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netCommons
Network Infrastructure as Commons

Dissemination Report

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Executive summary

This deliverable summarizes the dissemination activities of the netCommons Consortium and their overall impact during the second year of the project's life. Notably, this year was marked by critical and rather urgent legal developments around the European Electronic Telecommunications Code.

netCommons adapted successfully to these unforeseen situations and managed to play a key role in advocacy efforts, coordinating networking activities among CNs in Europe and worldwide. In this context, as highlights count:

- An Open Letter to European Union (EU) Policy-Makers: Making Regulation Work for Community Networks, in March 2017, and the corresponding press release.

- Detailed notes on the individual amendments of the European Electronic Communications Code before decisive votes in European Parliament in collaboration with La Quadrature Du Net (LQDN) and a second open letter.

- A focused workshop in the European Parliament including Members of the Parliament (MEPs) Julia Reda and José Bové as coordinators.

- Contributions to the efforts around the Radio Directive, which severely hinders the launch of CNs.

- Initiation of the telecommons mailing list as a platform for communication exchanges across different CNs and coordination of joint actions such as the Open Letter to EU.

- Participation in the formation of a new Internet Society (ISOC) Special Interest Group on Community Networks.

In addition to these exceptional activities addressing policy makers and regulators, which are without a precedent in the brief history of CNs, significant impact has been achieved upon CNs and the communities served by them. This holds in particular for the CNs that maintain a close relationship with the project, namely ninux.org, guifi.net, Sarantaporo.gr and FFDN. Activities in this direction have ranged from the organization of workshops and seminars to the diffusion of knowledge (funding and organizational models) and the help to attract competitive funding for assisting the CN growth.

netCommons partners have also engaged also in a wide variety of dissemination activities targeting the scientific community, local authorities and stakeholders, the Collective Awareness Platforms for Sustainability and Social Innovation (CAPS) community, and the general public.

In numbers, netCommons partners organized or co-organized 6 events, participated in 10 high-impact international and 2 CAPS events, 10 scientific workshops, and were invited to talk in 4 public events. To these, one should add 2 book chapters, 5 journal articles, 12 conference papers (8 of which in proceedings), 4 PhD theses, and a web article at The Conversation Global.

This deliverable presents the outcomes of these efforts structured around the individual activities, *i.e.*, events (Chapter 2), advocacy efforts (Chapter 3), local meetings (Chapter 4), publications (Chapter 8), and other dissemination activities (Chapter 5). It concludes with an overall evaluation of the positive impact generated for CNs (Chapter 6) and future steps (Chapter 7).

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List of Acronyms

APC	Association for Progressive Communications
CAPS	Collective Awareness Platforms for Sustainability and Social Innovation
CN	Community Network
EC	European Commission
EU	European Union
ISOC	Internet Society
LQDN	La Quadrature Du Net
MEP	Member of the Parliament

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1 Summary of activities

It has been a very productive year in terms of dissemination for the netCommons project succeeding to reach out to all the major target actors, as summarized below. The rest of the document is structured around the individual activities, many of which are addressing multiple actors, while a dedicated concluding section elaborates more on the overall impact of the netCommons work on CNs at large.

1.1 Community Networks

netCommons partners contributed in most major events on Community Networks in 2017 and organized itself several ones that introduced CNs to different audiences and enabled CNs themselves to participate in forums not easily accessible to them, as for example the workshop with policy makers, politicians and regulators at the European Parliament (see Sec. 2.1.6 and Chapter 3).

The work of netCommons brought tangible benefits to specific CNs, like the technical work on Cloudy and OpenWISP already adopted by guifi.net and ninux.org respectively, or the close engagement with the Sarantaporo.gr area that has contributed to successful grant applications[1] and the FundAction's 'Rethink' grant of 5K EUR to support Sarantaporo.gr expertise sharing to Tzoumerka valley[2].

netCommons partners participated also in the formation of a new ISOC Special Interest Group on Community Networks.[3]

Chapter 6 describes in detail all explict and implicit impact that the overall work of netCommons had over its first two years.

1.2 Local authorities and stakeholders

In terms of approaching and engaging local authorities, Barcelona is still the more advanced case study with UPC playing a key role in the "Barcola" expert group on collaborative economies of the City Council of Barcelona (Ajuntament).

The Sarantaporo.gr success story has also opened some doors in Greece with local authorities in the Sarantaporo.gr area showing more and more interest and discussions having started with the municipality in Athens, about possible collaborations in the context of the refugee crisis, none of which have taken an official form yet.

1.3 Policy makers, regulators, and politicians

Due to important developments in the area of EU legislation and more specifically the European Telecommunication Code, netCommons has been very active in 2017 in advocacy efforts (see Chapter 3), including an Open Letter to EU Policy-Makers: Making Regulation Work for Community Networks, in March 2017, and the corresponding press release[4], detailed notes on the individual amendments of the European Electronic

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[1]ISOC's Beyond the Net grant of 30K EUR for the expansion of the network and educational activities https://www.internetsociety.org/beyond-the-net/grants/2017/sarantaporogr-community-network/

[2]See http://www.sarantaporo.gr/node/408

[3]http://cnsig.info

[4]https://netcommons.eu/?q=news/open-letter-eu-policy-makers-community-networks

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Communications Code before decisive votes in European Parliament in collaboration with LQDN and a second open letter.[5], a second press release, in October 2017,[6], a focused workshop in the European Parliament including Member of the Parliaments (MEPs) Julia Reda and José Bové as discussants,[7], contribution to the efforts around the Radio Directive,[8] and the initiation of the telecommons mailing list[9] with the opportunity of the open letter.

1.4 CAPS communities

netCommons partners further developed links and collaborations with CAPS projects, participating in several CAPS events (see Sec. 2.3) and most importantly initiating a working group on participatory design, which co-organized a workshop in the C&T conference, described in more detail in Sec. 2.1.4 and Deliverable 3.3.

1.5 Scientific communities

In terms of scientific output, netCommons continued to be very rich with 2 book chapters, 5 journal articles, 12 conference papers, 8 of which in proceedings, and 4 PhD theses, published in 2017 and more already accepted for publication in 2018.

1.6 General public

netCommons appeared in mass media and online press, including an 20min interview on national TV and a second article at The Conversation Global.

1.7 Internet Presence

netCommons web site in 2017 served 1,808,595 requests for 25,671 visitors (excluding robots) with an average of 72 visitors per day (with a 65% increase with respect to 2016). Fig. 1.1 reports the time graph of the page hits and the unique daily visitors for the reported period. It also shows how the website was highly visited especially corresponding to the events we participated or organized, such as the Stockholm Internet Forum 2017 (17-18 May).
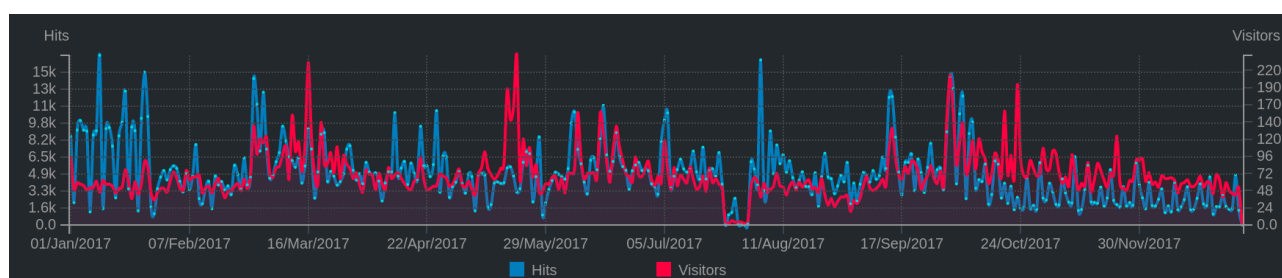
Figure 1.1: The access statistics of www.netcommons.eu.

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[5]See https://netcommons.eu/?q=content/notes-european-electronic-communications-code-decisive-votes-european-parliament and

[6]https://netcommons.eu/?q=news/european-governments-seek-greater-oligopolization-telecom-infrastructures

[7]https://netcommons.eu/?q=content/eu-parliament-workshop-community-networks-and-telecom-regulation

[8]https://freifunk.net/blog/2017/12/das-problem-mit-der-eu-funkrichtlinie/

[9]https://lists.laquadrature.net/cgi-bin/mailman/listinfo/telecommons

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2 Events

netCommons has organized numerous events and participated in well established events organized regularly by other stakeholders, being them communities, large scientific societies or other recognized actors. As done in the previous dissemination deliverable we divide events in categories: we first report on the events organized or co-organized by netCommons (Sec. 2.1), then on those where we participated Sec. 2.2. These two Sections refer to general multi-cultural events. Sec. 5.2 reports instead on events organized specifically for CAPS or in general H2020 projects, while Sec. 2.4 is dedicated to specialist scientific venues where netCommons partners participated. Finally, Sec. 2.5, Sec. 2.6 and Sec. 2.7 summarize on general public talks and other community building activities.

2.1 Organized events

2.1.1 GAIA Community Networks: Sustainability & Regulation Workshop

Type: Workshop

Title: GAIA Community Networks: Sustainability & Regulation Workshop

Date: January 26-27, 2017

Place: Cambridge, UK

Organizers: Leandro Navarro, UPC

URL: https://www.cl.cam.ac.uk/~al773/gaiaworkshop/gaia_workshop17.html

Actors: Community networks, engineers, researchers, practitioners, international organizations

Audience: Around 80 participants

Dissemination Level: EU, US, Africa, Asia

Description: A GAIA workshop, co-organized with netCommons. The theme of the specific workshop was on the development of local networking infrastructures using cooperative & open-access management schemes considering two main approaches: 1) Open-access radio spectrum (and its availability, sharing, open access, etc); 2) Community networks (with similar properties) providing open-access connectivity (and also IX-like infrastructures etc).

Summary:

It was a full house with very interesting presentations from all over the world. Four netCommons presentations by Leandro Navarro (UPC) on network infrastructures as commons, Roger Baig (UPC) on the Net4all project, Renato Lo Cigno (UniTn) on spectrum, and Panayotis Antoniadis (NetHood) on the Sarantaporo.gr participatory design process.

Additional notes:

The presentation by Panayotis Antoniadis on Sarantaporo.gr drew the attention of the 1worldconnected project, which led to the creation of a related case study[1], presented by Vassilis Chrysos at IGF2017[2].

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[1] See http://1worldconnected.org/wp-content/uploads/2017/12/053017_Sarantaporo_FB.pdf
[2] See https://twitter.com/1_WorldConnect/status/943784725910556674

2.1.2 Universse 2017

Type: Panel in Conference

Title: Digital infrastructure as commons

Date: 11 June 2017

Place: Athens

Organizers: Panayotis Antoniadis (NetHood)

URL: https://universse2017.org/en/program/per-day/#k1214

Actors: Activists, civil society, local authorities

Audience: 600 people in conference, 30 people in netCommons panel

Dissemination Level: Greece

Description (as published at the conference web site):

This panel presents different examples of grassroots initiatives that treat network infrastructure as commons, and discusses issues of governance and sustainability with focus on the Greek case studies of Sarantaporo.gr and Exarcheia Net. More specifically presentations were given by

- Juergen Neumann, co-founder of Freifunk.net, Germany
- Vasilis Chrysos, co-founder of Sarantaporo.gr, Greece
- James Lewis, instigator & facilitator of Exarcheia Net, Greece
- Panayotis Antoniadis, co-founder of NetHood, Switzerland
- Guest speaker (not in the official programme): Nicolas Pace (Altermundi)

Summary: The panel introduced the concept of network infrastructure as commons to people active in other areas of commoning (housing, energy, urban commons) that came all around the world for this big event of high visibility and impact. The presentation of successful case studies from abroad (Freifunk.net and Altermundi.net) together with the local initiatives (Sarantaporo.gr and ExarcheiaNet) was very informative both for the audience but also helpful and inspiring for the local activists (e.g., the Exarcheia Net CN).

