

# Market research of existing Civic Technologies for participation

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# Market research of existing Civic Technologies for participation

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## Executive Summary

Technologies to support citizen deliberation and participation form a growing market. This work has been commissioned to support the development of new technologies aimed at enhancing and scaling the use of the Scottish Government's Participation Framework for data governance. In this landscape review, we explore 31 of the most established players in the Civic Tech landscape for public engagement. For this purpose, we draw on the list of platforms included in the 2024 People Powered rankings. Our analysis is structured into four stages. Firstly, an analysis of the concrete technical features offered by these platforms. Secondly, an analysis of how these features are distributed across the engagement cycle. Thirdly, an analysis of the business models of Civic Techs for engagement. Finally, an exploratory analysis of the technical and ethical maturity of these platforms. Overall, our review finds that:

- Idea generation features and platform management features are dominant across platforms. In practice, idea generation features are operationalised through open text spaces for citizens to state opinions. In that sense, most Civic Tech, especially those that are for general purpose, are technically set up as online forums with some credentialed access.
- Most features are designed to support the enacting of participation and deliberation, with very little substantive support for other stages of the engagement cycle, such as reflective design, in-depth analysis of public opinion, and importantly, support in translating outputs into political or policy change.
- The Civic Tech landscape is split between tools that draw from the idea of digital commons and endeavour to adopt open-source and free-to-use access and those that are set up as more traditional Software-as-a-Service companies. Among revenue streams, structuring features in tiers with differentiated pricing is a common strategy. Upselling consultancy and technical support are also widespread. In all cases, financial sustainability is a challenge for the sector, especially for smaller-scale organisations
- Through our testing and conversations with Civic Tech organisations, we find that customisation is a key strategy, especially for smaller companies. Customisation in practice means that the specific features offered to clients will depend on their needs and the technical feasibility. It also correlates with the desire to be methodologically agnostic and hands-off regarding substantive definitions of “good engagement”. Bigger organisations tend to rely on “off-the-shelf” solutions instead, which can be problematic for contextualisation.
- Both in the rankings and platforms, ethics is mostly operationalised as data regulation compliance. We observe that more robust ethical considerations, such as democratic governance of technologies, collaborative design through interoperability and participatory design with citizens are still incipient.

We conclude our review by proposing how the design space for new Civic Techs for engagement could be framed and the limitations of our study.

## Introduction

There is an increasing recognition regarding the imperative to enable citizens to engage directly in political decision-making, drawing upon the tenets of participatory and deliberative democracy. This consensus stems from the acknowledgement that citizen engagement is an essential procedure for securing the public legitimacy of political decision-making, improving the quality of policy, and fostering civic values such as respect and open-mindedness (Bächtiger & Parkinson, 2019).

Countries worldwide have embarked on experimenting with citizen deliberation mechanisms, referred to as the "deliberative wave" in governance (OECD, 2020). In a general sense, deliberation can be characterised as decision-making through reason-giving, critical questioning and mutual listening (Bächtiger & Dryzek, 2024). Within this landscape, deliberative mini-publics and participatory budgeting have become some of the most common democratic innovations, but participatory processes more generally can take multiple forms and methods.

Concepts like participation and deliberation are sometimes loosely used (Bobbio, 2019; Elstub, 2018). Broadly speaking, participatory democracy means increasing citizen control over political decisions, while deliberation places a particular emphasis on reason-giving and informed dialogue (Bobbio, 2019). Despite their theoretical and methodological differences, it is safe to say, as Curato et al. (2017) stated, "participation and deliberation go together" (p.32). For this review, we will refer to both under the banner of "engagement" to refer to citizen-led processes that are talk-centric and typically invited by institutions.

In the Scottish context, these new demands for citizen-led governance are reflected in the Scottish Government's commitment to Open Government as partners in the international coalition. Additionally, it furthers previous efforts like the formation of the Institutionalising Participatory and Deliberative Democracy Working Group (IPDD) that helped consolidate Scotland's interest in establishing permanent infrastructures for high-quality participatory and deliberative engagements. Most recently, the Scottish Government's Participation Handbook showcases the Government's commitment to coordinating and improving the overall support for deliberative engagement.

Against this background, we understand the centrality of the [CivTech challenge](#) for supporting the development of a high-quality participation infrastructure in Scotland. For

context, the CivTech challenge is a Scottish Government programme that connects private and third sectors to address public needs. Specifically, the upcoming CivTech challenge that motivates this work seeks to address how can technology be systematically explored, to enhance and scale the use of the Scottish Government's Participation Framework for data governance.

Digital technologies have great potential to help scale up deliberation and participation without losing deliberativeness or supporting coordination for collective intelligence (often called "Civic Techs") However, there is little ground to believe that technology in itself can deliver these results without being incorporated into a broader, careful process design and an appropriate institutional and sociotechnical context. Moreover, the vast diversity of already available tools with different designs and affordances creates a complex scenario for future developments seeking a differentiating factor.

The complexity and competition level for new Civic Techs is so demanding that the most recent guide on building new tools by Grassroot South Africa and MIT is called "Don't Build It" (Jordan, 2021). Nonetheless, a significant portion of the competition among Civic Techs can also in part be explained by the redundancies in features they provide. In other words, there are many available tools that cover the same democratic needs, but there may be a lot of democratic needs not being covered. For instance, exploratory studies have shown that most civic techs focus on the citizen experience during the forum more than on the political impact monitoring after it (Mellon et al., 2022).

