



The activities of Inveneo in Developing Countries
Abdus Salam Int'l Centre for Theoretical Physics
Trieste, Italy
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Inveneo's Mission

Inveneo is a non-profit social enterprise whose mission is to empower people in remote and under-served communities and the organizations that serve them through access to computing and communications.

We do this by designing, integrating and deploying affordable, sustainable, open Information, Communications, Technology (ICT) solutions for developing regions worldwide

Our background

- Founded in July 2004
- Founding members have:
 - significant backgrounds in technology industry
 - experience in working with technology systems in developing countries
 - A desire to improve the process by which technology is employed by NGOs in developing countries

Organizations We Serve

- ☐ NGOs
- ☐ Aid Organizations
- ☐ Educational / Research Institutions
- ☐ Established Projects & Programs in developing regions with a need for ICT technology and solutions

Areas of effort



ICT Deployments



Disaster Recovery



Technology Development



Training and Outreach



A new approach to bringing IT technology to NGOs in remote places

inveneo		Others
Open Source	not	Proprietary
Integration	not	Invention
Needs-based	not	“What we have”
Ruggedized	not	General purpose
Alternate Power	not	Conventional
Affordable	not	Out of reach
Sustainable	not	Throwaway

Inveneo Responsibilities

Project Guidelines*

- Inveneo Involvement
 - Commitment: Six months minimum to lead, facilitate and support implementation of system.
 - Project leader: Oversees logistics of project scope, evaluation criteria, and implementation.
 - Implementation team: Dedicated implementation team (2 – 3 people) to undertake site survey, implementation, training, and knowledge transfer.
 - System implementation: Project planning, application integration, site survey, system design, system testing, and system implementation.
 - Interconnections: Implementation and linking of villages to each other and to Central Hub.

* Recommended guidelines, some flexibility exists for actual implementations

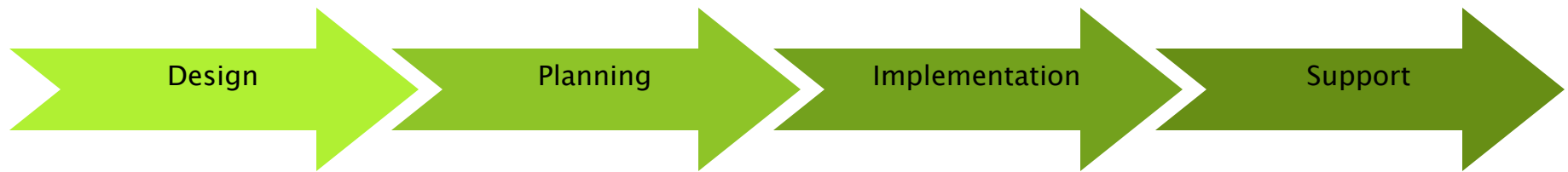
NGO Partner/Village Responsibilities

Project Guidelines*

- NGO Partner & Village Involvement
 - Commitment: Minimum of a six month commitment for the project.
 - Application: Specific application identified with measurable results: e.g. “improve access to healthcare services for 300 villagers, provide email capabilities to 500 people, etc. ”
 - Project Leader: A dedicated person to act as the project leader. They typically speak, read and write functional English and are technology aware (trainable in the technology).
 - Village project owners: Assigned people in the field and primary contact for the local project and local training.
 - ICT Secure location: A secure location and safeguards to house the ICT equipment.

* Recommended guidelines, some flexibility exists for actual implementations

Implementation and Support



During the Design Phase Inveneo works with the Project Owner to achieve mutual understanding of the overall project goals and the intended system usage. Inveneo works with the Project Owner to evaluate the system applicability and any need for customization.

During the Planning Phase Inveneo responds to Requirements Documents and RFPs, performs Site Surveys and develops detailed Implementation Schedules with Project Budgets.

During the Implementation Phase Inveneo manages the equipment procurement; installs, configures and tests the system onsite; performs training sessions and hands the fully functional system over to the Project Owner.

