BALANCE

Power View program
operator guide v5.1

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1. PV program operator guide

The Power View program (further – the PV program) is designed to view the accumulated data on the server, transmitted by radio modules from metering devices of the gas, water, heat and electricity, equipped with the BALANCE system.

Structure of system of the Automated Meter Management (AMM) "BALANCE".

Top level of system: server software	Level of communications
WEB interface - up to 1 000 000 users	The J100 system concentrator - up to 245 radio modules
Database PostGre - up to 2 000 000 metering devices	Счётчик газа, воды, тепла, электричества с импульсным выходом
Analysis: identification of leaks, theft, faulty devices	The D100 radio module - up to three metering devices
The server of data collection - up to 10 000 concentrator J100	Pulse sensor, cable or adapter

Each metering point must be equipped with a metering pulse output, radio module type D100 and pulse sensor if necessary. The program allows to create reports of consumption of any energy resource, disconnect consumption and to monitor emergency messages. The analytical part of the program makes available information on the forecast of consumption and probable leaks.

Operation with the program requires personal computer, smartphone or a pad with Internet access.

2. Access to the program

To come into the program it is necessary to select at the menu "map" on the website www.djv-com.org, after that to select «*Interactive map of Chisinau with AMR/AMI/AMM system BALANCE*».

//djv-com.org/web00/djv-en/

D J V C O M
development and manufacture
of electronic devices

Gas   Water   Heat   Energy

You find yourself in a test mode *«user» = «map», «pass» = «map».* After this you will be given a map showing the objects with AMM system BALANCE. Red flags listed objects which are installed and working radio modules and concentrators, yellow marked objects in the project. In this mode only viewing of the map is possible. For access to data of objects exit the regime of the user *«user» = «map»* and log in using your password.

For this purpose it is necessary in the right top corner where written *«map»* click the mouse and select *«Exit»* to go with your username and password.

For access to system you need to tape *«Username»* of the user and *«Password»*. The system can remember your

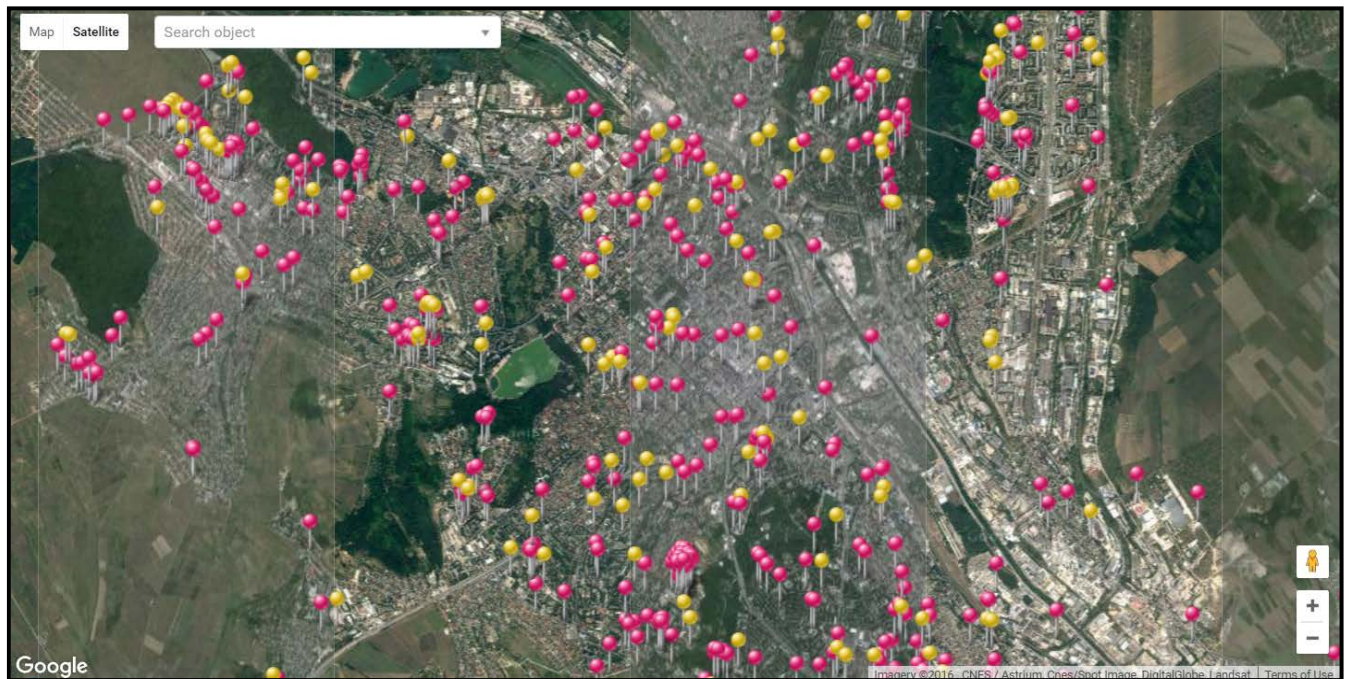Objects on map   Language ▾

👤 Username

🔒 Password

☑ Remember me

Sign in

parameters of access if you don't want them to enter every time anew. For this purpose it is necessary to establish a tick *«Remember me»*. It is also possible to select language, English, Russian or Moldavian.

3. Work with the map

By operation with a map, other than switching modes *«Map/Satellite»* and an interface language choice: Russian, English and Romanian, when you click on the object the following information is displayed:

- name of object;
- object height above sea level;
- number of floors of object;
- minimum radius of a radio covering;
- maximum radius of a radio covering;
- information of data transmission network;
- information about object;
- on/off radio radius of object.
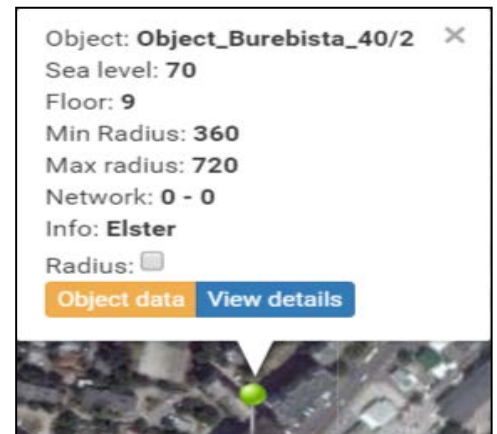
In the bookmark *«Map configuration»* the following opportunities are available:

- grouping of objects at change of scale of the map;
- inclusion of min. radius of a radio covering;
- inclusion of max. radius of a radio covering;
- allocation of objects in the green color with the common master (concentrator);
- inclusion of calculation of a map distance;
- saving of the current position on the map.

☐ Grouping objects ☐ Min Radius ☐ Max radius ☑ Objects by master ☐ Calculate the distance ☑ Save map position

Function *«Grouping object»* - this function is convenient as allows to group objects so that we can better see the map objects. To see separately objects it is enough to increase the scale of the map and they will appear separately at once.
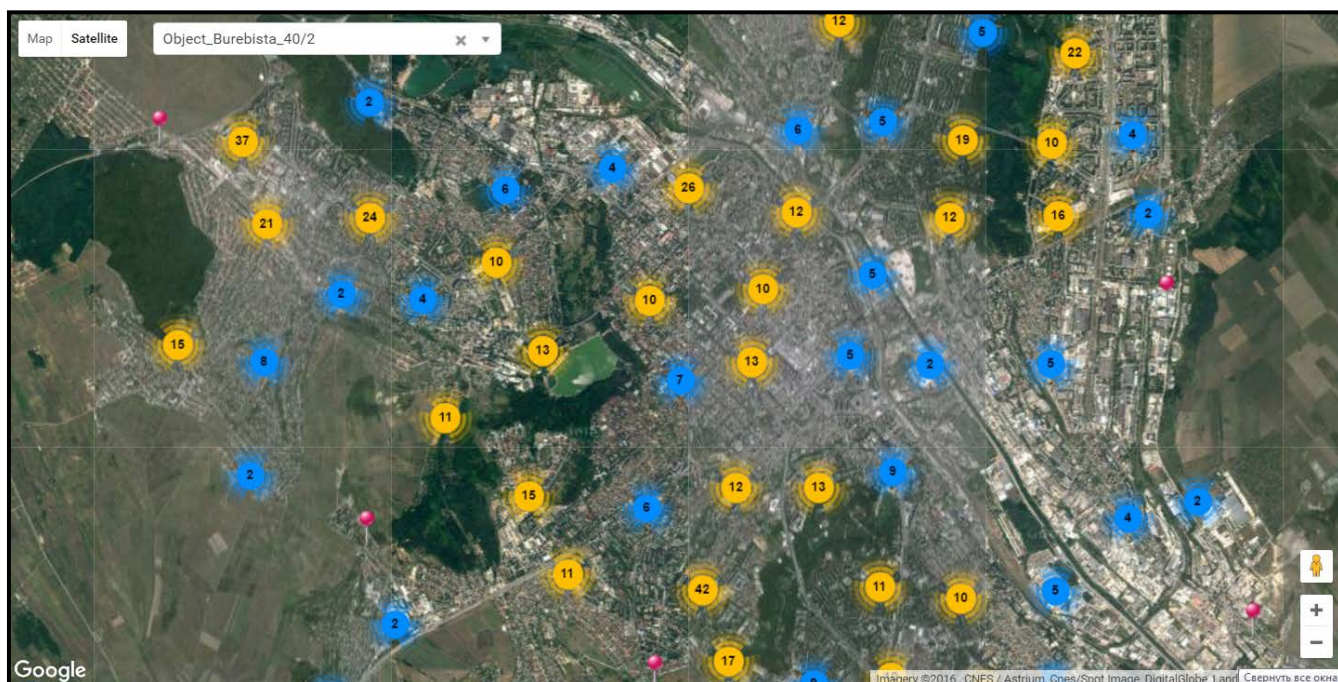

On this example we see allocation in the blue color of group up to 10 objects, yellow color up to 100 objects and red color till 1000. In each circle there is a number which shows how many objects in this group.

