

Funding opportunities in the European Research Framework Programme

Future and Emerging Technologies



Pekka Karp
Deputy Head of Unit
FET – Proactive
pekka.karp@ec.europa.eu



WCCI 2008 Hong Kong 5 June 08



Future & Emerging Technologies – FET Mission

Bringing new science into technology!



Artist's conception of a gated nanotube transistor logic circuit. Bachold et al., Science 294 (2001) 1317.

Miniaturisation!

Core ICTs
 IT, Communications, Interfaces



Managing Complexity!

Cognitive Intelligence



Co-evolution of societal and technological change



WCCI 2008 Hong Kong 5 June 08



Future & Emerging Technologies – FET

A continuing well established successful IST scheme

An incubator and pathfinder for new ideas and themes for long-term research in the area of information and communication technologies

High risk research, offset by potential breakthrough with high technological and/or societal impact

Two complementary inter-linked schemes
FET Proactive + FET Open

FET Proactive

- Top-down approach
- Set of novel pre-defined themes

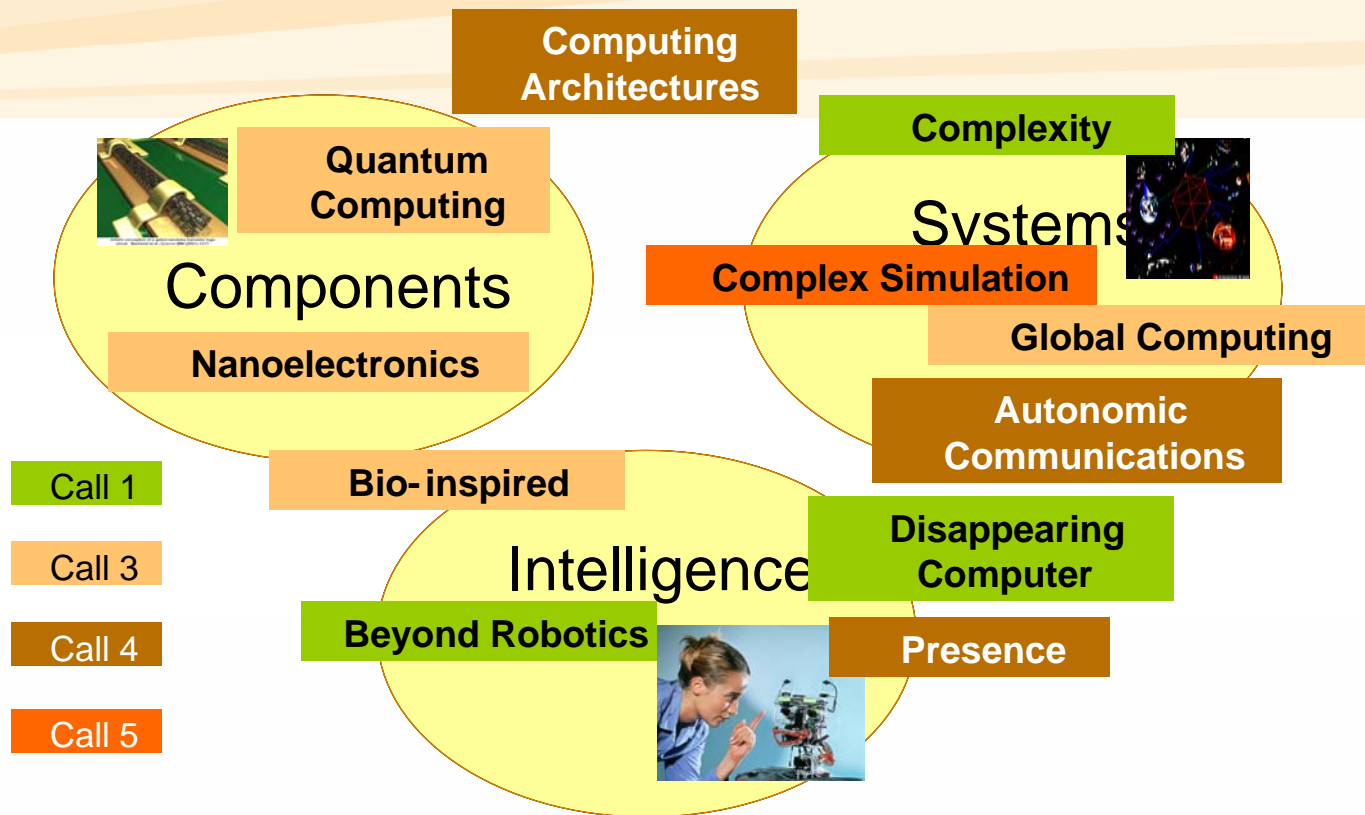


FET Open

- Bottom-up approach
- Open to any research idea



FET Proactive Initiatives in 2003 - 2006



In total 48 projects (25 Integrated Projects, 18 Specific Targeted Research Projects and 5 Coordination Actions)