Broadly speaking, Civic Techs can be used for different functions including the following (Stempeck, 2022):

- Proposing new projects.
- Deliberating to agree on shared decisions.
- Planning how to use public spaces.
- Voting on how to spend public budgets.
- Prioritizing potential options.
- Drafting policies and legislation.

However, not all these functions are equally relevant for citizen deliberation. As described by Zhang et al. (2022), only a few Civic Techs are designed for democratic engagement and not just citizen services. Given the nature of the CivTech challenge, we will focus on the tools for engagement. More specifically, we will focus on technologies purpose-built for engagement (Meylan-Stevenson et al., 2024).

## Methodological approach

For this landscape analysis, we employed a scoping review approach (Arksey & O'Malley, 2005). The main objective for this analysis was structured into three questions:

- What specific features do Civic Tech companies offer to satisfy the needs of citizen engagement?
- How do these features integrate at the different stages of a citizen engagement process?
- How do Civic Tech companies structure their business models?

In order to address these questions, we reviewed the available documentation of all platforms, created coding systems for labelling results, contacted Civic Tech organisations in case of ambiguity, interviewed them in case additional information was required, and triangulated findings within the team to check for coding consistency.

Additionally, we integrate existing assessments and available information to summarise:

- Information regarding the company, contact information
- Assessment of technological maturity of the current version
- Assessment of ethical maturity and openness

These results are directly reproduced from existing work, but we use our general findings and academic scholarship to help interpret the data more holistically.

To identify and select the cases we evaluated three third-party databases of Civic Technologies made by professional organisations with track-record in this space:

- [People Powered Platforms Ratings](#)
- [Civic Tech Field Guide database](#)
- [Democracy Technology database](#)

After collating the entries of all databases, we chose to ground our database on the People Power Platforms because they are the only alternative that provided transparent information around how platforms were included and additionally, it contained expert assessment that robustly helps assess the complementary information of technological and ethical maturity. We included in this database other exemplary cases of Civic Tech frequently mentioned in the participatory space based on our domain expertise.

We conclude this report by stating our assessment of the design space for fruitful new developments in the area of technology for deliberation.

## Results

Our review covered 31 platforms that explicitly support citizen participation. The list below summarises all included platforms. The descriptions were reproduced from People's Powered "platform highlights" or otherwise produced by the team.

### Civic Tech platform and description

- [76 Engage](#): 76engage is a multilingual platform offering users various features. It has been used in various countries, including the United States, Canada, South Africa, Kenya, and Bangladesh.
- [adhocracy+](#): Adhocracy+ is an open-source participation tool for citizen engagement. It allows organizations to inform and invite people to contribute ideas and provide data through surveys.
- [Assembl](#): Assembl is a collective intelligence platform designed to facilitate large-scale consultation and in-depth debates.
- [Bang the Table / Engagement HQ](#): Bang the Table is one of the oldest platforms on our list. It has a very large number of users and an impressive diversity of users by profile and geography.
- [Cap Collectif](#): Cap Collectif is a debate tool which can be used to highlight different parts of the discussion and facilitate exchange of opinions. It offers users most of the features listed in our methodology, as well as the possibility to use a basic version via Purpoz.
- [Go Vocal \(formerly Citizen Lab\)](#): Citizen Lab is a platform that helps communities lead better online discussions and make decisions more inclusively using language processing and robust data analysis features. It is a younger platform with a rapid growth curve.
- [Citizen OS](#): Citizen OS is a multilingual open-source platform focused on citizen-driven debates, discussions, and co-creation.
- [Civocracy](#): Civocracy is a platform that creates space for productive long-term citizen cooperation with the local government, with a focus on feedback-gathering.
- [Cobudget](#): Cobudget is an open-source platform for ideation, co-creation, and collective budgeting.
- [Cocoriko](#): Cocoriko is a comprehensive consultation platform that allows people to engage in processes ranging from ideation to decision-making.

- [Consider.it](#): Consider.it is a platform that visually summarises the opinions of the public and provides space for argument exchange and presentation of pros and cons.
- [CONSUL](#): CONSUL is a comprehensive consultation platform that allows people to engage in processes ranging from ideation to decision-making.
- [ConsultVox](#): ConsultVox is an accessible and intuitive tool for citizen participation.
- [CoUrbanize](#): CoUrbanize is a platform tailored toward community engagement for development and planning. The Information Unavailable in the cost criterion indicates a lack of information about their cost plans.
- [Decidim](#): Decidim is a comprehensive participation platform that allows people to engage in processes ranging from ideation to decision-making, including pre-tailored processes like participatory budgeting and citizens' assemblies. It is open source and has an extensive documentation and repositories of implementations of the platform.
- [Delib](#): Delib is a comprehensive participation platform that allows people to engage in processes ranging from ideation to decision-making, with a unique simulator feature to engage people in complex decision-making and gathering, as well as sharing opinions and trade-offs associated with each decision. It is the oldest platform on the list.
- [Democracy OS \(Democracia en Red\)](#): Democracy OS (Democracia en Red) is an open-source tool primarily focusing on deliberation. It has been used in at least 10 countries, including Eswatini, El Salvador, Argentina, Brazil, Chile, Colombia, Ecuador, Mexico and the United States.
- [Discuto](#): Discuto is a platform that focuses on consensus-building through collaboration and discussion.
- [Efallia Engage \(Fluicity\)](#): Fluicity is a multilingual public consultation tech that has a special focus on participatory budgeting and idea gathering. It's been used in Angola, Belgium and France.
- [Ethelo](#): Ethelo is a comprehensive participation platform that offers various features associated with different levels of engagement, from informing to decision-making. The Information Unavailable in the cost criterion indicates a lack of information about their cost plans.
- [Konveio](#): Konveio is a dynamic engagement platform centred around working with complex documentation through informing, feedback gathering, and feedback analysis features.
- [LiquidFeedback](#): LiquidFeedback is an open-source platform for proposal development and decision-making in medium and large groups.
- [Loomio](#): Loomio is an online decision-making platform that offers discussions, proposals, and feedback. It is open source and has clear data policies.
- [Make.org](#): Make.org is a multilingual platform for large-scale online consultations that ensures balanced representation and

