

ARC Centres of Excellence Program

ARC Centre of Excellence Centre for Autonomous Systems

Interim Director: Professor H F Durrant-Whyte

Collaborating Institutions: The University of Sydney
The University of New South Wales
University of Technology, Sydney

Autonomous systems represent the next great step in the fusion of machines, computers, sensors and software to create robots capable of rich, cooperative interactions with the real world.

The Centre brings together the existing ARC Key Centre for Field Robotics at the University of Sydney, the Department of Artificial Intelligence at the University of New South Wales, and the Mechatronics and Intelligent Systems Group at the University of Technology, Sydney. Working together, the teams will undertake innovative fundamental research and persuasive experimental demonstrations of complete autonomous systems, involving many agents interacting, cooperating and working towards a common goal. The themes interact and are brought together in two demonstrations, one focussed on the built environment and the other the natural outdoor environment.

Australia already enjoys a leading international position in autonomous systems, addressing strong national needs in mining, waterfront cargo handling and agriculture. Other opportunities include field applications in construction, forestry and transport; potentially hazardous applications in bush fire fighting, warfare, search-and-rescue and air, land and maritime defence; and social applications such as robotic wheelchairs, walkers and carers; domestic and automotive devices; and entertainment.

The Centre will broaden and deepen its already extensive industry links with the strategic aim of establishing a vibrant new autonomous system industry in Australia. To support this, the Centre will provide a large and vigorous program of education and training in schools and universities and will provide specialist courses for researchers and industry.