

5th WATER LOSS
Balkans Forum and
Exhibition

envirotronic

ECHIPAMENTE ȘI TEHNOLOGII AVANSATE

LUCIAN GAVRILESCU - DIRECTOR GENERAL

MONITORIZAREA REȚELELOR DE DISTRIBUȚIE APĂ PENTRU
DEPISTAREA PIERDERILOR DE APĂ FOLOSIND LOGGERII DE
ZGOMOT HWM PERMANENT SU, PRIN TEHNICA
LIFT & SHIFT



S T U D I I D E C A Z :
A q u a t i m T i m i ș o a r a ș i A p a s e r v S a t u M a r e

ISTORIC

2007 - Infiintare companie

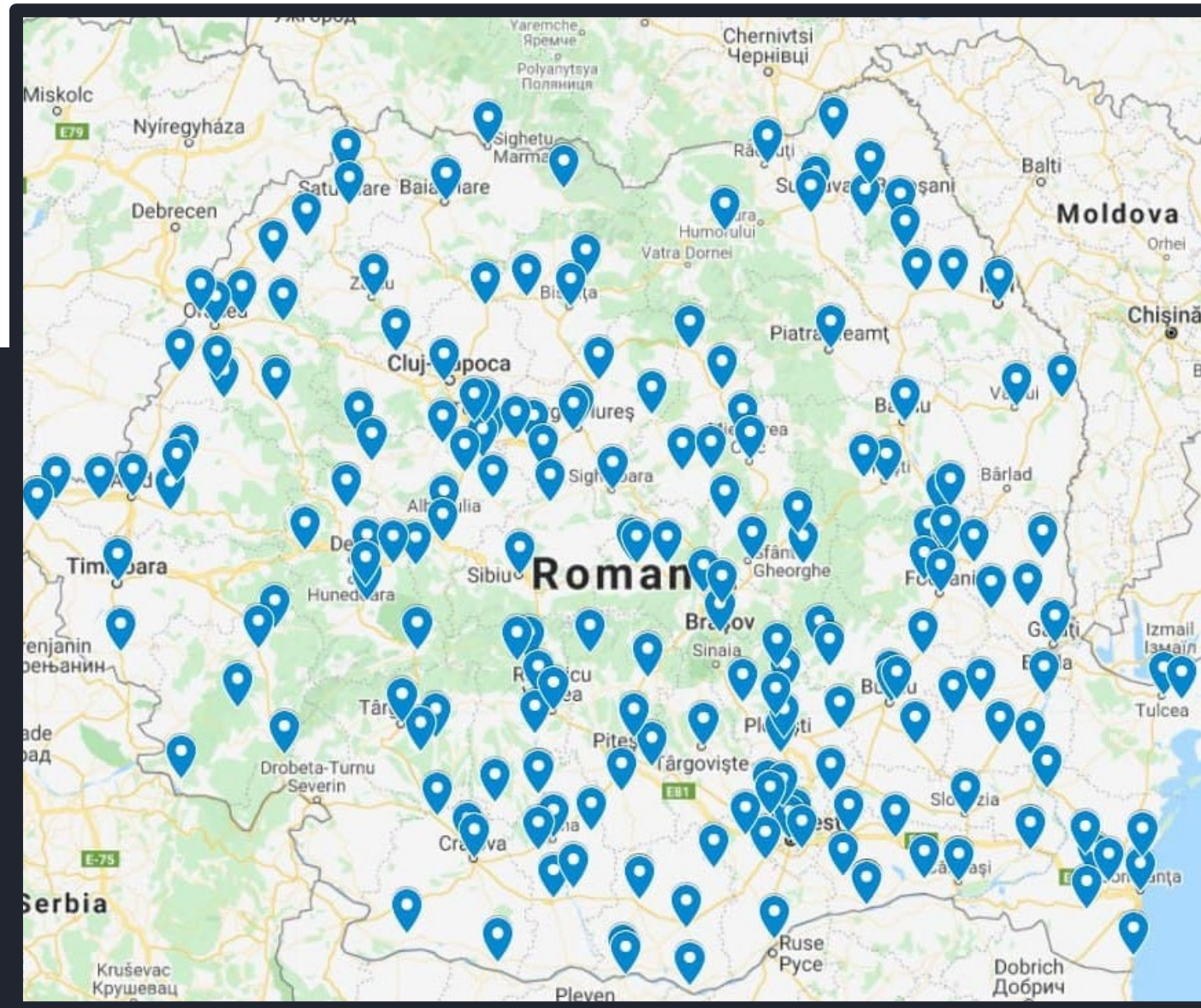
2008 - Instrumentatie de proces SE, ST
WTW Germania (Xylem Analytics)



Aparatura de laborator – producatori UE

2018 - Pierderi de apa si monitorizare retele
HWM UK (Halm a Group)





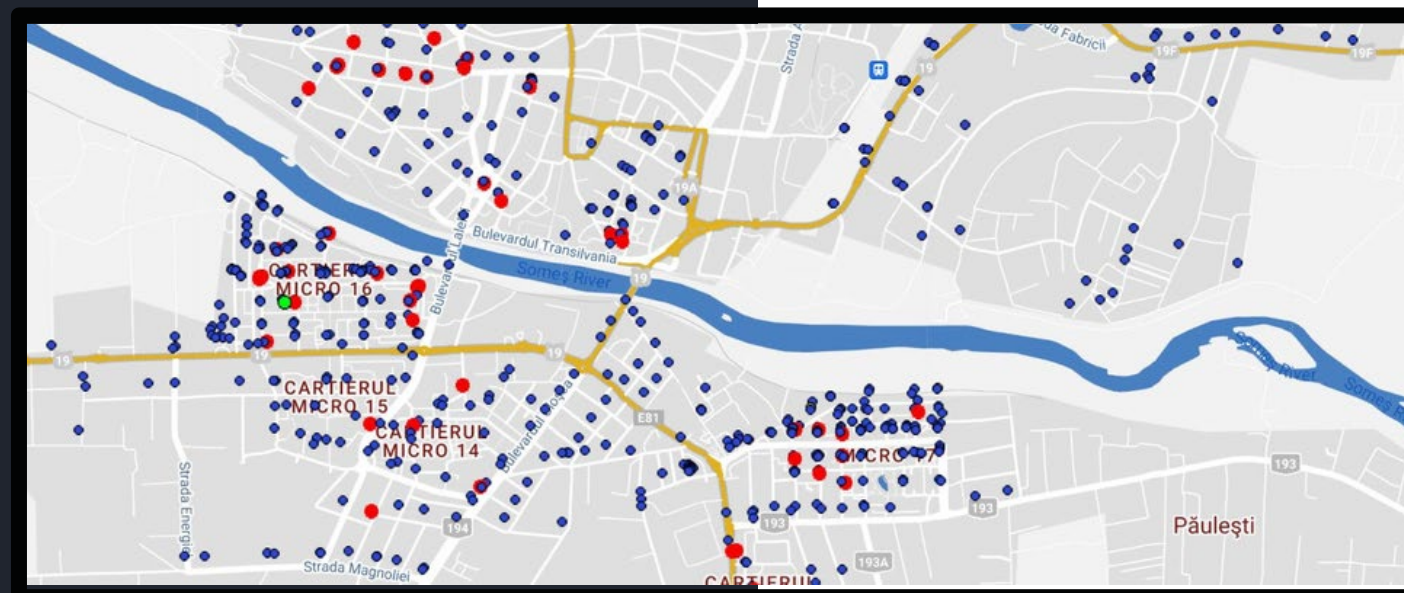
ISTORIC

INSTRUMENTATIE DE PROCES SI LABORATOARE

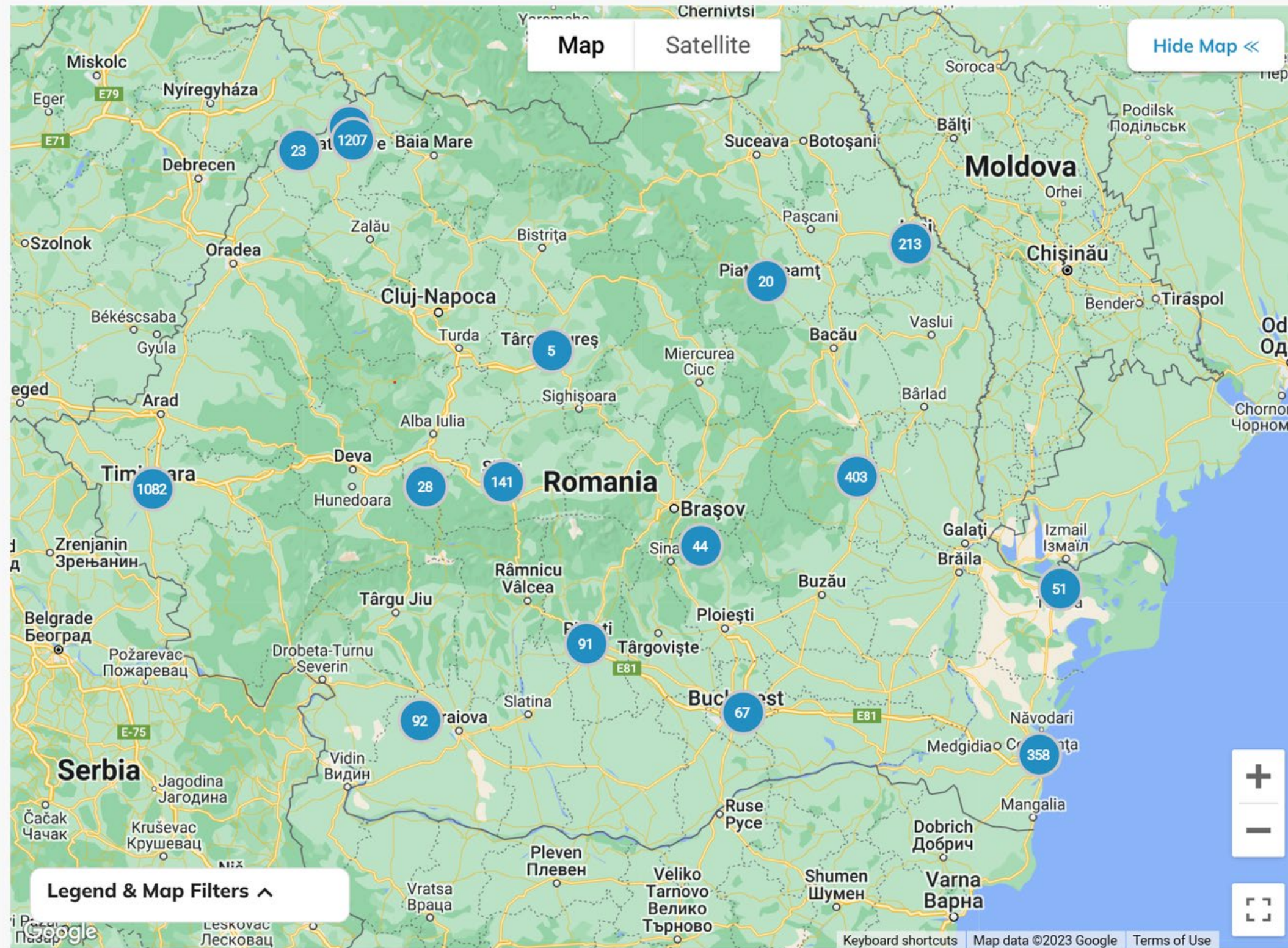
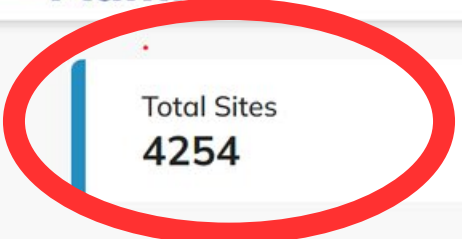
> 400 Statii de epurare si tratare