- diversity of participants. It has a high number of contributors and a large portion of large-scale international projects, including those that involve cross-border cooperation.
- [Munipolis](#): Munipolis is an engagement and communication tech that allows citizens to continuously receive and provide important information. It's one of the oldest tools in Central and Eastern Europe, with among the largest numbers of users. The Information Unavailable in the cost criterion indicates a lack of information about their cost plans.
- [Open Stad](#): Open Stad is an online engagement platform for a wide range of processes, including participatory budgeting, with a focus on informing and consensus-building through a choice guide feature.
- [Participation / Decision21](#): Participation / Decision21 is one of the youngest online platforms for citizen participation. It covers a wide range of participatory projects, including participatory budgeting, and offers different voting methods.
- [Pol.is](#): Pol.is is a platform for gathering, analyzing and understanding what large groups of people think in their own words, enabled by advanced statistics and machine learning. It is open source and provides good documentation in the "knowledge base."
- [Social Pinpoint](#): Social Pinpoint is a comprehensive platform for participation with robust budgeting features. The Information Unavailable in the cost criterion indicates a lack of information about their cost plans.
- [Your Priorities](#): Your Priorities is a consensus-driven platform with features such as the ability to add points in favor of or against each concept, voting for or against argumentative points, gamification of voting, and robust use of AI features. It is open source with a good "getting started" guide. It is one of the oldest and most established platforms, based on the number and diversity of users.
- [Fora](#): Fora.io (previously known as the Local Voices Network) is a platform that focuses on hosting and creating analytics for small group dialogues and engagements. They combine automated translation and AI-powered analysis with human-led content analysis and create project web pages based on the results.

### Technical features supporting citizen engagement

As Deseriis (2023) puts it, this sort of decision-making software embeds particular notions of participation into the software architecture by creating specific technical affordances for users and administrators. For example, Moats & Tseng (2024) found that the way that a specific Civic Tech (Pol.is) framed citizens' opinion in the case of Uber legalisation in Taiwan through "for" and "against" Uber positions pushed dichotomic thinking even when actual citizen opinions were much more nuanced.

In order to identify the features typically used by the Civic Techs included in this review, we adopted an abductive approach. This means we created and refined the list of features as new features appeared in the cases, going back and forth between our list and the available documentation. As we mentioned, we also reached out to companies and tested the technologies when we found ourselves in doubt.

Below we find the list of all features commonly identified in the platforms and their prevalence.

Table 1  
List and prevalence of common features

<b>Feature category</b>	<b>Feature</b>	<b>Total instances</b>	<b>%</b>
<b>Idea generation</b>	Forums and Discussion Threads	24	77.4
	Feedback and comment sections	29	93.5
	Open proposals / Crowdsourcing	27	87.1
<b>Idea selection</b>	Open Voting	16	51.6
	Polls and closed voting tools	24	77.4
	Prioritisation mechanisms	21	67.7
	Co-budgeting	14	45.2
<b>Assessment and descriptions</b>	Mapping	19	61.3
	Questionnaire/Surveys	19	61.3
	Text Co-review	7	22.6
<b>Platform Management</b>	Moderation capabilities	27	87.1
	Anonymous participation	16	51.6
	Soft verification (Login required)	30	96.8
	Hard verification — ID or e-ID	8	25.8
	User and role management	26	83.9
<b>Social communications and organising</b>	Initiative tracking	17	54.8
	Event organization tools	12	38.7
	Social media integration	17	54.8
	Embeddable Tool	9	29.0
	Newsletter	17	54.8
<b>Documentation</b>	Engagement guidelines	17	54.8
	Tech Documentation or Tutorials	23	74.2
<b>Data and Analytics</b>	Export data	15	48.4
	Demographic Analytics	25	80.6
	Participation Analytics	15	48.4
	APIs Services	21	67.7
	Theming (Match brand identity)	26	83.9

<b>Customisation and inclusion support</b>	Multilingual support	17	54.8
	Webpage builder	9	29.0
	Accessibility features	14	45.2
<b>AI support</b>	AI - Grouping Data by Topic	8	25.8
	AI - Sentiment Analysis	7	22.6
	AI - Automated Moderation	1	3.2
	AI - Chatbot	2	6.5

We observe that across platforms, idea-generation features are quite common (present in 86% of total features). This means in practice, creating open text spaces for citizens to write and share opinions. Among idea selection features, polling is the most widely used (77%). Some platform management features are also quite common, particularly the creation of different user roles in general (83%), moderator roles for user-generated content specifically (87%), and login mechanisms (96%).