Additional notes: An article (in Greek) was published in the popular news site ThePressProject regarding this panel[3].

2.1.3 Libremesh workshop

Type: Series of workshops

Title: Libremesh workshop

Date: 12-15 June 2017

Place: Athens, Greece

Organizers: Panayotis Antoniadis (NetHood)

URL: http://wiki.exarcheianet.gr/index.php?title=Libremesh_workshop_in_Athens_-_June_12-16th

Actors: Activists

Audience: 100 people

Dissemination Level: Greece

Description: In June 12-16th, experts in the field of Community Networks from all over the world, including Juergen Neumann (co-founder of Freifunk.net) and four core Libremesh developers also active in various com-

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[3]See https://www.thepressproject.gr/article/112431/Koinotika-Diktua-Apo-tin-prosbasi-sto-Diadiktuo-mexri-tin-organosis-tis-topikis-koinotitas

munity networks around the world (Guifi.net, ninux.org, Altermundi.net), visited the Exarcheia Net initiative in Athens to share their experiences and knowledge.

In addition to self-organized hands-on workshops, a series of related events were organized:

- a public event at Exarcheia (with all guests present), June 12th[4].
- a technical workshop at hackerspace.gr (with the libremesh team), June 13th[5].
- the regular WiFi Wednesdays with the participation of our guests, June 14th, 14h00

Summary:

With the opportunity of the Battle of the Mesh conference in Vienna, the core team of the libremesh project was invited by NetHood to spend some days in Athens together with activists from the recently founded ExarcheiaNet CN.

The series of events were very successful. The most attended public event took place in the cultural space Nosotros and gathered around 80 people, including both activists and local residents interested in the topic.

Getting in close contact with such engaged activists leading one of the key software projects in CN technology was very informative and inspiring leading to increased participation and interest in the ExarcheiaNet project.

Also many long-terms contacts were established between local and international activists, with multiple positive effects. For example, Nicolas Pace (Altermundi), visited later the Sarantaporo area for our training workshop, helped during the workshop, and produced nice video clips[6].

He also established a strong relationship with the Sarantaporo.gr team and contributed with consulting to a successful funding application for ISOC's Beyond the Net grants, [7]

A pilot libremesh access network deployed in the area was also a tangible outcome of this visit.

Figure 2.1: Public event on CNs at the cultural center Nosotros in Exarcheia neighbourhood

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[4]See http://wiki.exarcheianet.gr/index.php?title=Nosotros_-_June_12

[5]See: https://www.hackerspace.gr/wiki/ExarcheiaNet_Libremesh_Workshop

[6]Available at https://www.youtube.com/watch?v=ojiSXThSCuk, https://www.youtube.com/watch?v=YSfOlSxHQsQ, https://www.youtube.com/watch?v=WN5C98vxePY

[7]Details on https://www.internetsociety.org/beyond-the-net/grants/2017/sarantaporogr-community-network/

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2.1.4 Participatory Design, beyond the local

Type: Workshop

Date: June 27, 2017

Place: Troyes, France

URL: https://capssi.eu/event/participatory-design-beyond-the-local/

Dissemination Level: International

Actors: Academia, CAPS Communities

Audience: 15

Organizers Panayotis Antoniadis

Description (from the conference material): *Focused workshop on participatory design based on experiences and lessons learned in different CAPS projects*

Summary:

Four EU Horizon2020 CAPS projects, commonfare, empatia, MAZI, and netCommons, collaborated in the organization of a workshop titled "Participation Design, beyond the local", which was hosted at the 8th conference on Community & Technologies, June 26-30, Troyes, France.

The workshop aimed at stimulating and opening a debate around the capacity of Participatory Design (PD) and other co-design approaches to deliver outcomes and methodologies that can have an impact and value for reuse well beyond the local context in which they were originally developed.

Details on the discussions and outcome of this workshop are available in Deliverable 3.3.

2.1.5 4S panel on Citizen Science Politics and Practices

Type: Workshop in Conference

Date: August 30 - September 2, 2017

Place: Boston, USA

URL: https://convention2.allacademic.com/one/ssss/4s17/index.php

Dissemination Level: International

Actors: Academia, Scientific Communities

Audience: 30

Organizers Melanie Dulong de Rosnay

Description (from the conference material):

4S is the conference of the Society for Social Study of Science gathering over 1000 STS scholars. This year's theme was "STS (In)Sensibilities". If sensibility is the ability to grasp and to respond, how might we articulate the (in)sensibilities of contemporary technoscience? How, similarly, can we reflect on the extent and limits of our own sensibilities as STS scholars, teachers, and activists? The conference theme invites an open reading and exploration of how the world is made differently sense-able through multiple discourses and practices of knowledge-making, as well as that which evades the sensoria of technoscience and STS. Our aim is that the sense of 'sense' be read broadly, from mediating technologies of perception and apprehension to the discursive and material practices that render worlds familiar and strange, real and imagined, actual and possible, politically (in)sensitive and ethically sensible.

Summary:

Melanie Dulong de Rosnay co-organised 2 panels entitled 'Citizen Science Politics and Practices' with fellow STS (Science, Technology and Society) legal academics Shun-Ling Chen (Taipei) and Iris Eisenberger (Vienna) touching on the topic of Community Wireless Networks as Policy Makery/Makerspace.

After her presentation in one of these panels, the discussion focused on the collaboration between citizens and researchers, which is sometimes inverted compared to traditional citizen science: researchers are also learning from practitioners, roles can change between both categories for the same actors, and knowledge can take the form of policy evidenced by legal research, in addition to papers, licensing models and technology optimisation as more classical results.

Abstract of the presentation:

This communication explores the case of Community Wireless Networks as a case study of participation to public policy through the production of techno-legal knowledge. Community wireless networks (CNs) are local, commons-based alternatives to commercial internet service providers. They are producing and informing state-of-the art knowledge in the field of computer science and engineering, economy, law, and political science. Members of CNs, through their practice and collaborations with peer users, hackers, digital rights activists, researchers and local authorities, develop and improve technologies, policies and practices. They devise new types of licensing, governance and socio-economic agreements, and as such contribute to research and scholarship on the commons. Based on sophisticated techno-legal analysis of liability, privacy or telecommunications legal framework, they may engage in advocacy to draft laws more protective of digital rights and privacy, more supportive of open hardware, or spectrum management. We claim that the communities are 'making' science and policy through these practices, rather than 'only' technology, by analysing problems and proposing creative solutions to improve access and sustainability. The method associates an ethnography of CNs in Greece, France, Germany and Spain with desk research on the definitions of citizen science, and theories on the relation between science and policy, in the view of informing both fields of the findings of this research, which is part of the H2020 netCommons research project supported by the European Commission.

Figure 2.2: 4S panel on Citizen Science Politics and Practices

2.1.6 netCommons EP workshop

Type: Closed Workshop at European Parliament

Title: Community Networks and Telecom Regulation

Date: 17 October 2017

Place: Brussels

Organizers: netCommons

URL: https://netcommons.eu/?q=content/eu-parliament-workshop-community-networks-and-telecom-regulation

Actors: Politicians, policy makers, EU officials, researchers

Audience: 30 people

Dissemination Level: International

Description:

Despite the stunning achievements of CNs, policy-makers at the national and European levels have so far mostly neglected their existence and specific regulatory needs. Worse, regulation is often hampering these initiatives, and the draft of the "European Electronic Communications Code" (EECC) risks worsening the situation. This workshop, co-sponsored by MEPs Miapetra Kumpula-Natri (S&D) and Julia Reda (Greens/EFA), gathered CN practitioners, policy-makers and researchers to discuss the way in which EU policy can help European CNs thrive.

Summary:

Details on the presentations, discussions and outcome of this important workshop organized by netCommons, are included in Deliverable 1.5. and the corresponding videos are available online[8].

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[8]See https://www.youtube.com/playlist?list=PLKXvzLAP_vSYkQpXmheK99AZkAtAoTaUv

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Figure 2.3: netCommons partners and advisory board outside the EP before the netCommons workshop

2.2 Participation in high-impact international events

2.2.1 RightsCon

Type: Conference

Date: March 29, 2017 to March 31, 2017

Place: Bruxelles

URL: https://www.rightscon.org/past-events/

Dissemination Level: International

Actors: Academia, General Public, Local Authorities, Local Stakeholders, Policy Makers, Scientific Communities

Audience: 80

Organizers Leonardo Maccari, Federica Giovanella

Description (from the conference material): *"RightsCon is the world's leading conference on human rights in the digital age, we bring together business leaders, policy makers, general counsels, government representatives, technologists, and human rights defenders from around the world"*

Summary:

RightsCon is an international venue where practitioners, stakeholders, law makers and many more gather to trace the roadmap of digital rights for the years to come. It is attended by thousands of people and presents a set of parallel panels with invited speakers of high relevance.

Leonardo Maccari and Federica Giovanella were invited to the panel on "Sustainable Connectivity: Expanding Infrastructure and Empowering People". The panel was organized by Luca Belli, from the Center for Technology and Society at FGV Rio.

The panel was participated by around 80 people, among the speakers there were scientists, EU commission officers, and the central theme was how to bring connectivity to the unconnected, with a sustainable approach, a theme that is central in netCommons agenda. The panel was highly interactive and raised many questions, both about the technical and legal aspects that the two netCommons experts raised during their presentations.

Figure 2.4: The panel before the conference.

2.2.2 IEEE Internet Inclusion, advanced solutions Workshop

Type: Workshop

Title: Internet Inclusion: Advancing Solutions

Date: April 24-25, 2017

Place: Washington DC, USA

Organizers: IEEE Internet Inclusion WG

URL: http://internetinitiative.ieee.org/events/conferences/internet-inclusion-advancing-solutions-washington-d-c-2017

Actors: Engineers (IEEE), Governmental global institutions (ITU, UN, World Bank group, World Economic Forum), Internet global institutions (Internet Society, Network Startup Resource Center, APNIC), Community networks (guifi.net, Rhizomatica), Development agencies (USAID), companies (USA and global companies).

Audience: Around 150 participants

Dissemination Level: Global

Description: An IEEE workshop, co-organized with guifi.net and netCommons. The theme of the specific workshop was Internet Inclusion: finding solutions for about half of the global population that still has no access to connectivity. The main collaborating partners for the event included: Network Startup Resource Center, Guifi.net, netCommons, Internet Society, ITU, 1 World Connected, Partnership for Public Access,

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People Centered Internet, USAID, World Bank Group, World Economic Forum and gold-level sponsor Venture Smarter.

Sessions were built on previous internet inclusion events organized by IEEE – as well as other programs dedicated to internet access, development and inclusion. These collaborative, multistakeholder events have outlined definitive opportunities to accelerate progress in meaningfully connecting the estimated 60 percent of the global population that remains unconnected around the world.

There are several working groups: *Community Networks*, lead by Roger Baig from guifi.net and netCommons, *Public Access* lead by a libraries association, *Innovative Business Models* lead by a group of academics and companies (Leandro provided inputs about the commons and community networks), *Digital Gender Divide*, with a discussion of the additional gap in terms of gender and minorities, *Evidence-based Research*, and *Digital Literacy*

Summary:

A high level discussion with many global representatives and USA participants, with a clear aim at finding ways to deliver connectivity to the remaining global population, for diverse reasons and with diverse methods. Institutions like the World Bank see a great opportunity for socio-economic development and they are willing to support "bankable projects".

