The Helpful Environment
Geographically dispersed intelligent agents that collaborate
Austin Tate
AIAI, Informatics, University of Edinburgh

Which agencies help now?

OCHA United Nations Office for the Coordination of Humanitarian Affairs

Coordination of Humanitarian Response

- Developing common strategies
- Assessing situations and needs
- Convening coordination forums
- Mobilizing resources
- Addressing common problems
- Administering coordination mechanisms

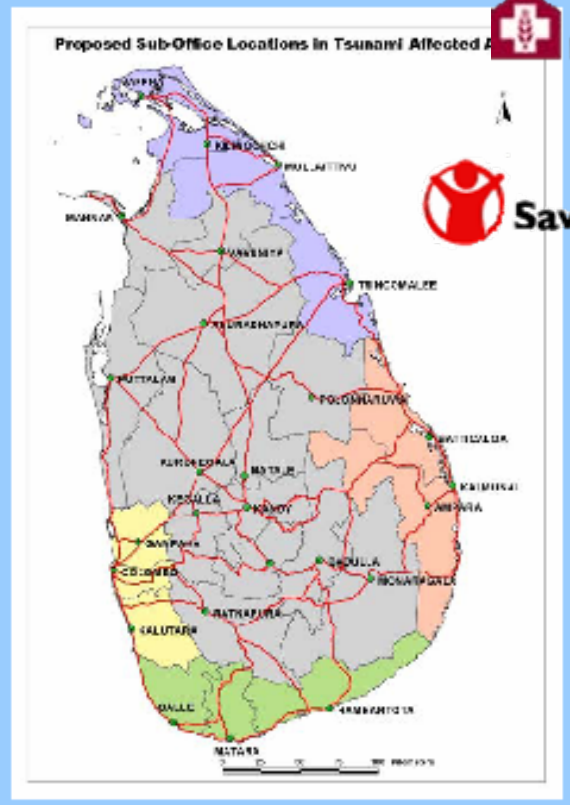
World Health Organization

Raising Funds

WHO activities in Sri Lanka

- 8 WHO staff – 3 small WHO teams in country for 12 districts
- Proposed 26 sub-offices for affected regions
- Supporting disease surveillance: information flow not good enough
- Mapping the damages to the health network
- WHO Health kits
  - NEHK 65 kits needed, 18 in pipeline, 47 arrived
  - Diarrhoeal kits 40 needed, 39 in pipeline, 1 arrived
  - Surgical kits 10 needed, 10 in pipeline
- 3 logisticians arrived (2 Colombo, 1 Ampara) planned to send total 13

- WHO 2 million chlorine tabs
- Strengthening the WHO Country office:
  - WATSAN expert from Nepal
  - Public health experts from WHO/SEARO, Nepal, WHO/EURO and Australia



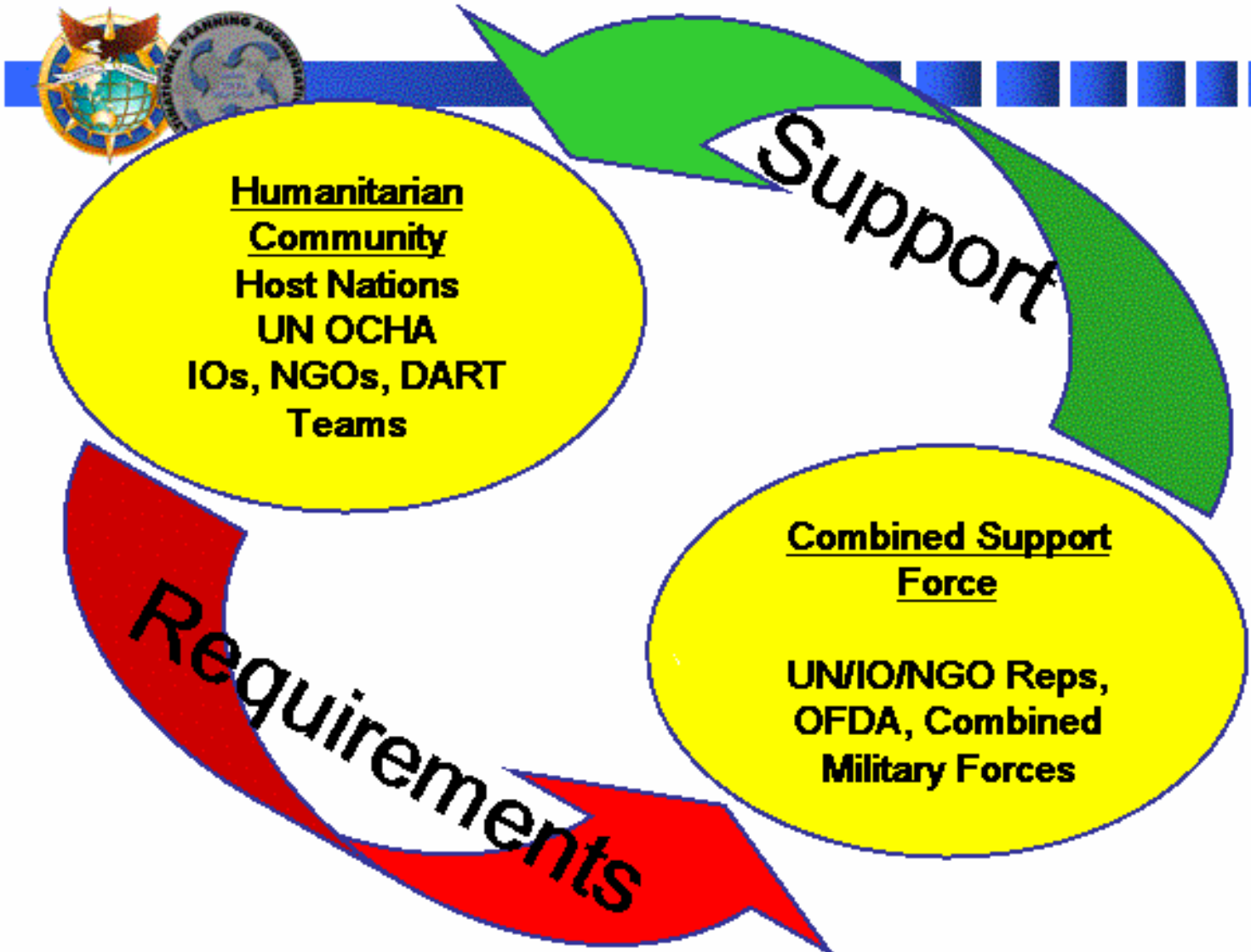
Mercy Corps

Oxfam

Save the Children

Update 6.1.2005

Military Assistance
E.g. Unified Assistance CSF-536



What technologies and organisational frameworks are already useful?

BBC NEWS | Have Your Say | Tsunami: Readers' eyewitness accounts - Microsoft Internet Explorer

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England
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Scotland
Wales
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BBC ON THIS DAY

Last Updated: Thursday, 6 January, 2005, 10:09 GMT

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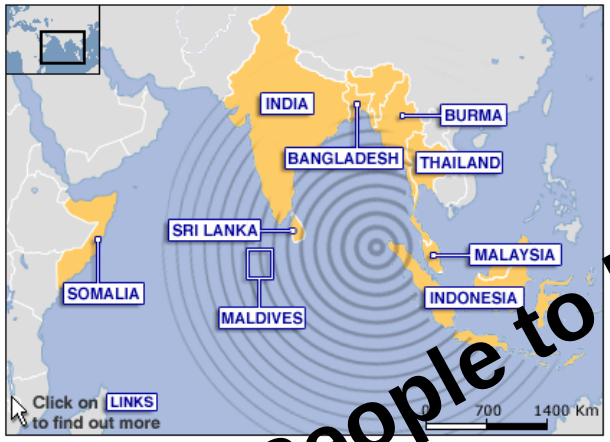
Tsunami: Readers' eyewitness accounts

The BBC News Website has received thousands of emails from readers telling of their stories of the tsunami. Click on the map below to read their eyewitness accounts from across the region.

Click here to tell us about your experiences



SRI LANKA

"My partner and I were staying in Beruwela on the south-west coast of Sri Lanka when the tsunami hit. We watched from the first floor of our hotel as a wall of water swept in and tore the ground from under apart underneath us.

Waiting to be evacuated to Colombo was very frightening as everyone was fearful of another and possibly bigger wave

http://news.bbc.co.uk/1/hi/talking_point/4154385.stm

BBC NEWS | World | Asia-Pacific | Web posting reunites quake family - Microsoft Internet Explorer

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BBC ON THIS DAY

Last Updated: Wednesday, 29 December, 2004, 19:48 GMT

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Web posting reunites quake family

Rob Delissen had no idea whether his brother Theo, his wife and their two-year-old daughter were still alive after the tsunami hit Thailand.

Posters of missing and injured people cover Thai hospital walls

The Dutchman was one among thousands of people trying to trace family and friends after a disaster which claimed tens of thousands of lives.

Shattered communications only added to the difficulty of getting news.

But a posting by a stranger on the BBC News website led Mr Delissen to his relatives, who had all survived.

Mr Delissen, from Nieuwegein, knew the three were holidaying in Thailand on their way to start a new life in New Zealand, but he did not know where.

He turned detective, working out what resort they were staying at by examining pictures saved in his computer's memory cache, but was unable to get through by phone.

"Thank you Voi-Ping. Your message on this site got me in contact with your daughter on Koh Racha Yai. My brother Theo and his wife and daughter seem to be ok, with everybody else on the island. Thank you BBC, thank you internet"

Rob Delissen, the Netherlands

Then he spotted a message on the BBC News website from a Swedish man who had contacted his daughter on the same island, Koh Racha Yai, about 30 miles south of Phuket.

Having tracked down the man's phone number in Stockholm, Mr Delissen called him.

ASIA QUAKE DISASTE
In Dep

LATEST NEWS
- UN warns on aid pledges
- Indonesia restricts Aceh aid wo
- Aceh man's two-week sea orde
- A child tells his story of surviva

EYEWITNESS

Aceh attempts to protect orphans fror traffickers

- Thai village struggles to rebuild
- Diary: Awesome task in Sumat
- In pictures: A family's plight

VIDEO Waves sweep Aceh

BACKGROUND AND ANALYSIS

The human impact o the tsunami disaster sound and pictures

- History's other great relief effor
- Maps: Trail of destruction
- Animated guide: Tsunami disas
- Timeline of the disaster
- At-a-glance: Countries hit
- Asian disaster: How to help

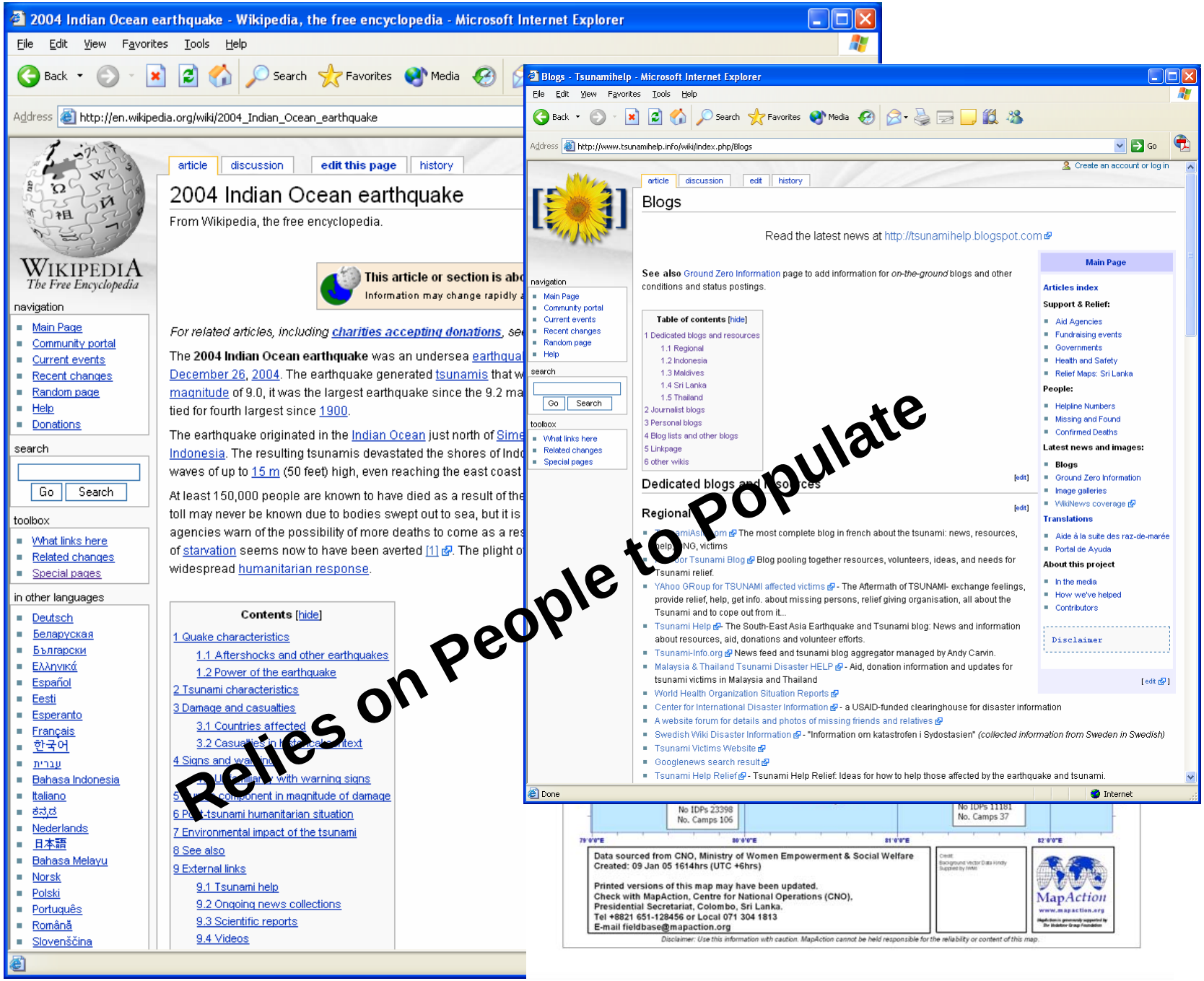
VIDEO AND AUDIO

VIDEO Television reports

HAVE YOUR SAY
- How will countries recover?
- Your accounts of the tsunami
- Missing persons: Can you help?

Internet

Relies on People to People Communication



Relies on People to Populate

The Grid from a Services View

Multinational Planning Augmentation Team (MPAT)

Australia	Bangladesh	Brunei
Canada	East Timor	France
Fiji	Germany	India
Indonesia	Japan	Korea
Madagascar	Malaysia	Maldives
Mauritius	Mongolia	Nepal
New Zealand	Papua New Guinea	
Philippines	Singapore	Solomon Is.
Sri Lanka	Thailand	Tonga
Tuvalu	UK	US
Vanuatu	Vietnam	

A *cadre of military planners* from nations with Asia-Pacific interests capable of rapidly augmenting a multinational force (MNF) headquarters (HQ) established *to plan and execute coalition operations* in response to military operations other than war (MOOTW) / small scale contingencies (SSC).

- MPAT in Operation UNIFIED ASSISTANCE

Welcome - tsunami - Microsoft Internet Explorer

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South Asia Tsunami Relief

Sign In

Welcome
PACOM Information:
CSF-536 Information:

Tsunami Relief Information Ex

formation <- New in last 24 hours

st information posted to this site i

Room Map - tsunami - Mi...