This concentration of features creates a picture that resonates with our experience with the tools. Most Civic Tech, especially those that are for general purpose, are technically set up as online forums with some credentialed access. These forums are expected to help citizens identify ideas by letting them write them down and commenting on each other's proposals. Against that background, it is safe to say that most Civic Tech tools are not technically complex from the informatics point of view, but rather, the complexity derives from the methodology used to prompt and sustain participation (the way in which the tools are used).

Social communications and organizing features were on average the least prevalent features in the review –excluding AI-specific tools, appearing in less than half the total features (46%). Documentation features also tend to be included in almost two-thirds the instances (64%). However, it is much more frequent that tools provide technical documentation (74%) than content documentation on participation (54%). This finding also resonates with our conclusion that many Civic Techs see themselves as neutral and agnostic spaces, for which the client will provide all necessary content and relational functionalities outside the platform.

Analytics are also somewhat common across platforms. Participation analytics are less common (48%), which in practice means visualised data on citizen interactions, compared to demographic analytics (80%), which visualises and describes the data on the volume of users and the information they provided about themselves. Some tools allow administrators to download both types of data in the export functions, which are also less

common (48%). API integration is less common as well (48%) which speaks to data safety concerns, but most importantly, the lack of interoperability between technologies. However, the depth of analysis is quite varied across platforms. Specialist platforms like Consider.it and Polis are specialised in providing metrics and visualisations of consensus and disagreements among citizens. Projects like Talk to the City (which were not included due to their novelty) are advancing analytical funnels for substantive analysis of opinions through Topic Modelling, Sentiment Analysis, and Argument Mining among other text-mining techniques. However, in most cases, analytics tend to be thinner than what would be required for organisers to reconstruct public opinion. This is usually done through more advanced text-mining techniques such as argument-mining.

Customisation and inclusion support vary across features. Multilingual support is provided by some (83%), which in principle should be technically easy to provide because the underlying web design technology they use tends to already have that function. Webpage building for projects is less common (29%), but theming is much more prevalent (83%). Web building likely denotes companies that work closer with clients in developing tailor-made projects instead of selling off-the-shelf services. Of course, by tailor-made we refer to the organisational dimension because it does not imply substantial changes to the underlying technology.

Our review shows that AI features are scarcer still (14%). Out of the limited cases found in our review, we can observe that using AI for analytics, such as sentiment analysis (22%) or topic clustering (25%) is more frequent than citizen-facing AI through automated moderation (3%) or chatbots (6%). However, given the recent literature, it is likely that this area will grow in the near future.

### Technical features throughout the citizen engagement cycle

In the previous section, we described the concentration of features according to the kind of support they provide (i.e. feature category). However, it is equally important to ask what part of the engagement process are these features supporting. In other words, where in the engagement cycle is support being provided by Civic Techs?

There are different ways to conceptualise the engagement cycle, but most of them converge in temporal division, organising in terms of things that happen before the engagement events, during the engagement events, and after the engagement events. For this review, we adapted Goñi et al. (2023) model consisting of four dialogical activities:

- Designing: Covers all early stages of the process, from inception to setting up the teams and preparing the materials for participation.
- Enacting: Covers all interactions and processes that occur once citizens have been invited until they come to conclusions or meet the objectives of the process.
- Analysis: Covers all processes and techniques used by organisers and other stakeholders to account for what happened, who took part and how they took part in order to inform others, typically ending in a report.
- Translating: Covers the use of the reports and outputs of the process to inform change, policy and political decisions. This can mean translation into the policy cycle or political impact in the public sphere, or other means of impact.

Using that guideline, we were able to code the features according to when they are meant to be used according to the public documentation of the tools. Some features are meant to be used consistently at the same stage of the process. For instance, moderation capabilities are consistently used for the enactment of engagement. In others, we observed dual use. For instance, mapping features can help organisers contextualise their process plan at the design stage, but it can also help participants enact their discussion. Equally, social media integration can help organisers tell the public about upcoming processes and generate momentum at the design stage, or it can be used to help the public sphere take up results in the translation stage. We guided our coding through how the tools represent the use while acknowledging that use will reshape the design in practice. With this in mind, our findings are shown in Figure 1.

