



Network Self-determination: When building the Internet becomes a right

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Luca Belli Editor

Community Networks: the Internet by the People, for the People

Official Outcome of the UN IGF Dynamic
Coalition on Community Connectivity

FGV DIREITO RIO



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communityconnectivity.xyz



Network Self-determination



Right to free **d**evelopment of
network **i**nfrastructure



Instrumental condition to allow the
full exercise of **h**uman **r**ights

*“the right to freely **associate** to define, in a **democratic** fashion, the **design, development and management of network infrastructure** as a **common good**, in order to freely seek, impart and receive **information** and **innovation**”*

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INFORMATIONAL

Internet Research Task Force (IRTF)

N. ten Oever

Request for Comments: 8280

ARTICLE 19

Category: Informational

C. Cath

ISSN: 2070-1721

Oxford Internet Institute

October 2017

Research into Human Rights Protocol Considerations



*“the **d**esign and **d**evelopment of the
Internet **i**nfrastructure have a growing
impact on **s**ociety” (RFC 8280)*

*“Internet as an **enabling environment**
for **human rights**” (RFC 8280)*



Network Self-determination

A concept based on Human Rights Law
and on empirical evidence



1. **O**bservable **p**henomena

Current World Population

7,609,446,632

[view all people on 1 page >](#)



3,874,141,165

Internet Users in the world

[sources](#)

[more info](#)

[watch all](#)

Current estimates from elaboration of data provided by:

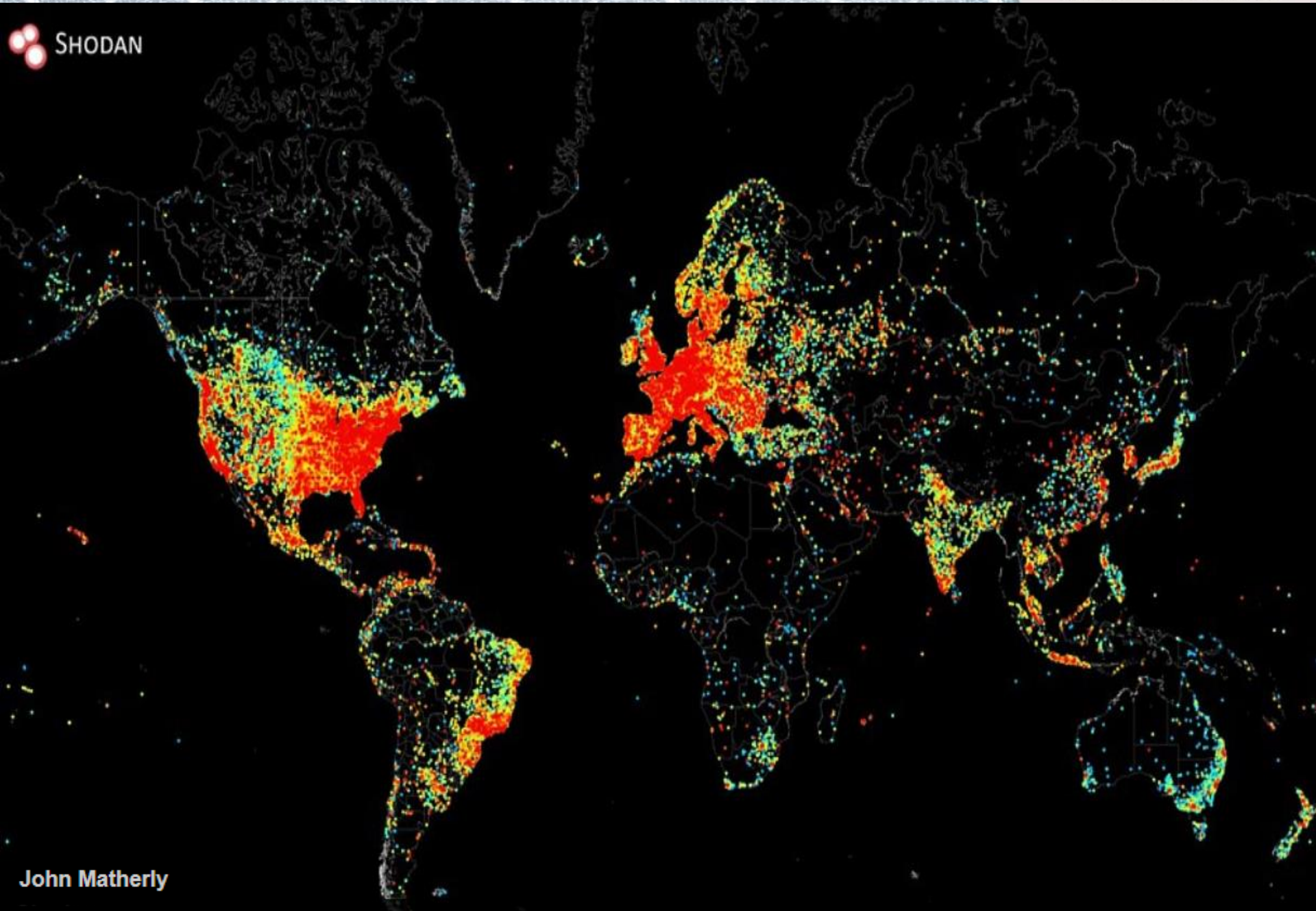
- International Telecommunication Union
- World Bank Group
- United Nations Population Division