During the Support Phase Inveneo provides top level support to the Project Owner and it's trained team members. Inveneo monitors the systems remotely, provides system updates and performs any needed upgrades, continued training and diagnosis of damaged components.

Essential Solution Design Elements

- Modular Configuration
 - Pre-configured component substitution options
 - All elements modular – example: substitution of solar/wind/hydro/bio-diesel for pedal power
- Open Source Design Philosophy
 - System design: We integrate open source technology combined with easy to use user interfaces and other custom developments.
 - Hardware spec & channels: We specify and supply best-in-class, proven technologies, integrated with commonly available elements such as bicycle parts & car batteries
 - Value-added services: We provide access to training, resources, partners
- We partner with technology companies for system components & delivery, helping them achieve their social mission and reach new markets
 - Incorporate low cost and design-appropriate technologies in the system (e.g. Cisco, AMD)
 - To collaboratively produce integrated solutions/packages and deployment kits

Inveneo's Modular Product Suite

- Pedal and solar powered PC and communication station (available)
 - deployed in remote villages / health clinics / schools etc. with no access to phone lines and electricity .
- Solar powered WiFi phone station (available)
 - small, easy to deploy phone stations for areas without access to phone lines and electricity. Data hook-up included.
- Solar powered relay station (available)
 - extends the range of the Wi-Fi LAN by up to 20km.
- Central Hub Station (available)
 - Connects communication and phone stations to the PSTN and Internet. Provides network monitoring, PBX functionality and Intranet server features.



Deployment Case Study



Case study: Uganda deployment

- In partnership with ActionAid: 
An international development agency whose aim is to fight poverty worldwide. Formed in 1972, ActionAid has been growing and expanding to where it is today – helping over 13 million of the world's poorest and most disadvantaged people in 42 countries worldwide through a staff of over 1700 (89% from developing countries) and an income of 116 million Euros in 2003.

Case study: Uganda deployment



- Current situation
 - ActionAid has operated successful programs with villages in remote areas of western Uganda over 6 years. Participants have no access to power or phone.
 - Programs focus on education, HIV/AIDS related issues, empowerment and income generating activities. ActionAid uses a unique approach called “ReflectCircles”
 - Lack of communication infrastructure between the villages impairs the impact of the programs as well ability of villagers to pool their resources.



The Reflect Circle Process

- An approach to adult learning and social change
 - used by over 350 diverse organisations in more than 60 countries.
 - Democratic, group-oriented process, using local methods and practices for education and decision making amongst participants
 - Participants develop their own tools for accomplishing goals they decide upon as a group based on what works best for them

