

Connect Rural ISP Cooperative Proposal.



Caramanico.



Project Name:	Connect Rural ISP Cooperative Proposal. Smart Cities Abruzzo.
Project Number:	1.0
Authors:	Andrew McLeod
Release:	7.0
Project Owner:	Andrew McLeod

Revision History

REVISION DATE	VERSION NUMBER	AUTHOR	SUMMARY OF CHANGES
18/01/2022	0	Andrew McLeod	New Document.
27/01/2022	1	Andrew McLeod	Economics
01/02/2022	2	Andrew McLeod	Survey
04/02/2022	6	Andrew McLeod	Updates.
10/04/2022	7	Andrew McLeod	Updated Contacts.

BACKGROUND

The depopulation of rural villages has been attributed to lack of business opportunities in rural areas for the next generation.

Provide low-cost highly available Internet access to be offered for free internet access to local communities for the purpose of health care and education funded by local Council-Communes and commercial clients.

The resulting revenue derived from one commune is put back into the community to build the next commune's network, in turn forming a technology and hardware lifecycle. Avoiding Technology obsolescence and IT waste.

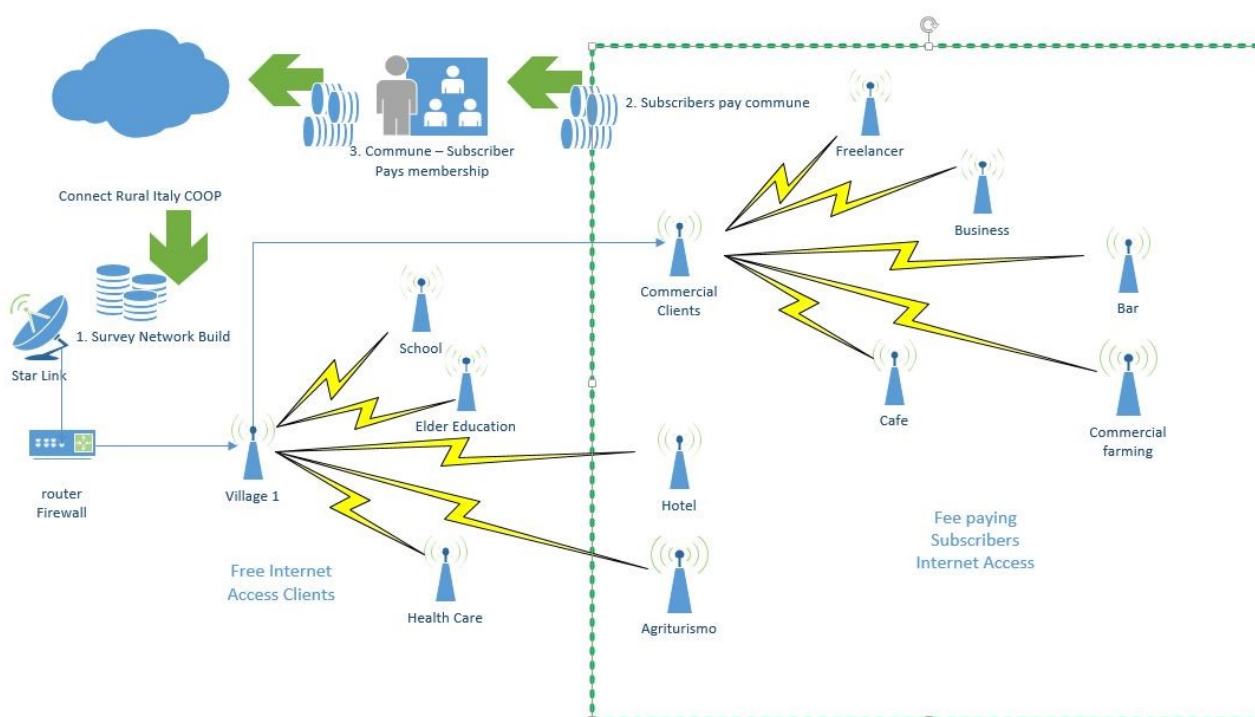
VISION STATEMENT

Attracting people to work remotely to build communities and setup businesses in rural communities encourages the hybrid working model away from the dependency of the cities and urban areas.

Provide "Free" Internet access to those communities that need access for the purpose of healthcare and education, paid for by those that can afford the subscription cost of being a member of the Connect Rural ISP Cooperative.