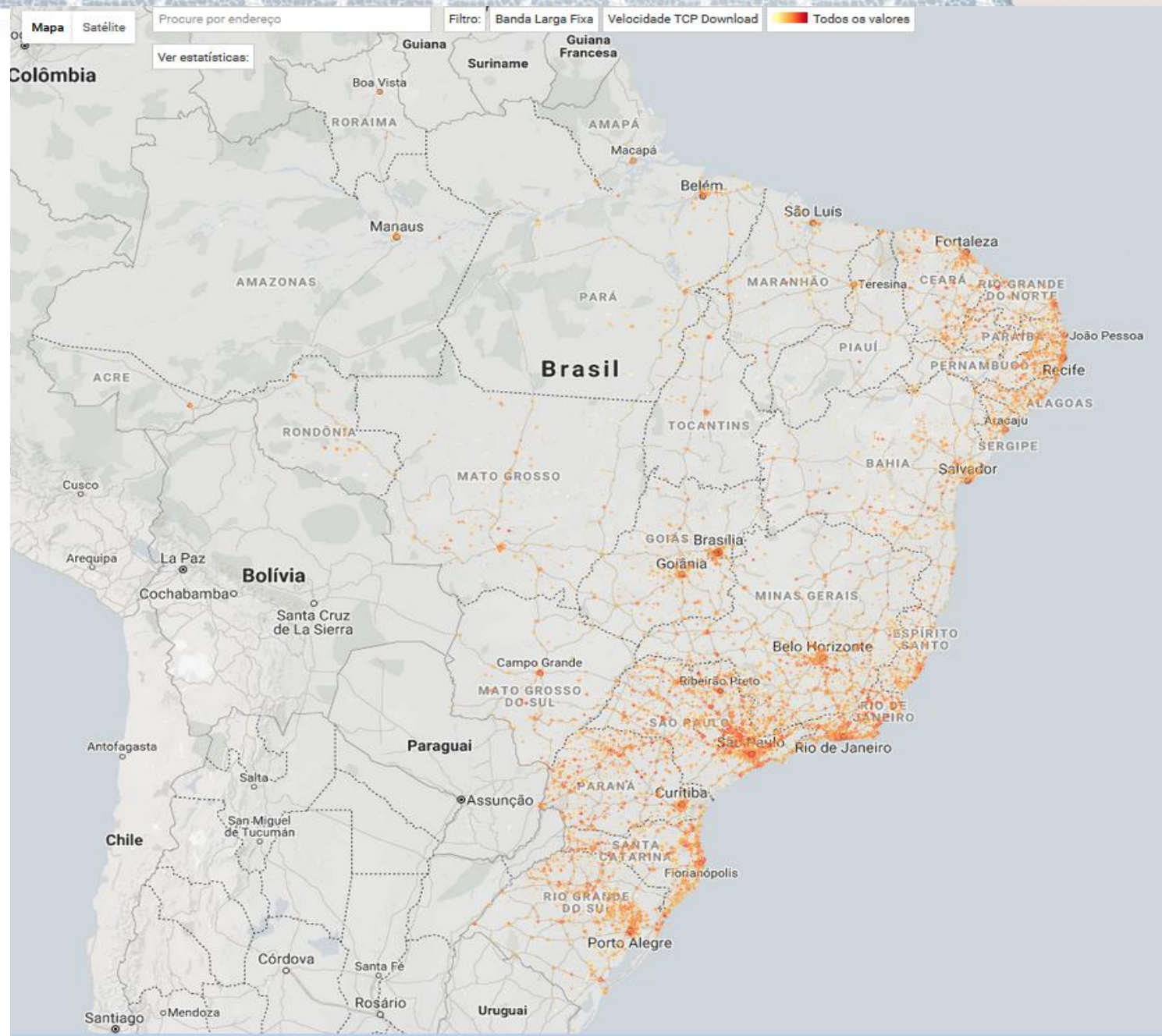
JAN
2018

INTERNET PENETRATION BY REGION

REGIONAL PENETRATION FIGURES, COMPARING INTERNET USERS TO TOTAL POPULATION



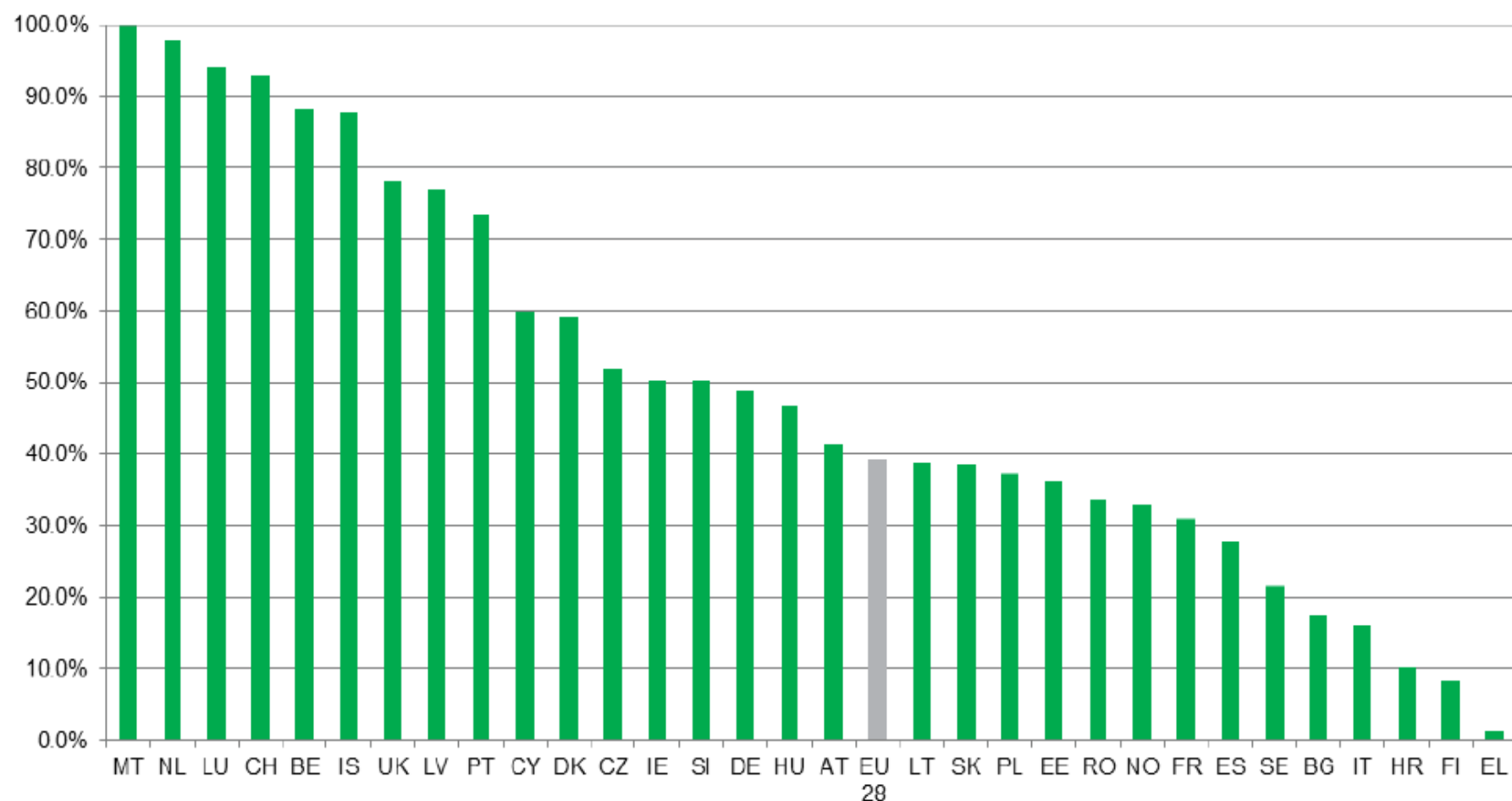






*“The **rural EU average** for NGA technologies, at **39.2%**, continued to be **considerably lower** than **total NGA coverage (76.0%)**” (EC 2017)*

Overall NGA coverage by country, rural areas, 2016



Source: Broadband Coverage in Europe 2016, a study by IHS Markit and Point Topic for the European Commission

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Mainstream networks are...
not so mainstream

Internet Research Task Force (IRTF)
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Alternative Network Deployments:
 Taxonomy, Characterization, Technologies, and Architectures



“mainstream networks” (RFC 7962)

- usually **large** networks spanning wide areas



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- usually **large networks** spanning wide areas
- controlled in a **top-down** fashion by the operator

