Overview of Challenges and related calls in ICT 2009 work program
Hermes Partnership 2009

Subject	Challenge	Objective	Subject		Target outcome	Funding scheme	Call
Pervasive and Trustworthy Network and Service Infrastructures	**1**	**ICT-2009.1.1**	**Network of the Future**	a.	Future internet architectures and network technologies	IP, STREP	Call 5
				b.	Spectrum efficient radio access to future networks	IP, STREP	Call 4
				c.	Converged infrastructures in support of future networks	IP, STREP	Call 4
				d.	Coordination/ support actions and networks of excellence	NOE, CSA	Call 5
	1	**ICT-2009.1.2**	**Internet of Services, Software and Virtualization**	a.	Service architectures and platforms for the future internet	IP, STREP	Call 5
				b.	Highly innovative service/ software engneering	IP, STREP	Call 5
				c.	Coordination ad support actions	CSA	Call 5
	1	**ICT-2009.1.3**	**Internet of Things and Enterprise environments**	a.	Architectures and technologies for Internet of Things	IP, STREP	Call 5
				b.	Future Internet based Enterprise Systems	IP, STREP	Call 5
				c.	International co-operation and co-ordination	CSA	Call 5
	1	**ICT-2009.1.4**	**Trustworthy ICT**	a.	Trustworthy Network Infrastructures	IP	Call 5
				b.	Trustworthy Service Infrastructures	IP	Call 5
				c.	Technology and Tools for Trustworthy ICT	STREP	Call 5

				d.	Networking, Coordination ad Support	NOE, CSA	Call 5
	1	**ICT-2009.1.5**	**Networked Media and 3D Internet**	a.	Content aware networks and network aware applications	IP, STREP	Call 5
				b.	3D Media Internet	IP, STREP	Call 5
				c.	Networked search and retrieval	IP, STREP	Call 5
				d.	Immersive media experience beyond HDTV and electronic cinema	IP, STREP	Call 5
				e.	Networks of Excellence	NoE	Call 5
				f.	Support measures	CSA	Call 5
	1	**ICT-2009.1.6**	**Future Internet experimental facility and experimentally drive research**	a.	Building the experimental Facility and stimulating its use	IP	Call 5
				b.	Experimentally driven research	STREP	Call 5
				c.	Coordination and support actions	CSA	Call 5
Cognitive Sytems Interaction Robotics	**2**	**ICT-2009.2.1**	**Cognitive Systems and Robotics**	a.	New approaches towards understanding ans solving key issues related to the engineering of artificial cognitive systems	STREP	Call 6
	2			b.	New approaches towards endowing robots with advanced perception and action capabilities	STREP	Call 4
	2			c.	New ways of designing and implementing complete robot systems	IP	Call 6
	2			d.	New, scientifically grounded system architectures integrating communication, control and cognitive capabilities		Call 4
	2			e.	A framework to facilitate cross fertilization between academic and industrial research efforts in robotics	IP	Call 6
	2			f.	A virtual Institute	NoE	Call 4
	2			g.	Coordinated o-operation and communication	CA	Call 4

	2			h.	Co-coordinated co-operation and communication	CA	Call 6
	2	**ICT-2009.2.2**	**Language-Based Interaction**	a.	New architectures, models and tools for cost-efficient self-learning machine translation	IP	Call 4
				b.	Specific solutions for key domain challenges	STREP	Call 4
				c.	A virtual Institute to	NoE	Call 4
Components, systems Engineering	**3**	**ICT-2009.3.1**	**Nano electronics Technology**	a.	Miniaturization and functionalization	STREP, NoE	Call 5
	3			b.	Manufacturing technologies	IP, STREP	Call 5
	3			c.	Support measures	CSA	Call 5
	3	**ICT-2009.3.2**	**Design of Semiconductor Components and Electronic Based Miniaturized Systems**	a.	Improved design platforms, interfaces, methods and tools	IP, STREP	Call 4
	3			b.	Support measures	CSA	Call 4
	3	**ICT-2009.3.3**	**Flexible, Organic and Large Area Electronics**	a.	Flexible, organic and large area electronic devices and building blocks	IP, STREP	Call 4
	3			b.	Flexible or foil-based systems	IP, STREP	Call 4
	3			c.	Network of Excellence (on a and b)	NoE	Call 4
	3			d.	Support measures	CSA	Call 4
	3	**ICT-2009.3.4.**	**Embedded Systems Design**	a.	Theory and novel methods for embedded system design	IP, STREP	Call 4
	3			b.	Modules and tools for embedded platform-based design	IP, STREP	Call 4
	3			c.	Coordination of national, regional and EU-wide R&D strategies	CSA	Call 4
	3	**ICT-2009.3.5**	**Engineering of Networked**	a.	Foundation of complex systems engineering	STREP, NoE	Call 5

