Case Study of Consul Democracy

2025

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Abstract

The following is a longer version of a case study included in a comprehensive report titled 'Open Source Software Adoption and Reuse in European Local Governments: A Multiple-Case Study,' available on the OSOR website.

The case study was developed through a combination of secondary research and 4-6 original interviews with individuals representing the local government, community and supplier perspectives on the open source project/collaboration. The insights in the case study were validated through workshops, and specific findings have been reviewed by people originally interviewed for the case study. Insights have been pseudonymised in the case study narrative, but the full list of organisations and individuals participating in the case study can be found in Annex C of the main report.

1.   Introduction

Consul Democracy[1], often referred to simply as 'Consul', is a robust and scalable citizen participation platform that supports participatory democracy initiatives by enabling direct citizen engagement. The platform supports budgeting, collaborative legislation, and citizen consultations, fostering transparency and community involvement in governance. Over time, it has been adopted by various international governments and organisations, making it a key tool for civic participation globally for governments and civil society organisations[2].

Consul is built using Ruby on Rails as its core framework[3], utilising PostgreSQL for database management and integrating Elasticsearch for advanced search capabilities, enhancing user experience. The platform is licensed under the GNU Affero General Public License (AGPL), guaranteeing that any modifications remain open source[4]. Consul's active community of developers and contributors continuously updates the platform, ensuring security, usability, and adaptability to evolving governance needs in different contexts where it is deployed.

Madrid City Council developed Consul originally in the wake of political change on the back of anti-austerity protests, which had started in 2011 and culminated in the elections of 2015. During those elections, it was the reformist and pro-democracy party *Ahora Madrid* that helped bring Consul into the world. The party swept to power in the Madrid City Council elections, largely because of a commitment to initiating political change, most notably through bottom-up democracy[5]. At the same time, similar political changes were happening in Barcelona and many other cities across Spain, a result of bottom-up local government initiatives that were tied into the critiques of left-wing parties and coalitions[6].

The new mayor in 2015 was Manuela Carmena, a politician who was influential in launching *Decide Madrid*, the open source platform that would later become Consul[7]. *Decide Madrid* promised to enable individual voices from across the city to be heard and included in local government decision-making processes. In particular, it was designed to facilitate 'direct democracy' or 'participatory democracy', allowing citizens to engage in bottom-up decision-making processes such as participatory budgeting and policy proposals[8].

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[1] Consul Democracy Foundation. (n.d.). *CONSUL DEMOCRACY – The most complete citizen participation tool.* Available: https://consuldemocracy.org/
[2] Ibid.
[3] Interview with Former City of Madrid Employee
[4] Consul Democracy Foundation. (n.d.). *CONSUL DEMOCRACY – The most complete citizen participation tool.* Available: https://consuldemocracy.org/
[5] Ibid.
[6] Kleiner, C., & Rogers, S. (2021). *Democratic innovation in the European Union: A case study of the Conference on the Future of Europe.* Social Movement Studies, 21(1–2), 254–271. Available: https://www.tandfonline.com/doi/full/10.1080/14742837.2021.1967121
[7] Cushing Rodriguez, S., & Veciana, E. (2023). *Decide Madrid and Consul Democracy: When the Export Surpasses the Original.* Available: https://democracy-technologies.org/participation/decide-madrid-and-consul/
[8] Ibid.

Since its inception, Consul has expanded globally, influencing participatory governance in numerous local governments, regions, and organisations. In the period from 2017 to 2019, Consul gained international traction, especially in Latin America and Europe[9], with an expansion of interest made possible by open community collaboration via the Internet. Since it was released openly, Consul has been widely adopted worldwide, including in cities like Buenos Aires, Paris, and New York, as well as by regional governments and civic organisations[10].

While its use declined a little bit after 2019, the last five years have been characterised by an increasing pan-European collaboration, with large influence coming from Germany, Scotland and,to a lesser extent, the Netherlands. This expansion has forced Consul to evolve into more consolidated modalities for sharing and collaboration, even as the development of formal governance structures has not kept up with the need of contribution and maintenance support[11]. While the Consul Democracy Foundation has focused largely on community-building and collaboration so far, it hopes to improve the governance and financial sustainability of Consul in the year ahead[12].

In spite of these challenges, Consul has proved a successful and durable enabler of direct democracy processes, particularly around participatory budgeting, and continues to provide local governments and other organisations with essential tools for participatory democracy.

