



Draft Agenda

Working Groups 3 and 4

COST Action: TU1102

Action Title: Towards Autonomic Road Transport Support Systems

4th – 5th June 2013

Trinity College Dublin

AIM of COST-ARTS project is to **Unite and align groups across Europe from computer science, engineering and transport studies into a world leading research community**

AIM of Dublin Workshop:

The Workshop will be hosted by Trinity College Dublin on the 4th and 5th June 2013 and will be devoted to the WG3 and WG4 activities. Session 1 of the workshop will commence with four 15 minute presentations which will provide an overview of the ARTS project and give a short statement of the current technical knowledge that has emerged from the work achieved so far in the ARTS project. Following the first plenary session the WG3 and WG4 will have a series of parallel sessions. The final Plenary Session will enable Feedback from the parallel work streams and provide an opportunity to discuss the next steps.

WG3 Workshop

The purpose of the WG3 Workshop is to engage with stakeholders across Europe to address the issues and impacts of moving away from automatic to autonomic management and control of intelligent traffic, transport and information systems.

On the first day Autonomic Applications will be discussed in the context of two case studies. The first is public information seamless of mode at the strategic level in Tyne and Wear, UK and the second at the tactical level of incident management in Santander in Spain. Participants will be invited to discuss the potential user needs; the anticipated barriers, risks, legislative, societal impacts, economic benefits, financial implications and propose business models should automatic control be replaced by autonomic control of traffic, transport and information systems.

On the second day delegates are encouraged to propose specific examples of current automatic systems so that the participants can use them as specific future Autonomic Applications to enable the discussions to be broadened. ***If you wish to have an opportunity during the workshop to provide a ten minute presentation of a current automatic control/management/decision making activity which you would like to be considered as a future Autonomic system please let us know as soon as possible.*** We are limited to the time available and therefore slots will be allocated on a first come first served basis.

WG4 Workshop

INSERT description HERE

| ARTS Dublin Workshop | |
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| Collaboration Participants | <p><i>Margaret Bell – (confirmed) Newcastle University</i> <i>Fabio Galatioto – (confirmed) Newcastle University</i> <i>Nick Hodges – (confirmed) Expert Ex-Leicester City Council and VRF University</i> <i>Jose Luis Moura- (confirmed) University of Cantabria, Spain</i> <i>Jacek Malasek - (confirmed) Road and bridge Research Institute. Warsaw, POLAND</i> <i>Stefan Trommer - (tbc) DLR – Institute of Transport Research, Germany</i></p> |
| Stakeholders | <p><i>Representatives from Local Authorities</i> <i>Ray King (tbc), Tyne and Wear</i> <i>Andrew Haysey (confirmed) Gateshead Metropolitan Council</i> <i>Dave Wafer (tbc) Durham County Council</i> <i>Small Businesses</i> <i>Borja Alonso Oreña – (confirmed)SMEL (Smarter Travel)</i></p> |
| Tuesday, 4th June 2013 | |
| Session A: Plenary | |
| 09:00 | <p>Overview of ARTS project Professor Lee Mc Cluskey</p> |
| 09:15 | <p>Aims and current progress of WG1 Presenter: TBC</p> |
| 09:30 | <p>Aims and current progress of WG2 Presenter: TBC</p> |
| 09:45 | <p>Aims and current progress of WG3 Professor Margaret Bell CBE – Newcastle University</p> |
| 10:00 | <p>Aims and current progress of WG4 Keith McCabe – KAMFUTURES</p> |
| 10:15 | Discussion |
| 10:30 | Refreshments |
| Session B: WG3 Case Study Public Transport Information Static and Dynamic | |
| 11:00 | <p>Purpose, Aims and Outputs of the Workshop – Getting down to Business Professor Margaret Bell CBE – Newcastle University</p> |
| 11:15 | <p>Overview of Tyne and Wear as a Case Study Ray King (tbc) – Tyne and Wear UTMC</p> |
| 11:45 | <p>ARTS Application Information Management in Tyne and Wear Dr Fabio Galatioto- Newcastle University</p> <p>Discussion Implication of ARTS Implementation in the context of:</p> |
| Session B: WG4 | |

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| | <ul style="list-style-type: none"> • User Needs • Issues • External Factors • Legislative • Administrative • Societal Impacts • Economic Benefits; • Barriers to uptake; • Financial Implications • Risks • Training <p>Discussion Facilitator: Professor Margaret Bell CBE – Newcastle University</p> | |
| 12:30 Lunch | | |
| Session C: WG3 Case Study Network Incident Management | | Session C: WG4 |
| 13:30 | <p>Overview of Case study Santander Local Authority Engineer or Jose Luis Moura – University of Cantabria, Spain</p> | |
| 14:00 | <p>ARTS Application Incident Management in Santander Borja Alonso Oreña - SMEL (Smarter Travel) Santander Spain</p> <p>Discussion Implication of ARTS Implementation in the context of:</p> <ul style="list-style-type: none"> • User Needs • Issues • External Factors • Legislative • Administrative • Societal Impacts • Economic Benefits; • Barriers to uptake; • Financial Implications • Risks • Training <p>Discussion Facilitator Professor Margaret Bell CBE – Newcastle University</p> | |
| 15:00 Refreshments | | |
| Session D: WG3 Business Models for Autonomic Systems | | Session D: WG4 |
| 15:30 | Some Ideas of Business Models for ARTS | |

