Energy Aware Radio and netWork tecHnologies

From 2010-01-01 to 2012-06-30, closed project | EARTH Website

Objective

Telecommunication networks and in particular mobile communications are increasingly contributing to global energy consumption. The EARTH proposal tackles the important issue of energy saving by enhancing the energy efficiency of mobile broadband systems thereby reducing CO2 emissions. It is a highly ambitious and unique proposal, applying an integrated approach to investigate the energy efficiency of mobile systems. EARTH has mobilized a consortium of all major stakeholders with serious efforts committed to the development of a new generation of energy efficient products, components, deployment strategies and energy-aware network management solutions. The target of EARTH is to enhance the energy efficiency of mobile systems by a factor of at least 50% compared with the current ones. It will investigate the energy efficiency limit that is theoretically and practically achievable whilst providing high capacity and uncompromised QoS. The proposal is primarily focused on mobile cellular systems, LTE and its evolution LTE-A, where potential impact on standardization is envisaged but it will also consider 3G (UMTS/HSPA) technology for immediate impact. The tangible results of the EARTH project are: 1) Energy efficient deployment strategies, 2) Energy efficient network architectures, 3) New network management mechanisms, adaptive to load variations with time 4) Innovative component designs with energy efficient adaptive operating points, 5) New radio and network resource management protocols for multi-cell cooperative networking. The new techniques will be validated using sophisticated simulation tools and in a mobile network test plant. Technologies developed by EARTH will enable wireless communications systems with unprecedented energy efficiency, significant reduction in environment pollution and operating cost. EARTH plans to provide valuable and timely contributions to standardization, regulations processes and place Europe in a strong IPR position.

Related information

Documents and Publications

- Deliverable D4.2
- Deliverable D3.2
- Deliverable D2.2 v2
- Deliverable D2.3 v2
- Deliverable D6.2b
- Deliverable D2.4
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EU contribution: EUR 1 633 637

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EU contribution: EUR 364,980

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<td>VIA GAETANO NEGRI 1 20123 MILANO</td>
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<td>AVENIDA ROVISCO PAIS 1 1049-001 LISBOA</td>
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<td>ERICSSON AB</td>
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<td>TORSHAMNSGATAN 23 164 80 STOCKHOLM</td>
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<td>UNIVERSITY OF SURREY</td>
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