			Monitoring and Control Systems				
	3			b.	Wireless sensor networks and Cooperating Objects	IP, STREP	Call 5
	3			c.	Control of large scale systems	IP, STREP	Call 5
	3			d.	International cooperation	CSA	Call 5
	3	**ICT-2009.3.6**	**Computing Systems**	a.	Parallelisation and programmability	STREP	Call 4
	3			b.	Methodologies, techniques and tools	STREP	Call 4
	3			c.	System simulation and analysis	STREP	Call 4
	3			d.	Technology implications	STREP	Call 4
	3			e.	Coordination of R&D activities and strategies in high-performance computing	CSA	Call 4
	3	**ICT-2009.3.7**	**Photonics**	a.	Photonics technologies, components and (sub)systems	IP, STREP	Call 4, Call 5
	3			b.	Cost-effective versatile foundry processes for photonics integrated components based on III-V semiconductors, possibly combined with other materials	IP	Call 5
	3			c.	ERA-NET plus action	CSA	Call 4
	3			d.	Coordination and support actions	CSA	Call 5
	3	**ICT-2009.3.8**	**Organic Photonics and Other Disruptive Photonics Technologies**	a.	Organic photonics	STREP	Call 4
	3			b.	Disruptive/ cutting-edge photonic technologies and materials	STREP, NoE	Call 4
	3	**ICT-2009.3.9**	**Microsystems and Smart Miniaturized Systems**	a.	Heterogeneous integration	IP, STREP	Call 5
	3			b.	Autonomous energy efficient smart systems	STREP	Call 5
	3			c.	Application specific Microsystems ans	IP,	Call 5

					smart miniaturized systems	STREP	
	3			d.	Coordination ad support actions	CSA	Call 5
Digital Libraries and Content	**4**	**Not yet inserted**			***		
Towards sustainable and personalized healthcare	**5**	**ICT-2009.5.1**	**Personal Health Systems**	a.	Minimally invasive systems and ICT-enabled artificial organs	IP, STREP	Call 4
				b.	Mental health	IP. STREP	Call 4
				c.	Support actions	CSA (SA only)	Call 4
		ICT-2009.5.2	**ICT for Patient Safety**	a.	ICT for safer surgery	IP, STREP	Call 4
				b.	ICT for integration of clinical research and clinical care	IP, STREP	Call 4
				c.	ICT-enabled early detection of public health events	STREP	Call 4
				d.	Support actions	CSA	Call 4
		ICT-2009.5.3	**Virtual Physiological Human**	a.	Patient Specific computer based models and simulation	IP, STREP	Call 6
				b.	ICT tools services and specialized infrastructure for the biomedical researchers	IP STREP	Call 6
				c.	Evaluation and assessments of VPH projects	CSA	Call 6
				d.	Observatory on the achievements and evolution of the broader biomedical Informatics fields	CSA	Call 6
		ICT-2009.5.4	**International Cooperation on Virtual Physiological Human**	a.	International cooperation on virtual physiological human		Call 4
ICT for mobility,	**6**	**ICT-2009-6.1**	**ICT for Safety**	a.	ICT for intelligent vehicle systems	IP,	Call 4

Environmental Sustainability and Energy efficiency			**and energy Efficiency in Mobility**			STREP	
				b.	ICT for clean and efficient mobility	IP, STREP	Call 4
				c.	Coordination and support actions	CSA	Call 4
	6	**ICT-200906.2**	**ICT for Mobility for the future**	a.	Field operational test for integrated safety systems and cooperative systems	IP, STREP, CSA	Call 6
				b.	ICT based systems and services for smart urban mobility and new mobility	STREP	Call 6
				c.	Coordination and support actions	CSA	Call 6
				d.	International cooperation	CSA	Call 6
		ICT-2009.6.3	**ICT for energy Efficiency**	a.	ICT tools for the future electricity market	STREP	Call 4
				b.	ICT support to energy positive buildings and neighborhoods	STREP	Call 4
				c.	ICT services and software tools enhanced with energy features	STREP	Cal 4
				d.	Coordination actions	CSA	Call 4
		ICT-2009.6.4	**ICT for environmental Services and Climate Change Adaptation**	a.	ICT for a better adaptation to climate change	STREP	Call 4
				b.	Flexible discovery and chaining of of distributed environmental service	STREP	Call 4
				c.	Analysis of ICT for sustainable urban environment	CSA	Call 4
				d.	Stimulation of an ICT-enable environmental serve economy in Europe	CSA	Call 4
		ICT-2009.6.5	**Novel ICT Solutions for Smart Electricity Distribution Networks**		Novel ICT Solutions for Smart Electricity Distribution Networks		FP7 ICT-ENERGY 2009-1

