Celtic-Plus SHARING project – Press Release

The collaborative research project SHARING – Self-organized Heterogeneous Advanced RadIo Networks Generation – opens up new perspectives for the improvement of user experience in 4G networks

Paris, November 2013.

The SHARING project, launched by the Celtic-Plus European research initiative in September 2013, aims to stimulate the evolution of 4G mobile network standards by developing innovative technologies designed to improve network performance and user experience. The project follows other European industry–driven schemes led by initiatives such as FP7 and Celtic, including WINNER, WINNER+, ARTIST4G and BeFemto. These have all successfully leveraged European expertise on mobile technologies and the impact of technological developments on mobile network standards.

Due to the increased use of smartphones and tablets, the market is currently experiencing unprecedented growth in wireless traffic. To efficiently address this challenge, a consensus has now emerged that, given the current scarcity of spectrum, future wireless networks will need to be built across heterogeneous access (macro, micro, pico and femto cells) that incorporate multiple technologies (cellular and WiFi access points). Clearly, managing and optimizing such networks will be highly complex, particularly due to the interference caused by numerous neighbouring and overlapping cells. SHARING will seek to provide spectrally and energy efficient solutions for such heterogeneous networks, thereby helping to ensure that future wireless networks are able to offer the highest possible levels of quality and performance.

To this end, SHARING will explore new concepts with a special focus on the following areas: interference management; cost-power efficient small cell deployments; LTE-A / WiFi convergence; network controlled device-to-device communications; meshed relay-assisted networks; Self-Organized Network (SON) features and architecture evolutions for heterogeneous networks.

The project aims to develop solutions that will improve the overall user experience based on enhanced network performance (improved capacity, spectral efficiency and cooperation of different technologies and network layers).

SHARING brings together major actors from the mobile industry and the academic world to build consensus on standards development and the design of future wireless networks. The project partners are: Antenna Systems Solutions (Spain), Avea Itetisim Hizmetleri (Turkey), Commissariat à l'Energie Atomique et aux Energies Alternatives (France), Ericsson Finland (Finland), Eurecom (France), European Communication Engineering (Finland), Orange (France, project coordinator), IDATE Consulting and Research (France), Imperial College London (UK), Magister Solutions (Finland), Mitsubishi Electric R&D Centre Europe (France), NEC Technologies (France), Sequans Communications (France), Siradel (France), Supelec (France), Thales Communications and Security (France), TTI Norte (Spain) and the University of Oulu (Finland). The project will be completed in February 2016.