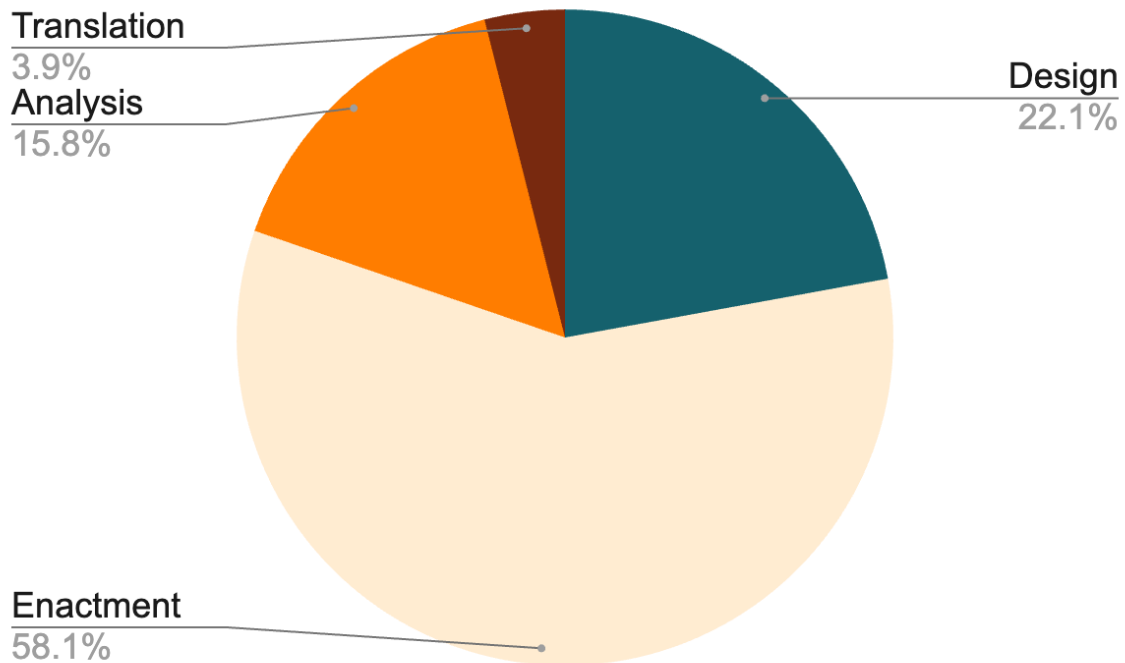


Figure 1 . Distribution of features across the engagement cycle.

Organised through the lens of the engagement process we can observe the degree of concentration of the features. More than half the instances of features we observed are meant to help the enactment of engagement (58%). In contrast, only 22% support design, 15% analysis and about 3% the translations of outputs into actual impact.

Enactment is covered quite extensively by idea generation and idea selection features, which are also quite common among platforms. Analysis features are concentrated on both participation and demographic analytics, as well as data export functions. Features to support and reflect on recruitment decisions were notably missing for the enactment of participation. Translation is mostly rare instances in which social media and newsletters are put in place to report on the political impact of participation. Nonetheless, given the complexities of political impact, it is safe to say that these functions are not sufficient to meet the complex needs of successful docking in political systems.

When we take a closer look, we can see that features supporting design are mostly related to project customisation, such as theming, web building and multilingual support accounting for roughly half the instances of design features (49%). This percentage increases to 64% when we add user and role management functions. In that sense, design

support is mostly operationalised through the managerial dimension of participation. The most substantive way in which features support design is through engagement guidelines which account for 13% of instances of design features. However, as the name guidelines suggest, this is materialised mostly through reading materials over more interactive means of learning. It is also worth noting that any part of a platform which allows the user to configure an element of the enactment process is intrinsically permitting some amount of design.

### Civic Tech business models

Civic Tech companies find themselves in a complex position in terms of market approach. On the one hand, many Civic Tech projects started from NGO, advocacy or even political activism and protest movements (Justice et al., 2018; Peixoto & Sifry, 2017; Russon Gilman & Carneiro Peixoto, 2019). Indeed, the “Civic Tech movement” finds inspiration in broader movements like Tech4Good, Data4Good, Open Government, and Participatory Governance (Turkel, 2020). Because of these, many projects have sought to open their inventions to the world through open-sourcing their codes, or through releasing them for free under a Creative Commons licencing.

On the other hand, as with any other business, they require a stable income to become sustainable over time. In practice, this means finding ways to sell their technology under a Software-as-a-Service (SaaS) scheme or receiving public funding to pay for their operations. This apparent tension does not mean that the market size for Civic Techs is negligible. According to the recent International IDEA report, in Europe alone, the market size was estimated at more than EUR 100 million in 2022, with a five-year growth expectation of EUR 300 million (García, 2023).

Below we showcase our findings regarding how Civic Tech companies structure their business models. For this, we separate business models in three dimensions: Hosting model (whether people can use the technology on their own or if they require credentials from the company), Business strategy (how the company looks for income), and Property and licensing model (how the company manages its intellectual property). Table 2 shows the results.

Table 2  
Business models of Civic Tech companies for deliberation

<b>Model dimension</b>	<b>Type</b>	<b>Description</b>	<b>Total (%)</b>
Hosting model	Account-based SaaS	Account based-service where the user gains access to usage of the software	<b>28 (93%)</b>
	Self-deployable	The platform can be fully hosted and deployed by any external actor	<b>12 (40%)</b>
Business strategy	Traditional SaaS	The core features of the platform are offered at a single price point	<b>11 (36%)</b>
	Feature-based tiers	Different tiers containing different features are offered at different prices	<b>11 (36%)</b>
	Paid support	Technical support is offered to help run the platform	<b>18 (60%)</b>
	Consultancy fees	Technical support around participation is offered to design the overall project	<b>15 (50%)</b>
	Institutionally funded	Public institutions provide direct economic support to the platform	<b>7 (23%)</b>
	Donation-based	The platform is funded by individuals, charities and/or foundations	<b>8 (26%)</b>
	Zero Maintenance	The platform only makes the tool available providing no support or services for use	<b>3 (10%)</b>
Property and licencing model	Proprietary	The code is closed and owned by the software company	<b>14 (46%)</b>
	Open Core	The main features of the platform are open source but not all	<b>1 (3.3%)</b>
	Fully open source	All relevant features and components are open-source	<b>16 (53%)</b>

Generally, we can see that a diversity of business models coexists in the Civic Tech space. In terms of hosting, most Civic Tech organisations offer hosting services themselves (93%), and only a slight minority (40%) of tools can be self-deployed. In that sense, despite the split between technologies that are made available to all users and technologies that operate with greater gatekeeping by the organisation, the Software-as-a-Service (SaaS) model is pervasive across all of them.

