

ORTOMAT-MTC (MIKC-BT-3G)



City of
Rome



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AQUEDUCTS OF ROME

acea
Ato 2



210
sources of supply



10,000 km
water
network



361,000,000 m³
of water supplied

← **3,900,000 residents supplied** →

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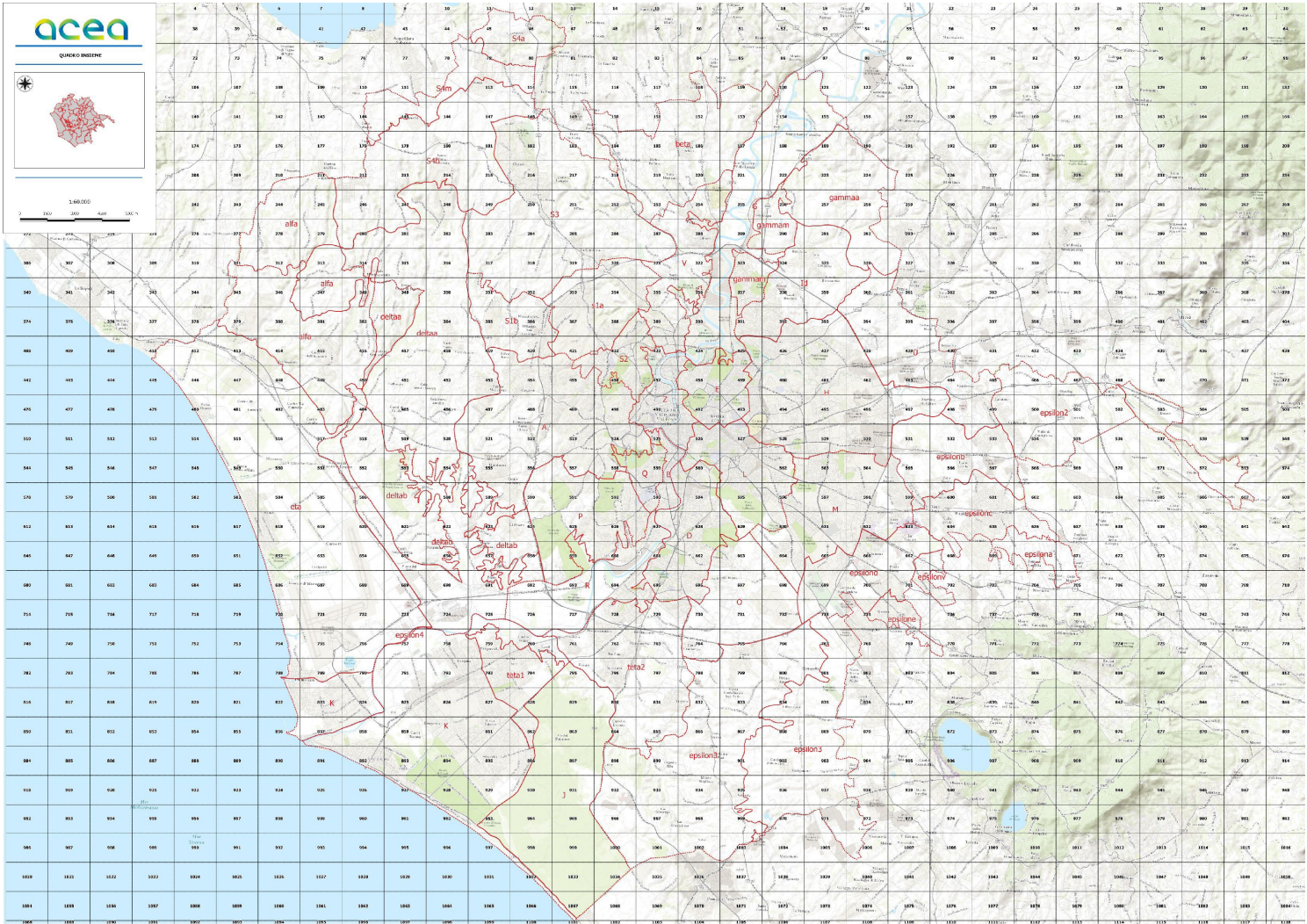


It is estimated that 40% of the water pumped into the network leaks.



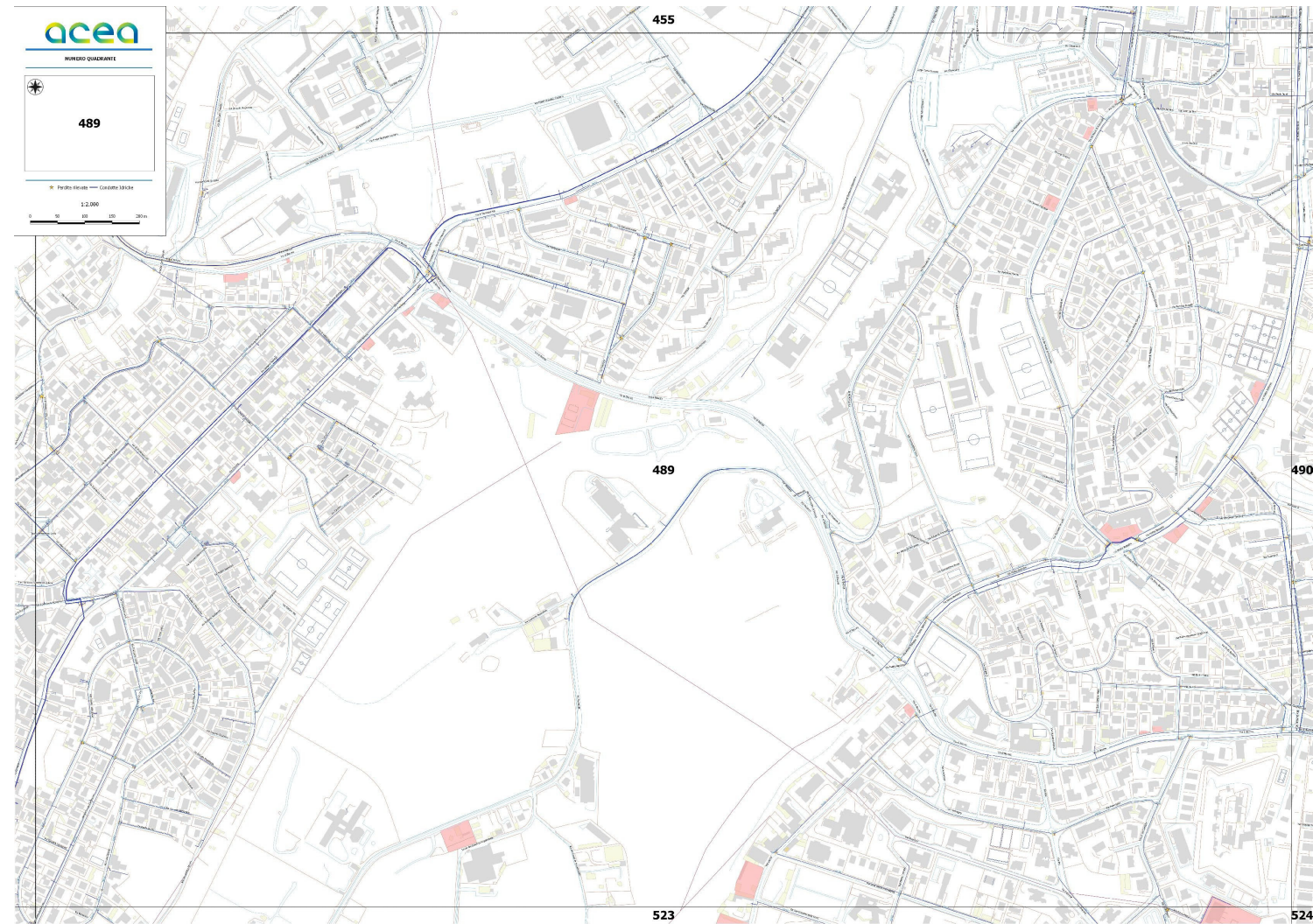
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The subdivision of the city into quadrants



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A single quadrant



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Location and leakage mapping service in Hydroport

Logger

50 ORTOMAT-MTC

Pipe material

**Grey / spheroidal graphite
iron**

Time of use

35 days

Diameter

DN (100 - 250) mm

Employment teams

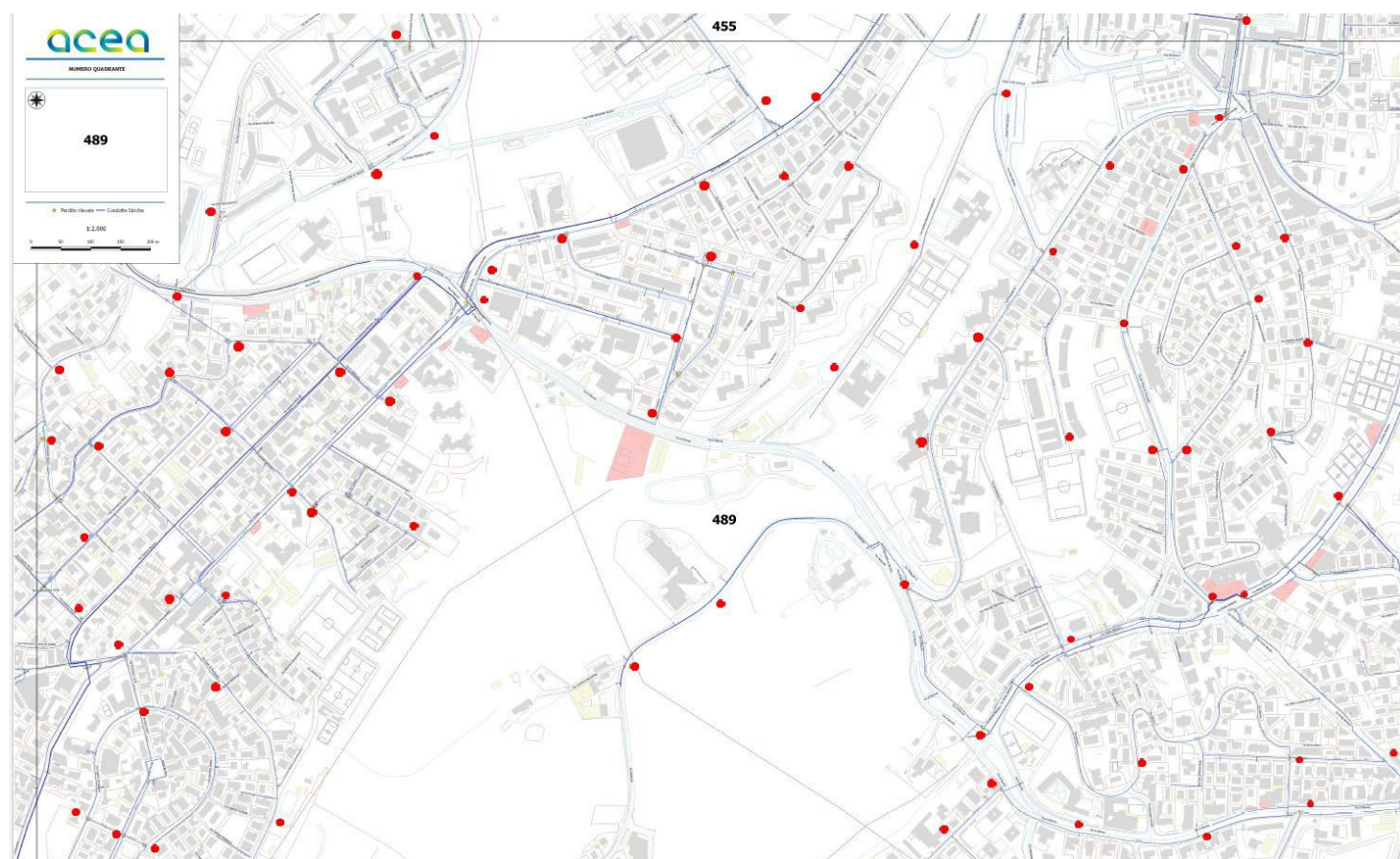
Total 6 people

Network length

300 km

Installation of loggers

The positions of loggers in the network are clearly defined on the quadrants served by Acea. 25 loggers are moved every day to cover a length of around 12 kilometres.



Installation of loggers



The first team (two people) deals with installing and moving the loggers.

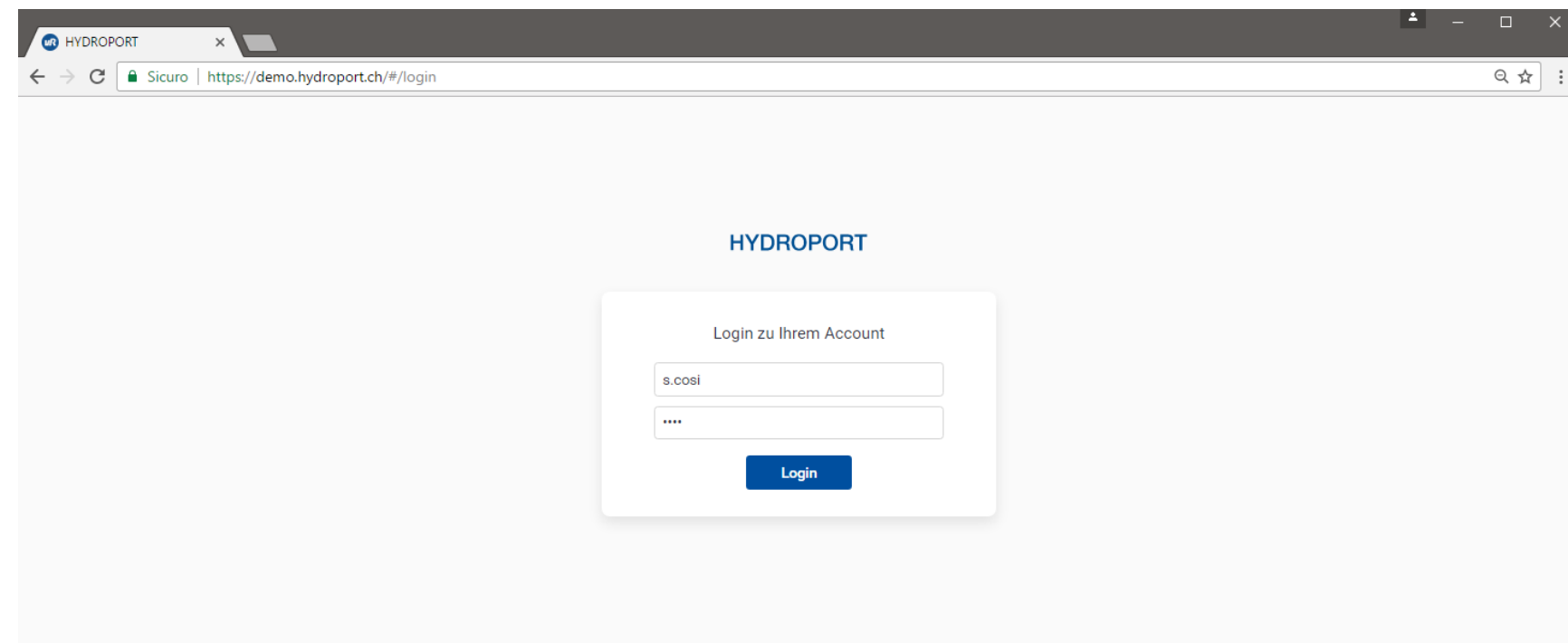


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Displaying and managing data on Hydroport



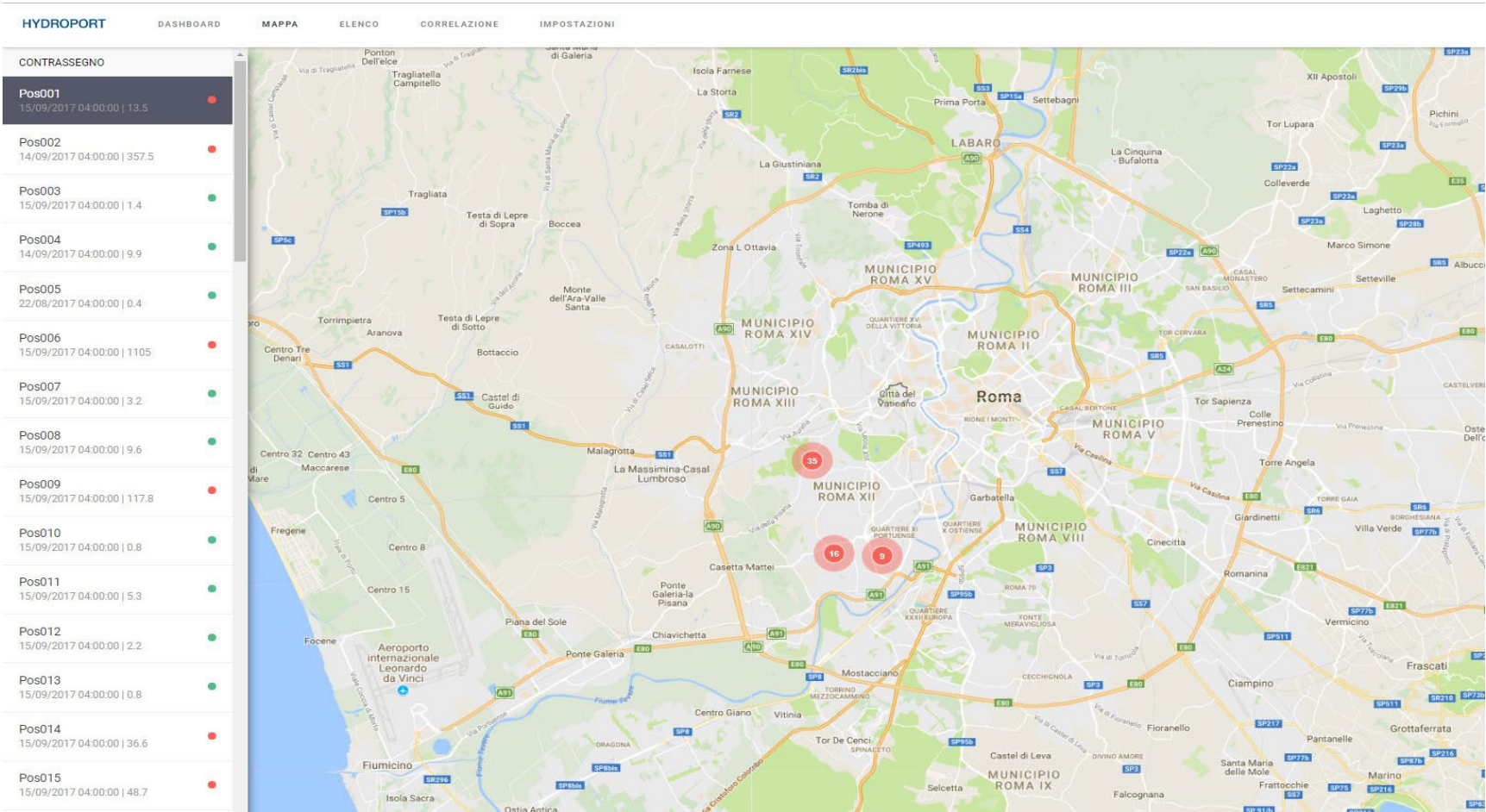
The second team (one person) deals with managing data, analysing data, correlations on Hydroport, re positioning the loggers on the map and the final leak report.





Displaying and managing data on Hydroport

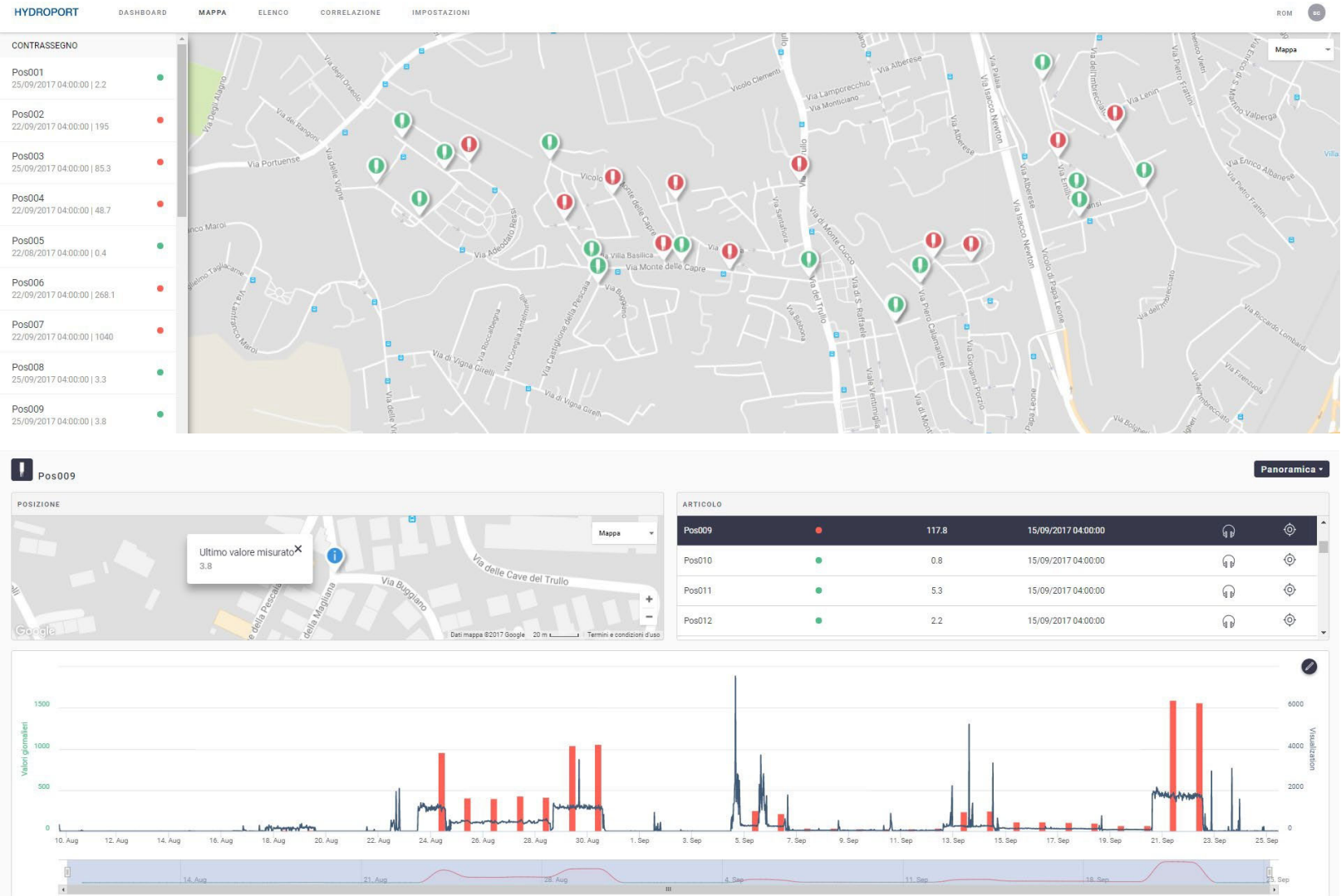
Panoramic



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Displaying and managing data on Hydroport Logger alarms



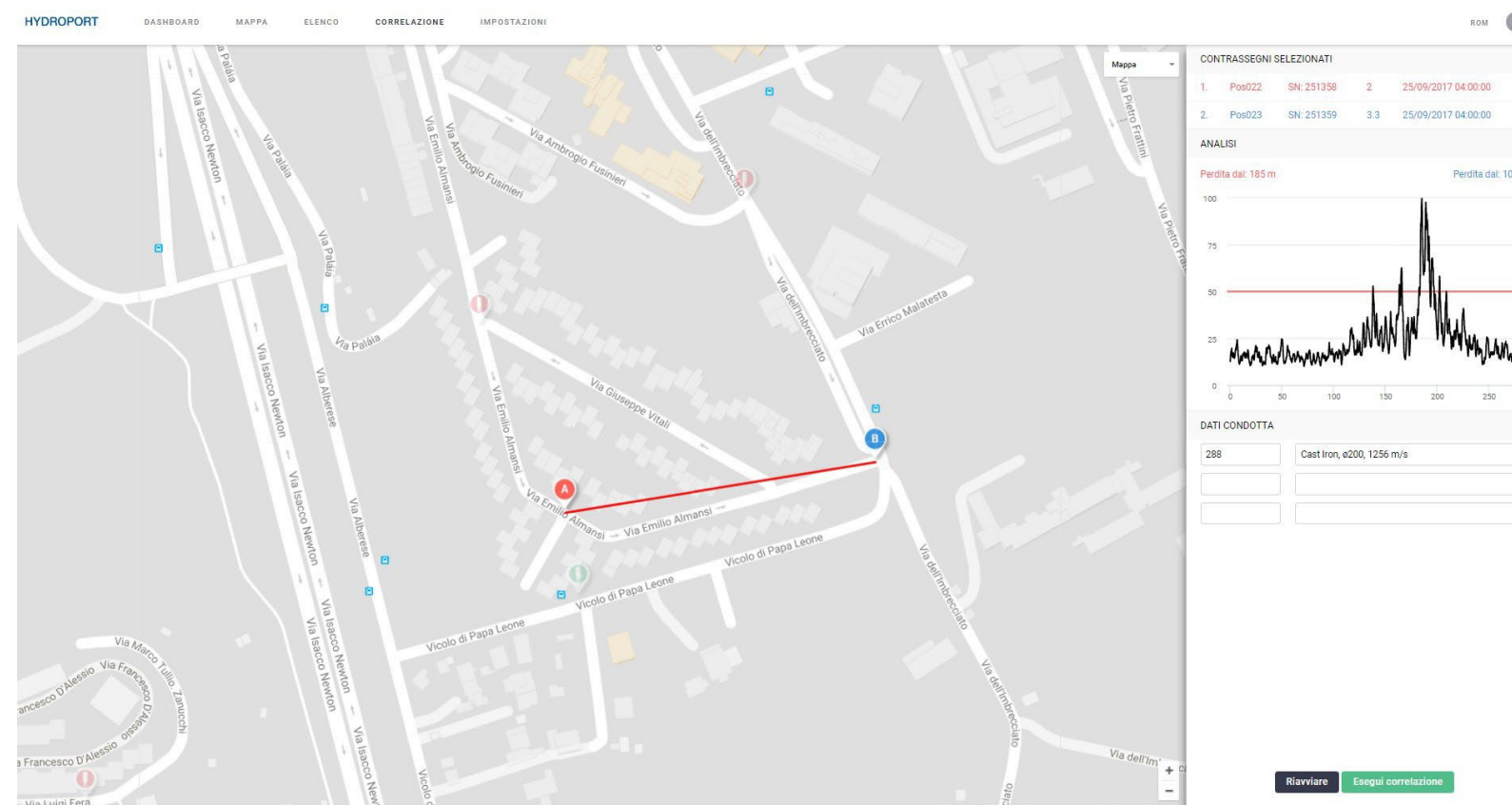
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Displaying and managing data on Hydroport

Correlation of loggers

Correlations are carried out on all loggers, even on those without an alarm. As you can see in this case, a potential leak can be concealed between two loggers without an alarm.

