

“Improving water management and supply infrastructure via smart technologies, policies and tools”

SAVE – WATER - TECHNICAL MEETING

“Preparation of the Ioannina Pilot Action”

PP responsible: Municipal Water Supply and Sewerage Company of Ioannina

Aim of the Pilot action according to the Project's principles:



- ▶ The expected changes that SAVE-WATER will initiate are: 1. Elaborate transnational and join-up approaches to respond to common drinking water pressures, 2. Produce state of the art sustainable technological solutions for robust drinking water monitoring, 3. Elaborate the effectiveness of the local administrations for protection, conservation and sound use of water resources and 4. Improve operational reliability and safety of water supply systems especially in touristic areas.

Water loss reduction & Monitoring:



- ▶ Water loss is defined as the difference between water pumped into system and billed water
- ▶ Water loss occurs in every water distribution system during its overall operational lifetime
- ▶ It causes not only additional operating costs but also has negative social and ecological impacts

25-50% of all distributed water globally is lost or never invoiced due to (International Water Organisation IWA):

- ▶ Leakages
- ▶ Deteriorating infrastructure
- ▶ Incorrect water pressure management
- ▶ Inaccurate billing systems
- ▶ Inaccurate metering
- ▶ Illegal connections
- ▶ Other reasons

DEYA Ioannina Pilot Action:

BP6	Deliverable Title	Total Approved Budget	Completion Status	A. Contracting		
				A.1-Total Applicable Budget for Contracts (For tender procedures ^a)	A.2-Contracted Budget (Assignments of contracts during this month)	A.3-Total Contracted Budget (including this month's contracts)
WP 1	Project Management and Coordination	15.531,00 €		11.000,00 €	5.700,00 €	5.700,00 €
Deliverable 1.6.2	Project Meetings	4.531,00 €	No	1.000,00 €	0,00 €	0,00 €
Deliverable 1.6.3	Project Management and Progress Reports	9.000,00 €	No	8.000,00 €	3.700,00 €	3.700,00 €
Deliverable 1.6.4	Quality Control and Evaluation	2.000,00 €	No	2.000,00 €	2.000,00 €	2.000,00 €
WP 2	Communication & Dissemination	19.819,00 €		11.727,50 €	700,00 €	700,00 €
Deliverable 2.6.1	Communication plan and project's web site	1.400,00 €	No	1.000,00 €	700,00 €	700,00 €
Deliverable 2.6.2	Printed and electronic material	3.400,00 €	No	3.000,00 €	0,00 €	0,00 €
Deliverable 2.6.3	Info Days and Opening and Closing Event	5.270,50 €	No	2.500,00 €	0,00 €	0,00 €
Deliverable 2.6.4	Training seminars	6.260,50 €	No	4.000,00 €	0,00 €	0,00 €
Deliverable 2.6.5	Atypical Open Event	3.488,00 €	No	1.227,50 €	0,00 €	0,00 €
WP 3	Networking and GIS Database	227.500,00 €		225.000,00 €	4.600,00 €	4.600,00 €
Deliverable 3.6.1	Cross-border network for drinking water pressures	3.000,00 €	No	2.500,00 €	2.300,00 €	2.300,00 €
Deliverable 3.6.2	Realization of GIS Info Map	218.500,00 €	No	217.500,00 €	0,00 €	0,00 €
Deliverable 3.6.3	Protocol for monitoring standards	3.000,00 €	No	2.500,00 €	1.150,00 €	1.150,00 €
Deliverable 3.6.4	Population of database for water management	3.000,00 €	No	2.500,00 €	1.150,00 €	1.150,00 €
WP 4	Sensors Networks and Pilot Actions	224.150,00 €		222.500,00 €	2.500,00 €	2.500,00 €
Deliverable 4.6.1	Smart monitoring systems	0,00 €	No	0,00 €	0,00 €	0,00 €
Deliverable 4.6.2	Requirements assessment for decision making tool and API	3.000,00 €	No	2.500,00 €	2.500,00 €	2.500,00 €
Deliverable 4.6.3	Pilot action in Ioannina	221.150,00 €	No	220.000,00 €	0,00 €	0,00 €
WP 5	Strategies and Policies	15.000,00 €		11.000,00 €	4.700,00 €	4.700,00 €
Deliverable 5.6.1	Best practices on water management	3.000,00 €	No	2.500,00 €	1.300,00 €	1.300,00 €
Deliverable 5.6.2	Action plan	3.000,00 €	No	2.500,00 €	1.400,00 €	1.400,00 €
Deliverable 5.6.3	Policy paper and MoU	3.000,00 €	No	2.500,00 €	1.300,00 €	1.300,00 €
Deliverable 5.6.4	Content contribution to public awareness portal and API	4.000,00 €	No	3.600,00 €	900,00 €	900,00 €
TOTALS:		500.000,00 €		481.327,50 €	18.400,00 €	18.400,00 €