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- require a **substantial investment**

“mainstream networks” (RFC 7962)

- usually **large networks** spanning wide areas
- controlled in a **top-down** fashion by the operator -> **centralised approach**
- require a **substantial investment**
- **no user participation** in the network design, deployment and operation



Why people are **not connected**?

It depends....



Why people are **not connected**?

- Connectivity is **unavailable**



Why people are **not connected**?

- Connectivity is unavailable
- Connectivity is too **expensive**



Why people are **not connected**?

- Connectivity is unavailable
- Connectivity is too expensive
- Lack of **interest**



Why people are **not connected**?

- Connectivity is unavailable
- Connectivity is too expensive
- Lack of interest
- Low level of **literacy**



What if **y**ou could build **y**our
network yourself?



2. Community Networks

Crowd-sourced networks



built by groups of **individuals** in a
bottom-up fashion



utilised and **m**anaged by the
local **c**ommunity as **commons**



Distributed architecture





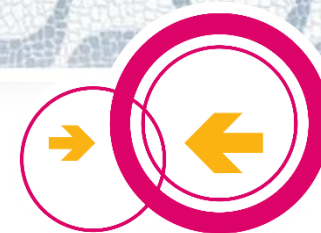
- Usually based on **wireless** technology (IEEE 802.11 family of standards)

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- Use **low-cost** Wi-Fi equipment and exploit **unlicensed** spectrum bands

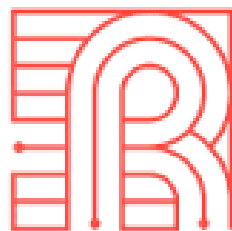
- Usually based on **wireless** technology (IEEE 802.11 family of standards)
- Use **low-cost Wi-Fi equipment** and exploit **unlicensed spectrum** bands
- Can also be based on **fibre** infrastructure

guifi·net

Red de telecomunicaciones
abierta, libre y neutral



freifunk.net



R H I Z O M A T I C A



**ALTER
MUNDI**



broadband **B4RN** **for the** **rural** **north**

Virtuous circle of **knowledge** and **innovation**

new services **by** the community **for** the community

- maps
- instant messaging apps
- VoIP services
- local e-commerce platforms
- e-health apps, etc.