The Community Networks Working Group was led by Roger Baig (guifi.net and UPC) with participation also from Roger Pueyo (guifi.net and UPC) and Leandro Navarro (UPC), co-organized by guifi.net, netCommons, Internet Society, IGF-DC3.

Community Networks were acknowledged drivers for a truly empowering Internet inclusion, as they imply the involvement of the communities in the design, construction, maintenance and operation of their own telecommunications infrastructure. Fostering their adoption poses an excellent opportunity for contributing to connect the next billion(s). The WG focused on identifying ways to address the key challenges for this adoption.

Roger Pueyo, Roger Baig and Leandro Navarro participated in many weekly preparatory online conferences to organize the event. Roger Baig as chair and Leandro Navarro as co-chair organized a parallel discussion session for the Community Networks WG. Roger prepared a summary document. Another similar meeting is expected in the last quarter of 2017 and a follow-up during the WSIS meeting in Geneva (June), and IGF 2017 in Geneva (December).

2.2.3 re:publica 2017 – Digital Equality: how an open Web can contribute to a more Equal world?

Type: Conference

Date: May 8, 2017 to May 10, 2017

Place: Berlin, Germany

URL: https://re-publica.com/en/17/session/digital-equality-how-open-web-can-contribute-more-equal-world

Dissemination Level: International

Actors: Academia, General Public, Local Stakeholders

Audience: 70

Participants Melanie Dulong de Rosnay

Description (from the conference material): *Panel on Digital Equality: how an open Web can contribute to a more Equal world?*

Summary:

Melanie Dulong de Rosnay participated to a panel of the large conference re:publica. Its audience was composed of open web policy activists, academics and practitioners. Community networks and the results of netCommons were presented as an alternative to commercial ISPs, enabling community empowerment.

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The discussion following the presentation started with policy and regulation issues, which threaten these CNs and were not addressed during the net neutrality debate. Thomas Lohninger noted that the project WIFI4EU is mainly targeting big telcos doing local wifi than these more sustainable forms of investment, which need more funding. He explained that the highest number of cables were to be found in Bulgaria, because that's the way Internet access started, with geeks hooking up their friends and family with wires. Unlike Germany, where regulation prevents the installation of wires above the street, and where copyright liability rules resulted in routing the traffic through Sweden. Kathleen Berger described CNs projects supported by the Mozilla Foundation to provide access in affordable ways in rural areas of India, Brazil and Africa, as Renata Avila was questioning whether this model would be viable outside Europe. Melanie Dulong de Rosnay explained that while netCommons was a European project, CN infrastructure had been successfully deployed and studied in ICT4D. Finally, features of resilience to censorship and surveillance were underlined as a real progress, favoured by the control of the infrastructure and the absence of monitoring, despite the dependence on backbones. Another challenge, common to other areas of internet & society studies, is the inclusion of non-geeks and non-male audiences.

A blog post by Cathleen Berger: Digital equality and the complexities of inclusion - #LoveOutLoud, 19 May 2017[9].

Additional notes:

The video of the entire panel is available on the webpage of the panel[10].

Figure 2.5: Digital Equality: how an open Web can contribute to a more Equal world?

2.2.4 Stockholm Internet Forum 2017

Type: conference

Title: Stockholm Internet Forum

Date: 17-18 May 2017

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[9]See   https://medium.com/@_cberger_/digital-equality-and-the-complexities-of-inclusion-or-why-we-need-an-open-an-free-web-29646ab46c96

[10]See https://youtu.be/nVcay3ZEPSg?t=17m13s

Place: Stockholm, Sweden

Organizers: Swedish International Development Agency (SIDA)

URL: http://www.stockholminternetforum.se/

Actors: Development actors (international organizations, NGOs, Internet organizations.

Audience: Interested in the role of Internet in Development.

Dissemination Level: Global, with a focus on development and developing countries.

Description: An international forum for in-depth dialogue and discussions on how a free, open and secure Internet promotes human rights and development worldwide. Organized in two parts: preparatory meetings (Pre-SIF or side events), and the main event, with plenary sessions and parallel workshops.

Summary: Two main activities with the participation of Leandro Navarro (UPC).

One side event: *Developing Internet universality indicators with UNESCO and the APC Internet indicators consortium*. This is related to UNESCO that in 2015 put the concept of 'Internet Universality' at the heart of its work to promote an Internet that works for all. Internet universality points to four *'fundamental norms that have been embodied in the broad evolution of the Internet to date, and which provide a comprehensive way to understand how multiple different aspects are part of a wider whole.'* These norms – known for short as the ROAM principles, are concerned with: Rights (R), Openness (O), Accessibility (A) and Multistakeholder Participation (M). Leandro mentioned the work that netCommons is doing, and in the second half of June we will be able to provide written inputs about how to measure Internet universality from the perspective of Community Network (CN).

A main session *A positive outlook: Leave no one offline Community access – Helping the last 4 billion get connected*. A very interesting panel about the potential for small-scale locally based communications infrastructure to help address the digital divide. The presenters described how the emergence of low cost networking equipment has stimulated a growing number of community based networks all over the world, from Barcelona to Bogota, from rural Eastern Cape in South Africa to rural Thailand. This has inspired some to say "just let the unconnected connect themselves." The discussion covered aspects about sustainability, key constrains such as policy and regulation, the gender gap and gender perspective.

2.2.5 BM2017

Type: Assembly

Date: June 4, 2017 to June 10, 2017

Place: Wien, Austria

URL: http://battlemesh.org/

Dissemination Level: International

Actors: Existing Community Networks, General Public

Audience: 80

Participants Leonardo Maccari

Description:

The annual meeting of the European CNs, and the meeting of the developers of routing protocols that are used in CNs.

Summary:

The Wireless Battle of the Mesh is an yearly event that brings together people from across the world to test and compare the performance of different routing protocols for ad-hoc and mesh networks, like Babel, B.A.T.M.A.N., BMX6, OLSR, 802.11s. Every year the community gathers and set-up a testbed on which the protocols are run, developed, debugged and tested, and some performance measures are extracted. While the

initial spirit of the event was to set-up a competition between the protocols (as the name suggests), with time it changed into a moment of exchange of experience, collective development of innovations in the field of mesh networks and wireless open source networking software. The participants of the BM today are activists, developers, practitioners, and curious people involved in the world of CNs.

BM is a key event for CNs, because the developers that meet at the BM share the knowledge about the innovation they are introducing in their protocols, which shape the future of CNs. It is a key event also because it collects all the people that run and manage CNs, and they are the ones who keep their fingers on the pulse of CNs. netCommons was listed among the endorsers of the meeting, for having contributed to publicize the event and for having contributed with hardware for the testbed that was set-up during the event.

Leonardo Maccari attended the meeting. He made a presentation about the state of advance of netCommons and the topics that are most interesting for CNs, he also helped to set-up the testbed to do protocol testing, which is the core activity of the meeting. The testbed is a key activity in the BM, but in the latest years, it has been a cause of conflict for not being able to produce sufficient results for the routing protocol developers. This year Leonardo Maccari contributed to its organization and to the documentation of the results. The results were documented in a report that is available at the Battle Mesh website and the whole process was very much appreciated by the community.

The take-away for netCommons is very important, because we were able to share the material produced by the project that was very well received by the communities (the technical and the legal products, specifically) and we gained credibility in the organization of the testbed. This opened the way to propose, in the next BM, the applied results of netCommons, which is one of the goals of the third year of netCommons.

2.2.6 IAMCR panel on the history and policy of Community Networks

Type: Conference

Date: July 16, 2017 to July 20, 2017

Place: Cartagena, Colombia

URL: http://cartagena2017.iamcr.org/

Dissemination Level: International

Actors: Academia, Scientific Communities

Audience: 15

Participants Melanie Dulong de Rosnay, Maria Michalis, Dominique Trudel, Félix Tréguer

Description (from the conference material): The 2017 conference of the International Association for Communication Research. IAMCR is one of the biggest conferences for social science scholars working on communication and media. This year, it gathered around 3000 participants in Colombia.

Summary:

During our panel entitled "Drawing Policy Lessons From the History of Alternative Media and Networks", the netCommons team was able to present their first findings on the history and policy of alternative networks and reflect on contemporary stakes for Community Networks.

Additional notes: The netCommons panel was extremely well received by participants from the Communication Policy & Technology section of the IAMCR, which awarded Félix Tréguer the Emerging Scholar Best Paper Award for his paper on the history of alternative Internet networks. Read more on netCommons website[11].

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[11] https://netcommons.eu/?q=news/iamcr2017-delving-history-and-policy-community-networks

2.2.7 The Internet of People Dagstuhl Seminar

Type: Working Conference

Date: October 8, 2017 to October 11, 2017

Place: Dagstuhl, Germany

URL: https://www.dagstuhl.de/17412

Dissemination Level: International

Actors: Academia, Policy Makers, Scientific Communities

Audience: 35

Participants Leonardo Maccari, Panayotis Antoniadis

Description:

A Dagstuhl seminar organized on the theme "Internet of People". Dagstuhl Seminars are international meetings for researchers and scientists that meet in an informal way to share their vision on a specific research theme, and open the way to new research fields. As the Schloss Dagstuhl website reports a seminar "is organized by at most four organizers, established leaders in their field, representing the different communities invited to the Seminar, preferably from different institutions. Dagstuhl invites on their behalf about 35 to 45 researchers of international standing from academia and industry, among them promising young researchers. Most seminars discuss an established field within computer science. However, Dagstuhl Seminars are also known for establishing new directions by bringing together separate fields or even scientific disciplines."

Summary:

The seminar on the Internet of People came after the workshop realized in Vienna during the IFIP Networking conference in 2016, and was meant to be the place where to discuss how the Internet should change from a network of devices and IP addresses to a network of people, in which human beings play a central role. Two researchers from the netCommons project were invited to this seminar, Leonardo Maccari (UniTn) and Panayotis Antoniadis (NetHood), thanks to their visibility in the field.

The workshop was extremely productive, it alternated several themes, from the most technical ones to some social ones, and it was the chance to describe the work done in the netCommons project. The concept of Internet of People can be specialized in many flavours, one interpretation is about having a "digital twin", an AI-driven copy of self that interacts with digital artifacts on behalf of us, when direct interaction is not possible. Another interpretation that we gave, is that the network infrastructure should be representative of people, and managed by them. The idea that a community network is already an example of Internet of People is central in the netCommons project and was well received by the seminar participants.

Among the participants were not only top scientists from all over the world, but also professionals and representatives of the European Commission. This kind of seminar is a key place to shape the future of Computer Science research and it was essential that the netCommons themes were represented and contaminated the on-going discussion.

2.2.8 Self-service connectivity: feasibility, business models and sustainability

Type: Workshop in Conference

Date: November 15, 2017

Place: Singapore

URL: http://www.meetecho.com/ietf100/recordings

Dissemination Level: International

Actors: Academia, Existing Community Networks, Local Authorities, Local Stakeholders, Policy Makers, Scientific Communities

Figure 2.6: The participants of the Seminar

Audience: 100

Participants Leandro Navarro

Description: The GAIA WG meeting at IETF-100

Summary:

A presentation about self-service connectivity covering three aspects: feasibility, business models and sustainability. The work is related to WP1 results mainly. Self-service connectivity makes sense since "standard connectivity" (restaurant like) cannot reach the majority of population, self-provided connectivity seems a way (homemade like). Both can combine in the retail, wholesale and backhaul.

