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**we connect technology,  
policy and finance**

**Building a Collaborative Economy over a Networks as in Commons**

**- Governmental Day -**

**February 13th**

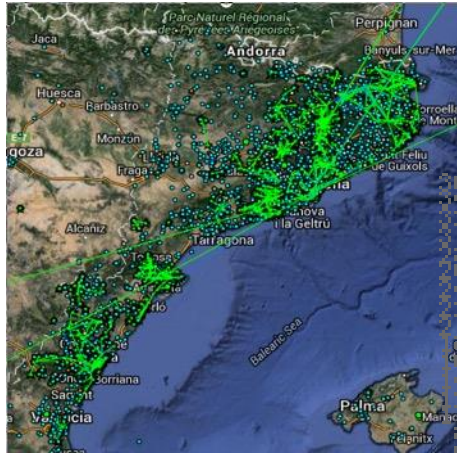
**FTTH Conference 2018, Valencia**



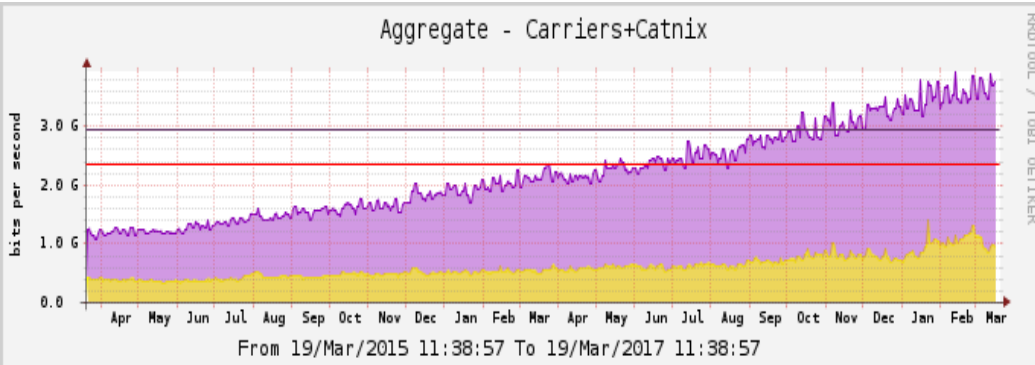
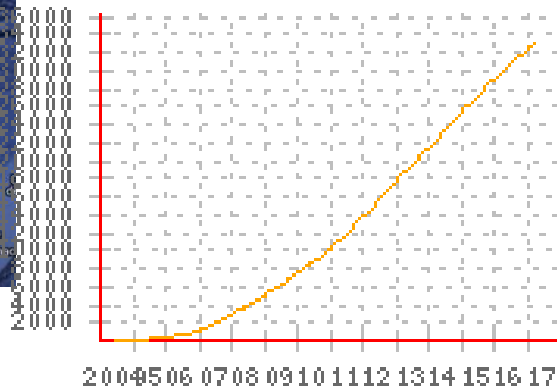
- 1.- Who we are and what we are doing
- 2.- Collaborative Ecosystem and Governance
- 3.- Regulatory findings / Good Practices



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Nodes operatius



## Internet for everyone

By creating alternatives

DIY → Communities → Bottom-Up

guifi.net, since 2004

## With a Foundation, since 2009

Non-profit, non-partisan, without conflicts of interest

Commons Governance & to develop the ecosystem

## Scaling

Noticeable & sustained growth

Thousands of households

Dozens of distributed Fibre PoPs around Catalonia

## Recognitions:

2007 Catalan National Award – category on Telecommunications

2015 European Broadband Award – category on innovative model of financing, business and investment



- **User Access / Last Mile**

- Goal: internet for everyone by, reaching everyone willing to... → requires last mile
- Typically 90% of the total cost
- Starting wireless
- Later, extending to Fibre Optics: Aerial, conduits...
- But that's NOT all: We still have to interconnect, so we also need .....

