

FENT XARXA OBERTA DE DEBÒ



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guifi.net:

Contribution to the
“*Bottom-up Broadband
(BuB) initiative*”



Rome, 10th Nov 2011

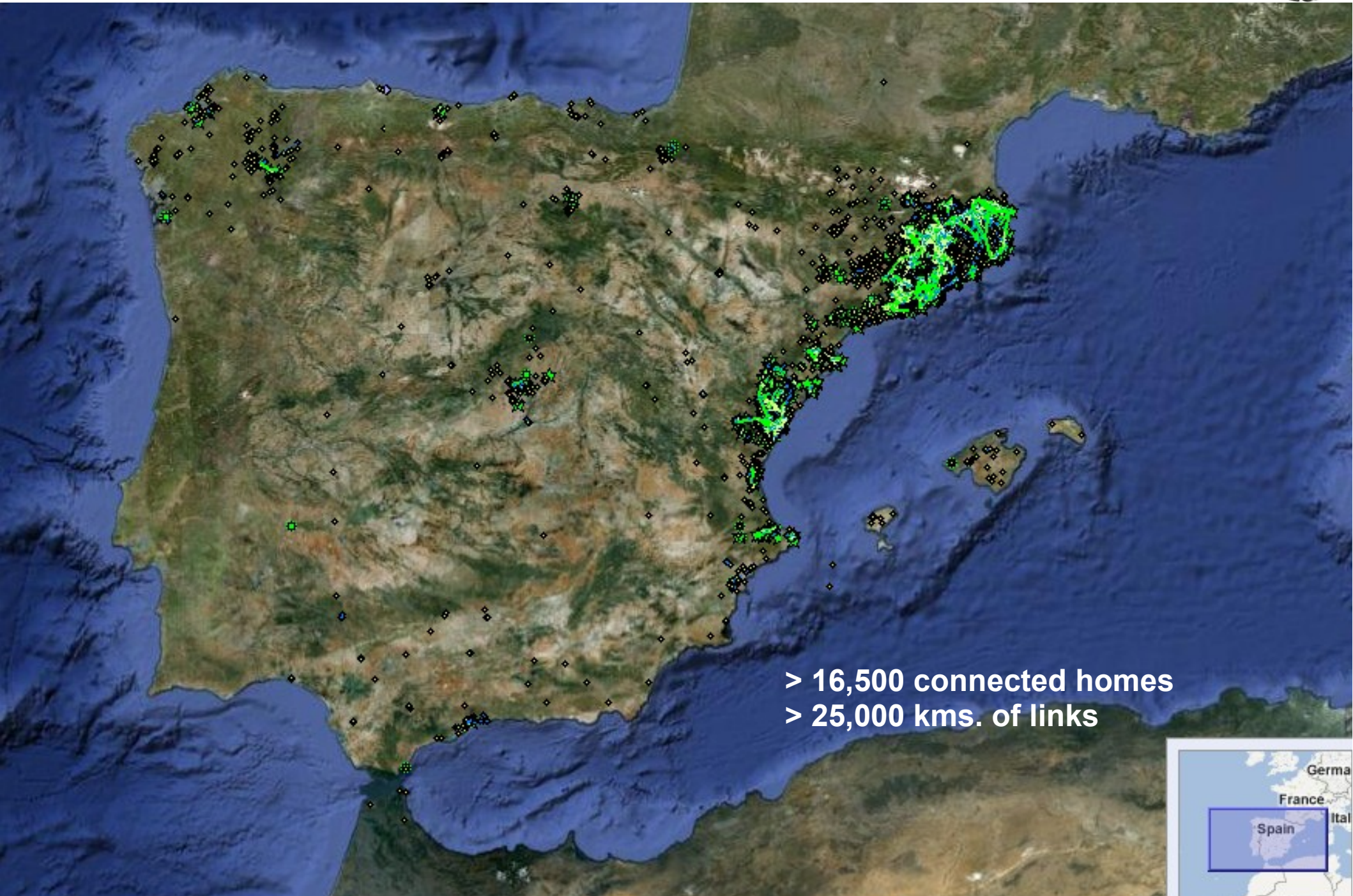
Agenda / comments

- Our past and present: the WiFi
 - Its been proven that the model works
- Our present and future: the Optical Fiber (+WiFi)
 - We are sure that it also works with the fiber
- Boosting market competition by enabling new Business Models
 - The true fair competition
- FP7 Projects
 - And in the end we are not only legal but the EU supports our proposals 😊

Agenda

- **Our past and present: the WiFi**
- Our present and future: the Optical Fiber (+WiFi)
- Boosting market competition by enabling new Business Models
- FP7 Projects

