

A photograph of the Alexander Nevsky Cathedral in Sofia, Bulgaria, under a blue sky with wispy clouds. The cathedral is a large, ornate building with multiple domes and a tall bell tower. The foreground shows a paved square and some trees.

**Sofia water – from opinion driven to  
data driven decisions**

# Sofiyska Voda - Key Figures

- ✓ 25 years Concession Agreement (signed in year 2000)
- ✓ Veolia is a majority shareholder since 2010
- ✓ 77.1 % shares – Veolia ; 22.9 % – Municipality of Sofia
- ✓ 5 years business plans; Active BP – 2017-2021

## 2019 key figures:

- ✓ Revenue – 105 M €
- ✓ EBITDA – 48 M €
- ✓ Investments – 24 M €
- ✓ Employees – 1186

**Planned BP Investments  
(2017-2021) - 107 M €**

- ✓ 1.3 M serviced population
- ✓ 4 Drinking water treatment plants
- ✓ 152.6 M m<sup>3</sup> production of water (2016)
- ✓ 4000 km water supply network
- ✓ 16 pumping stations
- ✓ 64 service reservoirs
- ✓ Network efficiency – 52.4 % (2016)
- ✓ 1600 km sewerage network
- ✓ 2 Waste water treatment plants





# Where we were?

- Delayed reactions;
- Main communication channels – fax, phone, paper letters;
- Data verification and follow-up, YES but not all the time;
- Data bases – not integrated, on paper, Access or Excel based;
- Often decisions taken based on intuition and/or feelings;
- KPIs collected at the end of the year, no ongoing monitoring;
- Many trees cut.



# Where we are now?

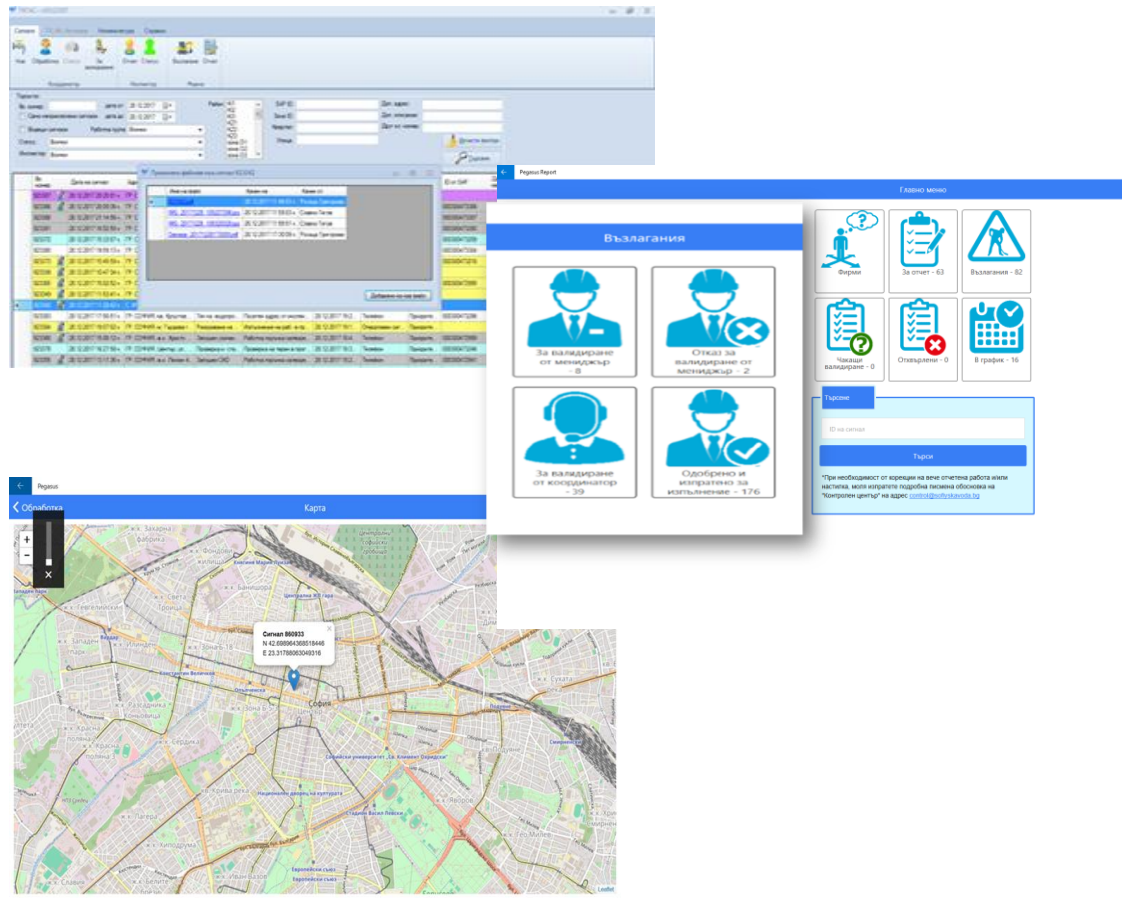
- ❑ Sofiyska voda is the only Bulgarian water operator which implemented all the required by the State Regulator registries and data bases through dedicated software;
- ❑ SCADA systems in place;
- ❑ GIS in place;
- ❑ CRM and ERP systems in place;
- ❑ Online and real time monitoring in place;
- ❑ Monthly monitoring of the company's KPIs
- ❑ The company's digital trip is in progress;
- ❑ Virtual customer support center in progress.



