



ZAGREBAČKI
HOLDING

PODRUŽNICA ČISTOĆA
SEKTOR ODVOZA OTPADA

Klasa: 406-03/23-01/533

Ur. broj: 02/328-24-18

Zagreb, 25.04.2024.

**INTERESTED BUSINESS
ENTITIES**

CALL FOR EXPRESSION OF INTEREST

Subject: Implementation of the system of access restrictions and the system of records of the use of underground waste containers in the City of Zagreb

As part of the comprehensive implementation of a sustainable waste management system in the area of the City of Zagreb, Zagreb City Holding - subsidiary Čistoća carries out the implementation of underground waste containers and intends to start the implementation of semi-underground waste containers.

For the purpose of control over the use of the mentioned underground waste containers and automated billing according to the amount of disposed waste, it is planned to introduce a system of access restrictions and a system of records of the use of the underground waste containers.

The purpose of the call for expression of interest is of an operational nature, in order to familiarise the service provider with the current offer of the mentioned systems for underground waste containers.

Through the answers to the questions, the Client (ZCH – subsidiary Čistoća) wants to get more detailed information about:

- the technical characteristics of systems for limiting access to underground waste containers currently available on the market, and
- an applicative solution for managing underground waste containers with the following functional groups:
 - functionalities for managing systems for restricting access to underground waste containers (user mobile application, Android and iOS native)
 - functionalities for recording the use of underground waste containers (user mobile application, Android and iOS native)
 - functionalities of the central system for administering users and pick-up locations, monitoring of containers occupancy, of possible system damage/errors, and ultimately of accounting for the provided waste disposal service by recording the openings (application for the Client / service manager).



ZAGREBAČKI HOLDING d.o.o.
Podružnica Čistoća
Zagreb, Radnička cesta 82
Tel. + 385 1 6146 400; Faks. +385 1 6429 710
cistoca@zgh.hr; www.cistoca.hr

Trgovački sud u Zagrebu
MBS: 3677702-004, OIB: 85584865987
Privredna banka Zagreb d.d.
IBAN: HR 6823400091410477169



The proposed application solution must contain all three groups of functionality integrated in one application (mechanical opening of containers + recording of openings + monitoring of containers – occupancy, damage, malfunctions and similar).

Below are the questions to which the Client wishes to receive detailed answers, and potential Suppliers are invited to present their proposals and suggestions based on these questions.

- "Mechanical" restriction of access to containers by unauthorized users
- access restriction according to location ("regionality"),
- access restriction according to the system number of taxpayers,
- access restriction according to the object's system number;
- Opening of containers using 125kHz RFID cards
- Opening of containers using electronic keys on mobile devices (NFC, i.e. Bluetooth in the case of leaving NFC technology)
- Primary opening via an electronic key, so that the user does not have to receive a physical card at all if he does not want to
- A virtual electronic key for a certain period of time, which is linked to the object's system number
- Associating a geo-location (GPS coordinate) to each container and displaying the location on the map in the mobile application, with the possibility of entering the colloquial name of the location
- On-line data transfer from the container (GPRS, SIM card) and integration with the existing system of electronic records of container emptying
- Registration/disbursement of users/groups of users by pre-defined regions (customer's locations/billing points - specific containers) and the possibility for the customer to do the same independently through the application without the intervention of the supplier
- Data entry about users (name and surname, address, taxpayer system number, object system number) and creating a report with information about the user
- Monitoring of the filling of the container, and notifying the user of this fact via the mobile application with a reference to the second, closest "available" container
- Automatic creation of a waste collection program based on container occupancy, geo location, set time interval, and/or waste type
- Monitoring of container usage per user in time intervals freely defined by the Client as parameters
- Report on emptying (lifting) the containers
- Integration of the application/applicative solution for managing underground waste containers with an external accounting and billing system (billing system) and how
- Integration of the application with the e-Onto system (waste flow monitoring system)

- Integration with other applications / web interfaces such as *Sort my waste / My waste* in the context of exchange and/or display of data on the geo location of the container, the current level of occupancy, (time) overview of usage of each container / each user
- Integration of an interactive map of the city with the locations of underground and semi-underground waste containers, divided into types of containers (underground or semi-underground) and status (e.g. in use, broken, waiting to be put into use...) visually marked with symbols and/or colors, with drop-down menus and filters (e.g. tank types, city districts, time intervals, installation history, failures, etc.)
- Integration of the user's mobile application with other applications for the use of other "city" services, i.e. the use of city infrastructure (e.g. transport)
 - Possible uses of the application:
 - The City obtains the right to use for its own purposes the source code of the lock supplier's mobile application for the required integration and the open protocol for user authentication and authorization with the lock's embedded computer system for the purpose of opening the container
 - SDK, i.e. a closed code module that enables the integration of lock communication logic, user authentication and authorization, and container opening into another mobile application
- Connection to video surveillance
- Remote on-line monitoring, management and monitoring of the use of containers, as well as management of permissions for access to containers, i.e. administration of data on users and collection points independently by the Client
- Tracking the disposal of "chipped" bags and recording chipped and non-chipped bags (RFID curtains)
- Maintenance of embedded equipment and SLA conditions, especially in the context of response times to reports (e.g., within 6 hours, within 24 hours, within 72 hours...)
- Spare parts warranty for longer period
 - What is that period (in years)
 - Under what conditions
- Reporting irregularities (breakdowns, malfunctions, damages) through a unique ticketing system
- Reporting system malfunction for container locking
- Experiences with the installation of access restriction systems (locks) on different types of containers from different manufacturers
- Employee education and technical support for working in the application (assignment, debit payment, return, reports, etc.)
- On-premise (Local) installation of the proposed backend application solution on the Client's infrastructure

Cost estimation:

- a) Access restriction system (locks) – mechanical and electronic or electronic only if there is already a mechanical lock
- b) Installation of access restriction system (locks)
- c) Application support (mobile native iOS and Android application)
- d) Application for centralized management of containers and users
- e) Maintenance/servicing of access restriction system (locks)
- f) Maintenance of application support (mobile and central)

The estimate needs to be prepared for 200,000 end-users and 1,600 containers, of which:


- 150 existing underground containers (specific technical characteristics of the containers need to be prepared)
- 200 future underground containers (for which additional technical characteristics will be specified that the access restriction system, so-called locks, will have to meet)
- 600 semi-underground containers currently in procurement process
- 600 future semi-underground containers
- 50 spare access restriction systems (locks)

We hereby invite all interested business entities offering access restriction systems and systems for tracking the usage of buried containers to respond to the questions stated above.

Business entities can submit their responses no later than May 13, 2024, to the email address: Cistoca.UredVoditelja@zgh.hr. For any additional information, please contact Mr. Edin Garibović via email: Edin.Garibovic@zgh..

Department for recyclable
and bulky waste

Edin Garibović, mag. ing. logist.



BRANCH MANAGER:

Davor Vić, dipl. ing.



ZAGREBAČKI HOLDING d.o.o.
Podružnica Čistoća
Zagreb, Radnička cesta 82
- -1-