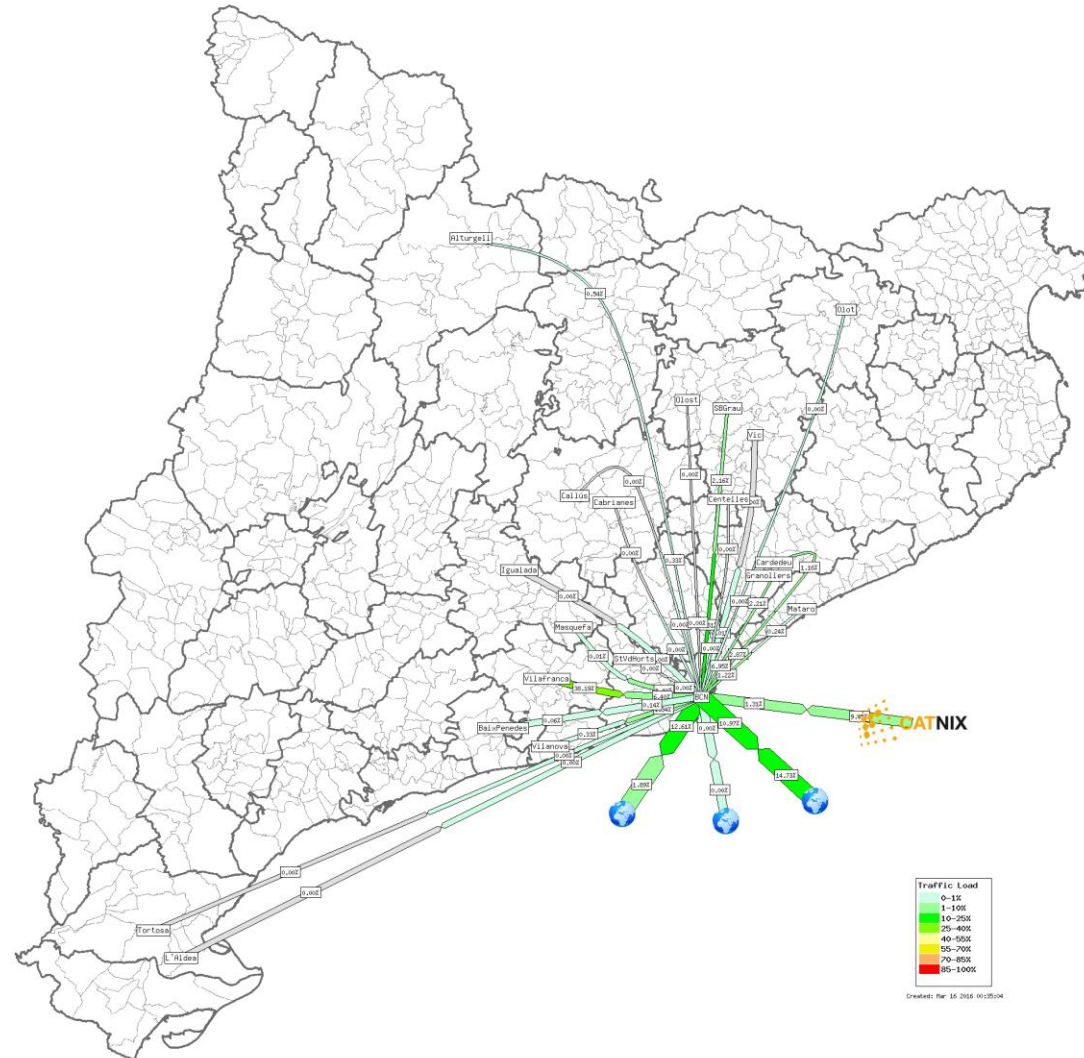
- **Territorial Transport**

- Needed for Last Mile deployments' interconnection
- Reusing existing public infrastructures: Roads, Railways, Water pipes, Power lines, etc.

- **Full Transit**

- At the Carrier House and the Regional IX (CATNIX)
- 4 x 10Gbps ports
- Open Peering with almost all the ISPs present at the IX
- Remaining with carriers (i.e. Cogent, NTT, Telia, Jazztel, ....)