Function *«Radius»* - allows to include the minimum and maximum radius of a radio covering of the chosen object or all objects at once. For planners of radio networks it allows to estimate a possibility of addition of new objects of AMM system BALANCE of the existing infrastructure of data collection.
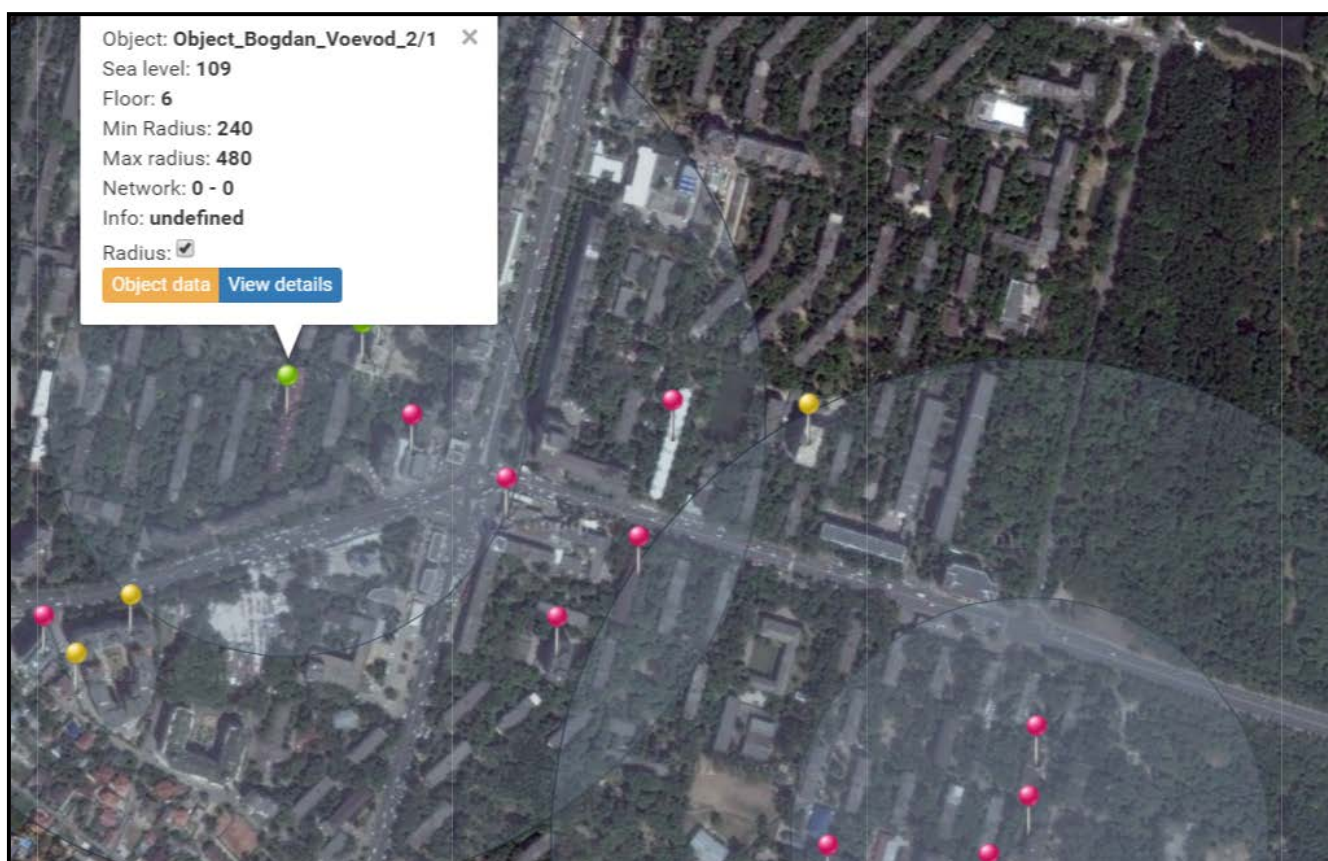
The minimum radius shows that with a high probability the radio communication will be possible with objects, falling into it. At the same time the zone between the maximum radius and minimum allows for the presence of radio communication, but doesn't guarantee him. In this case it is strongly recommended to use different logical networks of a radio communication for prevention of conflict situations and unstable network functioning.

Function *«Objects by master»* - shows the objects working in one subnet under control of the same master of a network – the concentrator.
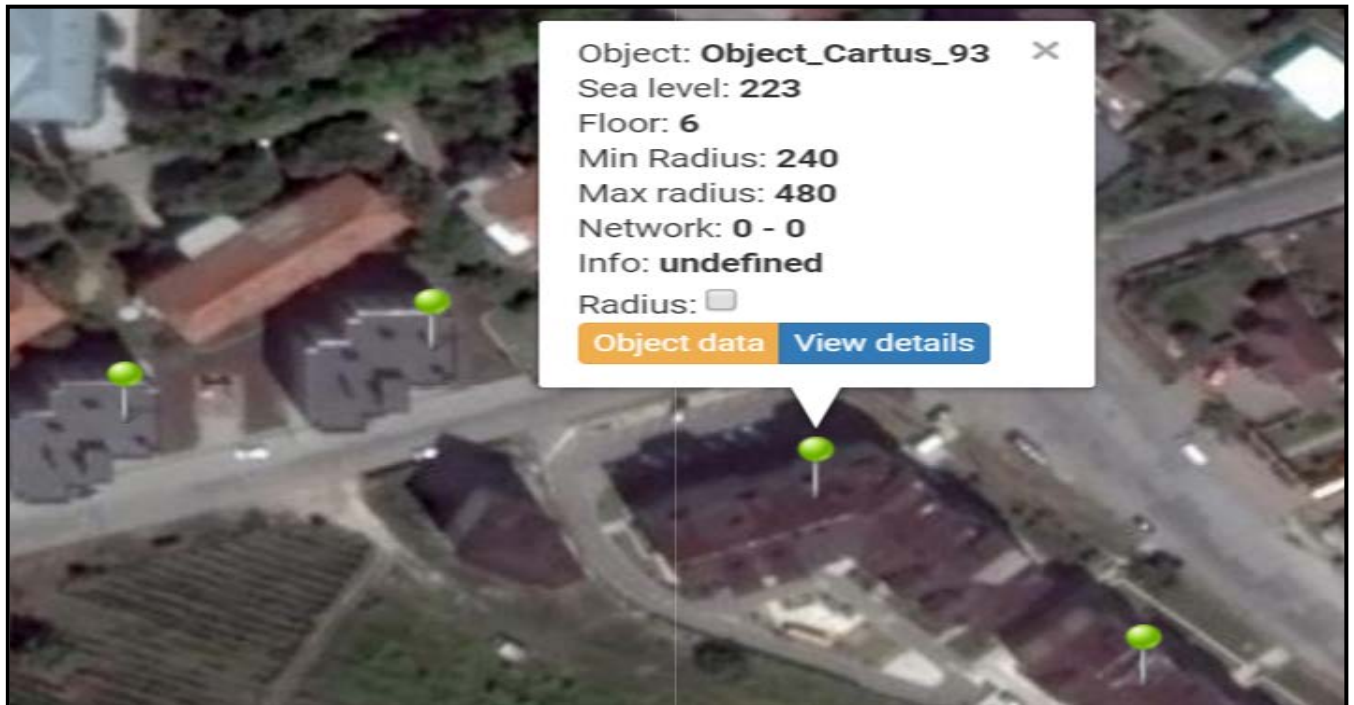

On the given example it is shown that at the choice of object of «Cartus_93», the illuminated three more objects in which radio modules work in one subnet, under control of the same master of a network – the concentrator.

Function *«Calculate the distance»* - allows to calculate distance between two chosen objects or two points on the map. In case of the choice of objects, additionally considered their floors. For planners of radio networks this function allows to estimate a possibility of addition of new objects of AMM system BALANCE of the existing infrastructure of data collection.
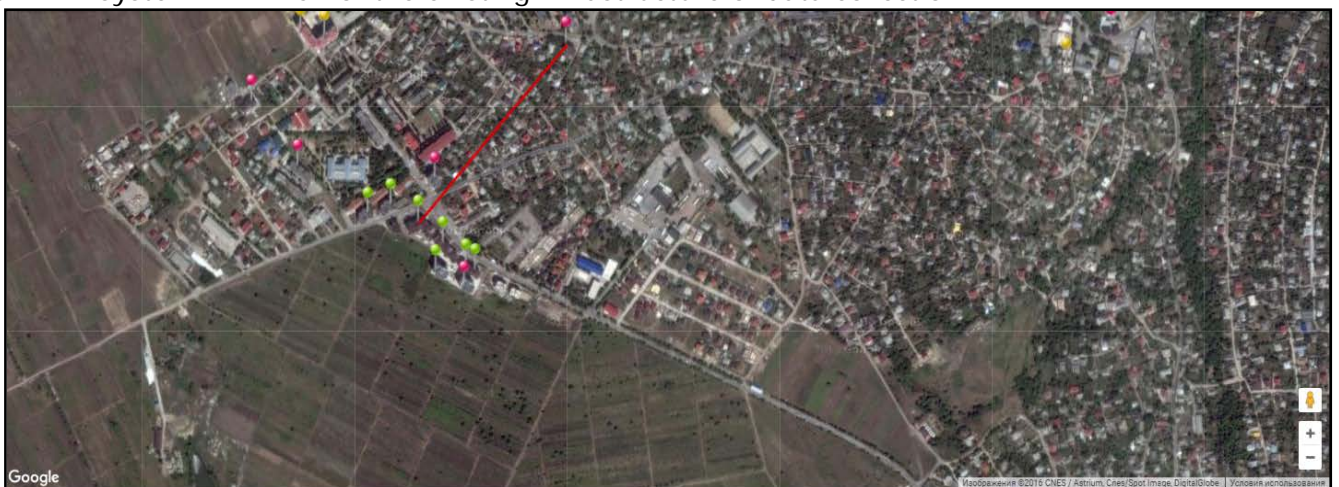
Except the calculated distance you receive a profile of a terrestrial surface between the chosen objects or points on the map.