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[9] Interview with Former City of Madrid Employee
[10] Consul Democracy Foundation. (n.d.). *Use Cases – Consul Democracy Documentation.* Available:
https://docs.consuldemocracy.org/use_cases
[11] Extrapolated from: Interview with Consul Democracy Foundation, Interview with City of Munich
[12] Interview with Consul Democracy Foundation, Discussion with Consul Democracy Foundation

2.   Key Stakeholders

Consul Democracy Foundation: The Consul Democracy Foundation was established in 2019 to ensure Consul's continued maintenance as political support from the Madrid City Council declined following elections[13]. Rather than maintaining the codebase with its own developers, the Foundation focuses primarily on community development and expanding the use of Consul internationally[14]. It manages limited funding sources, including an annual €20.000 contribution from the City of Munich, European Union grants, and private donations[15]. The Foundation sponsors annual "ConsulCon" events to facilitate knowledge exchange[16], maintains active communication channels like Slack for the community[17], and has created a certification program for service suppliers that requires them to contribute back to the project and donate a percentage of revenue[18]. Despite these efforts, the Foundation struggles financially and lacks the capacity to centrally coordinate technical development across the fragmented Consul ecosystem, something it hopes to change.

COSLA (Convention of Scottish Local Authorities): COSLA serves as a central facilitator for Consul implementation across Scottish municipalities, providing technical management, hosting, deployment, and onboarding support[19]. This centralised approach reduces duplication of effort across 32 councils and leverages shared expertise, though it faces capacity constraints[20]. COSLA emphasises the importance of data portability and system interoperability, ensuring local governments have clear exit strategies when adopting open source solutions like Consul[21]. Their approach balances standardisation with local needs to lower barriers of entry for participatory democracy, while also maintaining a degree of control over future developments through proactive planning[22].

Decidim: Decidim originated as a fork of Consul when the City of Barcelona sought more flexibility and customisation options for citizen participation[23]. Unlike Consul, Decidim adopted a modular architecture, allowing for simpler development of new features, easier updates, and enhanced security. This critical architectural choice – modular design – also enabled more localised translations and customisation, fostering a larger international community[24]. Like Consul, the project has since grown beyond its initial Spanish roots, with active communities in Latin America, Europe, and even Japan. The Decidim

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[13] Interview with Miguel Arana-Catania
[14] Ibid.
[15] Interview with City of Munich
[16] Interview with Consul Democracy Foundation
[17] Interview with COSLA
[18] Interview with Consul Democracy Foundation
[19] Interview with COSLA
[20] Ibid.
[21] Ibid.
[22] Ibid.
[23] Interview with Decidim Association
[24] Ibid.

Association governs the project through a Coordination Committee elected democratically, ensuring community-driven decision-making[25].

Code for Romania: Code for Romania, now operating under Commit Global, began working with Consul in 2019 and deployed the first instance in Brașov, a medium-large city in Romania of about 237.000 people[26], around 2020 to 2021. That first instance focused on participatory budgeting, aiming to implement end-to-end processes before handing them over to local governments to ensure autonomy and prevent dependency[27]. During the transition, Code for Romania emphasised knowledge transfer and maintained independence by avoiding long-term hosting responsibilities[28]. They found the Consul community supportive, particularly collaborating with service supplier Rock&Ror[29], a key contributor to the early project in the City of Madrid. Their approach to deployment included promoting local ownership and leveraging community knowledge for customisation[30].

City of Munich: The City of Munich adopted Consul to implement direct democracy digitally, continuing a policy priority from a previous administration[31]. The Open Source Program Office (OSPO), established in 2024, supported Consul through sponsorship and service supplier support, instead of direct code contributions. This was in part due to internal expertise being Java-focused, while Consul is built on Ruby on Rails[32]. Munich became the sole sponsor of the Consul Democracy Foundation, contributing €20.000 annually to support the project's core development and sustainability[33]. Their involvement is strategic and aims to contribute towards securing Consul's future without directly influencing feature development[34].

City of Groningen: The City of Groningen was highly active in the international Consul community early on and played a leadership role in promoting the platform within and beyond the Netherlands[35]. However, their involvement has diminished recently[36]. Groningen's engagement demonstrates the challenges of sustaining momentum and participation in open source projects, especially when local priorities and political landscapes shift[37]. Their experience highlights the importance of maintaining international collaboration and knowledge exchange to support long-term project sustainability.

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[25] Ibid.

[26] Wikipedia contributors. (2023, September 24). *Brașov.* In Wikipedia. Available: https://en.wikipedia.org/wiki/Bra%C8%99ov

[27] Interview with Commit Global / Code for Romania

[28] Ibid.