Aim of the Pilot Action:

▶ Mapping critical infrastructure:

- ▶ Locating and mapping private water-meters.
- ▶ GIS platform

▶ Pilot action:

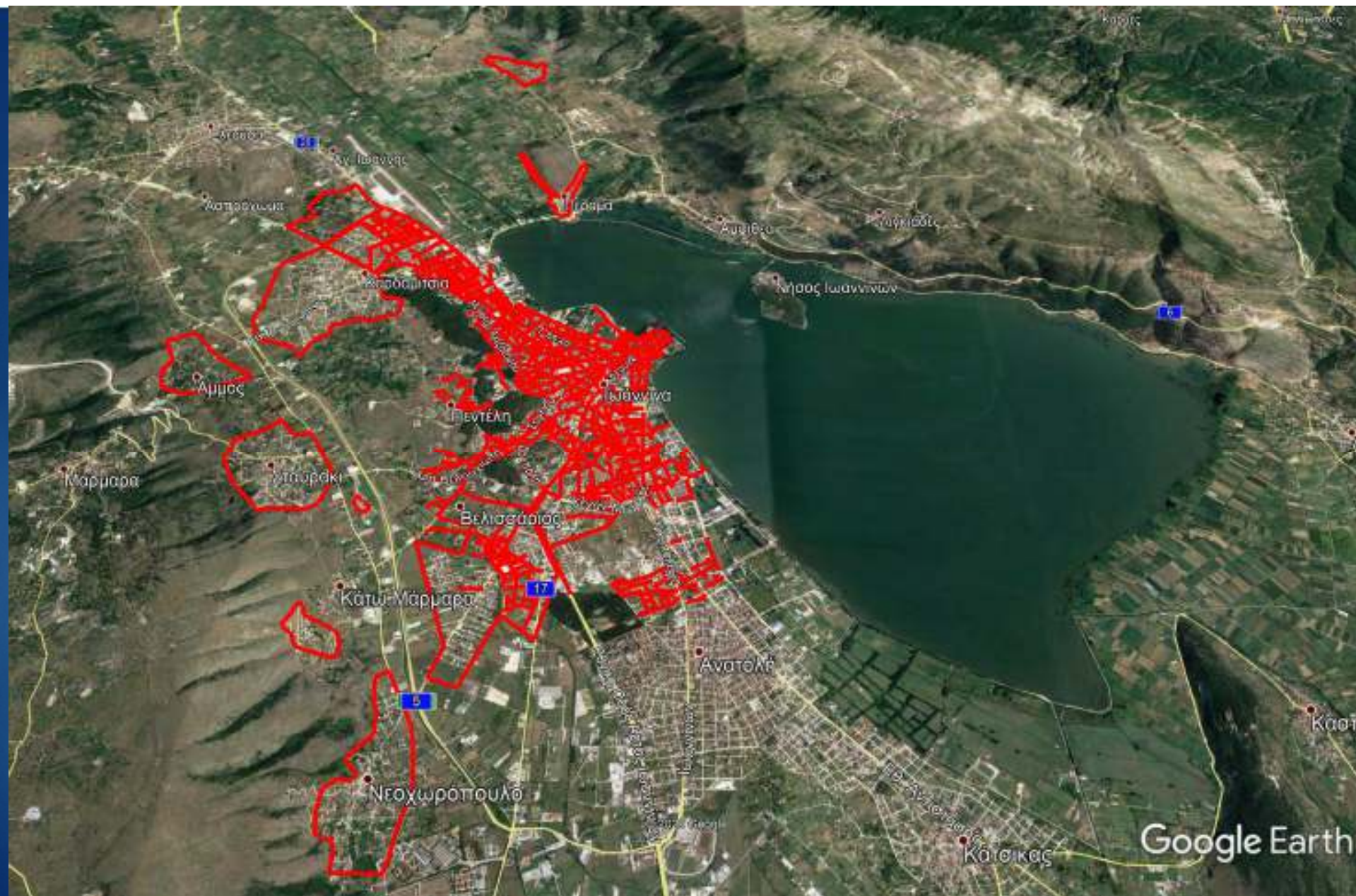
- ▶ Design a pilot urban “area” (closed system that can be monitored)
- ▶ Install 725 smart hydro-meters in private residences and SMEs to monitoring water consumption in real-time. Connect this to the GIS platform
- ▶ Upgrade 5 local water stations in order to monitor incoming water quantity and quality
- ▶ Train DEYA employees