This profile doesn't consider height of buildings and constructions but only a profile of a earth surface above sea level.
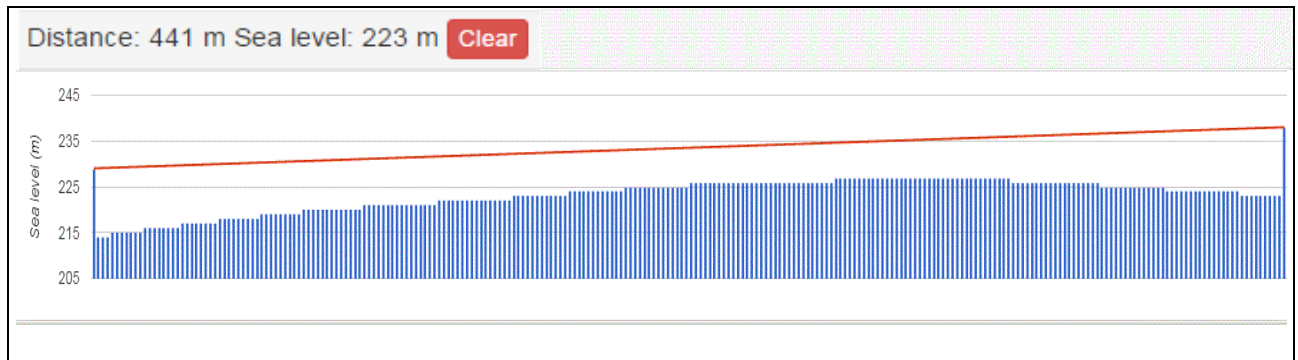

Moving a mouse according to the diagram of a profile of an earth surface, on a map the red flag specifying a point will move in which you are. This function allows planners of AMM system BALANCE, based on the D-Mesh technology as much as possible to use the existing infrastructure of data collection for addition new objects.

In addition added parameter *«height above sea level»* allows on the basis of hour profiles of consumption each subscriber and hour pressure profiles of the atmosphere in the given geographical point to calculate a difference of not corrected gas consuming and the corrected gas consuming in compliance with the operating pressure upon the gas consuming moment.

Object_Albisoara_80/10 and Object_Albisoara_82/8 are located at the height of 43 and 40 meters above sea level.
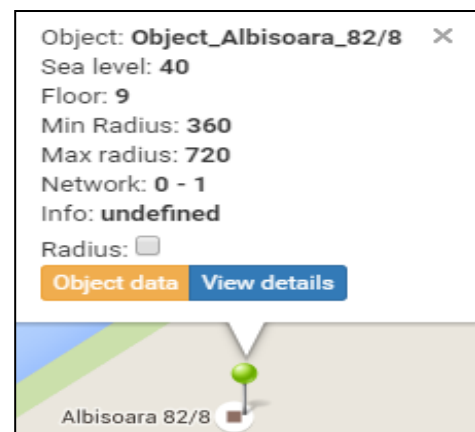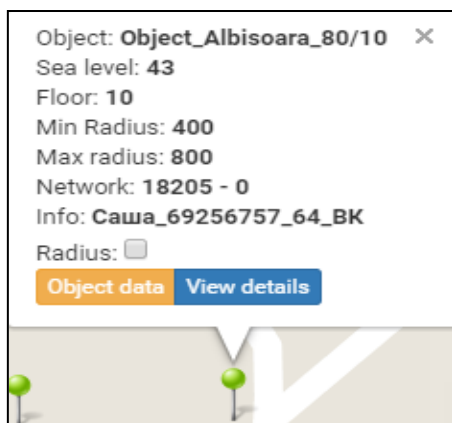
Object_Cartus_93 and Object_Petrarilor_10/3 at the height of 223 and 209 meters above sea level.
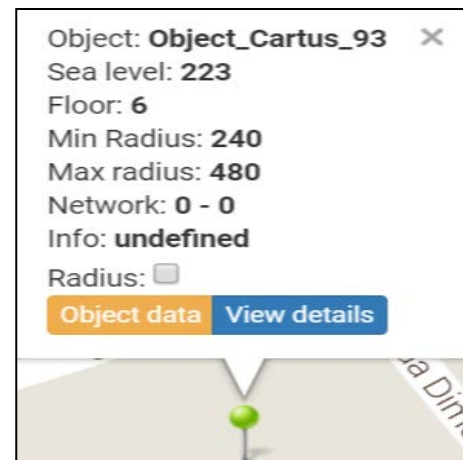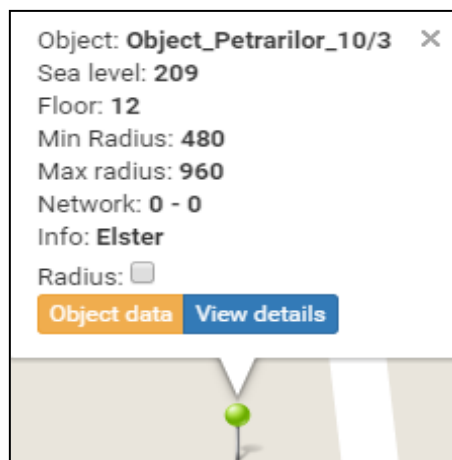

Difference on height about 183 meters. At one percent of a pressure mistake upon each 80 meters, we will receive that the users located in the lowland pay for gas about 2,3% less, than the users located in higher points of the Chisinau city.

Function *«Save map position»* - saves for convenience the current view on the map, in case of an exit from the program in the current session. At the following entry the map will open in your saved positions.

4. Viewing data by objects

Having chosen in the left top corner *«Objects»,* opens tree where the administrator can select nodes: country, city, district, street or object
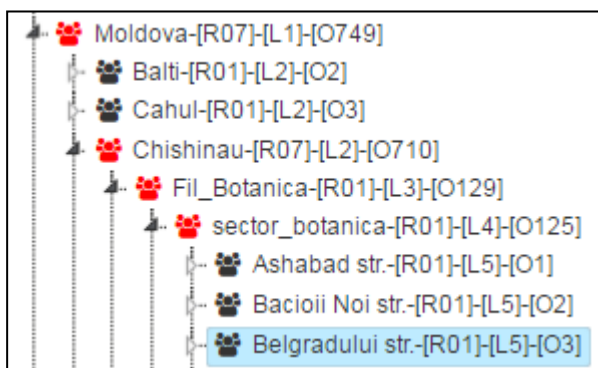
In the right window opens the list of the objects belonging to this node. For viewing of metering data of inside the object by apartments, we select necessary object.

		Object	Fleak	Events	Data	Total	Send	Lng.	Concentrators	js
		Object_Dimitriu x	x	x	x	x	x	x	x	x
1	+	Object_Dimitriu_20	0	0x0000	3	12	12	28.86	1	2
2	+	Object_Dimitriu_3	32	0x0000	2	12	11	28.86	1	2
3	+	Object_Dimitriu_5	0	0x0000	3	12	12	28.86	1	2

After the choice of object, opens window with the list of metering points of the object, by apartments:

		Radiomodule	Counter	Indications	Apartment	ht1	ht2	Date	st1	st2	Daily	Events	Leak
		x	x	x	x	x	x	x	x	x	x	x	x
1	+	18625	29801377	96.3240	1	0.3800	0.0000	2016-06-27	0.4900	0.0000	0.3800	0x0000	0
2	+	18626	29800776	89.0130	2	0.0000	0.0000	2016-06-27	0.1100	0.0000	0.0000	0x0010	0
3	+	18627	29800787	131.7090	3	0.1200	0.0000	2016-06-27	4.8600	0.0800	0.1200	0x0000	0
4	+	18628	29800558	106.7750	4	0.2200	0.0200	2016-06-27	2.2800	0.1800	0.2400	0x0000	24
5	+	18629	29801059	67.4460	5	0.2600	0.0000	2016-06-27	3.5600	0.1200	0.2600	0x0000	3
6	+	18630	29800820	17.0850	6	0.0000	0.0000	2016-06-27	0.0300	0.0400	0.0000	0x0000	0

5. Functions at the level of meters (meters and radio modules)

Right-clicking on the interesting counter we can select one of the following items of the menu:

1. *Show events;*
2. *Meter events;*
3. *Tree of meters;*
4. *Concentrator events;*
5. *View fields.*

		Radiomodule	Counter	Indications	Apartment	ht1	ht2
		x	x	x	x	x	x
1	+	18625	29801377	96.3240	1	0.3800	0.0000
2	+	18626	29800776	89.0130	2	0.0000	0.0000
3	+	18627	29800787	131.7090			
4	+	18628	29800558	106.7750			
5	+	18629	29801059	67.4460			
6	+	18630	29800820	17.0850			
7	+	18631	29800707	106.5950			
8	+	18632	29800671	48.7100			
9	+	18634	29801014	18.2220			
10	+	18633	29800683	84.7660			
11	+	18635	29801468	48.0860			

