



D-CENT ToolBox

Technologies for 21st century
democracy



dcentproject.eu
tools.dcentproject.eu
[@dcentproject](https://twitter.com/dcentproject)
github.com/d-cent

Introducing D-CENT

D-CENT (Decentralised Citizens ENGagement Technologies) is a Europe-wide project bringing together citizen-led organisations that have transformed democracy in the past years, and helping them in developing the next generation of open source, distributed, and privacy-aware tools for direct democracy and economic empowerment.

D-CENT has run large-scale pilots in Spain, Iceland, and Finland through Lean UX experimentation and by leveraging existing network movements with a user-base of tens of thousands of people. D-CENT builds on some of Europe's largest experiments in direct democracy, including:

- the **Open Ministry** site for crowdsourcing legislation linked into parliament in Finland
- the e-democracy website **Better Reykjavik** in Iceland developed by the Citizens Foundation
- **Podemos**, the new bottom-up Spanish political movement
- the municipal citizen coalitions **Barcelona en Comú** and **Ahora Madrid**

Currently **D-CENT** democracy tools are used by thousands of citizens across Europe, with active pilots in the cities of **Barcelona, Madrid, Helsinki** and **Reykjavik**. The tools have proven to be very successful and are now mature enough to be adopted by many other cities, democratic organisations, parties and parliaments around the world.

D-CENT is co-funded by the European Commission and run by a strong international consortium with ten partners all across Europe:



Introducing the tools

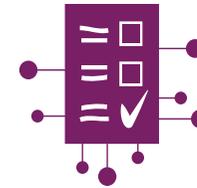
The D-CENT tools enable citizens to keep informed and participate in issues that matter to them.



Be informed and notified on issues that matter to you



Propose and draft solutions and policy collaboratively



Decide and vote on solutions collectively



Implement and reward people while tracking progress

We have designed
the tools with
these principles
in mind:

- A set of standalone interoperable tools which deliver democratic capabilities for communities.
- Easy to deploy and maintain, allowing communities to own their servers and data.
- Communities are free to use as many or as few of the tools as they need.
- Web-based integration across the tools to allow members of communities to use them easily.
- Web based integration built on open standards to allow for integration with existing and future tools.



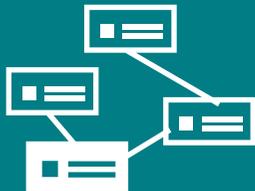
Own your data to say no to surveillance and give control and ownership of data back to citizens.



Open source and open standards to build and grow knowledge commons.

Why you should use D-CENT

We have developed a federated architecture based on open standards, open APIs and a shared identity system to allow for the growth of an ecosystem of modular, interoperable and decentralised tools.



Open authentication and disrupted identity management to grow an open source ecosystem of citizen engagement tools.



Blockchain trust to let people run reward schemes that are transparent and auditable.

Tool table of contents

- 08. Citizen notifications
- 12. Collaborative policy making
- 20. Electronic voting
- 22. Blockchain reward scheme
- 24. Setting up your D-CENT ecosystem

Citizen Notifications

Decisions

You can find out more at
decisions.okf.fi

Or find it on GitHub at
github.com/okffi/decisions

decisions.okf.fi

This notification service lets citizens sign up to receive information on municipal decisions of interest to them. Currently in use in Helsinki, it also offers citizens the opportunity to participate in decisions that involve their municipality, and crowdsources content that can then be used in the decision-making process. Its aim is to create more online and offline political engagement.

WHAT DOES IT DO?

The tool allows citizens to search for municipal decisions that match their interests. Once a citizen has performed a search, they are given the option of subscribing to future municipal decisions which match their search criteria. Their email address and search criteria are then stored and emails are generated and sent when a new decision is made.

On the decision pages, users can share the issues to social media and - importantly - they can open up a discussion related to that topic.