[29] Research Organization Registry (ROR). (n.d.). *ROR – Research Organization Registry.* Available: https://ror.org/

[30] Interview with Commit Global / Code for Romania

[31] Interview with City of Munich

[32] Ibid.

[33] Ibid.

[34] Ibid.

[35] Dussutour, Chloé. (2020). *Voice of Groningen: Case Studies on Sustainability of Public Sector Open Source Communities.* Available: https://interoperable-europe.ec.europa.eu/collection/open-source-observatory-osor/document/voice-groningen-case-studies-sustainability-public-sector-open-source-communities

[36] Interview with City of Groningen

[37] Ibid.

3.   Detailed Findings

3.1.   Adoption and use

Adoption and use of Consul have varied significantly across different countries and local governments, shaped by local contexts, resource availability, and strategic goals. Initially developed in Madrid to support participatory democracy, Consul rapidly gained traction across Madrid in 2015 and early 2016, continuing to spread around Spain, and international attention came in 2016 and 2017, all the way through 2019[38]. During this period, it spread to many countries, not just in Europe but in Latin America as well.[39] As one interviewee noted: *'The project [was] a fire that spread around Europe and Latin America, [for example] different cities from Argentina, Guatemala [and] Eastern Europe.'* [40]

The platform's adaptability allowed for diverse implementations, with each local government customising features to suit local needs. However, this led to fragmentation, as multiple forks emerged without a streamlined process for reintegration into a core codebase.[41] In Germany, for instance, localised versions tailored to national requirements resulted in parallel developments that were difficult to reconcile.[42] According to one interviewee: *'I think this is a big problem in the open source world that you have so many projects with no paid maintainers doing so much work. [...] It's a problem [if] you can fork and there is no other maintainer who will maintain the core. For me, it's important that you have a very secure and clean core of your software.'* [43]

The adoption process has also been influenced by organisational models and governance structures. In Scotland, COSLA facilitated implementation across local governments by centralising technical management and costs, lowering the barrier to entry for local governments[44]. This model promoted widespread use but constrained customisation, as individual councils lacked the resources to adapt the platform to their unique needs[45]. Speaking to this, it was noted that: *'All of [COSLA's] technical management is done by COSLA on behalf of the councils or municipalities. We deal with all of the technical hosting and deployment and technical onboarding, and that's one of the bits of the model which works reasonably well, apart from our lack of capacity.'* [46]

Conversely, in Romania, Code for Romania focused on knowledge transfer to ensure local governments maintained autonomy and did not become dependent on external support[47]. This approach highlighted the importance of strategic exit planning and sustainability considerations for long-term success. Reflecting on

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[38] Interview with Consul Democracy Foundation; Interview with Former City of Madrid Employee
[39] Ibid.
[40] Interview with Consul Democracy Foundation
[41] Interview with City of Munich
[42] City of Munich
[43] Ibid.
[44] Interview with Convention of Scottish Local Authorities (COSLA)
[45] Ibid.
[46] Ibid.
[47] Interview with Commit Global / Code for Romania

this process, another interviewee stated: *'It's important for us to make sure that these solutions stay within the municipalities. And [that] we don't become an IT provider for them because all the support we're providing and offering is for free.'* [48]

Challenges in adoption were not limited to technical fragmentation but also involved cultural and language barriers. In the case of the City of Groningen, they were initially highly active in the international Consul community and played a leadership role in promoting the platform within the Netherlands[49]. Over time, they encountered challenges in localising the system to Dutch and maintaining it in a way that met the needs of the Dutch context, which forced Groningen to effectively collaborate with the predominantly Spanish-speaking Consul community and technical core group[50]. Combined with minimal opportunities for local governments to influence the project's technical direction, these factors eventually led Groningen to withdraw from the Consul ecosystem[51].

There were also political barriers. One interviewee highlights: *'There is a political barrier that has to do with the understanding of the governments of what their role is and what they can do. [E]specially for city governments, this idea of collaborating in international projects and really being a relevant part of it usually is a bit of an alien idea.'* [52]

In some regions, participatory democracy was perceived as a politically charged activity, impacting stakeholder engagement[53]. The same interviewee stated: *'In the case of Consul in particular, in some cases, there are governments who [...] could think that citizen participation or that democracy is more like a left-wing political idea. It was not so common during the whole project. Actually, in the Consul project, most of the governments outside of Spain, probably most of them actually were more conservative or right-wing governments.'* [54]

Despite these challenges, Consul has fostered vibrant international communities, facilitating knowledge exchange through conferences, webinars, and active Slack channels[55]. Each year, the Consul Democracy Foundation sponsors ConsulCon, the most recent one of which took place in the Canary Islands in February 2025[56]. Given some of the other challenges in creating a maintainable 'core' for Consul, these communities have been vital for sustaining the project and supporting the diverse needs of global users, proving to be one of the engines of its reach and success as a global open source project and community.

