IETF

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

The case of Sarantaporo.gr Wireless CN

Vassilis Chryssos

IETF 101, March 2018, London

netCommons

Internet Society

About me

Vassilis Chryssos

Production Engineering & Mngement
Technical University of Crete

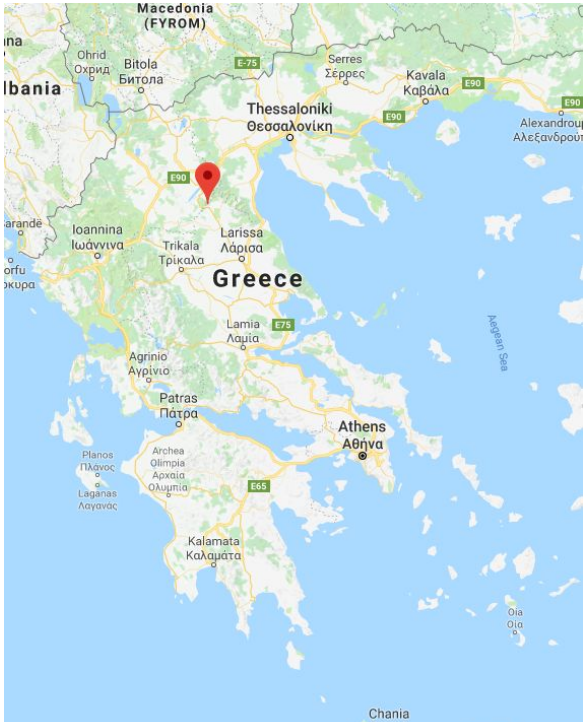
Administrator

co-founder, COO

ODI registered Open Data Trainer
ODI Athens member

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

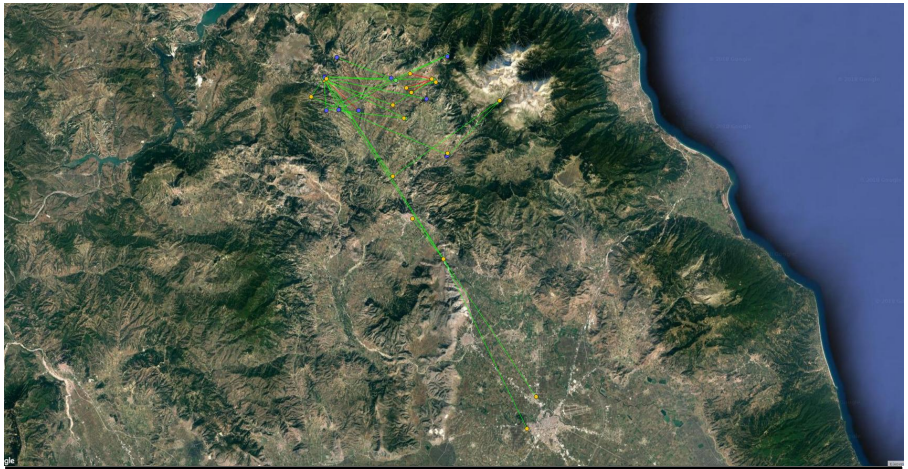
- backbone layer: interconnecting villages & other points of interest
- access layer: provide open Internet access to people