THE TOOL IN ACTION

The decision-making data utilised for the D-CENT pilot service in Helsinki is fetched from Open Ahjo, an award-winning open API providing access to all municipal decisions made by the Helsinki City Council. Currently, the Open Ahjo interface contains over 40,000 agenda items and over 21,000 issues from more than 8,000 meetings.

The screenshot shows the web interface of the D-CENT pilot service. At the top, there is a search bar with the text 'Telakkaranta' and a button 'Hae päätöksistä'. Below the search bar, there is a list of search results. The first result is titled '11 tulosta haullesi "Telakkaranta"'. The first result is a link to a decision: 'Kaupunginvaltuuston päätös 9.4.2014, Helsingin hallinto-olkeuden päätös 27.5.2015 ja Korkeimman hallinto-olkeuden päätös 18.12.2015 asemakaava-asiassa (piirustus nro 12100, Punavuori, Eira ja Länsisatama, Telakkaranta)'. Below the link, there is a small text indicating '1 kuukausi, 3 viikkoa sitten'. The second result is a link to a decision: 'Eimu ry:n erityisen häiritsevää melua aiheuttava ulkoilmakonsertti osoitteessa Telakkakatu 6 - 8, Telakkaranta'. Below the link, there is a small text indicating '9 kuukautta sitten'. The third result is a link to a decision: 'Kiinteistölautakunnan lausunto kaupunkisuunnittelulautakunnalle Länsisataman ja Punavuoren Telakkarannan alueen asemakaavan muutosehdotuksesta nro 12100 (Länsisatama, Punavuori, Telakkaranta)'. Below the link, there is a small text indicating '1 vuosi sitten'. The fourth result is a link to a decision: 'Lausunto kaupunkisuunnittelulautakunnalle Länsisataman ja Punavuoren Telakkarannan alueen asemakaavan muutosehdotuksesta nro 12100 (Länsisatama, Punavuori, Telakkaranta)'. Below the link, there is a small text indicating '1 vuosi sitten'. The fifth result is a link to a decision: 'Alue sijaitsee Hietalahden rannalla Telakkakadun varrella. Alue rajautuu Hietalahden altaaseen ja Mallaskadun pohjoislinjaan, Telakkakadun itäreunaan ja Munkkisaarensataman eteläreunaan. Lännessä alue rajautuu Hietalahden vesialueeseen ja STX Europe -telakkaan. Alue kuuluu tällä hetkellä Länsisataman kaupunginosaan. Asemakaavaehdotuksen ja asemakaavan muutosehdotuksen yhteydessä kaupunginosien rajoja muutetaan niin, että Telakkaranta siirtyy Punavuoren kaupunginosaan.' Below the link, there is a small text indicating '1 vuosi sitten'.

Citizen Notifications

Mooncake

You can find out more at mooncake.dcentproject.eu

Or find it on GitHub at github.com/d-cent/mooncake

Mooncake is a notifications tool that securely notifies an organisation's members of events and activity in its D-CENT ecosystem.

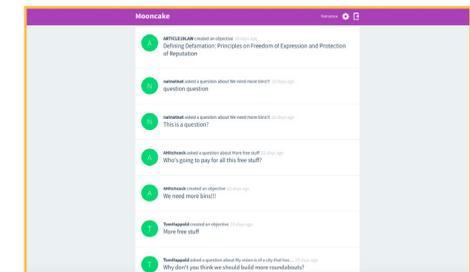
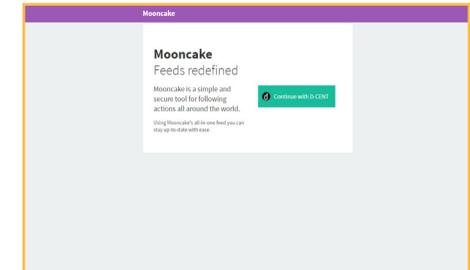
WHAT DOES IT DO?

Mooncake aggregates data from different sources into a feed. This feed updates as new data is published so that users are aware of any activity in their network. This network can consist of multiple apps, including both those within the D-CENT ecosystem and additional custom tools, provided they publish data in the same format.