Reflect Center in Fort Portal, Uganda



Fort Portal, Uganda Area



ICT for Development: Recent Uganda Deployment



NGO: ActionAid International

Purpose: Rural Community Development

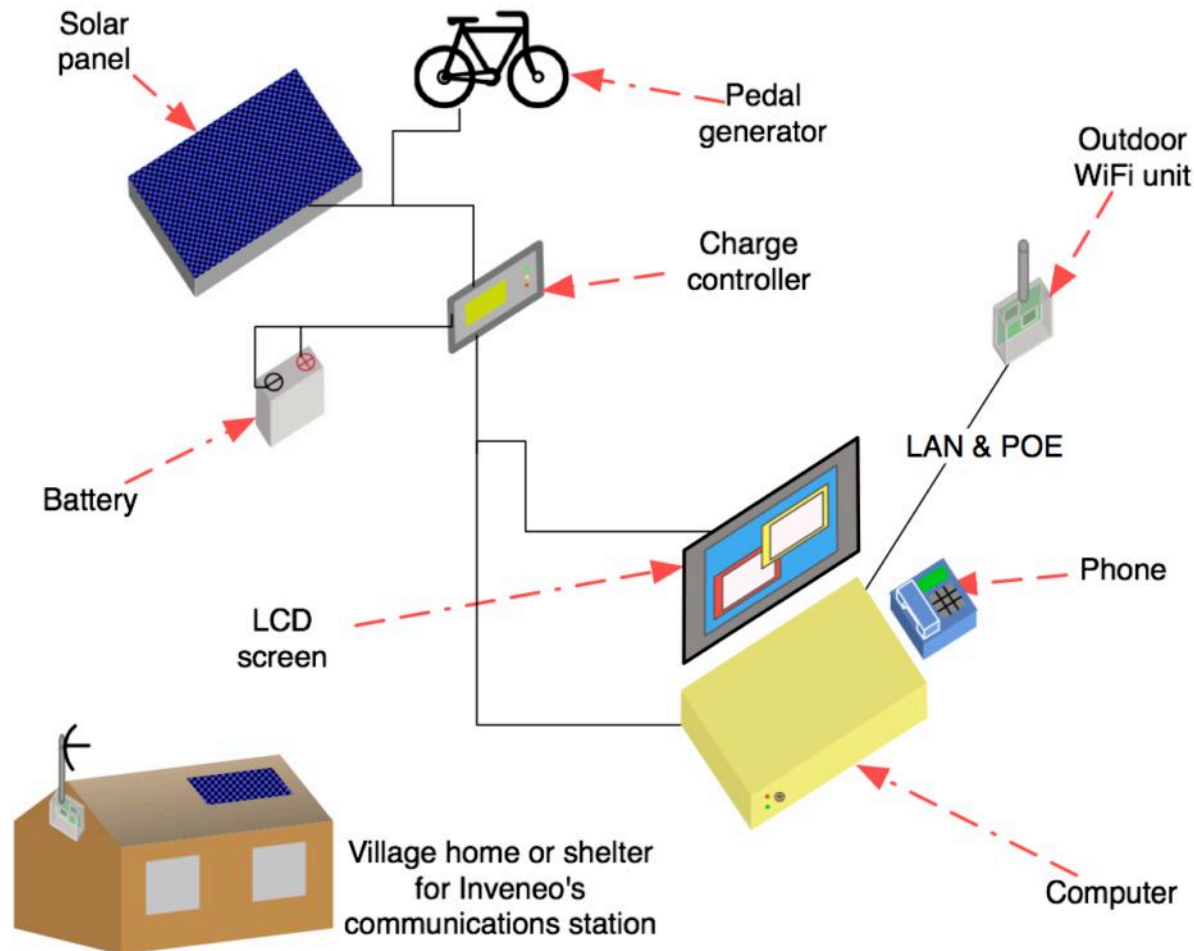
Scope:

- 6 month pilot deployed in 4 villages + 1 hub, with expansion opportunity for 20 villages
- Serving 3200 Villagers
- In operation since June 8th
- Computing, Voice calling (VoIP), internet access and email, regional LAN/broadband network