W.P. 3: Networking and Geospatial Database

► Locating urban, private hydro-meters :

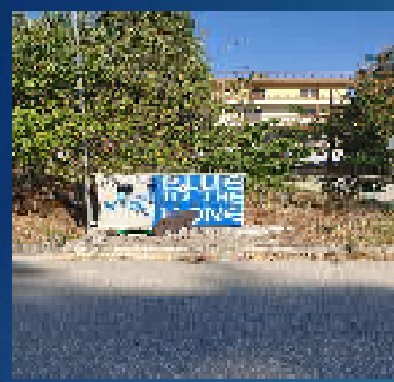
1. Record all of them with the help of DEYA staff.
2. Topographic works
3. Development of a GIS-based data application

Διαδρομή 1	669	Διαδρομή 52	1.227
Διαδρομή 3	752	Διαδρομή 53	767
Διαδρομή 7	1.024	Διαδρομή 54	863
Διαδρομή 9	891	Διαδρομή 55	336
Διαδρομή 11	509	Διαδρομή 56	1.219
Διαδρομή 15	478	Διαδρομή 57	612
Διαδρομή 17	506	Διαδρομή 58	1.495
Διαδρομή 19	603	Διαδρομή 59	162
Διαδρομή 21	1.069	Διαδρομή 61	689
Διαδρομή 23	938	Διαδρομή 63	620
Διαδρομή 24	933	Διαδρομή 64	743
Διαδρομή 25	176	Διαδρομή 65	425
Διαδρομή 26	655	Διαδρομή 67	677
Διαδρομή 27	1.248	Διαδρομή 69	217
Διαδρομή 29	421	Διαδρομή 70	232
Διαδρομή 30	545	Διαδρομή 71	874
Διαδρομή 31	1.612	Διαδρομή 73	817
Διαδρομή 32	848	Διαδρομή 74	4.008
Διαδρομή 33	48	Διαδρομή 76	1.544
Διαδρομή 34	1.741	Διαδρομή 79	699
Διαδρομή 36	2.288	Διαδρομή 80	737
Διαδρομή 37	764	Διαδρομή 81	1.247
Διαδρομή 38	655	Διαδρομή 83	1.433
Διαδρομή 39	1.378	Διαδρομή 85	609
Διαδρομή 41	1.012	Διαδρομή 88	569
Διαδρομή 43	450	Διαδρομή 90	753
Διαδρομή 44	1.054	Διαδρομή 91	675
Διαδρομή 45	1.327	Διαδρομή 94	171
Διαδρομή 46	323	Διαδρομή 95	666
Διαδρομή 47	880	Διαδρομή 96	3.166
Διαδρομή 49	980	Διαδρομή 97	185
Διαδρομή 50	186	Διαδρομή 98	1.113
Διαδρομή 51	1.347	Διαδρομή 99	1.398
ΣΥΝΟΛΟ			59.258