**All this happened because of the top management support and end user need to be more effective and efficient**

# Some examples: Pegasus – management of operational events/cases

- The system (desktop and mobile version) allows for management of all signals received from citizens of Sofia, related to problems with the water supply and sewerage network through the Control Center of Sofia Water;
- Real-time signal management, including planning and performing the needed repairs of the network;
- Effective distribution and task allocation of the teams on the field;
- Ability to position the address of the actual construction/repair work on the city's map and company's GIS;
- All the data goes through constant validation by different management levels;
- **The system is constantly updated and new modules and functionalities added.**



# Some examples: Phoenix – integrated data base for energy balance, sludge management, connection contracts

- Tailor made software solution, replacing and consolidating existing excel and paper files and linked to different sources of data;
- Data base accumulating information for the company's production and usage of electricity, sludge production and utilization, contract for the connection of customers to the network and consumption of water for technological needs;
- The data base is directly linked and obtaining data from other company's systems and data bases.
- The data is validated by the respective senior managers and if corrections are needed, these have to be approved by their superiors. All version and correction logs are saved. That allows for traceability and reliability of the data;

The screenshot displays the Phoenix software interface, which is a web-based application for energy management. The main menu, titled "Меню Енергия", contains several modules, each represented by an icon and a title:

- Формиране на разходи за доставка на енергия** (Formation of costs for energy delivery) - Icon: Plug and meter.
- Префактуриране** (Pre-billing) - Icon: Clipboard with checkmark.
- Енергия, фактурирана от външни доставчици** (Energy, billed from external suppliers) - Icon: Plug and meter.
- Небаланс** (Imbalance) - Icon: Bar chart.
- Производство Кубратово** (Kubratovo Production) - Icon: Wind turbine.