The cooperative provides the design, survey, capital cost to setup the network infrastructure to connect the local community services. In turn the commune can recoup its membership by providing internet access to commercial entities via their subscribers.

The prohibitive capital costs of initial setup and design is paid off (amortized) over a multi-year service plan by way of membership fee.



Client	Connect Rural Italy Village Example	Page 1 of 1	Prepared by	Andrew McLeod	Date	1/20/2022
Process	Star Link Proof of Concept		Approved by	name	Date	2/8/2022

STATEMENT OF PROJECT GOALS

The Connect Rural ISP Cooperative would operate as advisory to ensure the technology delivered is secure, independent and provided as non-bias access to the internet. Support and Administration of networks via Cloud based virtual Services.

This would ensure subscribers are not held to unscrupulous contracts with vendors that fail to deliver services that are not fit for purpose.

The model would also be technologically open source supporting all current protocols and services and being future ready.

OBJECTIVES

Reference	Business Objective Description
O.1	Communicate with Leaders in rural areas to determine demand for service.
O.1	Establish Cooperative framework and the governance of the supply of and maintenance of services and manage service contracts.
O.2	Determine Location for Proof of Concept installations.
O.3	Build Proof of Concept. Test and Evaluate.

BENEFITS

Ref.	Tangible Benefits
TB.1	Free Access to accurate Healthcare, Education and Legal information.
TB.2	Attract Business and Trade. By regular online communication people become aware and familiar with the services they offer and become the preference.
TB.3	Working remotely. Attractive Real-estate prices and Quality of Life creates work life balance.
TB.4	Local Trades and services employed as part of installation and service.
Ref.	Intangible Benefits
IB.1	Communities can communicate, trade and share goods and services.
IB.2	Local Art Culture and History is shared and preserved.
IB.4	Safer communities with reduction in crime and health issues.

PROJECT DEFINITION - KEY CONCEPTS.

KEY TERMS AND TECHNOLOGY.

ISP : Internet service provider to the internet.

WISP : Wireless Internet Server provider.

StarLink : Provider of Satellite Internet connectivity.

Mesh Networking: Single uplink can be shared amongst several subscribers. One to Many.

WiFi : Wireless Fidelity Networking. Wireless access to end points and users of the network.

LoraWAN : Low Power, Wide Area (LPWA) networking protocol designed to wirelessly connect battery operated devices to the internet. As used in Smart City Projects for City analytics.

SATELLITE INTERNET PROVIDERS.

Providers	Download/Upload	Comments
https://www.starlink.com/	150mbit - 300mbit / 20 - 60mbits	2022 - Full Coverage 2027.
https://www.skydsl.eu/	40mbits / 5 Mbits Maximum	Current. Performance Issues
Amazon Kupier.	Theoretical	Future?
https://ts2.space/en/ VSAT	1mbit / 2mbit	1432 per month.. < Prohibitive

PROJECT OBJECTIVES

Reference	Bus. Objective Reference	Project Objective Description
PO.1	Proof of Concept and Site Survey	Testing and verifying that Starlink is functional in the remote areas.
PO.2	Engage Communities.	Engage Communes, Councils, Church Communities and Health Care provides to gauge whether they see value in proposal.
PO.3	Engage Agriculture and Agriturismo Operators	Display benefits of knowledge transfer.
PO.4	Engage Commercial Hotels and Business.	Subscriber line commercial connections to the internet.

PROOF OF CONCEPT SCOPE STATEMENT

Proof of concept installation would require installation permission to use roof space for the installation of satellite dish.

To expand distribution of internet connection wireless access points would be required to be installed.

Satellite connectivity and redistribution of internet access through a village as per site survey.

CONSTRAINTS AND DEPENDENCIES

Reference	Type	Constraints
C.1	Electricity and Installation	Physical Installation on permanent structures with electricity would be required. 120+ watts per hour min.
C.2	Base subscription Satellite Connection.	Base subscription costs and economics.
C.3	Architecture Heritage Caveats.	Permission to Install Equipment.
Reference	Type	Dependencies
D.1	Community Engagement.	Council, Commune and Church Communities would need to be actively engaged to determine viability.
D.2	Language and Social Barriers.	Developed interest in technology and its usage beyond media consumption.

ASSUMPTIONS

Reference	Assumption	Impact of False Assumption
AO.1	Rural Communes want to access technology and understand the benefit of Internet access.	Possibly not required and too late to market. No demand. No Interest. Pre-existing carriers.