Show events

Meter events

Tree meters

Concentrator events

View fields

5.1 Show events

It is possible to see events on each counter separately, at the same time events of this counter output in the form of the text with the name of event. Designation of these events will be described below.
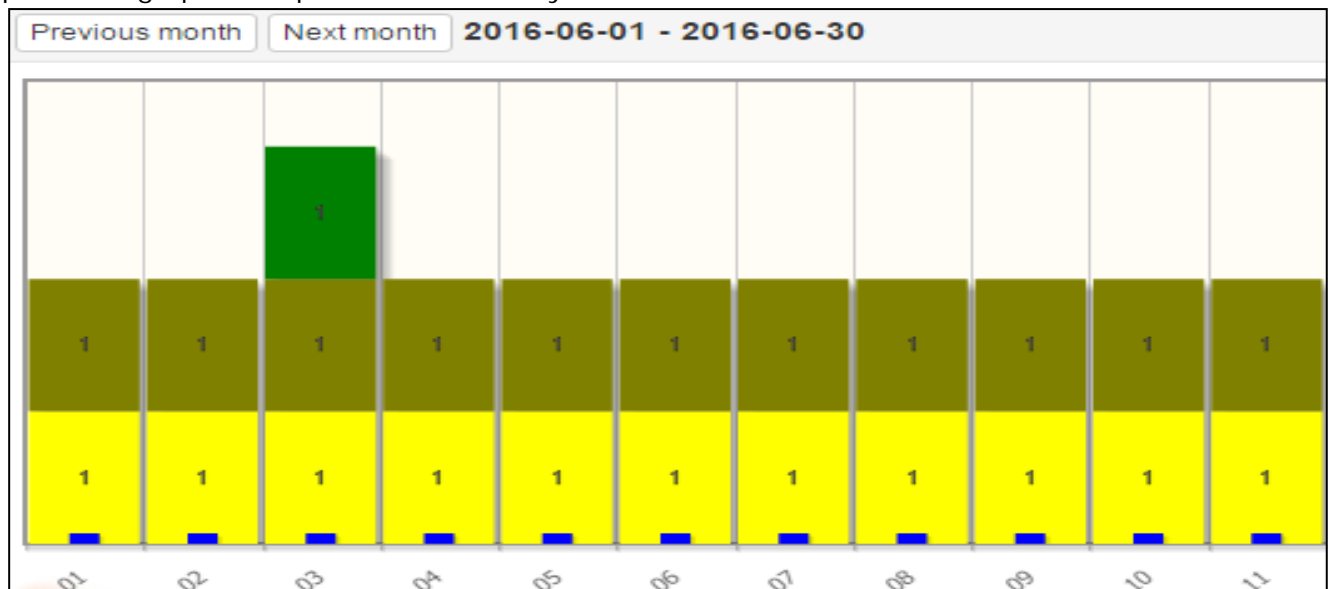

5.2 Meter events

In *«Meter events»* we can see in details how many events in what days and what events are.

In the top part shows the table of distribution of events on days of month, and in the lower part their graphical representation on days of month. Each event has own the color.
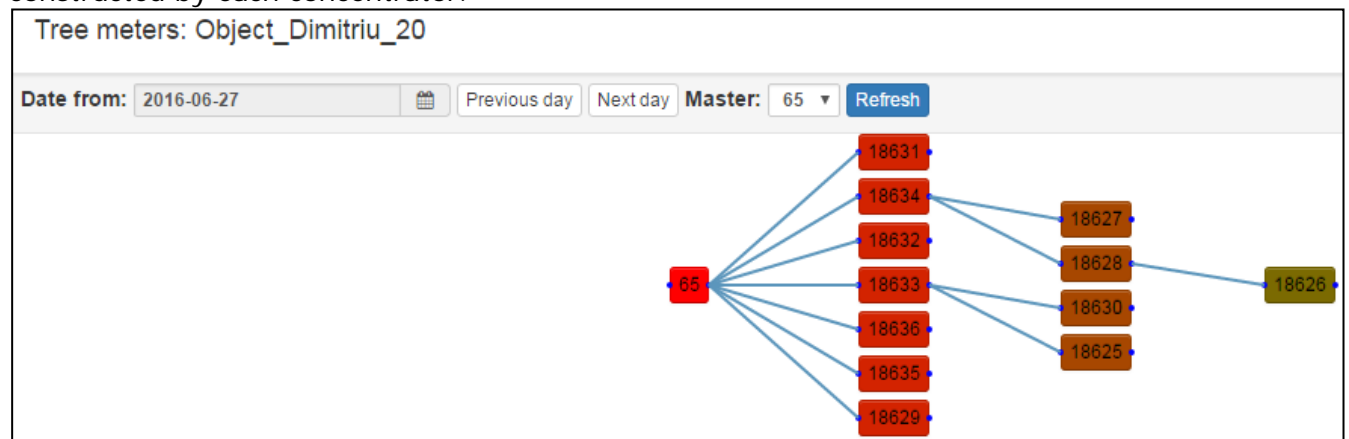

At installation/removal of ticks of the corresponding events, they will be added / be excluded in graphic display.

5.3 Tree meters

Also available mode *«Tree meters»* - the graphic structure of a data communication network constructed by each concentrator.

Function is useful to an assessment of correctness choice installation site of the concentrator (the minimum number of levels of data routing) and determination of problem places and installation sites of additional radio modules (repeaters) for settlements and rural areas. In process of removal from the master (on network levels) devices purchases color from red, to violet. For correct output determine desirable date. This function is available starting with the 7th soft version radio modules. The part of big objects has two concentrators, a number of small objects are integrated at one concentrator. When entry from table of meters to the tree, highlighted the selected radio module, and also lights up the way to the master of a network and all radio modules which transmit through it their data.

5.4 Concentrator events

Also we can look *«Concentrator events»*. If from object there are no data, perhaps the concentrator has no external power supply or it has other events. On an example it is shown that on the concentrator there is no external power supply in certain days and else there is the hardware error.
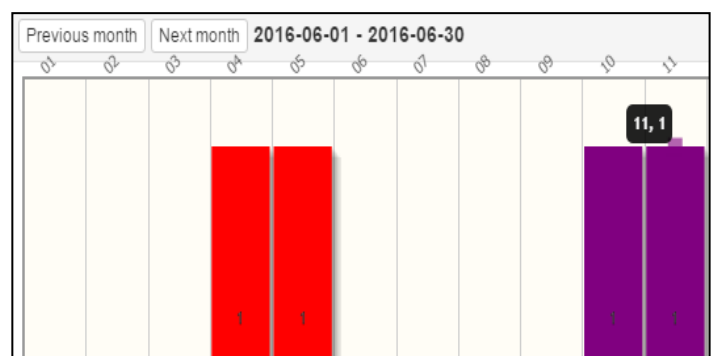

In this case there is no need to travel on object, it is enough to ring to the electrician of association and give an external power supply on the concentrator.

There is an opportunity to look graphical representation by day of month, wherein each event has it color.

«Events» - the list of events on this device.
   «Radio module events»

- EvtHardError   (0x0001) (H) // hardware error;
- EvtMagnit   (0x0002) (M) // external magnetic field/short sensor circuit;
- EvtPulse0Error   (0x0004) (0) // break on circuit sensor
- EvtPulse1Error   (0x0008) (1) // bouncing of contacts (8th version and above);
- EvtNetLost   (0x0010) (S) // exit to search of a radio network (technological);
- EvtBatteryError   (0x0020) (B) // the low voltage on the battery;
- EvtRestart   (0x0040) (R) // restart of the device;
- EvtChangeUserInfo   (0x0080) (U) // change of settings of the radio module.
   «Concentrator events»

Accident code	Accident type	The description for C100v 2.x	The description for C100v 3.x
0x0001	EvtHardError	Hardware error	Hardware error
0x0020	EvtBatteryError	Battery voltage below 3:6V	Battery voltage below 3:9V
0x0040	EvtRestart	Restart of the device	Restart of the device
0x0100	EvtGsmFail	Failure of the GSM module	Failure of the GSM module
0x0200	EvtBattery	No external power supply	Loss of external power supply
0x0400	EvtTableSlotFull	The table of slots is full	The table of slots is full
0x0800	EvtBatLess3_5V	Ubat < 3.5 B	---
0x1000	EvtRFStateOFF	---	RF is disconnected by command
0x2000	EvtSolarBattery	---	Work at the solar battery
0x4000	EvtErrorMemory	---	Error of external Flash memory

5.5 View fields

Here we can select fields which will be displayed in the table of metering points. The user can disconnect/include show of columns of the table. For this purpose it is necessary to right-click in any place of the list of metering points of object, select item *«View fields»* and to remove/deliver the corresponding ticks in columns for display. Then to press *«Save»*.

The table of metering points contains the following fields:

Fields	Description
Radio module	Serial number of the D100FC radio module
Counter	Serial number of the metering device of this consumer
Initial	Initial indications of metering point
Additional	(Used for heat metering: initial indications of water meter)
Hour	Fixing time of the current data of the counter
Idnp	Identification subscriber number (personal account)
Tel.	Home telephone number of the owner
Mob.	Mobile phone of the owner
Email	Owner's E-mail
Indications	Indications of metering device
Apartment	Apartment number
Ht1	Time tariff «Day» from 7:00 till 23:00
Ht2	Time tariff «Night» from 23:00 till 7:00
Date	Date for which there are freshest data
Pulses	The impulses counted by radio module
St1	Time tariff «Day» the cumulative total
St2	Time tariff «Night» the cumulative total
Temper_0	Temperature of the supply pipeline (heat metering)
Temper_1	Temperature of the return pipeline (heat metering)
Daily	Consumption per day
M_ slot	MAC address of the master device
S_ slot	MAC address of the leading device
Events	Radio module events
Leak	The higher number- the greater the suspicion of a leak
Soft version	The firmware version the radio module
Coefficient	Coefficient of recalculation of the counter (imp/m3)
Concentrator	Serial number of the concentrator
Flag_other	Flag of a request condition of data in real time
Flag_relay	Flag relay enable / disable
Flag_relay _1	Accident flag: in case of command to switch-off the relay
Events _ Concentrator	Concentrator events
Report	Report for the period - actively in the formation of the report
Port	The port number the radio module (3 ports – 3 connectors)
Object	Name of the object (useful in the report)
Radio module install date	Radio module installation date
Date instal Battery	Battery installation date
Count install date	Counter installation date
Key tcount info	Technological key in the database
Key master	Technological key in the database
Name	Name of the owner
Floor	Floor where the meter is installed
Radiomodule Information	Text information entered by the operator
Old port	Technological key in the database
Balance	It is used in the presence of the common-house counter *
Count type	Counter type – the producer or model
Relay install	The relay is installed «1» or there is no «0»
Flag chms	The technological field in the database
Key slave	The technological field in the database
Resource type	Resource type (gas, water….)
Hour flag 0	The technological field in the database
Key user	The technological field in the database
Key const grp	The technological field in the database
Start date	Starting date of report generation
End date	End date of report generation
Recalc CV	Recalculation of volume on temp. for gas (from version 11)