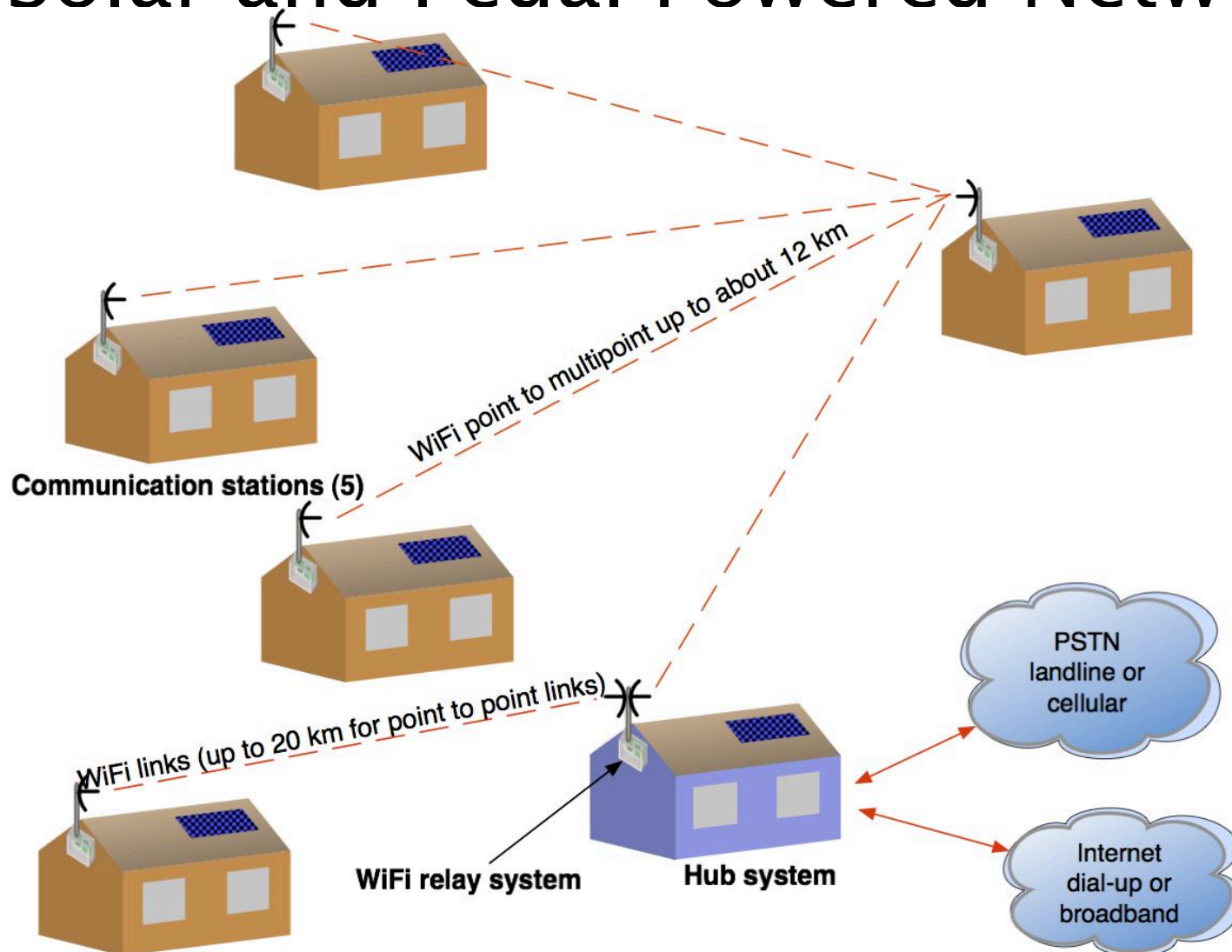
Applications:

- Access to information about health services, farming assistance, market prices, government initiatives, grants
- Communications – calling, email to communicate with each other for coordinating coops, NGO's for grants, government for services
- Regional LAN for information sharing – herbal medicine database

The Village System – solar and/or pedal powered communication station



Solar and Pedal Powered Network



Technology details

- Systems
 - PC-Engines WRAP single-board system for APs/VOIP gateways,
 - VIA system w/ Geode CPU in server
 - CF cards for APs, Microdrives for server in ICT centers
- Networking
 - 802.11 b/g
 - Atheros, Prism chipsets

Technology(cont'd)

- Software
 - Linux
 - (Debian, Pebble, Puppy)
 - wirelessstools
 - VOIP
 - Asterisk
 - Gnome Meeting
 - SJPhone
 - In-house, custom apps and tools

Inveneo / Action Aid ICT Project, Uganda



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Web Links

- Inveneo
 - www.inveneo.org
- Action Aid
 - www.actionaid.org
- Reflect Circle Process
 - www.reflect-action.org
- Article on Fort Portal project:
 - www.newvision.co.ug/D/8/26/476315