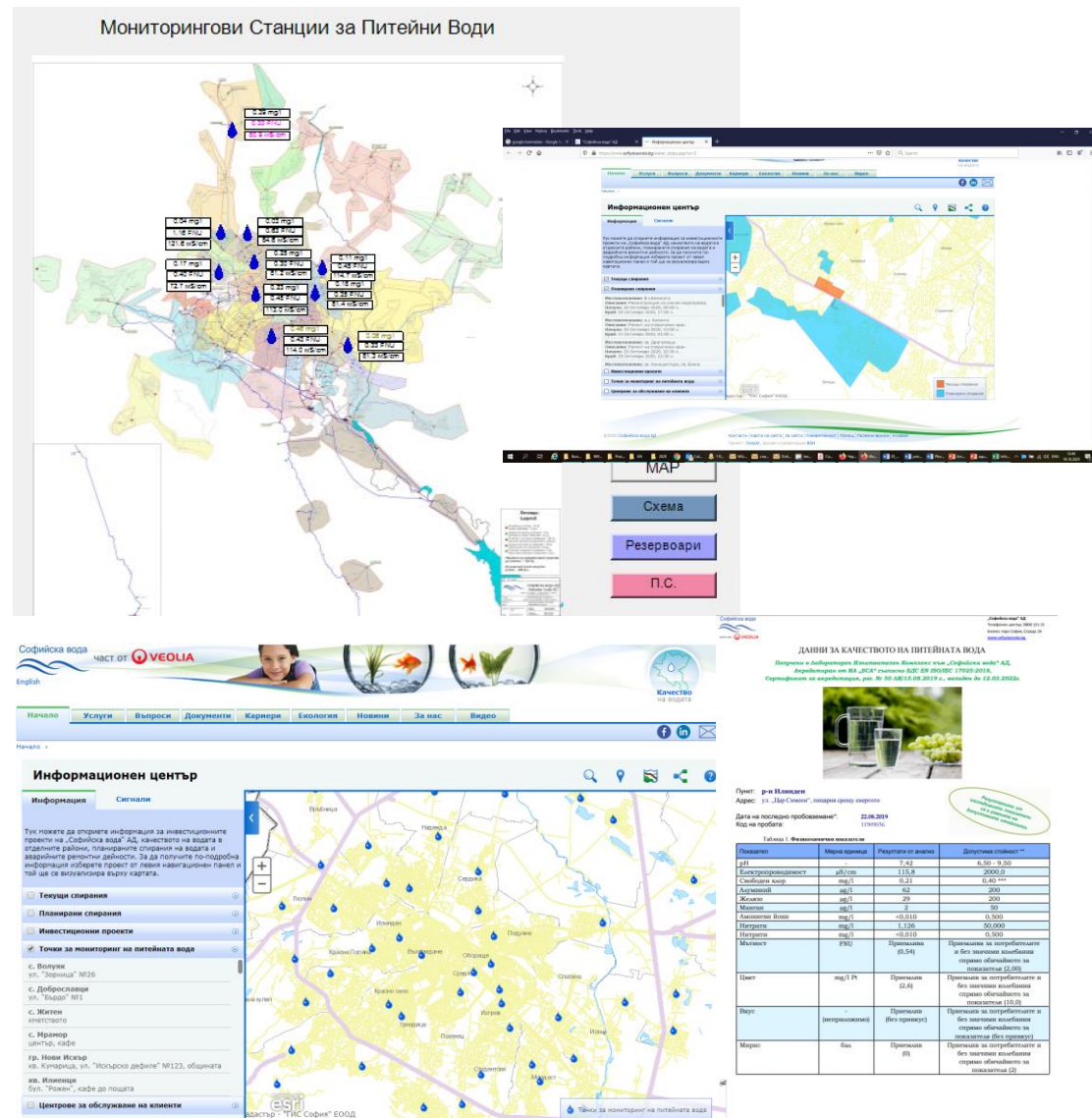
Each module has buttons for "Нови данни" (New data), "Редакция" (Edit), "Преглед" (View), and "Одобряване" (Approve). To the right, a secondary menu titled "МЕНЮ" shows icons for "Утайки" (Sludge), "Енергия" (Energy), "Говори за присъединяване" (Talk about connection), and "Законна неизмерена консумация" (Legal unmeasured consumption). At the bottom, a window titled "Калкулация-преглед/редакция на данни" (Calculation-view/edit data) displays a table of data.