B0	Technological field
B1	Technological field
B2	Radio module temperature at the end of the day (00 hours)
B3	Technological field
Sensor flag	Field of the passport of the radio module
js	J- juridical person, S- physical person
NO_TRL:recv_flag	«0» - incomplete data for the chosen period
NO_TRL:collision_flag	«1» - duplication of serial number of the radio module

6. Viewing of data of consumption on the meter

Pressing two times on the necessary to us counter under it will appear data in the form of a graph with daily data for the meter point for the current month. Here we can select for what period to look data. Also shown is the date for which show hourly consumption profile.
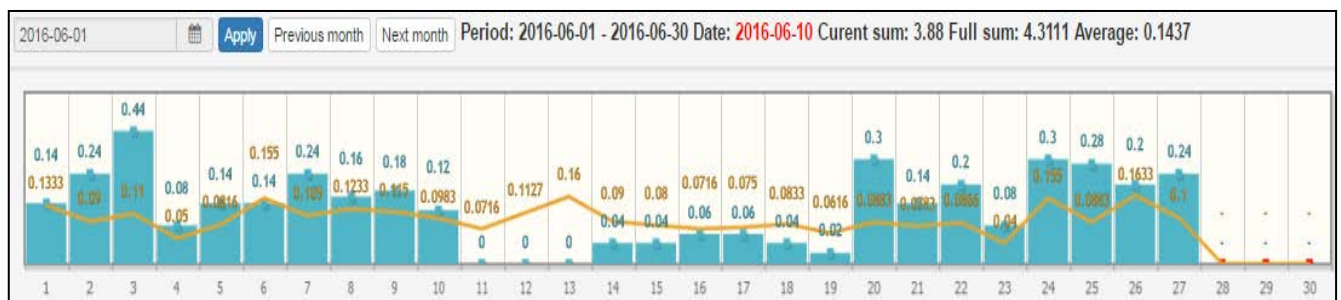

On the appeared schedule it is possible to select desirable day of month and to look on it hourly consumption. At the same time charts in the form of columns show consumption of the chosen meter point, and the crooked line shows average consumption on object.

Average consumption by object is calculated from the number of the metering points having nonzero consumption for this date. Above the graph displays daily data radio module events.


It is also possible to select a day/night tariff or daily data on object.
- *St1- day tariff;*
- *St2- night tariff;*
- *24h- total consumption.*
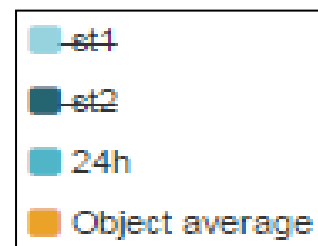
It is possible to look through consumption in various dimensions (the choice of dimension over the schedule of consumption) by default it is m3, it is also possible to select:
- *USD - dollar США;*
- *MDL - Moldovan Leu (MDL);*
- *CO2 - emissions of CO2 in kg;*
- *TREE - quantity of the big trees required for processing CO2 emission for this consumer;*
- *Mcal - consumed equivalent of heat at Mcal.*
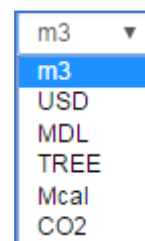
Above graphs displays three digits - the sum of consumption on the current date from beginning of the month, forecast for the end of month and the average daily consumption for a given consumer.
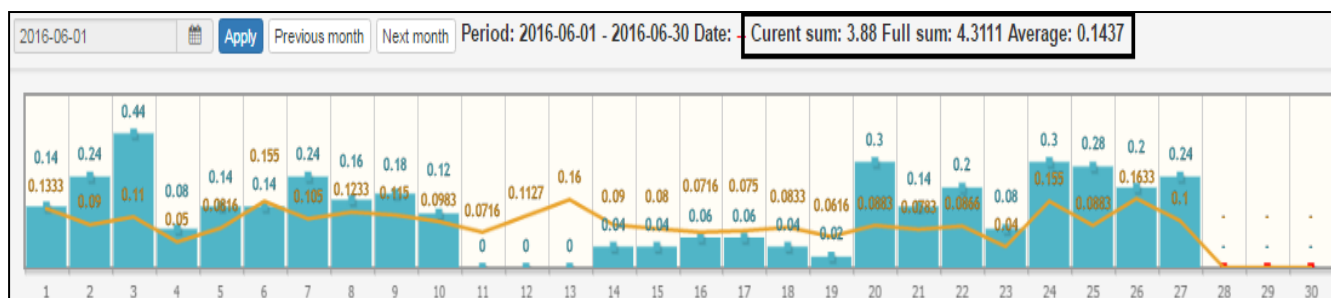
In the left top corner displays month for which indication displayed data. Using the Previous / Next buttons you can view the monthly schedule for another month.

If in the list of objects there are such counters which have no data for the chosen period, by clicking the factory number of the counter, we will see the following window:

Pressing two times on this window will open the monthly graph with the latest reliable data from this counter.

7. Functions at the level of objects

Clicking the right mouse button on one of the object list we can select one of the following items:

1. *Object data;*
2. *Object events;*
3. *Object on map;*
4. *Tree meters;*
5. *Report;*
6. *View fields.*

We will consider further each of points.

7.1 Object data (node)

Data are available not only by the counter, but also by object. For this purpose it is necessary to select object and an option *«Object data».* It is convenient when you have common balance counters on object or necessary information on total consumption by object. It is possible to control an imbalance and to reveal losses on object. Data from all counters of object are displayed in one schedule.
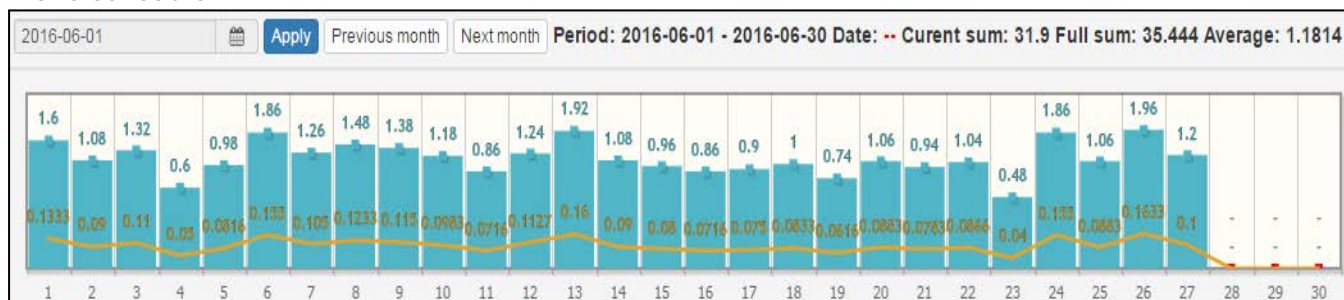
Clicking on one of the days we will present the hourly data of total consumption of all counters of the object.


7.2 Object events

Here we can see all events which occurred to object counters. The distribution network of radio modules (meters) convey the following events: re-programming or access to user data, break detection, sensor short circuit, the presence of an external magnetic field, a warning of low battery voltage, unstable transmission in the network, the absence of data, hardware error.

The analytics of the AMM system BALANCE allows:

- to display events to the level of objects;
- to select (filter) the interesting events;
- to use for each event its color;
- to estimate existence of events for the chosen period;
- to display in graphical format structure of events on object:
  - the chosen events – height is proportional to number of events;
  - use for each event of its color;
  - distribution of events by day of the month;
- mailing of the chosen mask of events on e-mail (or the SMS) on phone responsible for servicing of this object (in work).

It allows to analyze easily a situation on the distributive network, and a hierarchical structure makes event analysis convenient to use.
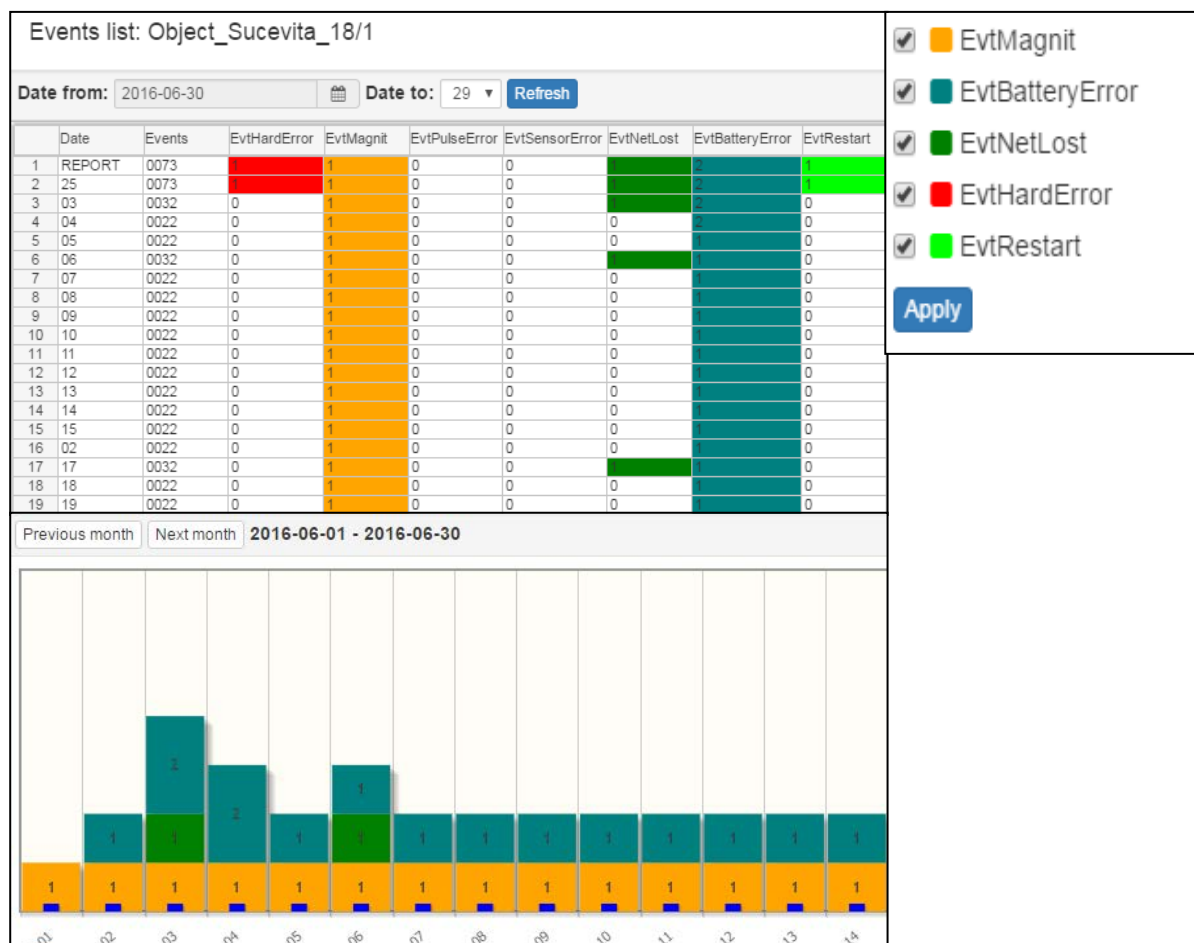
7.2.1 Events by node