LOCATII INSTALARE LOGGERI DE ZGOMOT, DEBIT SI PRESIUNE

> 4000 Locatii analizate si monitorizate



Site Statistics:





DETECȚIA PIERDERILOR DE APĂ



PRELOCALIZARE - PERMANENT SU
SAU
MONITORIZARE SI DETECTIE PIERDERI



CORELATOR DE TEREN - TOUCH PRO



MICROFON DE SOL - DX MIC



PERMANET SU

LOGGER VERSATIL: RETEA PERMANENTA



LIFT & SHIFT





PERMANET SU



IP 68

MODEM NBIOT, LTE - CAT M1
GPRS- 2G, 3G, 4G, SMS



BLUETOOTH BLE 5.0



COMUNICATIE BIDIRECTIONALA

PERMANETWEB - APLICATIE WEB
PIERDERI





RETEA PERMANENTA - GIS

AUTOCORELARI PENTRU IDENTIFICAREA CU PRECIZIE A PIERDERILOR

CERINTE

FISIERE GIS ACTUALIZATE
(TRONSOANE, MATERIALE,
REPARATII)



UN NUMAR SUFICIENT DE
MARE LOGGERI
(3 - 6 LOGGERI/KM)



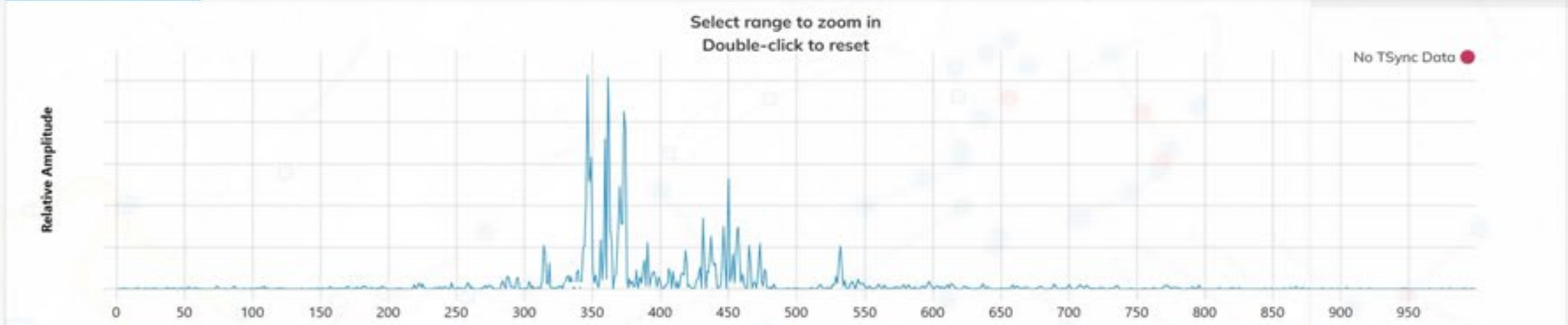
Strada Fochistilor 28, Sibiu 557260, Romania AND Strada Ceferistilor 35, Sibiu 557260, Romania

Recordings 03/08/2023 02:30:00 x Create manual correlation Back to Correlations List