Training locals

- basic networking & computer networks
- basic ICT skills

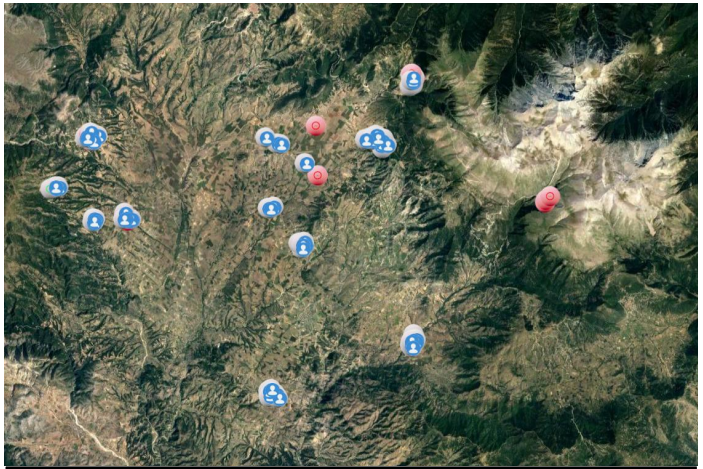
Community building

Sarantaporo.gr CN in numbers today



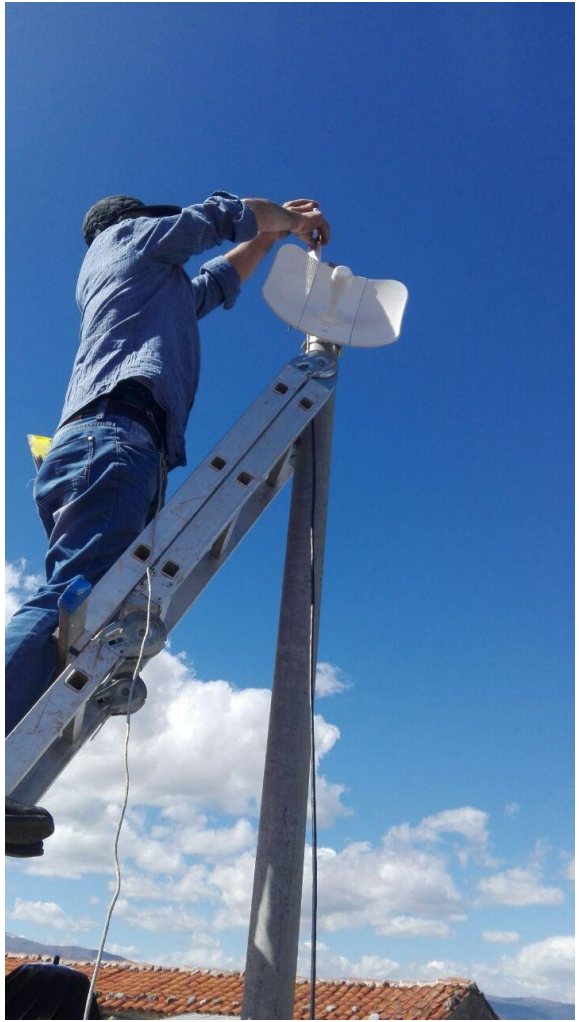
Backbone Network - 24 Nodes

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



Access Network - 95 AP

- 95 Access Points
