Empowering local communities to build, maintain and expand their Community Network

The case of Sarantaporo.gr Wireless CN

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About me

Production Engineering & Management
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Administrator

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ODI registered Open Data Trainer
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Background info on Sarantaporo.gr WCN

- Sarantaporo village, central GR
- Since 2010
- No telcos in the region at the time
- Rural, isolated, mountainous area
- Initiated by a group of people stemming from the village
- Volunteers - driven
- Sarantaporo.gr NPO founded in 2013
Vision

“A lively, creative, booming and solidary Greek province, which provides its people with opportunities and motivation to stay in their birthplace, and enjoy a flourishing life in a sustainable and environmentally friendly manner.”
Mission

"To eradicate digital divide and provide local communities with equal opportunities for access to the digital economy and citizenship"
What we do

Building a common telecommunication infrastructure

● backbone layer: interconnecting villages & other points of interest

● access layer: provide open Internet access to people

Training locals

● basic networking & computer networks

● basic ICT skills

Community building
Sarantaporo.gr CN in numbers today

- 11 villages + 3 Farms + 1 Camp
- 24 backbone nodes
- 40 point-to-point connections

Backbone Network - 24 Nodes

Access Network - 95 AP
- 95 Access Points
- ~50 active local community members
Training

Main challenge: distance and communication

Training workshops almost every three months for 2018/2019 in different village every time.

- Train the local community members
- Train the trainers

Goal: empower local people to build, maintain and expand their village’s network.

Funded by ‘Beyond the Net’
Workshop in Flambouro village, 03/2018

1. How to make an ethernet cable
2. Automatic and static IP assignment on my computer
3. Backbone and access layer architecture - Difference between Point to Point (P2P), Point to Multi Point (PtMP), mesh (on a map with tokens)
4. WiFi bands, channels, WiFi signal, WiFi analyser app, IP tools app
5. Basic troubleshooting tools, such as ping, traceroute/tracert, mtr
6. Using AirOS & Powerbeam to create a wireless link
Best practice

- Daily support via Telegram app private group: “response time way better than the incumbents’!”
- Welcoming process for newcomers in the group
- Social events facilitate bonding between villages
- Respond promptly and with a genuine interest to individual requests

All of the above contribute to the transformation of locals from consumers to active, engaged, informed citizens.
Best practices

Celebration

Support

Update on progress
Insights

- WiFi and Internet connectivity quality are important.
- Relevance with locals’ lives and activities is a prime motive for people to actively engage, e.g. elders’ participation driven by the need to have their grandchildren visiting.
- Learning about computer networking helps build awareness on privacy and personal data.
Insights

● People do not lose patience or get frustrated when they are informed of the situation
● Trained members feel proud to contribute
The magic

- Locals build riding club node saving them thousands of €
- Older members assisting newer members
- Next workshop organized by locals
- Women participating, first to successfully complete cable
- Farmers’ log: a local app for agricultural activities
- Telegram group keeps growing, with more women participating
The magic

- Telegram app becomes a tool to share agricultural experience
- Farmers’ data: a very advanced debate on the value of farming data and ownership
- Collective purchasing of fertilizers
- Crowdfunding to buy a router for (the house of) a disabled fellow villager
Exciting results until now!

- Local communities expanding own infrastructure, when and where they need it
- Self-organized training sessions
- Enabling medical services: medicine prescription
- Empowering local economy: animal farms, agriculture
- Enhancing social cohesion: grandchildren stay longer, teleconf with relatives, streaming local festivities,
- Strengthening citizenship: access to digital public services
Next steps (2018)

- Organize, deliver & standardize the (next) workshops
- Share our know-how with another community in Epirus
- Expand the access layer to cover more neighbourhoods in the villages
- Upgrade backbone network to increase resilience & performance
Thank you!

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How big is the problem?

EU: 43.5% of Europe’s population lives in rural areas with low bandwidth (<30Mbit/s) or no Internet connectivity whatsoever [1]

Currently, 34 million people in the U.S. – 10% of the country’s population – lack access to high-quality Internet connectivity. This number jumps to 39% in rural communities and 41% on Tribal lands.[2]

[1] MEP Jozo Radoš, source: https://is.gd/EUbbrural