GIS, Confidence: 88%

PDF

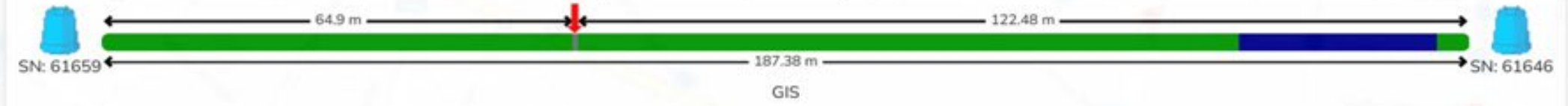
DISTANCE GRAPH COHERENCE HISTOGRAM PIPE DETAILS SITE DETAILS LNS



Caution - Mixed Diameter Units Detected - Insert Pipes Manually

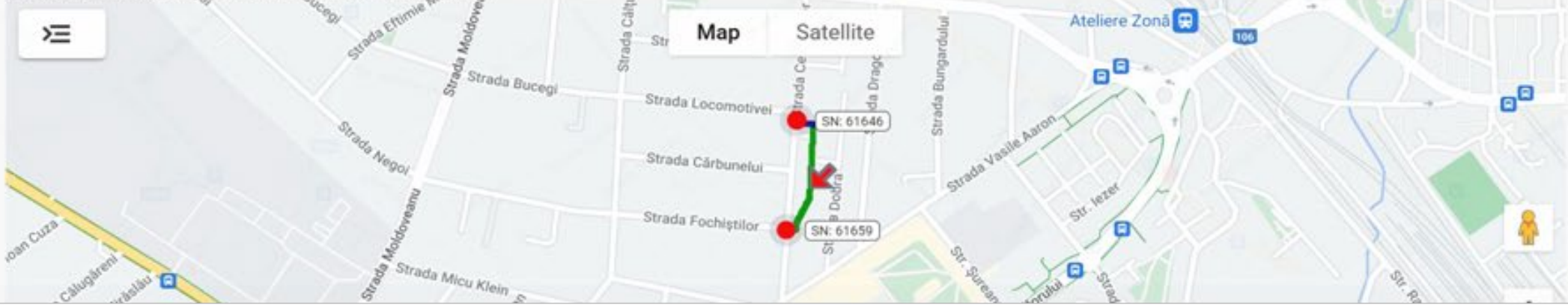
Go to pipes

Leak position: 45.78715, 24.16987 | 03/08/2023 02:30:00



Auto Filters Manual Filters 0 500 Apply

Data on the map displays state from 04/08/2023 02:48:36

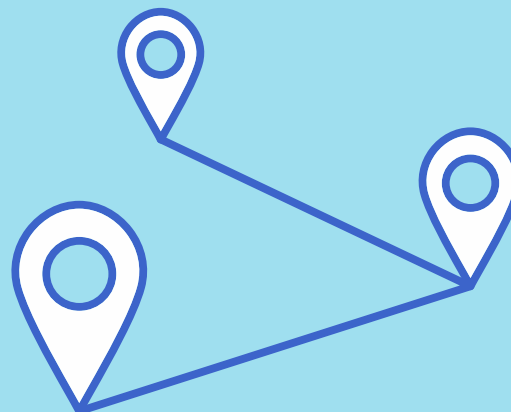




LIFT & SHIFT

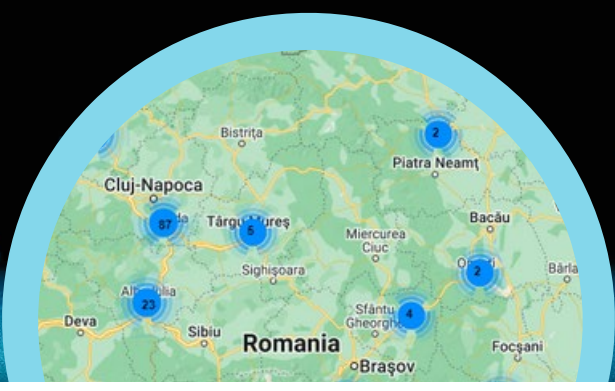
INSTALARE SIMPLA PRIN
SCANARE COD BARE CU
TELEFONUL SAU TABLETA

RELOCARE DUPA
CATEVA ZILE

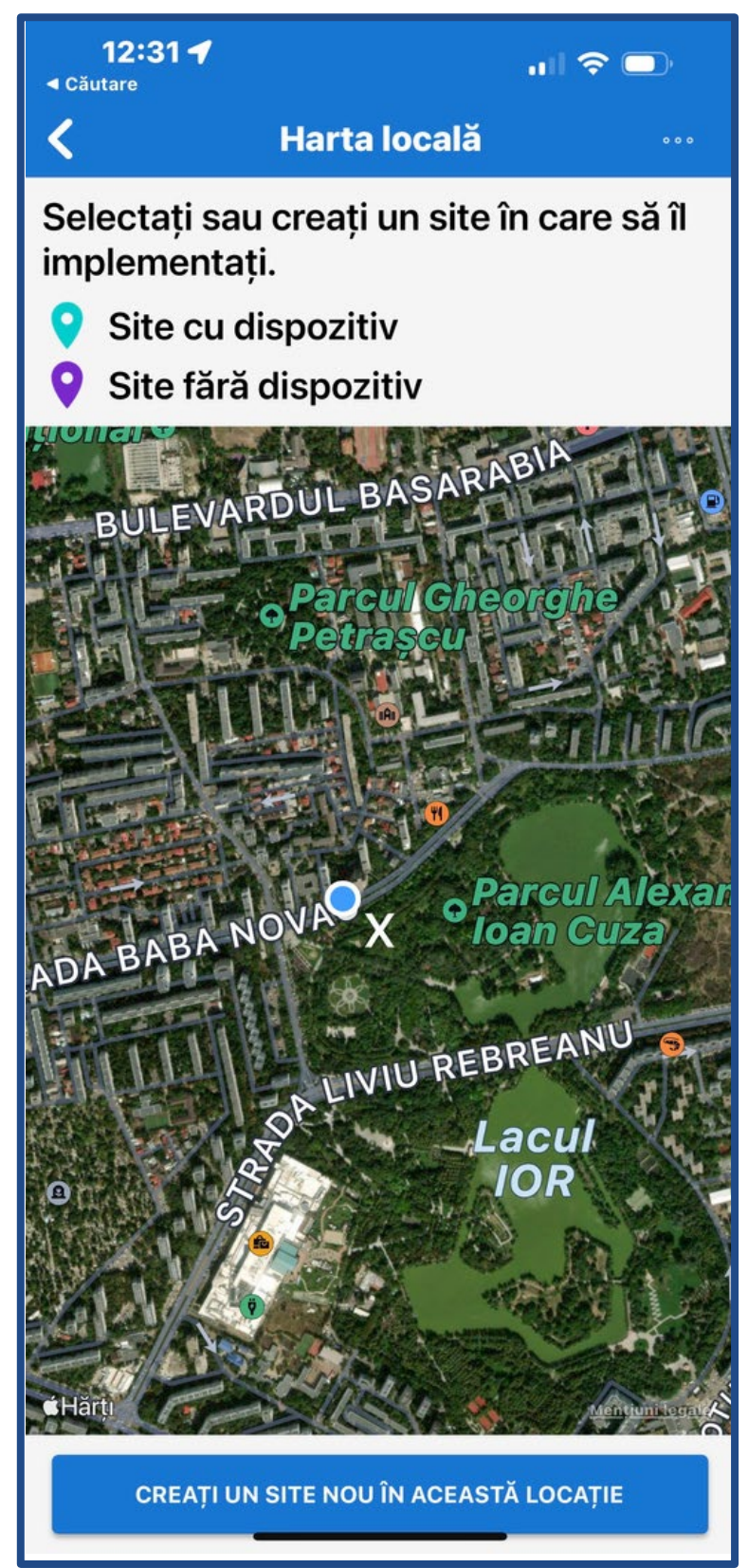
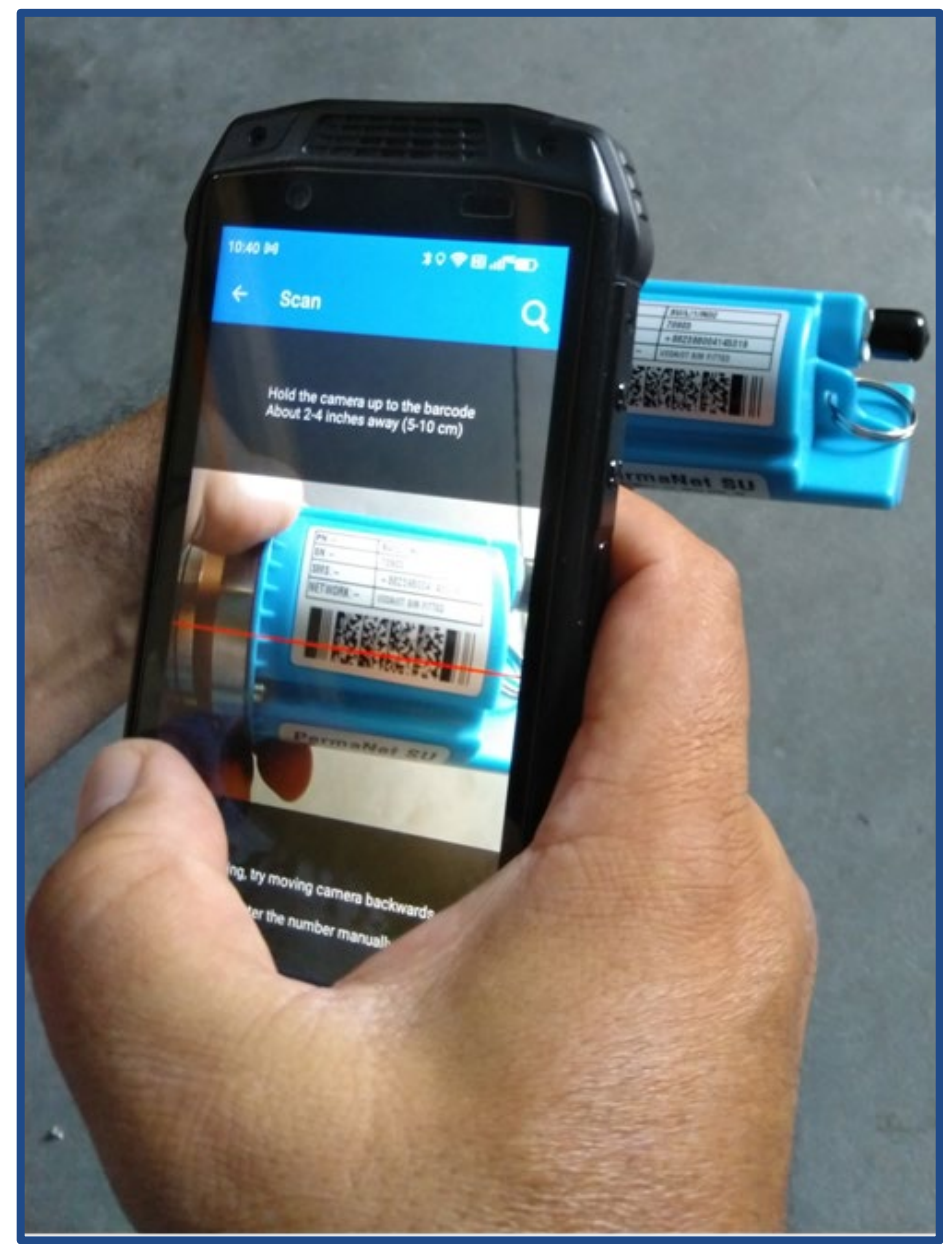
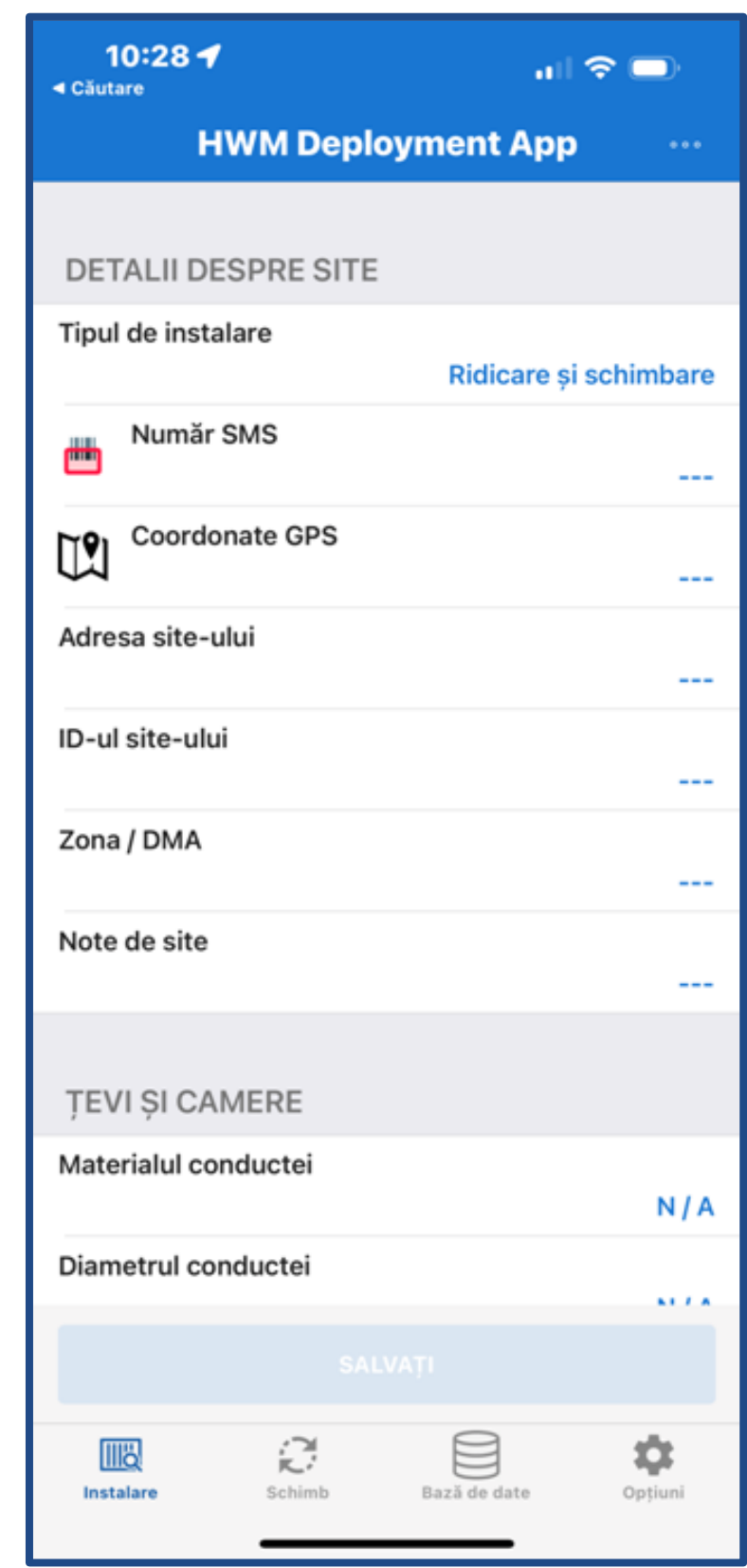


PASTREAZA DATELE DIN
LOCATIILE UNDE AU MAI
FOST INSTALATI (pozitie GPS,
stare, fisier sunet)



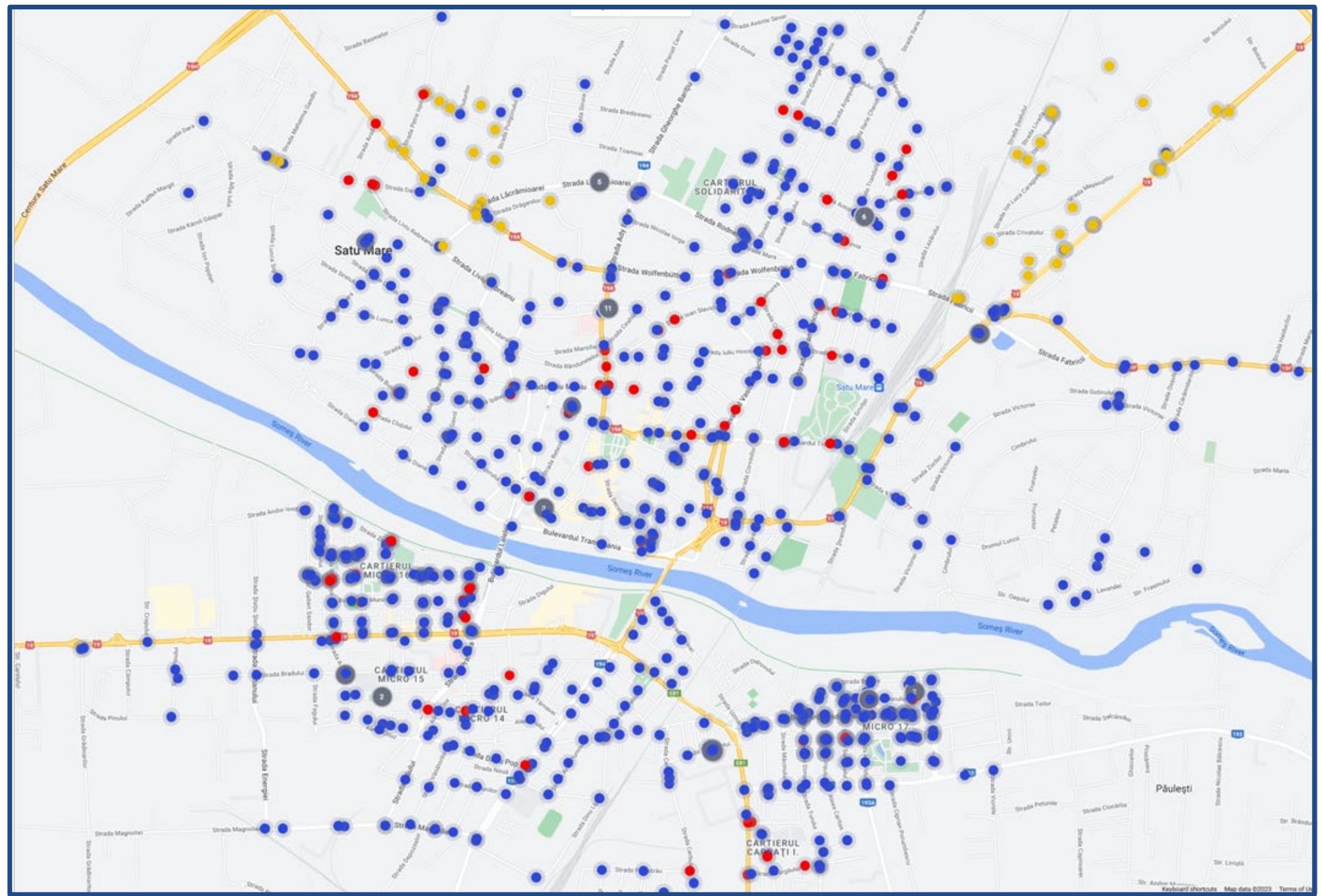


LIFT & SHIFT

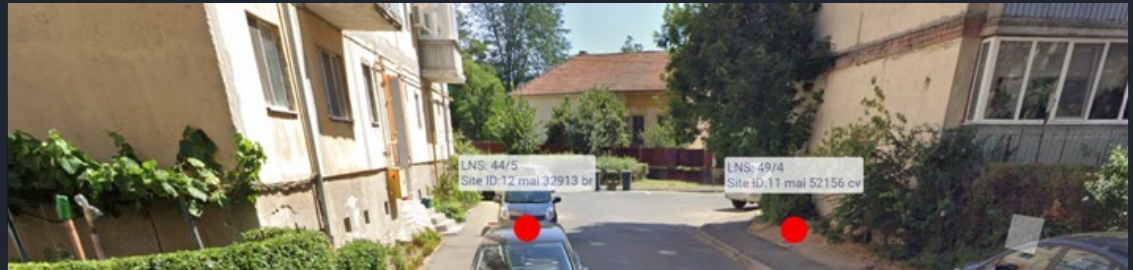
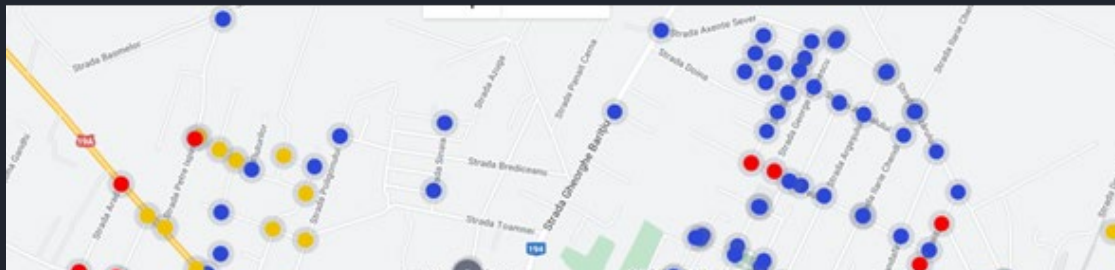