Mooncake also notifies users if any messages in the feed can't be authenticated with a JSON Web Signature (JWS). The user is shown a visual cue next to messages in the feed that were not signed or unsuccessfully signed. This means that users can be confident that the notifications actually originated at the expected source.

TECHNICAL SPECS

Mooncake was built in Clojure, a JVM-based language. Client-side code is written in ClojureScript and the CSS files are written in Sass. It uses a MongoDB database to store the activities.



Collaborative policy making

This set of tools enables citizens to participate in the policy making process using collaborative online platforms.

D-CENT is currently running a series of pilots that are testing the technology and using them in real world settings.

WHO ARE THEY FOR?

These tools are aimed at democratic organisations that want to involve their members to make consistent and fair decisions or introduce new policy in order to achieve desired outcomes. They can be used to engage citizens in writing political manifestos, determining policy priorities, deciding about the allocation of municipal budget and actively participating in the political decision-making process. So far they have been tested by political parties, cities, local councils, members of Parliaments, community groups and grassroots organisations.

Objective 8

Objective 8 is a policy drafting tool that allows organisations to work with their members to produce transparent and crowd-sourced policies. Often a policy document is written by a single person or small team, and not shared until complete. Objective 8 has been designed to help organisations create policy in a more open, transparent and collaborative way. It allows a wider community to shape and inform policy drafts compared with the traditional method.

WHAT DOES IT DO?

The tool supports the idea of collaboratively producing policy by allowing members of a community to review, comment and annotate versions (drafts) of a policy. The feedback provided by the community is then made accessible to the policy writers so that it can be included in the next version of the draft.

Through the tool, users can gather community opinion, generate ideas, share, discuss, vote and collaborate with experts to draft the new policy. This could include specific policies, manifesto pages, election promises, etc.

FEATURES

- **Create policy ideas:** Users create a policy idea – called an ‘objective’ – that acts as an individual and shareable area of the site and is a hub for discussion, gathering opinions and discussing drafts of policy documents.
- **Ask questions and submit answers:** Questions can be attached to objectives in order to gather community feedback and consensus around a specific issue or point of discussion.

- **Comment on a policy:** Comments can be added on the objective page and on drafts of documents, allowing users to discuss the overall intent of a policy being produced as well as the content at the document level.
- **Share via social networks:** Each objective and question can be shared via Twitter, Facebook, Reddit and other social media in order to gather input and feedback from the community.

TECHNICAL SPECS

Objective 8 was built in Clojure, a JVM-based language. It uses a PostgreSQL database to store the data. It supports authentication through Facebook, Twitter and Stonecutter using the OpenID Connect specification.

FIND OUT MORE

You can find out more at: objective8.dcentproject.eu

Or find it on Github at: github.com/d-cent/objective8

Collaborative policy making

Consul

Consul is an e-government and e-participation digital platform software originally developed for the Madrid City government. Since it launched in September 2015, new features have been added and other cities have started to use the software to develop their own participatory digital platforms - including Barcelona.

The main principles on which the platform is based are: open participation, transparency, the combination of online and offline participation, and citizen empowerment. The platform helps to manage the complexity of participation, which is often a challenging task for councils. The platform brings government closer to the citizenry by opening up direct participatory channels for policy making.

WHAT DOES IT DO?

Consul allows citizens to be an active part of the city government by offering them different kinds of participatory mechanisms for direct democracy, deliberation and other collaborative political practices.

Consul allows users to launch collective debates, to propose and support proposals, to organise physical meetings, to run citizen surveys, to organise votes on how investment should be distributed, or to write laws in a collaborative way. In summary, a key value has been to integrate several functionalities into the same digital participatory platform.

FEATURES:

- **Start debates:** the platform provides an open space for sharing and discussing the things that matter to citizens.
- **Open proposals:** it allows citizens to submit proposals related to the kind of city that they want to live in.
- **Make collaborative decisions:** citizens can vote on whether to accept or reject the most supported proposals. If a proposal is accepted by the majority, the City Council accepts it as its own and makes it happen.
- **Participate in budgets:** it enables citizens vote to decide how to distribute investment across the city and the districts.

