

# Participium

## System general goal

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The Municipality of Turin is developing Participium, a web application for citizen participation in the management of urban environments. It allows citizens to interact with the public administration by reporting inconveniences and malfunctions present in the area (e.g., potholes in the asphalt, sidewalks with architectural barriers, trash on the streets, non-functioning streetlights, etc.). A real example of such an application is the [Iris platform in Venice](#).

## Reports

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Citizens can submit reports only if they have registered in the system with email, username, first name, and last name. Once a registration is completed, the user gets an email with a confirmation code. The person can use the application only after confirming by entering the code valid for 30 minutes.

Once registered, the citizen can make reports by selecting a point on the Turin map (based on OpenStreetMap, standard layer) and filling out a form with the following required fields: title, textual description, and category (chosen from a list). It is also mandatory to attach one or more photos (up to 3 per report).

The possible problem categories, at the moment of system design, are:

- Water Supply – Drinking Water
- Architectural Barriers
- Sewer System
- Public Lighting
- Waste
- Road Signs and Traffic Lights
- Roads and Urban Furnishings
- Public Green Areas and Playgrounds
- Other

After entering all the required information and any pictures, the system asks the citizen if he/she wants the report to be anonymous (name not visible in the public list of reports).

# Report Lifecycle

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Once submitted, the report is in the *Pending Approval* state until the Organization Office of the Municipality of Turin performs a preliminary verification, marking the report as either accepted or rejected.

The possible report statuses are: *Pending Approval*, *Assigned*, *In Progress*, *Suspended*, *Rejected*, *Resolved*

- After approval, accepted reports move to the *Assigned* state, and they are sent to the competent technical office depending on the problem category.
- Once the intervention is scheduled, the status changes to *In Progress*, indicating resolution has started.
- In some cases, for organizational or technical reasons, the report may be set to *Suspended*, awaiting further evaluation or resources.
- When the problem is resolved, the specific technical office updates the status to *Resolved* and closes the report. The technical office staff member can add comments.
- In case of rejection, an explanation from the Municipality Organization Office is mandatory (see next section).

If the intervention has been done by maintainers of an external company (e.g. Enel X for category Public Lighting, or specific reports based on their content), two cases are possible:

- Case 1: the company has access to Participium. In that case, the specific technical office assigns the report to the corresponding company users. External maintainers can move the report from *Assigned* to *In Progress*. Technical office staff members and external maintainers can exchange information and comment through the report, but this will not be visible to the reporter (and neither to citizens). Once the work is finished, the external maintainer can resolve the report.

N.B. Automatic assignment of all issues of a certain category (thus, without the initial review of the municipal public relations officer) is possible only if previously set by the municipal administrator .

- Case 2: the company has NOT access to Participium. In this case, the external company updates the technical office out of Participium, and when the issue is solved the technical office staff member will move the report to status *Resolved*.

## Citizen Updates

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To strengthen trust between citizens and institutions, citizens can be updated about their reports through various channels:

- At each status change, the citizen receives notification in the platform with the corresponding update.
- Municipal operators working on reports can also send messages to the citizens in the platform, to which the citizen can reply.
- Each time a citizen receives a platform notification, he/she also receives an email (unless disabled in their configuration panel, where citizens can also upload a personal photo and their Telegram username).

After approval, accepted reports immediately become visible on the Participium portal. They appear both:

- On an interactive map of Turin, geolocated at the point indicated by the citizen.
- In a summary table, which allows filtering and sorting by category, status, or period of time. The data from the table (in case, filtered) can be downloaded as a csv file.

In both views, the reporter's name is shown ("anonymous" if that option was chosen), along with the report title. Clicking the title opens the full description (with pictures).

Unregistered users can also view reports on maps. Both registered and unregistered users can type an address into the search bar to zoom in on that area of the map and see all reports in that area.

When logged into Participium, citizen can follow reports of other citizens and receive notifications (following the same rules as for owned reports).

## Statistics

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The system allows the display of both public and private statistics.

- *Public statistics* (visible on the site) include the number of reports by category and trends by day, week, or month. They are visible also to unregistered users.
- *Private statistics* (for administrators only), in addition to public ones, also include charts and tables about:
  - number of reports by status
  - number of reports by type
  - number of reports by type and status
  - number of reports by reporter
  - number of reports by reporter and type
  - number of reports by reporter, type and status
  - number of reports by the top 1% of reporters, by type
  - number of reports by the top 5% of reporters, by type

# Interaction with Telegram Bot

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Finally, any citizen who has provided their Telegram username can communicate with a Telegram bot to:

- Create a new report, following a guided process
- Check the status of their own reports, receiving an updated list with any changes.

- Receive real-time push notifications when their report changes status.
- Get quick assistance through commands that provide system usage info and useful contacts.

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