- ~50 active local community members



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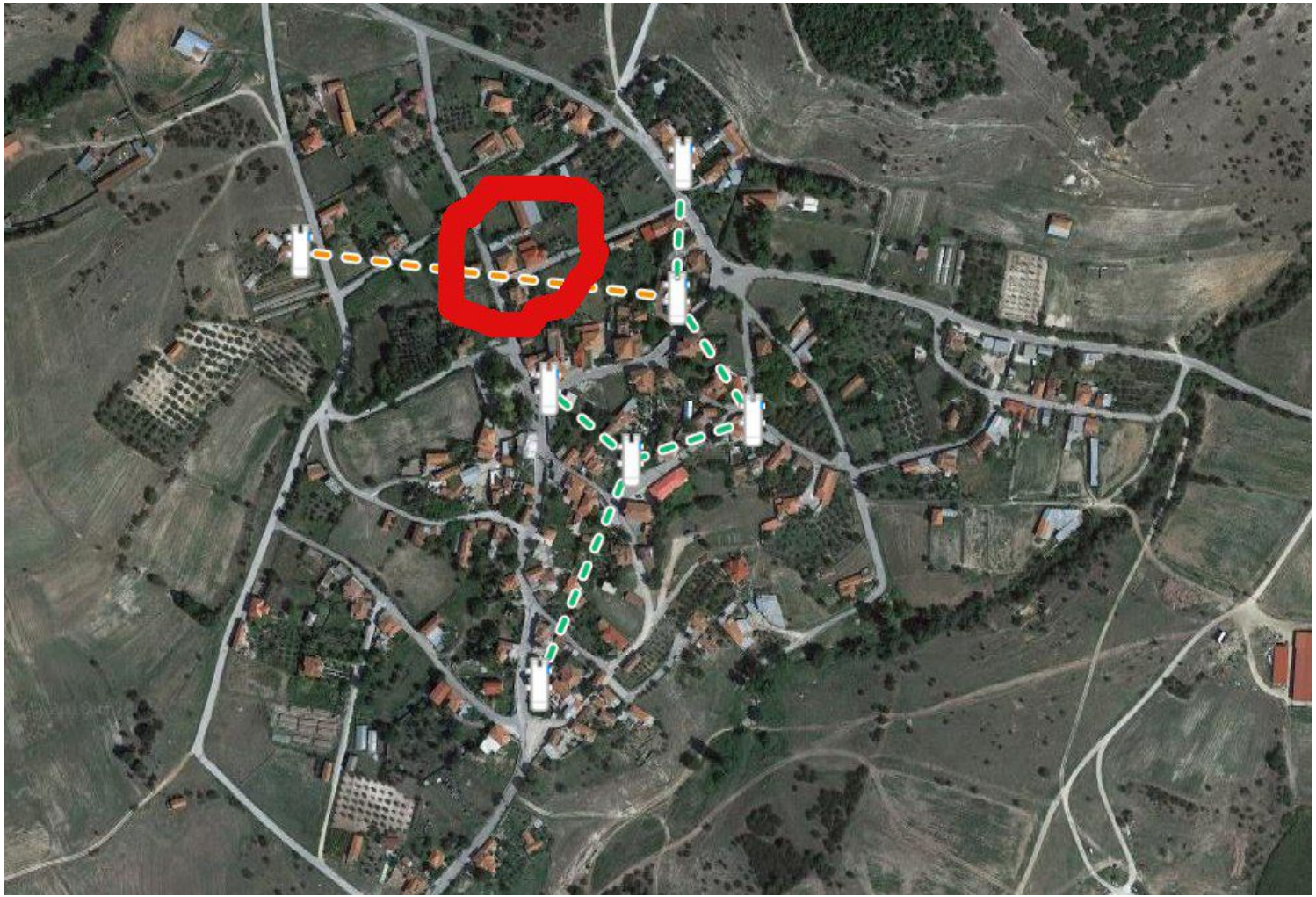
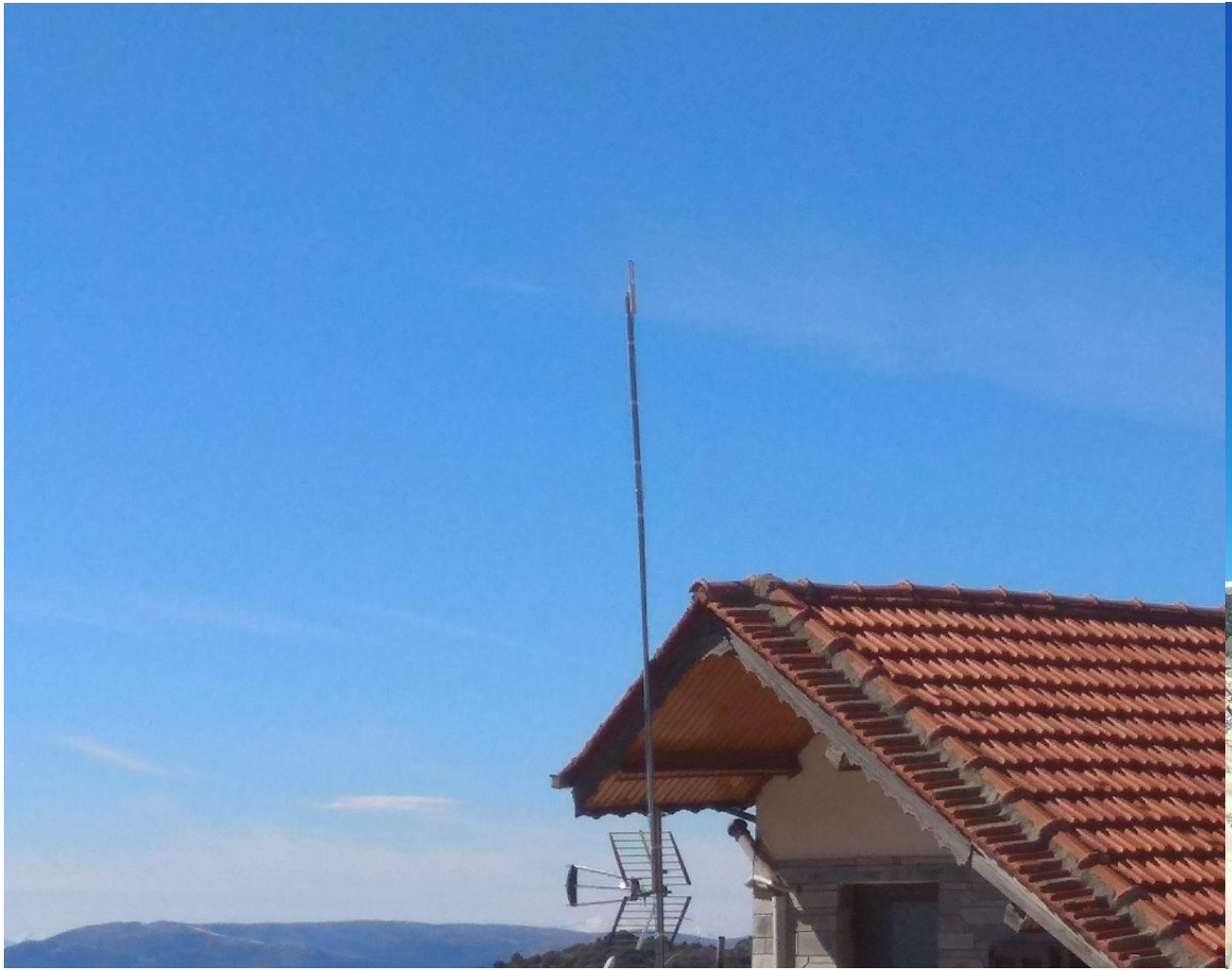