For the analysis of a situation on streets, districts, cities and the countries, it is necessary to select in the menu *«object/node»* to select *«node»*. In addition there is an opportunity to display on graphics only those events which interest you. On this example in the menu are chosen the mode *«node»* is chosen node *«Fil_Botanica»* and *«Object events»*.

In the appeared window we select the events interesting us:
- *«EvtMagnit»* – influence of a magnet or short circuit of the magnetic sensor;
- *«EvtPulseError»* – sensor breakage;
- *«EvtBatteryError»* – discharge of the battery.

In the table are displayed all events by days of month, on graphics – only chosen. According to these data you can estimate current situation, what equipment it is necessary, and also result of the spent works.
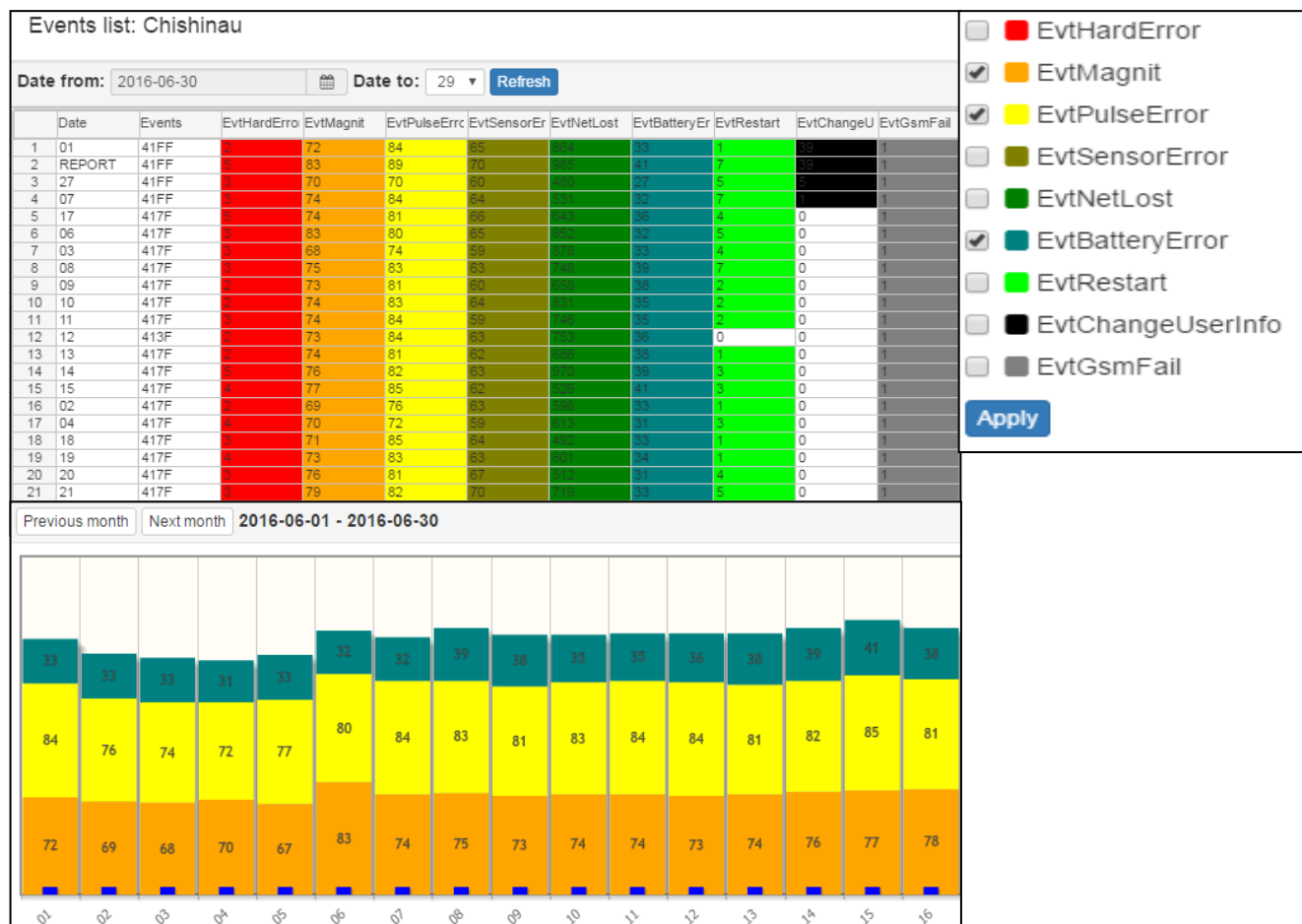
7.3 Object on the map

Clicking on the "Map Object" can see its location on the map.

The feature is useful if the operator needs to know exactly where is this place on the map.
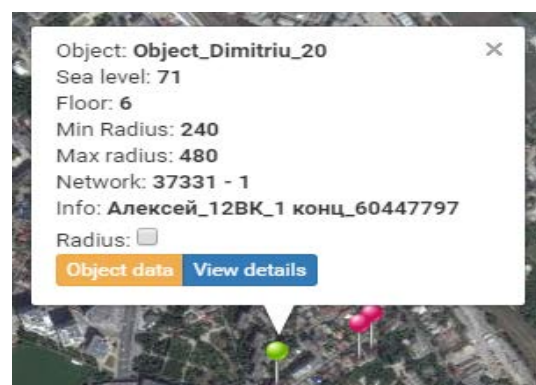
7.4 Tree meters

We have already considered this function above. It works the same as selecting "Tree meters" from the counter table.

7.5 Report (export of metering points data)

Function gives us opportunities to generate the report in the required format. To export data for metering point by clicking the right mouse button in the window that appears, select "Report". We can select how the date on which date to generate a report and how much we need the files.

To ensure maximum compatibility with other programs to select from 3 different data formats to save the files:

1. *Excel;*
2. *Csv;*
3. *Dbf.*

Select any format of the report and clicking on *«Report generator»* we offer some select data in the report.

The report is available not only at the level of object, but also at the level of the district, the city and the country. For this purpose it is necessary to select object or the district or the city or the country and an option *«Report»*. It is convenient when you have already many objects.

7.6 View fields

In function *«View fields»* we can include or switch off the following parameters:

The table "level of objects" contains the following fields:

Fields	Description
Key object	Technological key in the database
Object	Object name
Path	The full path to the object in the object tree (country, city, district)
Street	Street name
Street number	House number
Fleak	Total leakage of metering devices on object
Events	Concentrator events
Balance	(in work)
Data	Data: 0-in the project, 1 absence, 2-incomplete, 3-full
Total	Total installed radio modules on the object (node)
Send	Radio modules with sent data on object (node)
Lat.	Latitude object
Lng.	Longitude object
Networks _logic	Logical subnet
Networks _time	Time subnet
Sea level	Sea level of object
Floor	Object floors
Info	Data entry operator as a note
Min. radius	Minimum radius of a radio coverage
Max. radius	Maximum radius of a radio coverage
Concentrators	The number of the concentrators serving an object
js	Person juridical or physical

8. Menu tools

In «menu tools» it is possible to select the following operations:

1. Search;
2. Concentrator events;
3. Imort data;
4. Save window configuration.
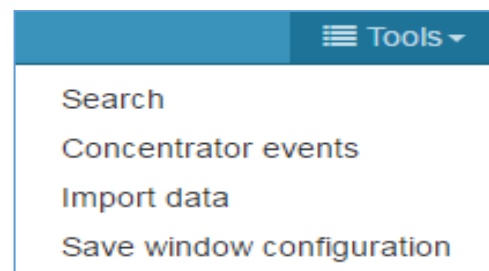
We will consider further each of points.

8.1 Search

Function «Search» - gives the chance to quickly find the radio module or the counter in the database on its serial number.

Example: If to set in the line «Search» serial number of the radio module it appears information on this radio module in the form of the table. If to press twice the appeared window, then we get to object in which table there is a radio module.