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[48] Ibid.
[49] Interview with City of Groningen
[50] Ibid.
[51] Ibid.
[52] Interview with Former City of Madrid Employee
[53] Ibid.
[54] Ibid.
[55] Interview with Consul Democracy Foundation; Interview with Former City of Madrid Employee; Interview with Convention of Scottish Local Authorities (COSLA)
[56] Consul Democracy Foundation. (2024, June 10). *Consul Conference 2025: Gran Canaria.* Available: https://consuldemocracy.org/2024/06/consulcon25/

3.2. Development and maintenance

After its initial launch, Consul's development was heavily driven by the Madrid City Council, which had initiated its development[57]. The open source approach in the City of Madrid was adopted in large part due to a mandate and pragmatism about choice of tooling, which was made possible by a surprising and generous political mandate from the recent elections, as well as a strong leader in the form of Mayor Manuela Carmena[58]. The use of open source in Decide Madrid was influential and got the attention of many other cities and regions in Spain, including the City of Barcelona[59].

After just 6-12 months, other cities became interested in Consul and its use spread, with active contributions from various stakeholders, including the City of Barcelona[60], and eventually actors from outside Spain[61]. As early as late 2015 or early 2016, there was rapid adoption by various cities and regions. In 2016-2017, the City of Barcelona forked Consul and developed its own open source platform, which came to be known as Decidim. This was partly due to a need for greater oversight of the architecture and customisation options, to meet local needs in Barcelona[62].

Political shifts in Madrid, beginning in 2019 when a more conservative and technology-sceptic government was elected, led to reduced official support for the Consul software, which declined further with the onset of the COVID-19 pandemic in 2020. According to one interviewee: *'[T]his citizen's party that was in the government lost elections, [...] and that happened also in many of the other cities all over the country [as well]. [...] In the case of Madrid, the government was quite right-wing, a coalition with much more extreme right-wing parties. And they started basically going back with a lot of the political decisions that were done during the previous years. But they decided to keep the tool open, which is good.'* [63]

These shifts in political support for Consul Madrid created some uncertainty in how Consul was being developed and maintained in the city, with additional uncertainty caused by elections in other cities. Noted one interviewee of the changes in 2019 in Madrid: *'Then [in 2019] there was a local change in the government. There was a new election. [...] They stopped taking responsibility for the Consul project. So that meant that there was a huge cut in the team. There was no longer responsibility for updating the code, doing security updates, doing new version releases, doing everything that it takes to keep a software viable, usable and safe.'* [64]

A challenge for the long-term adoption and maintenance of Consul in the period after 2019 was the small community of service suppliers supporting the

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[57] Interview with Consul Democracy Foundation; Interview with Former City of Madrid Employee
[58] Interview with Former City of Madrid Employee
[59] Interview with Decidim Association
[60] Ibid.
[61] Interview with Former City of Madrid Employee, Interview with Consul Democracy Foundation
[62] Interview with Decidim Association
[63] Interview with Miguel Arana-Catania
[64] Ibid.

project[65]. In particular, many of the service suppliers emerged in Spain and had direct or indirect connections to the Consul project, allowing them to build up knowledge and understanding of the project that would be hard for other service suppliers to replicate, giving them soft control of the market[66]. That said, the lack of in-house technical expertise in many local governments led to a form of dependency on external service suppliers and NGOs, for better or worse.[67]

Speaking to one of these service suppliers and their relationship, an interviewee noted how: *'I can definitely say that again the most helpful part of the community has been still the collaboration, even before it was a contracted collaboration with the team at [the service supplier] Rock&Ror. They seemed, at least at that moment in time, [that] they were the most actively engaged people, and that was supporting everybody who was trying to deploy Consul. They really helped us.'* [68]

Fortunately, the set-up of the Consul Democracy Foundation had begun in 2018, in large part a proactive measure to anticipate risk should the City of Madrid withdraw support. In a case of fortuitous timing, it was finalised in 2019 as the new government came into power, which helped to ensure the platform's continued maintenance, although only in part[69]. Over time, the role of the Consul Democracy Foundation became focused on community development and expanding the use of Consul. To this day, they do not have their own developers to maintain it[70].