Training

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.

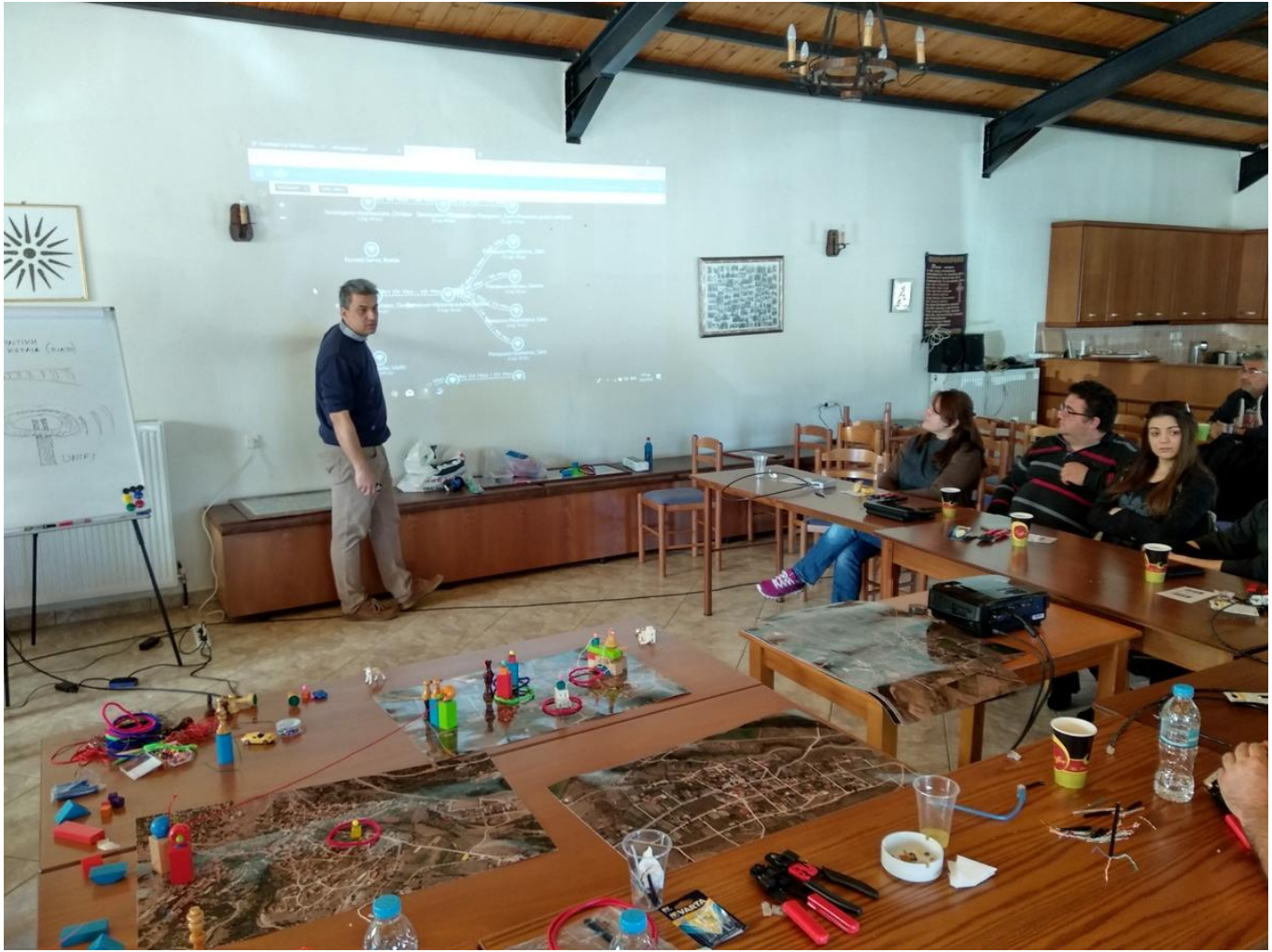
Funded by 'Beyond the Net' Internet Society

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

Εκπαιδευτικό εργαστήριο: Κατανοώ τη λειτουργία και συντήρηση του ασύρματου κοινοτικού δικτύου Saranteporo.gr
Γιατί έχει "πρόβλημα" το Ίντερνετ;
Γιατί κόπηκε "διακοπές" η σύνδεσή μου στο διαδίκτυο;
Γιατί "έχει πέσει" η ταχύτητά μου;
Πώς να γίνω και εγώ κομβούχος;
Ερωτήματα και προβλήματα που μπορούν να απαντηθούν και να λυθούν με απλό τρόπο από τα ίδια τα μέλη του δικτύου μας. Προϋπόθεση για αυτό είναι η βασική κατανόηση κάποιων αρχών λειτουργίας του δικτύου, καθώς και η γνώση μερικών βασικών εργαλείων και εννοιών για τον εντοπισμό προβλημάτων και την αντιμετώπισή τους.

PHOENIX
VARTA



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.

Search

Sarantaporo.gr - Κομβούχοι 1:02 M.M.
You: 👍

Sarantaporo.gr - Κομβούχοι
48 members, 2 online

Γιάννη Αλεξία Στην παρακάτω εικόνα στην περιοχή με τον κόκκινο κύκλο στον Λόφο έχει τρία σπίτια τα οποία νομίζω θα ήταν ιδανικά για να μπει το επόμενο Unifi. Γνωρίζετε τους ιδιοκτήτες; Θα τους ενδιέφερε να συμμετάσχουν στο κοινοτικό μας δίκτυο;
edited 9:54 M.M.