Modernization, expansion and commissioning of 5 Local Leak-Detection Stations

Χρηστού Μακρη
-Αμπελόκηποι



Κώστα Μέρτζιου
& Καλπακίου
Αμπελόκηποι



Πλατεία Χατζή
Αμπελόκηποι



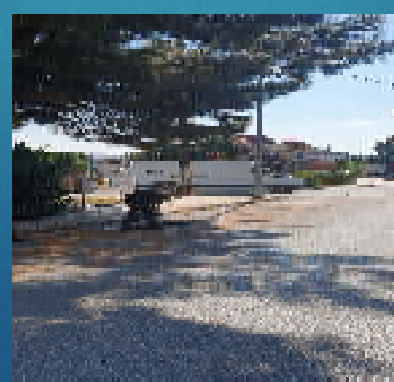
Μεγάλου
Αλεξάνδρου



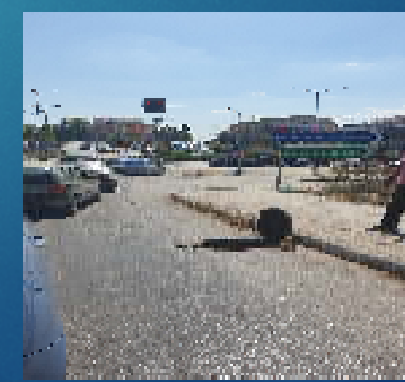
ΕΚΤΕΛΕΣΘΕΝΤΩΝ



ΚΑ Φεβρουαρίου



Δομπόλη



Παπαθωμά-
Μέκαλη





Google Earth

Modernization, expansion and commissioning of 5 Local Leak-Detection Stations



Installment of smart hydrometers

▶ Final consumers Hydrometers :

- ▶ Datasheets (in light green: important / unique specs)
 - UNICOCoder_MP_EPe10123
- ▶ and for NB-IoT Data Logger
 - FUELICS_(NB-IoT)_Water Flow (Wired M-Bus)_Flyer (EN)_Ioannina