TECHNICAL SPECS

Consul is a free software, with licence AGPLv3, which means that anyone can use the code freely, copy it, see it in detail, modify it and redistribute it with the modifications.

FIND OUT MORE

decide.madrid.es

decidim.barcelona

github.com/consul/consul

[github.com/
AjuntamentdeBarcelona/
decidim.barcelona](https://github.com/AjuntamentdeBarcelona/decidim.barcelona)

Collaborative policy making Consul

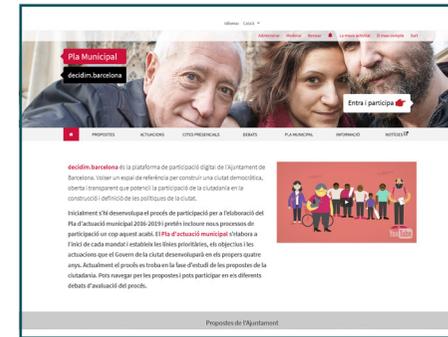
THE TOOL IN ACTION



DECIDE MADRID

decide.madrid.es

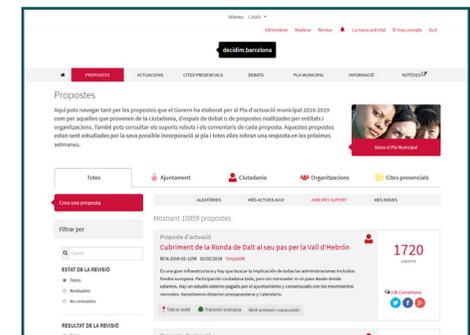
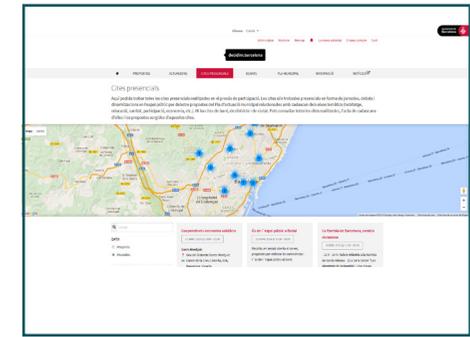
The Ahora Madrid coalition launched its Decide Madrid platform after the recent municipal elections in order to enable citizens to propose, debate, prioritise and implement policy for the city.



DECIDIM BARCELONA

decidim.barcelona

The City of Barcelona launched its participation platform in February 2016. The aim of the tool is to build a democratic, open and transparent government by enhancing citizen participation in the definition and development of policies. Since its launch, it has received 10,945 proposals and 18,680 comments from 24,000 registered users, and has facilitated 480 physical meetings for 10,800 attendees.



Collaborative policy making

Your Priorities

You can find out more at
yprri.org

Or find it on GitHub at
[github.com/rbjarnason/
your-priorities-app](https://github.com/rbjarnason/your-priorities-app)

Your Priorities is a social network app designed specifically for citizens.

WHAT DOES IT DO?

It helps to connect citizens and government in order to give citizens more influence on policy and budgets while building up trust between citizens and government.

FEATURES:

- Allows citizens to submit and prioritise ideas.
- Ideas can be debated, with points awarded for and against and debate points prioritised.
- Includes a Facebook style newsfeeds for ideas, groups, communities and domains.
- Features activity streams and browser and email notifications.
- Google Maps and Google Streetview integration for ideas.
- Support for social media login and SAML for electronic IDs.

TECHNICAL SPECS

Open Standards used: Web Components, HTML, EcmaScript.