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## Foundation

Common Pool Resource (CPR)  
Governance

## Public Administrations

Manage Public Domains

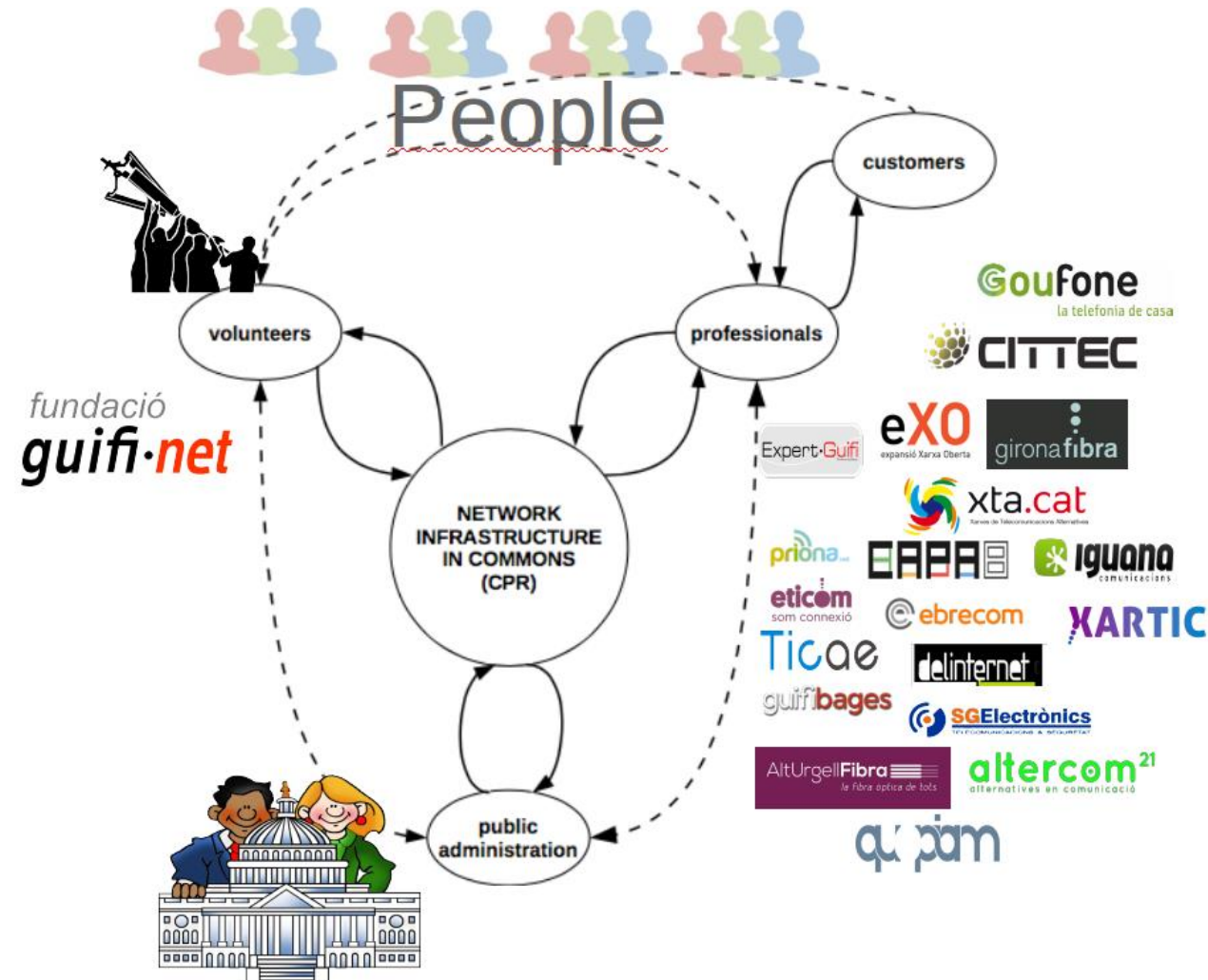
## Professionals

Provide services

ISP – Generate Income from customers  
Infrastructure builders & maintainers

## Volunteers

Contributing to the CPR







## Expenditures declaration

Public

Criteria

Information

## Economic compensation

Balances

Contributions

CAPEX

OPEX

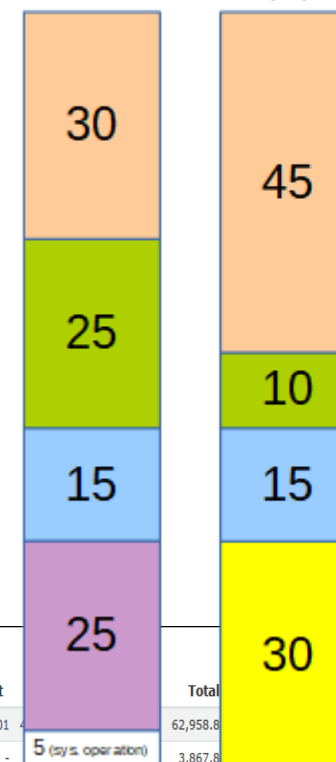
Resources usage

Bandwidth, # of fibre connections, ...