Rooms in this place

Click any room name to go there

South Asia Tsunami Relief
RFA
CSF-536 Information
Chaplain
PACOM Information
CSGs
Thailand AO
Indonesia AO
Sri Lanka AO

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Stop

South Asia Tsunami Relief

Sign In

Go Up
Welcome
Indonesia:
Room Index
Search
What's New
Room Map
My Places
Help

RFA Status Report (9 Jan 05) Update - tsunami - Micr

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Address http://ares.apan-info.net/QuickPlace/tsunami/PageLibrary

RFA Status Report (9 Jan 05) Update

administrator, 01/09/2005 - 02:20 PM

TRK #	DATE REC'D	REQ'R	TYPE	
MN003	4-Jan-05	WFP	TRANS-PRIORITY	9-
MN004	4-Jan-05	WFP	TRANS-URGENT	11
MN007	5-Jan-05	OFDA	TRANS-ROUTINE	9-
MN009	9-Jan-05	UNJLC	TRANS-ROUTINE	

CSF-536 Tsunami Disaster Relief

Request for Assistance Process

Other OFDA Validated RFA

CSF-LNO / CSF JOC

Combined Support Group
OFDA / DART Validates Request
If cannot be sourced at the local level submits to the
CSF-LNO / CSF JOC

CSF CIVIL-MIL Coordination Board
Facilitated By OFDA / CSF Staff
- CMO Staff
- OFDA/ UN / international relief agencies
- Selected C-staff
- CSG – LNOs

Validates / Coordinates Sourcing
- HN – National
- UN / NGO / PVO / IO
- USAID Contractors

If need cannot be sourced at the national levelthen it is submitted to the CSF Joint Mvt Coord Board / C-3.

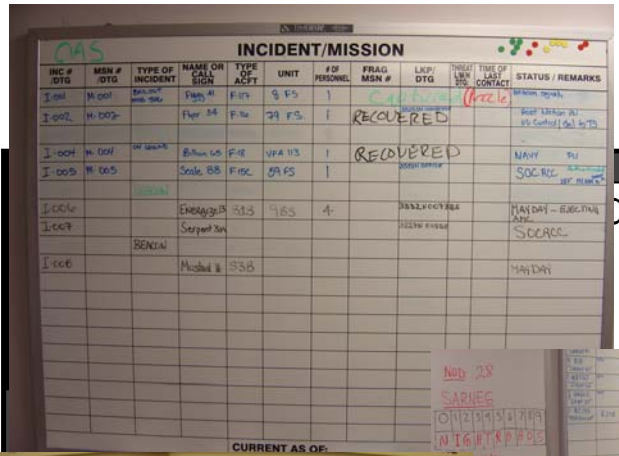
Local Needs identified by several possible entities and RFA submitted to Combined SPT GRP

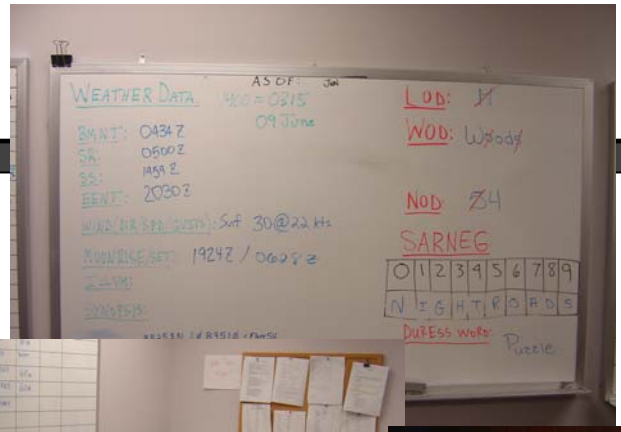
HN
MNF
Army CA Tm
NGO
PVO /IO

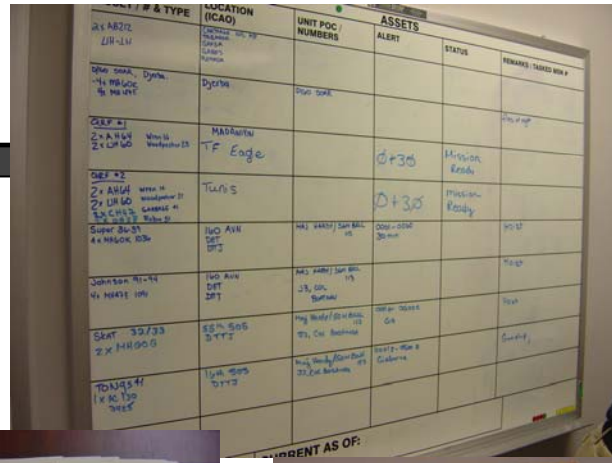
Transp Request
N
C-3
CSF Staff Action
Y

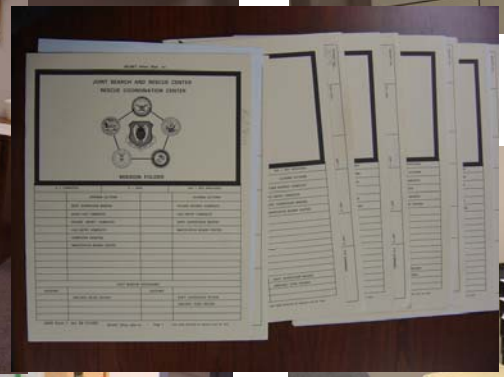
Unfulfilled Requirement
N
Need filled
Y
Task Complete
RFF
N
Military Capable
Y
Task Complete
CSF Joint Movement Coordination Board
• C-4 rep / Joint Movement Center rep

Typical Rescue Coordination Centre









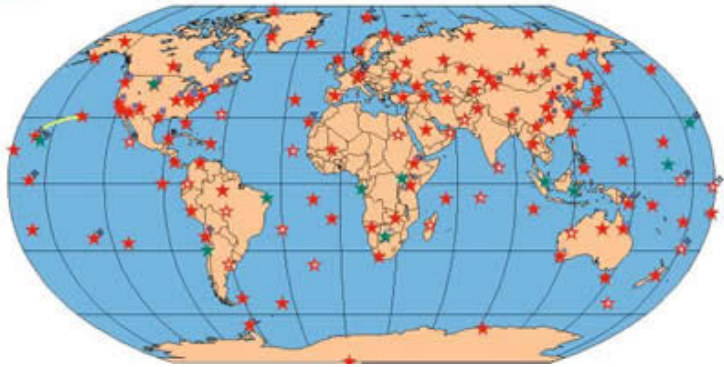
Needs

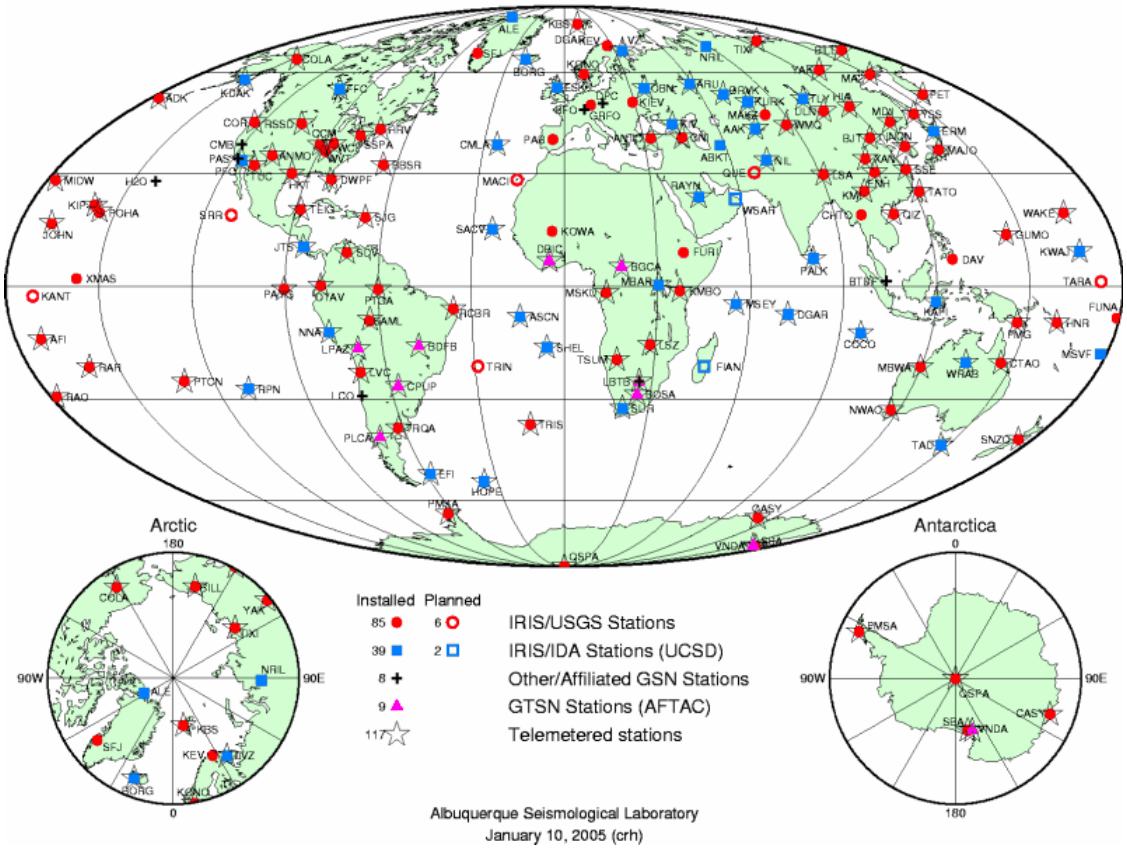
- ***Sensor data flows***
- ***Accurate information***
- ***Correlation and validation***
- ***Relevant and understandable communication***
- ***Contact making***
- ***Requests for assistance and matching to available capabilities***
- ***Standard Operating Procedures and Alarms***
- ***Planning and coordination***
- ***Scale and robustness***

What’s next (medium-term)?

Global Seismographic Network

http://www.iris.edu/about/GSN/





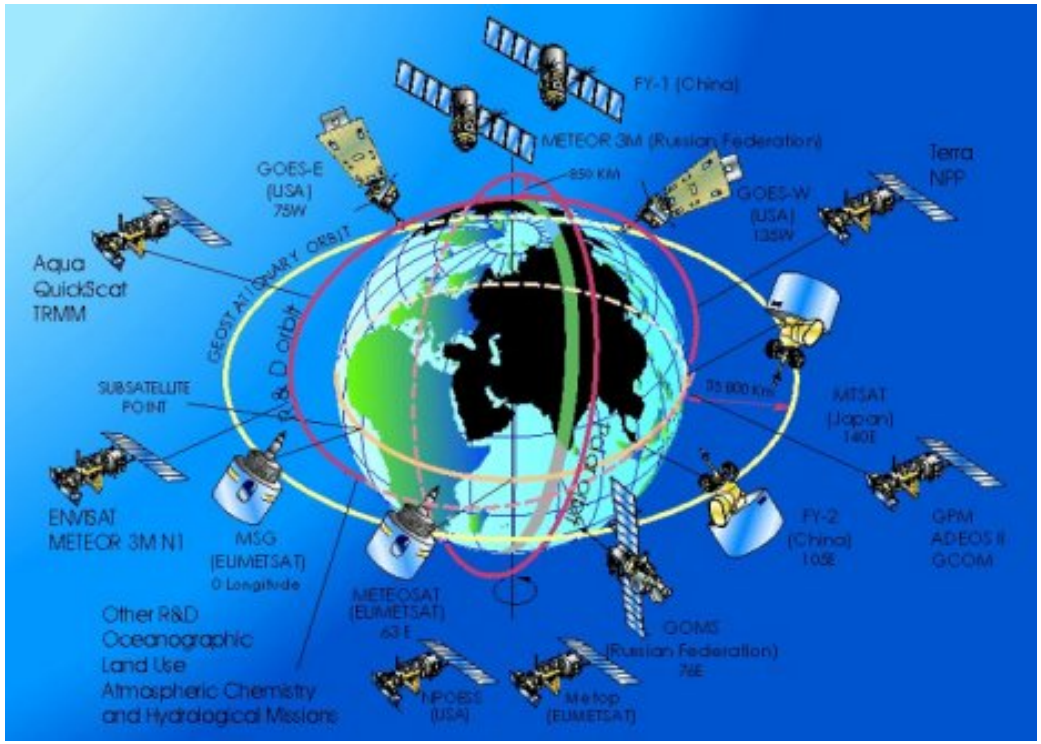
The goal of the GSN is to deploy over 128 permanent seismic recording stations uniformly over the earth's surface

World Meteorological Organization

A United Nations Specialized Agency

Working together in Weather, Climate and Water

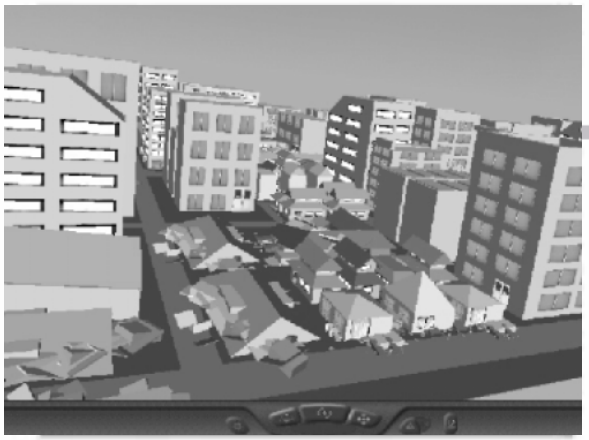
- **http://www.who.int**

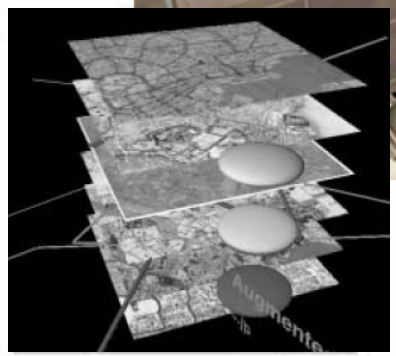


WMO has — through its sponsored and co-sponsored scientific and technical programmes and its network of three World Meteorological Centres (WMCs) and 40 Regional Specialized Meteorological Centres (RSMCs), and the National Meteorological and Hydrological Services of its 187 Members — the infrastructure to generate and deliver information-based products and services to enable nations to prevent, prepare for, respond to, and recover from the impacts of weather-, water- and climate-related hazards in the most timely and effective manner.