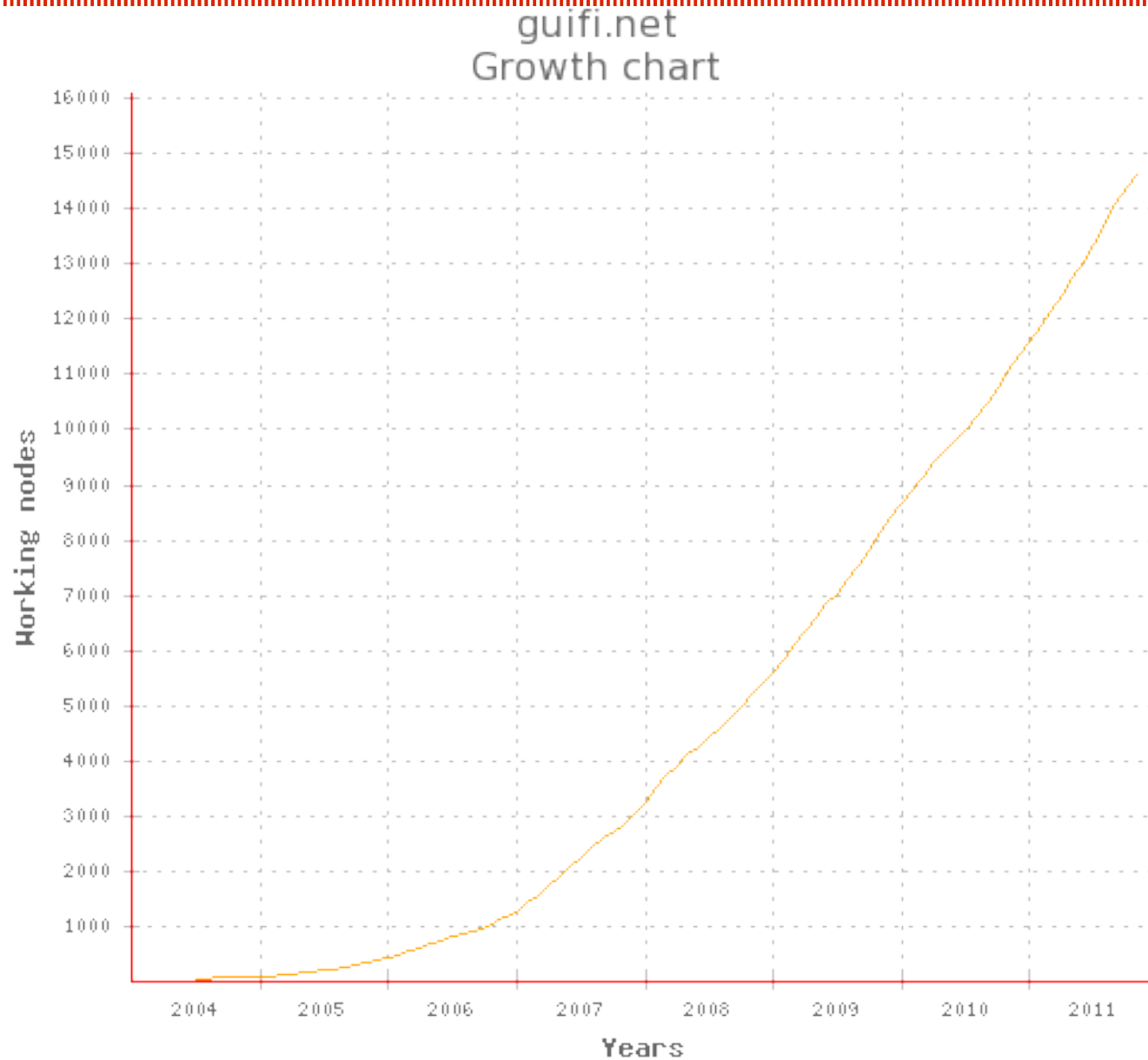
What is?



What is?



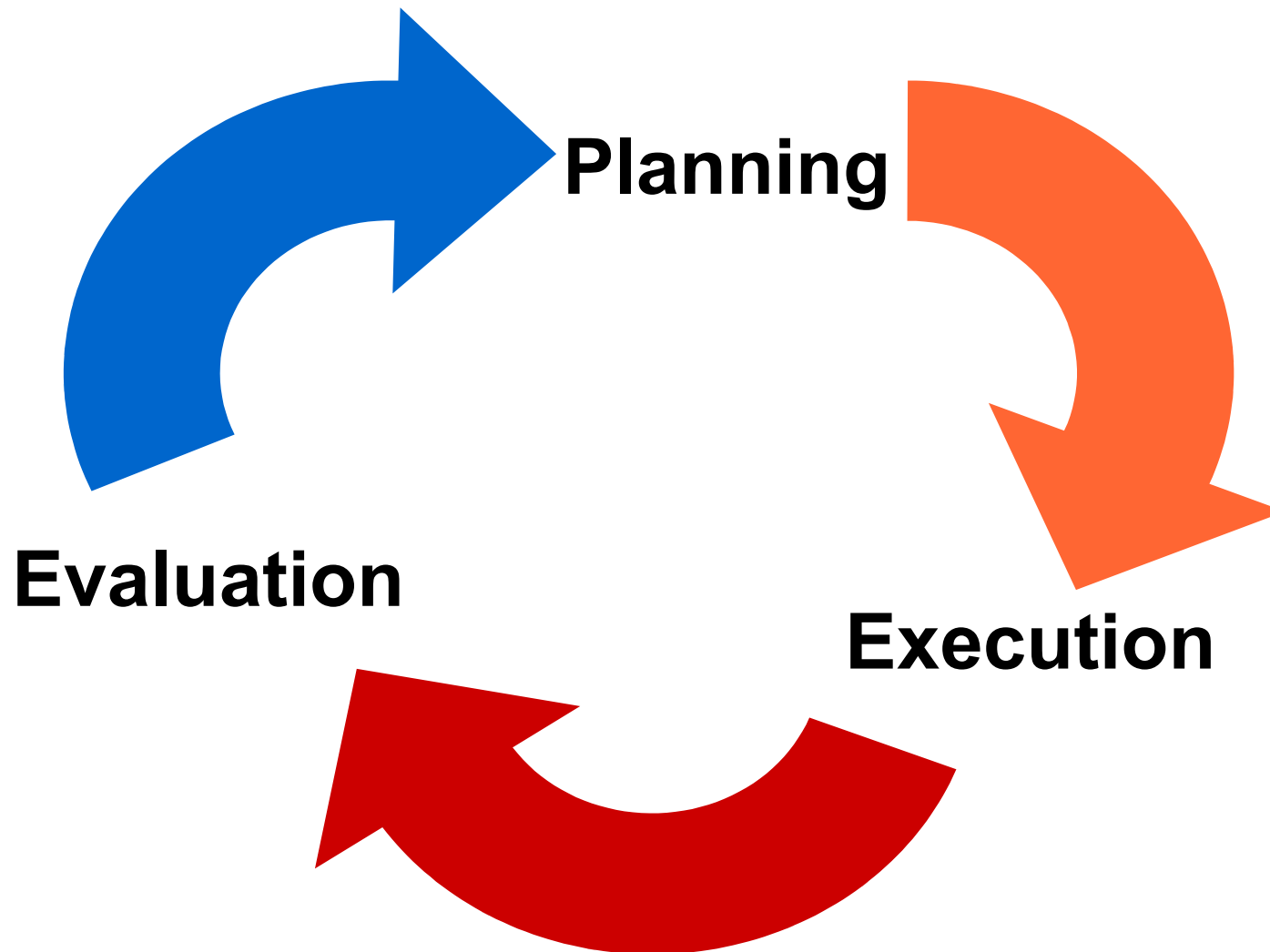
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What is?