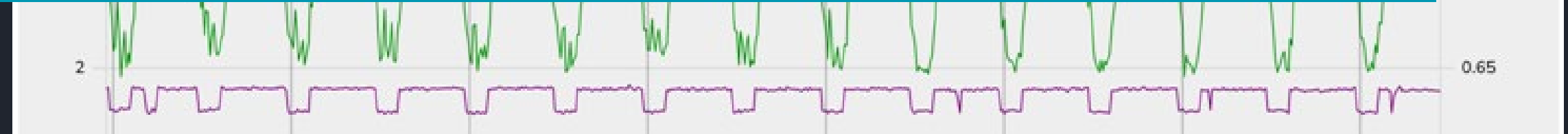
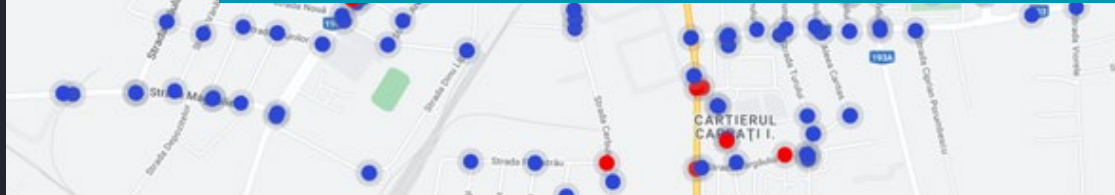
LIFT & SHIFT



STUDII DE CAZ



AQUATIM SA Timisoara APASERV Satu Mare SA



STUDIU DE CAZ

AQUATIM SA TIMISOARA

Creare DMA-uri

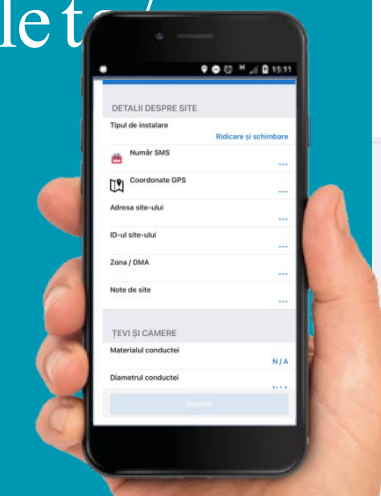
Data inceput: Februarie 2023

LIFT & SHIFT

65 Loggeri Permanent SU cu Bluetooth,
NBloT si 2G



Instalati cu aplicatie Deployment din Tablet /
Telefon



Relocati la cateva zile

DMAs

Sites

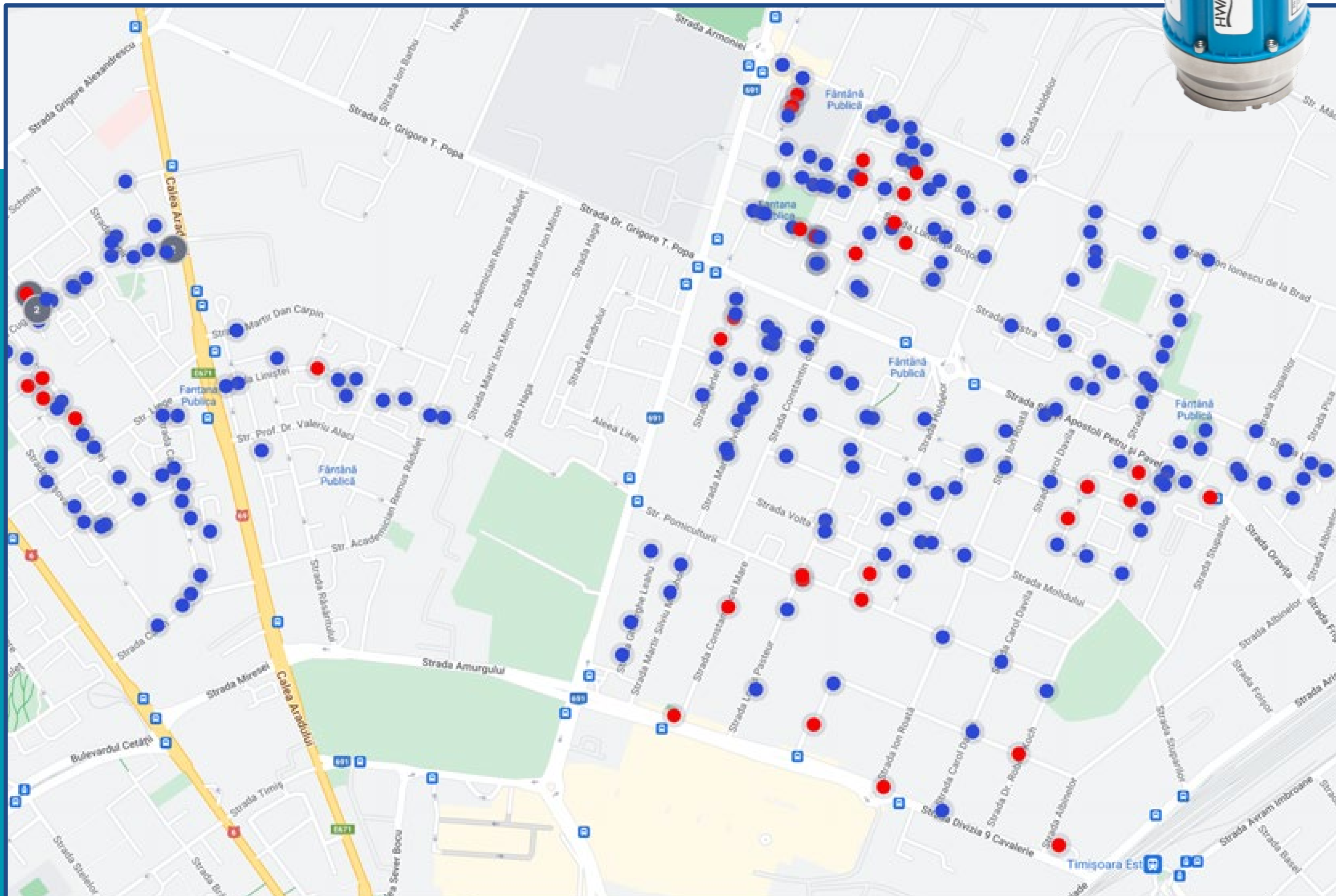
Search DMA...

	DMA	Sites	Quiet	In Leak
Actions	AQUATIM PRESIUNI	21	1	2
Actions	DMA 1 LIPOVEI ARADU...	331	5	39
Actions	DMA 2 GARA MICA	1	0	1
Actions	DMA 3 PLOPI	0	0	0
Actions	DMA 5 STADION, OLIM...	442	3	38
Actions	DMA 6 STEAUA, JUDET...	245	15	16
Actions	DMA.7 FREIDORF TM	0	0	0
Actions	DMA 8 RONAT, BLASC...	0	0	0
Actions	DMA 9 CENTRU, UNIRI...	0	0	0

STUDIU DE CAZ AQUATIM SA TIMISOARA

Peste 1000 de
instalari

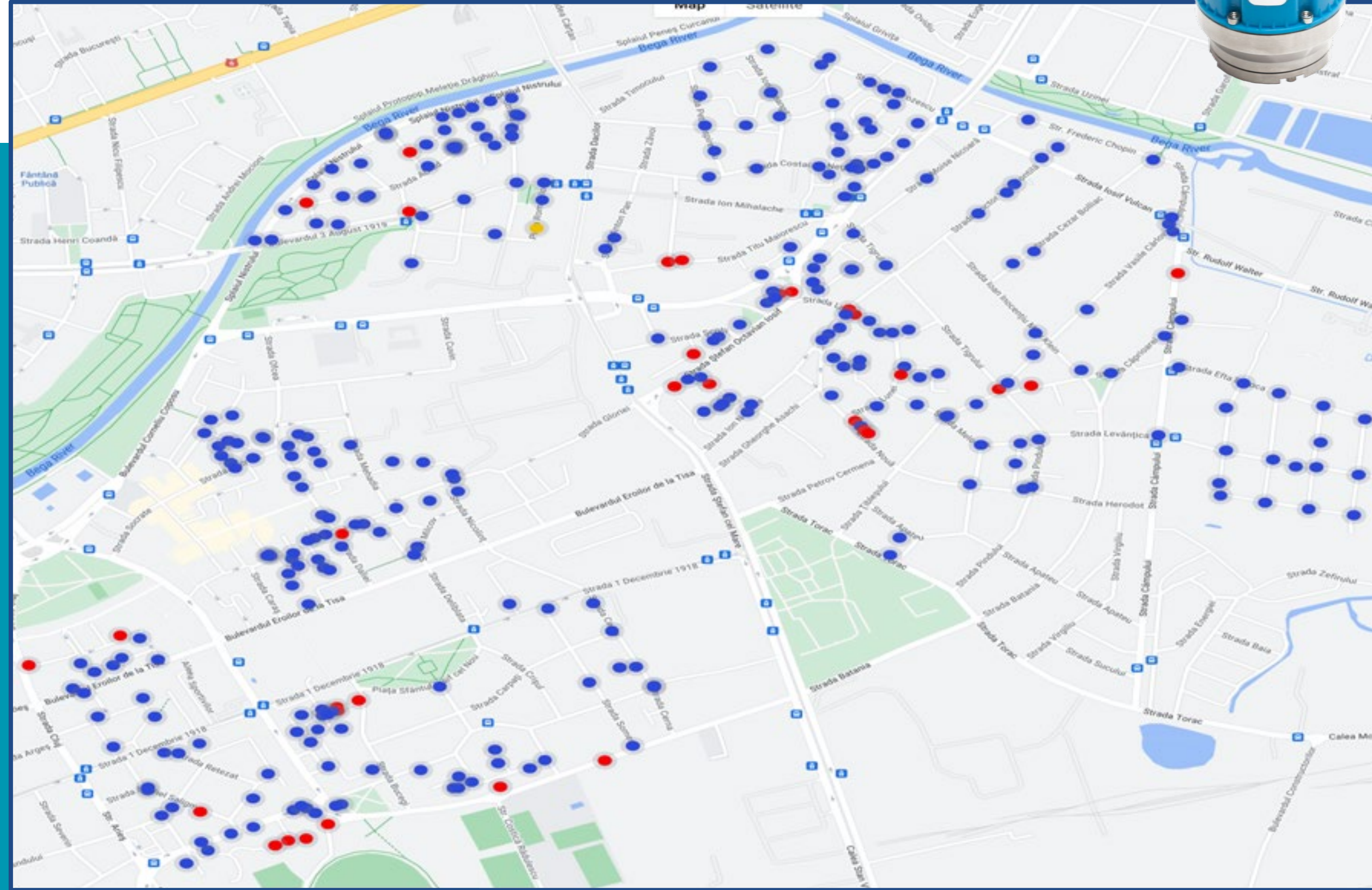
DMA 1 Lipovei



STUDIU DE CAZ AQUATIM SA TIMISOARA

Peste 1000 de
instalari

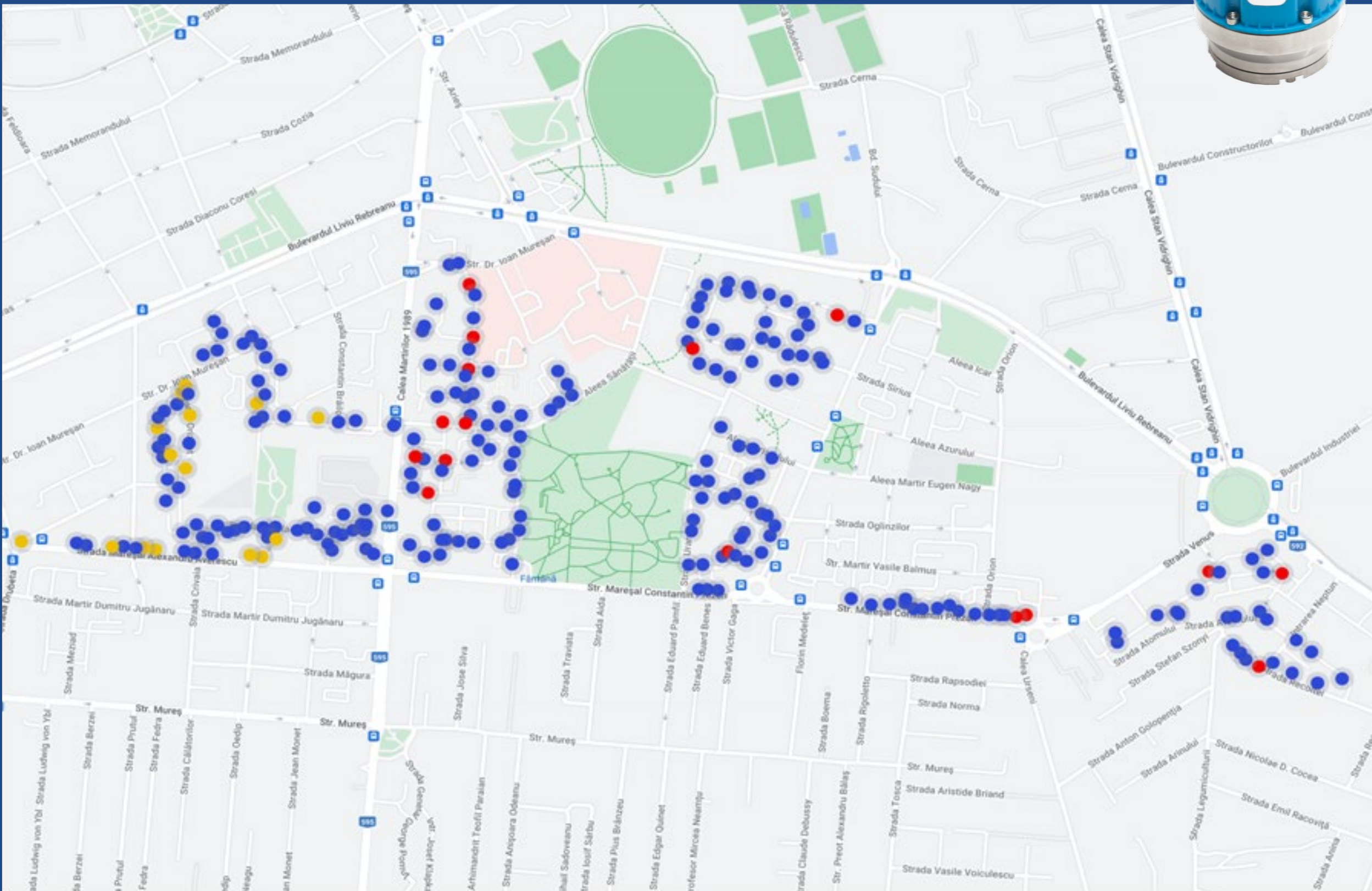
DMA 5 STADION



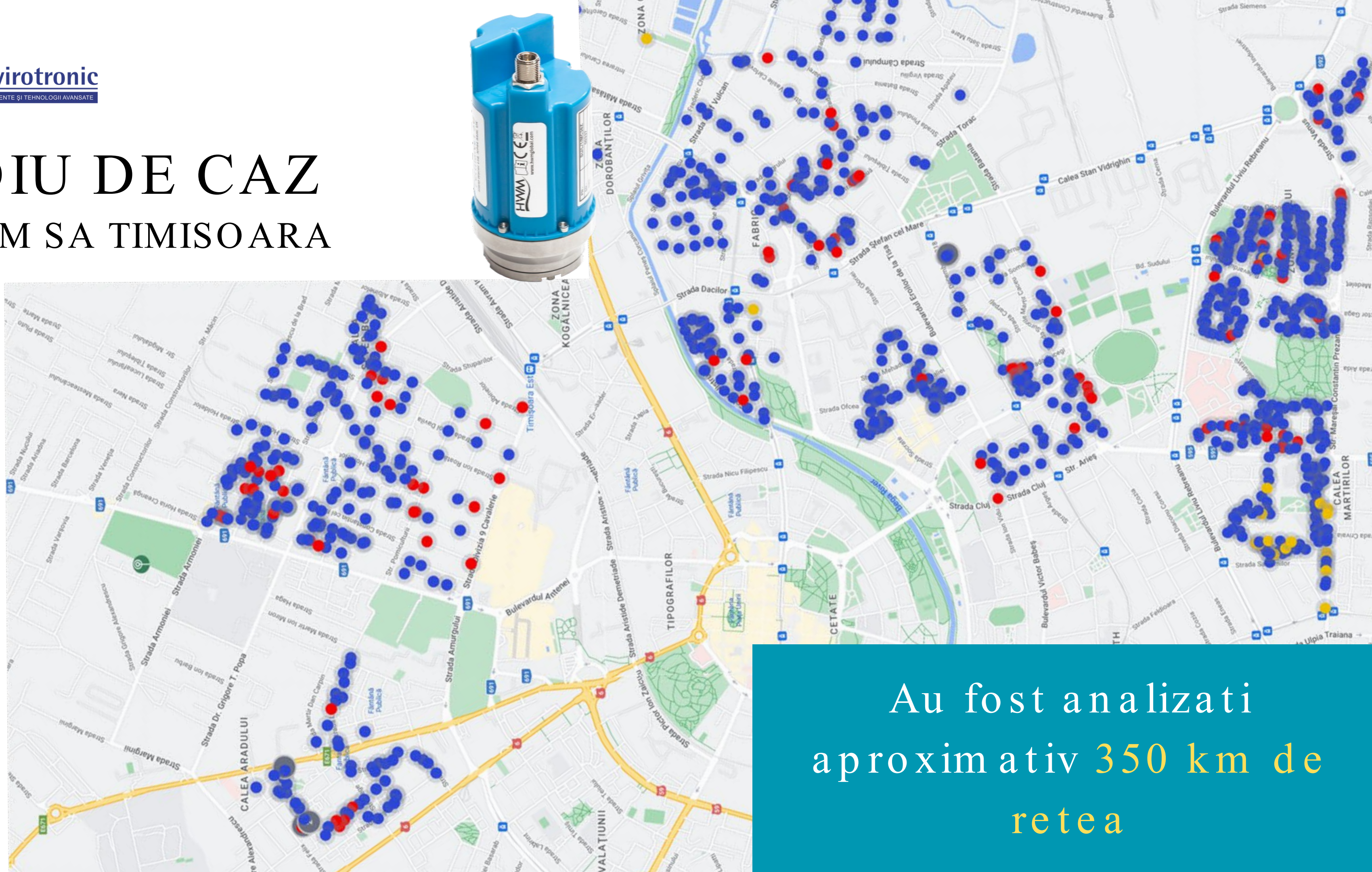
STUDIU DE CAZ AQUATIM SA TIMISOARA

Peste 1000 de
instalari

DMA 6 SEAUA



STUDIU DE CAZ AQUATIM SA TIMISOARA



Au fost analizati
aproximativ 350 km de
retea

STUDIU DE CAZ AQUATIM SA TIMISOARA

GOOGLE MAPS -
Street View

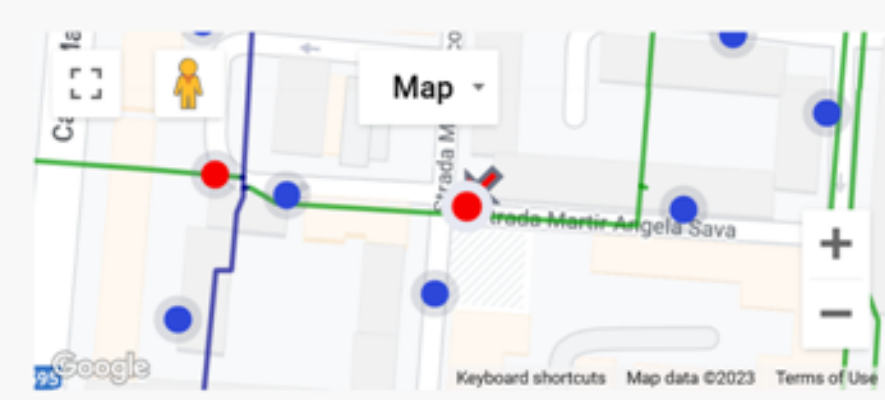


STUDIU DE CAZ AQUATIM SA TIMISOARA



GOOGLE MAPS -
Street View





STUDIU DE CAZ AQUATIM SA TIMISOARA

Inregistrare pierderi



Main site: Strada Elena Nicoară 3, ...

Associated sites: undefined x Clear

Leak alarm date: 08/17/2023 3:18 PM

Leak confirmed date: 08/21/2023 12:00 AM

Leak repair date: 08/23/2023 12:00 AM

Notes History:

Leak type: Main	Operating pressure: 2.3 <input type="radio"/> Psi <input checked="" type="radio"/> Bar
Pipe size: 150mm <input checked="" type="radio"/> cm <input type="radio"/> inches	Leak size: 3 <input checked="" type="radio"/> cm <input type="radio"/> inches
Pipe material: Steel	Leak volume per minute: 763.88 <input checked="" type="radio"/> Litres <input type="radio"/> Gallons <input type="radio"/> Cubic Metres
Leak shape: Hole	Cost per thousand: £ 0.53 <input checked="" type="radio"/> Litres <input type="radio"/> Gallons <input type="radio"/> Cubic Metres

Estimated Gallons Lost: 1297527.66	Annualised Gallons Saved: 88375171.49
Cost of Leak: £ 3126.29	Annualised Savings From Repair: £ 212932.86

STUDIU DE CAZ AQUATIM SA TIMISOARA



Leak type: Main	Operating pressure: 2.3 <input type="radio"/> Psi <input checked="" type="radio"/> Bar
Pipe size: 125mm <input checked="" type="radio"/> cm <input type="radio"/> inches	Leak size: 1 <input checked="" type="radio"/> cm <input type="radio"/> inches
Pipe material: High Density Polyethylene	Leak volume per minute: 83.42 <input checked="" type="radio"/> Litres <input type="radio"/> Gallons <input type="radio"/> Cubic Metres
Leak shape: Hole	Cost per thousand: £ 0.53 <input checked="" type="radio"/> Litres <input type="radio"/> Gallons <input type="radio"/> Cubic Metres

Estimated Gallons Lost: 220970.70	Annualised Gallons Saved: 9651159.89
Cost of Leak: £ 532.41	Annualised Savings From Repair: £ 23253.69

Calcul economisire apa la repararea unei pierderi descoperite:

Gaura 1 cm, presiune 2.3 bar

9.651.159 Galoane = 43.875 m³ = 131.625 Lei

STUDIU DE CAZ AQUATIM SA TIMISOARA



Leak type:
Main

Operating pressure:
2.3 Psi Bar

Pipe size:
150mm cm inches

Leak size:
2 cm inches

Pipe material:
Steel

Leak volume per minute:
342.37 Litres Gallons Cubic Metres

Leak shape:
Hole

Cost per thousand:
£ 0.53 Litres Gallons Cubic Metres

Estimated Gallons Lost:
581543.82

Annualised Gallons Saved:
39609201.72

Cost of Leak:
£ 1401.18

Annualised Savings From Repair:
£ 95435.18

Calcul economisire apa la repararea unei pierderi descoperite:

Gaura 2 cm, presiune 2.3 bar

39.609.201 Galoane = 149.937 m³ = 449.801 Lei

STUDIU DE CAZ AQUATIM SA TIMISOARA



Leak type: Main	Operating pressure: 2.3 <input type="radio"/> Psi <input checked="" type="radio"/> Bar
Pipe size: 150mm <input checked="" type="radio"/> cm <input type="radio"/> inches	Leak size: 3 <input checked="" type="radio"/> cm <input type="radio"/> inches
Pipe material: Steel	Leak volume per minute: 763.88 <input checked="" type="radio"/> Litres <input type="radio"/> Gallons <input type="radio"/> Cubic Metres
Leak shape: Hole	Cost per thousand: £ 0.53 <input checked="" type="radio"/> Litres <input type="radio"/> Gallons <input type="radio"/> Cubic Metres

Estimated Gallons Lost: 1297527.66	Annualised Gallons Saved: 88375171.49
Cost of Leak: £ 3126.29	Annualised Savings From Repair: £ 212932.86

Calcul economisire apa la repararea unei pierderi descoperite:

Gaura 3 cm, presiune 2.3 bar

88.375.171 Galoane = 334.536 m³ = 1.003.608 Lei

CONCLUZII STUDIU DE CAZ

7 luni

350 km

10 15 locatii

95 loggeri in
pierdere

60 pierderi
identificate



**ECONOMII
ANUALE
ESTIMATE**



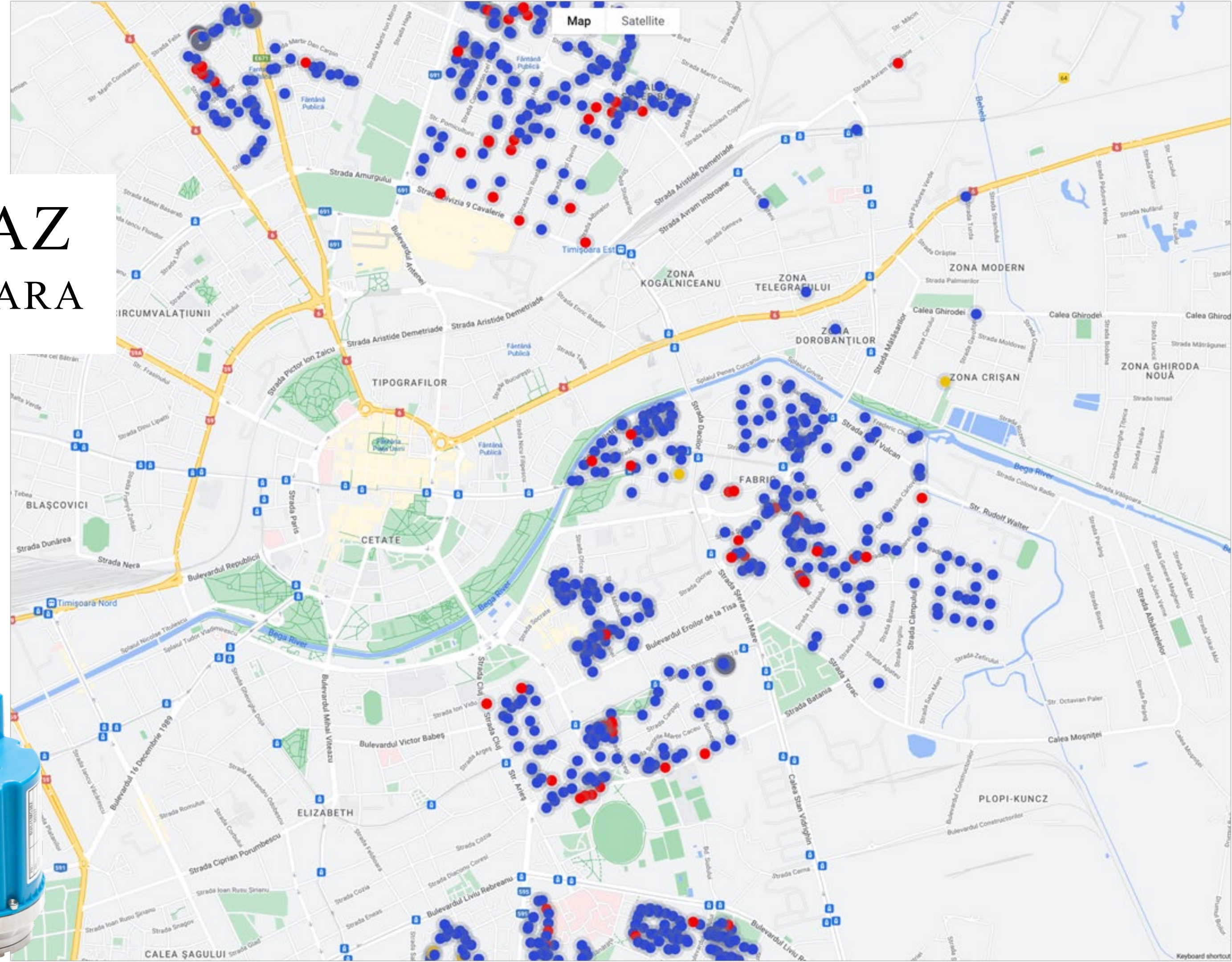
Minim 9 mil. m³ apă
salvata



Minim 27 mil. LEI
economisiti



STUDIU DE CAZ AQUATIM SA TIMISOARA



STUDIU DE CAZ

APASERV SATU MARE SA

Durata derulare proiect: Nov. 2022 -
Aprilie 2023

50 Loggeri PermaNet SU

HWM DATAGATE



SpillGuard

It's a dedicated online portal for the monitoring and fleet management of HWM's unique multi-level alert system.

> SIGN IN



DataView

HWM's DataView provides viewing and analytics on the full range of HWM telemetry monitors.

> SIGN IN



Maintenance

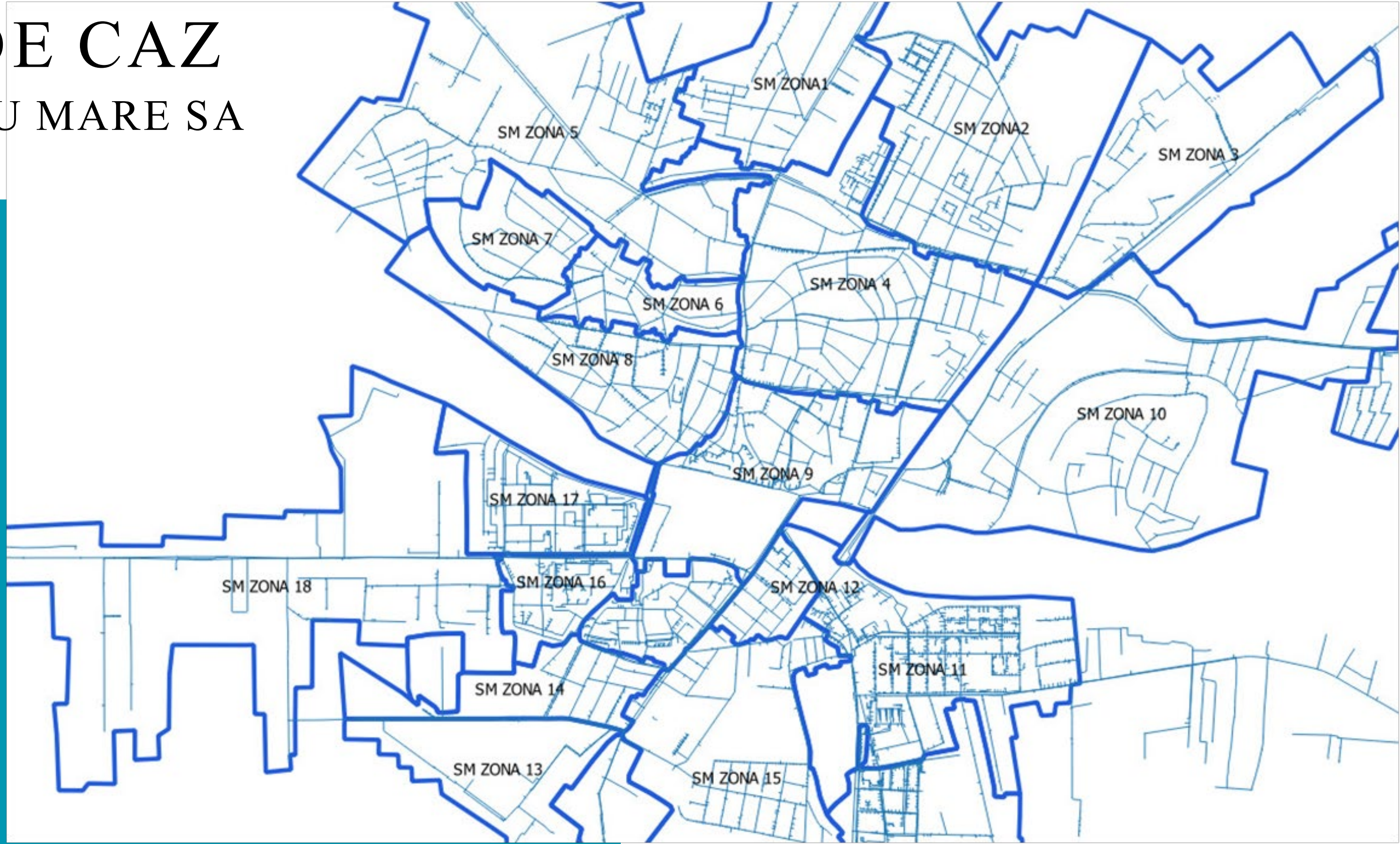
Manage and maintain HWM assets from the comfort of your desk.