ICT for Independent Living, Inclusion and Governance	**7**	**ICT-2009.7.1**	**ICT and Ageing**	a.	Service robotics for ageing well	STREP	Call 4
				b.	Open systems for reference architectures, standards and ICT platforms for Ageing well.	IP	Call 4
				c.	TRD roadmaps and stakeholder coordination	CSA	Call 4
	7	**ICT-2009.7.2**	**Accessible and Assistive ICT**	a.	Embedded Accessibility of Future ICTT	IP, STREP	Call 4
				b.	ICT resorting and augmenting human capabilities compensating for people with reduced mot functions or disabilities	STREP	Call 4
				c.	RTD research agendas and coordination of constituencies	CSA	Call 4
	7	**ICT-2009.7.3**	**ICT for Governance and Policy modeling**	a.	Governance and Participation Toolbox	STREP	Call 4
				b.	Policy Modeling, Simulation and visualization	STREP	Call 4
				c.	Road mapping and networking for Participation, governance and policy modeling	CSA	Call 4
Future and emerging Technologies	**8**	**ICT-2009.8.0**	**FET-Open: Challenging and Current Thinking**		FET-Open: Challenging and Current Thinking	STREP, CSA	Continue, up to end 2010
	8	**ICT-2009.8.1**	**FET proactive 1: Concurrent Tera-device Computing**	a.	Complexity of design and run time of many-core heterogeneous systems	IP, STREP	Call 4
				b.	Design of dependable systems with faulty components	IP, STREP	Call 4
				c.	Breakthrough programming paradigm	IP, STREP	Call 4
	8	**ICT-2009-8.2**	**FET proactive 2:**	a.	Quantum information theory, algorithms	IP	Call 4

			Quantum Information Foundations and Technologies		and paradigms		
				b.	Entanglement-enabled quantum technologies	IP	Call 4
				c.	Scalability of quantum processing systems	IP	Call 4
				d.	Long distance quantum communication	IP	Call 4
	8	**ICT-2009.8.3**	**FET Proactive 3: Bio-chemistry-based Information Technology**		FET Proactive 3: Bio-chemistry-based Information Technology	STREP	Call 4
	8	**ICT-2009.8.4**	**FET Proactive 4: Human Computer Confluence**	a.	Online perception and interaction with massive volumes of data	IP	Call 5
				b.	Unified experience	IP	Call 5
				c.	New forms of perception and action	IP	Call 5
	8	**ICT-2009.8.5**	**FET Proactive 5: Self-Awareness in Autonomic Systems**	a.	Creating awareness	IP, STREP	Call 5
				b.	Dynamic self-expression	IP, STREP	Call 5
	8	**ICT-2009.8.6**	**FET Proactive 6: Towards Zero Power ICT**	a.	Foundations of energy Harvesting at the Nano-scale	STREP	Call 5
				b.	Self-powered autonomous Nano-scale electronic devices	STREP	Call 5
	8	**ICT-2009.8.7**	**FET proactive 7: Molecular Scale devices and Systems**		FET proactive 7: Molecular Scale devices and Systems	IP, STREP	Call 6
	8	**ICT-2009.8.8**	**FET Proactive 8: Brain Inspired**	a.	Development of multi-scale models of information processing and	IP, STREP	Call 6

			ICT		communication in the brain and/or PNS		
				b.	Synthetic hardware implementation of neural circuits	IP, STREP	Call 6
	8	**ICT-2009.8.9**	**Coordinating Communities, Plans and Actions in FET Proactive Initiatives**		Coordinating Communities, Plans and Actions in FET Proactive initiatives	CSA	Call 4
	8	**ICT-2009.8.10**	**Identifiying new research topics, Assessing emerging global S&T trends in ICT for Future Proactive iinitaives**		**Identifiying new research topics, Assessing emerging global S&T trends in ICT for Future Proactive iinitaives**	**CSA**	**Call 4**
Horizontal support Actions	**9**	**ICT-2009.9.1**	**International Cooperation**	**a.**	**Aupport to information society policy dialoques and strengthening of international cooperation**	**CSA**	**Call 4**
				b.	**Support to the uptake of Eurpean ICT research results in developing economies**	**STREP, SICA**	**Party call 6**
				c.	**Support ti the competiveness of EU industry by indentifiying strategic partners and by developing international policy objectives and market development priorities**	**CSA**	**Call 4**
		ICT-2009.9.2	**Supplements to Support International Cooperation between Ongoing Projects**			**N.a.**	**Call 3**
		ICT-2009.9.3	**General Accompying**			**CSA**	**Call 4**

			Measures				
		ICT-2009.9.4	**Strengthening Cooperation in ICT R&D in an Enlarged Europe**			**CSA**	**Call 4**