Wireless and wireline service convergence in next generation optical access networks

From 2011-09-01 to 2013-08-31, ongoing project

Project details

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<th>Total cost:</th>
<th>Topic(s):</th>
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| EUR 216 241 | • FP7-PEOPLE-2009-IIF - Marie Curie Action: "International Incoming Fellowships"

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<th>EU contribution:</th>
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<th>Coordinated in:</th>
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<td>Denmark</td>
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Objective

"The next generation of information technology demands both high capacity and mobility for applications such as high speed wireless access capable of supporting broadband services. The transport of wireless and wireline signals is converging into a common telecommunication infrastructure. In this project, we focus on the conception and study of novel architectures for wavelength-division-multiplexing (WDM) optical multi-modulation format radio-over-fiber (RoF) systems, which is a promising solution to implement broadband seamless wireless-wireline access networks. One important feature of our proposed approach is versatile optical multi-modulation format radio-over-fiber systems with robust transmission, high spectral efficiency and high dynamic range properties, not achievable by conventional intensity modulated systems alone. We focus as well on conceiving access nodes designs that support converged wireless and wireline service delivery with energy efficiency and efficient use of a common optical fibre access infrastructure. To the best of our knowledge, no comprehensive theoretical and/or experimental study of the performance of these WDM RoF systems has been reported yet. Moreover, the stringent requirements of future communications links in terms of capacity, flexibility and multi-service support, motivate us to undertake a concise assessment of the ultimate achievable performance of wireline/wireless converged systems. The goal of this project is to theoretically and experimentally investigate the performance of multichannel, multi-modulation formats radio-over-fiber optical links for the transmission of wireless and wireline signals. The timely generated knowledge in this project will contribute to extend the state-of-the-art and to enhance European research excellence and competitiveness in developing solutions for future telecommunication networks."

Related information

Report Summaries

• Periodic Report Summary 1 - WISCON (Wireless and wireline service convergence in
next generation optical access networks)

Final Report Summary - WISCON (Wireless and wireline service convergence in next generation optical access networks)

Coordinator

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EU contribution: EUR 216 241

Subjects

Education and Training - Innovation and Technology Transfer

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