Industrial Applications of Agent-Based Information Fusion

Managing Uncertainty and Risk
Thursday 28th February 2008

WINNER: Large Company and University Collaboration Prize
The Engineer Technology and Innovation Awards 2007
ARGUS II is developing agent-based information fusion solutions which operate in domains of distributed and uncertain information.

This conference will demonstrate how fundamental research undertaken by the Universities of Oxford and Southampton is being applied by QinetiQ, BAE Systems, and Rolls-Royce in three different domain areas:

• Wide Area Surveillance
• Decentralised Air Traffic Control
• Operational Planning

These challenging domains all require intelligent information processing and decision-making in a context of multiple complex constraints. Through demonstrating the potential of the technology solutions the conference will also provide an opportunity for open discussion of further applications and development.

Conference Programme
09:30  Registration/Coffee
10:00  Overview Session
10:45  Coffee
11:00  Rolling Demonstration Programme
13:00  Lunch and Discussion
14:00  Close

Location
Industrial Applications of Agent-based Information Fusion: Managing Uncertainty and Risk takes place at the BERR Conference Centre, 1 Victoria Street, London SW1H 0ET.

Registration
The conference is free of charge but advance registration (by 18th February) is essential. The online registration form is at http://www.regonline.com/argusconf2008

The ARGUS II Partners
The integration of agent-based computing techniques and probabilistic inference is being pioneered by the Universities of Oxford and Southampton in order to tackle problems involving limited resources and real-world uncertainty. These techniques are currently being developed and assessed for possible exploitation by the ARGUS II industrial partners.

Each of the three application areas requires the construction of scaleable, distributed information fusion solutions.

During the conference:
QinetiQ will demonstrate advanced data fusion in Wide-Area Surveillance applications for the protection of critical UK infrastructures. Agents ensure that sensors are focused on high-priority objects and object locations, improving the quality of the picture for the human operator.

Rolls-Royce will demonstrate its Shop Visit Planner, an agent-based planning and scheduling system for aero engine repair and overhaul. The agents, representing fleet managers and other stakeholders, adaptively negotiate to schedule engine shop visits.

BAE SYSTEMS will demonstrate Decentralised Air Traffic Control, a revolutionary approach in which airlines are empowered to plan and negotiate their own routes through the airspace. The system is motivated by projections of congested skies, as well as recent technology developments.

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Argus was a 100-eyed giant in Greek mythology. Only a few eyes would sleep at a time, and his epithet ‘Panoptes’ signified ‘the all-seeing’. Hence Argus made a good watchman.