



Málaga, December 2014

Executive Summary

TITLE: **D4.6.1: Analysis and evaluation of different metaheuristics using the RND problem generator.**

PAPERS RELATED:

- F. Chicano, F. Arito, E. Alba, Descomposición en Landscapes Elementales del Problema de Diseño de Redes de Radio con Aplicaciones, MAEB 2015 (to appear)

ABSTRACT:

In this work the elementary landscape decomposition of the Radio Network Design (RND) problem is presented. Landscape Theory provides a formal framework in which a combinatorial optimization problem can be theoretically characterized as a sum of a special kind of landscapes, called elementary landscape. The decomposition of the objective function of a problem in its elementary components provides additional knowledge on the problem, that could be used to perform exact computations of some aspects of the problem or to design efficient algorithms to solve it.

GOALS:

1. We provide the elementary landscape decomposition of the Radio Network Design problem as a first step to develop new efficient algorithms to solve the problem.

CONCLUSIONS:

1. We have provided closed formulas for the elementary landscape decomposition of the Radio Network Design problem.
2. The analysis shows that the objective function counting the number of antennae is elementary.
3. The number of elementary components of the function computing the coverage of the solution is the maximum number of antennae that can cover any point in the ground.

RELATION WITH PAST

DELIVERABLES:

OTHERS:
