



PROBLEM

The monitoring of the urban waste quality in the cities is done manually, inflating the costs for the municipalities.

SOLUTION

NANDO makes Intelligent the waste trucks, automatizing the waste quality monitoring process.

Camera equipped with NANDO.AI installed on the trucks in order to detect contaminants every time a bin is emptied





MOBILE DIGITAL RECORDER (MDR)

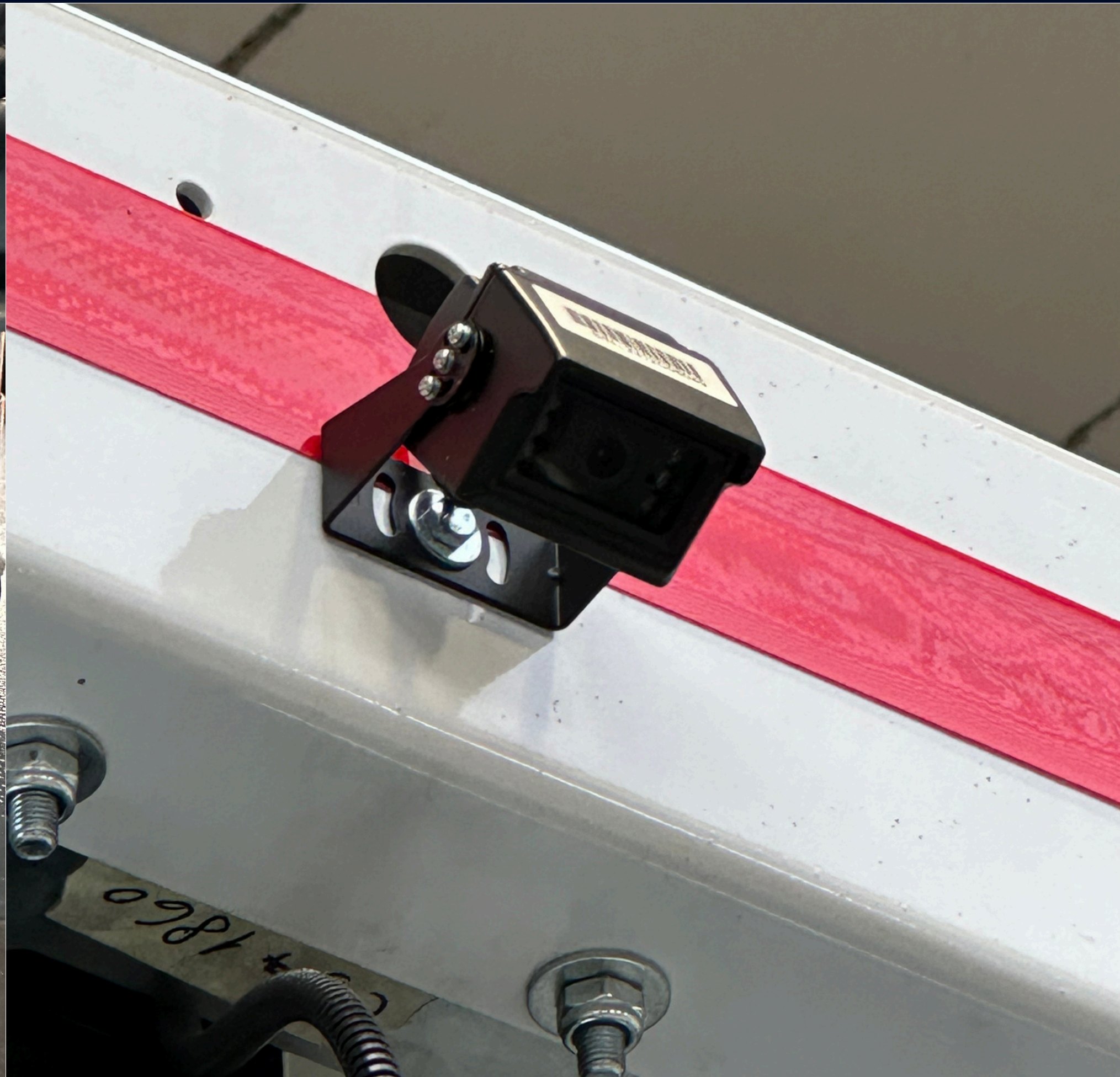
- Activates the camera during the waste bin emptying phase
- Collects the photos, stores the GPS coordinates
- Sends the photos via 4G connection to the NANDO Cloud