Command, Control, and Communication

Simulation and
Decision Support System





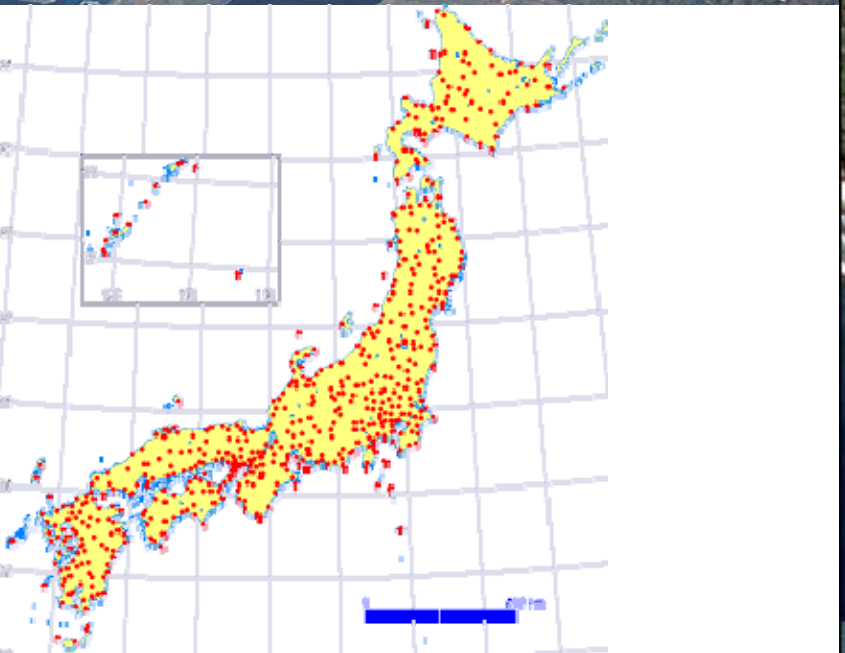
Data Collection

Rescue
Robots

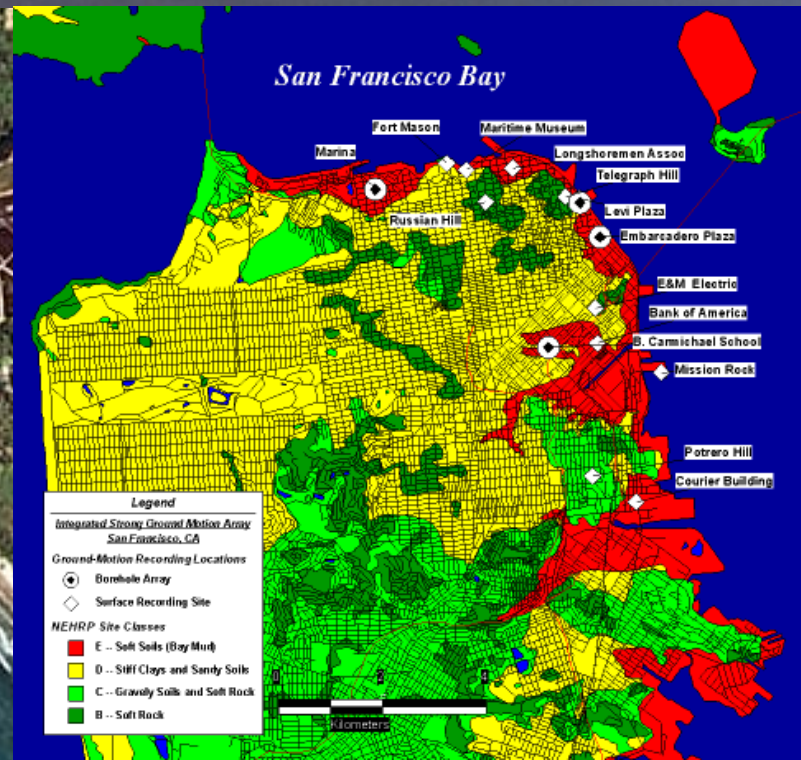
PDA

Adapted from H. Kitano and S. Tadokoro, RoboCup Rescue A Grand Challenge for Multiagent and Intelligent Systems, AI Magazine, Spring, 2001.

Bessie Charmichael School
Chevron Building
Embarcadero Plaza
Embarcadero 4 Bldg.
Transamerica Bldg.
Levi Plaza
Marina
(WS school)



12 April 2004

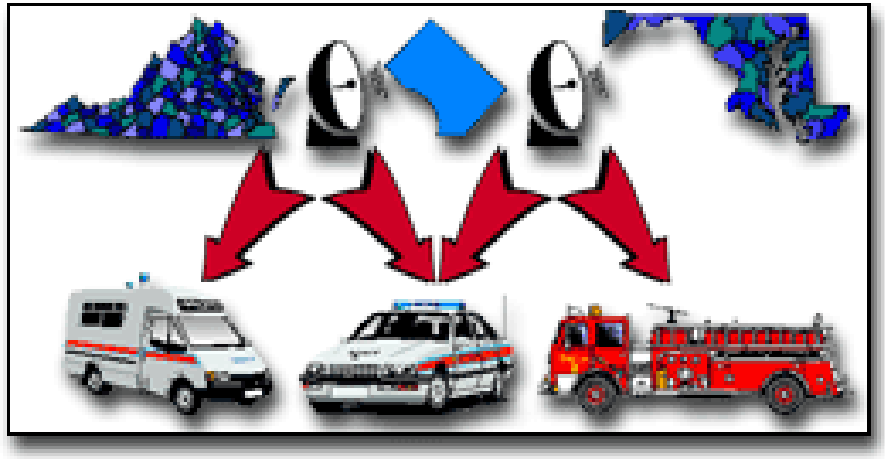

San Francisco Bay
Fort Mason
Maritime Museum
Marina
Longshoremen Assoc
Telegraph Hill
Levi Plaza
Russian Hill
Embarcadero Plaza
E&M Electric
Bank of America
B. Carmichael School
Mission Rock
Potrero Hill
Courier Building
Legend
Integrated Strong Ground Motion Array
San Francisco, CA
Ground-Motion Recording Locations
Borehole Array
Surface Recording Site
NEHRP Site Classes
E -- Soft Soils (Bay Mud)
D -- Stiff Clays and Sandy Soils
C -- Gravelly Soils and Soft Rock
B -- Soft Rock
Kilometers

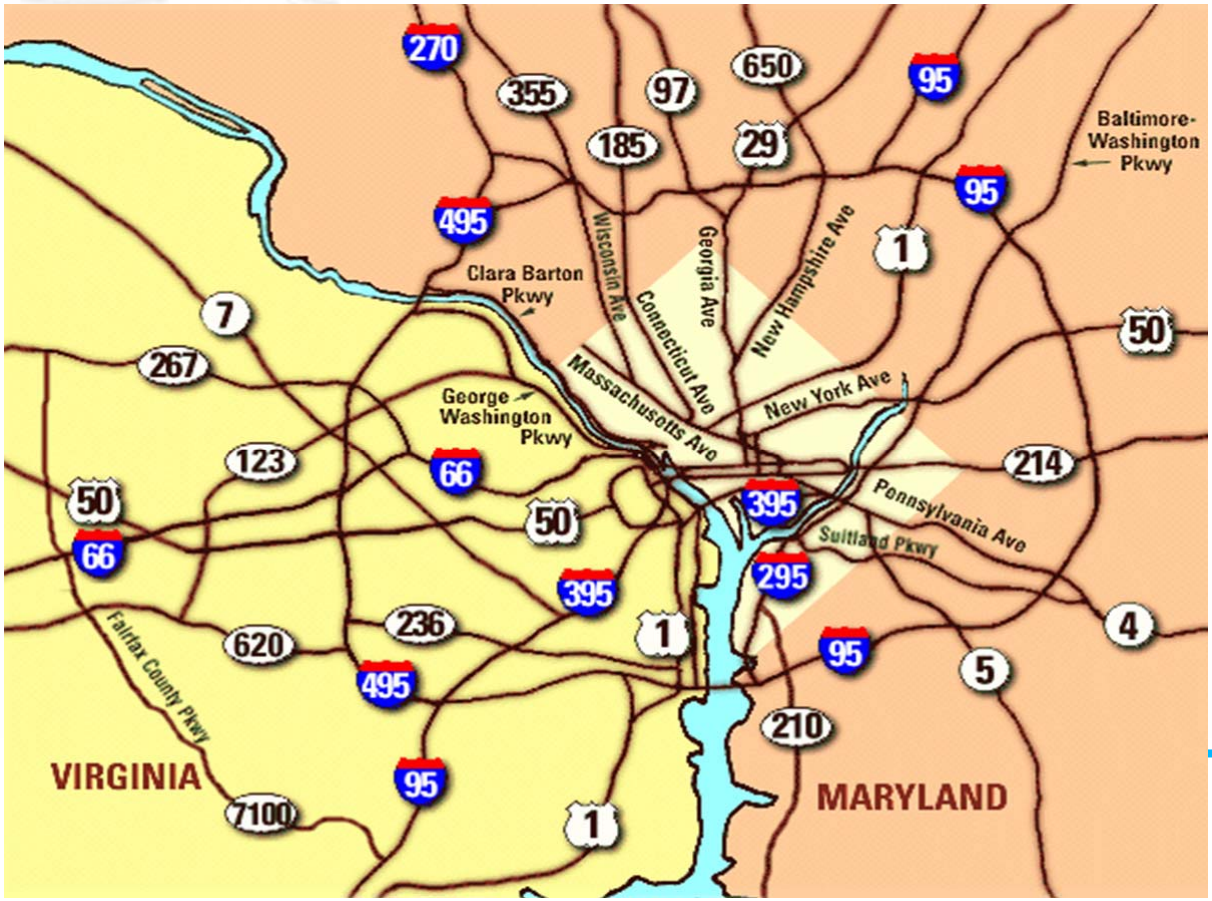
CAPWIN

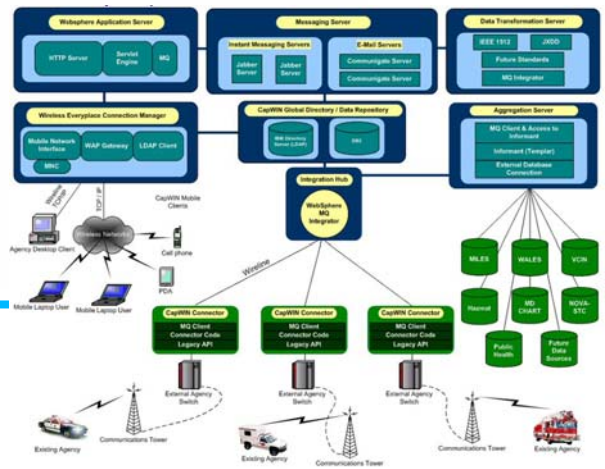
Capital Wireless Integrated Network

Building a Bridge in Transportation and Public Safety Communications

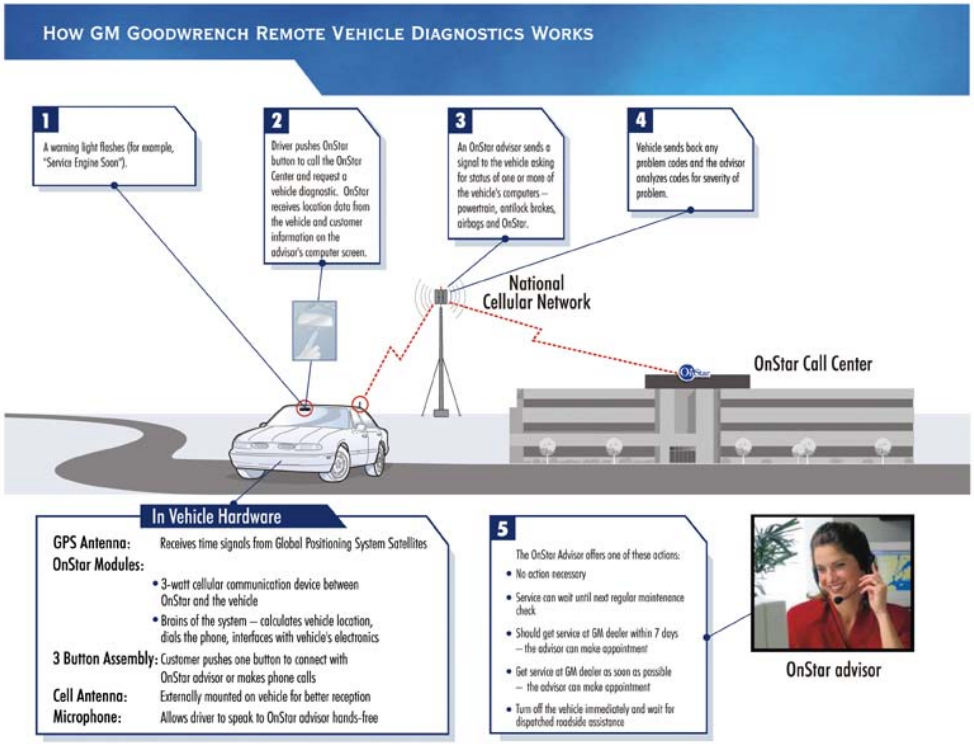
http://www.capwin.org/







OnStar.com



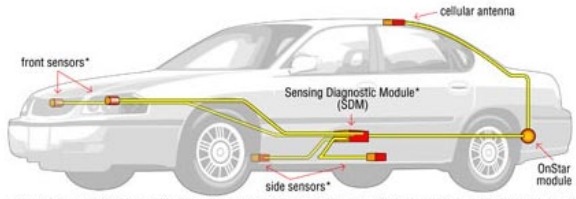


Figure 1: The GM advanced automatic crash notification (AACN) system uses front and side sensors as well as the sensing capabilities of the Sensing and Diagnostic Module (SDM) itself. The accelerometer located within the SDM measures the crash severity.

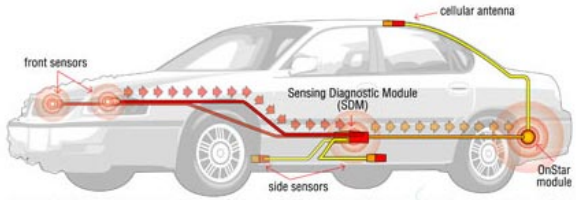


Figure 2: In the event of a moderate to severe frontal or side-impact crash, data is transmitted from the affected sensors to the SDM. The SDM sensor also can identify a rear impact of sufficient severity. Regardless of whether the air bags deploy, the SDM transmits crash information to the vehicle's OnStar module.

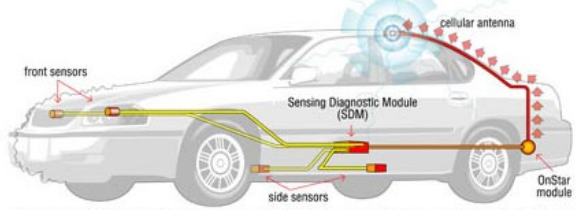


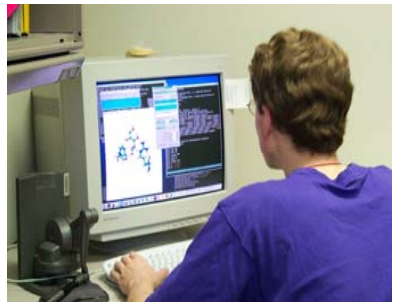
Figure 3: Within seconds of a moderate to severe crash, the OnStar module will send a message to the OnStar Call Center (OCC) through a cellular connection, informing the advisor that a crash has occurred. A voice connection between the advisor and the vehicle occupants is established. The advisor then can conference in 911 dispatch or a public safety answering point (PSAP), which determines if emergency services are necessary. If there is no response from the occupants, the advisor can provide the emergency dispatcher with the crash information from the SDM that reveals the severity of the crash. The dispatcher can identify what emergency services may be appropriate. Using the Global Positioning System (GPS) satellite, OnStar advisors are able to tell emergency workers the location of the vehicle.

*Number and location of sensors and SDM may vary depending on vehicle model.