Clear return of investment & fair business models

Expenses & Contributions  
(e.g.: = 100€)

Resource Usage  
(%)



Compensation Settlements  
To **Compensate** or to **Pay**



Orange Operator  
 $30 - 45 = -15\text{€}$

Green Operator  
 $25 - 10 = +15\text{€}$

Blue Operator  
 $15 - 15 = 0\text{€}$

Installer/Maintainer  
 $25 - 0 = +25\text{€}$

Yellow Operator  
 $0 - 30 = -30\text{€}$

System operation  
 $5 - 0 = +5\text{€}$

$$\Sigma = 0$$

Totals mensuals per l'any 2014

Supplier	gen	feb	mar	abr	mai	jun	jul	ago	set	oct	Total
59855-Gurbtec Telecom	2,688.55	461.91	3,286.92	2,999.42	487.58	3,409.20	15,462.74	1,500.42	10,562.02	9,230.01	62,958.8
61891-Priona.net	-	-	-	853.05	-	-	-	-	2,699.54	-	3,867.8
61722-Gaufix.net - Internet a l'abast de tothom	2,643.26	3,875.98	5,592.41	1,590.64	396.80	641.30	1,535.03	1,671.10	3,386.53	3,211.91	31,094.11
31251-http://www.setup.cat	326.70	36.30	238.04	477.11	84.38	113.84	75.64	369.84	-	-	1,721.85
71369-Ramon Roca	-	-	-	-	-	-	1,200.00	720.00	-	480.00	2,400.00
											102,042.57





## **Sustainable design**

## **Based on collaborative economy**

E. Ostrom (2009 Nobel Prize in Economics) principles  
Inclusive ecosystem (not extractive)

## **Based on free market, but**

Non-speculative  
Fair trade  
Inclusive ecosystem (not extractive)