THE TOOL IN ACTION

Better Reykjavik

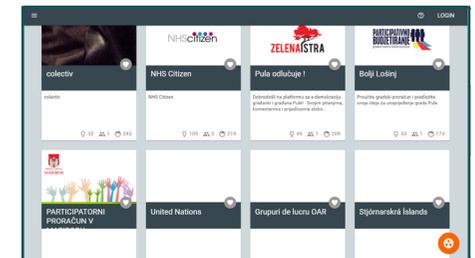
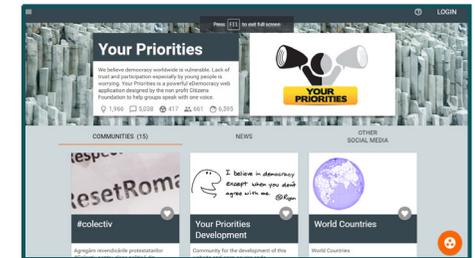
The city of Reykjavik has been using Your Priorities since 2010, both for getting citizens' voices heard at city council meetings and to gather and prioritise ideas for participatory budgeting.

Rahvakogu People's Assembly in Estonia

After political scandals in Estonia in 2012, grassroots organisations with official ties led a law reform project. Ideas were gathered through Your Priorities, which was installed and modified locally. Over 50,000 people took part and submitted over 2,000 proposals. The President of Estonia submitted the top 15 ideas to the Parliament, and seven of those have since become Estonian law.

Pirate Party 2015 Annual Meeting

The Icelandic Pirate Party, which holds five percent of seats in Parliament, used Your Priorities to communicate with its members to find out their most important common priorities.



Electronic Voting

Agora Voting

You can find out more at agoravoting.com

Or find it on GitHub at github.com/agoravoting

AGORA VOTING

A secure open-source online voting software that protects the privacy of the vote and makes elections end-to-end verifiable.

WHAT DOES IT DO?

The tool allows organisations to carry out secure, flexible and transparent elections online. Votes are encrypted by the voter's web browser and are kept private from even the election administrators. It has been used in multiple elections in Spain, including by political parties such as Podemos to do internal binding elections.

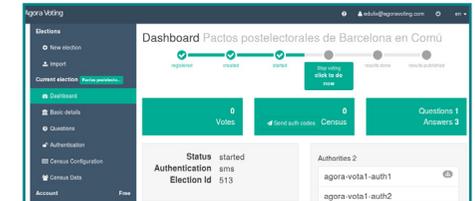
FEATURES:

- **Voter authentication and authorisation:** multiple options for checking the authenticity of voters, e.g. via codes delivered by post, ID card recognition, one-time SMS/email password codes.
- **Secure private voting:** ballots are encrypted in the web browser.
- **Verifiable and transparent results:** a fully verifiable counting process that opens the ballot boxes and tallies the results, preserving the secrecy of the vote.

- **Multi-device:** users can vote from laptop, tablet or mobile device.

TECHNICAL SPECS

- Scalable to hundreds of thousands of votes.
- Easy-to-use voting and administrative web-based interfaces.
- Modular software design; easy to integrate with other tools, such as external authentication methods.
- ElGamal homomorphic encryption scheme.
- Schnorr proof of plaintext knowledge [11] to make the scheme CCA2-secure.
- The cast-or-audit mechanism implemented at the voting booth is exercised by enough voters to render altering ballots on a large scale very unlikely.



Blockchain reward scheme

Freecoin

You can find out more at
freecoin.ch

Or find it on GitHub at
github.com/d-cent/freecoin

An experimental element of the D-CENT project has been developing Freecoin.

Freecoin is a toolkit to let people run reward, remuneration and incentive schemes that are contextually transparent and can be inscribed in different blockchain backends. Freecoin is made for participatory and democratic organisations who want to incentivise transparency and management agility.

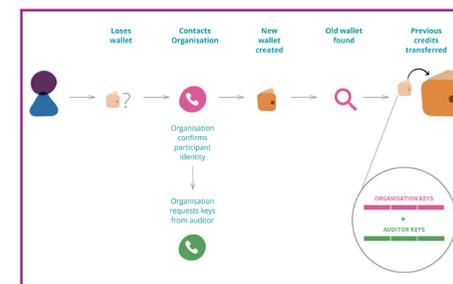
WHAT DOES IT DO?