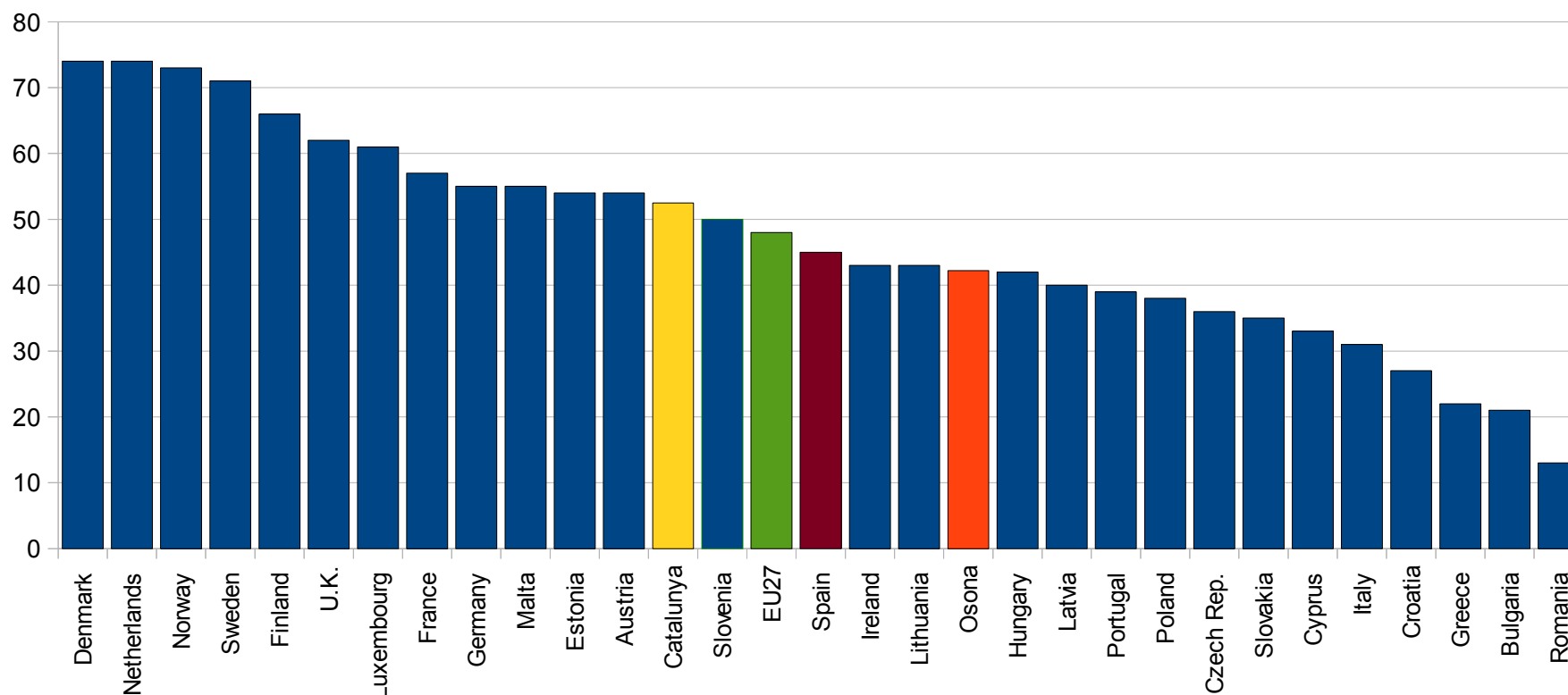
- “Network of networks” by “Comuns XOLN” agreement
 - Stakeholders: individuals, enterprises & administrations, who retain ownership
 - Aggregation of networks, extending the Internet
 - Same rules for all
- Foundation
 - Not-for-profit, Non-partisan
 - Coordination – foundation for interconnection/interoperability, manageability and self provisioning
 - Formal entity, becomes the formal operator
 - RIPE-NCC and CATNIX member

A replicable & continuous process



Impact on the Digital divide – statistics (I)

- 'households with dsl'
 - Osona (*mixed rural/urban*) below Spain, EU27 & Catalonia