Feasibility (inception) is critical. There are different models to develop critical networking infrastructures. Costs vary since there are different models (e.g. right of pass for a private operator more expensive than a for a open access network done locally; costs: Fibre deployed from farms quite cost effective when done by farmers, compared to deployments by incumbents). A key issue is the initial and ongoing investment: typically done by a mix of local involvement and external help, wich raises the requirement for crowdfunding and ways to facilitate that.

Regarding business models: depending on who does it (large operator, WISP, CN) result in different costs and ownership. Technology tends to come bundled with business models (e.g. GSM implies operator and license) where WiFi, mesh, bitcoin are clearly decentralized. Infrastructure sharing is a key ingredient too: sharing with other utilities like roads, pipes, electricity, but also other networks: the case of Open Access networks or Internet eXchanges. Regarding sustainability: compensating the cost is important (experience from guifi.net). Compensation of OPEX and CAPEX. Compensation can be cost-oriented (cooperative development of a resource) or profit-oriented (competition and profit to mitigate risk and reward investors). There are diverse stakeholders involved: consumers (citizens, orgs, gov), producers (volunteers, professionals), and necessary facilitators (gov,

netCommons

regulation, rights of pass). Some ideas to remember: Commons can develop from cooperation or competition, especially for the development of infrastructure and services in the stakeholders we need to work to combine the efficiencies, and avoid the inefficiencies. Sustainability comes from crowdsourcing and crowdfunding, that leads to digital infra sovereignty, and ultimate local socio-economic development. Unbundling is key: open and separate choices for hardware, software, network, coord, service, apps.

Figure 2.7: IETF 100

2.2.9 Internet Governance Forum 2017

Type: Workshop

Title: DC3 workshop

Date: 19 December 2017

Place: Geneva

Organizers: United Nations

URL: https://igf2017.swiss/

Actors: All stakeholders

Audience: All stakeholders (global)

Dissemination Level: Global

Description: The 12th annual meeting of the Internet Governance Forum (IGF) took place between 18 and 21 December 2017 at the United Nations Office at Geneva (Palais des Nations, Avenue de la Paix 14, CH-1211 Geneva 10, Switzerland).

The IGF is a global multistakeholder forum that promotes discussions and dialogue about public policy issues related to the Internet. It was convened in 2006 by the United Nations Secretary-General.

Summary: netCommons, through Leandro Navarro (UPC) and Panayotis Antoniadis (NetHood) and Vassilis Chrysos wearing two hats (Sarantaporo.gr, AUEB-RC) participated in various panels and workshops, including the "DC on Community Connectivity", the panel on "Financing and Building Sustainable community networks", the APC event on GISWATCH 2017 including announcement of GISWATCH2018, and the presentation of the Librerouter project.

Talks were given by Panayotis Antoniadis in the panel on open source technologies, "Defending Freedoms in the Digital Future"[12], and by Vassilis Chrysos in the panel "DC on Connecting the Unconnected"[13].

Additional notes: Discussions with several organizations (global: APC.org, ISOC.org, ITU.int, IEEE.org) and many local community initiatives about the work in netCommons.

Participation in the formation of a new ISOC SIG on CNs, announced at the closing ceremony by Matthew Rantanen[14].

2.2.10 Organizing CNs advocacy capacities at the 34th Chaos Computer Congress

Type: Assembly

Date: December 27, 2017 to December 30, 2017

Place: Leipzig, Germany

URL: https://events.ccc.de/tag/34c3/

Dissemination Level: International

Actors: Academia, CAPS Communities, Existing Community Networks, General Public

Audience: 50

Participants Félix Tréguer

Description (from the conference material): The Chaos Computer Congresss is one of the oldest and biggest yearly hacker conference in the world.

Summary:

Félix Tréguer from the netCommons team attended the Congress and took part in various activities with representatives of CNs in Europe, especially FFDN and Freifunk communities, in particular regarding legal issues surrounding CNs that are currently being debated at the level of the European Union, but also organizational aspects and the need for greater European coordination on policy issues. He also liaised with people working on Radio Spectrum policy and Volker Grassmuck, who made a presentation on network commons that built on the work of the netCommons project.[15]

2.3 CAPS events

2.3.1 DSI Fair

Type: Workshop

Date: February 1-2, 2017

Place: Rome

URL: https://capssi.eu/event/digital-social-innovation-fair-2017/

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[12]Information and video available at https://igf2017.sched.com/event/CTsM/open-source-defending-freedoms-in-the-digital-future-ws8 and https://www.youtube.com/watch?v=wkORW3HeBFs

[13]Information and video available at https://igf2017.sched.com/event/CTsm/dc-on-connecting-the-unconnected and https://www.youtube.com/watch?v=kb9iPuwbWpo&feature=youtu.be&t=6396

[14]See http://cnsig.info

[15]https://media.freifunk.net/v/infrastructure-from-public-welfare-to-commons

Dissemination Level: International

Actors: Academia, CAPS Communities, General Public, Local Authorities, Local Stakeholders, Policy Makers, Scientific Communities

Audience: 200

Participants Renato Lo Cigno, Panayotis Antoniadis, Merkouris Karaliopoulos, Iordanis Koutsopoulos.

Description (from the conference material): *The DSI Fair 2017 offered a rich program featuring an international conference, focused workshops, networking and hands-on sessions. The line-up of speakers includes experts and practitioners, as well as policy makers and civil society players from all over the world.*

Summary: Renato Lo Cogno and Panayotis Antoniadis presented the netCommons work with Sarantaporo.gr as one of the CAPS success stories.

Figure 2.8: The presentation of Sarantaporo.gr CN as a success story of netCommons at DSI fair in Rome

2.3.2 DSI Manifesto Workshop

Type: Workshop

Date: May 23, 2017

Place: Rimini

URL: https://www.dsimanifesto.eu/workshop

Dissemination Level: International

Actors: Academia, CAPS Communities, General Public, Local Authorities, Local Stakeholders, Policy Makers, Scientific Communities

Audience: 50

Participants Leonardo Maccari, Panayotis Antoniadis

Description:

The workshop for the official launch of the Digital Social Innovator Manifesto. As mentioned in the Manifesto's home page, "*The Manifesto for Digital Social Innovation (DSI) is an initiative promoted by the EU project ChiC with the collaboration of the DSI4EU project and several other European innovators.*"

Summary:

The workshop was organized by the CHIC and the CAPSSI support project, in order to gather feedback on the DSI Manifesto, that is under construction. It involved many CAPS projects and several other stakeholders, especially among Public Administration.

It was well organized and pretty participated, Panayotis Antoniadis presented netCommons and MAZI under the analogy of "the organic Internet" and Leonardo got deeper in the netCommons themes.

Figure 2.9: Leonardo Maccari during his presentation of netCommons at the DSI Manifesto workshop in Rimini, Italy

2.4 Scientific conferences and workshops

2.4.1 Passive and Active Measurement Conference

Type: International Conference

Title: Passive and Active Measurement Conference (PAM)

Date: 30-31 March 2017

Place: Sydney, Australia

Organizers: University of Sydney, Australia

URL: https://research.csiro.au/pam2017/

Actors: Academia, industry

Audience: 100 people

Dissemination Level: International

Description: 18th edition of this international conference on network measurements.

Summary: Leandro Navarro from UPC presented the paper *Internet Access for All: Assessing a Crowd-sourced Web Proxy Service in a Community Network* authored by E. Dimogerontakis, Meseguer, R., and Navarro, L.

2.4.2 International Conference on Computer Supported Cooperative Work in Design

Type: International Conference

Title: IEEE 21st International Conference on Computer Supported Cooperative Work in Design (CSCWD)

Date: 26-28 April 2017

Place: Wellington, New Zealand

Organizers: IEEE

URL: http://cscwd17.sim.vuw.ac.nz/

Actors: Academia, industry

Audience: 150 people

Dissemination Level: International

Description: CSCW is one of the oldest conferences on the topic of human-computer interaction.

Summary: Sergio Ochoa presented the paper *Design Trade-offs of Crowdsourced Web Access in Community Networks* authored by E. Dimogerontakis, Meseguer, R., Navarro, L., Ochoa, S. F., and Veiga, L.

2.4.3 International Symposium on Integrated Network Management

Type: International Conference

Title: IFIP/IEEE International Symposium on Integrated Network Management (IM)

Date: 8-12 May 2017

Place: Lisbon, Portugal

Organizers: IEEE

URL: http://im2017.ieee-im.org/

Actors: Academia, industry

Audience: 250 people

Dissemination Level: International

Description: IM is a prestigious conference on network management.

Summary: E. Dimogerontakis from UPC presented the paper *Client-Side Routing-Agnostic Gateway Selection for heterogeneous Wireless Mesh Networks* authored by E. Dimogerontakis, Neto, J., Meseguer, R., Navarro, L., and Veiga, L.

2.4.4 IV International Conference on Social and Complementary Currencies: Money, Consciousness and Values for Social Change

Type: Paper presentation(s) and workshop

Title: Two papers in the same panel with topic "Commons oriented currencies: What makes the difference?":

netCommons

- Community currencies for community networks by Panayotis Antoniadis (presenter), Jens Martignoni, David Franquesa, Roger Baig (presenter), Leandro Navarro
- The District Currency – a new currency design for managing the commons by Jens Martignoni

Date: 10-14 May 2017

Place: Barcelona

Organizers: Susana Martín

URL: https://ijccr.net/2016/08/27/iv-international-conference-on-social-and-complementary-currencies-10-14-may-2017/

Actors: Researchers, civil society, activists

Audience: 330 people at the event, 30 at the netCommons panel, and 20 at the district currency game workshop

Dissemination Level: International

Description (from the conference material):

The 4th Conference's goal is to reflect on social and complementary currencies as tools which, on being implemented by people themselves, nurture the social change in favor of a completely sustainable development. Self-management, trust, closeness, respect and benevolence, among others are quite determining elements in the future of such sort of initiatives.

Summary:

The netCommons team presented two papers summarizing the work in D2.6, which were very well received adding a new type of common resource in the discussion that many participants of the conference were not really aware of. It was particularly important that Roger Baig introduced himself the guifi.net network in the alternative currencies community in Barcelona. The 2 hour district currency game workshop was also very well received and having as participants true experts in the field made the feedback particularly interesting and to the point. More details about the lessons learned from the currency game are included in D2.6.

2.4.5 International Symposium on Cluster, Cloud and Grid Computing

Type: International Conference

Title: 17th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid 2017)

Date: 14-17 May 2017

Place: Madrid, Spain

Organizers: IEEE/ACM

URL: https://www.arcos.inf.uc3m.es/ccgrid2017/

Actors: Academia, industry

Audience: 300 people

Dissemination Level: International

Description: One of the major international conferences on Cloud and Grid computing.

Summary: Mennan Selimi from UPC presented the paper *Practical Service Placement Approach for Microservices Architecture* authored by Selimi, M, Cerdà-Alabern, L, Sánchez-Artigas, M, Freitag, F, Veiga, L.

Additional notes: We received an invitation to submit a extended version of our paper to a Special Issue of a prestigious journal.

2.4.6 International Conference on Networking, Sensing and Control

Type: International Conference

Title: 14th IEEE International Conference on Networking, Sensing and Control (ICNSC)

Date: 16-18 May 2017

Place: Calabria, Italy

Organizers: IEEE

URL: http://icnsc2017.dimes.unical.it/

Actors: Academia, industry

Audience: 100 people

Dissemination Level: International

Description: ICNSC is a conference on the intersection of computer networks and sensor devices.