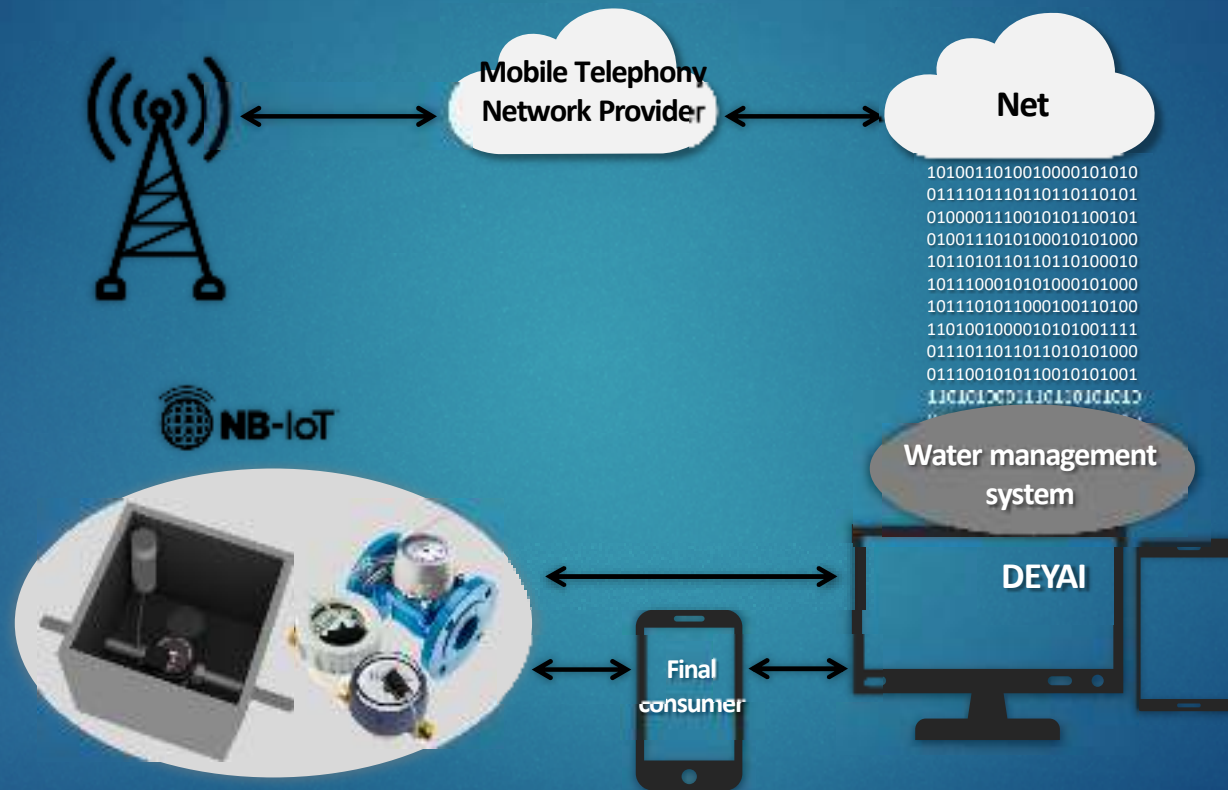


▶ Pipeline (network) Hydrometers :

- ▶ Datasheets (in yellow: important / unique specs)
 - RZ_Sonico_Edge_Datasheet_4S_1G-Version_EPe10228
- ▶ and for NB-IoT Data Logger
 - FUELICS_(NB-IoT)_Water Flow (Pulse)_Flyer (EN)_Ioannina



Εγκατάσταση ψηφιακών υδρομέτρων στο Κάστρο – Πρωτόκολλο επικοινωνίας



Indicative information

SMG Client System Readings management Help

SYSTEM READINGS MANAGEMENT TEMPLATES MAPS

Statistics Installed devices Alarms

Page 1 out of 1

ACTUAL STATE	SMG DEVICE SERIAL NUMBER	CUSTOMER NUMBER	SERIAL NUMBER	TIME OF INSTALLATION	ALARM PATTERN FOR DEVICE	WATER METER TYPE	IOT NETWORK PATTERN	LORAWAN IOT ID
●	KOTW-021429	242080	42011790920	22.08.2019 09:14:04	Individual	sensus 420 2.5	Individual	
●	KOTW-020958	140730	42011790919	22.08.2019 08:35:43	Individual	sensus 420 2.5	Individual	
●	KOTW-021354	242140	42011790918	22.08.2019 08:12:33	Individual	sensus 420 2.5	Individual	
●	KOTW-021292	101030	42011790946	21.08.2019 15:06:27	Individual	sensus 420 2.5	Individual	
●	KOTW-021390	181244	42011790944	21.08.2019 09:52:10	Individual	sensus 420 2.5	Individual	
●	KOTW-021377	181243	42011790943	21.08.2019 09:18:23	Individual	sensus 420 2.5	Individual	
●	KOTW-021287	181244	42011790948	21.08.2019 08:16:40	Individual	sensus 420 2.5	Individual	