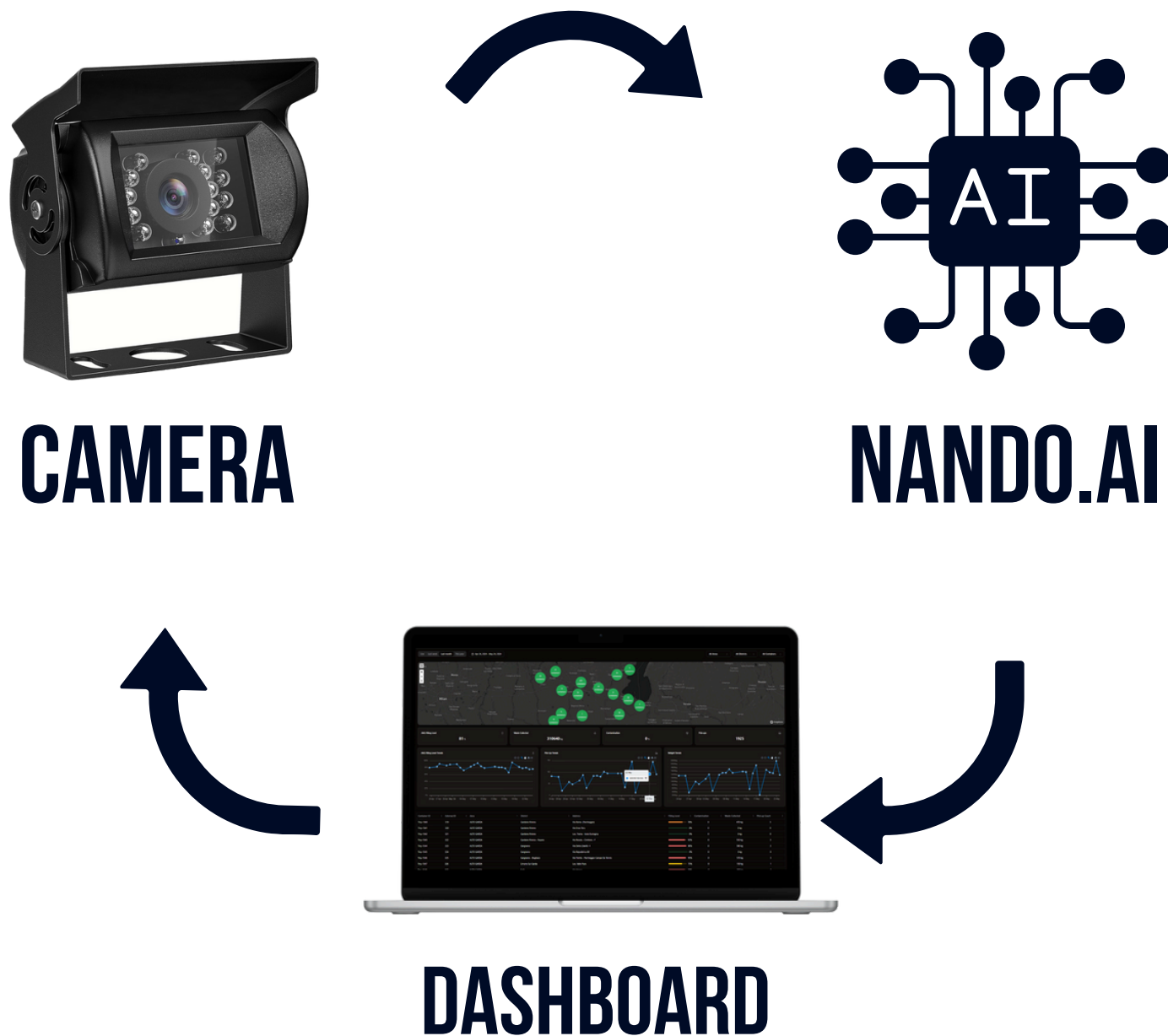
CAMERA

- Smart installation on vehicle
- Easy to oriented accordingly to vehicle model
- HD images, dark mode, IP67

Installation



Get data about the waste quantities for each collection point to optimize the collection planning and to monitor the recycling quality



CAMERA

Takes photos to the waste into the hopper of the truck during bins emptyng phase.

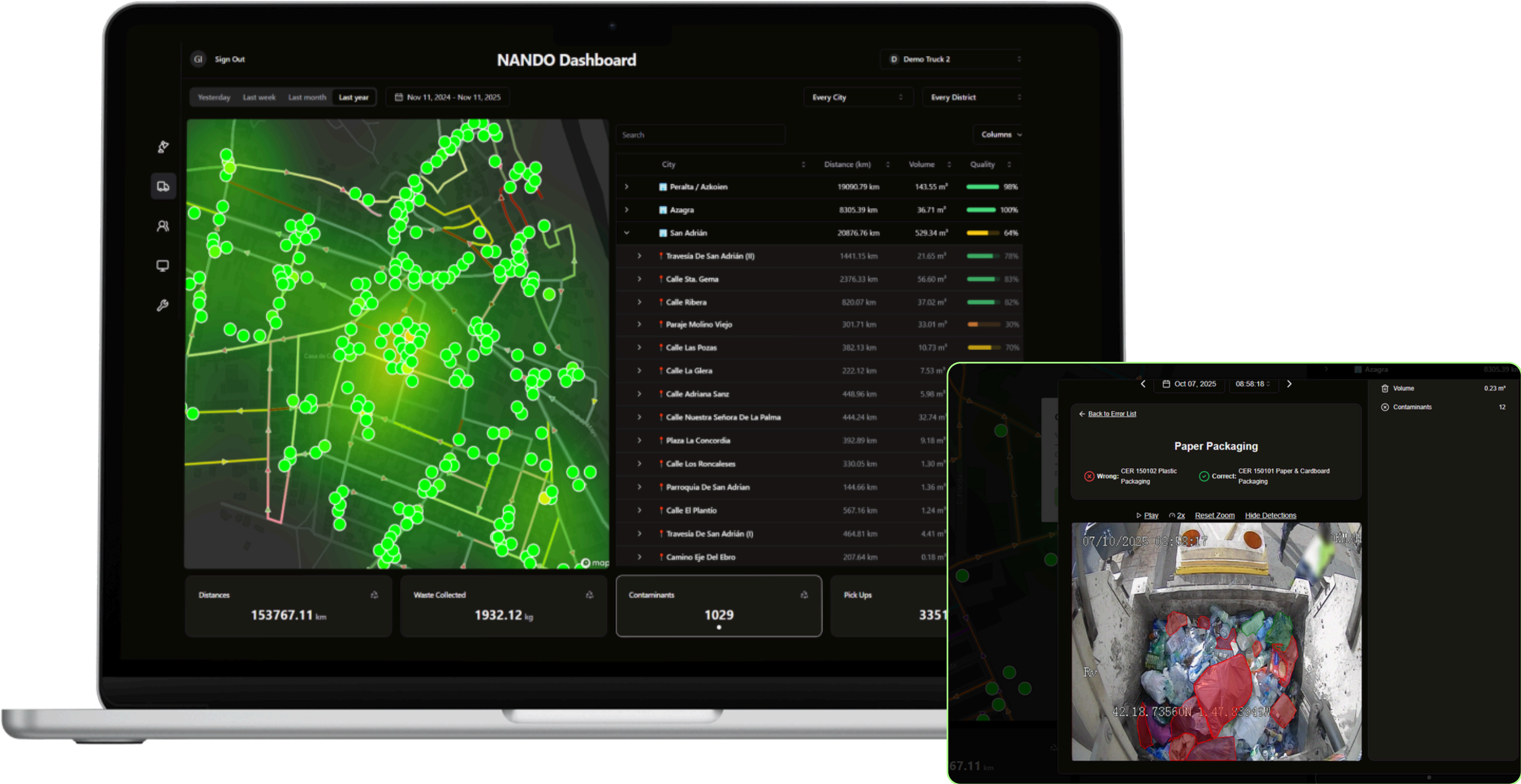
NANDO.AI

Processes the photo to recognize the waste volumes, materials and weight using Deep Learning and Computer Vision algoritms.

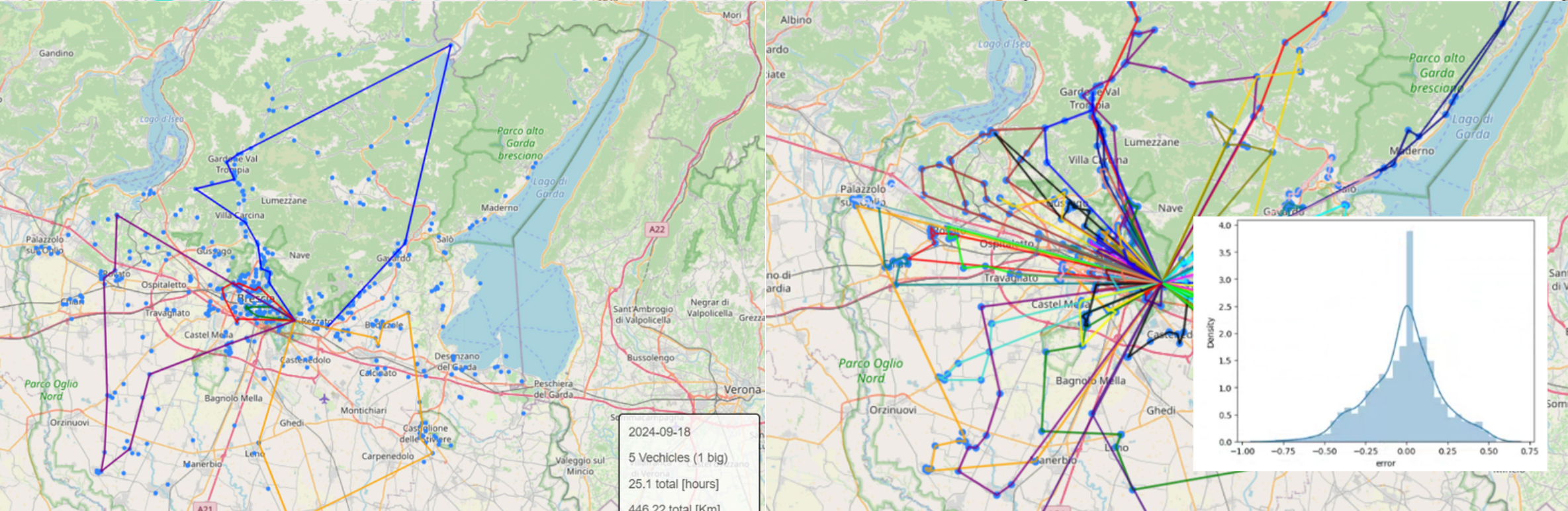
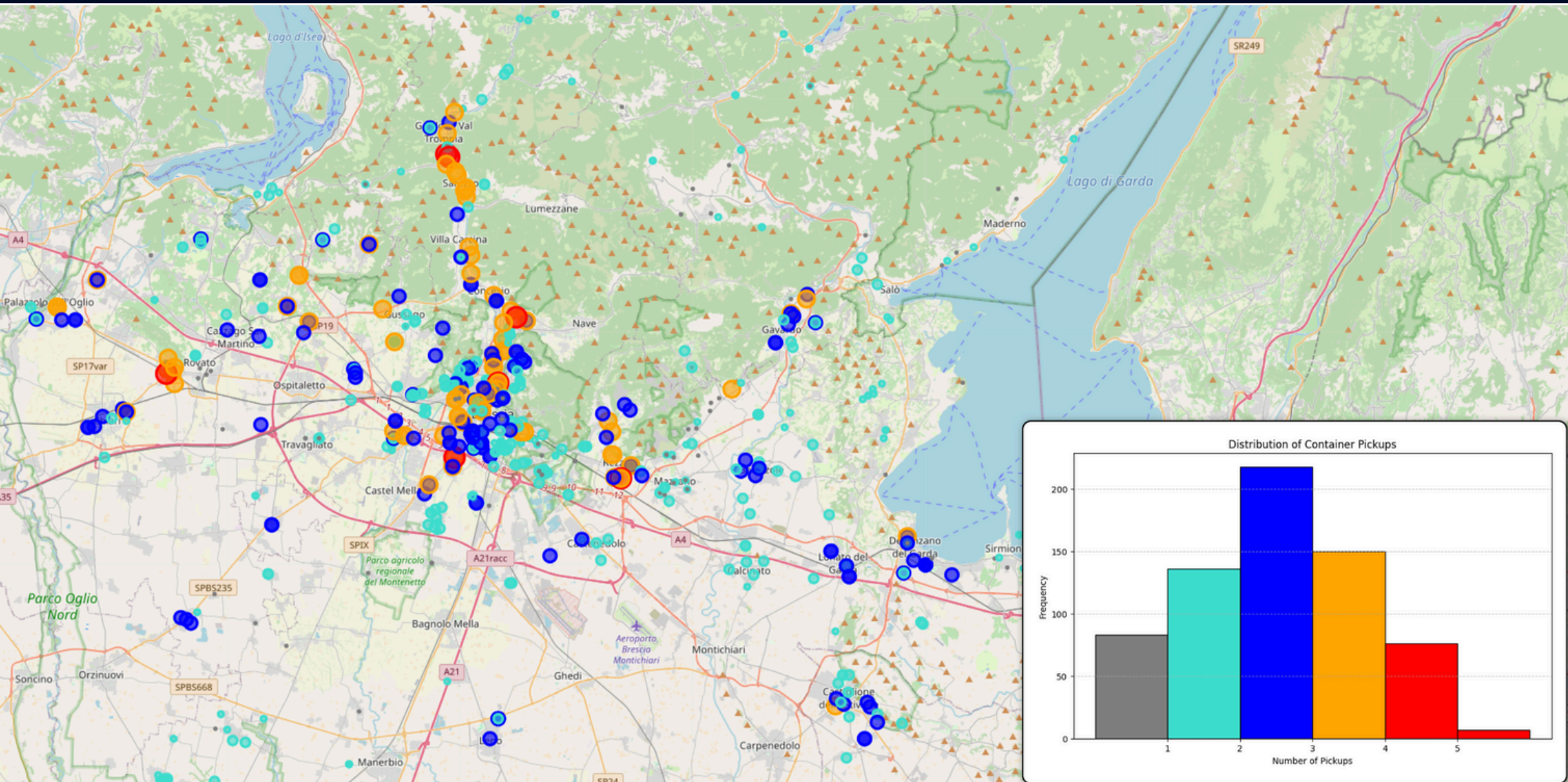
DASHBOARD