Summary: N. Apolónia from UPC presented the paper *Gossip-based Service Monitoring Platform for Wireless Edge Cloud Computing* authored by N. Apolónia, Freitag, F., and Navarro, L.

E. Dimogerontakis from UPC presented the paper *Community Sharing of Spare Network Capacity* authored by E. Dimogerontakis, Meseguer, R., Navarro, L., Ochoa, S. F., and Veiga, L.

2.4.7 IASC presentation on Laws for the commons: from nature to infrastructure commons

Type: Conference

Title: Laws for the commons: from nature to infrastructure commons

Date: July 10, 2017 to July 14, 2017

Place: Utrecht, the Netherlands

URL: https://www.iasc2017.org/sessions/

Dissemination Level: International

Actors: Academia, Local Stakeholders, Scientific Communities

Audience: 40

Participants Melanie Dulong de Rosnay (CNRS)

Description (from the conference material): "*The IASC is the world's leading professional organization for the interdisciplinary study of commons, common-pool resources, and other resources that are (or could be) held or used collectively by communities, both in developing and developed countries. The association is devoted to understanding and improving institutions for the management and governance of such resources. The IASC is open to both academic scholars as well as expert practitioners, and hence has become the (non-profit) association par excellence for the mutual exchange between scholars and practitioners on commons' issues. The 2017 Biennial IASC-Conference will be an excellent opportunity for scholars and practitioners from all over the world to meet each other, to learn from each other's research and experiences, to exchange ideas, and to learn from successful examples of management and governance of common-pool resources.*"

Summary:

Melanie Dulong de Rosnay explained how the law is being affected by alternative infrastructures, and how law and technology are co-shaping each other, especially in the context of the commons. The well-attended panel received 4 questions, including on the opportunity to define legal models for the commons, since the theoretical framework of the commons has been designed in a bottom-up manner, without any possibility to draw a common unified theory from a multitude of case studies. Another question addressed the fact that legal jurisdictions have a hard time enforcing judgments at the national level for cross-borders matters.

2.4.8 13th European Sociological Association Conference

Type: International Conference

netCommons

Title: 13th European Sociological Association Conference: (Un)Making Europe: Capitalism, Solidarities, Subjectivities

Date: 29 August – 1 September, 2017

Place: Athens, Greece

Organizers: European Sociological Association

URL: https://www.europeansociology.org/conferences/past-esa-conferences/13th-conference-2017-athens

Dissemination Level: EU, US, Africa, Asia

Actors: Academics, researchers, international organisations

Audience: Around 3000 participants for the whole conference, 50 for the netCommons panel.

Participants Dimitris Boucas (UoW)

Description: The Biannual international conference of the European Sociological Association which regularly attracts high number of participants and accommodates a variety of papers and themes. The general analytical framework of the conference has been based on 1) Capitalism and its contradictions, including austerity measures, the dismantling of the welfare state and rising inequalities in Europe; 2) Solidarities, which appear fragmented but also constituted, with refugees being denied human rights but also new social movements emerging; 3) Subjectivities that are formed and result in resistance and protest, but also in apathy, despair, depression, and anxiety, as authoritarianism, nationalism, racism, xenophobia, right-wing extremism, spirals of violence, and ideological fundamentalisms have proliferated throughout the world, including in Europe.

Taking stock with the above matters, the general question of the conference was: How can sociology's analyses, theories and methods, across the whole spectrum of ESA's 37 research networks and various countries, be advanced in order to explain and understand capitalism, solidarities and subjectivities in the processes of the making, unmaking and remaking of Europe?

Summary:

The presentation by Dimitris Boucas on "Sustainability of Community Networks in the UK and Greece: Evidence from Key Actors" was part of a panel of presentation on media and attracted a great deal of interest. Around 50 participants attended.

Additional notes: Abstract available in the conference's book of abstracts[16], p.542

2.4.9 Global Information Infrastructure and Networking Symposium

Type: International Conference

Title: Global Information Infrastructure and Networking Symposium (GIIS'2017)

Date: 25-27 October 2017

Place: Saint-Pierre, France

Organizers: IEEE

URL: http://im2017.ieee-im.org/

Actors: Academia, industry

Audience: 30 people

Dissemination Level: International

Description: GIIS is a conference on socio-technical aspects of Internet technologies.

Summary: Felix Freitag from UPC presented the paper *On Edge Microclouds To Provide Local Container-based Services* authored by R. Baig, R. Pueyo, F. Freitag and L. Navarro.

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[16]https://www.europeansociology.org/sites/default/files/ESA-2017-Athens_Abstract-Book_final.pdf

2.4.10 Conference on Computer Networks Histories

Type: Conference

Date: December 14, 2017 to December 15, 2017

Place: Lugano, Switzerland

URL: http://www.cnh.usi.ch/

Dissemination Level: International

Actors: Academia

Audience: 30

Participants Dominique Trudel, Félix Tréguer (CNRS)

Description (from the conference material): International Conference Computer Networks Histories: Local, National and Transnational Perspectives

Summary:

This conference brings internationally reknowned historians of the Internet. Dominique and Félix presented their work on the history of first-generation Community Internet Access Providers based on Deliverable 5.1.

2.5 Local events

2.5.1 ninuxday 2017

Type: Assembly

Date: November 25, 2017 to November 26, 2017

Place: Bologna, Italy

URL: http://ninux.org/NinuxDay2017/TimeTable

Dissemination Level: National (Italy)

Actors: Existing Community Networks

Audience: 25

Participants Leonardo Maccari

Description: The yearly meeting of the ninux community

Summary:

As in 2016, in November 2017 about 20 people of the ninux community gathered, this time in the city of Bologna, to discuss about the state of the network and of the community. According to the participants, the community is more or less stable, with some new islands (that's the way ninux communities are called) that are growing in the center-South of Italy, and some other ones, especially in the North, that struggle to make the transition from one-man projects to real communities. An interesting development came from the organizers themselves, as one of the activists bootstrapped a new network in Val Samoggia (50 km from Bologna in a rural and mountain area), which is currently used to connect a few houses in the territory, and is expanding mostly due to the lack of Internet connection in that area.

Leonardo Maccari from netCommons (UniTn) participated in the meeting, and gave a presentation discussing the results of the project, and the way these results can help the various communities. Actually, more than one "ninux island" already had ongoing work related with netCommons activity. Among them, three are worth mentioning:

Two of the ninuxers from Cosenza (more than 9 hours of car from Bologna!) described their current effort in re-designing the Pico-Peering Agreement, which is historically been used by the ninux community. Their goal is to introduce a few modifications to make the agreement more binding, in order to encourage newcomers to

participate actively to their network. Currently, the netCommons team from Trento is reviewing the agreement to clarify the legal status of some of the new clauses. This is a direct impact that the legal analysis performed in WP4 will have on the ninux community.

A large discussion took place on renewing the governance instruments that ninux uses. The more the community enlarges from the initial core of people residing in Rome, the more new tools to take decisions are needed. netCommons will help this process. We will simplify and summarise the findings from WP1 in order to fuel the discussion in the ninux community, and give guidance to make the community scale better.

The ninux community from Florence participated in a call for funding community projects opened by RIPE. Leonardo Maccari was directly involved in keeping the contacts with RIPE and writing the proposal, which focuses on two themes, the first is the development of a hardware device needed by the community to auto-point antennas. This is a technological project that is currently undergoing and involves already several people in ninux Florence. The second is the extension of the OpenWISP platform to support community building functions, as suggested in the deliverable D2.7. The community was already testing OpenWISP to manage the network and will contribute to the improvement of OpenWISP if the funding will be granted.

The ninux community also agreed to participate in a new national event called merge-it. This new event is an Italian community conference on the model of the Fosdem international meeting. The organizers accept proposal for new tracks to be added to the already planned ones (led by the most important associations dealing with open source and open knowledge in general) and ninux proposed to have a dedicated half-day track. If the proposal gets accepted, netCommons will surely support this event.

The ninuxday is a very important moment to gather all the active people in ninux, and it was proposed that the next ninuxday be held in some new island, in order to help their development. Alternatively, it was decided that the next ninuxday will be held in Rome, which is also candidate to host the next Battle of The Mesh. In any case, the community recognized the importance of increasing the frequency of meetings (and thus, the merge-it proposal) and work together to grow and involve new people.

Figure 2.10: The flyer of the ninuxday 2017

2.6 Invited talks, public panels

2.6.1 Invited seminar at Madeira Interactive Technologies Institute (M-ITI)

Type: Workshop

Date: February 15, 2017

Place: Funchal, Madeira, Portugal

Dissemination Level: Local

Actors: Academia, CAPS Communities, Scientific Communities

Audience: 30

Participants Melanie Dulong de Rosnay

Description (from the conference material): seminar of the Madeira Institute for Technology

Summary:

Melanie Dulong de Rosnay gave an invited seminar talk at the Madeira Interactive Technologies Institute (M-ITI) entitled 'From Digital Rights Management to Peer to Peer Law'.

2.6.2 Colloquium on the Commons (in French)

Type: Symposium

Date: June 8, 2017 to June 10, 2017

Place: University Paris II, France

URL: http://fundfordemocraticculture.org/activites/colloque/

Dissemination Level: National

Actors: Academia, General Public, Local Authorities, Local Stakeholders

Audience: 80

Participants Melanie Dulong de Rosnay

Description (from the conference material): Panel Big Data, Partage des Données et Communs

Summary:

Melanie Dulong de Rosnay presented netCommons to an audience composed of legal academics working on the commons and local communities experiencing different kind of commons. CNs raised interest in particular from farmers in the South West of France as a bottom-up alternative to ISPs and from lawyers as complex commons which must be protected from regulations which are ignoring their status. An interesting point to note is the similarities which were drawn at the regulatory level with energy alternatives, which had been presented at a previous session.

Video of the presentation is available at:

https://youtu.be/MXLYLo4VwN0?list=PL_6NLusUVxROONpC-Lr389N8KrvsuvFj6

Figure 2.11: Colloquium on the Commons, Paris

2.6.3 Wireless community mesh networks: fresh connectivity for 7 billion people

Type: Conference

Date: October 11, 2017

Place: Cambridge, United Kingdom

URL: https://talks.cam.ac.uk/talk/index/85291

Dissemination Level: International

Actors: Academia, General Public, Local Authorities, Local Stakeholders, Scientific Communities

Audience: 100

Participants Leandro Navarro (UPC)

Description (from the conference material): An invited talk as part of the Computer Laboratory Wednesday Seminars, University of Cambridge

Summary:

Internet is for everyone (RFC 3271), and as Vint Cerf says "it won't be if it isn't affordable by all that wish to partake of its services". Global access to Internet for everybody requires not only the increase of the service availability, but also a dramatic reduction of its cost, especially in geographies and populations with low penetration (e.g., rural and underserved communities). The Internet, unlike the acoustic space, is an artificial infrastructure that requires for the magic of communication some artificial digital devices. There are different models to achieve this: mobile devices and mobile operators, telecom providers with cables or fibre. Different models may be required to serve a widely diverse global population. We discuss the case of community networks, crowdsourced networks built by citizens, that contribute and coordinate their own network devices to create a shared network infrastructure. These networks have a governance based on the principles of common-pool resources (E. Ostrom) to preserve the local connectivity as a key resource for the community. There are successful examples around the world based on diverse technologies: optical fibre, GSM, but we will focus on wireless mesh networks. We will show their characteristics, and explore several key challenges, solutions and research questions that have to do with affordability, performance, scalability, resilience, sustainability, governance. Slides are available on-line[17].