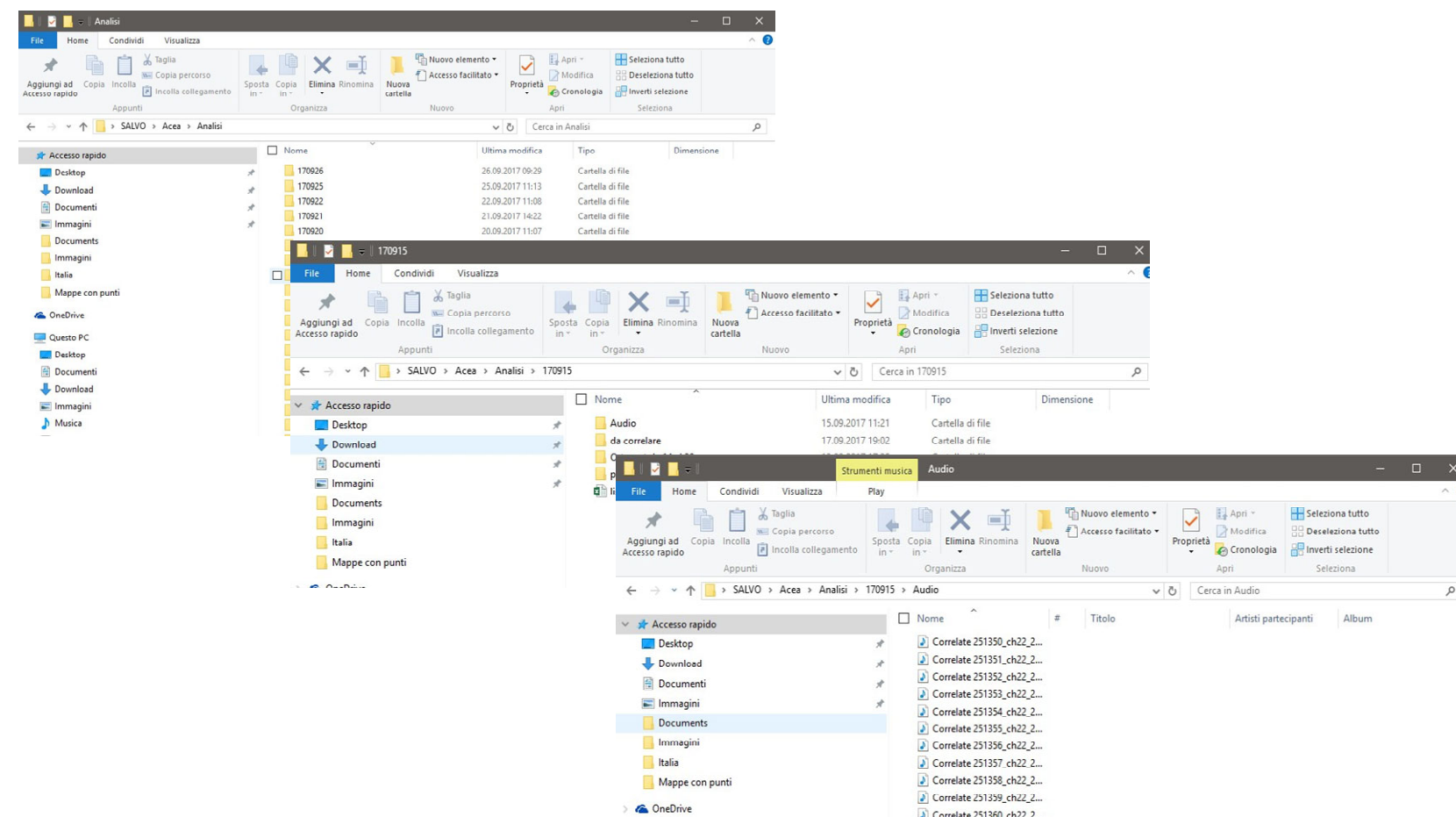


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Managing and

All data will be archived systematically so that it can be referred back to over time and any doubts can be clarified.