Reference	Assumption	Impact of False Assumption
AO.2	Demand for Remote Hybrid Workplaces	Traditional employment model in place focus city centric. No demand for rural living.
AO.3	Demand for Health Care via Internet.	Sufficient Health care professionals available in Rural Locations.

ECONOMICS AND MEMBERSHIP.

The initial funding of an installation of network within the boundaries of village or commune is first paid for by Connect Rural Cooperative.

Membership fee is paid monthly by Commune / Local Council.

Membership includes: Design, Installation and ongoing Administration of network.

Revenue from memberships is used to employ, train and provide equipment to support officers and reinvest in the commissioning of new sites.

Revenue Distribution.

Employment of Local Members as Support Level 1 and Level 2.	25%
Finance new installations in new communes.	50%
Hardware lifecycle. Provide upgrades and maintenance costs	25%

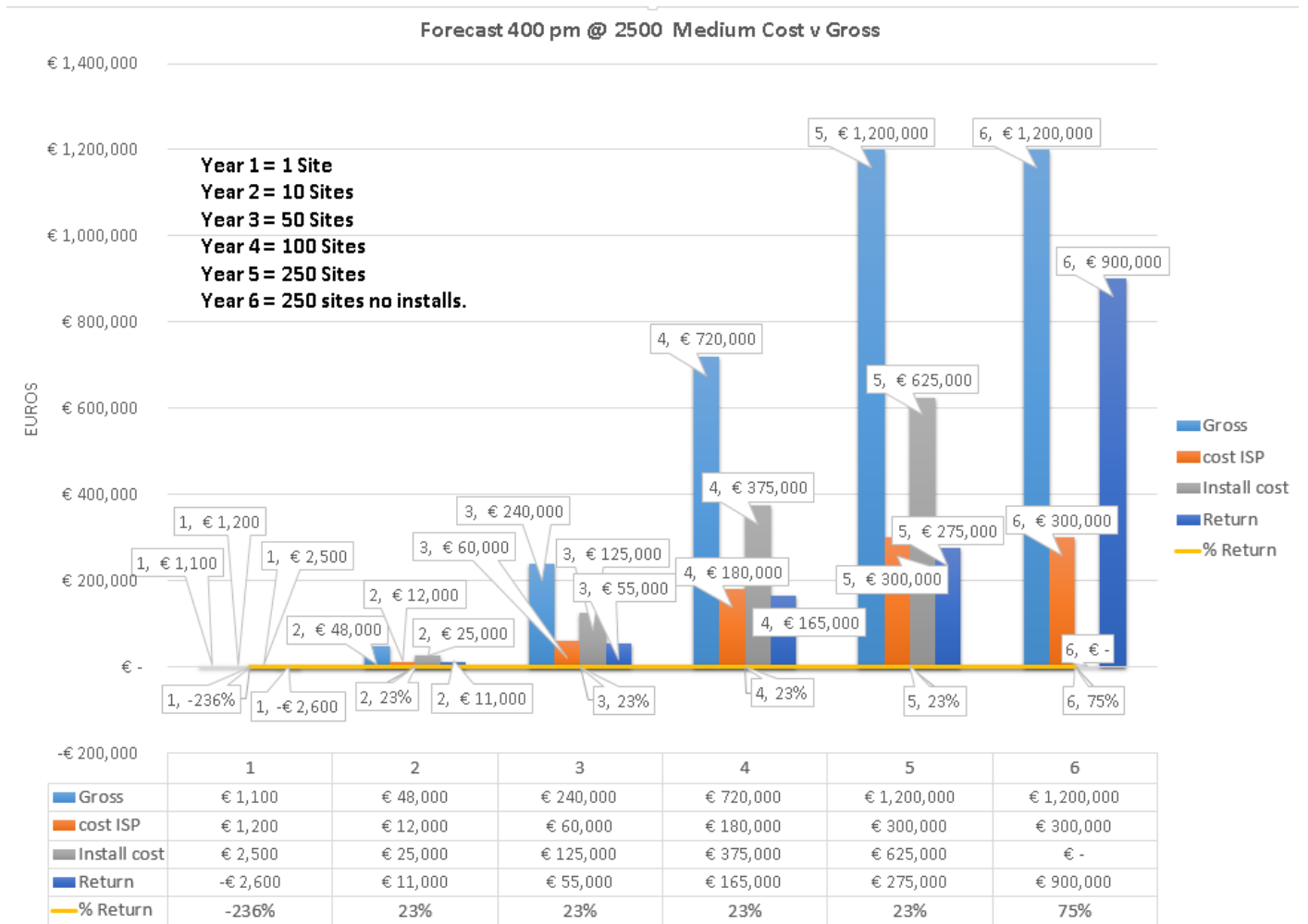
Example of basic Installation to accommodate a rural village of 1000+ users for daily real-time Internet access.