Partly as a result, but also due to natural changes in any large open source community, additional challenges in development and maintenance persist. These include reliance on a small pool of maintainers, difficulty in securing funding for maintenance over feature development, and adoption challenges wherein local governments face challenges integrating Consul with existing IT infrastructure[71]. Finally, political changes affect long-term adoption and funding commitments, and bureaucratic hurdles in integrating open source software into government workflows remain as well[72].

3.3.   Funding and sustainability

Initially funded by the Madrid City Council, Consul expanded naturally and freely – in the way many open source projects do – in the period between 2016 and 2019. By maintaining their installation of Consul, the City of Madrid provided a sort of de facto, upfront subsidy to the development of a citizen participation platform for local governments adopting Consul[73]. Further development of Consul, including new features or architecture, was funded largely by

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[65] Interview with Decidim Association
[66] Ibid.
[67] Interview with Commit Global / Code for Romania; Interview with City of Munich
[68] Interview with Commit Global / Code for Romania
[69] Interview with Consul Democracy Foundation
[70] Interview with Consul Democracy Foundation
[71] Extrapolated from: Interview with Consul Democracy Foundation; Interview with Former City of Madrid Employee; Interview with Decidim Association
[72] Ibid.
[73] Interview with Former City of Madrid Employee

participating local governments, and most of it seems not to have made its way back to the core codebase[74].

Since the emergence of the Consul Democracy Foundation in 2019 – an idea from even earlier than that, which was intended to promote the software's technical and financial sustainability – Consul has since transitioned to a model reliant on external contributions, with attempts at diversified funding through grants and sponsorship. For example, as part of a new model for supporting Consul, the City of Munich contributes €20.000 annually to the project via the Consul Democracy Foundation, which is also seeking to get other cities to do so as well[75]. Additionally, European Union grants and private donations supplement local government contributions, and there are financial contributions – whether direct or indirect – from service suppliers implementing Consul for local governments[76]. Nevertheless, the total effect of all this fundraising seems to be insufficient.

The Consul Democracy Foundation itself is circumspect about these challenges, which are often equated with a focus on what's new. As one interviewee pointed out: *'... there's a lot of emphasis always on new features and doing new stuff and innovations and adding [more]. Now you can get funds for adding AI to the platform or something like that. You need to have [these things] if you want to get funded, you need to come up with some fancy new feature every time, even if you want to get the funding that you need to just maintain the platform.'* [77]

There have been attempts at a diversified funding model, which have helped to sustain the platform. Namely, the Consul Democracy Foundation has developed a certification program with service suppliers with criteria for participation that motivated them to contribute back actively and donate a small percentage of revenue to the project[78]. Despite this, and the money from Munich, long-term financial stability remains a key concern for Consul, as there is (for now) a dependency on ad-hoc funding from a patchwork of sources and in-kind contributions from service suppliers and local governments[79]. That said, both paths offer potentially fruitful and sustainable funding models for the project, if the Foundation can convince more people to come on board and be recurring sponsors or supporters.

The struggles Consul has had in attracting and retaining funding sources stand in stark contrast to the Decidim Association. While Decidim also reported struggles to fundraise, it has been more successful in diversifying its funding and bringing together a patchwork of different sources into better core funding and support for the Decidim codebase and those local governments and actors dependent on it[80]. This may partly be attributed to the amount of time it had to

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[74] Interview with City of Munich; Interview with City of Groningen
[75] Interview with City of Munich
[76] Ibid.
[77] Interview with Consul Democracy Foundation
[78] Ibid.
[79] Extrapolated from: Interview with Consul Democracy Foundation; Interview with Former City of Madrid Employee; Interview with City of Munich
[80] Interview with Decidim Association

get up and running before the pandemic, whereas the Consul Democracy Foundation was severely constrained during the COVID-19 period[81].

3.4.   Governance and organisation

During the period from 2016 to 2019, governance of Consul was loosely structured, with contributions from various local governments coming in a fragmented and ad-hoc way[82]. While the City of Madrid was the primary maintainer of Consul, it did so largely by default, as it had initiated the project and invested so many resources into it, though not necessarily because of a conscious choice regarding its governance[83]. There was a lot of collaboration around Consul and sharing of knowledge and information, but it was also true that most cities had their own installations, and new features and code were developed on an ad-hoc basis, with little contributed upstream to a single, maintainable core[84].

Since 2019, when political change happened in the City of Madrid and the Consul Democracy Foundation emerged, the governance of Consul has remained relatively informal. The Consul Democracy Foundation serves as the primary coordinating organisation, but it cannot be regarded as the maintainer, and decision-making is highly decentralised, with most local governments maintaining Consul in separate repositories with quasi-forks of the original codebase (there remains a lot of collaboration between cities and through online fora)[85]. This stands in contrast to Decidim, which has adopted a more modular but centralised architecture, and for which the Decidim Association has taken responsibility for coordinating maintenance and contributions with service suppliers and local governments[86].