Positive externalities of DIY connectivity:

- Freedom of **expression**



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- Education and capacity building

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- More “**interesting**” Internet

Positive externalities of DIY connectivity:

- Freedom of expression
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- More “interesting” Internet
- **De**centralization

Positive externalities of **DIY** connectivity:

- Freedom of expression
- Education and capacity building
- Permissionless innovation
- More “interesting” Internet
- Decentralization
- **Employment** opportunities

2. Human Rights Law

*“the right to freely **associate** to define, in a **democratic** fashion, the design, development and management of network **infrastructure** as a **common good**, in order to freely seek, impart and receive **information** and **innovation**”*

1. *the right to freely **associate***
2. *to define, in a **democratic** fashion, the design, development and management of network **infrastructure** as a **common good**,*
3. *in order to freely seek, impart and receive **information** and **innovation***



1. “the right to freely **associate**”

art. 20 UDHR, art. 22 ICCPR, etc.

3. *“in order to freely seek, impart and receive **information** and **innovation**”*

Art. 19 UDHR; art 19 ICCPR, etc.



2. “to **define**, in a **democratic fashion**, the design, development and management of network infrastructure as a common good”



(internal) **Self-determination**

A **governance** system in accordance with the
will of the **people**

All peoples must be **free** to determine their political status and to **pursue** their **economic, social and cultural development**

Art. 1 UDHR, 1(3) ICCPR & ICESCR, etc.



Informational Self-determination



the capacity of the individual to **determine** the
disclosure and **use** of his/her **personal data**

“Census” decision, BVerfGE



*“Personal data is the
new **currency** of the
digital world.”*

Meglana Kuneva, 2009



**The
Economist**

MAY 6TH-12TH 2017

Theresa May v Brussels

Ten years on: banking after the crisis

South Korea's unfinished revolution

Biology, but without the cells

The world's most valuable resource



**Data and the new rules
of competition**



Zero rating offerings



the practice of imposing limited **data caps** and
not counting data consumption of **selected**
apps against users' monthly **data allowance**



Purposes of the **most common ZR** models?

- **lure (new) users** with a selection of **sponsored services**

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- orientate **user choice** and **attention** (*i.e.* **data production**) towards **integrated services**

Purposes of the **most common ZR** models?

- lure (new) users with a selection of sponsored services
- orientate user choice and attention (*i.e.* data production) towards integrated services
- sell to app providers **preferential access** to the operator's consumers

Advantage for app consumers



Data consumption of specific services is not payed



Problems

active Internet **prosumers** are turned
into **passive** app consumers

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sponsors/operators **decide** which apps
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active Internet **prosumers** are turned into
passive app consumers

sponsors/operators decide which **apps** are
subsidized

the **Internet** is **centralized** and **fragmented**
into **clusters of sponsored apps**

zerorating.info

Beta version 0.9.8

Zero Rating Map

Powered by

FGV DIREITO RIO
ESCOLA DE
DIREITO DO
RIO DE JANEIRO

Filters:

Is there net neutrality regulation?
(All)

Look for apps that are zero rating

Operators implementing zero rating offerings



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Is there net neutral...
regulation?

Percentage of countries that have regulation for network neutrality. (Counting only the countries that we have information)



Want to contribute to this Map? <https://ethercalc.org/ekbq9863vazq>
 Want to know more about Zero Rating? <https://tinyurl.com/zerorating>
 Want to know more about Net Neutrality? <http://www.networkneutrality.info/>



Minitelization of the Internet?



Why not allowing the **people** to **build** the
Internet themselves?



Thank **you**
for **your** attention!

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