Federating Community Networks: A case study from France

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Abstract

Coordinating various Community Networks (CNs) with different models and governance features can be a challenge. In France, an acknowledged success of the CN movement was the creation in 2011 of Fédération French Data Network (FFDN), a federation uniting CNs across the country. When FFDN was established, interest in grassroots communication networks managed as a commons was booming, and rather than growing existing ones, swarming (*i.e.* the creation of several independent local organisations) was deemed a better strategy. Although communities in other states have explored other forms of coordination, this process of federation provides an interesting model for ensuring the coordination of various CNs with different models, and for establishing solidarity and fostering resiliency in the face of the many challenges entailed buy the maintenance and defence of CNs.

This chapter posits that, despite some difficulties, FFDN represents an interesting precedent for other national and regional CN environments willing to foster collective cohesion. We start by offering a brief history of the CN movement in France up to the creation of Fédération FDN in 2011, before surveying the federation's main organisation features and accomplishments.

Acknowledgments

7.1   Introduction

Coordinating various Community Networks (CNs) with different models and governance features can be a challenge. In France, an acknowledged success of the CN movement was the creation, in 2011, of Fédération FDN (FFDN), a federation uniting CNs across the country. When FFDN was established, interest in grassroots communication networks managed as a commons was booming, and rather than growing existing ones, swarming (*i.e.* the creation of several independent local organizations) was deemed a better strategy.

Although communities in other states have explored other forms of coordination, this process of federation provides an interesting model for ensuring the coordination of various CNs with different models, and for establishing solidarity and foster resiliency in the face of the many challenges entailed buy the maintenance and defence of CNs.

This chapter posits that, despite some difficulties, FFDN represents an interesting precedent for other national and regional CN environments willing to foster collective cohesion. We start by offering a brief history of the CN movement in France up to the creation of Fédération FDN in 2011, before surveying the federation's main organisation features and accomplishments.

7.2   A short history of Community Networking in France

At the end of the 1970s, personal computers were finally coming to France. Magazines specialised in computer cultures reported at the time that more than 100,000 machines had been sold in France.[129] In 1985, an official report claimed that 860,000 households possessed a desktop device. By the end of the decade, France would become the first European market for PCs. Over that period, the number of computer clubs also rose significantly.

This rise of computer penetration and its growing use was significantly facilitated by the government's voluntarist approach.

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129 See Thierry, B. (2012). «Révolution 0.1». Utilisateurs et communautés d'utilisateurs au premier âge de l'informatique personnelle et des réseaux grand public (1978-1990). Le Temps des médias, n° 18(1), 54–64.

In 1978, when France was still lagging behind, the Nora-Minc report called on the coming together of computers and telephone networks and would launch the unique experience of the Minitel.[130] First intended as a way of granting to the public access to databases, it would morph into a large-scale social experiment to turn it into a communication device, with the creation of France's earliest so-called "virtual communities." At the end of the 1980s, a quarter of French residents had access to the Minitel. Despite their reduced popularity, other computer networks were also accessible through dial-up connections, such as Calvacom, launched by Apple and the American College in Paris.

All of these early experiences of popular computer culture, with their novices and enlightened amateurs, formed the background against which the Internet would sweep the country. In 1992, as Request for Comments 1366 underlined in October of that year,[131] the Internet was undergoing such a "growth and increasing globalization" that it would soon result in a historical democratisation of communications. 1992 was also the founding year of the first French citizen-owned Internet access provider, French Data Network (FDN).[132]

FDN was not only the first French CN, but also the very first Internet access provider open to the public that has survived to this day. First giving access to Usenet and then to the Internet, FDN relied on the landline infrastructures of existing telecom operators, and in particular that of the incumbent France Télécom. However, connectivity was entirely managed by the organisations on behalf of its member-subscribers. Within two years, the number of users across the country rose to 400, including about thirty for-profit and non-profit organisations who acted as proxies for their members. Each of them paid an annual membership fee of 100 Francs (15 Euros) and a monthly flat-rate subscription of 180 Francs (27 Euros) for their dial-up connection with a generous data allowance. The hub

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130 See Gonzalez, A., & Jouve, E. (2002). Minitel: histoire du réseau télématique français. Flux, n° 47(1), 84–89. See also Mailland, J., & Driscoll, K. (2017). Minitel: Welcome to the Internet. Cambridge, MA: The MIT Press.