Figure 2.12: Invited talk by Leandro Navarro at the Computer Laboratory Wednesday Seminars, University of Cambridge

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[17]http://people.ac.upc.edu/leandro/docs/cam.pdf

2.6.4 #SWAP: What about politics?

Type: International Symposium

Title: #SWAP: What about politics?

Date: 3-4 November 2017

Place: Brussels

Organizers: iMAL.org

URL: http://imal.org/en/activity/so-what-about-politics-swap

Actors: Researchers, activists, civil society

Audience: 100 people

Dissemination Level: International

Description (from the conference material):

"*So, what about politics? looks at initiatives that could be seen as the avant-garde of a new political era. In a critical period of crisis in our political systems, we welcome artists, activists, academics using innovative technological tools to reclaim political processes or to shape new forms of organisation, from local collectives to global movements. The symposium revolves around questions such as: What are the politics of a P2P society? How can we perceive a network as a real "distributed agora"? What can we learn from artist- or activist-led experiments focusing on collectivity and political agency? And most important: What are the concrete tools and initiatives today that really try to facilitate and use new forms of agency such as liquid democracy, e-governance, civic intelligence, platform cooperativism and autonomous self-organisation?*"

Summary:

Presentation of both MAZI and netCommons around the concept of the "Organic Internet". The original abstract of the talk, which was slightly modified:

The idea of an Internet built "by the people for the people" has stimulated the imagination and narratives, and led to various technological and political initiatives already from the early days. Today, this utopian vision is more and more supported and the efforts to achieve it are intensified at multiple levels, because of the increasing and threatening power of the Internet global corporations. This power and its detrimental effects, on the one hand helps to communities to engage in the co-creation of viable alternatives, but also gives rise to certain misconceptions that could lead to self-defeating strategies of resistance like the blockchain hype and the so-called decentralized Internet. In this talk I will make a historical overview of community and DIY networking, including both artistic and activist perspectives, and reflect on possible strategies for future steps toward effective research and action in this area, with a focus on the social and political dimensions.

Additional notes: Video of talk by Panayotis Antoniadis is available on-line[18].

2.7 Workshops

2.7.1 Exercise about designing Business Model Canvas for CN in Delhi

Type: Workshop

Date: September 20, 2017

Place: Delhi, India

URL: http://cnxapac.org/

Dissemination Level: International

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[18]See https://www.youtube.com/watch?v=G_fMfX7oigQ

Actors: CAPS Communities, Existing Community Networks, Local Authorities, Local Stakeholders, Policy Makers

Audience: 30

Participants Leandro Navarro prepared the materials and Carlos Rey-Moreno (APC.org) presented.

Description (from the conference material):

"*Community Network is a proven technology, with success stories from in Iran, Egypt, Russia, South Africa, Nigeria, Tunisia and Brazil. Digital Empowerment Foundation and AirJaldi in India; Nepal Wireless in Nepal;Mesh Bukav and Mesh Goma in Africa;GufiNet in Spain;Taswireless in Tasmania are just some of the names in the area of community networks. Community Network Exchange (CNX) aims to develop a platform where community network providerscan share their learning, experience, regulatory, spectrum, licensing, technological barrier and many other issues to discuss it further. It will also give an opportunity to fellows who were part of training & exchange activity to share their learning and experiences and share policy briefing papers, among others.*"

Summary:

Discussion and workshop about "Understanding Challenges around Making Community Networks Sustainable". The netCommons model of the external Business Model Canvas for CN (D1.3) was presented and discussed. Leandro Navarro was presented by Carlos Rey-Moreno (APC) in the name of the netCommons team. The participants, mainly interested in CNs in India mainly but also Asia and other regions, did an exercise to design their own. Event in collaboration with APC.org and Internet Society.
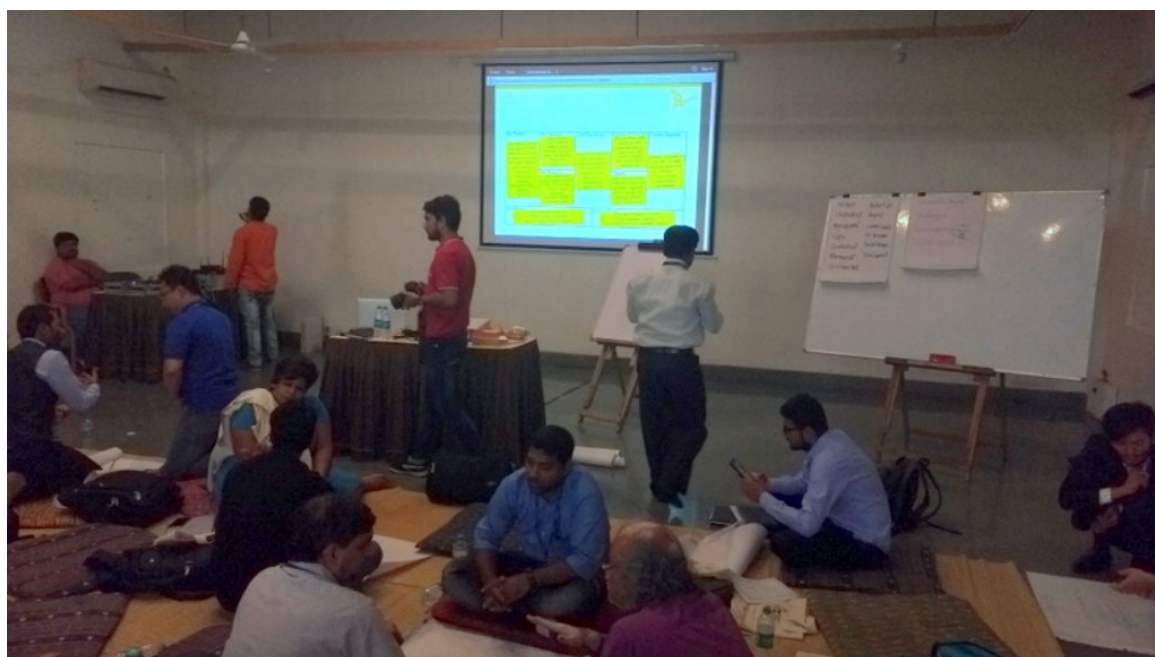

Figure 2.13: CNExhange workshop on business models

3 Advocacy

3.1 European Electronic Communications Code

The beginning of 2017 was an important moment for netCommons, due to the upcoming reform of the telecommunications policy of the European Union through an "Electronic Communications Code", still under discussion in the European Parliament.

The Code will repeal the existing directives on telecommunications and mainly aims at increasing connectivity in the EU territory. While an harmonization and an update of the current policy seem more than appropriate, the upcoming Code could greatly hamper CNs development. Among other issues, the Code initially proposed by the European Commission would prevent small actors to participate in the investment of the network infrastructure, would extend to a minimum of 25 years the duration of the rights to use radio spectrum and would provide for unbalanced Universal Service obligations, making persons geographically isolated or in difficult situations into second-class citizens.

For this, in March 2017, netCommons coordinated a very successful collaborative process, with representative of many CNs in Europe, to draft together an Open letter, that was announced through a Press Release on March 16th[1].

More than 30 CNs signed the letter and more than 35 organizations supported it. In addition to the significant impact created in international and local media, the open letter was sent to EU Members of Parliament, to the EU Council and EU Commission officials working on broadband policy.

Following up to this open letter, netCommons in collaboration with La Quadrature du Net published a detailed report with recommendations for all important amendments of the draft text to help MEP make the right decision[2].

And on October 17th (morning) netCommons co-organized a workshop at the EU Parliament, sponsored by MEP Miapetra Kumpala Natri and MEP Julia Reda. The goal of the workshop was both to present European community networks and their achievements as CAPS infrastructure commons, and to discuss some of the regulatory hurdles that are inhibiting their growth.

This workshop was a great opportunity to foster engagement between community networks practitioners and policy-makers, after the open letter and the series of notes on how the European Electronic Communications Code may impact community networks.

3.2 Radio directive

The expert group decided to provide a set of use cases in which the RED directive would have endangered the freedom of users, and among them there is one use case dealing with Freifunk and CNs. Monic Meisel (Freifunk) took the lead on this and netCommons through Leonardo Maccari (UniTn)[3] contributed to improve the content and netCommons deliverables were included as references to strengthen certain arguments (e.g., D1.2 on the important role of CNs across the world)

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[1]See https://netcommons.eu/?q=news/open-letter-eu-policy-makers-community-networks
[2]Available at https://www.netcommons.eu/sites/default/files/netcommons_eecc_notes_imco_itre.pdf
[3]https://freifunk.net/blog/2017/12/das-problem-mit-der-eu-funkrichtlinie/

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4 Local meetings

4.1 Developments in the different areas

4.1.1 Spain

UPC is working with the guifi.net community network and particularly with the eXO association in Barcelona (the main local guifi.net group in the city). UPC is part of the QMPSU mesh network, with several nodes at UPC locations. We provide several experimental services including a monitoring service. We collaborate in the local community cloud experimental deployment based on the Cloudy software.

UPC collaborates with the guifi.net Foundation to explore business and sustainability models for community networks such as guifi.net, based on the experience of guifi.net in one side, and the research results of netCommons on the other side.

UPC is part of the "Barcola" expert group on collaborative economies of the City Council of Barcelona (Ajuntament), in the area of community networking infrastructures, connected to social inclusion policies to reduce digital gaps, and the use of community currencies.

Collaboration in the refinements of the municipal ordinance model, the basis for agreements with municipalities, although much more ambitious, is now fully aligned with EU directive (EU/61/2014) for cost reduction and with the Royal Decree of transposition last September (RE/330/2016).

The investment model, which in 2015 received the European Broadband Award of the European Commission (EC), is aimed at ensuring a proper distribution of the costs and benefits of the infrastructure according to the contributions and usage. As a result of the collaboration, the *economic compensation system* has been consolidated and the corresponding *sanctioning regime* developed and is being implemented. These developments have been put in practice in the Garrotxa county, the Xafogar project, described in more detail in D1.4.

UPC participates in several of the weekly guifi.net meetings in Barcelona (guifi.labs).

4.1.2 Italy

UniTN works very closely with the ninux.org community at many levels and participates in many related meetings and core events, like the ninux day 2017 (see Sec. 2.5.1).

4.1.3 Greece

The AUEB-RC team have met multiple times with members of the team that operates the Sarantaporo.gr CN, in particular Vassilis Chryssos, George Klissiaris, Antonis Broumas, and Nikolas Kiourtzis, the first two are contracted by AUEB-RC to work in netCommons. These face-to-face meetings, many of which have seen the participation of Nethood members as well, have served as ways to disseminate information and opportunities that emerge in the project towards the Sarantaporo.gr community.

The AUEB-RC have teamed with Sarantaporo.gr and GAIA Epicheirein, a Greek SME active in the area of smart farming service provision, to prepare a joint research proposal, centered on the the way synergies between the common-based infrastructures of Sarantaporo.gr and the commercial priorities of GAIA could flourish and benefit both parties. The proposal was submitted in response to a national Call for collaborative research projects.

NetHood is active in establishing contacts with the municipality of Athens around the topic of refugee integration that allows for several opportunities for funding and pilots related to community networking.

NetHood is also actively contributing to the creation of a new CN in the centre of Athens, Exarcheia Net. Among others, NetHood has organized a series of events (see Sections 2.1.2 and 2.1.3) that brought experts from abroad, like Juergen Neumann and the libremesh team, to inspire and consult the young activists in Athens in their first steps toward a new CN, which unlike the well-known AWMN will be more open to the local community. In this context, there are on-going interactions also with other civil society organizations in the neighbourhood like an association of residents.