User friendly dashbord reporting the cities waste data collected, with volumes, bins filling level, recycling quality and waste quantity in each area of the city.

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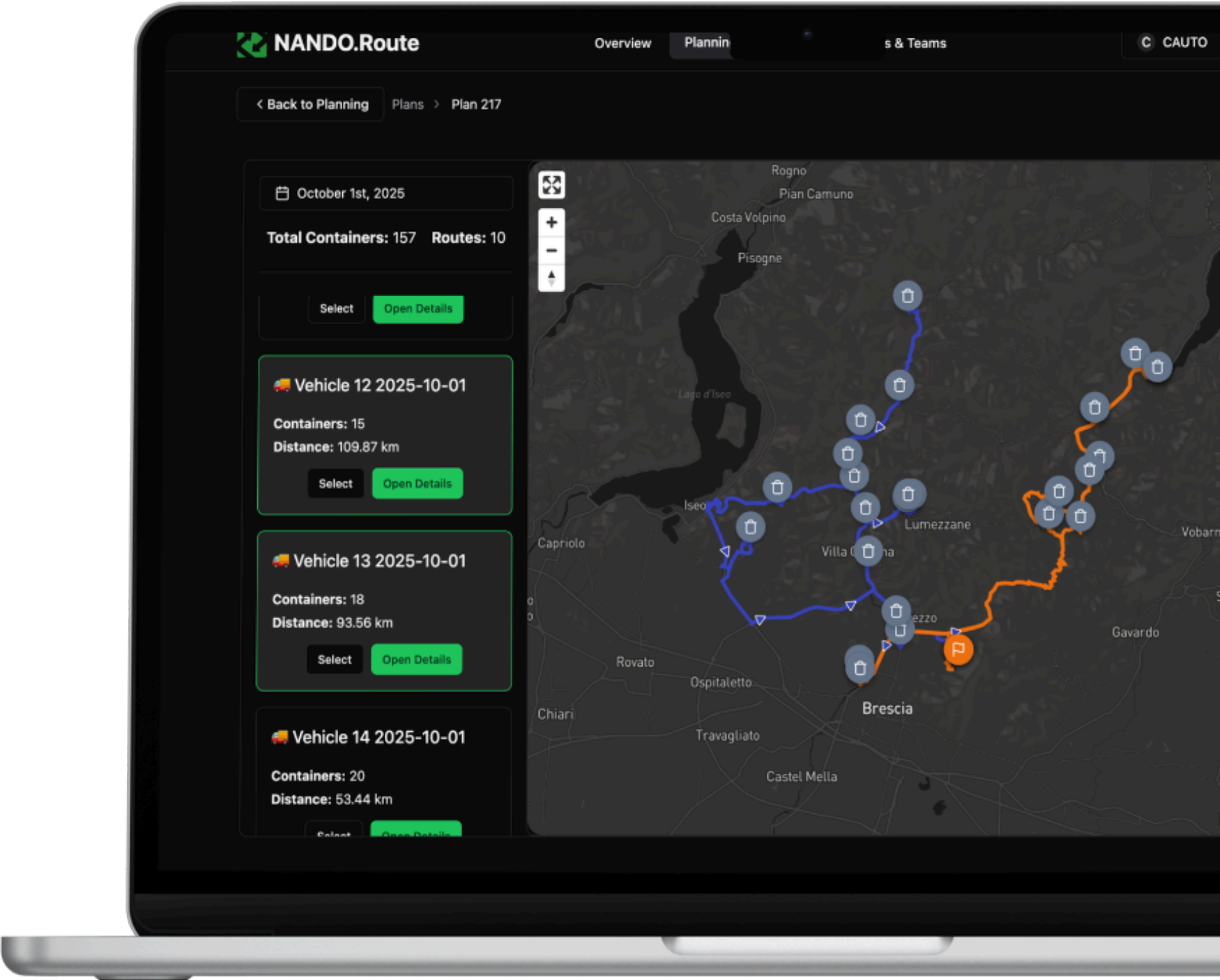
User friendly dashboard reporting the cities waste data collected, with volumes, bins filling level, recycling quality and waste quantity in each area of the city.



Filling Level	Contamination	Waste Collected	Pick-up Count
0%	0 %	0 kg	0
67%	8.01 %	6620 kg	51
54%	11.01 %	5500 kg	52
51%	18.59 %	4860 kg	50
67%	13.25 %	6780 kg	52
56%	11.56 %	5820 kg	53
38%	6.69 %	3570 kg	50
85%	17.35 %	8850 kg	53
88%	9.57 %	9500 kg	55
79%	11.45 %	8710 kg	56
80%	12.52 %	8250 kg	53
79%	8.23 %	7600 kg	49
56%	9.56 %	5580 kg	51
83%	15.91 %	7920 kg	49
77%	9.9 %	7550 kg	50
84%	18.19 %	8430 kg	51
82%	19.08 %	5720 kg	36
62%	5.62 %	5210 kg	43
80%	18.23 %	7050 kg	45
73%	17.92 %	6380 kg	45
72%	14.07 %	6310 kg	45
64%	8 %	5650 kg	45
49%	6.5 %	3980 kg	42
76%	15.12 %	6630 kg	45
80%	9.5 %	6570 kg	42
63%	14.55 %	5400 kg	44
77%	11.72 %	6320 kg	42
61%	5.56 %	5140 kg	43
62%	6.24 %	5050 kg	42
75%	9.71 %	5610 kg	38
85%	12.88 %	7870 kg	47
89%	23.96 %	7490 kg	43
78%	9.06 %	7320 kg	48
78%	8.97 %	6050 kg	40
85%	13.36 %	6830 kg	41

NANDO.Route uses the hystorical data of volumes to replans the collection system and save km

	NO NANDO	NANDO
N° vehicles	10	10
N° bins	700	700
Filling Level @collection	65%	85%
Operational costs	€ 620.400	€ 490.000
NANDO		€ 25.000
Saving		€ 105.400
Saving perc.		17%



Data are referred to the period January 18th, 2024 - January 23th, 2025 in Brescia (Italy).