131 See Gerich, E. (1992). Guidelines for Management of IP Address Space. <https://www.rfc-editor.org/rfc/rfc1366.txt>.

132 See <http://ffdn.org/>.

of FDN was located in one of FDN founders' living room in Paris, and was formed by three NEXT computers and their attached modems, through which members would connect to global networks.

FDN would face many challenges in the subsequent years, with the rapid take-up of commercial access providers and the rapid increase in speeds and quality of service. It also came to face a rather hostile regulatory environment. In this context, its user-based started to shrink by the late 1990s. At first, FDN was one of the few ways by which it was possible to join the Internet. Within a few years, however, partly thanks to FDN's new president – a young computer engineers named Benjamin Bayart –, the non-profit became loosely connected to this emerging scene of Internet activists. Indeed, for FDN's active volunteers, this citizen-owned and run Internet service provider seemed to be a natural avenue for resisting the trend towards commodification and political control over this communications architecture (Bayart, 2016).

Through the leading members of the emerging digital rights scene did not necessarily perceived FDN's political potential, all shared the goal of equipping newcomers with the technical know-how and to cultivate an understanding of the Internet's political importance, allowing for the emergence of a "critical Internet user" (Paloque-Berges, 2015).

Almost ten years later, in 2007, after having successfully transitioned FDN's network from dial-up to ADSL, Bayart became more politically involved, addressing crowds of free software activists during public events. In one famous conference that gathered much viewership online, Bayart described the Internet's enclosure and growing centralisation as a move towards a "Minitel 2.0". This conference stroke a chord in an activist milieu. A year later, a new digital rights advocacy group, called La Quadrature du Net (LQDN),[133] was founded in France by Free Software activists, with Bayart originally acting as LQDN's treasurer.

Soon, coupled with the growing ability of a better-resourced digital rights movement to frame these issues at the political

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133 See <http://laquadrature.net>.

level, Bayart's advocacy in favour of non-profit Internet access providers led to a revival of the burst of the CN movement across France. In 2010-2011, many events impacting the digital rights debate took place and FDN leaders played a role in them. Such was the case during WikiLeaks "Cablegate", where FDN created a mirror site of WikiLeaks and helped channel donations to Julian Assange's organisation to circumvent the banking blockade it was subjected to. During the Arab Spring, FDN set up modems and share call-in numbers to allow Egyptian protesters to connect to the Internet through dial-up connections during the Internet shutdown, and collaborated with Reporters Without Borders to provide VPN services to political dissidents. Echoing the successes of the French Free Radio Movement,[134] FDN formed part of a global movement of activists resorting to decentralisation and creative networking to help others circumvent the repressive policies of state authorities.

7.3 Features of Fédération FDN

This was the moment when Bayart and other FDN active volunteers started motivating people across France to join their movement and start building their own CNs.

Rather than concentrating on a single organisation, or even the handful of other CNs already existing across France at the time, FDN participants chose to "swarm" in a decentralised mode by creating many local non-profit organisations, all incorporated as non-profit entities under the French 1901 law on the freedom of association.[135] "Rather than growing indefinitely, which would inevitably lead to impersonal functioning, it seems preferable to swarm," explained a blogpost published on the occasion. "To swarm means that there should be 10 free Internet access providers operating on a human scale rather than only one 10 times bigger."[136]

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134 See Lefebvre, T. (2011). La bataille des radios libres: 1977-1981. Paris: Nouveau Monde Editions.

135 See **Loi du 1er juillet 1901 relative au contrat d'association at** <https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=LEGITEXT000006069570>.

136 See FDN. (2011). Essaimage et Fédération FDN. <https://archive.is/Nb9lL>.

7.3.1 Federated in diversity

As of 2018, FFDN comprises 29 member organisations, operating in both rural and urban areas, using both wireless and leased landline networks, whose individual members are automatically members of FFDN.[137] This makes for a very diverse community of CNs in geographical, technical as well as socio-political terms. As a participant to the 2016 General Assembly suggested, "some [of us] work in suits, other don't work at all". Now, to give a sense of the diversity found among FFDN's member organisations, this section presents some of the CNs that are the most representative of the whole spectrum of governance, economic and technical models found in the Federation:

- FDN (French Data Network),[138] as we have seen, is the historical French CN, founded in 1992. Providing ADSL connectivity at a national scale on last-mile landline infrastructures leased from incumbent operator Orange (either through partial unbundling through the proxy of another major telecom operator, SFR, or directly through non-unbundled access with Orange). FDN has around 500 members with memberships rights in the organisations, about 330 of which are also subscribers (actually using one or several of the services provided by the organization).