- **Vehicle Monitoring and Assistance**
- **Commercial Service**
- **GPS, On-board Sensors and Comms.**
- **Remote Diagnostics**
- **Emergency and Accident Aid**

FireGrid Technologies

Tens of Thousands of Sensors & Monitors



Knowledge Systems, Planning & Control

Emergency Responders

Super-real-time Simulation

Computational Grid

Maps, Models, Scenarios

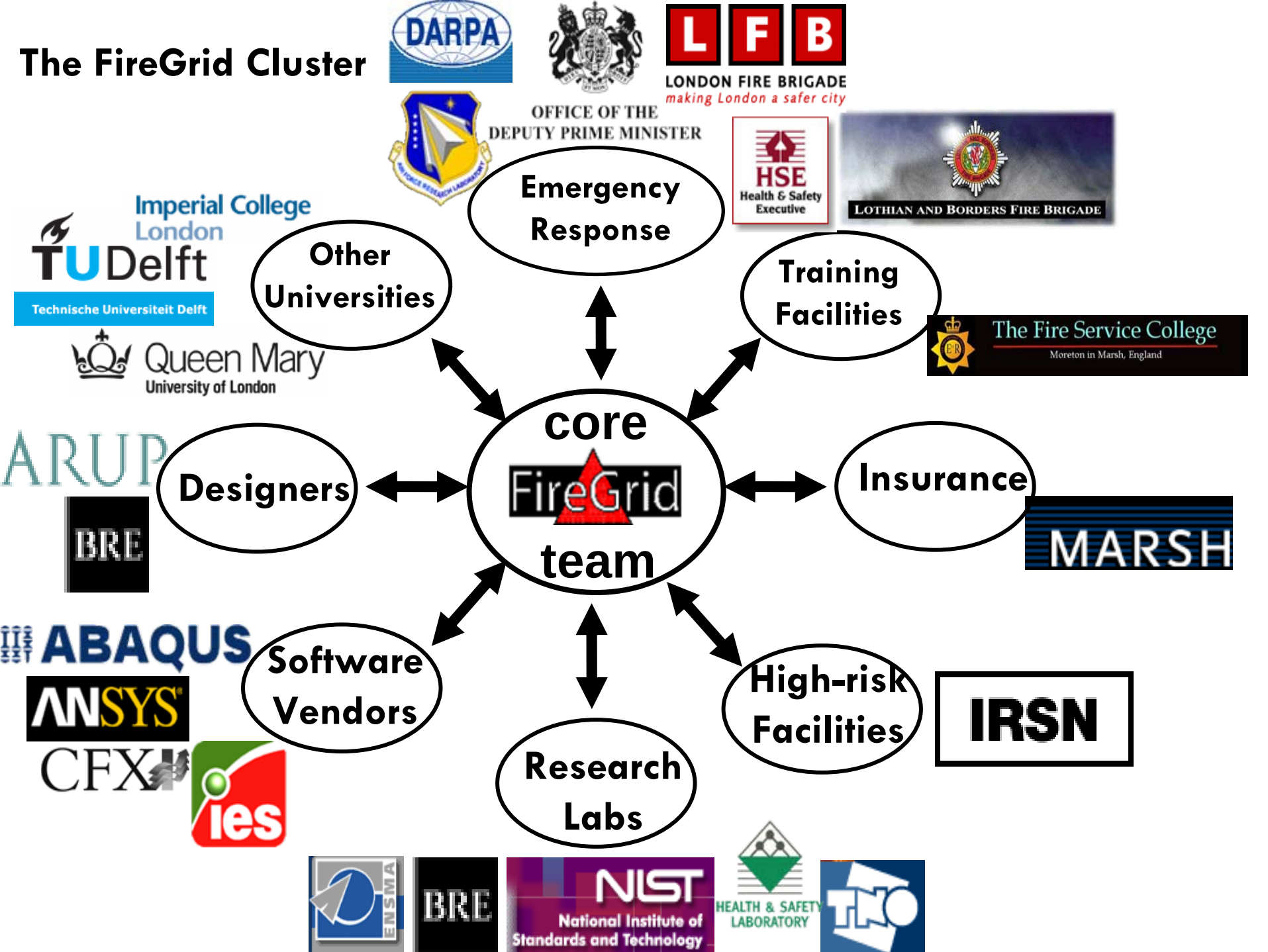
FireGrid

http://firegrid.org

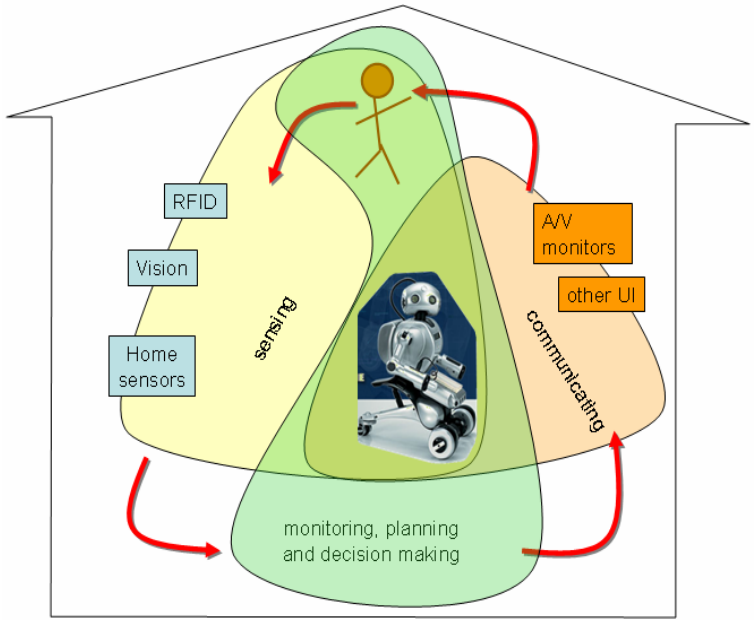
FireGrid Overview

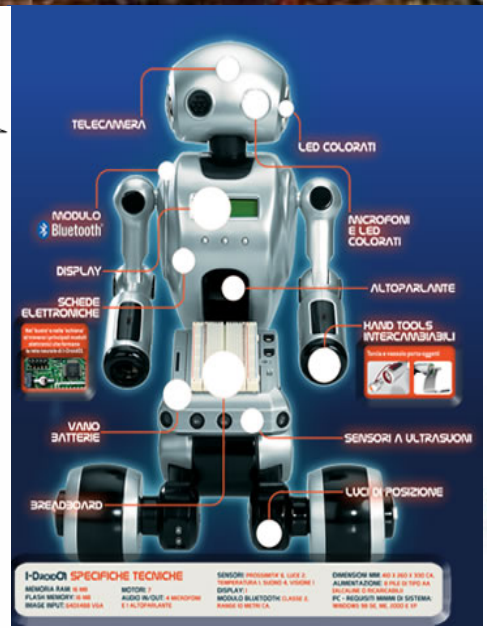
- **Mission statement:**
  - » ***To establish a cross-disciplinary collaborative community to pursue fundamental research for developing real time emergency response systems using the Grid…***
  - » **Initial domain is fire emergencies.**
- **Challenges:**
  - » **Sensing:** *instantaneous and continuous relay of data from emergency location to response system via the Grid.*
  - » **Modelling:** *model the evolution of fire and impact on building, and relate this to intervention alternatives and evacuation strategies.*
  - » **Forecast:** *all simulations, analyses and communications done in 'super real-time'.*
  - » **Response:** *effective co-ordination of response with intelligent decision-support system.*
  - » **Feedback:** *continuously update simulations, predictions and response using latest data from sensors and responders.*
- **Status:**
  - » **DTI/University of Edinburgh/Industry-funded project, total value: £2.23M, start date: 1st March 2006.**

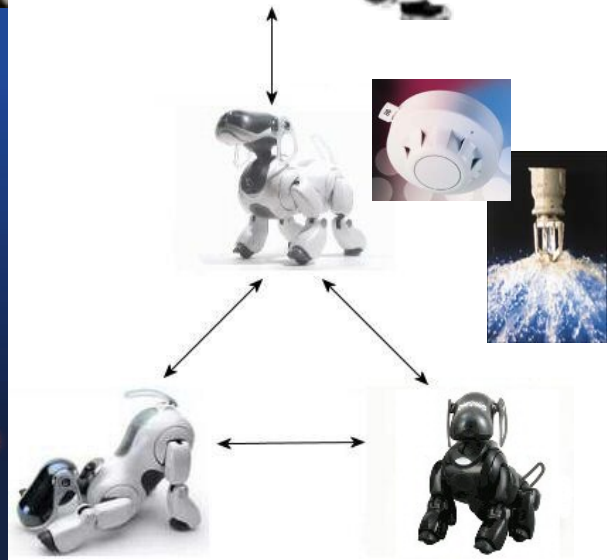
The FireGrid Cluster



Safety and Companion Robots







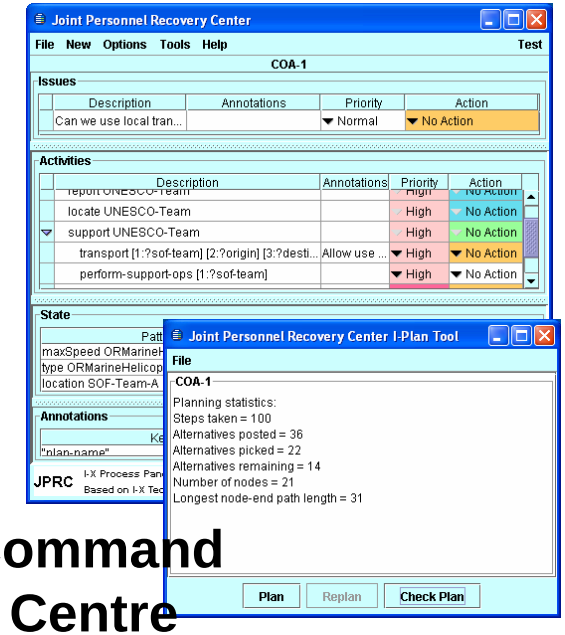
Examples of AIAI's Collaborative Emergency Response Systems

- ***1991-9: Coalition NEO*** – Non-combatant Evacuation Operations
- ***1994-6: SAR*** – RAF Search and Rescue Coordination Centre (Pitreavie, UK)
- ***2000-2: CoAX*** – Coalition Agents eXperiment (4 countries, 30 organisations)
- ***2002-3: CoSAR-TS*** – Coalition Search and Rescue Task Support
- ***2002-4: CoAKTinG*** – Collaborative Advanced Knowledge Technologies
- ***2004-5: Co-OPR*** – Collaborative Operations for Personnel Recovery

http://www.aiai.ed.ac.uk/project/plan/

I-X

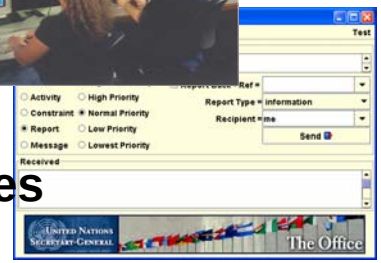
Multi-Agency Emergency Response Planning, Execution, and Communications