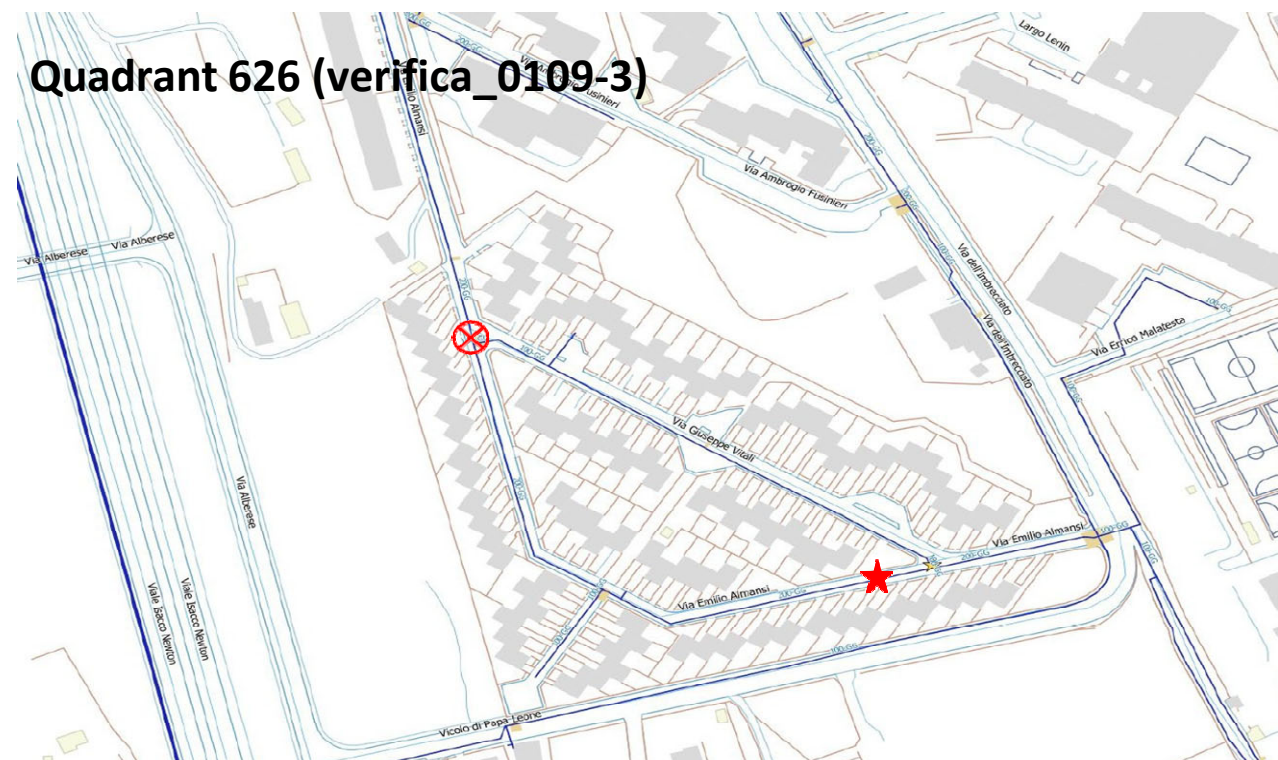


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Sending

All correlations performed on Hydroport and all alarms with a high density are e-mailed to the third team (two people), which deals with precise pinpointing in the area.



★ Probable leak zone (check) ⊗ Loud noise (check zone)

Precise pinpointing

Precise pinpointing is carried out using a geophone and a correlator



Documenting leaks

All identified leaks will later be documented and photographed in order to prepare a final report for each single leak

LEAK SPURT (average) – QUADRANT 557



Type of piping: Grey cast iron Diameter: DN 125
Type of leak: ☒ NETWORK ☐ CONNECTION ☐ VALVE ☐ HYDRANT



Leak in main line on Via dei Bentivoglio near no. 30

LEAK SPURT (average) – QUADRANT 523



Type of piping: Steel Diameter: DN 150
Type of leak: ☒ NETWORK ☐ CONNECTION ☐ VALVE ☐ HYDRANT



Leak (in a well) on Via Gregorio XI

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Leak research activities for Acea

Results

- Around 100 leaks identified
- 70% of leaks in the main network
- 20% of leaks in user connections
- 10% of leaks from valves or hydrants



Leak research activities for Acea

Operational observations

- Organisation of plans before starting operations
- Find control points with criterion
- Systematic archiving and analysis of data
- There must be a good 3G signal within the zone
- There must be a good radio signal (FM)
- Not all alarms are necessarily leaks
- Correlations performed with Hydroport and LOG 3000 achieve the same result



**THANK YOU
FOR YOUR
ATTENTION**

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