Hello everyone, today my presentation’s topic is connecting the jungle and remote parts of the world. I will introduce a project called TUCAN3G project. It’s an EU-funded project aimed to provide mobile technology and data services to the most remote and isolated areas in the world. The project is based on femtocell technology, a term that I will explain later in the presentation.

First I want to talk about why we need this project. The first reason is that in rural areas, the high costs to build classical access and backhaul infrastructures usually discourage the cellular companies. To be simple, these areas lack the most basic facilities for the signal transmission. The cellular companies have to pay by themselves to build these infrastructures. In the urban areas, such costs can be avoided. The return on investment in these rural areas is nearly 1000 times lower than what can be achieved in urban areas. The second reason is that people living these areas are usually low-income populations, they cannot afford the traditional cellular costs.

The TUCAN3G project overcomes all these disadvantages. It’s simple, cheap yet very powerful. The TUCAN3G solution utilises new wireless technologies to create access networks based on 3G femtocells. Femtocells are small, low-power cellular base stations that act as repeaters capable of boosting signals. The femtocells work via solar energy, thus eliminating the need for costly energy infrastructures that are simply not feasible in remote areas. For instance, installing a classical access station could cost upwards of EUR(euro) 40 000, whereas a femtocell can be bought for just EUR 500. On top of this, femtocells are easy to install and can be maintained with a simple reconfiguration performed remotely.

The TUCAN3G project chooses a very remote part of Amazon rainforest as its demonstation platform. It installs the femtocells in six villages along the banks of Napo river. Using the femtocells, the locals are able to communicate with relatives and negotiate the price of crops they are selling.

However, until now, the femtocells are only limited to a small range. The villagers can not make phone calls to the outside world. The project also convinced local governments to support the development of small, mobile rural operators connected to the Telefonica backbone(a Spanish telecommunication company), thus ensuring ongoing connectivity for the villagers. Furthermore, a South American development bank has committed over EUR 700 000 towards expanding the program to another 15 villages.

Perhaps the biggest achievement of this project is to show the development of sustainable, long-term cellular solutions for remote villages with less than 250 residents is economically viable. The potential of the TUCAN3G project is huge, both commercially and technologically. Maybe one day, this project will bring the real universal connectivity.