Despite efforts to maintain the platform, challenges remain in ensuring continuous technical development and central governance due to the change in government in Madrid and the corresponding decline in investment in Consul, which happened in other local governments across Spain, too[87]. The governance of Consul, which had been driven primarily by the largesse of those governments in Spain, was unable to adapt easily. A lack of a clear governance structure has led to fragmented development wherein cities and service suppliers contribute separately, often without merging features back to the core codebase. Noted one interviewee: *'The service providers, some of these providers also are now providing a bit more core development services of the tool. So in that sense now, for example, the developers of the city of Madrid or the big cities are not anymore really taking all the work of the development.'*[88]

[81] Discussion with Consul Democracy Foundation
[82] Interview with Former City of Madrid Employee
[83] Ibid.
[84] Interview with Former City of Madrid Employee; Interview with Consul Democracy Foundation
[85] Extrapolated from Interview with City of Munich; Interview with Commit Global / Code for Romania; Interview with City of Groningen
[86] Interview with Decidim Association
[87] Interview with Former City of Madrid Employee; Interview with Decidim Association
[88] Interview with Former City of Madrid Employee

As a result, today's contributions to Consul come largely from certified service suppliers, with fewer contributions from local governments and NGOs. Each group plays a different role in shaping the project's development, but at the moment, the governance of the core project is centred on a technical core group with mainly representatives from service suppliers, many of whom date back to the 'Madrid era' of Consul's development[89]. In terms of the active local government contributors, right now it is largely the City of Munich which has played an outsized role in contributing to and requesting features of Consul, though the Scottish Association COSLA has also played a big role in adapting Consul to the unique needs of Scotland[90]. Now, the technical core group (e.g. the service suppliers) takes the main decisions, while ventilating the roadmap with the overall community.

The absence of a strong centralised governance structure has reinforced challenges in governing a unified community – let alone a single codebase – ultimately leading to a degree of fragmentation in community governance between the local governments and the service suppliers. For example, a key concern for sustainability has been the increased distance from cities like Groningen; if there had been a more inclusive/open governance, they might have stayed[91]. This centralisation of power in the hands of the service suppliers is one of the reasons for the continued fragmentation of development on the local government level. Over time, the Consul Democracy Foundation intends to involve local governments more long-term[92] and bring the Consul codebase 'back together' to make it less fragmented[93].

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[89] Interview with Consul Democracy Foundation
[90] Interview with Convention of Scottish Local Authorities (COSLA); Interview with City of Munich
[91] Interview with City of Groningen
[92] Ibid.
[93] Discussions with Consul Democracy Foundation

4.   Lessons Learnt

1. **Diverse funding and support – e.g., in terms of funders and type of funding (grants, sponsorships, resources) – improves resilience of the project and overdependence on any single actor, particularly as a project scales up internationally.**

The Consul case study illustrates how insufficient funding diversification can fragment communities and create problematic dependencies on service suppliers or systems integrators for both customisation and financial support. Notably, Consul experienced a risk in funding in the aftermath of the 2019 elections when the City of Madrid retracted its support[94]. Furthermore, the Consul Democracy Foundation has struggled to diversify funding since the onset of Covid-19 – with the City of Munich being the only sponsor from the public sector[95] and some funding from the philanthropic arm (foundation) of Bosch[96] – and it often relies on service suppliers to do much needed maintenance work[97], defaulting to more of a community than technical role. This risk and uncertainty reinforce the fact that if a main funder of a project were to pivot, e.g. due to a change in government, projects would risk going unmaintained and 'soft forks' in the codebase might become 'hard forks'[98].

While public sector organisations provide valuable support, relying solely on local government or single-source funding can lead to long-term instability, as can a lack of funding diversification once a project goes into a foundation. In the medium- to long-term, this can compromise the independence of PSOs adopting the software. More diverse models that include community contribution fees, revolving funds, EU grants, and even private donations can help warn against the risks of overdependence on one actor[99]. These additions, while hard to implement in practice for small foundations, illustrate practical pathways to financial sustainability. Core development and maintenance require centralised fundraising to ensure the software remains implementable and maintainable by local governments, and to ensure that it is flexible and scalable for the actors adopting it, many of whom have common needs and use cases.