REDUCE FLEET KM



Optimize trucks routing in terms of roads, number of bins, truck dimension, man hours and pickup frequency based on hystorical data about volumes production

INCREASE THE RECYCLING



Check the recycling quality for every bin and take actions based on data to create an effective communication with people in order to increase the waste quality and recycling level

SELL WASTE DATA



Sell waste data to commercial customers (waste producers) to support them in compiling the Sustainability Report.

TRUCKS LIST



MODEL A



MODEL B



MODEL C



MODEL D

Customer shares the number and the model of vehicles on which to activate NANDO technology

INSTALLATION & SET UP



NANDO Team ships the monitoring kit and support customers during the installation and setup

CUSTOMER CARE SERVICE



The Customer Care Team is available every day to support our clients about every issue.

Our Customers in Italy, UK, Denmark, Netherlands, Spain

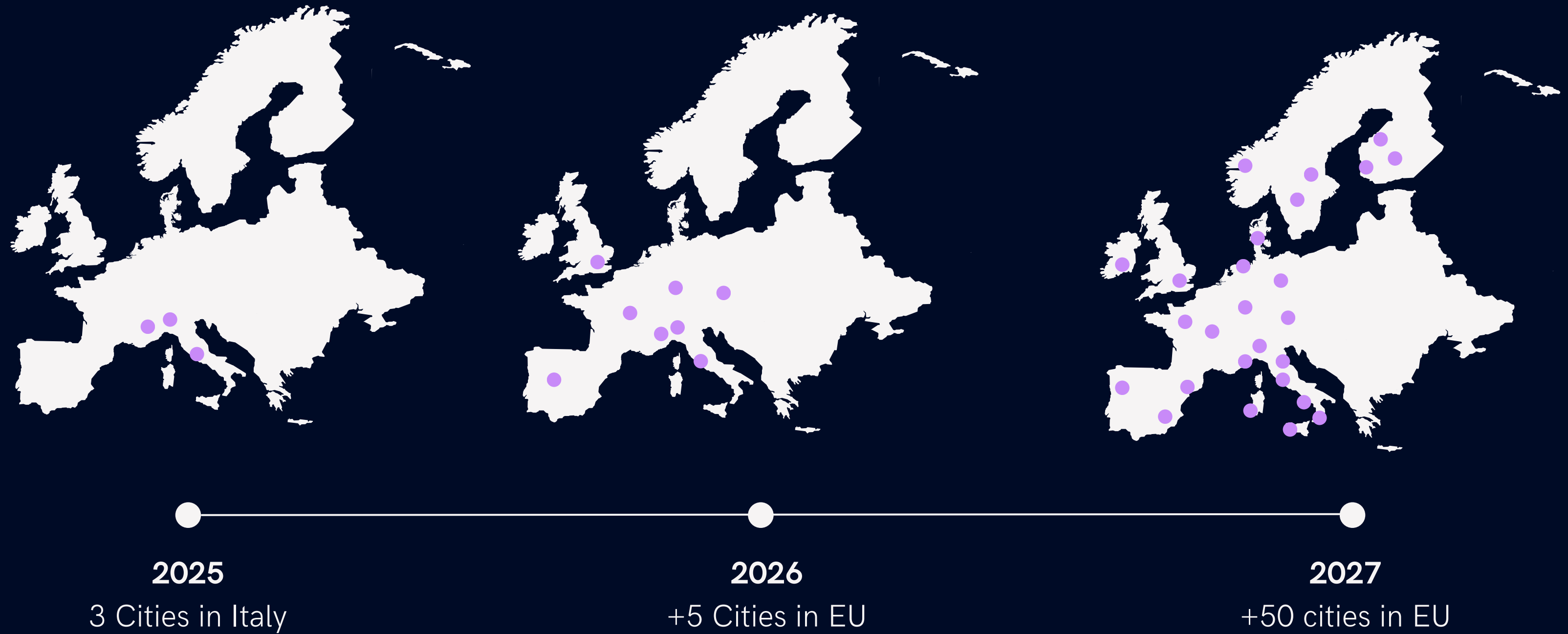
Waste Producers



Waste Manager



NANDO offers a very scalable service to reach +50 Cities in EU by 2027





SIMPLIFY WASTE MANAGEMENT CONNECTING DATA TO PEOPLE.

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Respect the environment!