4.1.4 Zurich

In the context of the WP5 task on the "right to the hybrid city" NetHood has started exploring possible connections between the cooperative housing movement in Zurich and related cooperative models for Internet access and software development.

The fact that NetHood leads a related pilot study in the context of the MAZI project, has enabled fruitful collaborations with key projects like Kraftwerk1 and NeNa1.

In the former case, we have started a working group with the company that developed Kraftwerk1's Intranet and which is thinking of updating its overall business strategy to explore more cooperative models along the "platform cooperativism" brand.

Second, we work with board members of the NeNa1 cooperative to include in their "operational concept" the technological dimension missing today in the cooperative housing projects in Zurich.

In parallel, there is an effort to establish links with related organization on the "technological side", and some first contacts have been made with the yetnet Internet access cooperative and the housing cooperative offering shared Internet access services to its residents [1].

Other related organizations that will be contacted soon in the context of an ISOC Switzerland's event[2], include the Chaos Computer Club Zurich and the Digitale Gesselschaft ("Digital Society").

4.1.5 France

From September 2017 on, the CNRS team has continued to work with the legal working group of FFDN by taking part in monthly conference calls about the future of the regulatory framework in Europe, sharing analysis and updates on the EU code for telecommunications. We also asked for their feedback on aspects of Work Package 4, while helping them document their data retention practices in order to move towards guidelines.

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[1]See http://www.fgzzh.ch/
[2]See https://www.isoc.ch/events/vit

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5 Other dissemination activities

5.1 Social media

As explained in D6.1, netCommons is active only on Twitter, and its account is gaining constantly new followers (over 400 at the time of writing of this deliverable), including most of the key actors in the area of CNs, and a significant number of "impressions", with a peak of more than 18K the month of the workshop at the European Parliament (Sec. 2.1.6).

5.2 CAPS Networking

netCommons continued its engagement with other CAPS projects at different levels, with most notable the collaboration between three different CAPS projects that deal with different aspects of participatory design. Namely, MAZI, EMPATIA and Commonfare. The first step of this collaboration was the organizatoin of a participatory design working group at the C&T conference in Troyes, France, followed by a workshop organized by EMPATIA at MAZI's summer school in Volos, and more plans for collaborations are on the way.

Moreover, netCommons contributed to the DSI Manifesto workshop in Rimini with a presentation by Leonardo Maccari, while netCommons was also mentioned in a presentation by Panayotis Antoniadis, whose main focus was on the MAZI project.

5.3 Interviews

Panayotis Antoniadis appeared in the Greek National TV, with a 20min interview in a report from a conference on the commons in Thessaloniki shown on May 25 2017[1].

The corresponding documentary had significant impact and the journalists decided to do a second one in 2018 and thus took a second interview of Juergen Neumann after the netCommons panel at Universse 2017, and recently went to the Sarantaporo area to take interviews from local actors for a dedicated documentary on the Sarantaporo.gr CN to appear in 2018.

5.4 Popular media

The netCommons panel at the Universse 2017 was covered by a very popular alternative news site called, The Press Project[2].

Also, the two articles that appeared in the The Conversation Global (one in 2017 and one in 2018), have together over 16000 readers according the the platform's analytics page.

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[1]http://webtv.ert.gr/ert3/25me2017-antidrastirio-kina-ke-kinoniki-allilengya-ikonomia/

[2]See   https://www.thepressproject.gr/article/112431/Koinotika-Diktua-Apo-tin-prosbasi-sto-Diadiktuo-mexri-tin-organosis-tis-topikis-koinotitas

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5.5 Blog entries

netCommons published a blog entry at ISOC's web site, summer 2017 as part of the effort to attract respondents for the WP5 survey on Internet attitudes.[3]

5.6 PhD theses

In 2017, four PhDs that were partially supported by netCommons (Manos Dimogerontakis Dimogerontakis et al. [2017d] – UPC, Ester López López and Navarro [2018] – UPC, Felix Treguer – CNRS, and Axel Neumann Neumann et al. [2017a] – UPC) were successfully defended.

5.7 Awards

Félix Tréguer of the CNRS netCommons team received the 2017 Emerging Scholar Best Paper Award of the CP&T (Communication Policy & Technology) section of the IAMCR (international association for media and communications research) for his paper Alternative Internet Networks: History and Legacy of a "Crazy Idea", based on the 3rd part of D5.1 on Alternative Communication Technologies Throughout History, which he presented in our netCommons joint panel at the Cartagena conference in July.

5.8 Testimonials

In the context of a CAPS publication, we received two testimonials from two key actors in the areas of CNs (Jane Coffin, ISOC) and commons (David Hammerstein, Commns Network), as follows:

"The Internet Society would like to lend its voice to support the work being done by the netCommons Project. We share their objectives to connect more people for socio-economic development through bottom-up community-based efforts. Their efforts to develop community networks are helping change the way people are connected, provide more affordable access, and help encourage policy-makers and regulators to think about new policies to create change. We greatly appreciate the work they are doing." - Jane Coffin, Director, Development Strategy, ISOC

"Commons Network was present at the European Parliament workshop on community networks on October 17th and we were extremely impressed by the professional level of the presentations and the long-time commitment of the participants from a number of EU member states who share diverse but common projects around Europe. netCommons is a remarkably valuable initiative not only takes innovative technical measures to create community internet networks for rural areas and and urban neighborhoods. It is also an experience in bottom-up self-governed social innovation in favor of the regeneration of the commons. netCommons is also an excellent example of local resilience, of the collective mastering of useful digital know-how that permits strong social flexibility in face of crisis situations or dramatic climactic conditions that may arise. Yes, it is also a live research experience in decentralized empowerment, of recuperation of control over far-away centralized services that are now taken back by local communities. There are also a number of other collateral positive externalities concerning cost, privacy, open source and general social inclusiveness. The Commons Network will continue to promote the work of NetCommons on the ground in cities around the EU and in policy proposals in the areas of research and telecommunications. We consider this a stimulating and alternative way forward for technology both with and for society. " - David Hammerstein, Commons Network

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[3]http://internetsociety.org/blog/development/2017/08/take-brief-survey-support-community-networks

6 Impact on CNs

6.1 Dissemination and advocacy

The collaboration with netCommons has created opportunities for the visibility of the activities of several community networks in different international forums, as is the case with collaboration such as the IEEE Advanced Solutions working group (IEEE and World Bank) with guifi.net, the GAIA IRTF working group (several CNs involved). In general, the dissemination activities in netCommons have contributed to make community networks more visible not only globally but also more visible and recognized locally.

There has been also significant impact at the advocacy level, for which a special Chapter (Chapter 3) is dedicated in this deliverable.

6.2 Networking

netCommons has created opportunities for networking across different CNs, that has resulted in better knowledge and direct exchange among representatives of these CNs, mainly in the European domain. Many of the events organized by netCommons as described in Chapter Chapter 2 have played exactly this role.

It is also worth to note that Félix Tréguer (CNRS) was the initiator of a specialized mailing list to help coordinate the efforts of CNs in EU, called "telecommons",[1] which was used for some of the advocacy efforts that followed (see Chapter Chapter 3), and hopefully will be used for other purposes as well.

In parallel, Panayotis Antoniadis (NetHood) and Vassilis Chrysos (AUEB, Sarantaporo.gr) have participated in the team that developed the Bylaws of a new ISOC Special Internet Group on Commmunity Networks, which has been already announced (at the closing ceremony of IGF2017)[2] and which will soon start its operations that will hopefully have significant impact on the further development and sustainability of CNs across the world, beyond the EU.

Leonardo Maccari is one of the co-organizers of a session dedicate to ninux at the merge-it conference. Merge-it[3] is a new Italian event that aims at gathering all the national experiences whose goal is to do voluntary work on digital openness. It is organized on the model of the well known Fosdem conference and will have its first edition in early 2018. Ninux decided to participate and host a session, and Maccari will open the ninux session with an introduction and a talk about netCommons. Moreover, netCommons publicized and advertised the event among other Italian community networks and community ISPs, in order to take the chance to share experiences with similar experiences. Even if the conference will be in 2018 and will be documented in the D6.3, the organization started in 2017, after the ninux-day. sectionFunding

As part of the Ammbr.com initiative, funded by several private investors, Leandro Navarro (UPC) has been proposed as vice-director of the Ammbr Research Labs (ARL), constituted in the UK on November 22, 2017. The first public event were two presentations in the IETF 100 conference in Singapore. ARL will setup in 2018 a joint research laboratory at UPC, and will work with the guifi.net and ninux.org community networks in experimentally-driven research. The initial research will adopt and fund research results from netCommons and the experience of the involved community networks.

With the support of netCommons, Sarantaporo.gr successfully applied for ISOC's Beyond the Net grant[4]. The

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[1]https://lists.laquadrature.net/cgi-bin/mailman/listinfo/telecommons

[2]http://cnsig.info

[3]See http://merge-it.net.

[4]See https://www.internetsociety.org/beyond-the-net/grants/2017/sarantaporogr-community-network/

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grant will fund multi-fold actions by the team operating Sarantaporo.gr, including training locals, network equipment upgrades and maintenance and others, which aim at securing its long-term sustainability.

An additional small grant was offered to Sarantaporo.gr to initiate a novel transfer project with another similar area in Greece, Tzoumerka[5], after a contact with local actors that was initiated in a workshop organized in the Sarantaporo village by netCommons (see Deliverable 3.3, Section 2.4).

More projects were drafted and proposed by CNs based on the input from netCommons. Among them, we mention the proposal from ninux to the RIPE open call for projects, that has been documented (with an Appreciation Letter attached to D2.7) from the ninux Florence community. The proposed received positive feedback but was not financed, although it represents a base for future projects. UniTN decided to contribute to the development of a subset of the goal of the project with a Thesis assigned to one of the activists, and giving availability to mentor Google Summer of Code scholarships (GSoC) which could give continuity to the developments effort.

GSoC is an effective mean to sustain the initiatives of CNs. In GSoC, a student receives a scholarship (that can reach 6000$) to develop an open source project proposed by a some community. The FreiFunk CN yearly participates to GSoC as an "umbrella organization", delegating the management of the scholarships to other CNs. Someone from the community must be a "mentor" for the student (that must be enrolled in a university course of Ph.D), and the work takes place in three summertime months. GSoC is effective to connect the academia and CNs because as soon as the CN identifies a technological open issue that can be tackled with an open source solution a researcher can mentor the project. This has multiple good effects, the mentor/researcher enters in contact with the CN, the CN has resources to solve a specific problem, and a student gets acquainted with the community. In the past two years Leonardo Maccari mentored two GSoC projects that were assigned to a ninux activist in order to develop Pop-Routing. Pop-Routing is an enhancement to the OLSR algorithm proposed by UniTN that was published in one of the major ICT research conferences Maccari and Lo Cigno [2016] and was later-on developed and implemented in an open source software[6]. Pop-Routing was now adopted by the CN of ninux Florence, that is going through a re-organization of some of its technical solutions[7].

The same approach will be adopted for other GSoC projects in 2018, in order to give continuity to the interactions between UniTN and ninux Florence.

6.3 Consolidation

The formalization of organizational, economic, technological, political, social aspects have helped in general to consolidate the CNs involved.