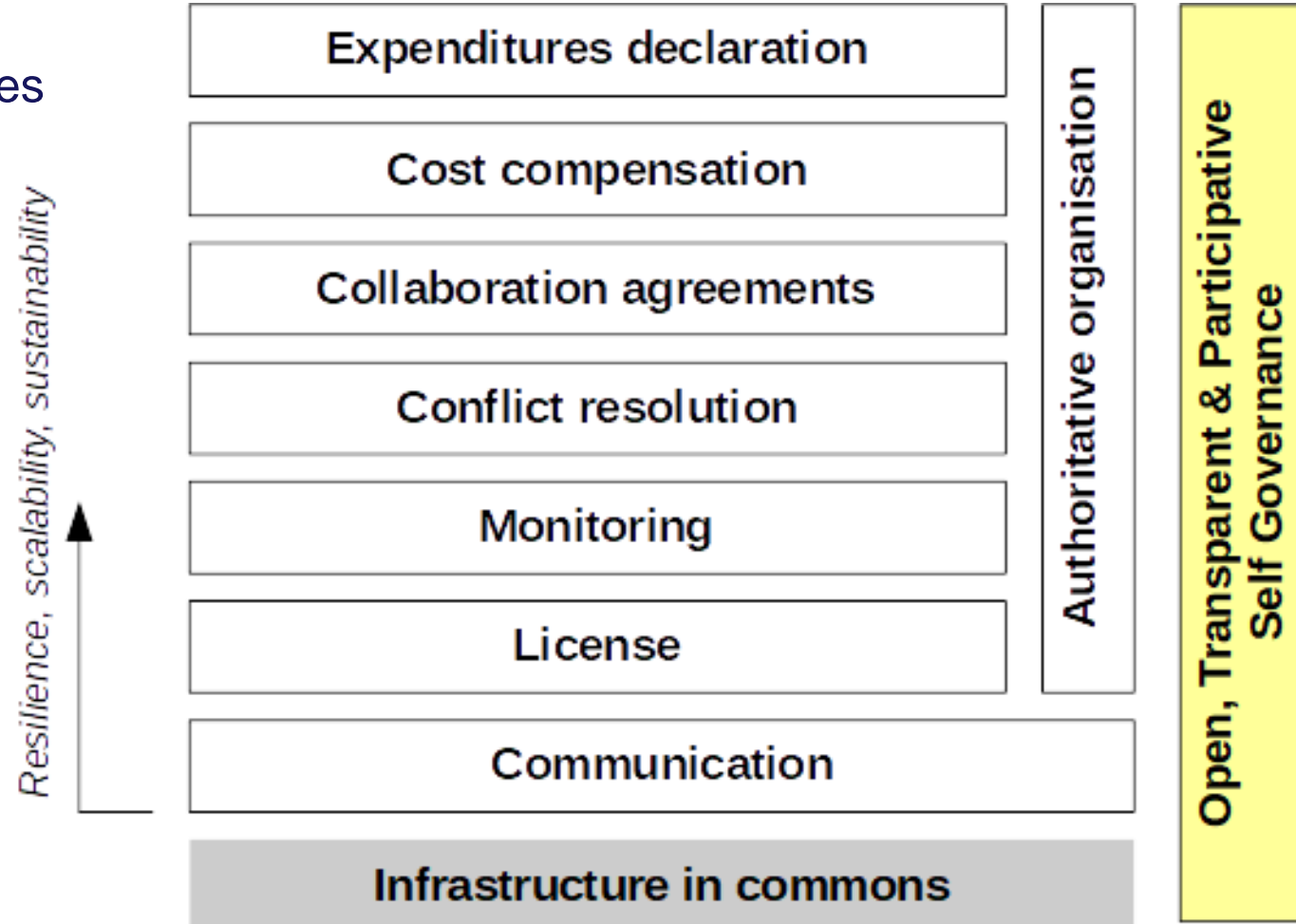
## **win-win ecosystem**

Rises funding  
Enables economies of scale

## **Accountable**

## **Implemented through**

Written consensus rules (license)  
Signed agreements





## Compensation tables

- Establish the territorial compensation criteria
- Monthly periodicity



## Operators/ Service providers @

### Rights

- Voice and vote
- To receive compensations
- To make proposals

### Duties

- To settle the compensations
- To provide the data to calculate the compensations

## Public Admin. or Investors



(optional)

### Rights

- Voice & vote
- Quality vote & veto on issues related to benefits or administration of public resources
- To Make proposals

### Duties

- To stick to criteria of non-discrimination & equality

## Foundation *guifi·net*

### Rights

- Voice
- Veto on issues related to the Commons, vote if needed (ex: in the case of tie)

### Duties

- To make proposals targeting the consensus
- Accounting
- Execute the compensations



- 1.- Who we are and what we are doing
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  - Ensure / prioritize space for sharing
  - Taxes indexed on businees/activity, not distance
  - Ensure affordable, effective & efficient Interconnection





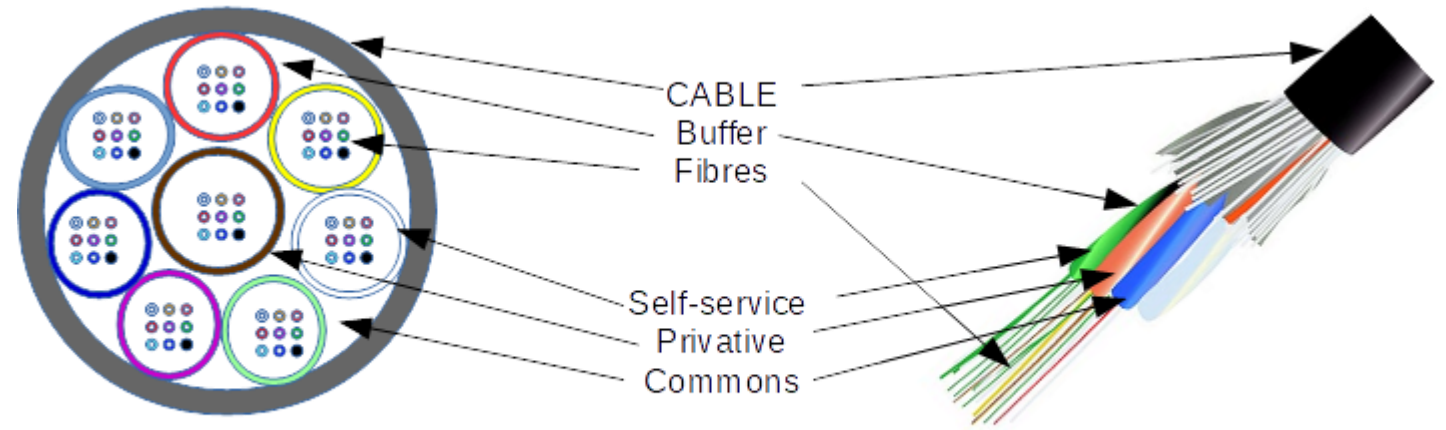
- **WHY**

- To reach all territories and providing same diversity of choices & similar cost to all citizens
  - **Shared use of infrastructures is NOT just an option, is also a REQUIREMENT.**
- Technically and economically possible:
  - A well managed fibre can carry all needed Internet bandwidth
  - Better ROI by having more users at the same infrastructure
- If ignored/not regulated, ENCOURAGES speculative practices:
  - Systematic OVERBUILDING to discourage newcomers
  - Exhausting the all available space for privative use
  - Excess of intermediation (Sharing is NOT Reselling):
    - Share = use of a shared resource in a non-discriminative basis and cost oriented...
    - Opposed as doing business by reselling