Initial Network Installation Costs and Star link Installation to site.	2500 Euro
Monthly Total including ISP Charges	400 Euro

Support is supplied by training of local members nominated as local Support Officers as Level 1 support. Escalation Support to Level 2 field engineers and Level 3 Support engineers.

EXAMPLE OF MEMBERSHIP MODEL.

Model consists of a 5 year plan to incorporate 10 new communes as members per year after year 1. Totally 250 Members sites. These site represent Satellite downlinks with Associated Access networks. Example Network Financials Consists of a 2,500 Euro installation with a membership monthly cost of 400 Euro per month.



PROJECT SCHEDULE - KEY MILESTONES

Phase	Description	Actual Date
Initiation		
Started	Proof of Concept and Design phase.	01/01/2022
	Contact with professionals and communes who are interested to build a ISP Coop.	
	Form Cooperative. Board of Directors and Members.	
	Proof of Concept installation to Site 1.	
	Testing and Confirmation Site 1. 6-12 months.	
Execute.		
	Configure Cloud Administration and CRM. (Customer relationship Management)	
	Install and commission sites.	

PROJECT RISKS, ISSUES AND OPPORTUNITIES

KEY RISKS

Detailed Risk and opportunity register will be maintained during the project within the Project WIP document.

ID	Category	Description	Current Risk Rating	Untreated Risk Rating	Treatment Plan	Owner
<i>E.g. R1</i>	<i>E.g. Budget, People, Systems</i>	<i>E.g. There is a chance that...</i>	<i>E.g.</i> 	<i>E.g.</i> 		
	People	Internet coverage and access to the internet already providing coverage at lowest possible cost.			Evaluate coverage as to whether demand and interest is required.	
	Budget	Subscription cost to Communes and Councils too high.			Evaluate economic resources that can be afforded by subscribers.	



OPEN ISSUES. WHAT ARE THE ROAD BLOCKS?

ID	Issue	Countermeasures
11	<p>5G Verses 5Ghz Misunderstanding of technology.</p> <p>Fear of technology and the burden it would place on the already isolated population.</p>	<p>Engage and Demonstrate benefits so they have ownership and build community. Two different technologies with similar names.</p> <p>5G = 5th Generation. Cellular</p> <p>5Ghz = 5000Mhz wave length as used in WiFi.</p>
12	<p>Installation locations not fit for purpose. Security issues and Lack of Power. Physical Obstructions</p>	<p>Integrate in to existing telecommunication infrastructure. Site Surveyors and Site Testing.</p>
13	<p>Electricity and resources unstable</p>	<p>UPS and Alternative power sources.</p>
14	<p>Communities Divided and Non Cooperative with each other.</p>	<p>Demonstrate benefit and community investment.</p>
15	<p>Initial Cost of Network devices and installation. Cost Prohibitive if measured by 1 year.</p>	<p>Amortised over multiple years of subscription.</p>