> SIGN IN

STUDIU DE CAZ

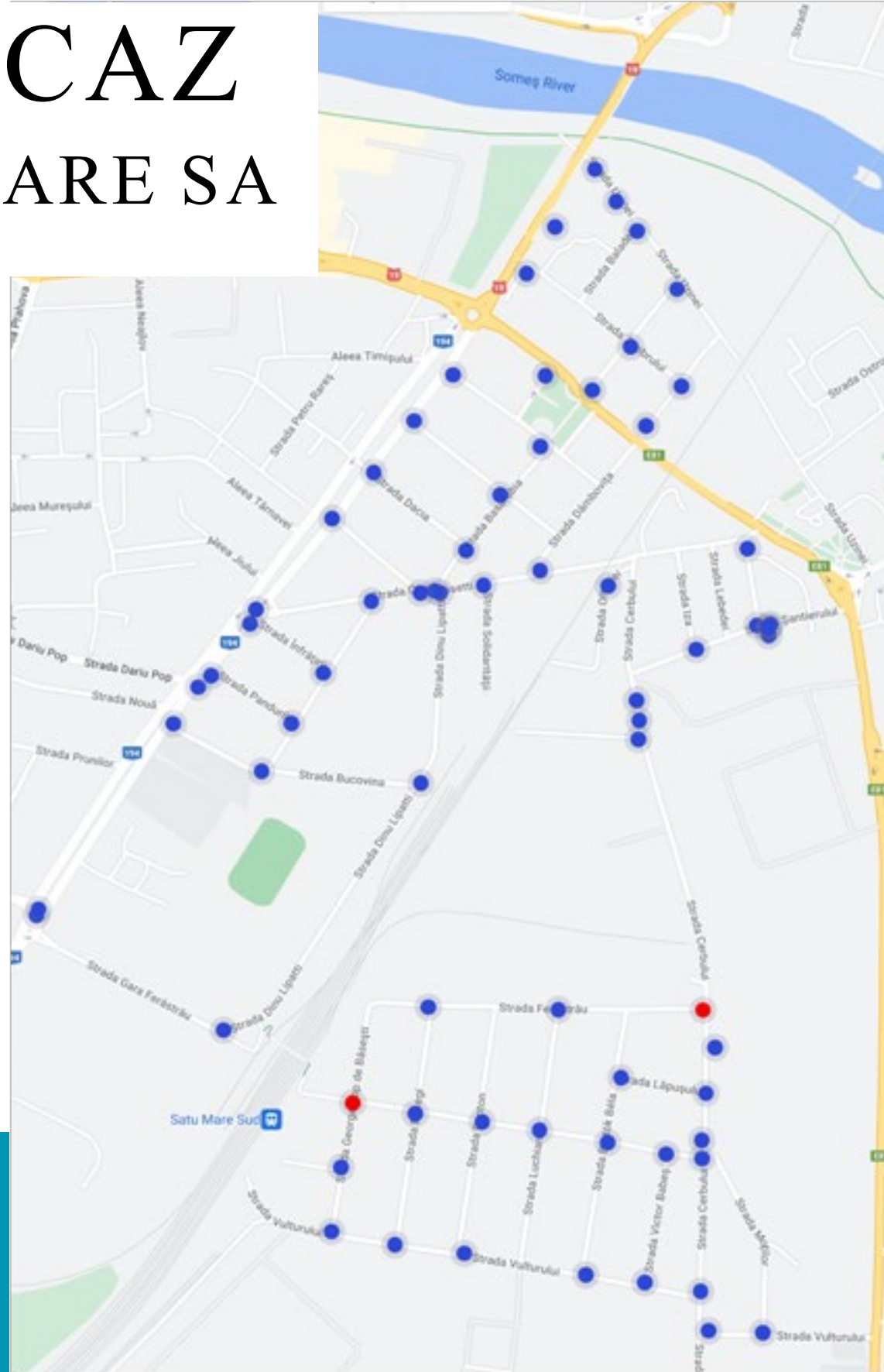
APASERV SATU MARE SA

20 DMA-uri

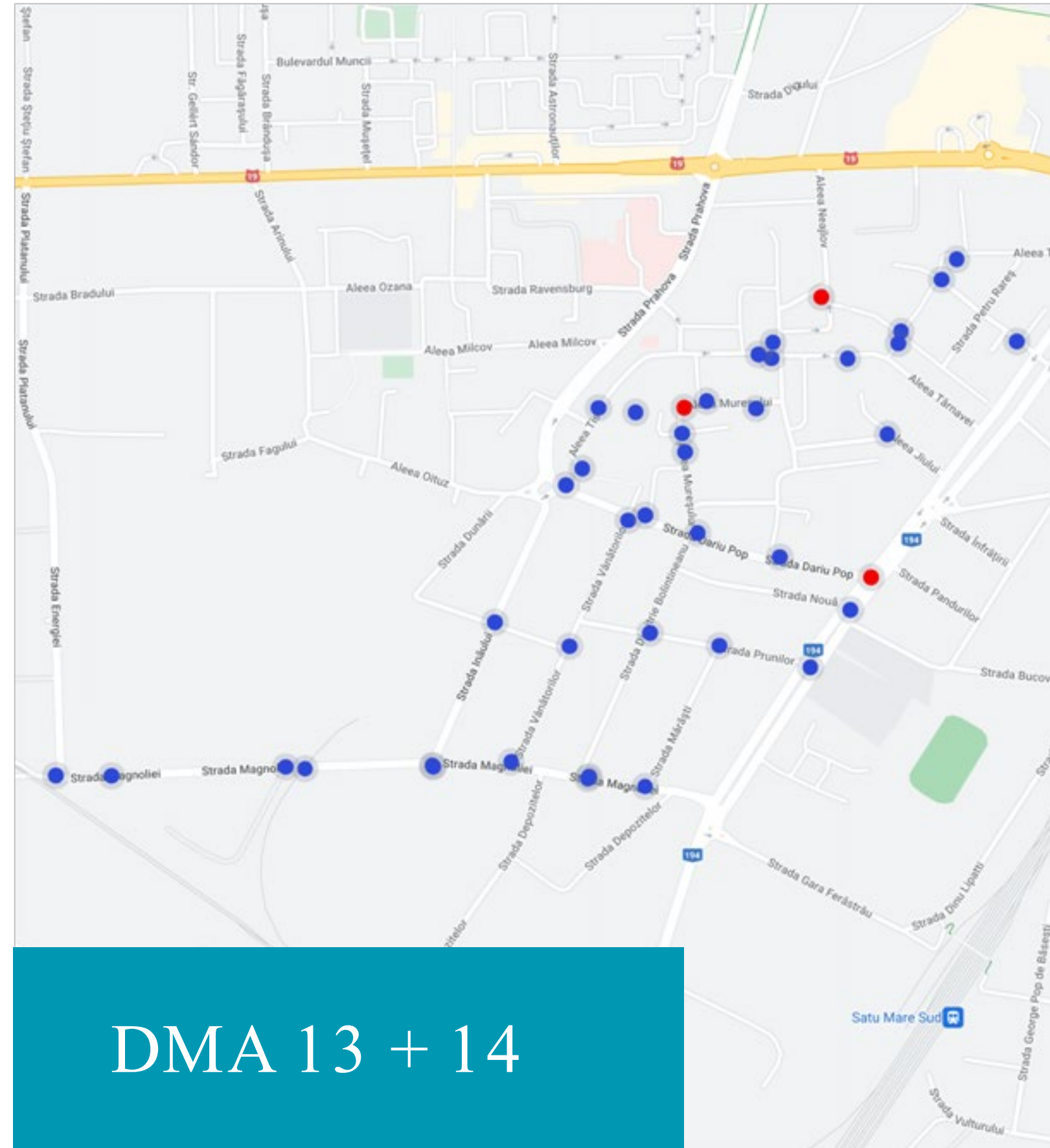


STUDIU DE CAZ

APASERV SATU MARE SA



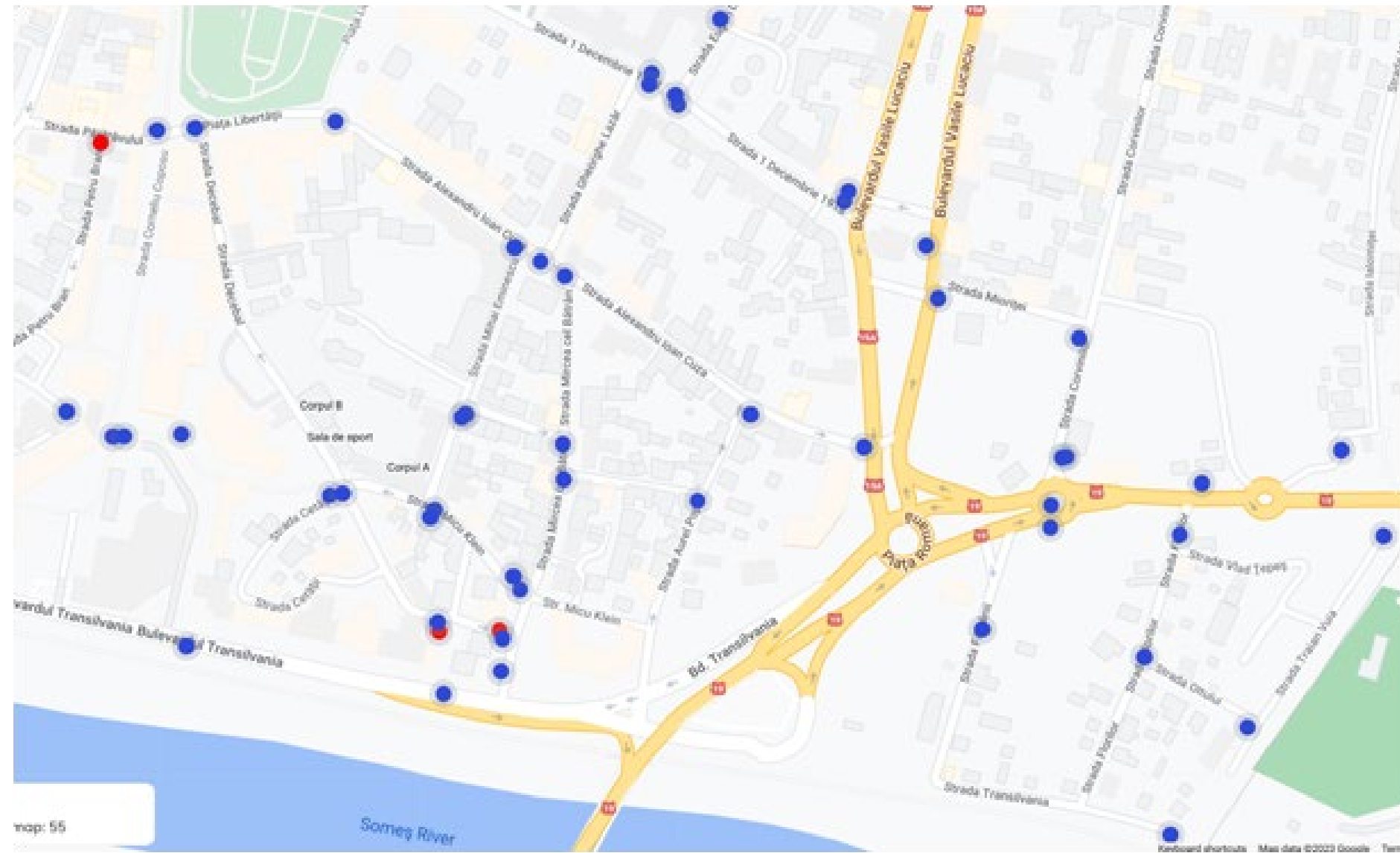
DMA 12 + 15



DMA 13 + 14

STUDIU DE CAZ

APASERV SATU MARE SA



DMA 9

DMA 17

STUDIU DE CAZ

APASERV SATU MARE SA

DMA 4





STUDIU DE CAZ APASERV SATU MARE SA

oard **New Leaks** Map Sites LNS Correlations Leak Records Settings GIS Management

Account: ENVIROTRONIC

Strada Gabriel Georgescu 46, Satu Mare, Romania ☆

Site photos

Search by Address, ID, Serial or SMS

Called in

Map Satellite

Legend

- No leak
- Quiet
- Investigation Ongoing
- Awaiting repair
- Investigation cleared
- Red border or fill indicates leak