6.3.1 Interactions with Ninux

In the ninux case, a group of people from Calabria (Southern Italy) initiated a process of modification of the Pico-Peering Agreement (the license that every new ninux member has to accept). In this process they started an activity of self-learning research about the potential legal consequences of building and managing a CN in Italy. Ninux Calabria asked for advice on some legal issues related to the Italian "Codice delle Comunicazioni Elettroniche" (decreto legislativo (d.lgs.) 1.8.2003, n. 259, implementing the EU Directives on the telecommunications sector). The reason why this CN asked for advice was related to its will to modify its structure in order to have a more formalized configuration of the community. Given the fact that netCommons is known amongst Italian CNs, Ninux contacted the project team and asked for legal advice. The community asked some very detailed questions about the interpretation of the mentioned Codice. In particular, the CN wanted to have a clear picture of what authorization is required to run a CN and the differences between an authorization for a private and for a public network. In addition, the CN asked what possible interaction and collaboration there

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[5]See http://www.sarantaporo.gr/node/408
[6]See https://github.com/AdvancedNetworkingSystems/poprouting
[7]See Gabriele Gemmi's activity, documented in FreiFunk blog: https://blog.freifunk.net/tag/poprouting/

could be between a CN and a commercial ISP and how to regulate this possible relationship. The interactions with ninux Calabria are documented in D4.2.

During the ninuxday, some ninux activists raised the problem of lack of internal coordination among the various islands, and lack of instruments to collaboratively take decisions on themes that regard the whole community (such as the management of the few centralized points in the community, the domain name, the wiki etc.). The discussion finally made it evident that when the community expanded geographically the informal face-to-face governance that was used before (at the time the community was mainly concentrated in Rome) was not scaling well. Leonardo Maccari offered support in the identification of new governance structures and models to be proposed to the community, in order to make it scale organically. This activity will be carried on in 2018 based on the results of WP1, and will be better documented in D6.3.

6.3.2 Interactions with Sarantaporo.gr CN

The participatory design process developed in the Sarantaporo area (see Deliverable 3.3), supported the effort of the Sarantaporo.gr NPO to intensify the training of locals in appropriating and maintaining their CN. This has led to a significant increase of local engagement with measurable impact on the refreshing of the CN's access network leading to improved performance and coverage.[8]

6.3.3 Interactions with guifi.net CN

The collaboration with guifi.net is described in more detail in Navarro et al. [Dec. 2017]. The most significant results are the following:

Community cloud model: Formalized during end 2016 and 2017 with the development of a organizational and gobernance model for community clouds. See Chapter 6 of Navarro et al. [Dec. 2017] for details on the model and evaluation, and Chapter 2 of Maccari et al. [Dec. 2017] for details on the Cloudy software.

Investment model: The investment model, which in 2015 received the European Broadband Award of the EC, is aimed at ensuring a proper distribution of the costs and benefits of the infrastructure according to the contributions and usage. As a result of the collaboration, the *economic compensation system* has been consolidated and the corresponding *sanctioning regime* developed and is being implemented. These developments have been put in practice in the Garrotxa county[9]. See Chapter 5 of Navarro et al. [Dec. 2017] for more details.

Ordinance: The municipal ordinance model, the basis for agreements with municipalities, although much more ambitious, is now fully aligned with EU directive (EU/61/2014) for cost reduction and with the Royal Decree of transposition last September (RE/330/2016). The work is a result of a question to the European Parliament (petition 1230/2016) regarding the Directive on cost reduction over resolution deadlines and positive administrative silence. The ordinance is pending adaptation to the royal decree, but can be completed on request from any public administration interested. See Chapter 5 of Navarro et al. [Dec. 2017] for more details.

6.3.4 Interactions with other CN

Several significant interactions have taken place as follows, also reported in Chapter 5 of Navarro et al. [Dec. 2017]:

With FDN and Tetaneutral communities, part of FFDN, discussions and collaborations on policy issues and campaigns, and the development of an increasing public accountability and the promotion of more balanced participation of minorities.

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[8]See http://www.sarantaporo.gr/node/403, in Greek

[9]A 734.5 km^2 county in the north of Catalonia: https://en.wikipedia.org/wiki/Garrotxa

With the Zenzeleni CNs we are supporting them in the design and implementation of a federation for the replication to more than 10 similar communities in the region, based on the organizational and governance models resulting from WP1.

We have collaborated with W4C (India) in the design of their economic sustainability models in the communities and its formalization.

Furthermore, we have consolidated a collaboration of netCommons with TakNet/Net2Home, and we explore with them the development of an inside and outside canvas model and the corresponding organizational reengineering in the Net2Home model.

6.4 Technical support

The software tools developed in WP3 are being tried and used by several community networks, mainly guifi.net, ninux.org and Sarantaporo.gr. See Chapters 2, 3, and 4 of Maccari et al. [Dec. 2017] for details on the respective software tools. In the third year of the project, WP3 has a specific period of testing and feedback gathering, which will document the co-development and adoption of software from the communities (see D3.4 for more details).

6.4.1 Interactions with OpenWISP

In deliverable D2.7 Maccari and Lo Cigno [Dec. 2017] it is documented the fruitful interaction between net-Commons and the OpenWISP project. OpenWISP is a mature project to develop a web-based management interface for wireless networks, and mesh networks in particular. It is an open source project that is taking momentum both in community networks (as in the Ninux Florence CN) and among bottom-up and small ISPs. UniTN developed an innovative visualization of the network topology that makes it evident what are the portions of the network that are more fragile and need specific attention. This work was derived from the scientific activity of network monitoring in T2.4, and at the time of writing, is under evaluation for inclusion in the main tree of OpenWISP. D2.7 includes a letter of appreciation from Federico Capoano (lead developer of Open-WISP and ninux member) that documents the fruitful interactions and the appreciation of the code realized by netCommons.

6.5 Other

The impact of netCommons on the CN ecosystem is testified through the significant presence of netCommons contributions in the activity of the Association for Progressive Communications (APC), that has adopted local connectivity and specifically community networks, as a strategic topic globally. Among other people, Leandro Navarro from netCommons has contributed to that. This is shown by the appointment (August 2017) of Leandro as member of the executive board of directors [10], and the recently established newsletter by APC[11].

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[10]https://www.apc.org/en/executive-board-directors
[11]See https://crm.apc.org/civicrm/mailing/view?reset=1&id=592

7 Conclusions

By the end of the second year, netCommons has managed to built a recognizable identity and a widespread recognition of its positive role in the effort of Community Networks to play a central role in the future of the Internet.

From the objectives of WP6, as these were refined in Deliverable 6.1, it was only our objective to produce educational material (e.g., wikipedia pages) that was put on hold, and a relatively slow engagement of local authorities.

In addition to these two pending objectives, for the third and last year, the main focus will be to disseminate the technical results of the project, software, methodologies, and guidelines. The fact that we have established already close relationships and a high level of trust brings us in a good position to contribute even more in the growth and sustainability of CNs in Europe and beyond.

Other highlights alredy planned for the next year include a public event at Centre Pompidou, and a presentation of the netCommons project at UNESCO both in Paris, in January 29th and 30th respectively.

8 List of Publications (2017)

Book Chapters:

- Panayotis Antoniadis. *Das demokratische Internet*, chapter 9. Paranoia City Verlag, Zurich, 2017c. ISBN 978-3-907522-28-8. URL http://www.paranoiacity.ch/anderestadt/anderestadt.html

  > What is the book title? the website points to the German editor but I can't find the book. Is there an open access version of the chapter?

- Panayotis Antoniadis. *The Organic Internet: Building Communications Networks from the Grassroots*. Palgrave Macmillan, New York, 2017b. ISBN 978-3-319-66591-7. doi: 10.1007/978-3-319-66592-4. URL https://link.springer.com/chapter/10.1007/978-3-319-66592-4_13

Conferences:

- Félix Tréguer. Alternative internet networks: History and legacy of a "crazy idea". In *Drawing Policy Lessons From the History of Alternative Media and Networks*, Cartagena, Colombia, 2017b

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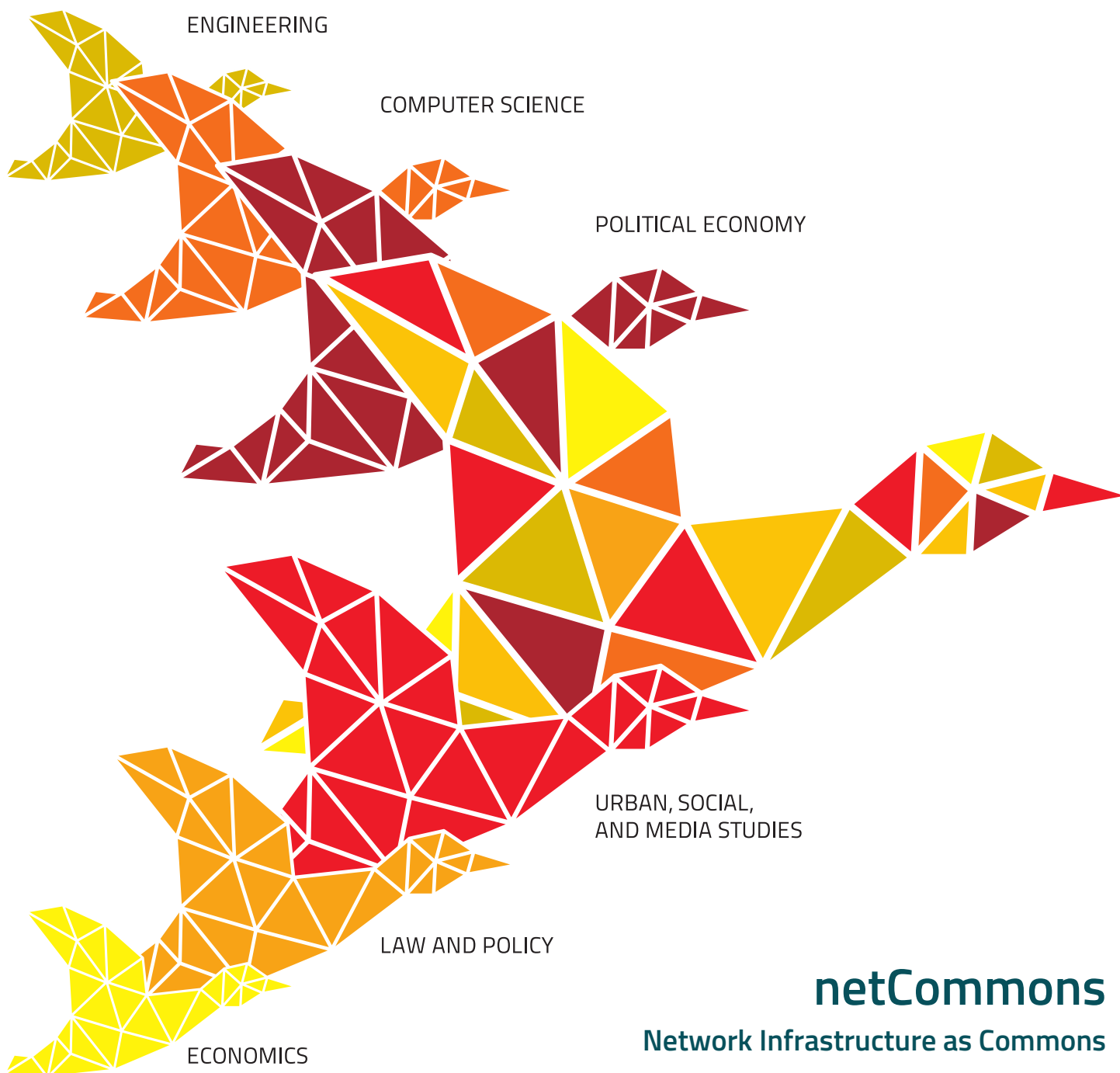
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