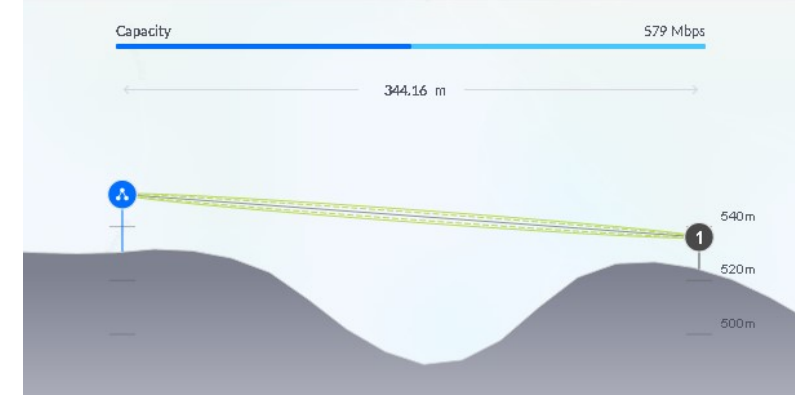
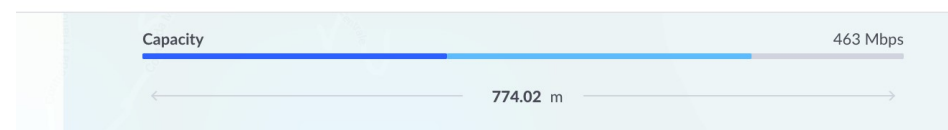
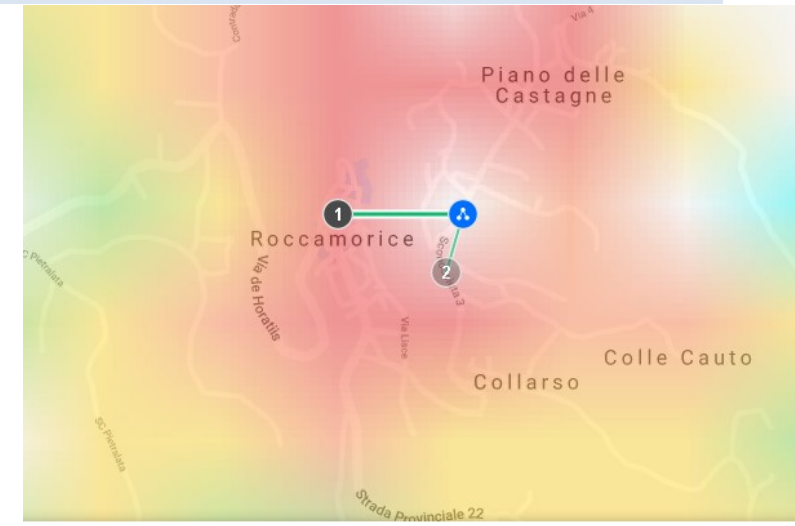
