

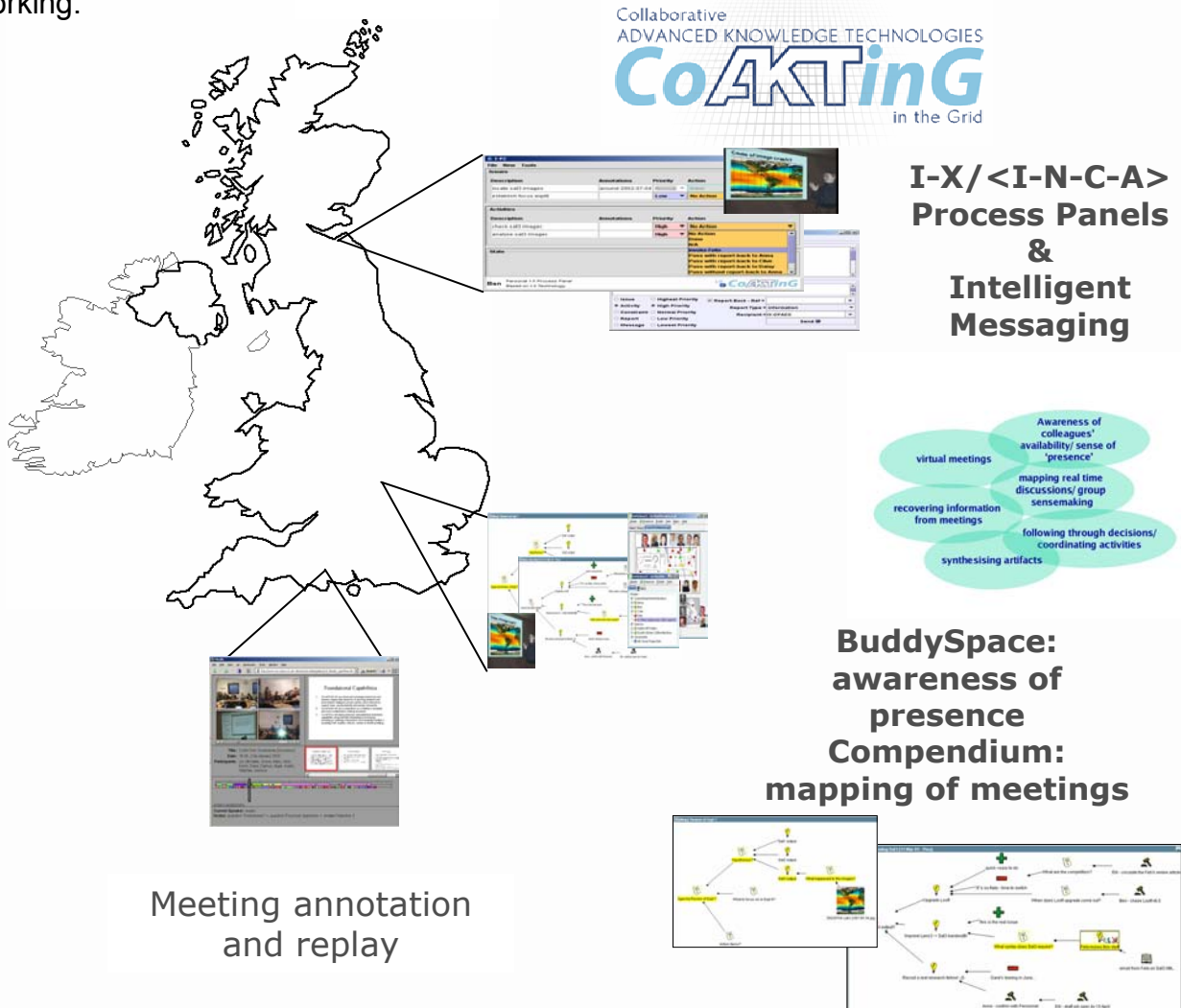
# CoAKTiNG

Collaborative Advanced Knowledge Technologies in the Grid

[www.aktors.org/coaktng](http://www.aktors.org/coaktng)

The ability to collect, assimilate, integrate and share information, often through the media of interactive discussions such as the Access Grid is a mainstay of both scientific and industrial advance. The Advanced Knowledge Technologies Interdisciplinary Research Collaboration (AKT IRC) is developing knowledge management technologies which will provide integrated methods and services for the capture, modelling, publishing, reuse and management of knowledge.

Within the AKT IRC, the objective of the CoAKTiNG (Collaborative Advanced Knowledge Technologies in the Grid) project is to advance the state of the art in virtual meetings technology across the Grid. The project will integrate and adapt AKT and related technologies, specifically to support collaborative mediated spaces for distributed working.



CoAKTiNG will provide tools to assist scientific collaboration by integrating intelligent meeting spaces, ontologically annotated media streams from online meetings, decision rationale and group memory capture, meeting facilitation, issue handling, planning and coordination support, constraint satisfaction, and instant messaging/presence.

## The major technology advances include:

Use of Smart Spaces; this will combine Access Grid node spaces with portable smart devices that support a variety of broad and narrow bandwidth connections to other people/devices to recognise significant events in a meeting and insert metadata into an audio/video stream

Ontologically annotated audio/video streams; this will build on work to develop a means to embed 'continuous metadata' in media streams by grounding the metadata in one or more ontologies suitable for scientific collaboration

Issue handling, tasking, planning and coordination services will be constructed, utilising a constraint-based ontology for processes and products to provide a simple interface that acts as an intelligent "to do" list for the handling of issues, options and constraints

Collective sense making and group memory capture services will be developed to assist in discussion structuring and mediation as well as idea capture and import and export to other document types. "Dialogue maps" will be used to provide a visual trace of issues, ideas, arguments and decisions

Enhanced presence management and visualisation; the concept of presence is a virtual environment has moved beyond the 'online/offline/away/busy/do-not-disturb' towards a rich blend of attributes that can be used to characterise an individual's physical and/or spatial location, work trajectory, time frame of reference, mood, goals, and intentions. The project will work with the Jabber open source XML-based communications architecture to extend its IM capabilities with 'ontology of presence' and 'knowledge profiles'.

## Scenario: e-Response

*\* A tanker en route to Fawley oil refinery near Southampton has run aground; its hull has been holed and oil has begun leaking into The Solent, threatening the local ecology*

*\* To respond to this emergency, the members of the e-Response executive team meet virtually using CoAKTinG enhanced video-conferencing (which is recorded)*

*\* BuddySpace is used to locate and notify the on-line nominated experts*

*\* I-X provides a pre-determined Standard Operating Procedure to work through and records future tasks; Compendium is used to capture argumentation*

*\* Scientists unavailable for the initial executive meeting can review the meeting conclusions with the replay tool, and suggest alternative options*

Initially the tools and services will be demonstrated through a number of scenarios including support for the AKT IRC's project meetings and other current e-Science projects.

In the longer term, collaborative mediated spaces and the related ontology based services are expected to support all areas of scientific and business life where pervasive knowledge-based activity depends upon interchange of information. The technology will be particularly valuable for communication with remote colleagues, access to experimental laboratories, virtual meeting rooms and data analysis suites.

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