

## Abstract

The our thesis "Using spin model to determine FTTx connectivity market potential in the Czech Republic", we firstly map the current landscape of the Czech broadband technology market. Additionally, we present an overview of Ising model's interdisciplinary applications. Afterwards, we describe the dynamics of the Ising model and in particular we study the convergence tendencies of Ising model generated series as well as the spin positioning in the Ising model lattices based on the input parameters.

Consequently, we assume the spins in the model to represent the fiber technology and alternative technology and thus we link the Ising model, its parameters and outputs to the problem of fiber connectivity potential. Apart from the standard input parameters of the Ising model, we also introduce variability in terms of the distribution of the initial lattice and we define four archetypes to represent real market situations. Ultimately, we describe the sets of parameters for which the market appears to have the most potential of fiber deployment.

**JEL Classification** A12, C6, C15

**Keywords** Ising model, econophysics, fiber technology, broadband connection

**Title** Using spin model to determine FTTx connectivity market potential in the Czech Republic