2. **For an international project to function freely, collaboration across the overarching (cross-border) community must be maintained.**

Structured and inclusive governance is critical when open source product or collaboration gets used increasingly internationally, but it also requires subcommunities to be built up and fed into the larger community that supports the 'core' project. This is true even in cases where there is no single maintainer. In the case of Consul, it became clear that the modular architecture and

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[94] Interview with Consul Democracy Foundation; Interview with Former City of Madrid Employee; Interview with Decidim Association
[95] Interview with Consul Democracy Foundation; Interview with City of Munich
[96] Interview with Consul Democracy Foundation
[97] Interview with Decidim Association; Interview with City of Munich; Interview with City of Groningen
[98] Extrapolated from Interview with City of Munich
[99] Extrapolated from: Interview with Decidim Association; Interview with City of Munich

decentralised community made it challenging for local governments to contribute back and work together around shared feature development or needs[100]. Some expressed the belief that Consul felt like it was being forked by each local government – even if it was not a 'hard fork' but a re-configuration according to each local government – with little getting contributed back upstream.

In this way, the Consul case study demonstrates how a steering committee model – with clear roles for local government representatives and product development teams – could help coordinate diverse contributions while preventing fragmentation in the codebase. While this could have, in theory, been the role the Consul Democracy Foundation took, they chose to instead work more on advocacy and diversifying the contribution base for Consul, and have now become more reliant on a group of largely Spanish service suppliers that have been active since the project's inception. While the intent of the Foundation seems to be to change this, the current centralisation of power in the hands of service suppliers likely means governance needs to change before technical decisions can change, not the other way around.

3. **Open knowledge sharing and community interaction with users from similar contexts and with similar requirements for the solutions is critical for sustainability.**

Digital communication channels and online communities are crucial for platform growth in open source projects, particularly in their early stages. Consul's success stemmed largely from its diverse user community of local government and other PSOs sharing knowledge and best practices across (city) borders, which happened organically in its early days as a community. Online collaboration modalities supported the expansion and ultimate consolidation of the Consul community, even as formal fundraising stagnated and governance structures weakened. Yet, as communities grow larger, a risk is that diversity and distance grows between the users. If underpinning needs and ways of communicating grow too large, community members may be forced to look to alternative options, as happened with the City of Groeningen.

The City of Groeningen was missing the ability to share knowledge with peers who have similar requirements and needs from the solution, and discuss and implement the necessary customisations accordingly. Different languages and cultures also posed a barrier to the knowledge sharing of the international community. The city instead opted for an open source alternative solution emerging from other Dutch local governments where they could communicate on a closer level.

4. **Without more defined governance structures, service suppliers can begin to play an outsized role in technical decision-making, and cities can become reliant on them over time.**

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[100] Extrapolated from: Interview with Decidim Association; Interview with Commit Global / Code for Romania; Interview with City of Munich

Consul's experience demonstrates how trade-offs in technical choices – e.g. a lack of modularity or centralisation in maintenance – can lead to service supplier dependence and ad-hoc collaboration, with minimal upstream contributions resulting from architectural constraints and a community culture that has been built around that architecture. Compared to Decidim, an open source civic participation platform like Consul, which was forked from Consul by the City of Barcelona in 2016, Consul relies on a highly centralised architecture, which is harder to customise[101]. Another aspect of the challenge comes from the fact that it is programmed in the Ruby on Rails framework, a programming language that fewer developers may be familiar with[102].

Global open source solutions require technical adaptability by modular development, facilitating updates and customisation while accommodating the needs of diverse local government IT environments. That said, this was not always common for Consul, and many cities worked on Consul in silos, partially reinforced by the fact that it was harder to program for without a lot of historical expertise and knowledge, and partially because its architecture made it difficult to commit new features or customisations back upstream[103]. This was made clear in the example of Code for Romania, which worked to adapt Consul to the needs of the City of Brasov and other smaller local governments, eventually developing capacity-building efforts to help train local officials and encourage them to take over ownership of the platform[104]. This was also done in the case of COSLA, the association in Scotland[105].

In this way, a platform's continued adoption depends on its flexibility to meet evolving needs across different social and political contexts. Maintaining a unified codebase serves as a 'single source of truth' even as jurisdictions implement unique features. Modular development and a unified yet flexible codebase can help local governments adapt the platform to their local IT environments, as well as reduce dependency on any single supplier. This is not currently the case for Consul, which is dependent more on contributions from service suppliers than local governments, though there is some degree of awareness that this needs to change[106].