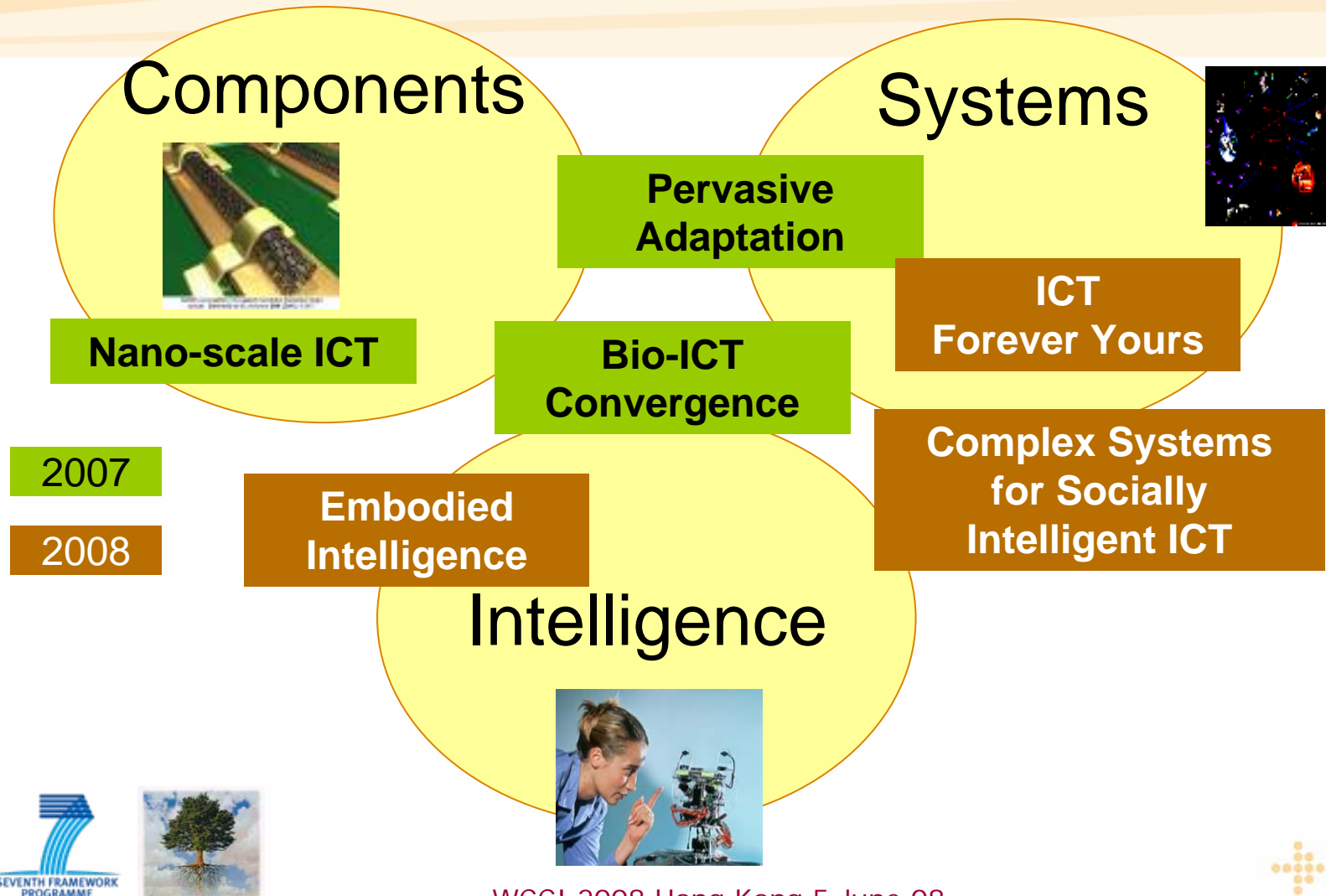
Total EC funding: 196 M€



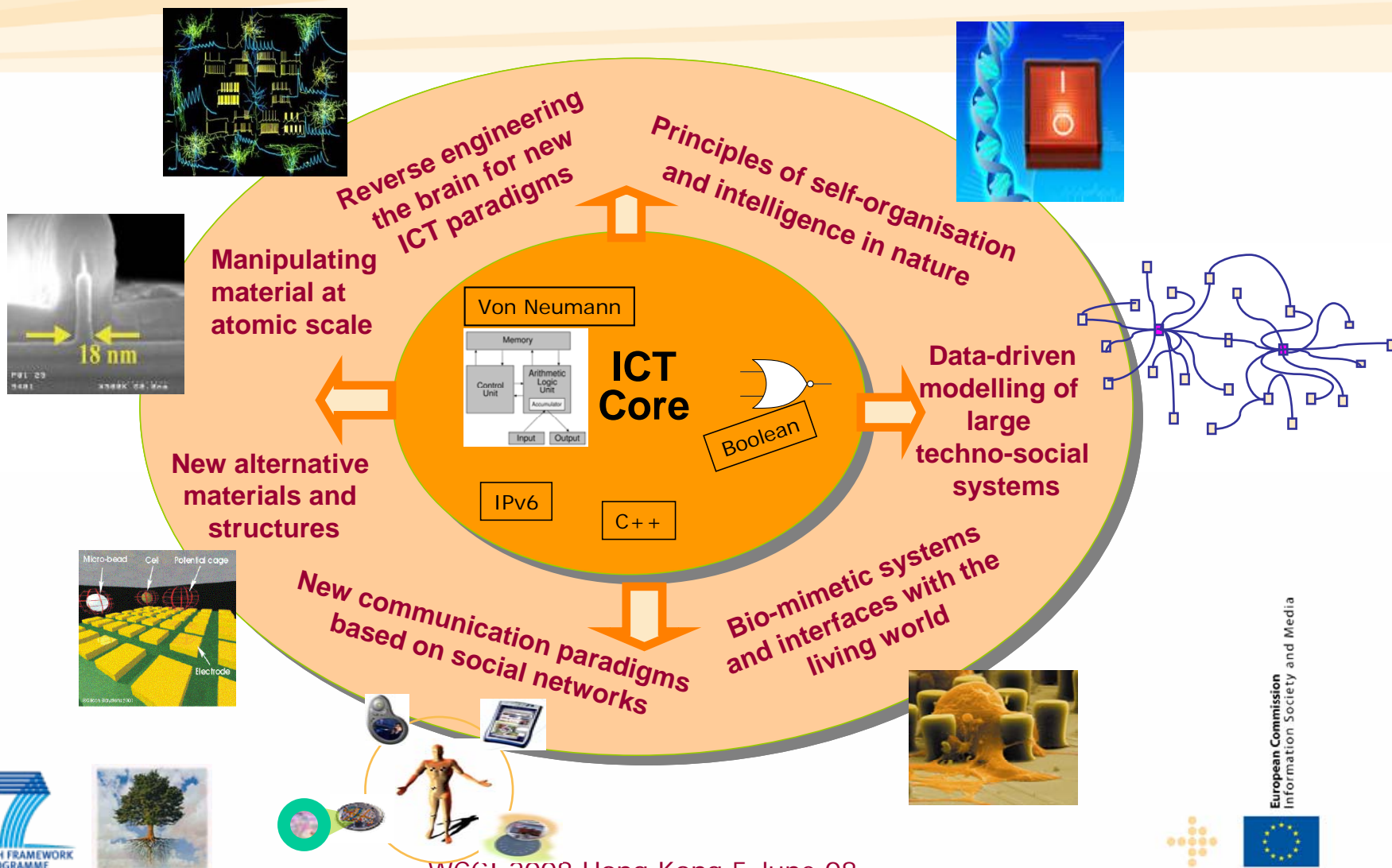
WCCI 2008 Hong Kong 5 June 08



Computational Intelligence in FET Proactive Initiatives in 2007-2008



Trends towards future ICT's (2009-10 and beyond)



DRAFT

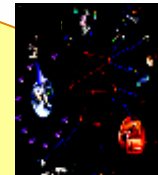
FET Proactive Initiatives in 2009-2010

Quantum Technologies

Concurrent Tera-Device Computing

Molecular Scale Devices & Systems

Self-Awareness in Autonomic Systems



Components

Bio-chemistry based ICT

Systems

Zero-Power ICT

Human-Computer Confluence

2009

2010



Intelligence

Brain-Inspired ICT



WCCI 2008 Hong Kong 5 June 08



European Commission
Information Society and Media



Main FET funding opportunities 2009 – 2010 for Computational Intelligence

1. FET Open

2. FET Proactive

- **Human-computer confluence** (on-line perception of and interaction with massive volumes of data, ..)
- **Brain-inspired ICT** (multi-scale models of information processing and communication in the brain and/or PNS and their synthetic hardware implementations)
- **Bio-chemistry-based information technology** (information processing technology inspired by chemical processes in living systems)



International collaboration

Objectives:

- To jointly respond to major global technological challenges by developing interoperable solutions and standards
- To jointly develop ICT solutions to major global societal challenges
- **To improve scientific and technological cooperation for mutual benefit, in particular regarding FET funding:**
 - “Involvement and participation of international partners from developed and/or emerging economies in any of the FET proactive initiatives is welcomed and encouraged”**
 - “International collaboration that exploits synergies in the global science and technology scene is also encouraged”**



International collaboration

In practice:

Define a proposal with a multinational consortium (at least 3 European partners) and submit to an appropriate call. Funding is possible, depending on the case.

Information:

- http://cordis.europa.eu/fp7/ict/fet-proactive/home_en.html
(FET Proactive)
- http://cordis.europa.eu/fp7/ict/fet-open/home_en.html
(FET Open)