98 rows on page | 98 total rows | Loaded in 3607 ms | Selected Rows : 1

Readings Consumption Communication Events Photos Diagnostic data Configuration

Page 1 out of 1

Period: Last 30 days | Show readings: Valid

TIME	EVENTS	READING STATE [M ³]	BACKFLOW VALUE [M ³]	MAXIMAL FLOW [L/MIN]	FLOW [L/MIN]	SENSOR TEMPERATURE [°C]	CHANNEL	DATA TYPE	CONNECTION QUALITY	BS CO
25.09.2019 14:36:35	🔊	3.418	0.000	5.2		19.4	SIGFOX	Reading	📶	
25.09.2019 13:21:00	🔊	3.406	0.000	0.0		19.6	SIGFOX	Reading	📶	
25.09.2019 13:14:17	🔊	3.406	0.000	0.0		19.6	LoRa	Reading	📶	
25.09.2019 12:12:17	🔊	3.406	0.000	0.0		19.6	SIGFOX	Reading	📶	
25.09.2019 12:05:26	🔊	3.406	0.000	2.4		19.6	LoRa	Reading	📶	

1024 rows on page | 1024 total rows | Loaded in 4766 ms | Selected Rows : 0

System is activated | State: Connected | User: admin@smg | Server: 18.197.211.115:11332 | Latency: 21 ms | 25.09.2019 14:50:00