This split can also be observed in the property and licencing models of technologies. While a slight majority of tools included in this review provide a repository (mainly in Github) of all their relevant code (53%) or at least their main features (one instance), a significant number of tools are structured as proprietary and closed.

A greater diversity of paths can be observed in the business strategies of the tools, meaning, how the organisations pursue and create revenue streams. Here, we see an organisation of thirds. One third of the organisations "rent" the whole software and its features in a single package (36%). Another third uses a tier-based approach to offer different features at different price points (36%) – in some instances, but not all, the lowest tier is offered for free. Finally, another third of organisations are set up to offer the technology for free to end users and seek funding primarily through donations (26%).

In that sense, we observe a clear division of how Civic Techs are structured. On the one hand, half the cases we review fall under the logic of the digital commons, meaning they strive to create open data infrastructures and free-to-use technology. Another half of the cases are set up as traditional Software-as-a-Service companies, with some IP protection and making revenue either selling the technology as a whole or with the tier-based approach, complementing with consultancy on top as well.

### Technological and ethical maturity

Given the sensitivity of working with external organisations to run policy-informing public engagement, it becomes a necessity to not just match technical features to organiser necessities, but also to trust the technical and ethical reliability of the technology to deliver on its promises.

As a complementary analysis, in the below table, we reproduce People Powered's analysis to explore the technical and ethical reliability of the Civic Tech tools. This excludes the tools which we added on top of the original People Powered rankings.

Table 3  
 Technical and ethical maturity of the Civic Tech tools

<b>Platform name</b>	<b>Track Record &amp; Reliability Score: 0-100</b>	<b>Ethics &amp; Transparency Score: 0-100</b>
<b>76 Engage</b>	49	44
<b>adhocracy+</b>	69	97
<b>Assembl</b>	68	N/A
<b>Bang the Table / Engagement HQ</b>	89	N/A
<b>Cap Collectif</b>	70	83
<b>Go Vocal (formerly Citizen Lab)</b>	76	73
<b>Citizen OS</b>	64	83
<b>Civocracy</b>	76	60
<b>Cobudget</b>	53	57
<b>Cocoriko</b>	42	53
<b>Consider.it</b>	60	100
<b>CONSUL</b>	87	97
<b>ConsultVox</b>	76	53
<b>CoUrbanize</b>	76	40
<b>Decidim</b>	87	100
<b>Delib</b>	89	70
<b>Democracia OS</b>	64	73
<b>Discuto</b>	53	53
<b>Efalia Engage (Fluicity)</b>	76	70
<b>Ethelo</b>	82	60
<b>Konveio.</b>	69	67
<b>LiquidFeedback</b>	60	73
<b>Loomio.</b>	93	100
<b>Make.org</b>	87	90
<b>Munipolis</b>	82	50
<b>Open Stad</b>	53	77
<b>Participation / Decision21</b>	76	33
<b>Pol.is</b>	64	80
<b>Social Pinpoint</b>	76	70
<b>Your Priorities</b>	100	97

\*N/A responses if the 2024 People Powered rankings does not provide a score for that platform

In terms of technological maturity, it can broadly be stated that all systems evaluated are operational (TRL 9), with a credible track record and not at the prototype stage. To have a more specific assessment, we relied on People Powered's 2024 ranking dimension of "Track record and reliability" as a proxy for the degree of maturity in the market.

People Powered assigns points on this dimension from 0 to 100 based on three variables:

- Length of time on the market.
- Profile and breakdown of institutional users
- Diversity of contributors.

Using these threefold criteria, we can observe that technologies such as Your Priorities (100), Loomio (93), Engagement HQ (89), and Delib (89) come on top. From our research, the reasons are varied. Technologies such as Your Priorities have become widely used globally, for a long time now. Companies such as Delib rank higher than others due to it being one of the oldest operations. And then, there are Civic Tech companies, such as Loomio or Engagement HQ, that have been structured as large organisations. This means that they cover more clients (thus rank higher in the profile of users), and hire more personnel (thus rank higher in diversity of contributors).

However, these results may be misleading. In our research, we got to test the technologies and speak to organisations that rank much lower in this ranking (even lower than 50). What we found is that it is not necessarily a matter of less maturity or reliability that is captured by this ranking. Some companies are simply structured in a qualitatively different manner. For instance, 76 Engage was founded in 2015 and is conceived as a small and more "boutique" service that depends on highly customised projects. Because of this, it may rank lower in diversity of actors and contributors. It is not clear this captures their organizational or technological track record, if we consider, for instance, how much this organisation has spent in integrating professional standards via their collaboration with one of the largest participation associations (IA2P).

On the other hand, bigger technologies such as Engagement HQ operate in the same area. They likely score higher, among other reasons, for being longer in the business –since 2008. However, this platform has experienced a lot of transformations throughout the years. In fact, in 2021 they were acquired by one of the largest GovTech vendors worldwide (Granicus). As any other big public sector vendor, Granicus works with a wider array of services, in which participation is just one of the many options. This is not to say

that they offer a lesser quality service. Our finding suggests that track records and technological maturity must be understood in the context of qualitative differences in how companies structure their business.

