



INFORMATION TECHNOLOGY FOR EUROPEAN ADVANCEMENT

## Roadmap 3 - Technologies

ITEA 2 Symposium 2008, Olivier Audouin  
Rotterdam, 21 October 2008



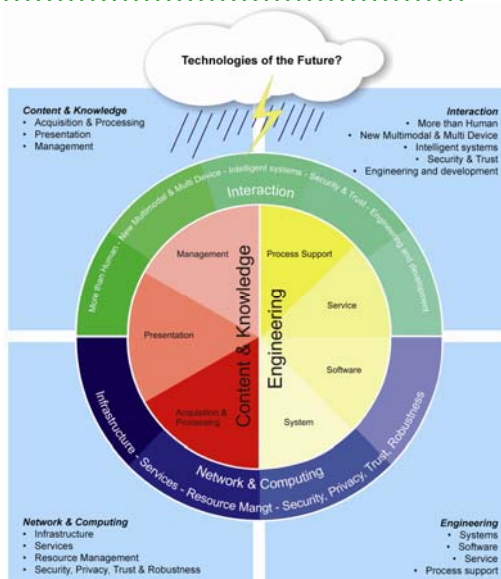
European leadership in Software-intensive Systems and Services. The Future of Embedded and Distributed Software.

## Technologies 5 clusters



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## Technologies

### Content & knowledge: Underlining some trends

- Explosion of content volumes and complexity
  - Supported by spreading means for captures, low cost storage, bandwidth increase ...
- Automating the building of trustable knowledge from multitudes of sources
  - Opportunity of new applications and services
  - Rely on context awareness, meta-content, semantics, ontology technologies
- Virtual and augmented realities improve the visibility of entities that matter
- Security and trust into content and knowledge
- Influence of new business models

## Technologies

### Network & computing: Underlining some trends

- Convergence, until where ?
  - Agility, dynamism, self-optimization, self-learning, semantics handling and context-aware services
- Flat, pervasive and more open distributed architectures
  - Functions which can be performed on different devices
  - Multi-provider dynamic services
  - distributed autonomous agents, virtualization, service-oriented technologies
- Multi-scale systems
  - Complexity and scalability
- Security, dependability
  - Utility infrastructures
  - Trust

## Technologies

### Interaction: Underlining some trends

- Ensure that new technologies make life easier for people instead of making it more difficult
  - Delegate, automate
  - System learning
  - Safety
  - User acceptance
- In a context of increasing number of devices, increasing system complexity, diversification of user profiles
  - Multi modal interaction, hyperconnectivity
- Interaction as general concept instead of being limited to user interaction
  - humans, avatars, autonomous machines
  - user-to-service, service-to-user, and service-to-service interaction

## Technologies

### Engineering: Underlining some trends

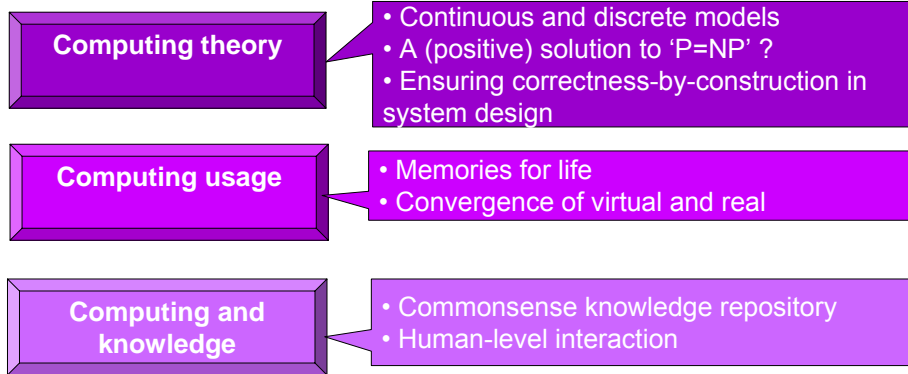
- Increasing amount of software
  - Collaboration across company borders
  - Increasing use of existing software such as Open Source and commercial of the shelf software (COTS)
- Techniques and tools for mastering complexity are needed
  - Progress in matter of integration and harmonization are required
- Globalization impact (i.e. interoperability and convergence)
  - Globalization of the execution platform,
  - Trends and technologies spreading across domains
  - Convergence of engineering methods, techniques and tools (standard components and practices emerging from open source)

## Technologies Technologies of the future?



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### Breakthroughs from within computing



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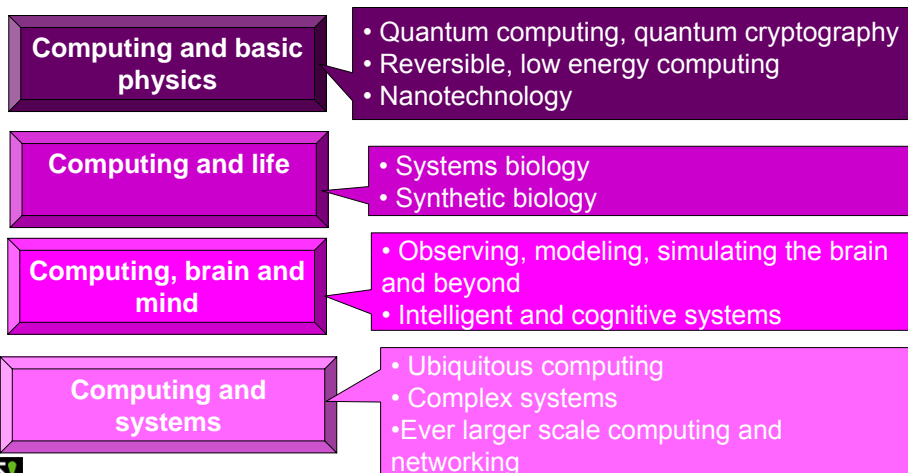
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## Technologies Technologies of the future?



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### Breakthroughs from interaction of computing and other fields



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Thank you *for your attention*



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