



Home | COST Actions | Information and Communication Technologies (ICT) | IC1201

- ▶ COST Action Networking Tools
- ▶ All Actions

### ICT COST Action IC1201

## Behavioural Types for Reliable Large-Scale Software Systems (BETTY)

Modern society is increasingly dependent on large-scale software systems that are distributed, collaborative and communication-centred. Correctness and reliability of such systems depend on compatibility between components and services that are newly developed or may already exist. The consequences of failure are severe, including security breaches and unavailability of essential services. Current software development technology is not well suited to producing these large-scale systems, because of the lack of high-level structuring abstractions for complex communication behaviour.

This Action will use behavioural type theory as the basis for new foundations, programming languages, and software development methods for communication-intensive distributed systems. Behavioural type theory encompasses concepts such as interfaces, communication protocols, contracts, and choreography. As a unifying structural principle it will transform the theory and practice of distributed software development.

The significance of behavioural types has been recognised worldwide during the last five years. European researchers are internationally leading. There is an urgent need for European co-ordination to avoid duplication of effort, facilitate interactions among research groups, and ensure that the field proceeds efficiently from academic research to industrial practice. This Action will provide the co-ordination layer and leverage the efforts of European researchers, to increase the competitiveness of the European software industry.

(Descriptions are provided by the Actions directly via e-COST.)

### Information and Communication Technologies COST Action IC1201

- ▶ **Description**
- ▶ Parties
- ▶ Management Committee

### General Information\*

- Chair of the Action:**  
[Prof Simon GAY](#) (UK)
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### Downloads\*

- Action Fact Sheet**  
[Download AFS as .RTF](#)
- Memorandum of Understanding**  
[Download MoU as PDF](#)
- Progress Report**  
[Download Progress Report as PDF](#)
- Poster**  
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### Websites\*

- Action website:**  
<http://www.behavioural-types.eu/>

\* content provided by e-COST.  
Data is synchronised once per night.

