



Perspective

- EU:
 - Cognitive Systems
 - EURON / EUROP & EU-nited
- Korea:
 - A 10 year perspective and a national driver
- Japan:
 - MITI program on industry / service robotics
- USA
 - No coordinated national program on robotics



CCC-Robotics

- CCC Sponsored by NSF to suggest national agendas
 - There is no NSF endorsement to any agenda!
- Based on the model adopted by GENIE
 - Assembly of key actors to generate a compelling program
- Robotics was chosen as one of the first programs to define an agenda



Overall Outline

- A need to phrase any effort from a society point of view
 - Why do we need robots?
 - Is there a clear economic / societal motivation?
- R&D does not always have a clear view of its use.
 - A good quality for basic research
 - For applied research this is not a good model



Topical Coverage

- Robotics for Manufacturing and Automation
 - Kumar, Goldberg, Trinkle & Christensen
- Robotics for Healthcare and Medicine
 - Okamura, Mataric & Christensen
- Service Robotics – Domestic and Professional
 - Brock, Thomasmeyer & Christensen
- Emerging Technologies
 - Hollerbach, Mason & Christensen
- Defense covered by RTC / JGRP



Global Timing

- Manufacturing & Automation: June 17
- Medical & Rehabilitation: June 19-20
- Service Robotics: August 7-8
- Emerging Technologies: August 14-15

- Synthesis workshop: ~October 08
- National Leadership Panel: December 1



The Format of Workshops

- Intro
- Intro talks to set the stage
- Group: Societal/Economic Drivers
- Synthesis
- Group: Obstacles to Progress
- Synthesis
- Group: Obstacles -> Research
- Synthesis
- Summary / Wrap Up



Post Workshop

- Generation of a synthesis report
 - A fair representation of discussions
- Made available at the workshop website
- Organization of “Blog Space” to continue discussion(s)
 - Community discussion on issues
 - <http://www.us-robotics.us/blog>
- Revision based on workshop + blog comments
- Input to synthesis workshop