Sites on the map: 3585

16/65637_1673013499_1

PESTE 1100
CAMINE
MONITORIZATE

LOGGERI IN **PIERDERE** - ANALIZA SUP LIMENTARA

Vizualizare camine de canalizare

Utilizare corelator HWM

Utilizare microfon de sol HWM



STUDIU DE CAZ

APASERV SATU MARE SA



Corelator HWM



Microfon HWM

STUDIU DE CAZ

APASERV SATU MARE SA

Localizarea
precisa a
pierderii



STUDIU DE CAZ

AP ASERV SATU MARE SA

PIERDERI

BRANSAMENTE
PRESETUPE VANE
CONDUCTE



MONITORIZARE DEBIT NOCTURN PLECARE ST DUMINICA 03:00

STUDIU DE CAZ

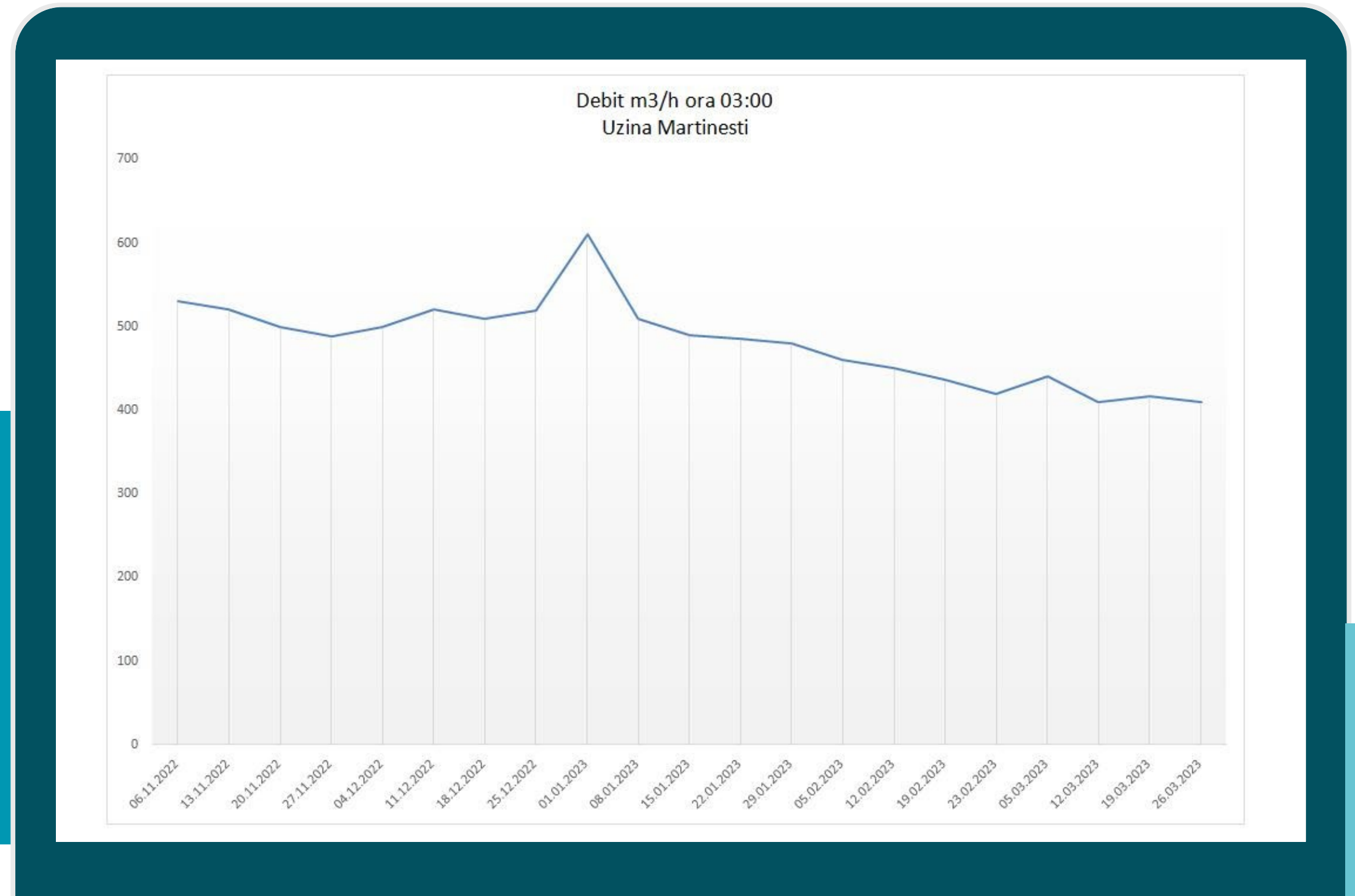
APASERV SATU MARE SA

Valori initiale: 530 m³/h

Valori finale: 410 m³/h

Debit minim : 390 m³/h

(13.03.2023, 03:00)



CONCLUZII STUDIU DE CAZ

6 luni

320 km

1100 camioane

83 loggery in
pierdere

53 pierderi
identificate



ECONOMII ANUALE REALE



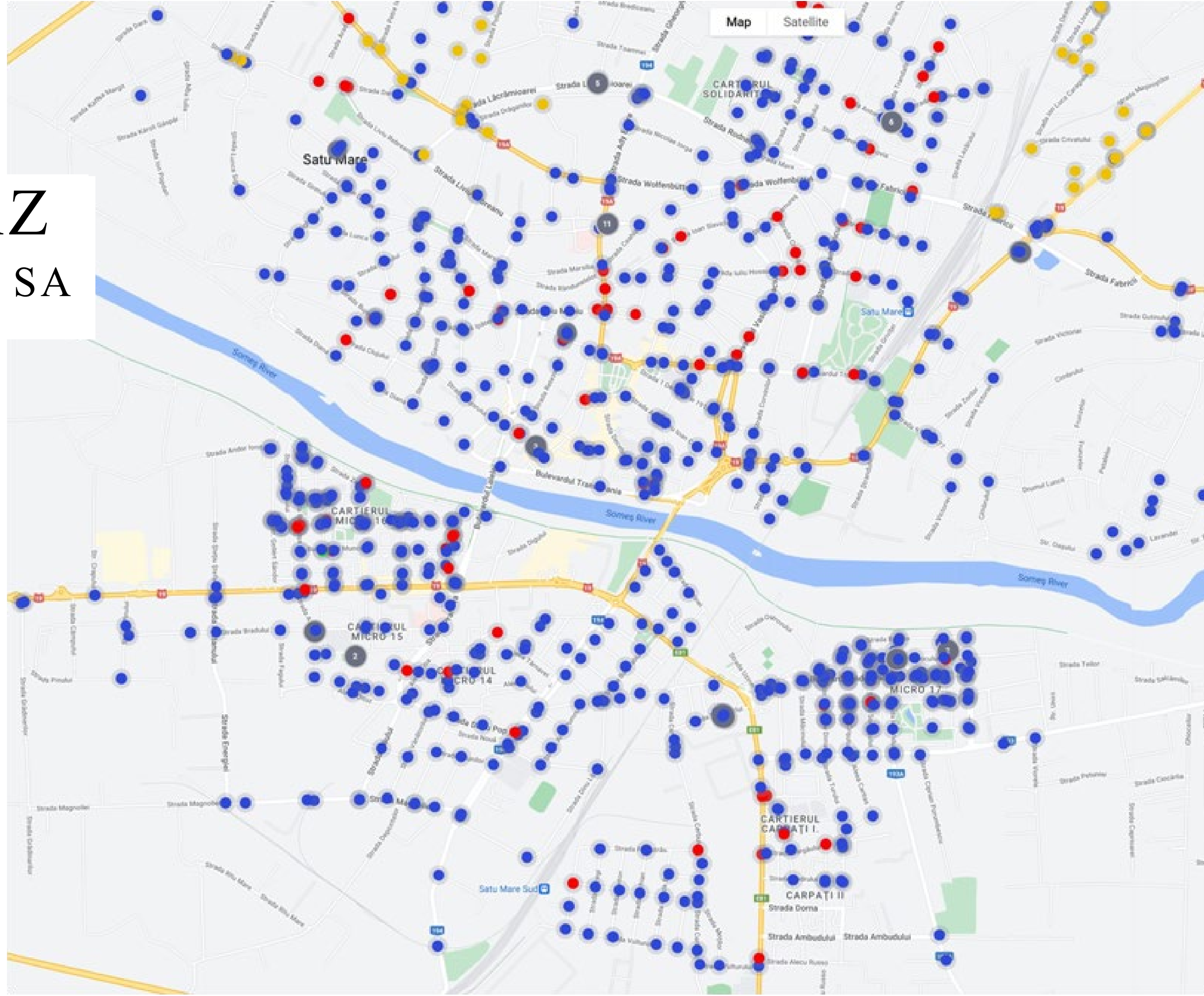
Minim 120 m³/h =
1 mil. m³ apa salvata

Minim 3 mil. LEI
economisiti



STUDIU DE CAZ

APASERV SATU MARE SA





CONCLUZII GENERALE



Reducerea pierderilor

=

Cresterea presiunii

=

Aparitia unor noi pierderi

SOLUTIA ?

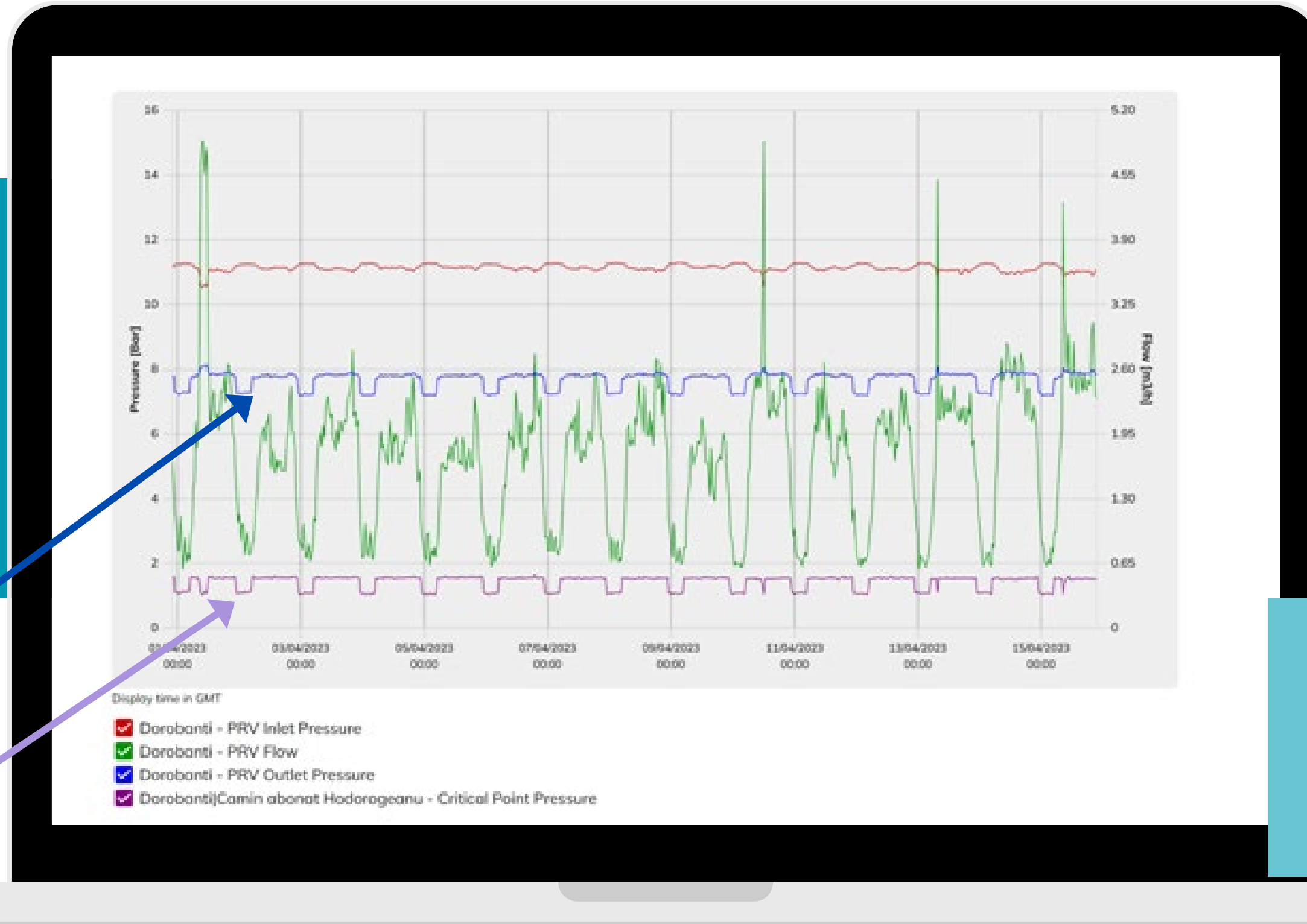
**CONTROLUL INTELIGENT AL PRESIUNILOR
CU PRESSVIEW ȘI PEGASUS**

CONCLUZII GENERALE

CONTROLUL INTELIGENT AL PRESIUNILOR CU PressView si Pegasus

Presiune la iesire PRV,
controlata de Pegasus

Presiune in punctul critic





CONCLUZII GENERALE



Controlul inteligent al presiunilor cu
PressView și Pegasus



Identificarea pierderilor în rețea prin
PermaNet Web și PermaNet SU



SMART WATER
MANAGEMENT

VA MULTUMIM

16 ANI **envirotronic**
ECHIPAMENTE ȘI TEHNOLOGII AVANSATE