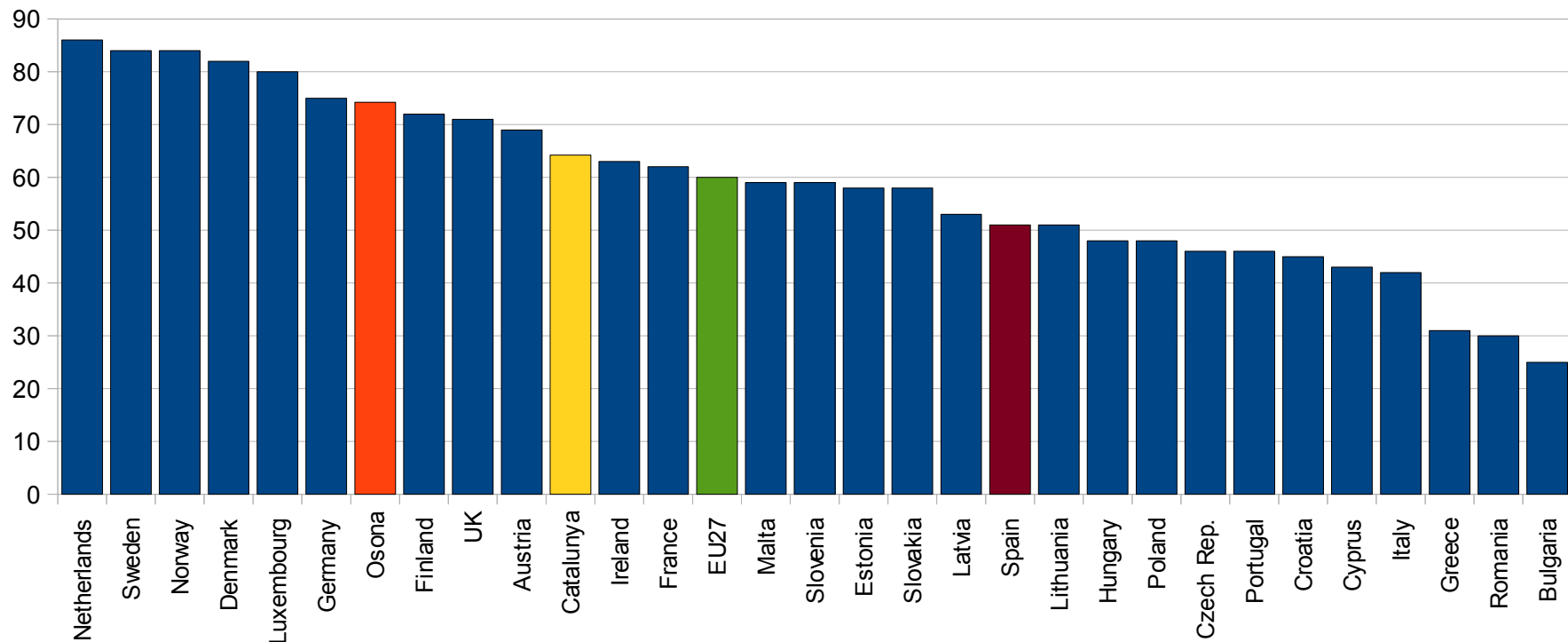


Impact on the Digital divide – statistics (II)

- **'use of the internet at home'**

Osona leads Catalonia & Spain & metropolitan areas, above EU27 index

- **WHY?** Osona is where guifi.net has statistic relevance (10%-15%).
- **EXPLANATION:** Digital inclusion depends mucho more on cost than coverage



Impact on the Digital divide – Explanation



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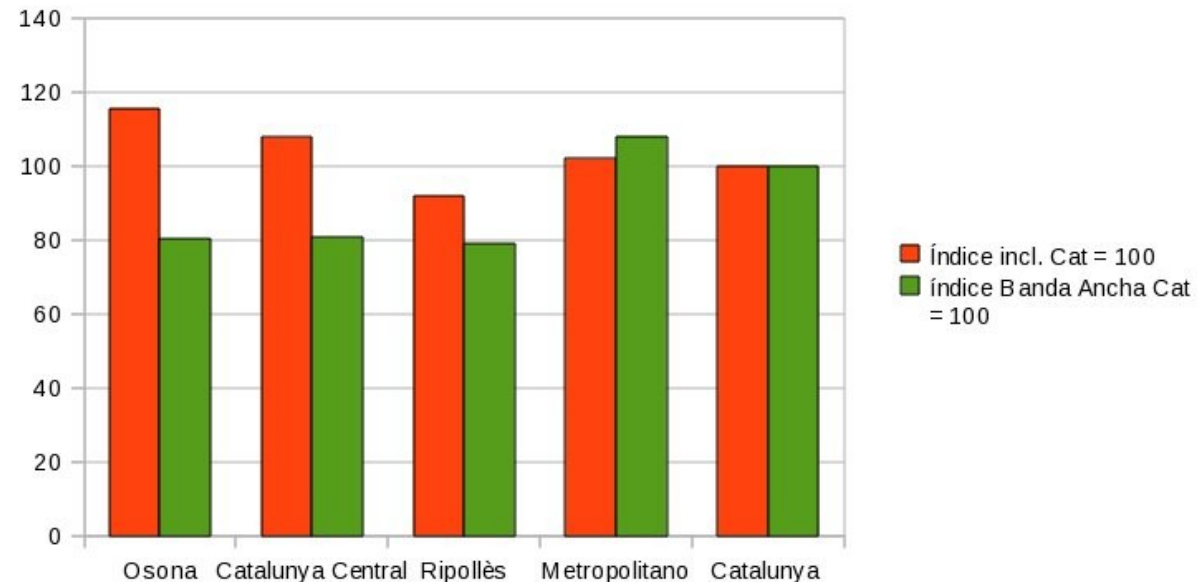
Why does Osona lead Catalonia & Spain & metropolitan areas, above EU27 index?

Because:

- Osona is where guifi.net has statistic relevance (10%-15%).
- Digital inclusion depends mucho more on cost than coverage

Impact on the Dig. div. – Complementary

- Similar DSL penetration in similar territories, socio-economic environments
 - No relevant impact because of shared & free internet access.
- Internet usage (digital inclusion) is much higher when Community Networks are present



The Message to public administrations seeking to raise 'digital inclusion':

Promoting Open Community Networks is much more effective and efficient in helping to deliver coverage than subsidizing conventional service providers/operators

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- **Our present and futur: The Optical Fiber**
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The “FFTF” initiative