	Path	Key slave	Radiomodule	Port
1	All , Moldova , Chishinau , Fil_Centru , sector_centru , Mitrop. Dosoftei str. , Object_Mitrop.Dosoftei_126	1115	1111	2

8.2 Concentrator events

In the table *«Concentrator events»* are shown all concentrators which came to the server.
We can look the following information:
- concentrator technological key in base;
- serial number of the concentrator;
- concentrator phone number;
- installation date;
- time of addition of the concentrator in the database;
- date of addition of the concentrator in the database;
- flag of expectation of a call;
- the date of the last received data
- the event in a decimal format (isn't used);
- events in a binary format;
- the firmware version;

Concentrator events

|	Key master	Concentrator	Telephone	Soft. version	Date install	Time add	Date add	Flg wait call	Last recv. date	(10) events	Events
1	296	10253	079201443	0	2000-01-01	11:12:21	2013-01-30	1	2016-06-29	0	0000
2	586	10493	079201443	0	2000-01-01	14:27:07	2016-06-16	0	2016-06-29	608	0060
3	16	60	079201710	7	2000-01-01	18:11:31	2010-11-02	0	2016-06-29	513	0201
4	17	57	079201721	7	2000-01-01	18:11:31	2010-11-02	1	2016-06-29	513	0201
5	585	10492	079201443	0	2000-01-01	14:23:11	2016-06-16	0	2016-06-29	608	0060
6	583	10491	079201443	0	2000-01-01	14:12:02	2016-06-16	0	2016-06-29	608	0060
7	33	66	079201713	0	2000-01-01	18:11:31	2010-11-02	0	2016-06-29	1	0001
8	581	10490	079201443	0	2000-01-01	17:24:47	2016-06-15	0	2016-06-29	576	0240

Double click on the concentrator, we will open the graph where are shown events for the current month. There is a possibility of scrolling on months.
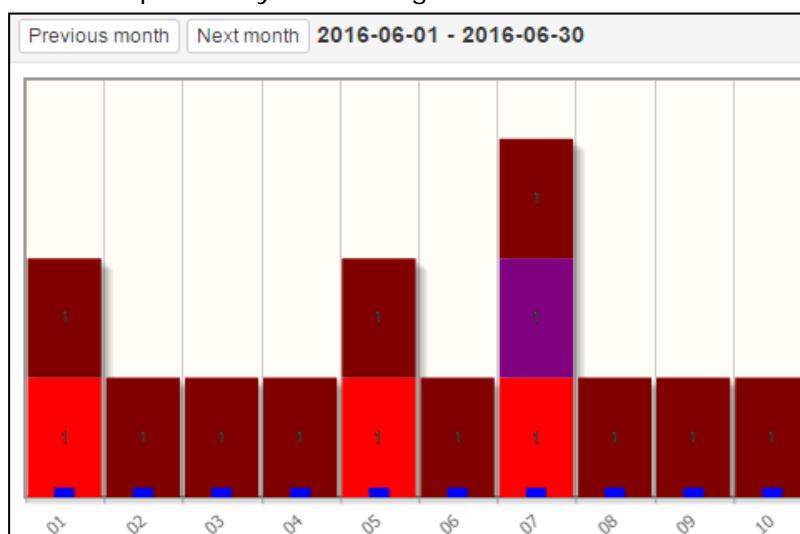
8.3 Import consumption data

In case of need data collection from the radio modules working without the concentrator which is stationary established on object is possible use concentrator with special version of firmware («manual collection»). Such concentrator is connected to the portable PC on USB. On the PC data are accepted by means of the "MyDemo" program.

It is similarly possible to obtain data (with application of MyDemo) at the bad / temporarily absent communication on GSM/GPRS or at emergency lack of power supply at the stationary concentrator. The received packets saved in files «*.da1» which then can be imported to the database of the server means of the PV program.

In the window that appears, select «open the folder» and specify a folder path in which are stored files «*.da1» information from which you want to transfer to the server. Having selected a folder path at which are stored files «*.da1» confirm correctness the selection folder, clicking the «ok» button , and program will execute import of information to the server, sequentially showing on the screen names of files from which is made import of data.

8.4 Save window configuration

In menu *«Save window configuration»* we keep changes which have made. That is having moved some column or the line in working windows as us can conveniently, save our changes. Also saved chosen for visualization data.

9. Other options

On the panel there is also a choice of language for the program and switching between *«Meter map»* and *«Objects»*.

One more menu where is the choice of time for viewing of data from objects and counters, and also other parameters, described below.

It includes the following functions and meaning:
1. *Date from;*
2. *Date to;*
3. *object;*
4. *GhEWH;*
5. *arhive;*
6. *Events;*
7. *simple;*
8. *bind_yes;*
9. *Period;*
10. *P+J;*
11. *Refresh.*

9.1 «Date from» which analyzes data

Here we can select the date with which we can see the data of interest to us.
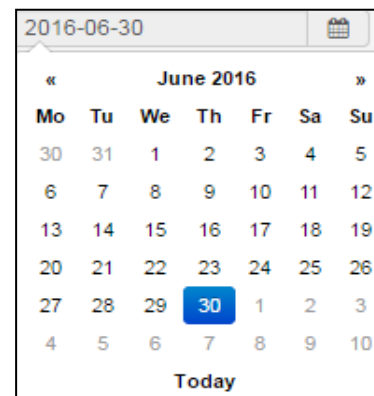
9.2 «Date to»- depth analysis of archived data

Here we can select the depth of analysis, that is, for what number of days we need data for the analysis.

9.3 Object/Node

Here we can select between *«object»* and *«node»*. The select item *«object»* the program will give us data on objects, if we select *«node»* then program will give us data on nodes.

If to select Moldova, and from a dropdown menu instead the standard function «Object» select function «Node» then instead of the object list you will see the list of the cities of Moldova.

For each city will be summarized:
- Leaks;
- Events;
- Activity status;
- Sum of the installed radio modules;
- Sum of active radio modules;
- Number of concentrators.

Also there is information in additional fields if their open.

		Object	Fleak	Events	Data	Total	Send	Lng.	Concentrators	js
			x	x	x	x	x	x	x	x
1	+	Balti	0	0x0000	0	0	0	27.93	0	0
2	+	Cahul	470	0x0018	3	105	105	28.19	3	2
3	+	Chishinau	46281	0x41FF	2	26772	23391	29.07	516	3
4	+	Hincesti	0	0x0000	0	0	0	28.59	0	0
5	+	Ialoveni	70	0x0010	2	84	74	29.16	12	3
6	+	Orhei	0	0x0000	3	2	2	28.82	2	3
7	+	Soroca	0	0x0000	0	0	0	28.31	0	0
8	+	Ungheni	0	0x0000	3	1	1	27.80	1	2

If you select for example Chisinau city - by right button opens the menu in which you can:
- Look data on node;
- Look events on node;
- Create the report on node;
- Look and edit the fields that displayed on the screen.

It is necessary remember that all information is displayed only within the rights the operator. So if the operator is responsible for the district Botanica, then at the choice of the Chishinău node, data will be only on Botanica district.

		Object	Fleak	Events	Data	Total	Send	Lng.	Concentrators
			x	x	x	x	x	x	x
1	+	Balti	0	0x0000	0				
2	+	Cahul	470	0x0018	3	Object data			
3	+	Chishinau	46281	0x41FF	2	Object events			
4	+	Hincesti	0	0x0000	0				
5	+	Ialoveni	70	0x0010	2	Report			
6	+	Orhei	0	0x0000	3				
7	+	Soroca	0	0x0000	0	View fields			
8	+	Ungheni	0	0x0000	3				

9.4 «GhEWH» – energy resource filter

Here we can select between «Gaz», «heat_0», «Electricity», «Water», «GW», «Heat_1», «hH», «GhEWH» or «all». In this menu, to us offer what types of data to us analyze. We can select the following type data:

- «Gas» - selecting data type «gas» we will see in our table only data with objects and meters on gas.
- «Heat_0» - selecting data type «Heat_0» we will see in our table only data with objects and meters on heat.
- «Electricity» - selecting data type «electricity» we will see in our table only data with objects and meters on electricity.
- «Water» - the selecting data type «water» we will see in our table only data with objects and meters on water.
- «GW» - selecting data type «GW» we will see in our table joint data with objects and meters on «GW» («gas» + «water»).

- «*Heat_1*» - selecting data type «*heat_1*» we will see in our table data with objects with standard meters with an impulse output on heat.
- «*hH*» - selecting data type «*hH*» that is «*heat_0*» and «*heat_1*» we will see in our table data on heat as from the instruments DJV-COM so and other objects with standard meters with pulse output for heat.
- «*GhEWH*» - selecting data type «*GhEWH*» that is «*gas*», «*heat_0*», «*electricity*», «*water*», «*heat_1*» we will see data our table on gas, heat, electricity, water.
- «*All*» - selected data type «*all*» we will see all data types in our table.

9.5 Arhive/Current

Here we can select between «*arhive*» and «*current*». If to select «archive», then the program will give us data which radio modules send automatically. Choosing «*current*» we will see data which have been collected in the mode «*manual data collection*» or are requested by command «*get data*».

9.6 Events (filter of events)

In this menu to us suggest to select what events we want to look, but be attentive, at the choice of events in the menu «*Events*» it is painted in red color, it means that in tables will be only apartments with the chosen events, so for example at the choice of object, «Burebista 40/2» from 160 apartments is shown only one apartment where the chosen events (accident) are observed.

As well upon transition to the map will be displayed only objects where occurred these events. It is useful by drawing up and optimization of a route for service of the AMM system BALANCE.