- Scani (formerly known as PCLight)[139] was founded in 1998, first as a non-profit *association*. It is now evolving towards the status of "for business and employment cooperative" incorporated under French law 2001-624.[140] Scani is particularly interesting, not only for being the first venture of an FFDN member to include professional organisations including a few paid employees (rather than just active volunteers), but also for being the first FFDN member to foray into the deployment of last-mile fibre optic connectivity.

- Faimaison was created in Nantes in 2011 with the help of FDN. Faimaison started by providing ADSL connections and is now

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137 See FFDN. Members of the FDN Federation. Retrieved August 15, 2018, from <https://archive.is/jV559>.

138 See <http://fdn.fr/>.

139 See <https://www.scani.fr/>.

140 See French Law n° 2001-624 of 17 July 2001.

moving to expanding its network with WiFi links. Still small (about 80 members of which 15 are subscribers). It is very active on the advocacy front, frequently organising social events around digital rights campaigns led by French or European NGOs.

- Tetaneutral.net[141] is a wireless CN founded in 2011 in Toulouse. Its starting goal was to provide Internet access rivalling commercial ADSL offers that, in certain parts of the city, were limited to 512K. Its coverage soon expanded to half a dozen rural areas in the surroundings of Toulouse that previously did not have access to a decent quality broadband connection. After seven years of existence, Tetaneutral.net now counts more than 500 members, including 400 subscribers. It is currently experimenting with the deployment of fibre-optic networks.

- Rézine[142] is based in Grenoble and was founded in early 2012 and, though smaller, it presents a similar structure to the one of Tetaneutral.net. It provides a mix of ADSL and WiFi Internet connectivity in Grenoble. This CN has also explored the option of providing a public radio broadcasting network developed by local authorities in the district of Isère, but the CN organisers arestill looking for interested potential subscribers to make the operation financially viable. It currently counts 57 members, of which 43 are also subscribers.

The various FFDN members provide a variety of services. Except for 7 out of 29 member organizations, all FFDN's CNs provide Internet connectivity (with a static IP address) to their subscribing members, often for a fee ranging from free price at Tetaneutral.net (20 euros suggested, radio equipment being provided for free) to 30-40 euros for ADSL at Faimaison (cheaper when the connection is unbundled). CNs including FDN and Faimaison lease landline networks to incumbent operators to provide access to their subscribers. The 7 CNs in the federation that do not provide Internet connectivity offer only VPN service to their member-subscribers. In such cases, subscribers need to subscribe to traditional Internet access service.

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141   See <http://www.tetaneutral.net/>.

142   See <https://www.rezine.org/>.

What the CN provides is an encrypted tunnel routing the subscriber's traffic to one of their VPN servers, along with a static IP address, which can immunise a subscriber against its incumbent provider's technical restrictions (for instance, Orange banning the use of port 25 on ADSL offers and, therefore, preventing users from running a mail server at home). About 5 CNs, including Tetaneutral, offer hosting services, allowing members to install their own servers in the building or data-centre, where the organisation's servers are based. Hosting a small machine such as laptop, a NAS or Raspberry Pi costs 5 to 10 euros at Tetaneutral, or 17 euros at Faimaison. FDN and Faimaison provide subscriptions to a service offering access to Virtual Machines hosted on the CNs' servers.

An important technical project carried on and distributed by the FFDN community in the past years is the "Brique Internet" (or Internet cube), a small device to be plugged to one's Internet box. It provides a WiFi hotspot channelled to FFDN member's VPN service and embarking a Debian-based self-hosting OS called Yunohost, which runs a mail server and embarks platforms like Owncloud or a PirateBox for local file sharing.[143] 8 FFDN CNs currently distribute the Internet cubes configured with a VPN access they provide, for a price of about 65 euro per unit (plus the monthly cost of the VPN subscription).

A team of volunteers close to members of the FFDN have set up some of the most popular BitTorrent Tracker[144] freely used by tens of thousands users daily. Finally, Tetaneutral.net and other FFDN volunteers have assisted a national network of 42 independent movie theatres in setting up an online distribution system for digital copies of films.[145]

7.3.2 FFDN's founding documents

FFDN's organisation relies, primarily, on the principles laid out in three important texts that provide a framework for corresponding

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143 See <https://internetcu.be/> and <https://yunohost.org>.