5. **With open source projects steered by a foundation, it is important to balance centralisation of governance with the modularity and adaptability of the project.**

Governance structures impact technical decisions, as seen in the challenges Consul faced in maintaining a unified codebase. The lack of a formal governance procedure and the reliance on trust-based collaboration led to fragmented development, with multiple forks adapted to different local needs. This decentralised approach has made it difficult to synchronise updates and maintain security across installations. In contrast, Decidim's governance,

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[101] Interview with Decidim Association
[102] Interview with Commit Global / Code for Romania
[103] Extrapolated from: Interview with Convention of Scottish Local Authorities (COSLA); Interview with Commit Global / Code for Romania; Interview with City of Munich
[104] Interview with Commit Global / Code for Romania
[105] Interview with Convention of Scottish Local Authorities (COSLA)
[106] Interview with Consul Democracy Foundation

characterised by democratic elections within the Coordination Committee, helped guide its technical roadmap, reflecting community needs and ensuring more cohesive development across its international community[107].

Initially, the choice to fork Decidim from Consul was driven by architectural constraints that limited customisation and flexibility. The decision to adopt a more modular architecture in Decidim allowed for greater adaptability to local needs, influencing governance by empowering local implementers to contribute to the development and decision-making processes[108]. This modularity also facilitated a more diverse and robust community, enabling decentralised governance structures where cities and regional governments could maintain their versions while still contributing to the core project[109].

In Consul's case, the interplay between governance and technical decisions is also evident in how funding and organisational models influenced project sustainability. Consul's reliance on local NGOs and certified service suppliers for implementation shaped its technical evolution, as these organisations prioritised features relevant to their clients. Conversely, Decidim's funding from PSOs, combined with its community-led governance model, supported a long-term vision that prioritised security and maintainability[110]. These examples illustrate how governance structures and technical decisions co-evolve, shaping both community dynamics and the long-term sustainability of open source projects like Consul and Decidim.

In this view, it becomes clear that there is a need to adopt more balanced approaches. Comparing Consul to Decidim reveals how early architectural and governance decisions can create different outcomes, and how different types of governance may indeed be required in different contexts. In the case of Consul, it could potentially have benefited from a more decentralised, open, and inclusive governance where the key stakeholders – like COSLA or the City of Munich – could be invited and engaged. This could have promoted a better synchronisation across their needs and defragmentation of the various 'forks'. While there is a recognition that this needs to happen, it is hard to change because of decisions made early in the project's lifecycle.

6. Exit strategies should be defined before adopting an open source project.

Practitioners and policymakers need to ensure that the adoption of solutions enables migration (e.g. an 'exit strategy') if the project's governance changes, or it is no longer maintainable. Exit strategies can be defined both in terms of getting out of relationships with a service supplier and the ability of an open source project and its data to be taken over by another actor, including a service supplier[111]. This was demonstrated by COSLA's experience with Consul. COSLA recognised the importance of having an exit strategy due to the

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[107] Interview with Decidim Association
[108] Ibid.
[109] Ibid.
[110] Ibid.
[111] Focus Group #2

inherent uncertainty of open source projects, where future development and support are not guaranteed[112].

In particular, COSLA understood that without a clear exit strategy, local governments risked becoming locked into a system that could become obsolete or unsupported, affecting their ability to continue providing public services effectively[113]. COSLA's approach involved ensuring that councils did not perceive open source software solutions like Consul as dead ends. They emphasised the importance of data portability and system interoperability, ensuring that local governments could extract their data and transition to other platforms if needed[114]. COSLA communicated these exit strategies upfront, making the transition to being more open source more persuasive by alleviating concerns about service supplier lock-in and long-term sustainability[115]. This strategic foresight mitigated the risks associated with open source adoption by providing local governments with flexibility and security.

The necessity for exit strategies was also influenced by COSLA's organisational role and funding structure. As an organisation funded by the Scottish government and representing local governments, COSLA aimed to simplify digital transformation for local governments while maintaining a degree of control over future developments[116]. By proactively planning exit strategies, COSLA not only reduced the perceived risks of open source but also supported a more resilient and adaptable governance model[117]. Unlike proprietary software, which often comes with contracts ensuring long-term maintenance and accountability, open source software relies on community contributions and voluntary maintenance. By proactively planning exit strategies, COSLA not only reduced the perceived risks of open source but also enabled resilience and flexibility in the community it supported.

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[112] Interview with Convention of Scottish Local Authorities (COSLA)
[113] Ibid.
[114] Interview with Convention of Scottish Local Authorities (COSLA); Focus Group #2
[115] Interview with Convention of Scottish Local Authorities (COSLA)
[116] Ibid.
[117] Ibid.