## • HOW

- Regulations for access to public and private domains must **ENSURE** that there is space for shared use that is managed in a way that never exhausts
- **Positive discrimination:** Administrative and Tax advantages for uses that offer guarantees that will provide shared use instead of private or just resell
- REMEMBER: **High Risk** of speculative practices if not!!!





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- **WHY**

- Indexing taxes to distance instead of business or activity, creates digital divide at the territory: Penalizes
  - Less populated
  - Distant regions
- ...but unfortunately is a common practice, i.e.:
  - X€ x unit / year for accessing resources (meters of ducts, # of posts, etc...)
- **Fighting at Court or at NRA is NOT a Solution**
  - Time and resource consuming, hurts the window opportunity
  - Provides a huge advantage to incumbents, and Public Administration are so vulnerable to telecom lobbying





- **HOW**

- Clear statement saying
  - **GOOD PRACTICE** for TELECOMS taxes:
    - Indexed on business activity, i.e.:
      - # users
      - € billed (similar to V.A.T.)
      - 95th percentile (bandwidth used)
  - **BAD PRACTICE** for TELECOMS taxes:
    - Anything indexed to distance or penalizing deployments, i.e.:
      - Per aerial post
      - Per meter of duct
      - etc...
- Any administration willing to tax distance but not business/activity, should be **REQUIRED** to get reviewed and approved for that
- Extensible to pricing for pay x use on existing infrastructures



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- **WHY**

- No effective Interconnection = No Internet
- Remove barriers for new entrants, ensure access to wholesale
- Avoid monopolistic practices

- **HOW**

- Authorities must check that:
  - Local Interchange happening. Transit must NOT be expatriated while transit when origin and destination are both within the same region, but distinct operators
  - Local peering must be free or cheaper than global transit
    - ISP should be exposed to SEVERE FINES when not

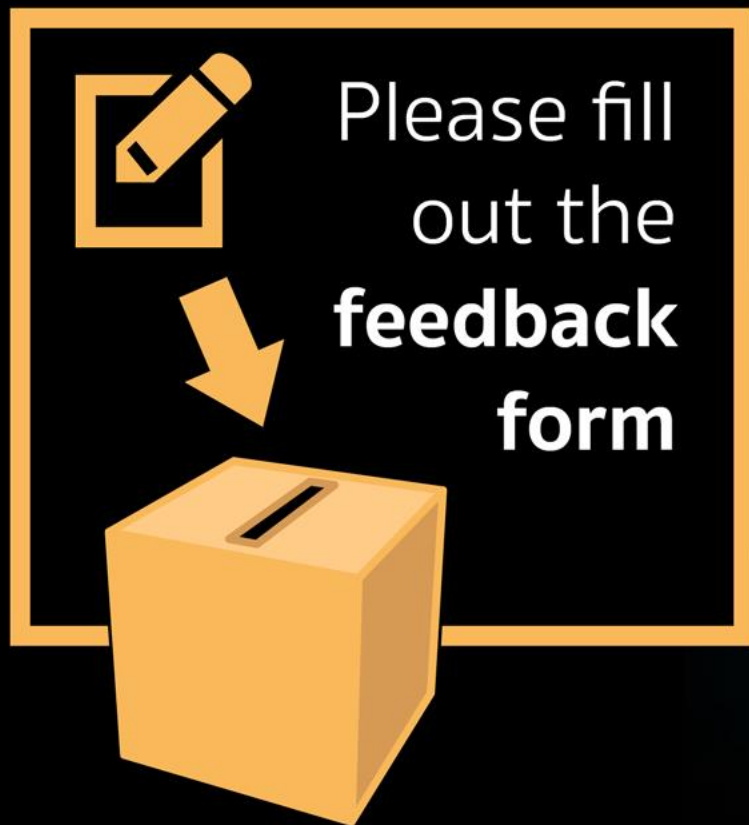
# Q&A





# FTTH Conference 2018

we connect technology, policy and finance



**Fibre to the Home**  
Council Europe

Thank you for your attention!

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