144 See <http://www.torrent.eu.org/>.

145 See <http://www.indecp.org>.

practices: its bylaws,[146] its internal rules,[147] and its "Charter of good practices and common commitments"[148] which defines the notion of an *associatif* (non-profit) Internet service providers." According to this document, the Federation's member organisations "shall not use commercial methods, such as for instance the purchase of advertising space." People sitting on the boards of FFDN's CNs must be unpaid volunteers and earnings should be "systematically kept on the books or reinvested." Member organisations have a "duty of solidarity, among other things in the form of technical assistance, with the other member associations of the Federation, as well as with their members."

The Charter also requires members to commit to "protecting and/or promoting the Internet" and Net Neutrality. In that spirit, FFDN's members for instance commit to providing each of their member subscribers with a public and routable IP address (preferably static). Member organisations also have to provide a domain name or subdomain to subscribers interested in such option. With regard to Net Neutrality, which was a hot topic in France at the time of the Federation's creation, the Charter provides that FFDN's members shall not "impair in any way the data transmitted on behalf of subscribers, without the consent of the affected subscriber." The document further makes clear that the service provider "shall not modify the content of the exchanged messages (…)."

In the same spirit, the Charted states that the "ISP shall make no judgment on the relevance or significance of a data stream on behalf of the subscribers," and shall not filter (by blocking specific content) the Internet access of its subscribers, except in case of legal obligations (in which case these obligations as well as the technical means used to comply with them shall be fully transparent). All of these rules are FFDN's own way of framing Internet networks as a commons.

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146 See FFDN. (2018, August 15). Règlement intérieur. Retrieved August 15, 2018, from <http://archive.is/hZfSo>.

147 See FFDN. (2013, July 4). Statuts. Retrieved August 15, 2018, from <http://archive.is/EpDaF>.

148 See FFDN. (2016, June 6). Charte des bonnes pratiques et des engagements communs. Retrieved August 15, 2018, from <http://archive.is/M4Wkx>.

7.3.3 Who are FFDN's stakeholders?

As the above-mentioned documents make clear, FFDN's stakeholders are first and foremost the 29 non-profit member organisations united under FFDN's umbrella. FFDN's internal rules demands that they be registered as telecom operators before the French Telecoms Regulator, ARCEP. Other legal persons, such as businesses, which share FFDN's values and goals and wish to take part in FFDN's activities, cannot be considered as members but the bylaws include a "correspondent" status for joint action (correspondents do not have the right to vote). Currently, the Federation does not have its own budget and runs entirely on volunteer-work. Member CNs who can afford to do so are the one providing funds on an ad hoc basis, when necessary for the organisation of events, such as the General Assemblies.

FFDN's participants, including its board members, usually have leading positions within one or several member CNs. FFDN's active volunteers take an active part in the strategic discussions held on the future of the organisation, and gather the technical and regulatory know-how necessary to the operation of member organisations (this is particularly the case through informal working groups where the volunteers of various CNs work together). Such working groups may deal with very diverse issues, such as regulation, FTTH deployments, training and seeding new CNs, system administration, social inclusion, etc.

The second circle of stakeholders comprises all of the almost 2500 official members of FFDN member organizations. Among these, about 40% do not subscribe to any of services provided by CNs (for technical or practical reasons), but have decided to adhere to these organisations out of political conviction on the importance of community ISPs.

A third category of stakeholders includes partner organisations such as a handful of small-and medium businesses, which are member-subscribers of FFDN CNs, social projects (other non-profit organisations or advocacy groups) and public administration that subscribe to (or use the free) service provided by FFDN members, because such services offer flexible and/or cheap solutions to their needs.

7.4 **A framework for collaboration and political representation**

After having elucidated FFDN's main governance features, let us look at what the Federation actually brings to its member organisation and the French CN movement as a whole.

7.4.1 Mutual assistance and collaboration

One of the first task for the federation is to ensure solidarity and collaboration between its member organisations. FFDN is indeed a key channel for mutual support between members. For instance, established CNs will help new ones by giving or lending resources like IP addresses, AS, equipment, servers, cheaper bandwidth, etc. Such assistance is conducted more on an *ad hoc* basis than on agreements, even though the FFDN charter also mandates such collaboration, as highlighted in previous sections. More recently, the working group dedicated to seeding new CNs organised a workshop on wireless networking to train the volunteers of emerging CN.