Using Freecoin, organisations can design and run reward schemes that use digital currencies and vouchers, and that are transparent and auditable. It is a software codebase to operate Trust Management Systems among individuals and organisations. When systems users are humans, Trust Management is an area of information technology that aims to improve the operation of open, distributed systems by predicting or influencing the behaviour of their users. When applied to human users, Trust Management methods attempt to leverage the human capacity for social trust or dis-trust.

With Freecoin, communities can run decentralised incentive and reward structures in terms of tolerance to risk. It allows communities and organisations to engage in transactions that have real world desirable impact and that they produce and construct collectively. At the same time it allows for complete democratic oversight on transaction history and collective deliberation on social currency systems, i.e. the rules of engagement and reward as a function of reputation management.

TECHNICAL SPECS

Freecoin is free and open source (Afero GNU General Public License v3+). It is written in Clojure to offer a RESTful API and a clean user interface to improve the developer experience and facilitate its adoption by front-end software applications. In brief, Freecoin allows RESTful APIs to be put in communication with distributed ledgers. It can be used stand-alone or integrated into systems.



Setting up your D-CENT ecosystem

You can find out more at
sso.dcentproject.eu

Or find it on GitHub at
[github.com/d-cent/
stonecutter](https://github.com/d-cent/stonecutter)

WHY THE D-CENT ECOSYSTEM?

D-CENT has brought together the largest European community of open-source democracy tool developers, hackers, grassroots citizen movements and policymakers.

We aim to create a uniquely European open and decentralised approach, aimed at empowering ordinary citizens to take action for the common good. This would be an alternative to closed and centralised internet platforms whose business models rely on aggregating users' information and monetising the identity and social data of their users.

We value privacy and security, and our tools are built on open-source code and open standards. D-CENT federates these tools, but they can be combined in many ways to support specific democratic processes. The D-CENT tools build on open standards for a distributed identity management system that gives people control over their own social data.

STONECUTTER

The foundation for the D-CENT system is Stonecutter, a privacy-aware open authentication and identity management tool that provides a single sign on for using the D-CENT tools and applications. This system is designed to be straight-forward for community groups to set-up and host, allowing users to authorise access to their data for use in various applications from an easy-to-use dashboard, without resorting to centralised platforms.

WHAT DOES IT DO?

The tool provides federated and privacy-aware user management for organisations. It can be used to provide users with a single account to access multiple websites in their community. This allows users to sign in to different applications using just one password.

Stonecutter is open source and self-hosted, so any organisation can use it to manage the user base of their applications. It also provides users with a clear understanding of what information they are sharing with the websites they're connecting to.

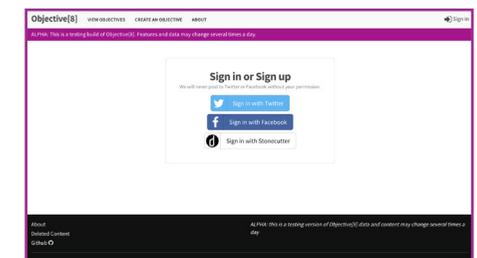
TECHNICAL SPECS

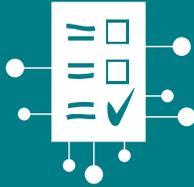
Stonecutter was built in Clojure, a JVM-based language. Client-side code is written in ClojureScript and the CSS files are written in Sass. It uses a MongoDB database to store the user data.

THE TOOL IN ACTION

Stonecutter is currently being used by the following groups

- A British political party, to allow everyone to contribute to their campaign, including those who do not have a Facebook or Twitter account or who do not wish to link their social and political profiles.
- New Garden Cities Project, to allow those who do not have social media accounts to engage with the project.
- Internally at ThoughtWorks, to ensure that only trusted users have access to sensitive discussions.





dcentproject.eu
tools.dcentproject.eu
[@dcentproject](https://twitter.com/dcentproject)
github.com/d-cent