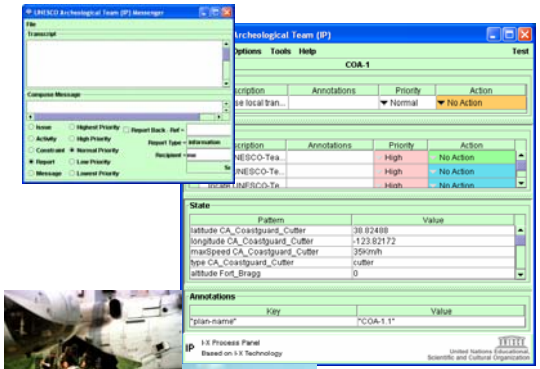


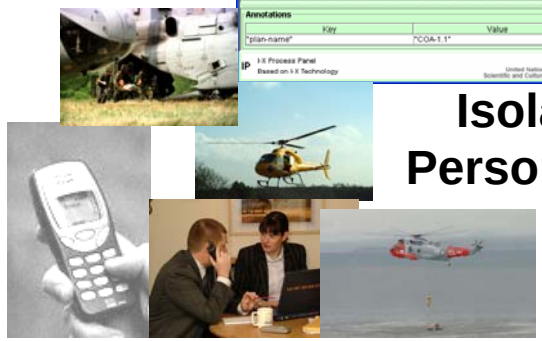
Command Centre

Collaboration and Communication

Central Authorities

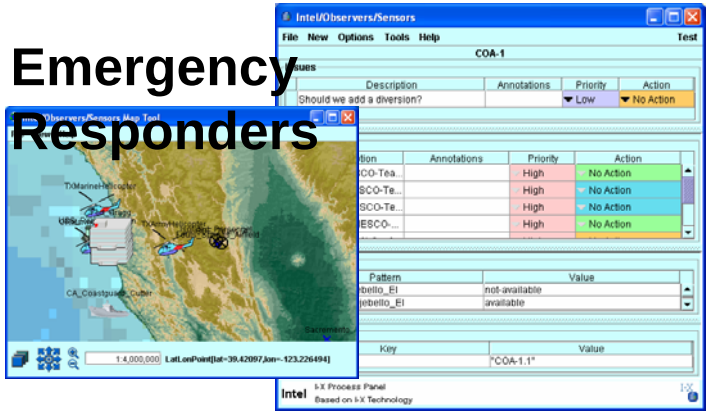






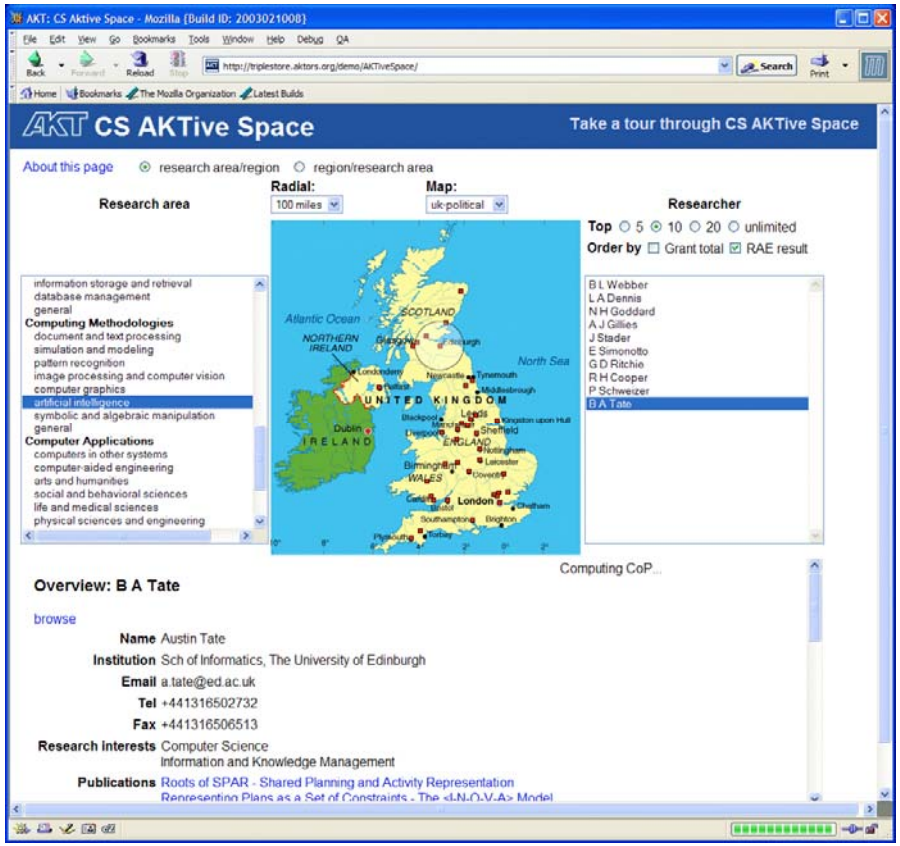
Isolated Personnel

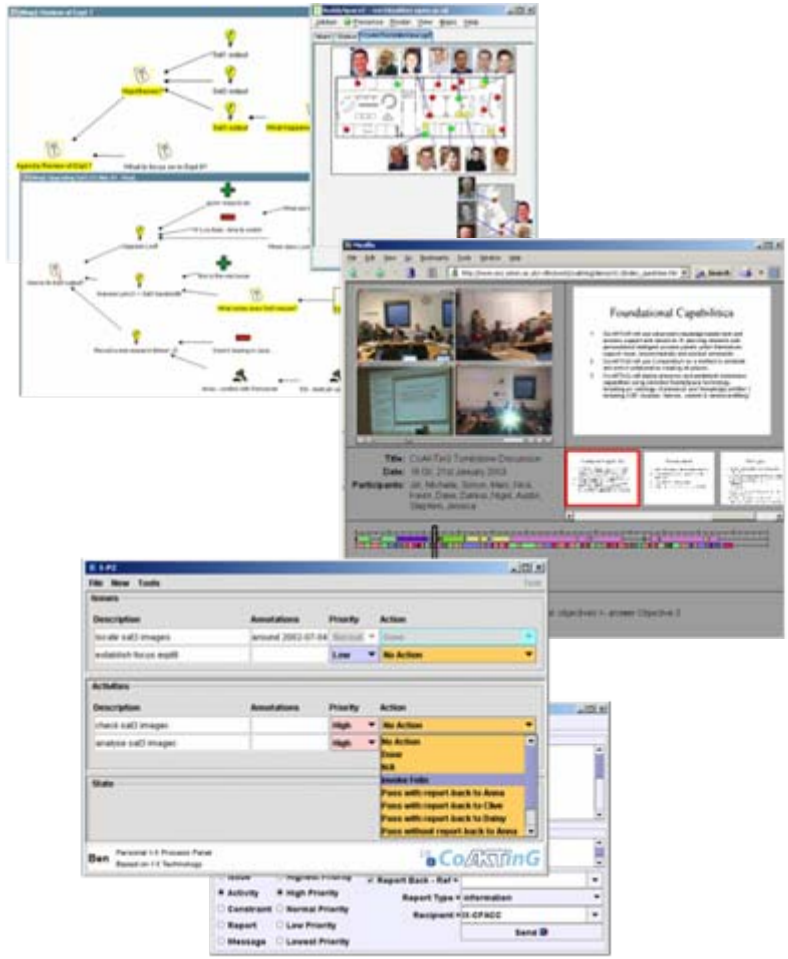
Emergency Responders



Advanced Knowledge Technologies, Collaboration Aids, Semantic Web

http://www.aktors.org/coakting
http://www.semwebcentral.org



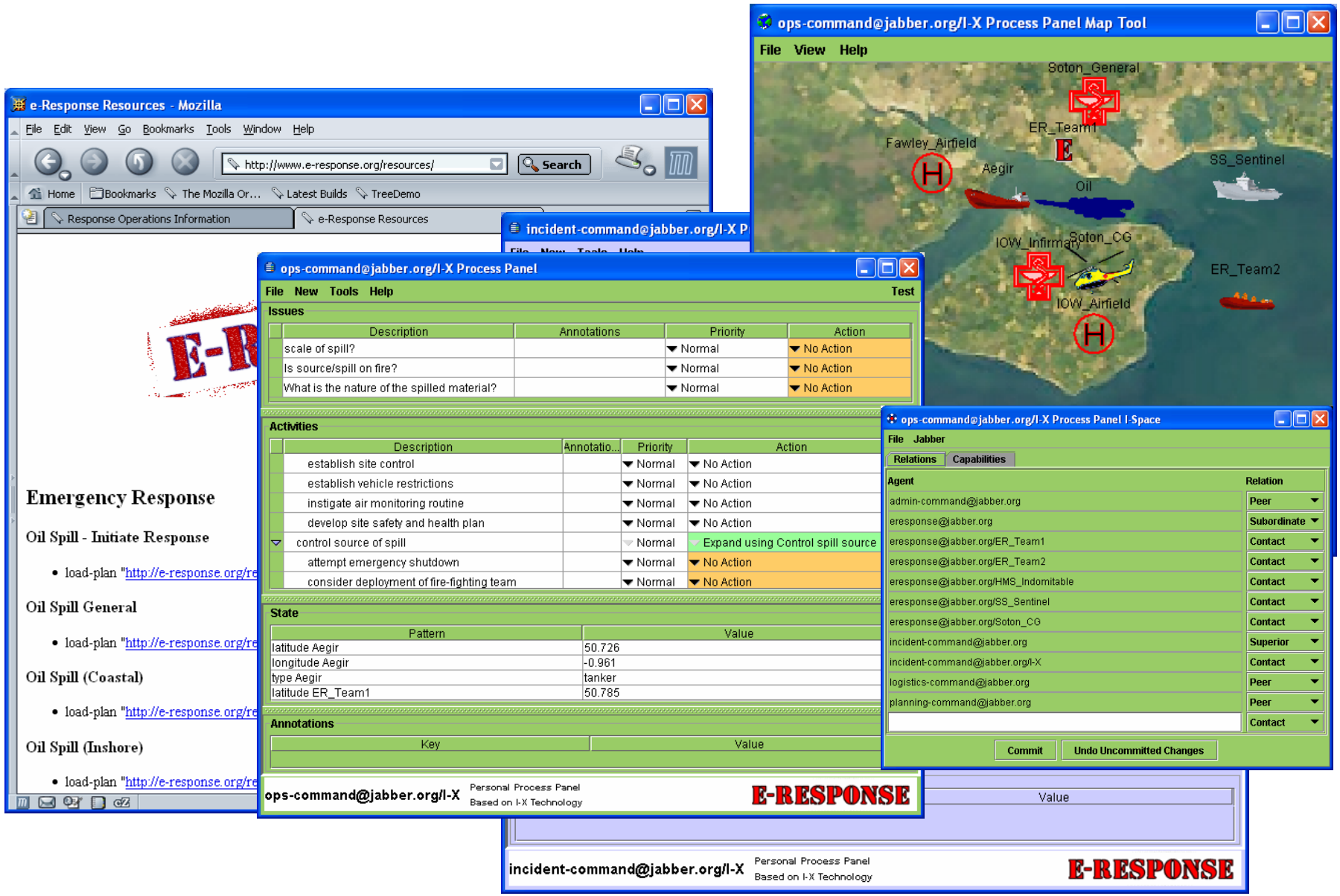


ADVANCED KNOWLEDGE TECHNOLOGIES

EPSRC

Collaborative ADVANCED KNOWLEDGE TECHNOLOGIES CoAKTinG in the Grid

E-RESPONSE


ops-command@jabber.org/I-X Process Panel Map Tool
File View Help
Soton_General
ER_Team1
Fawley_Airfield
Aegir
Oil
SS_Sentinel
IOW_Infirmary
Soton_CG
ER_Team2
IOW_Airfield
e-Response Resources - Mozilla
File Edit View Go Bookmarks Tools Window Help
http://www.e-response.org/resources/
Search
Home Bookmarks The Mozilla Or... Latest Builds TreeDemo
Response Operations Information
e-Response Resources
Emergency Response
Oil Spill - Initiate Response
load-plan "http://e-response.org/re
Oil Spill General
load-plan "http://e-response.org/re
Oil Spill (Coastal)
load-plan "http://e-response.org/re
Oil Spill (Inshore)
load-plan "http://e-response.org/re
incident-command@jabber.org/I-X P
ops-command@jabber.org/I-X Process Panel
File New Tools Help
Test
Issues
Description | Annotations | Priority | Action
scale of spill? | Normal | No Action
Is source/spill on fire? | Normal | No Action
What is the nature of the spilled material? | Normal | No Action
Activities
Description | Annotatio... | Priority | Action
establish site control | Normal | No Action
establish vehicle restrictions | Normal | No Action
instigate air monitoring routine | Normal | No Action
develop site safety and health plan | Normal | No Action
control source of spill | Normal | Expand using Control spill source
attempt emergency shutdown | Normal | No Action
consider deployment of fire-fighting team | Normal | No Action
State
Pattern | Value
latitude Aegir | 50.726
longitude Aegir | -0.961
type Aegir | tanker
latitude ER_Team1 | 50.785
Annotations
Key | Value
ops-command@jabber.org/I-X Personal Process Panel Based on I-X Technology
E-RESPONSE
ops-command@jabber.org/I-X Process Panel I-Space
File Jabber
Relations Capabilities
Agent | Relation
admin-command@jabber.org | Peer
eresponse@jabber.org | Subordinate
eresponse@jabber.org/ER_Team1 | Contact
eresponse@jabber.org/ER_Team2 | Contact
eresponse@jabber.org/HMS_Indomitable | Contact
eresponse@jabber.org/SS_Sentinel | Contact
eresponse@jabber.org/Soton_CG | Contact
incident-command@jabber.org | Superior
incident-command@jabber.org/I-X | Contact
logistics-command@jabber.org | Peer
planning-command@jabber.org | Peer
Contact
Commit
Undo Uncommitted Changes
Value
incident-command@jabber.org/I-X Personal Process Panel Based on I-X Technology
E-RESPONSE

What’s the vision (longer-term)?

Japan Central Disaster Prevention Committee Rescue Programme

- *(1) Practical risk management systems*
  - *(1-a) Practical earthquake disaster mitigation and preparedness*
  - *(1-b) Wide-area response systems*
- *(2) Partnership of citizens for disaster mitigation*
  - *(2-a) Local disaster mitigation by collaboration of residents, companies, and non-profit organizations with local governments*
  - *(2-b) Collaboration with volunteer works*
  - *(2-c) Disaster mitigation plan of companies*
  - *(2-d) Systems for sharing disaster information*
  - *(2-e) Land development of earthquake proof*
- *(3) Effective efficient disaster mitigation plan*
  - *(3-a) Concentrated countermeasures considering limited budget*
  - *(3-b) Earthquake proof of private houses and important public structures*
  - *(3-c) Introduction of economic principles in disaster prevention*
- *(4) Full use of advanced technologies*
  - *(4-a) Advanced information systems*
  - *(4-b) Technologies and systems to remove various Barriers*
    - *(4-b-i) technologies for information transfer to people who need aids in disasters,*
    - *(4-b-ii) technologies for evacuation guidance, and*
    - *(4-b-iii) development of robots and systems that work in inaccessible area.*
  - *(4-c) Technologies and systems for robustness of modern social systems*

Command Post of the Future
System Architecture

Commander's Perception and Understanding of the Battlespace

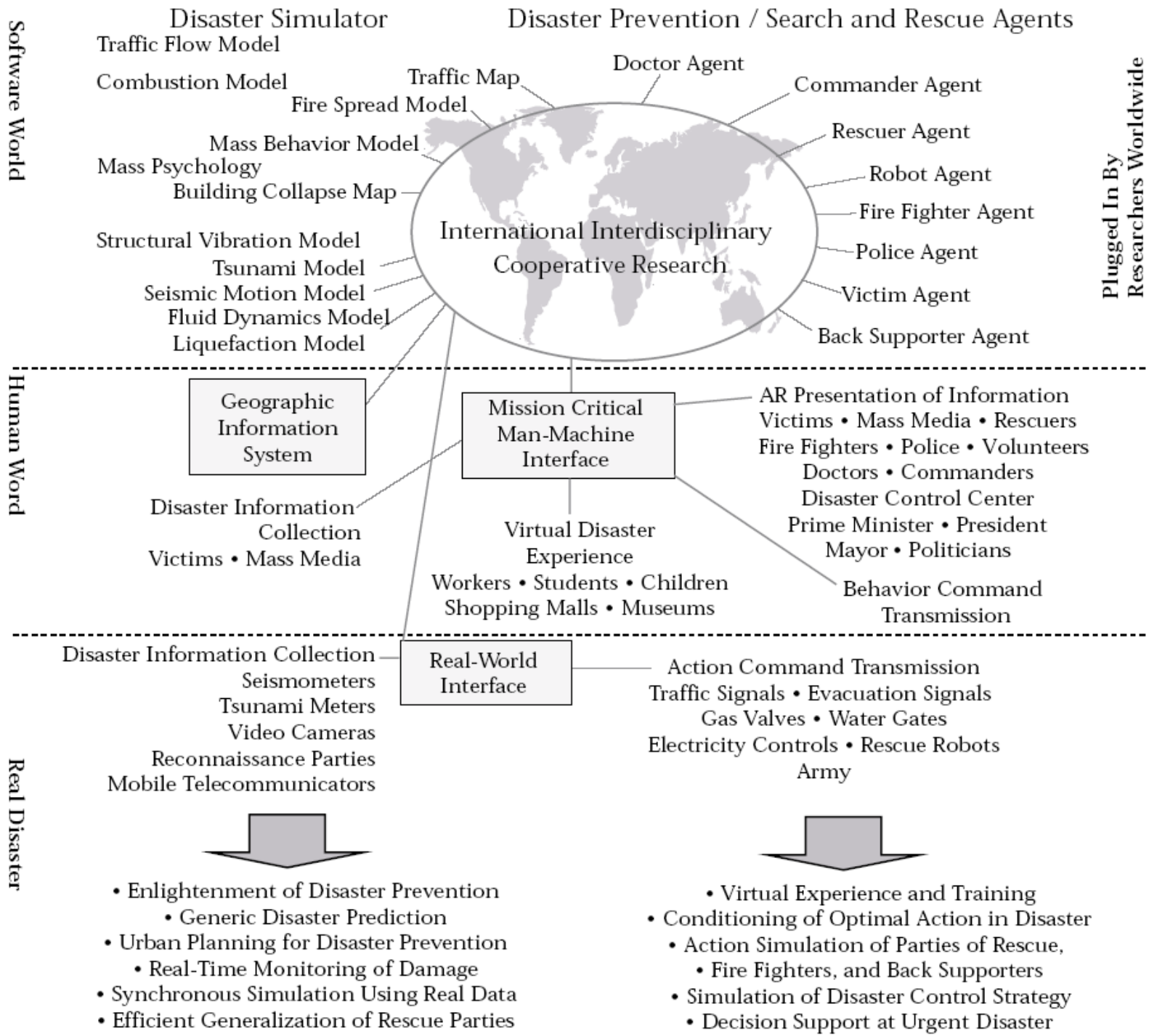
- Displays, PDAs, Sensors
- Visualization and Human-Computer Interaction
- Battlespace Reasoning, Analysis, and Simulation
- Decision-Centered Information Management

- C2/Planning Applications
- Dynamic Database
- Data Sources (BADD)
- COMM Channels

Command Post of the Future
Integrated Multinational Operations

Coalition & Multinational Experiments

http://arpi.isx.com/
http://www.jfcom.mil/about/experiments/mne3.htm
http://www.aiai.ed.ac.uk/project/coax/



Adapted from H. Kitano and S. Tadokoro, RoboCup Rescue A Grand Challenge for Multiagent and Intelligent Systems, AI Magazine, Spring, 2001.

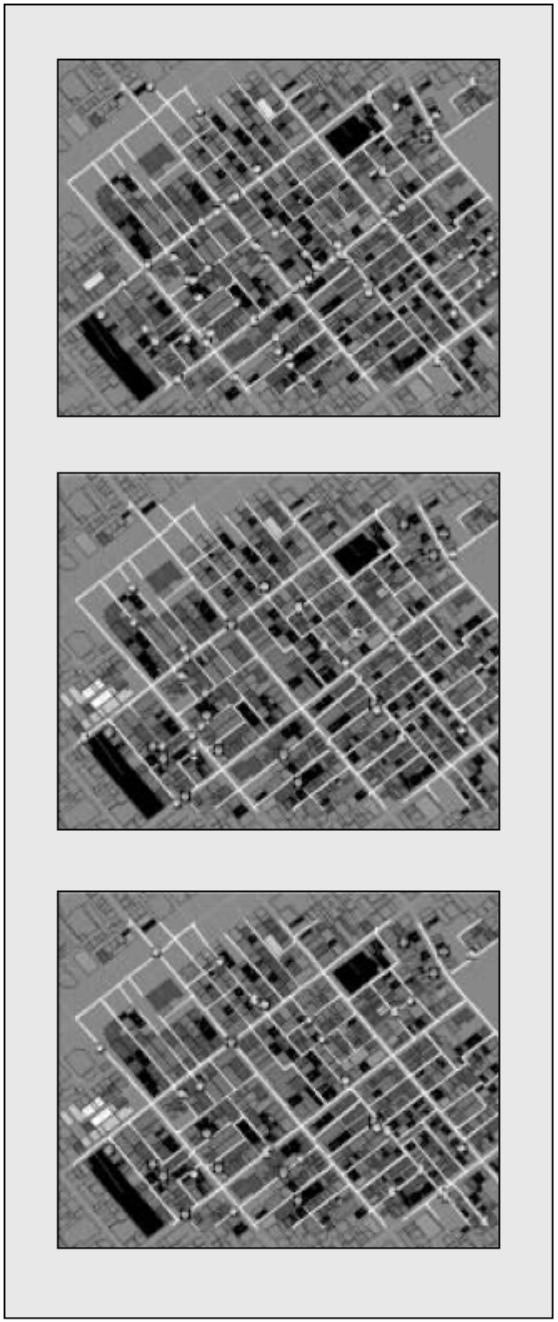


Figure 9. Snapshot from a RoboCup-2000 Rescue Simulator Demonstration—Successful Fire Fighting Rescue Operation.