To foster daily coordination, FFDN has a a mailing list for all the members of its CNs, where major issues or decisions are presented and debated. Another mailing list is dedicated to the activities of the board. Specific mailing lists are also created for specific working groups (dedicated to regulatory or technical issues).[149] FFDN also has a public IRC channel on Geeknode with an average of 150 daily participants, as do most of its member CNs (the Tetaneutral.net IRC channel on Geeknode, for instance, has about 130 participants). IRC is where most of daily interactions, coordination and debates between FFDN's members happen.

Although community events and workshops organised throughout the years allow for coordination and joint work, most of it happened actually happens during General Assemblies (GAs) which act as "community building" events, where most member organisations are usually represented. In May 2018, the author of this paper attended the GA with a colleague. The 2018 GA was

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149 See the list and short description of the 16 mailing-lists of FFDN at the following address: <https://lists.ffdn.org/wws/lists>.

held in a rural district one hour south of the city of Toulouse, where a joyous crowd of geeks and activists gathered to debate about community networking in an old castle. In this great environment – with stunning views over the hills at the footsteps of the Pyrenees –, about 70 participants came to recount the successes and failures of the CN organisations taking part in the federation, work on existing technical projects (fibre soldering, setting up radio antennas, etc.), start new working groups and discuss the governance of this federation.

In the vein of Free Software communities in which many FFDN participants are socialised, the group often works as a "do-ocracy," in which individuals choose roles and tasks for themselves and execute them. A member's recent interest in boosting the activity of the group in the field of telecom regulation resulted in many discussions being held at the 2016 GA on the matter and to the creation of a dedicated working group with its own mailing lists. Two years later, a similar process led to the creation of a working group on inclusion, to reflect on how to bring more diversity within FFDN and its member organisations. People interested in developing the Internet cube similarly got together and carried the project autonomously.

7.4.2 Policy coordination

FFDN core volunteers have become telecom experts (some of them participate in research on computer science) and their capacity in articulating the techno-political stakes associated with digital telecommunications has ensured their status as an influential "citizen voice" in national policy discussions on issues such as Net Neutrality.[150] Benjamin Bayart, who has been on the board of FFDN since its foundation, has worked since then to ensure than Net neutrality would be framed not only as an issue of economic regulation (with two opposing camps: telecom operators on the one hand, online service providers on the other), but also as a civil liberties issue. Through digital rights groups

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150 See the case studies related to FFDN and its members in: Tréguer, F., & Dulong de Rosnay, M. (2018). Community Networks and Political Advocacy (netCommons Deliverable nº 1.5). ISCC-CNRS. <https://halshs.archives-ouvertes.fr/halshs-01792045/document>.

like La Quadrature du Net, his expertise was also relayed at the European level and positively contributed to the successful adoption of Net Neutrality protection in EU law through the 2016 Telecom Single Market regulation.[151]

In 2016, the EU Commission also introduced a vast legislative package reforming the bloc's telecom rules. FFDN soon met with the ARCEP and the government to offer its view on the major stakes of telecom regulation and give a general opinion on the EU Commission proposal. Along with Guifi.net,[152] La Quadrature du Net and the research project netCommons,[153] FFDN played an important role in the subsequent legislative debate in Brussels, one that saw the emergence of the first rules tailored for CNs in EU law.

In the spring of 2017, Bayart and other FFDN representatives were invited by ARCEP to a BEREC meeting, as regulators sought feedback on the appropriate tools to monitor the traffic-management practices of telecom operators.[154] Perhaps more significantly, because it allowed them to stress their own regulatory needs, they also responded to another BEREC consultation related to Net Neutrality, one about interconnection practices and their regulation. In their response,[155] they strongly criticised the BEREC approach, its "lack of political vision" and unwillingness to engage in systematic monitoring of interconnection agreement. They particularly highlighted the fact that major telecom operators and online service providers were increasingly resorting to bilateral agreements thought Content Delivery Network (CDN) bypassing traditional Internet eXchange Points (IXP).

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151 See Regulation (EU) 2015/2120 of the European Parliament and of the Council of 25 November 2015 laying down measures concerning open internet access.