In terms of ethical maturity, we centred our analysis on the People Powered dimension of “Ethics and transparency”. This dimension is scored from 0-100 based on five variables:

- Open source and open licencing of core code.
- Data policy around informing users of data use and selling data to third parties
- Data protection from leaks and attacks
- Transparency of moderation against harmful or hate speech
- Raw data export function

These dimensions cover a wide variety of issues concerning explanations and regulations of citizen behaviour, as well as relations between technology and other societal actors. Technologies such as Decidim succeed in this ranking because not only do they provide detailed documentation of their code and data usage, but they are also quite concerned with their governance structure. For instance, each official partner of Decidim (service or technology providers working on their tool) will be required to sign a social contract as well as a legal one in which they explain and ask signees to adhere to their core values of openness and transparency. Moreover, people and organisations that use their technology can join the Metadecidim assembly that democratically runs the governance of the platform.

The case of Decidim is interesting in that it speaks to how ethical considerations can go far beyond the requirement to have a clear and public data policy facing the users. The sort of measures used by Decidim are exceptional to the Civic Tech space. Other highly ranked platforms such as Loomio, which is run as a work cooperative, use open code and have very clear data compliance policies. However, no platform comes close to the degree of inter-organisational collaboration exhibited by Decidim and its user-governance community.

Overall, we observe that new technologies in this space face ethical challenges that exceed legal compliance. For instance, this is the case if we consider the ethical value of collaboration. There has been a growing interest in the interoperability of democratic engagement tools, such that the system can learn and build upon existing work. Another key element that is underrepresented in the tools is the co-production of ethical norms. Given that they operate in the participatory space, it seems fundamental that tools explore ways in which users and communities can embed some of their ethical norms into

the product design. This is even more the case when we consider that the tools are used worldwide by different cultures on different continents.

## Conclusion: The design space for new Civic Tech

In this review, we have explored some of the technical and financial dimensions of the Civic Tech space for citizen engagement. There is a common sentiment that the space is saturated (Jordan, 2021) or that the market is about to face a consolidation (García, 2023). However, our review shows that at least in terms of functionality, saturation is only apparent if you consider that a lot of the tools are tackling the same user requirements, but not all of the user requirements.

A lot of the saturation effect may be explained by the fact that many tools can sadly indulge in inflated marketing claims (Meylan-Stevenson et al., 2024) that distract from comparing the actual features and functionalities of the software. Our experience shows that these tools are not necessarily complex from the technological point of view, but rather, that their complexity is that they need to adapt to the different methodologies and characteristics of client's projects.

Moreover, we also observed how much of the saturation effect is also explained by the lack of collaboration and interoperability among the tools, which leads to duplication of function and, as Meylan-Stevenson et al. (2024) point out, to lack of mutual learning.

Against this background, we conclude that there is still much opportunity for development. In particular, we assert the need for the following kinds of projects:

- Developing for reflective design: Beyond adapting to the participatory approaches that clients bring with them to projects, there is a need to help them think through the design decision in an informed manner. Also, in a manner that goes beyond reading material.
- Developing for impact and translation: Beyond social media integration, there is a gap in socio-technical support for helping translate the outputs of engagement into change during the policy cycle. This could mean helping policy-makers navigate results, create accountability features, and creating opportunities for participation throughout the policy cycle, among other possibilities.
- Developing for interoperability: There is a gap in articulating existing solutions and promoting learning across projects.
- Developing for robust ethics: There is a gap in solutions that help participants and organisers navigate the ethical implications of participation. We did not find strong solutions for helping clients navigate ethical challenges, nor completely robust ethical reasoning behind most of the projects themselves.

- Developing for informed participation: As mentioned in the introduction, deliberative engagement is characterised by the need for reasoned dialogue which requires the availability of quality knowledge, expertise and experience. We did not find good solutions for integrating knowledge into the engagement platforms.

These results also resonate with existing research. For instance, the recent review by Shin et al. (2024) also concluded that existing Civic Tech provide plenty of opportunity for citizen input, but lacks feedback loops and mechanisms to make implementation more transparent. This general observation was also mentioned by (Mellon et al., 2022) when they claimed that user experience was typically valued over political impact in this space. This is why we believe policy translation could constitute a priority area for new developments.

Another critical area of development stems from the current intermix between online participation and digital technologies for participation. Not all digital technologies for participation need to serve online participation. There is much support we can provide to off-line participation, which is still dominant, especially in deliberative mini-publics. These are related to dimensions of development we just enunciated; from helping reflective design to helping actors navigate ethical challenges, to helping participants navigate information and knowledge, there are plenty of development opportunities. Moreover, we found that there is an opportunity to develop Civic Tech for low-tech contexts that tend to be ignored by the current landscape.

For many of these advanced design challenges, AI could play a supporting role. For example, the ability of LLMs to allow for more flexible content searches could be leveraged to help citizens find new information and critically assess existing sources. Chatbots could help participation designers challenge and expand their designs. Algorithms can be developed to automatically or semi-automatically monitor the impact of solutions. However, all these applications need to be responsibly designed considering well-known limitations of current models and statistical techniques (for instance, the case of hallucinations in generative AI) but also, being able to distinguish between actual benefits and hype in the AI market.

Finally, significant limitations of this review must be kept in mind. As we mentioned, re-constructing what the available documentation says about how tools are meant to be used without systematic research about their use in practice will always lead to an incomplete and reduced understanding of their possibilities and limitations. As we have observed in our testing and conversations with actors, this space operates to a great

extent through customisation and tools that are flexible enough to accommodate specific clients imposing specific participatory methodologies. A more complete review should explore how well the interplay between participatory methods and digital tools affordances play out in practice. Previous reviews, such as the Solonian Democracy Institute’s Digital Democracy report (Fuller & Jakovljević, 2024) include client feedback, but only in satisfaction metrics and not qualitative changes through use.