Top: Onset. *Middle:* 160 min. *Bottom:* 300 min.
(Courtesy of Milind Tambe, ISI/USC)

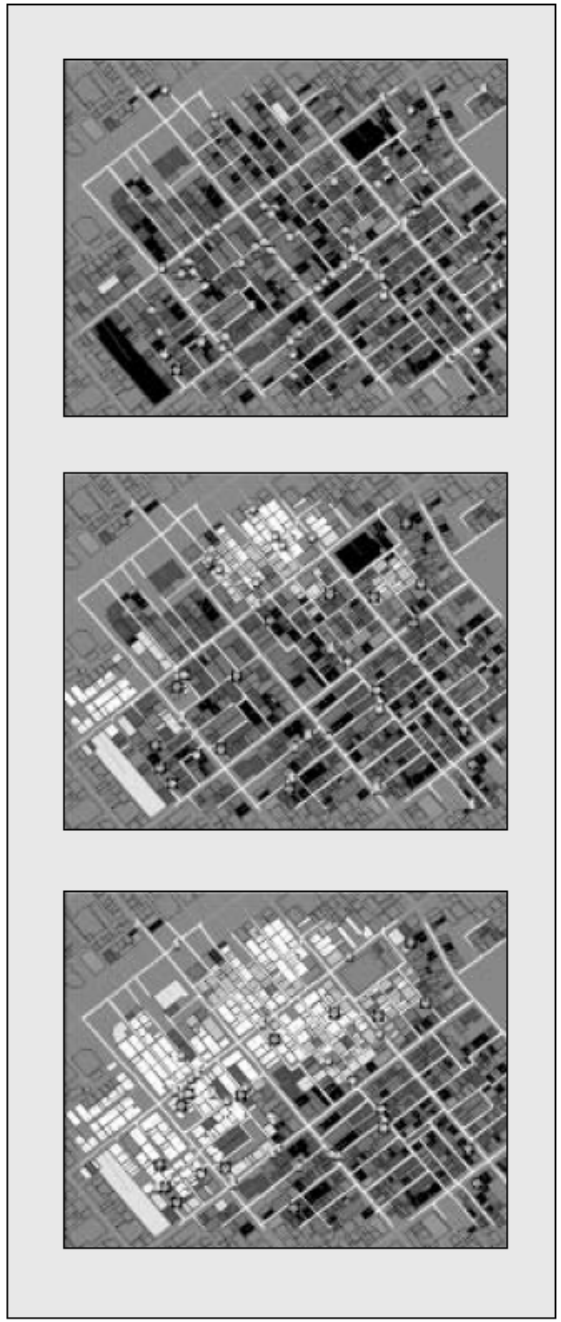
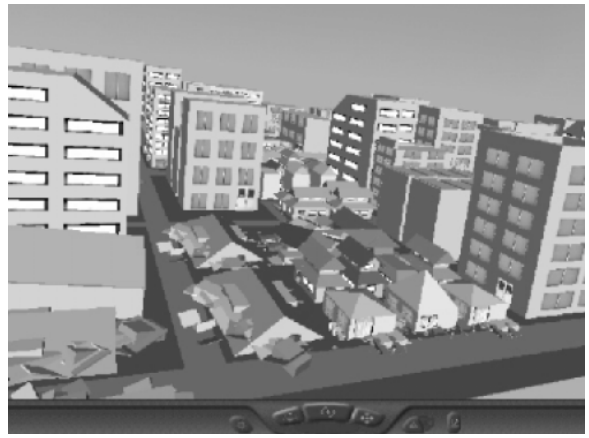
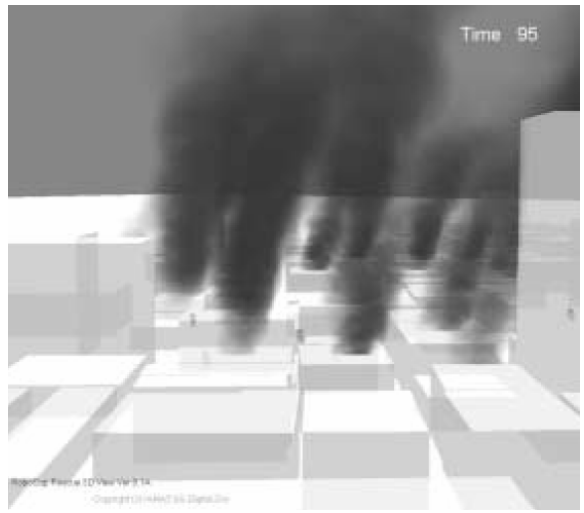


Figure 10. Snapshot from a RoboCup-2000 Rescue Simulator Demonstration—Unsuccessful Fire Fighting Rescue Operation.

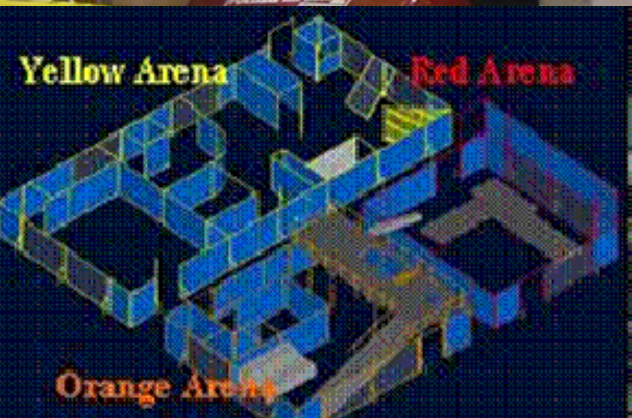
Top: Onset. *Middle:* 160 min. *Bottom:* 300 min.
(Courtesy of Milind Tambe, ISI/USC)





Adapted from H. Kitano and S. Tadokoro, RoboCup Rescue A Grand Challenge for Multiagent and Intelligent Systems, AI Magazine, Spring, 2001.

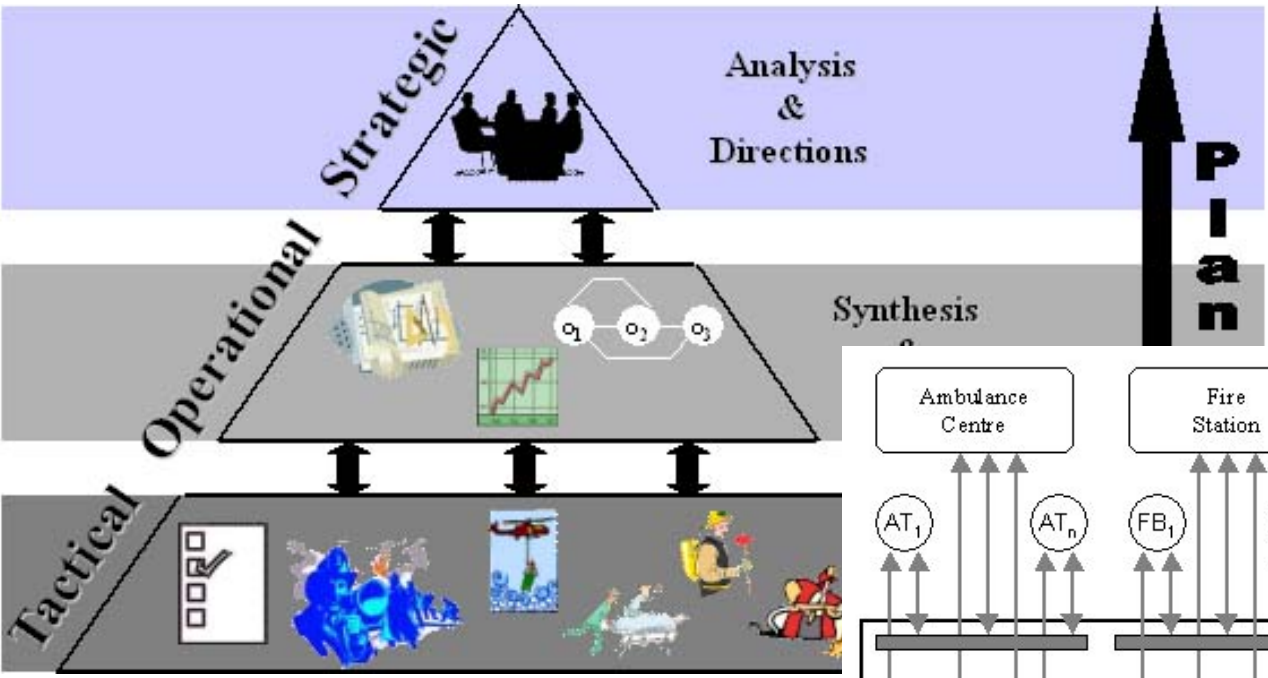
NIST

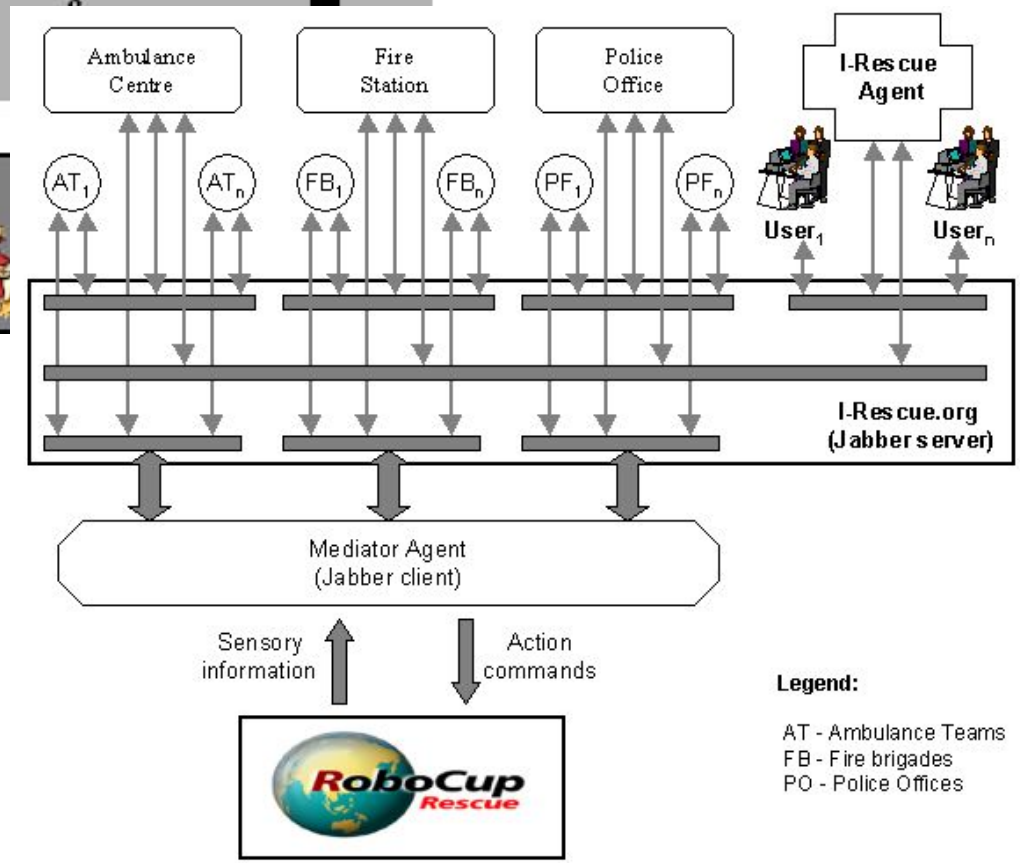

Yellow Arena
Red Arena
Orange Arena

Yellow Arena
Red Arena

Orange Arena

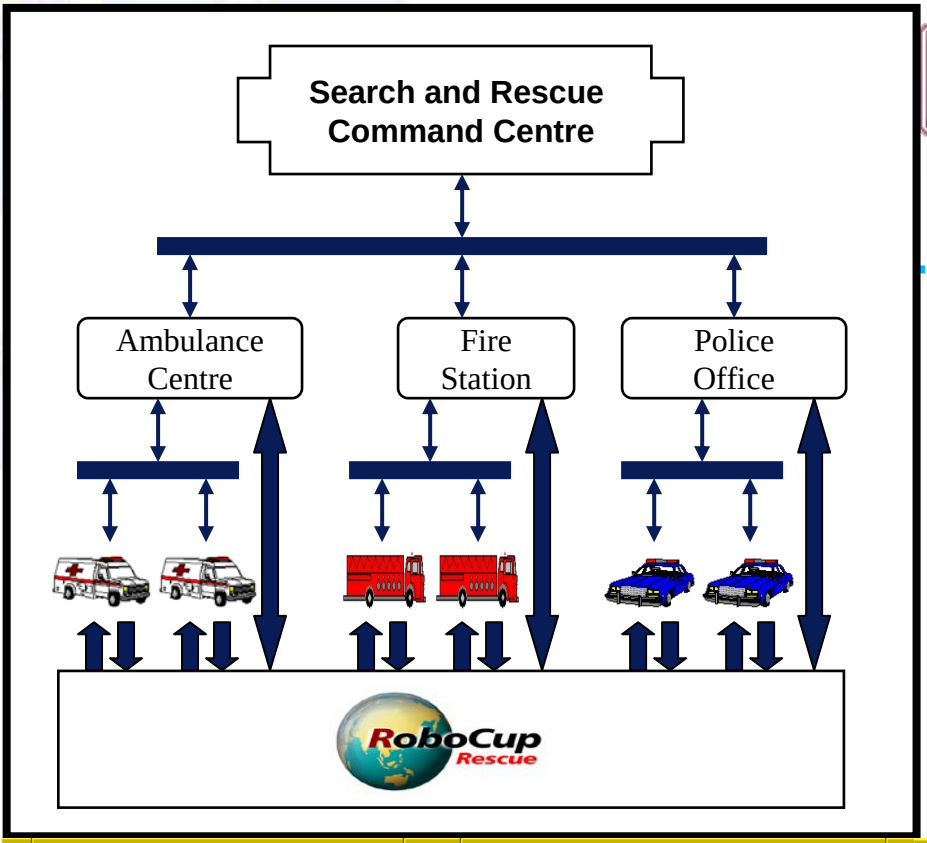
i-rescue.org





- **Distributed Framework**
- **Mixed-Initiative Planning**
- **Multiple levels of Decision**
- **Implementation of Joint Intentions**
- **Shared Information and Messages**

Clauirton Siebra, Informatics, Edinburgh



RoboCupRescue

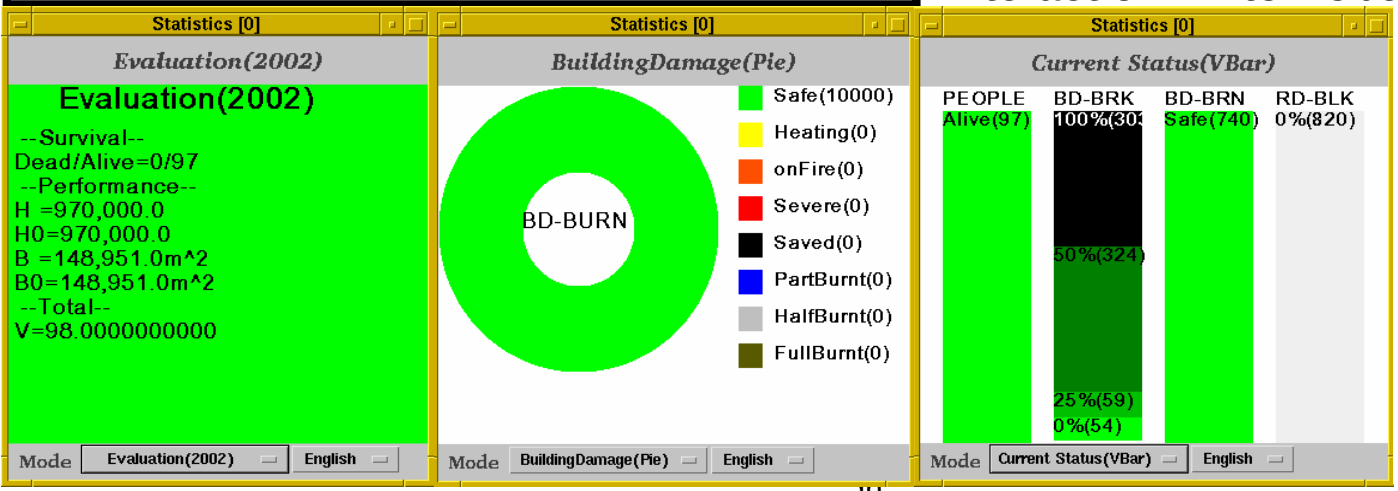
RoboCup Rescue Simulator

- Simulates the Kobe earthquake
- Sends sensorial information to agents, receiving back action commands