152 See <http://guifi.net/>.

153 See <https://netcommons.eu/>.

154 See Net Neutrality: Respect my Net presented at BEREC. (2017, April 11). La Quadrature du Net. Retrieved December 21, 2017, from <https://www.laquadrature.net/en/berec-net-neutrality-respectmynet>.

155 See Response to the BEREC consultation about the draft report on IP-Interconnection practices in the context of Net-Neutrality. (2017, May 7). Retrieved December 21, 2017, from <https://www.ffdn.org/en/etude/2017-07-05/response-berec-consultation-about-draft-report-ip-interconnection-practices-context>.

7.4.3 Joint litigation

Another interesting avenue through which FFDN has defended the values of the CN movement in France is litigation. In the fall of 2013, in the midst of the Snowden controversies, the French government decided to legalise hitherto illegal capacities of its intelligence agencies regarding extra-judicial access to the metadata held by telecom operators and hosting providers.[156] To do so, it worked with several members of Parliament then elaborating the Military Planning Bill (or "LPM" in French).

At first, the amendment aimed at legalising intelligence practices went unnoticed. It was only after a few weeks, and an initial criticism by a trade group representing large for-profit online services, that advocacy groups ranging from the League of Human Rights to La Quadrature du Net and Reporters Without Borders engaged in a short but intense mobilisation to get the amendment repealed.[157] The mobilisation eventually failed, but it led to new coordination among human rights groups working to protect civil liberties in the digital sphere.[158] Approximately a year later, on Christmas Eve 2014, the French government adopted the implementation decree of this new legislation, legalising and extending the surveillance capabilities of law enforcement agencies. When this became public, a volunteer from the board of FDN with a legal and policy background proposed the idea of introducing a legal challenge against the decree before the Council of State, France's highest jurisdiction for administrative law.

Within a few days, a network of connections and multi-level involvements of a small group of individuals in FDN, FFDN and LQDN led to the formation of a dedicated working group of half a dozen persons, including four individuals with a legal background and previous experience in policy advocacy (either at LQDN or FDN). The group also included two computer engineers from FDN

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156 See Tréguer, F. (2016). From Deep State Illegality to Law of the Land: The Case of Internet Surveillance in France. Presented at the 7th Biennial Surveillance & Society Conference (SSN 2016): "Power, performance and trust". Retrieved from <https://halshs.archives-ouvertes.fr/halshs-01306332/document>.

157 Idem.

158 See Tréguer, F. (2017). Intelligence Reform and the Snowden Paradox: The Case of France. Media and Communication, 5(1), 17–28.

and FFDN. A month later, an initial legal challenge was introduced against the LPM's implementation decree, applying the case law of the EU Court of Justice on data retention to French law.[159]

In February 2015, two decrees were also published to implement recent laws allowing for the administrative, extra-judicial censorship and blocking of websites hosting child abuse or pro-terrorist content, also before the Council of State.[160] Then, that spring, a major policy debate took place on the upcoming Intelligence Bill, a sweeping overhaul of the legal framework for the communication surveillance activities of French intelligence agencies.[161] Six months later, the group would start working on challenges to the implementation decrees of the law, and assist a member of the EU Parliament in a legal challenge against the law's provisions on international surveillance. The same group also introduced a still-pending legal challenge against the EU-US Privacy Shield agreement governing the transfer of personal data from the EU to the US.[162]

This litigation work soon extended to other issues closer to the direct interests of CNs, in particular to gain access to publicly funded fibre-optic networks. It cannot be denied that these activities mobilise the political values that drive the engagement of FFDN's volunteers. Indeed, amongst its member organisations, litigation plays an important role in enacting the movement's vision: lawsuits are systematically reported upon and debated at the GA.

7.5 Conclusion

Can FFDN be a model for other communities hoping to coordinate? Can it serve as a canvass for successful coordination at the national and translational levels? To be frank, FFDN could learn many lessons from what other communities across Europe and across the World have done. In fact, FFDN has grown in relative isolation

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159 See Loi de programmation militaire (LPM) sur l'accès aux données de connexion: URL: <https://archive.is/4ewqa3>.

160 See Filtrage LOPPSI / Cazeneuve (blocage DNS et déréférencement): <https://archive.is/rMwO1>.

161 See Tréguer, F. (2016, October). Internet Surveillance in France's Intelligence Act. Retrieved from <https://halshs.archives-ouvertes.fr/halshs-01399548/>.