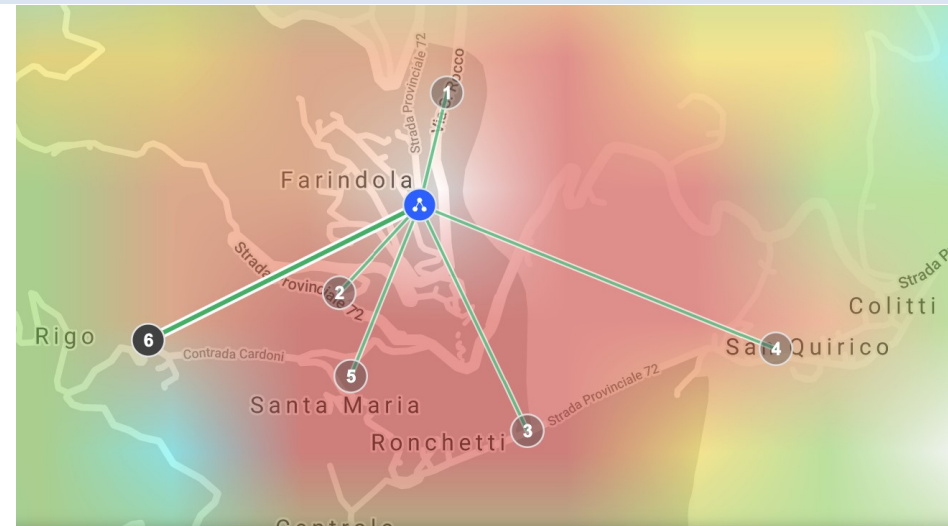
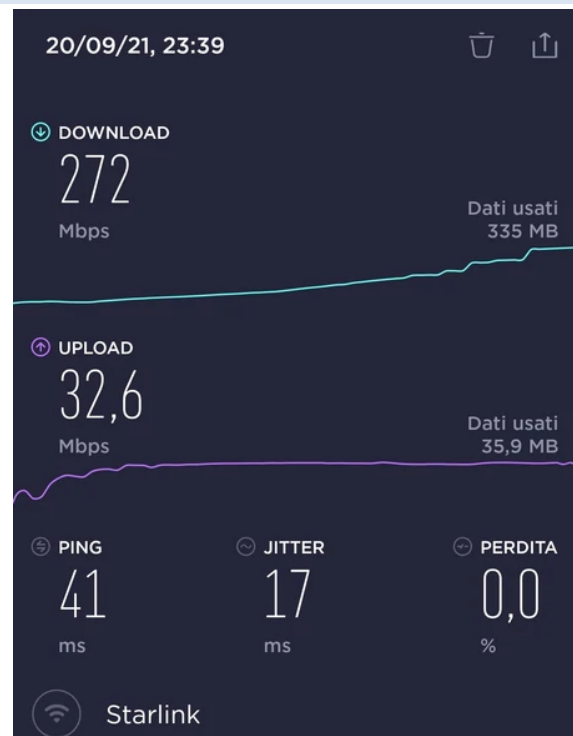
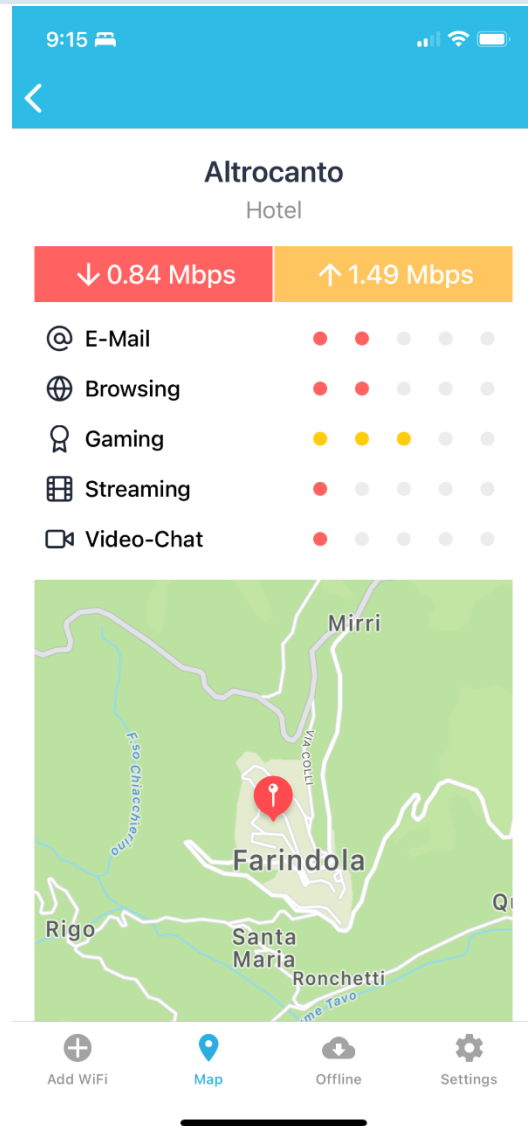


