

**Capital Cities Collaborating on Common Challenges in Hazardous Waste Management
Yerevan, Warsaw, Tirana**



Project co-funded by
the European Union



The title of the project	Name of the grant beneficiary	Country	A short description of the project	Project total value (EUR)	Level of EU funding (%)
Vending Machine for Battery Utilization	Nairi-Stem LLC	Armenia	<p>Currently, in Yerevan, there is no way for collection, sorting, and disposal of batteries, which are included in the list of hazardous waste. But, even in case of the availability of a special waste bin for batteries, there is no guarantee, that people will properly segregate and dispose of batteries. Batteries are small and it's not convenient to keep a special waste packet for collecting used batteries. As a result, they will go into the general garbage dump and contaminate both soil and water. The proposed solution will be an IoT intelligent vending machine with wireless connectivity to a cloud network and mobile application. Each user, after registration in the system, will have their account, where they will collect points after battery disposal through a vending machine. The collected points can be used to redeem tickets for theaters, galleries, museums, and other cultural institutions administrated by the municipality of the city. The batteries collecting process through the vending machine will assume to execute the following steps:</p> <ol style="list-style-type: none"> 1. The user will open the mobile application and will log into his account. 2. After logging in a QR code will be opened which the user will place in front of the QR code reader of the vending machine. 3. After reading the QR code vending machine will make user authentication and after confirmation cells (holes) for battery recycling will be opened. 4. The user will throw batteries into the vending machine, which will check the battery type and weigh them. After disposal, the user will press the "Finish" button. 5. Depending on the battery types and weight the machine will reward points to the user. Later the user can exchange the collected points for tickets or receive a discount during the ticket purchase process. <p>In the framework of this grant project, we are planning to build a prototype of a fully functional battery recycling vending machine, place it in a crowded place, and run it for testing for some period. Once approved, our company in cooperation with Yerevan City municipality will launch a global project to produce more vending machines and distribute them in the whole city. In this way, we will significantly reduce the possible entry of harmful substances into the soil and water. The collected batteries can be recycled in special places in the result of row metals will be collected. The device mobile application and structure of the vending machine will be designed for easy usability for users of any category and age. The application and vending machine screen graphical user interface will be designed for multiple language support, which will allow the use of the machine for people from different ethnic minorities. The user interaction parts on the vending machine will allow use it by people with disabilities as well.</p>	EUR 44782,5	89,32%