Jannis Milothridis
εκει γιώργο ειχαμε πριν ενα openMesh αλλά η πολυξένη προσ το παρών ειναι στη θεσσαλονικη. Ενδιαφερεται μεν αλλά οταν ερθει παλι στο Λοφο
edited 9:56 M.M.

Νικόλας Κουρτζής admin
Επίσης οι δυο πορτοκαλί κύκλοι είναι καλές τοποθεσίες.
10:09 M.M.

Jannis Milothridis
ο δεξιος πορτοκαλι κυκλος οπως βλεπουμε την εικονα εχει σύνδεση οτε και το συμβολαιο λήγει σε ενα χρονο.
edited 10:11 M.M.

Write a message...

Group Info

Sarantaporo.gr - Ko...
48 members, 2 online

Notifications

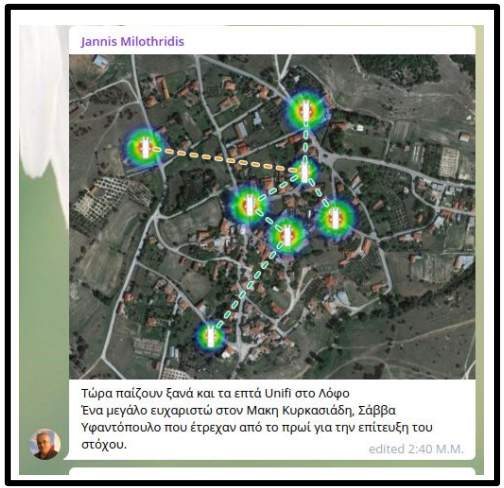
243 photos
8 videos
6 files
269 shared links

48 MEMBERS

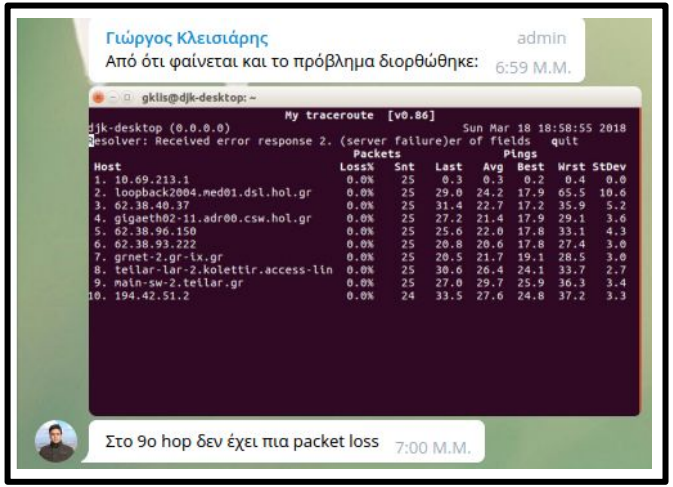
AB

Best practices

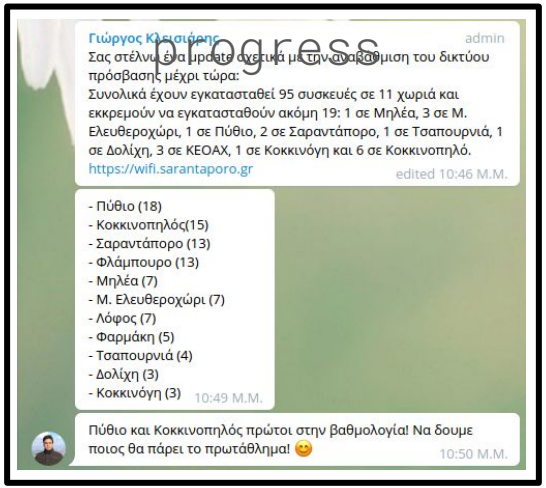
Celebration



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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http://www.sarantaporo.gr

https://wind.sarantaporo.gr

https://wifi.sarantaporo.gr

Supported by:

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Internet Society

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

[2] Mozilla, source: https://is.gd/USbbrural