OPPORTUNITIES

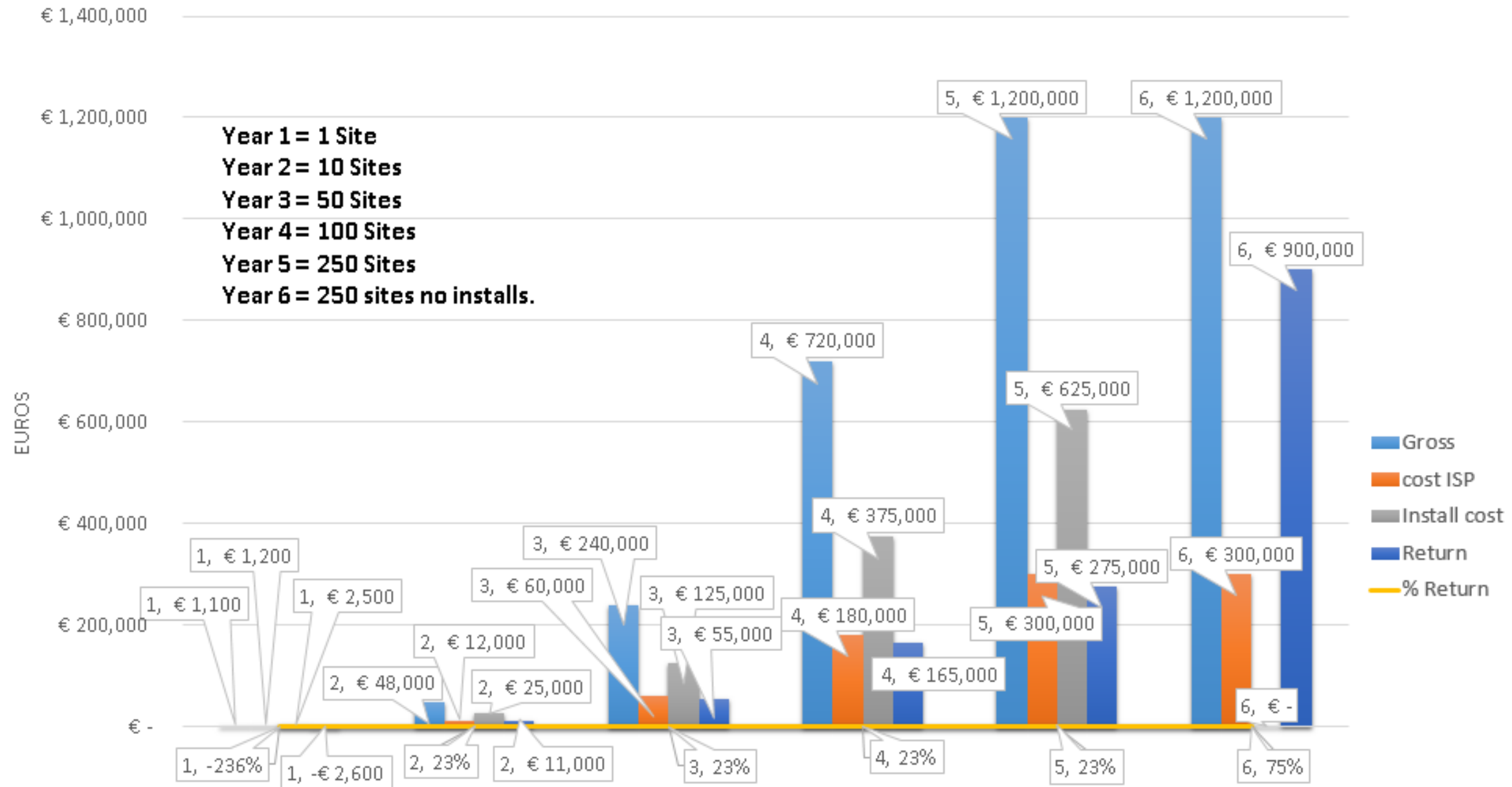
ID	Opportunity	Action
O1	Health Care Providers - telehealth conferencing for online health analysis.	Engage health Care providers.
O2	Offering IT training in Network administration, web development and cyber security.	Provide training locations and fitouts.
O3	Local Cooperative subscribers create revenue stream for local commune.	Engage local communities - gauge Interest.
O4	Employing local trades and services for the network installations.	Engage Local trades and services - gauge Interest.



PROOF OF CONCEPT SITE ANALYSIS EXAMPLE OF SITE SURVEY DATA REQUIRED AS PART OF INITIAL DESIGN PROCESS.