Indicative information - Warnings

- Οι ειδοποιήσεις θα αφορούν τον καταναλωτή και την ΔΕΥΑΙ



Zero consumption



Continuous leak



Lower-than-expected consumption



Backflow



Higher-than-expected consumption



Sensor/cabling damage



Low temperature



Sensor removal



IoT signal loss



Sensor flooding

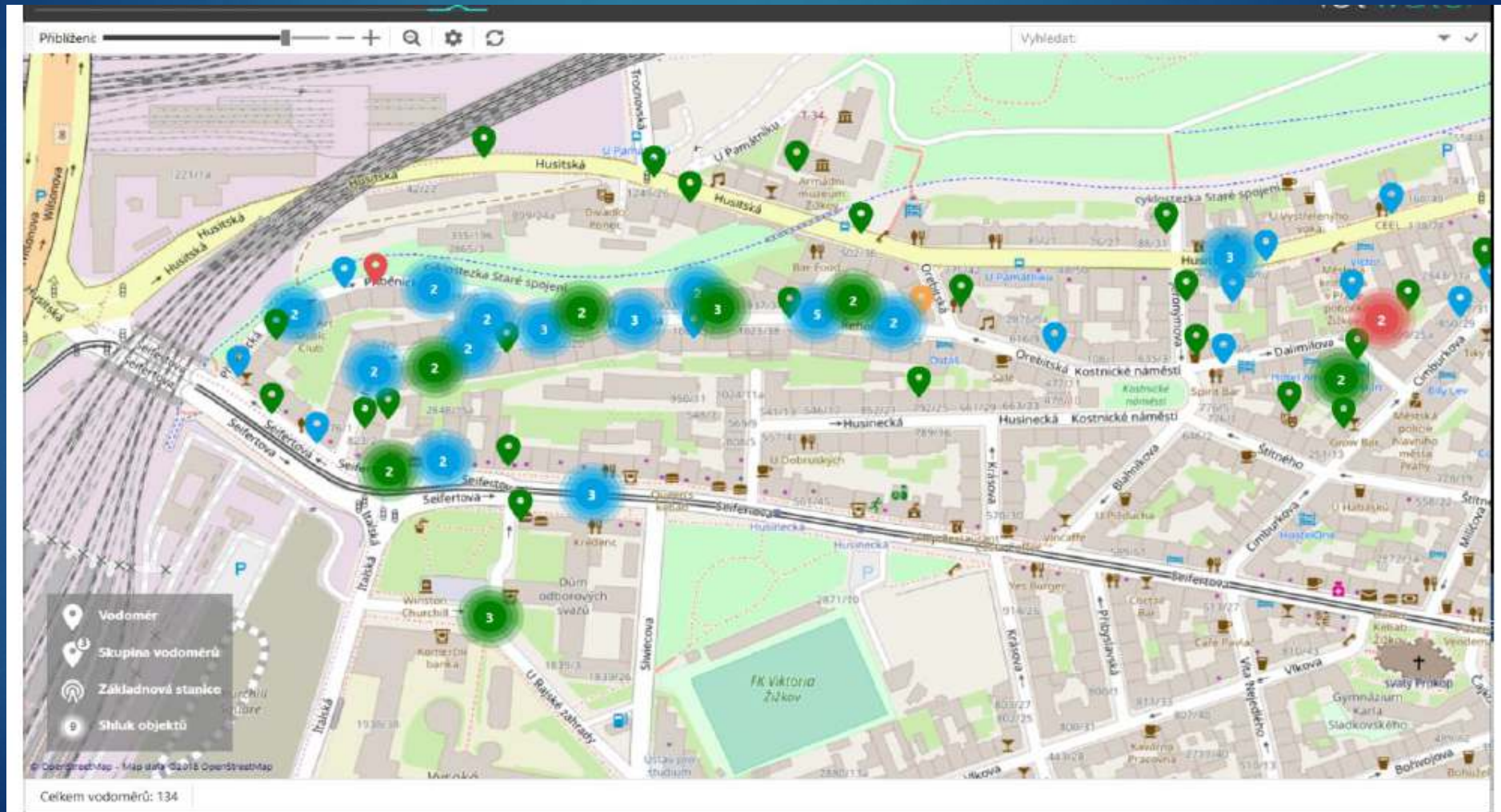


IoT signal instability



Uncalibrated condition

Indicative information



Services to the end-consumer

- ▶ Consumption information via web Portal and via mobile application (alarm, alerts, consumption rules, statistics)
- ▶ **Web Portal**
- ▶ **Mobile App**



ΒΑΣΙΚΑ ΣΤΟΙΧΕΙΑ ΕΡΓΟΥ:

► Προϋπολογισμός ΔΕΥΑΙ: 500.000,00€

Προϋπολογισμός ανά Δικαιούχο

Αριθ. Δικαιούχου Πράξης	Χώρα	Πηγήσυγχρηματοδότησης	Κοινοτική συνδρομή (1)	%	Εθνική συγχρηματοδότηση (2)=(a)+(b)	%	Τύπος Εθνικού Αντισυμβαλλομένου		Σύνολο (3)= (1)+(2)
							Εθνική Δημόσια Χρηματοδότηση (a)	Εθνική Ιδιωτική Χρηματοδότηση (b)	
ΚΔ1	Ελλάδα	ΕΤΠΑ	450.500,00	85,00	79.500,00	15,00	79.500,00		530.000,00
E2	Ελλάδα	ΕΤΠΑ	85.000,00	85,00	15.000,00	15,00	15.000,00		100.000,00
E3	ALBANIA	ΜΠΒ	433.332,72	85,00	76.470,48	15,00	76.470,48		509.803,20
E4	ALBANIA	ΜΠΒ	682.204,90	85,00	120.389,10	15,00	120.389,10		802.594,00
E5	Ελλάδα	ΕΤΠΑ	255.000,00	85,00	45.000,00	15,00	45.000,00		300.000,00
E6	Ελλάδα	ΕΤΠΑ	425.000,00	85,00	75.000,00	15,00	75.000,00		500.000,00
E7	Ελλάδα	ΕΤΠΑ	410.550,00	85,00	72.450,00	15,00	72.450,00		483.000,00
E8	Ελλάδα	ΕΤΠΑ	218.811,08	85,00	38.613,72	15,00	38.613,72		257.424,80
Σύνολο ΕΤΠΑ			1.844.861,08		325.563,72		325.563,72	0,00	2.170.424,80
Σύνολο ΜΠΒ			1.115.537,62		196.859,58		196.859,58	0,00	1.312.397,20
ΣΥΝΟΛΑ			2.960.398,70		522.423,30		522.423,30	0,00	3.482.822,00