I-X Agents

- Divided in three hierarchical decision-making levels
- Support ideas such as activity oriented planning, coordination and knowledge sharing

Interaction I-X to Kobe Simulator



Adapted from H. Kitano and S. Tadokoro, RoboCup Rescue A Grand Challenge for Multiagent and Intelligent Systems, AI Magazine, Spring, 2001.

e-Response Vision

The creation and use of task-centric virtual organisations involving people, government and non-governmental organisations, automated systems, grid and web services working alongside intelligent robotic, vehicle, building and environmental systems to respond to very dynamic events on scales from local to global.

e-Response Vision

- ***Multi-level emergency response and aid systems***
- ***Personal, vehicle, home, organisation, district, regional, national, international***
- ***Backbone for progressively more comprehensive aid and emergency response***
- ***Also used for aid-orientated commercial services***
- ***Robust, secure, resilient, distributed system of systems***
- ***Advanced knowledge and collaboration technologies***
- ***Low cost, pervasive sensors, computing and comms.***
- ***Changes in building codes, regulations and practices***

Relevant Technologies

- ***Sensors and Information Gathering***
  - *sensor facilities, large-scale sensor grids*
  - *human and photographic intelligence gathering*
  - *information and knowledge validation and error reduction*
  - *semantic web and meta-knowledge*
  - *simulation and prediction*
  - *data interpretation*
  - *identification of "need"*
- ***Emergency Response Capabilities and Availability***
  - *robust multi-modal communications*
  - *matching needs, brokering and "trading" systems*
  - *agent technology for enactment, monitoring and control*
- ***Hierarchical, distributed, large scale systems***
  - *local versus centralized decision making and control*
  - *mobile and survivable systems*
  - *human and automated mixed-initiative decision making*
  - *trust, security*
- ***Common Operating Methods***
  - *shared information and knowledge bases*
  - *shared standards and interlingua*
  - *shared human scale self help web sites and collaboration aids*
  - *shared standard operating procedures at levels from local to international*
  - *standards for signs, warnings, etc.*
- ***Public Education***
  - *publicity materials*
  - *self help aids*
  - *training courses*

Diverse Uses

- ***Disaster response and evacuation***
- ***Terrorism incident response***
- ***Civil accidents***
- ***Disease control***
- ***Business continuity***
- ***Family emergencies***
- ***Transportation aids***
- ***Help desks***
- ***Procedural assistance***

Galileo

http://www.esa.int/navigation/galileo/
http://europa.eu.int/comm/dgs/energy_transport/galileo

Satellite radionavigation is a kind of space compass which allows people to determine their location very accurately. In short, satellite positioning equipment will become as essential as watches are today. Five years from now, every mobile phone will be able to receive signals emitted by satellites and will make it possible to pinpoint the location of people, vehicles, ships, planes, goods and animals at any time, anywhere in the world.
This technology will considerably improve guidance systems, accident prevention, the efficiency of civil protection, such as emergency or distress calls, and environmental protection.

rescue

Guidance for firefighters, ambulance workers and the police services, who will benefit from being able to intervene more rapidly

More efficiency in rescue operations

Safer transport: fewer accidents, fewer road accident victims

assist

Assistance to farmers in the management of their production

Considerable improvement in air traffic safety

Easier and more reliable prospecting for new natural resources

study

Environmental research, surveillance of volcanoes, study of earthquakes

guide

Help for the blind to find their way

Locate

Reliable and accurate positioning services for hikers, sailors and motorists

manage

Contribution to environmental protection: it will make it possible to locate those who cause pollution, and to monitor the atmosphere and the movement of wild animals in order to preserve their habitats

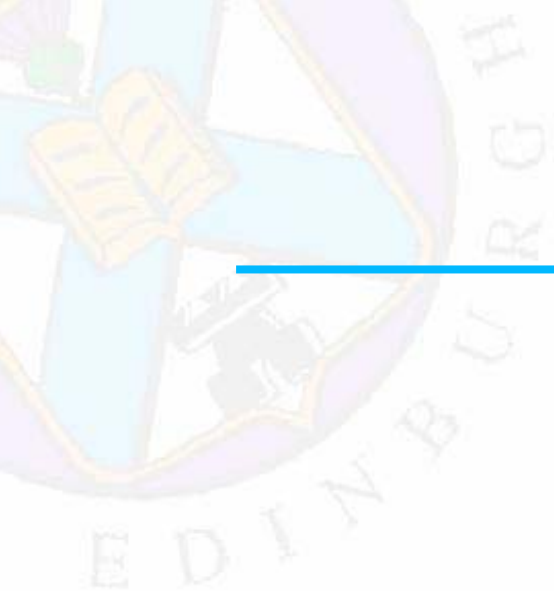
Better public transport management

Provision of an extremely accurate time clock, for financial transactions

GALILEO will offer everybody everywhere satellite positioning services with guaranteed reliability. Individuals, companies and administrations will all be able to benefit, whether on the road, railways, in the sky or at sea: hikers will be able to find their way, tourists will be able to find the museum or restaurant they are looking for, and taxi drivers will arrive at the right destination. This new global public service has many professional applications.

More Information

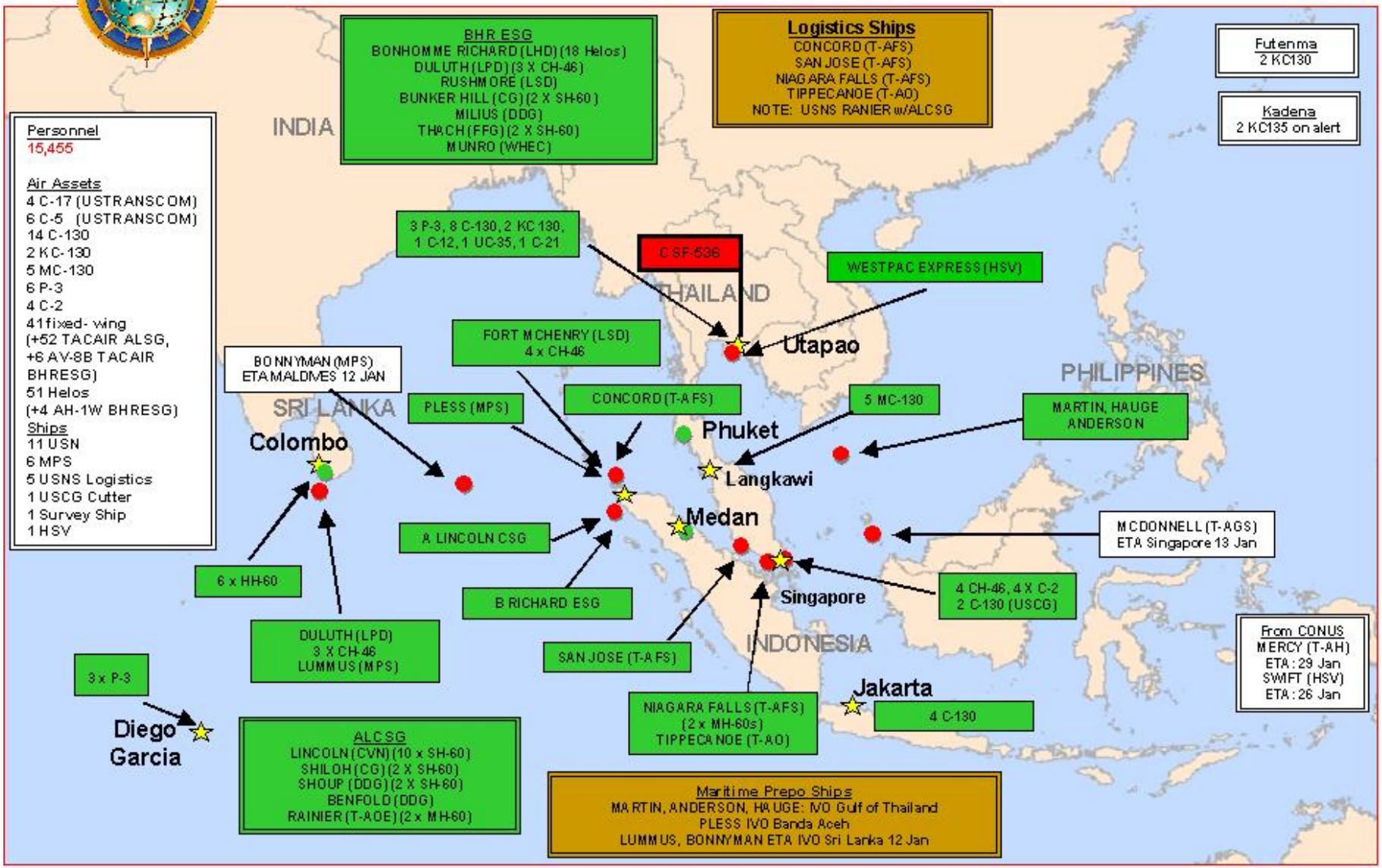
- *http://www.who.int*
- *http://www.wmo.int*
- *http://www.pacom.mil (CTF-536)*
- *http://www.apan-info.net (MPAT)*
- *http://www.rescuesystem.org/robocuprescue/*
- *http://www.isx.com/projects/cpof.php (CPOF)*
- *http://i-rescue.org/gc/*
- *http://www.aktors.org*
- *http://www.aiai.ed.ac.uk/project/plan/*



Unused Slides

PACOM LAYDOWN

Current as of 0700W, 12 Jan 2005



UK SITREP 003 - 10 JAN 05 - tsunami - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://ares.apan-info.net/QuickPlace/tsunami/PageLibrary0A256F7F002AD490.nsf/h_D5C7964FD67584860A256F81004307B9/B83432CA9F49B2A10A256F860029BB6A/?OpenDocument

UK SITREP 003 - 10 JAN 05
administrator, 01/10/2005 - 09:37 PM

D/PJHQ/JFHQ/3036

11 Jan 05

CSF 536 CCC

UK MILITARY SUPPORT TO TSUNMI DISASTER RELIEF OPERATIONS (OP GARRON)
CCC SITREP 003 AS AT 110700GJAN05

Period covered by this report: 091700GJAN05 – 110700GJAN05

1. This report is delayed in an attempt to align its publication with the reception by this callsign of UK sitreps from across the region. UK overall assessment is that the emphasis for co-ordination has now shifted from the military to civilian agencies. The requirement for niche military capability remains, of course, especially in INDONESIA.

a. SRI LANKA. A total of 386 personnel remain deployed to SRI LANKA. TU 317 (HMS CHATHAM) continues to work in the vicinity of BATTICOLOA although the is a growing recognition that current tasks have only a few days to run. With CANADA deploying teams to the south and INDIA to the north of the 'UK' AO, it is unlikely that UK will find much further gainful employment in the immediate area. Recon is therefore being conducted into the VAKARAI area. Most significantly, it seems that UK entry and operations in LTTE 'areas' is closer to being agreed.

b. MALDIVES. A UN sponsored concept of operations has been approved by the Government of the MALDIVES. For the UK this includes an element of the Fle Support Unit (FSU), deployed from TU 317, which will deploy today (11 Jan). Once established, small teams will deploy out to atolls for up to 4 days at a time, conducting essential engineer repair and regeneration tasks. A small C2 node is established in MALE.

c. INDONESIA.

i. The pace and workload of OLRT operations in IND has reached a plateau. Concurrenlty, UNOCHA has achieved full operating capability (FOC), with t Humanitarian Information Center (HIC), which co-ordinates information flow from various sources, now providing essential focus. It is expected that this capability will substantially improve co-ordination and prioritization and thus its establishment should be recognised as significant progress towards military mission completion.

ii. The new UN Humanitarian Co-ordinator, JOEL BOUTOUE, agreed the requirement for UNOCHA to be represented in MEDAN (with HQ CJTF-629). UNOCHA is re-appraising its operational plan for SUMATRA following BOUTOUE's arrival. Government of INDONESIA (GoI) co-ordination of effort now falls t the Minister for People's Welfare, ALWI SHAHIB who is located at PONDOPO (the Vice Governor's residence and operations centre for the GoI's relief programme).

iii. Helicopter tasking is becoming more co-ordinated at BANDA ACEH. It is intended to establish a civil/military operations centre to prioritise taskings an submit them to the JLC. The JLC will have embedded AUSAid and USAid alongside military LOs. Requests will be endorsed there before submission to the TNI.

iv. Officer Commanding 7 Flight Army Air Corps will arrive in BANDA ACEH today (11 Jan) to begin RSOI of the flight (2 x UH-212).

d. THAILAND. NSTR.

2. Summary. UK assesses that the emphasis is already turning towards longer-term reconstruction. Planning focuses upon defining those conditions that will dictate t exfil of UK military force. This will not be a 'hand-over' to civilian agencies as they are all actively pursuing full operating capability already. UK Chief of Joint Force Operation (and Comd JTF Op GARRON) is currently in IND visiting HQ CJTF-629 and GEN DARMONO before returning to the UK for a short period of close consultation with strategic agencies. Until his return UK operations will continue at the current tempo but are unlikely to increase in capability or scope.