Forecast 400 pm @ 2500 Medium Cost v Gross

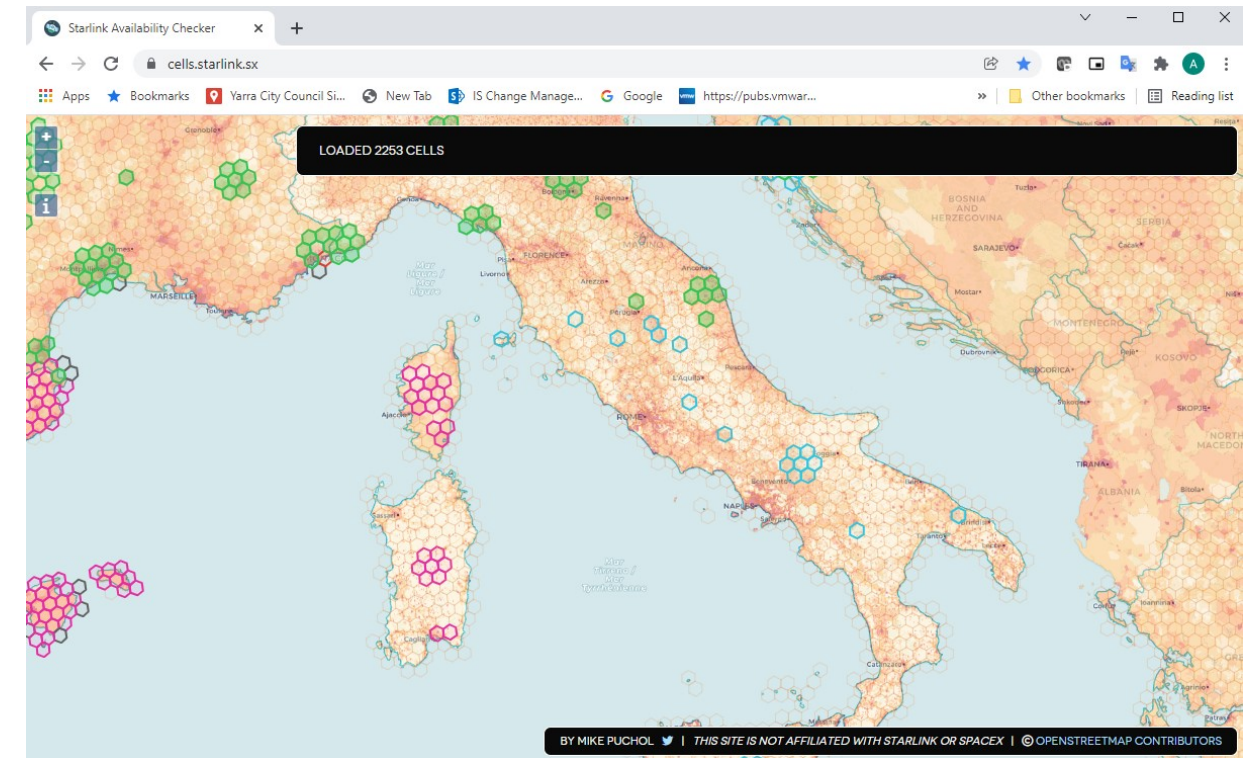


	1	2	3	4	5	6
Gross	€ 1,100	€ 48,000	€ 240,000	€ 720,000	€ 1,200,000	€ 1,200,000
cost ISP	€ 1,200	€ 12,000	€ 60,000	€ 180,000	€ 300,000	€ 300,000
Install cost	€ 2,500	€ 25,000	€ 125,000	€ 375,000	€ 625,000	€ -
Return	-€ 2,600	€ 11,000	€ 55,000	€ 165,000	€ 275,000	€ 900,000
% Return	-236%	23%	23%	23%	23%	75%



History of Contact who have been sent this document.

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https://www.interregeurope.eu/fileadmin/user_upload/tx_tevprojects/library/file_1560325135.pdf



ITALIAN COMMUNES.

List of Italian Communes subscribed to the 1 Euro house initiative.

These councils represent areas of Italy that would benefit from high speed internet access

Nord Italia - Northern Italy

Albugnano (Piemonte)

Borgomezzavalle (Piemonte)

Carrega Ligure (Piemonte)

(Valle d'Aosta)

Milano (Lombardia)

Triora (Liguria)

Pignone (Liguria)

Italia Centrale - Central Italy

Fabbriche di Vergemoli (Toscana)

Montieri (Toscana)

Cantiano (Marche)

Maenza (Lazio)

Patrica (Lazio)

Santi Cosma e Damiano (Lazio)

Casoli (Abruzzo)

Lecce nei Marsi (Abruzzo)

Pratola Peligna (Abruzzo)

Santo Stefano di Sessanio (Abruzzo)

Sud Italia - Southern Italy

Castropignano (Molise)

Biccari (Puglia)

Candela (Puglia)

Caprarica di Lecce (Puglia)

Taranto (Puglia)

Laurenzana (Basilicata)

Acerenza (Basilicata)

Altavilla Silentina (Campania)

Bisaccia (Campania)

Pietramelara (Campania)

Teora (Campania)

Zungoli (Campania)

Albidona (Calabria)

Belcastro (Calabria)

Cinquefrondi (Calabria)

Maida (Calabria)

Rose (Calabria)

Sardegna - Sardinia island

Ollolai

Osilo

Montresta

Nulvi

Romana

Sicilia - Sicily island

Augusta

Bivona

Calatafimi Segesta

Caltagirone

Cammarata

Canicattì

Castel di Lucio

Castiglione di Sicilia

Grotte

Itala

Leonforte

Mussomeli

Pettineo

Regalbuto

Salemi

Sambuca di Sicilia

San Piero Patti

Saponara

Troin

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TEAM

ROLES AND RESPONSIBILITIES

Role	Name	Key Accountability / Responsibility
Author	Andrew McLeod. Senior Systems Administrator. .	Experience: Network and System Design Engineer. Within Government and Commercial Datacentres. Cloud Service and Virtualization Specialist. Web Server Administrator and Developer. OEM manufacturing electronics. Technical. Satellite broadcast Technical Engineer. Postproduction Systems Engineer. IT industry experience: 25 years. Agriculture and Irrigation Design: 6 years.

QUALITY ASSURANCE RESPONSIBILITIES

Dimension	Name	Key Accountability / Responsibility