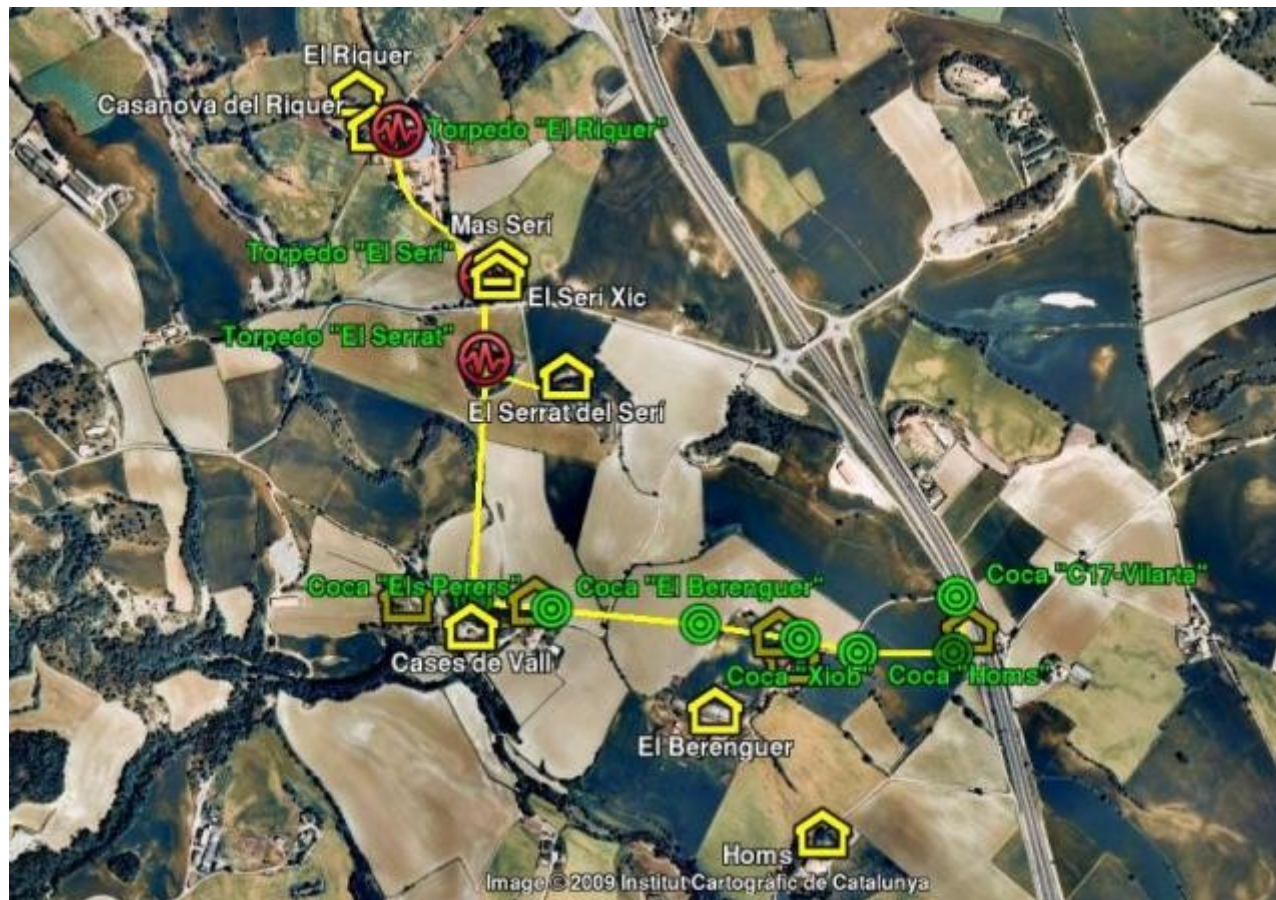
- FFTF = “Fiber From The Farms”, 100% “Bottom-up broadband initiative”, triggered by the users
 - Goals:
 - Create self-sustainable models. Any help might be appreciated as a facilitator or speed-up, however the network needs to be viable by itself, therefore:
 - Need to get rid from intermediaries with no real interest, or just looking for grants.
 - By developing new business models, enabling new stakeholders & “self service” operation
 - Room for innovation & cooperation by addressing today's unmet challenges

Already going on

- Mature, real, launched on 2,009, close to finish first iteration
 - 1st cycle completed by H1CY11
- Sponsored by guifi.net Foundation, an independent & non-for-profit NGO
 - Since 2,003 supporting community networks, leveraging a vast experience deploying wireless broadband led by users
 - Awarded with the National Price of Internet of Catalonia (Spain) for providing broadband to rural areas (2,007)
 - Recognized as a Living Lab for doing “Open Innovation” (EnoLL, Lyon, France, 2,008)

1st FFTF cycle: What & Where I

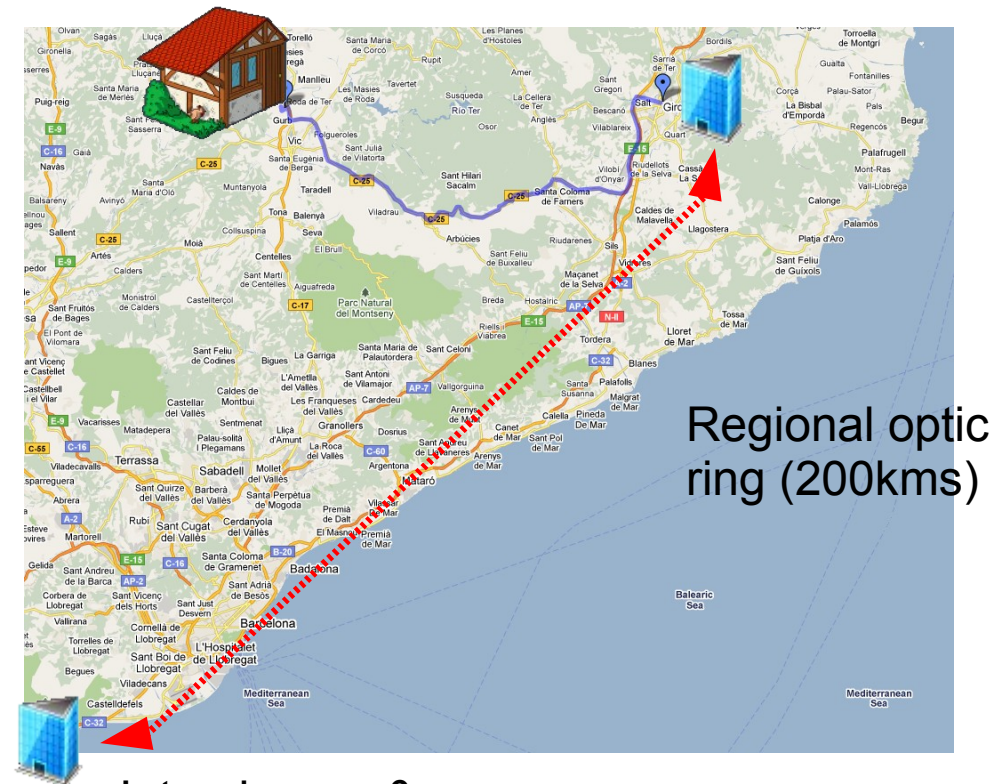
- Fiber Optic deployment connecting Farms in rural areas (2,009)



What & Where II

- Access to regional ring to enable access to wholesale bypassing intermediaries with no value add or conflict of interest
- Ideally: Regional Ring should be an open & public network to avoid conflict of interest and ensure non-discrimination

Farms in
country-side
rural areas



Interchange &
Carrier House
in the city

What & Where III

- Carrier House for International transit & Interchange for peering w/local operators
- Enables an aggregated & cost oriented wholesale access where small initiatives are very welcome



How

- Real pictures taken in Summer'09 deployments



Project scope

- Building a complete end to end solution for NGN networks

When Where		Milestone	Status
Feb-Mar'09	n/a	Notification to ANR (Spain: CMT)	done
Apr-Jun'09	Rural last mile	Project definition & preparation	done
Jul-Aug'09	Rural last mile	Network deployment	done
Jun-Dec'09	City	Membership RIPE & Local IX (for wholesale)	done
Dec'09	Rural last mile	Network operational (between farms)	done
Jan-Jul'10	Regional link	Negotiations with authorities, public administrations...	done
Aug-Nov'10	Regional link	Project definition & preparation	done
Dec'10	Regional link	Connection works (fiber fusions)	done
2011	All	Full operation FFTF <---> Internet	done

Next steps

Opportunity for cooperation EU-wide!