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| | <p>Applications Jacek Malasek Road and bridge Research Institute. Warsaw, POLAND</p> <p>Discussion Facilitator Professor Margaret Bell CBE – Newcastle University</p> | |
| 16:45 | <p>Consolidate Progress Facilitator: Margaret Bell – Newcastle University</p> | |
| 17:30 Close | | |
| 19:30 Evening Meal (TBA) | | |

Wednesday, 5th June 2013

| Session E: WG3 Case Study Applications | | Session E: WG4 |
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| <p>This session will be a series of short (volunteered) ten minute presentations of current Automatic Intelligent Transport Systems which potentially have Autonomic properties. These will be discussed in the context of the outputs of WG3, namely User Needs, Issues, External Factors, Legislative, Administrative, Societal Impacts, Economic Benefits; Barriers to uptake; Financial Implications; Risks; Training and potential business models</p> | | |
| 09:00 | <p>ARTS Application in the context of the eCoMove Project Stefan Trommer – (tbc) DLR – Institute of Transport Research, Germany</p> | |
| 09:15 | <p>Discussion Implication of ARTS Implementation in the context of WG3 metrics Discussion Facilitator Professor Margaret Bell CBE – Newcastle University</p> | |
| 09:45 | <p>???? Example of Air Quality management?? Presenter: Volunteer?</p> | |
| 10:00 | <p>Discussion Implication of ARTS Implementation in the context of WG3 metrics Discussion Facilitator Professor Margaret Bell CBE – Newcastle University</p> | |
| 10:30 Refreshments | | |
| Session F: WG3 Case Study Applications | | Session F: WG4 |
| 11:00 | <p>Autonomic Application for Road Safety management Presenter: (tbc) Tiziana Campisi – University of Enna</p> | |
| 11:15 | <p>Discussion Implication of ARTS Implementation in the context of WG3 metrics Discussion Facilitator Professor Margaret Bell CBE – Newcastle University</p> | |
| 12:00 | <p>Consolidate Progress Facilitator: Professor Margaret Bell CBE– Newcastle University</p> | |
| 12:30 | Lunch | |

| Session G: WG3 Case Study Applications | | Session G: WG4 |
|---|---|-----------------------|
| 14:00h | ARTS Application in the context of the EU and Arab region Dr Muna Hamdi and Steve George IMFV Group | |
| 14:15 | Discussion Implication of ARTS Implementation in the context of WG3 metrics Discussion Facilitator Professor Margaret Bell CBE – Newcastle University | |
| 14:45 | Consolidate Progress Facilitator: Margaret Bell – Newcastle University | |
| 15:00 | Refreshments | |
| Session H: Final Plenary for WG3 and WG4 | | |
| 15:30 | Purpose of the Session Presenter: ??? | |
| 15:45 | Feedback on WG3 Margaret Bell – Newcastle University | |
| 16:15 | Feedback on WG4 Keith McCabe - KAMFUTURES | |
| 16:45 | Discussion Facilitators: Margaret Bell – Newcastle University Keith McCabe - KAMFUTURES | |
| 17:15 | Next Steps Facilitators: Margaret Bell – Newcastle University Keith McCabe - KAMFUTURES | |
| 17:30 | Close | |

APPENDIX 1: Additional Notes for WG3 Stakeholder Participants

Autonomic Systems

Autonomic systems embrace both software and hardware and in controlling networks manage people and vehicle movements. Autonomic systems rely on data available directly from purposely deployed monitoring systems but will use the wealth of data available as a by-product of the intelligent transport systems through which traffic control, management and information are currently delivered.

Autonomic systems need to:

- be focused computationally to deliver user needs;
- comply with EU Directives and local policies
- conform to the ITS protocols and standards;
- strive to share public information.

Autonomic System Properties

- Take into account and build on previous experience
- Embrace and enhance performance Legacy systems
- Use results already obtained in earlier EU projects
- Should build on ITS and interoperable systems,
- Adopt open and public standards and be non-discriminatory
- Consider innovative technologies such as:
 - Radio frequency
 - Galileo
 - Tracking of freight and across modes of transport is important

Difference between autonomic and traditional, automatic, ITS systems

- Autonomic systems:
 - learn from experience,
 - make decisions,
 - become more efficient and smart over time,
 - adapt to changes.
- ITS is the automatic application of ICT systems to transport problems
 - optimise to a set of parameters and conditions at the time of implementation.
 - operators learn and apply continuous correction to control parameters to better manage Transport Networks and Systems
 - Provide data for providing generally static information with ad hoc updates
 - control and manage only within their boundaries of responsibility.

Changes needed in current systems to achieve ARTS objectives?

- Identify the sets of principles and applications that are currently present in automatic systems
- Replicate the operator knowledge/learning processes to create the autonomic properties
- Namely:
 - Self-Configuring,
 - Self-Healing,
 - Self-Optimizing
 - Self-Protecting
- Embodiment of these properties in to a common system imperative and the major challenge

- Key components of the “autonomicity”
 - Feedback loops,
 - Appropriate knowledge,
 - Correct and timely interpretation
 - Consolidation and distillation to deliver optimal control in space and time irrespective of mode.

Dublin Meeting WG3 will explore:

- What operations at the tactical and strategic control can become autonomic?
- What are, and the implications of, changes should Automatic become Autonomic Systems in the context of User Needs, Issues, External Factors, Legislative, Administrative, Societal Impacts, Economic Benefits; Barriers to uptake; Financial Implications; Risks; Training and potential business models?

Figure 1. Characteristics of Autonomic control emerging from the ARTS COST project.

