

Customer: VIASAT GeoTechnologies

Project: Development of a GIS application to calculate cell compatibility matrices for wireless communication networks

Duration: 2001 – 2003

Scope: Design and development of a data analysis system

Value: \$0.4 M

- Highlights:**
- Analysis of system to be developed.
 - Modeling of the storage of data supporting 50 to 300 signal intensity matrices, each containing 10^5 to 10^7 measurements.
 - Search for and implementation of interpolation algorithms for spot intensity measurements to create a continuous spatial representation of a cell's coverage.
 - Search for and implementation of spatial analysis algorithms to determine, among other things, the compatibility matrix based on the continuous representation of each cell.
 - Validation of potential solutions via intensity measurement campaigns in the field.

Description: This development project addressed the need to find an effective tool for calculating interference matrices and also to obtain an accurate representation of signal intensity fluctuation in the field. The analysis was conducted by VIASAT and validated by an outside resource from AirTel Communications, who specializes in optimizing wireless communication networks. Development and testing took place internally.

The key project deliverable was an application that processes spot intensity measurements and determines the rate of interference between cells in a communication network.