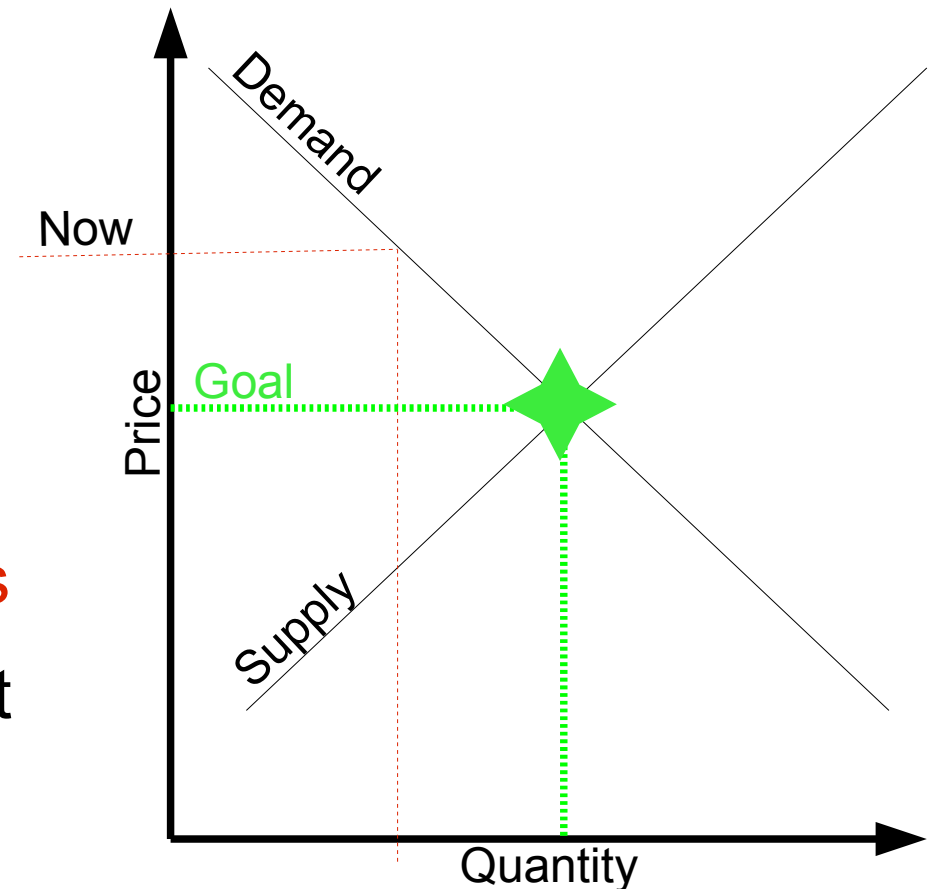
- Process Appraisal & Review
 - Financially, sustainability...
 - Operationally (technical, organizational, administrative, bureaucracy...)
- Reuse the experience and conclusions for
 - Extend the existing FFTF to next villages/locations, reusing the regional ring
 - Go for new territories/EU countries replicating the complete process
 - Include NGN Wireless

Agenda

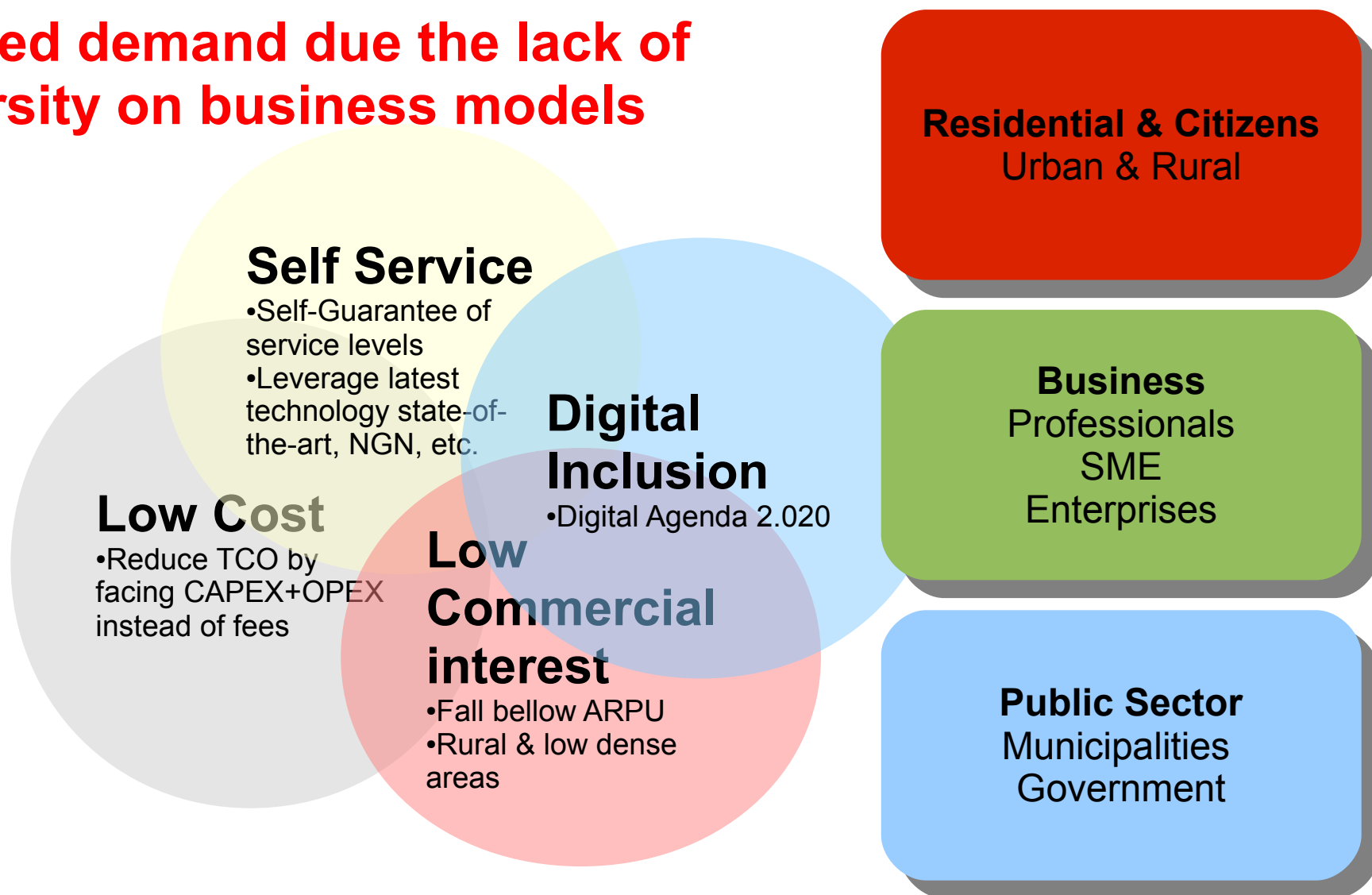
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It's all about....