162 See Privacy Shield. <https://archive.is/7Bl3r>.

from other CNs in Europe. While British "Free Network activists",[163] Freifunk,[164] Guifi.net and other networks united around CN events in Europe like the Battle of the Mesh, FFDN has remained largely outside of the existing forms of collaboration between other national CN communities.

FFDN is still a fragile organisation, and it faces important challenges. On the governance level, there seems to be a lot of strain put on a few active volunteers who deal with the bulk of the work necessary for the operation of the organisation. While issues of diversity and horizontality are discussed at the level of the federation, there is relatively little collective reflection about how to recruit more member-subscribers, member-participants and active volunteers to make existing CNs more resilient and maximise their impact locally and at the national level.

Even on the policy side, FFDN's work does not always translate into positive legal outcomes. The French Telecommunications Regulator, ARCEP, has been very keen on receiving FFDN's comments, which often contrast with the submissions they receive from traditional players in the telecom market. Sometimes, ARCEP policy officers even directly call out to leading FFDN members – in particular Bayart and Oriane Piquer-Louis (currently FFDN's co-presidents) – to ask them to participate in their consultation. However, unfortunately, these discussions have largely failed to result in any policy change favouring CNs at the national level.

Therefore, FFDN is not necessarily a full-fledged model. Other national communities – like Guifi.net and Freifnuk in Europe – have found also robust institutional mechanisms to establish such coordination and scale up their operations and may offer more complete examples of what can be done via CN organisations. Nevertheless, with all its shortcomings and peculiarities, FFDN still provides interesting cues on the benefit brought about by collaboration and systems for coordination for ensuring the

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163 See the section on Consume.net in: Trudel, D., & Tréguer, F. (2016). Alternative Communications Networks Throughout History (report). ISCC-CNRS. Retrieved from <https://halshs.archives-ouvertes.fr/halshs-01418826/document>. See also: Medosch, A. (2014). Network Commons: dawn of an idea. In The Next Layer. Retrieved from <http://www.thenextlayer.org/node/1233>.

164 See <https://freifunk.net/>.

sustainability of the CN movement. Most importantly, its institutional arrangements could provide inspiration for thinking about how to preserve maximal autonomy for its member organisations – ones with diverse technical models or political cultures –, valuing their diversity and locality, while fostering collective cohesion through mutual assistance and the political and legal defence of CNs.

7.6 References

Gonzalez, A., and Jouve, E. (2002). Minitel: histoire du réseau télématique français. *Flux, n° 47*(1), 84–89.

Lefebvre, T. (2011). *La bataille des radios libres*: *1977-1981*. Paris: Nouveau Monde Editions.

Mailland, J., and Driscoll, K. (2017). *Minitel: Welcome to the Internet*. Cambridge, MA: The MIT Press.

Medosch, A. (2014). Network Commons: dawn of an idea. In *The Next Layer*. Retrieved from <http://www.thenextlayer.org/node/1233>.

Pétin, P., and Tréguer, F. (Forthcoming). Building and Defending the Alternative Internet: The Birth of the Digital Rights Movement in France. *Internet Histories*. <https://doi.org/10.1080/24701475.2018.1521059>.

Thierry, B. (2012). «Révolution 0.1». Utilisateurs et communautés d'utilisateurs au premier âge de l'informatique personnelle et des réseaux grand public (1978-1990). *Le Temps des médias, n° 18*(1), 54–64.

Trudel, D., and Tréguer, F. (2016). *Alternative Communications Networks Throughout History* (report). ISCC-CNRS. Retrieved from <https://halshs.archives-ouvertes.fr/halshs-01418826/document>.

Tréguer, F., and Dulong de Rosnay, M. (2018). *Community Networks and Political Advocacy* (netCommons Deliverable n° 1.5). ISCC-CNRS. <https://halshs.archives-ouvertes.fr/halshs-01792045/document>.

Tréguer, F. (2016). From Deep State Illegality to Law of the Land: The Case of Internet Surveillance in France. Presented at the 7th Biennial Surveillance & Society Conference (SSN 2016): "Power, performance and trust". Retrieved from <https://halshs.archives-ouvertes.fr/halshs-01306332/document>.

Tréguer, F. (2016, October). Internet Surveillance in France's Intelligence Act. Retrieved from <https://halshs.archives-ouvertes.fr/halshs-01399548/>.

Tréguer, F. (2017). Intelligence Reform and the Snowden Paradox: The Case of France. *Media and Communication*, *5*(1), 17–28.