### Declaration of conflict of interest

The members of the review team hereby declare that we have no business affiliations or familial relationships with any of the Civic Tech organizations included in this review.

### References

- Arksey, H., & O’Malley, L. (2005). Scoping studies: towards a methodological framework. *International Journal of Social Research Methodology*, 8(1), 19–32.  
<https://doi.org/10.1080/1364557032000119616>
- Bächtiger, A., & Dryzek, J. S. (2024). *Deliberative Democracy for Diabolical Times*. Cambridge University Press. <https://doi.org/10.1017/9781009261845>
- Bächtiger, A., & Parkinson, J. (2019). *Mapping and Measuring Deliberation: Towards a New Deliberative Quality*. Oxford University Press.  
<https://doi.org/10.1093/oso/9780199672196.001.0001>
- Bobbio, L. (2019). Designing effective public participation. *Policy and Society*, 38(1), 41–57.  
<https://doi.org/10.1080/14494035.2018.1511193>
- Curato, N., Dryzek, J. S., Ercan, S. A., Hendriks, C. M., & Niemeyer, S. (2017). Twelve Key Findings in Deliberative Democracy Research. *Daedalus*, 146(3), 28–38.  
[https://doi.org/10.1162/DAED\\_a\\_00444](https://doi.org/10.1162/DAED_a_00444)
- Deseriis, M. (2023). Reducing the Burden of Decision in Digital Democracy Applications: A Comparative Analysis of Six Decision-making Software. *Science, Technology, & Human Values*, 48(2), 401–427. <https://doi.org/10.1177/01622439211054081>
- Elstub, S. (2018). Deliberative and Participatory Democracy. In A. Bächtiger, J. S. Dryzek, J. Mansbridge, & M. Warren (Eds.), *The Oxford Handbook of Deliberative Democracy* (pp. 186–202). Oxford University Press.  
<https://doi.org/10.1093/oxfordhb/9780198747369.013.5>
- Fuller, R. H., & Jakovljević, M. (2024). *SDI Digital Democracy Report*.
- García, D. L. (2023). *Democracy technologies in Europe: Online Participation, Deliberation and Voting*. International Institute for Democracy and Electoral Assistance (International IDEA). [https://books.google.co.uk/books?id=\\_6\\_LEAAAQBAJ](https://books.google.co.uk/books?id=_6_LEAAAQBAJ)

- Goñi, J. "Iñaki," Fuentes, C., & Raveau, M. P. (2023). An experiential account of a large-scale interdisciplinary data analysis of public engagement. *AI & SOCIETY*, 38(2), 581–593. <https://doi.org/10.1007/s00146-022-01457-4>
- Jordan, L. (2021). *Don't Build It: A Guide For Practitioners In Civic Tech / Tech For Development*.
- Justice, J., McNutt, J. G., Melitski, J., Ahn, M., David, N., Siddiqui, S., & Ronquillo, J. C. (2018). The Civic Technology Movement: Implications for Nonprofit Theory and Practice. In J. G. McNutt (Ed.), *Technology, Activism and Social Justice in a Digital Age*. Oxford University Press.
- Mellon, J., Peixoto, T. C., & Sjoberg, F. M. (2022). *The Haves and the Have Nots : Civic Technologies and the Pathways to Government Responsiveness*. The World Bank. <https://ideas.repec.org/p/wbk/wbrwps/10195.html>
- Meylan-Stevenson, A., Hawes, B., & Ryan, M. (2024). *Democracy online: technologies for democratic deliberation*. <https://eprints.soton.ac.uk/491741/>
- Moats, D., & Tseng, Y.-S. (2024). Sorting a public? Using quali-quantitative methods to interrogate the role of algorithms in digital democracy platforms. *Information, Communication & Society*, 27(5), 973–1007. <https://doi.org/10.1080/1369118X.2023.2230286>
- OECD. (2020). *Innovative Citizen Participation and New Democratic Institutions*. OECD. <https://doi.org/10.1787/339306da-en>
- Peixoto, T., & Sifry, M. L. (2017). *Civic Tech in the Global South*. The World Bank Group. <https://ideas.repec.org/b/wbk/wbpubs/27947.html>
- Russon Gilman, H., & Carneiro Peixoto, T. (2019). Digital participation. In S. Elstub & O. Escobar (Eds.), *Handbook of Democratic Innovation and Governance* (pp. 105–118). Edward Elgar Publishing. <https://doi.org/10.4337/9781786433862.00015>
- Shin, B., Floch, J., Rask, M., Bæck, P., Edgar, C., Berditchevskaia, A., Measure, P., & Branlat, M. (2024). A systematic analysis of digital tools for citizen participation. *Government Information Quarterly*, 41(3), 101954. <https://doi.org/10.1016/j.giq.2024.101954>
- Stempeck, M. (2022). *Guide to Digital Participation Platforms: When to Use Them, How to Choose & Tips for Maximum Results*.
- Turkel, E. (2020). The Diffusion of Civic Technology: How Technology and Devolution Are Reshaping Civic Life in Urban America. In *ProQuest Dissertations and Theses*. <https://udspace.udel.edu/handle/19716/28484>
- Zhang, W., Lim, G., Perrault, S., & Wang, C. (2022). *A Review of Research on Civic Technology: Definitions, Theories, History and Insights*. <https://doi.org/10.48550/arXiv.2204.11461>



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