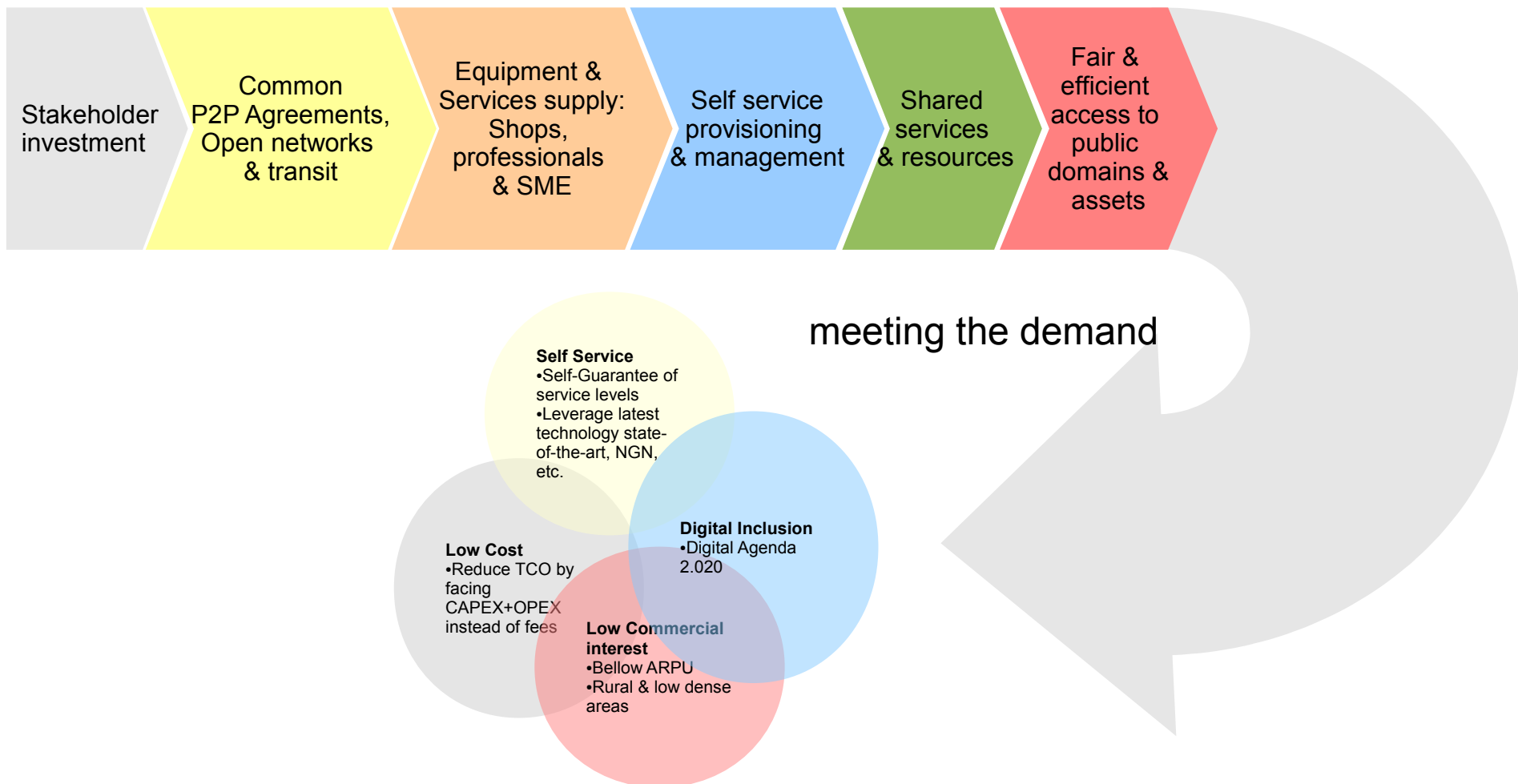
- In terms of market rules:
 - Raise funding & supply
 - Meet more demand
 - Cut TCO
 - By introducing new business models
- Doesn't break the market rules
 - Confirms them, is about competition



Missed demand due the lack of diversity on business models



Supply chain



Model Comparison

	Investor	Business goal	Coverage	Service level	Competition
Proprietary	Stakeholders, owners	<ul style="list-style-type: none"> •Margin •Speculative 	Determined by business, not interested in low density areas and low incomers.	Provided by the operator. Often seen as a frustration by the user	Only selected and authorized partners.
Open	All participants	Varied: Owned connection, avoid aggregation, shared services, real (lower) cost....	Driven by user interests.	Provided by the user, direct control if subcontracted	Open to all, including freelancers and SME.

Which one is more open, fair, sustainable and competitive?

Our experience: Cost sheet, 1 Gbit circuit

€/km



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				Now		Goal	
1Gb circuit	Kms.	Activation	€/Month (*)	mo. fee	%	% Share	mo. fee
Wholesale(**)	40.000	5.000	1.034,72	0,03	0	0,01	0,08
Barcelona - Vic	70	2.000	41.710,75	595,87	96,13	9,99	2,66
Gurb/Vic – FFTF	1,60	3.000	23,96	23,96	3,87	90	23,96

• What happens?