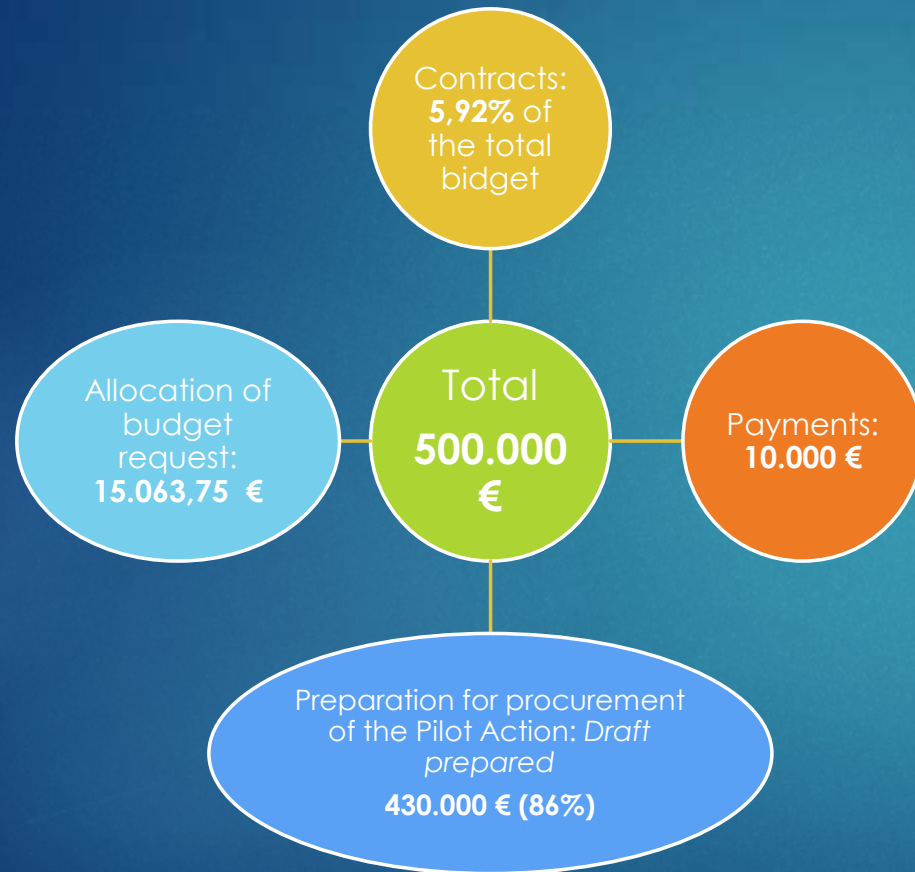
Financial progress:



External expert contracts:

1. External expert: Project management (ΑΔΑ: 6ΩΦΑΟΡΙΞ-ΕΑΚ) : 9.000 €
2. External expert: Technical management(ΑΔΑ: 6Λ3ΥΟΡΙΞ-ΘΣΠ): 9.400 €
3. External expert: Communication-Publicity activities: 11.200 €

Financial progress:



Next steps

New Allocation of budget request	≥ 86.000 € (20% Advance payment of Pilot action) Time: Sign of contract
Immediate payments	15.000 (External experts) Time: Next months
Other contracts - paymentst	Staff cost (17.920 €) Contract for A level controller Time: After competing payments of 15.000 €

Project communication:

1st A-typical meeting

Tuesday-9th or Wednesday 10th, February 2021 – Next week

You will be invited



Thank you very much

Any questions ???