

## What is ICT?

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# Information and Communication Technology

ICT covers scientific and technical research in all areas of information and communication science and technologies.

## In Detail

The following examples illustrate actual research within this Domain. The scope of the Domain is not restricted to these activities.

- **Information science and technologies:** the area covers all the aspects related to the foundations, design, analysis, development, and application of hardware and software systems. Related areas are foundations of computer science, software development technologies, software engineering, intelligent systems, advanced interfaces, user aspects, information management, high performance computing, and open, embedded, and distributed systems.
- **Communication technologies:** research in this area concentrates on transferring information from source to sink. Fundamental aspects cover physical, electromagnetic and functional modelling of all elements of information and communication systems such as terminals, antennas, transmission channels, networks, devices, components and materials. Research concerning photonic devices and the modelling and synthesis of electromagnetic meta-materials involves materials research, both in the optical and the submillimeterwave region. Here, cross-border interaction with Materials, Physical, and Nanosciences is required.
- **Societal aspects of ICT:** research in this area covers both the influence of ICT on society and the requirements imposed by society on the ICT infrastructure. Interdisciplinary cooperation with disciplines dealing with societal needs is essential for developing this research area.

An important area for this domain is **multidisciplinary research** – with an ICT core – in fields like sustainable development, health, attention to the elderly and the disabled, culture, learning, bioinformatics, and many others, performed in cooperation with the corresponding COST Domains.



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## Current COST Actions within the ICT Domain:

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- **IC0801** Agreement Technologies
- **IC0802** Propagation Tools and Data for Integrated Telecommunication, Navigation and Earth Observation Systems
- **IC0803** RF/Microwave Communication Subsystems for Emerging Wireless Technologies (RFCSET)
- **IC0804** Energy efficiency in Large Scale Distributed Systems
- **IC0805** Open European Network for High Performance Computing on Complex Environments
- **IC0806** Intelligent Monitoring, Control and Security of Critical Infrastructure
- **IC0901** Rich-Model Toolkit: An Infrastructure for Reliable Computer Systems
- **IC0902** Cognitive Radio and Networking for Cooperative Coexistence of Heterogeneous Wireless Networks
- **IC0903** MOVE: Knowledge Discovery from Moving Objects
- **IC0904** TOwards the IntegRation of TransecTOrial IT DeSign and Evaluation (TORTOISE)
- **IC0905** TERRA - Techno-Economic Regulatory Framework for Radio Spectrum Access for Cognitive Radio/Software Defined Radio
- **IC0906** WiNeMO - Wireless Networking for Moving Objects
- **IC1001** Euro-TM – Transactional Memories: Foundations, Algorithms, Tools, and Applications
- **IC1002** MUMIA – Multilingual and Multifaceted Interactive Information Access
- **IC1003** QUALINET – European Network on Quality of Experience in Multimedia Systems and Services
- **IC1004** Cooperative Radio Communications for Green Smart Environments
- **IC1005** HDRi: The digital capture, storage, transmission and display of real-world lighting
- **IC1101** Optical Wireless Communications – An Emerging Technology
- **IC1102** Versatile, Integrated, and Signal-aware Technologies for Antennas (VISTA)
- **IC1103** Manufacturable and Dependable Multicore Architectures at Nanoscale
- **IC1104** Random Network Coding and Designs over GF(q)
- **IC1105** 3D-ConTourNet - 3D Content Creation, Coding and Transmission over Future Media Networks
- **IC1106** Integrating Biometrics and Forensics for the Digital Age
- **IC1201** Behavioural Types for Reliable Large-Scale Software Systems (BETTY)
- **IC1202** Timing Analysis on Code-Level (TACLe)
- **IC1203** European Network Exploring Research into Geospatial Information Crowdsourcing: software and methodologies for harnessing geographic information from the crowd (ENERGIC)
- **IC1204** Trustworthy Manufacturing and Utilization of Secure Devices
- **IC1205** Computational Social Choice
- **TD1001** Novel and Reliable Optical Fibre Sensor Systems for Future Security and Safety Applications (OFSESA)
- **TD1202** Mapping and the citizen sensor

The ICT research area is best summarised as treating the processing, transmission, storage, retrieval, management, usage, and exchange of information and knowledge, with emphasis on fundamental aspects and pre-competitive technology development.



## How to join a COST Action

Scientists interested in joining an ongoing COST Action should contact the Action Chair and the COST National Coordinator in their member country ([www.cost.eu/cnc](http://www.cost.eu/cnc)).

To propose a new Action, visit: [www.cost.eu/opencall](http://www.cost.eu/opencall). COST assesses new proposals two times a year.



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