- Internet wholesale & Gurb/Vic – FFTF(***) are multipurpose and interoperable IP networks
- Barcelona-Vic is closed and private (dark fiber/adif), so becomes 96,12% of the cost

• Conclusions

- Need for creating open, multipurpose and interoperable networks across territories
- Cost for regional wholesale network is around €2,67/mo., not more
- €30/year per final F.O. connection would be a reasonable levy for access to those infrastructures

(*) Amortization 12 years

(**) Traffic, aggregated

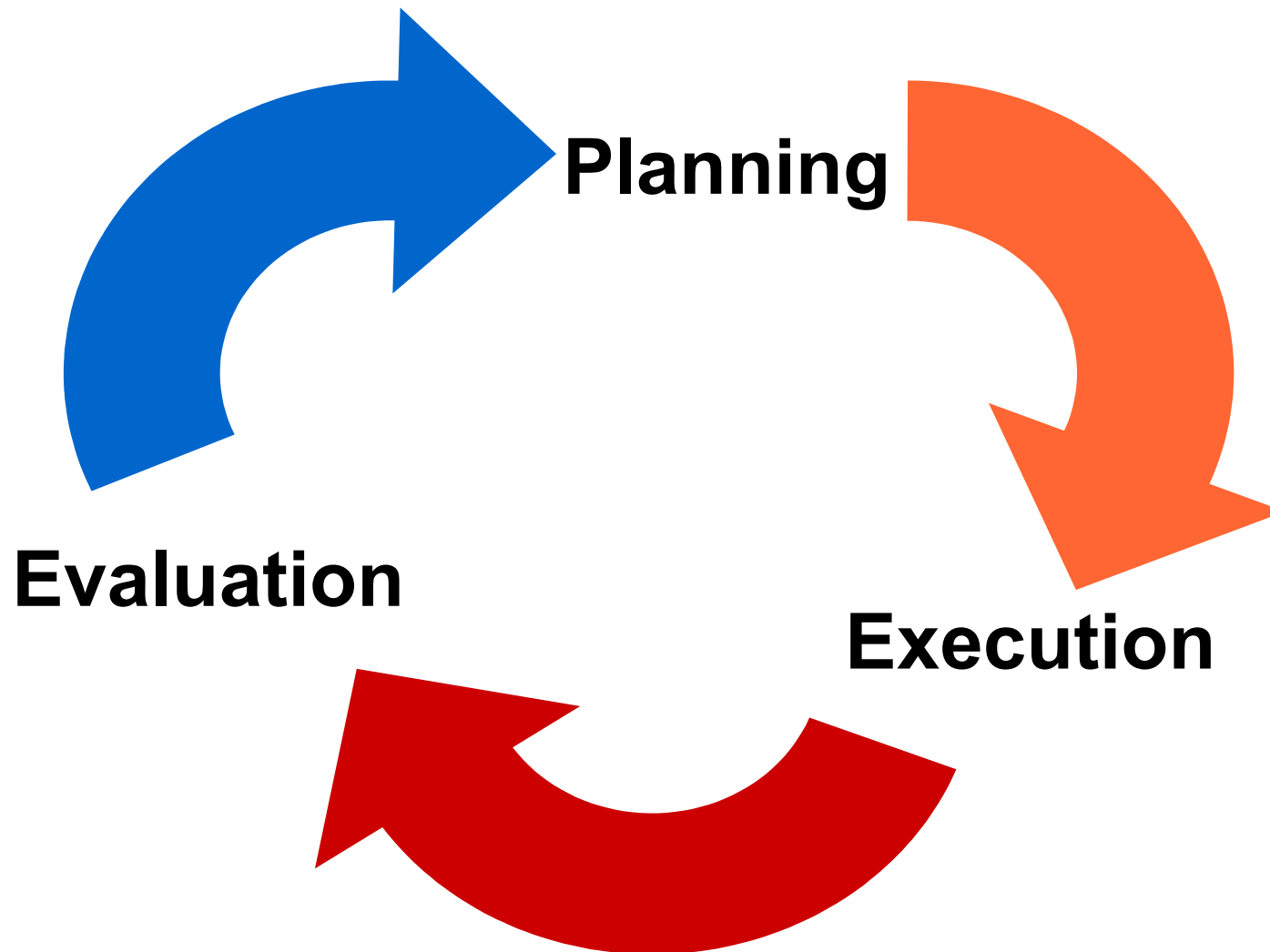
(***) FFTF = Fiber From The Farm

Final costs for the users

There is no “price list”, costs might vary on circumstances, but typical cases below

User profile	Last mile connection cost	Monthly fee	Technology, bandwidth
“low cost”, shared / public access	€50 - €1,000 (avg €200) One time	€0 (free)	Radio, from 2 to 20 Mb, incl. symmetric
Paying internet access, aggregated	€200 to €2,000 one time or €0 financed	€10 €30 or €40 financed	Radio or F.O., from 20Mb to 1 Gbit, symmetric
“premium” / guaranteed access, enterprises, ...	€1,000-2,000	From €100	“n” Gbits, complete

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FIRE Confine

- **FIRE:**
 - Future Internet Research & Experimentation
- **Testbeds**
 - Building testbeds on top of real community networks for the future internet
 - Open calls
- **Partners**
 - UPC (leader)
 - OPLAN (UK)
 - AWMN (Greece)
 - Funkfeuer (Austria)
 - Franhoufer (Germany)
 - IIBT (Belgium,)
 - Pangea (Spain)
 - guifi.net



CONNECTED COMMUNITIES

CONFINE
CONFINE



CIP

Commons4EU



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- **CIP:**
 - Competitiveness and innovation framework programme
- **Commons4EU**
 - Boosting commons, Code4EU, BuB4EU
 - Leveraging Smartcities, Opendata, Code4America...
 - Open calls
- **Partners**
 - ESADE (leader)
 - Radio-Televisiotekniikan tutkimus (Finland)
 - Fraunhofer (Germany)
 - Manchester City Council (UK)
 - Amsterdam CC (Netherlands)
 - Provincia di Roma (Italy)
 - LYNX (Italy)
 - IMI Barcelona (Spain)
 - NESTA (UK)
 - dotopen s.l.(Spain)
 - guifi.net

COMMONS4EU



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That was all

Thank you for you attention

Questions?
Comments?
Suggestions?



Rome, 10th Nov 2011