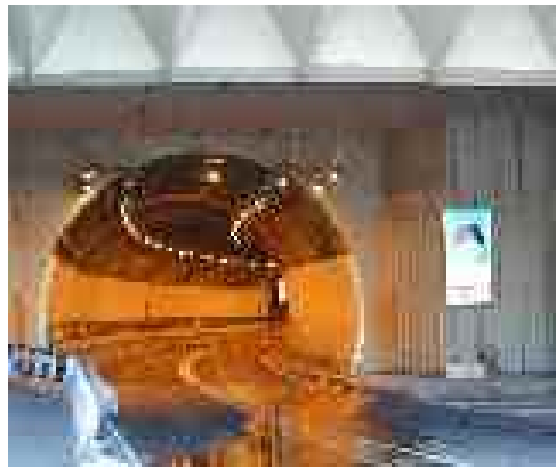
Internet

Mont Blanc Tunnel Fire

TIME (min)	Events	Consequences
0	Fire detected	

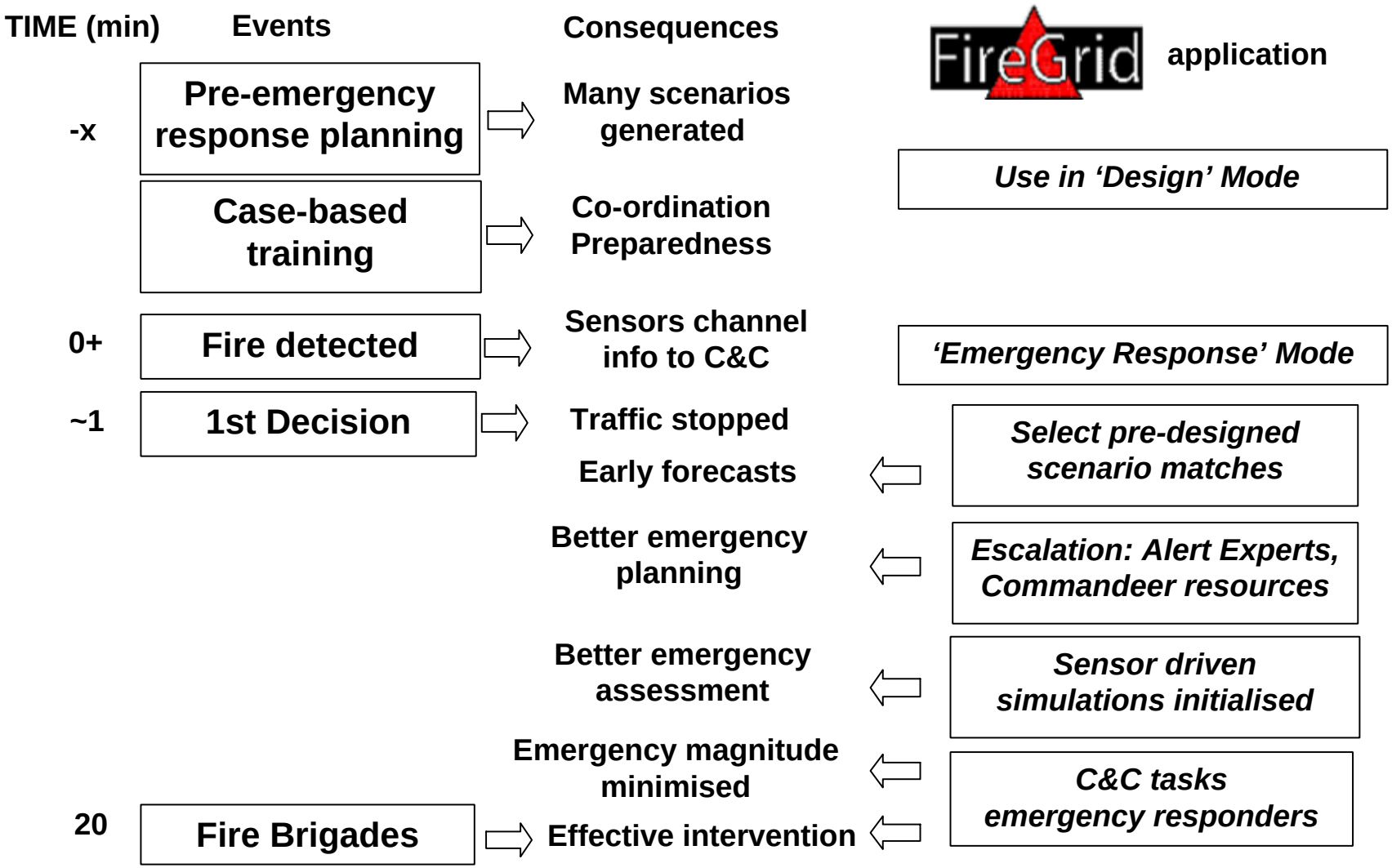
Emergency assessment too slow!
Lack of co-ordination between 2 sides.
Too many vehicles enter tunnel.

10	1st Decision ⇨	Traffic stopped
15	1st Response ⇨	Fans turned on in wrong direction!
		Enhancement of smoke and fire
20	French Fire Br. ⇨	Intervention made difficult by poor initial response
25	Italian Fire Br. ⇨	



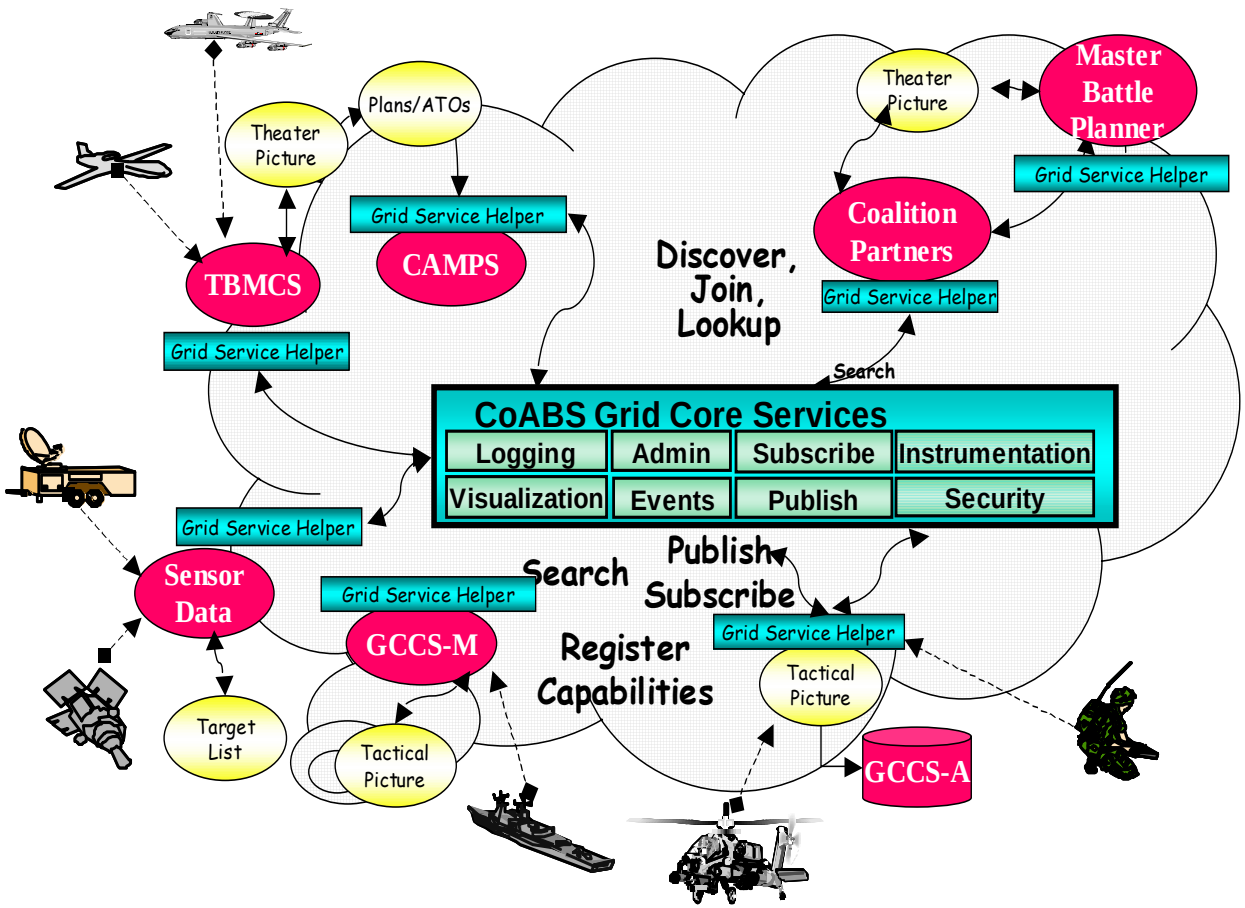
39 dead!

Mont Blanc Tunnel Fire & FireGrid



Lives saved!

CoABS Grid



Prototype CoABS Grid allows heterogeneous agent and legacy systems to:

- Register themselves
- Find available resources
- Form task-based teams
- Advertise their capabilities & needs
- Communicate among themselves
- Encrypt conversations

Coalition Agents eXperiment

Agents on the Grid

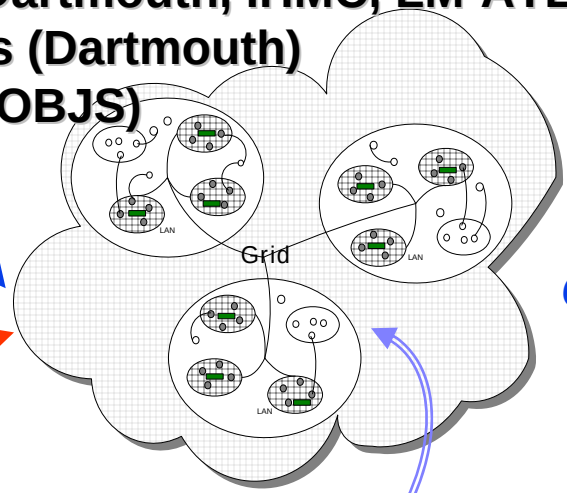
AODB Agent (LM-ATL)
Observer Agents (Dartmouth)
eGents E-mail Agents (OBJS)
Malicious Agents (IHMC)
Web Weather Agent (USC/ISI)
Information Agents (BBN)
…

Military Systems

CAMPS (AFRL,GITI, BBN)
MBP (QinetiQ)
Decision Desktop (QinetiQ)
Situation Viewer (NRL)
…

Agent Frameworks

KAoS Agents (IHMC, Boeing)
NOMADS Mobile Agents (IHMC)
EMAA/CAST Agents (LM-ATL)
GMAS (Dartmouth, IHMC, LM-ATL)
D'Agents (Dartmouth)
eGents (OBJS)



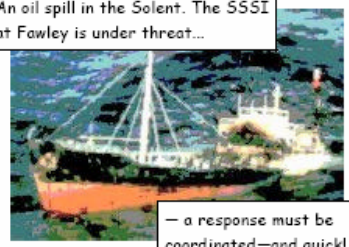
DARPA CoABS Grid (GITI, ISX)

Agent Grid Services

Task, Process and Event Management (AIAI)
Domain Management Services (IHMC, Boeing)
Asynchronous Wireless Connectivity (OBJS)
Plan Deconfliction (Michigan)

E-RESPONSE

http://e-response.org
http://www.aktors.org/coakting/

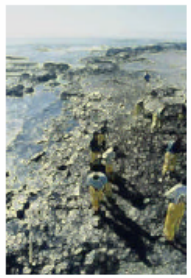


An oil spill in the Solent. The SSSI at Fawley is under threat...

— a response must be coordinated—and quick!

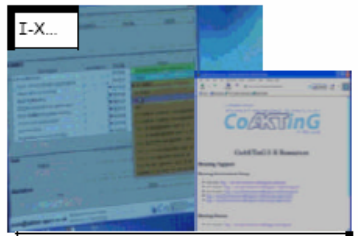
Day One: The e-Response team meets and together with domain experts formulates a response plan.

The implementation of the plan is overseen using the I-X tools.



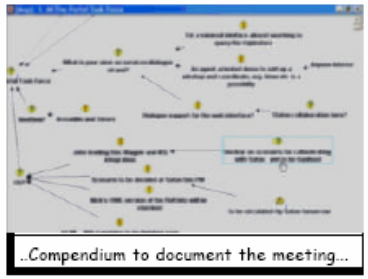
Day Two 7.32am
The group meets again to review its response.

The participants are geographically distributed...they will meet using standard VC software plus the CoAKTinG tools:



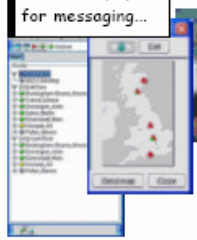
...and an online library of SOPs to set-up the VC and to structure the meeting...

CONTINUED...



..Compendium to document the meeting...

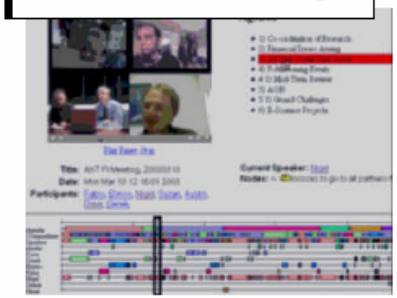
..and BuddySpace for messaging...

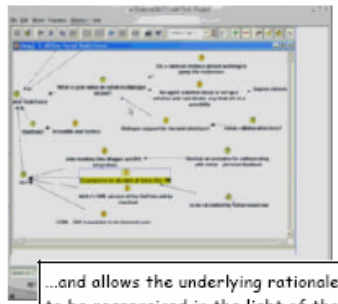


...including communication with a member of the team who is now on location.

Using the in-the-field reports and the latest weather and tide information (provided by Web Services), each decision in the initial plan is re-assessed...

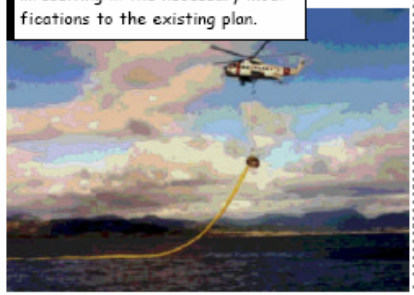
The Replay tool provides instant access to relevant sections of the first meeting...





...and allows the underlying rationale to be reappraised in the light of the new information...

...resulting in the necessary modifications to the existing plan.

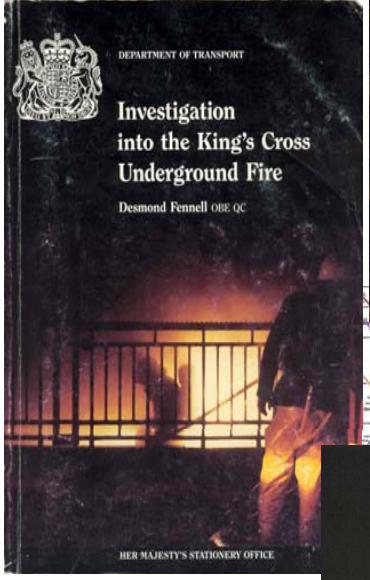


CREDITS:

CoAKTinG is funded by the UK e-Science Programme.

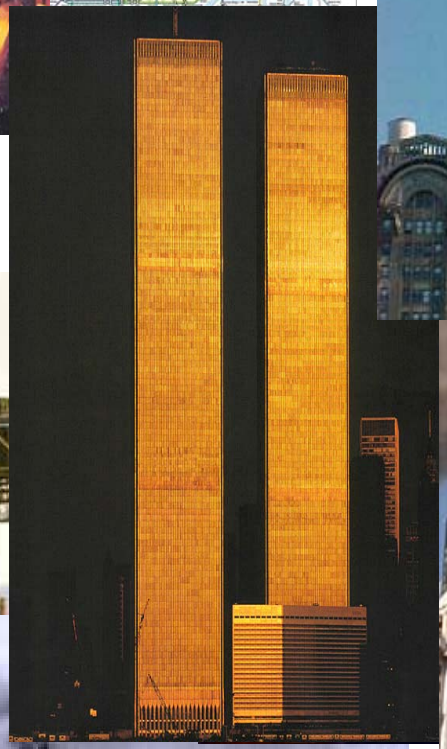
It comprises groups from The Universities of Edinburgh (AIAI) and Southampton (IAM) and the OU (KMi).

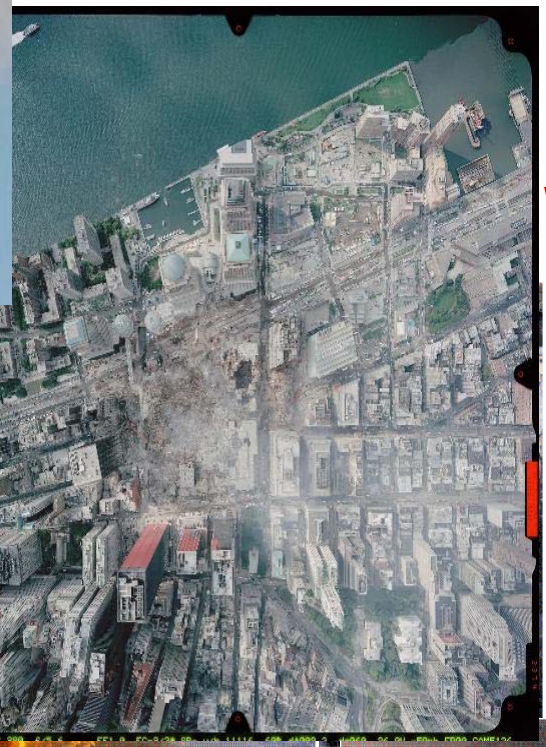
www.aktors.org/coakting



Kings Cross

Mont Blanc





WTC

Kobe

Piper Alpha

World Health Organization

- **Surveillance of diseases**
- **Assessing and responding to essential healthcare need**
- **Essential public health**
- **Strengthening supply systems**
- **Coordination of international health response**

WHO's objective is the attainment by all peoples of the highest possible level of health - a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

- **http://www.who.int**

Reconstruction and Infrastructure

http://www.unisdr.org/wcdr/