When you have finished work with filters of accidents, don't forget to come into the menu *«Events»* and pull off the choice of events, with the icon "Events" should stop being red. Otherwise you won't see the full list of the objects and apartments.
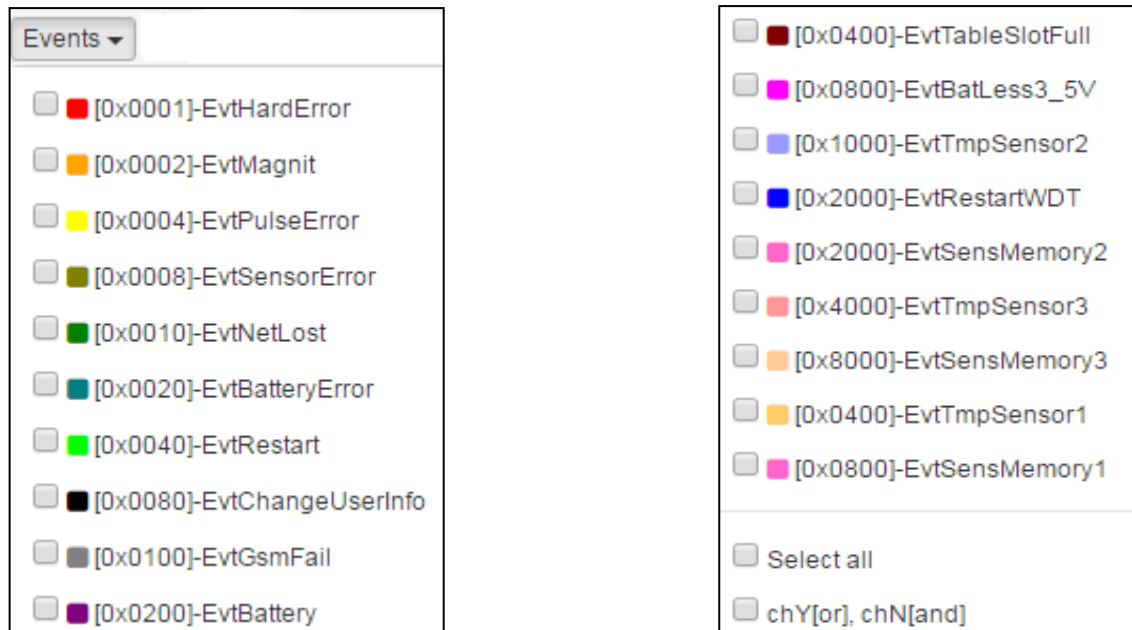
Point «Select all» - allows to note/cancel all events, the tick in the field «chY[or], chN[and]» - allows to show all objects in which there is at least one of the selected events, and it absence shows only objects at which there are all chosen events.

To generate a report on the events, in the menu *«Events»* mark interesting, for example as in the previous case, select a node *«Fil_Botanica»* and further in the menu of objects select, the *«Report».* This will generate a report that includes only the apartments, where there are events you selected.

9.7 Simple
Here we can select between *«simple»* and *«balance»*. This menu for balance groups.

9.8 All
Here we can select between *«bind_yes»*, *«bind_no»* and *«all».*
- *«bind_yes»* - show objects linked to the map;
- *«bind_no»* - show objects not attached to the map;
- *«all»* - show all objects

9.9 «30» - threshold of reliability of events "leak"

The default is 30. These numbers mean the leak level if it is above 30, that in the program leak will be marked in red and displayed on the object level, the streets level and the city level. The recommended threshold of 30 points. The threshold of 10 - will display information on the level of objects and also about the weak leakage, the threshold 50 and above - only about strong leaks.

9.10 «P+J» - filter juridical/physical persons

In this menu we can select between «juridical person», «physical person» or those.

9.11 Refresh

Selecting any function from the menu, for its entry into force, you must click *«Update»*.

10. Possibilities of the administrator

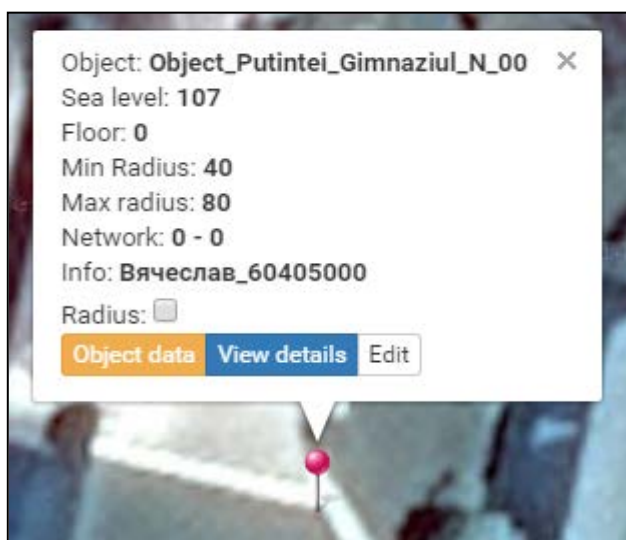It describes the possibility that only the administrator:

- editing object;
- editing meter;
- commands to the concentrator.

10.1 Full access - the map

The administrator can edit object on the map. By clicking on the "Edit" get into such a table where can edit:

- Object name;
- Sea level;
- Floor;
- Min Radius;
- Max radius;
- Network;
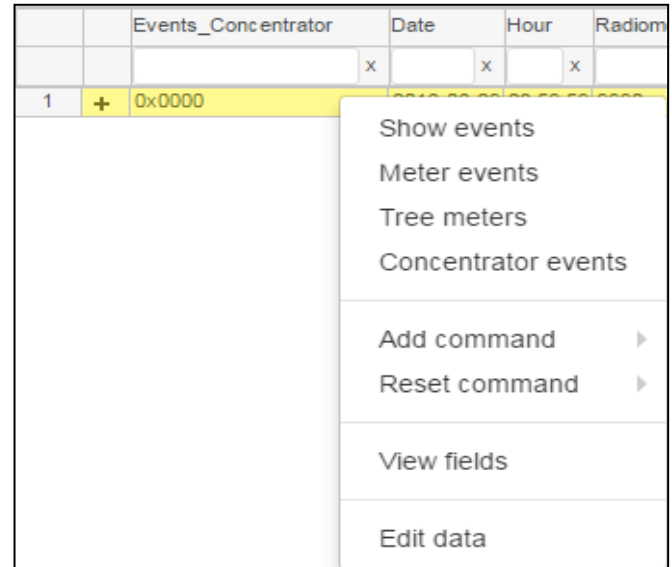- The provision of object on the map (movement of object).

At the end can save changes or cancel.
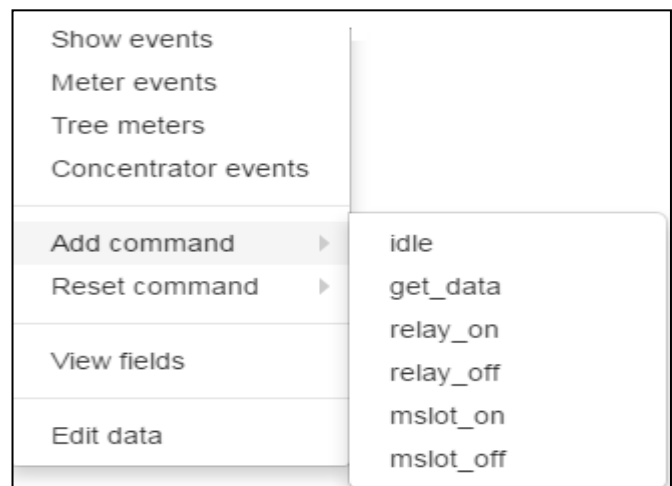
10.2 Full access - the meter

When working with data on the object, when clicking by the right mouse button on the meter, the following functions will appear:

Points *«Show events»*, *«Meter events»*, *«Tree meters»*, *«Concentrator events»*, *«View fields»* we have already told above.

Function *«Add command»* has the following items:
- *«Idle»;*
- *«Get_data»;*
- *«Relay_on»;*
- *«Relay_off»;*
- *«Mslot_on»;*
- *«Mslot_off».*

- *«Idle»* - if to send to the concentrator command *«Idle»* then the concentrator won't work on radio. This function can be used if there are any works.
- *«Get_data»* - it is command gives us the chance to request in real time data from the radio module.
- *«Relay_on»* - command to the radio module on cutoff of energy resource.
- *«Relay_off»* - command to the radio module on energy resource inclusion.

Note: when using the relay (valves) where isn't provided automatic inclusion but only manual, the command for energy resource inclusion just removes a flag of a condition of the switched-off relay. To run these commands (*«Get_data»*, *«Relay_on»*, *«Relay_off»*) - at first you make request (for management of the relay) then you call on a concentrator phone number, the request is sent. The answer can come within 3 - 7 minutes, perhaps, it will be required to call once again on the concentrator. A guarantee of delivery of command of 95% - 100%. If you haven't received the answer within 20 minutes, you can repeat inquiry (command).

- *«Mslot_on»* - the command gives permission to the radio module to build a tree of data after it (it can transmit data from other radio modules – by default included).

- *«Mslot_off»* - the command forbids the radio module to build a tree of data after it.

Function «Reset command» allows to cancel commands which have been given earlier if the concentrator did not go on-line (you did not call on him).

Function *«Edit data»* depending on the rights of the operator. Fields of the user can be edited directly on a web application in the mode protected from hacker attacks now. For this purpose right-click on the selected apartment and select the mode from a dropdown menu *«Edit data»*.

In the opened menu you can change any of fields:
- Number of the radiomodule;
- Number of the counter;
- Initial indications of the counter;
- Additional information;
- Recalculation coefficient;
- Number of the apartment;
- Floor;
- Name and surname of the user;
- Identification number;
- Personal information (phone No.);
- E-mail address;
- Counter installation date;
- Radio module installation date;
- Date of the last replacement of batteries;
- Counter type (producer);
- Availability of remote shutdown;
- Any information *«notebook»*;

After that select the field *«Save»*.

Edit data

Radiomodule:	9990	**Tel.:**	0
Counter:	31095598	**Mob.:**	0
Initial:	0.1800	**E-mail:**	--
Additional:	0.0000	**Count install date:**	2000-01-01
Recalc:	10	**Radiomodule install date:**	2000-01-01
Apartament:	--		
Floor:	0	**Date install battery:**	2000-01-01
Name:	--	**Count types:**	BK
Idnp:	--	**Relay install:**	0
js:	physical	**Radiomodule information:**	info_slave

Save previous data ☐

Save