ИД	Дата от	Дата до	GPS_ID	Рег. N	Пръжителност[min]	Дебит [m3/min]	Чиста вода
49562	3/1/2020 9:05:2	3/1/2020 9:07:43	171208	CA 4847 TM	2.26666666666667	0.072	
49563	3/1/2020 10:09	3/1/2020 10:10:4	171208	CA 4847 TM	1.68333333333333	0.072	
49564	3/1/2020 11:22	3/1/2020 11:54:5	171208	CA 4847 TM	31.9166666666667	0.072	
49565	3/1/2020 12:13	3/1/2020 12:49:1	171208	CA 4847 TM	36.2	0.072	
49566	3/1/2020 4:30:5	3/1/2020 4:57:12	171208	CA 4847 TM	26.2833333333333	0.072	
49567	3/1/2020 6:25:1	3/1/2020 6:27:05	171208	CA 4847 TM	1.8	0.072	
49568	3/2/2020 9:50:0	3/2/2020 9:57:21	171208	CA 4847 TM	7.2	0.072	
49569	3/2/2020 10:31	3/2/2020 10:34:4	171208	CA 4847 TM	3.18333333333333	0.072	
49570	3/2/2020 10:35	3/2/2020 11:19:3	171208	CA 4847 TM	44.5333333333333	0.072	
49571	3/2/2020 11:20	3/2/2020 11:32:0	171208	CA 4847 TM	11.55	0.072	
49572	3/2/2020 11:42	3/2/2020 11:47:1	171208	CA 4847 TM	5.3	0.072	
49573	3/2/2020 11:48	3/2/2020 11:55:0	171208	CA 4847 TM	6.23333333333333	0.072	
49574	3/2/2020 12:07	3/2/2020 12:25:4	171208	CA 4847 TM	18.6166666666667	0.072	
49575	3/2/2020 12:29	3/2/2020 12:34:2	171208	CA 4847 TM	4.75	0.072	
49576	3/2/2020 12:35	3/2/2020 12:36:1	171208	CA 4847 TM	0.816666666666667	0.072	
49577	3/2/2020 12:38	3/2/2020 12:44:5	171208	CA 4847 TM	6.93333333333333	0.072	
49578	3/2/2020 12:47	3/2/2020 12:52:4	171208	CA 4847 TM	5.01666666666667	0.072	
49579	3/2/2020 12:54	3/2/2020 1:01:33	171208	CA 4847 TM	7.5	0.072	
49580	3/2/2020 1:06:0	3/2/2020 1:08:41	171208	CA 4847 TM	2.61666666666667	0.072	
49581	3/2/2020 3:07:3	3/2/2020 3:26:34	171208	CA 4847 TM	18.9166666666667	0.072	
49582	3/2/2020 4:01:5	3/2/2020 4:19:39	171208	CA 4847 TM	17.6833333333333	0.072	
49583	3/2/2020 6:50:3	3/2/2020 6:54:55	171208	CA 4847 TM	4.16666666666667	0.072	
49584	3/2/2020 7:16:5	3/2/2020 7:18:04	171208	CA 4847 TM	1.1	0.072	
49585	3/3/2020 9:29:4	3/3/2020 9:40:02	171208	CA 4847 TM	10.35	0.072	
49586	3/3/2020 11:29	3/3/2020 12:02:3	171208	CA 4847 TM	33.3	0.072	
49587	3/3/2020 12:04	3/3/2020 12:08:4	171208	CA 4847 TM	4.68333333333333	0.072	



# Some examples: Online monitoring of the drinking water quality and interactive map

- 5 monitoring points, 20 devices for raw water in river catchments - temperature; turbidity; electrical conductivity;
- 40 devices for monitoring the production of drinking water – temperature, pH, turbidity, electrical conductivity, absorption units (organics), residual chlorine, organics, number of particles (0.2-0.5 micrometers), pressure;
- 10 devices for monitoring drinking water distribution – temperature, residual chlorine, turbidity, conductivity;
- Interactive city map with indicated all the existing points for the monitoring of the drinking water along with data for the main parameters;
- Interactive city map with indicated all the planned and emergency water interruptions at real time.



# Opinion driven vs. data driven decisions?

- ✓ How many times, when your kid asked-WHY, you answered-  
BECAUSE I AM OLDER THAN YOU AND THAT IS MY VIEW ON  
THE TOPIC;
- ✓ Reliable data in place is a must for effective and efficient  
management decisions;
- ✓ **But having reliable data is just not enough;**
- ✓ We have to know what to do with the data and how to use it;
- ✓ The data should be well structured, analyzed and demonstrating  
certain trends and tendencies;
- ✓ The data should be comparable within and outside the organization  
– the IAWD's Utility benchmarking programme is such a concept;
- ✓ We have started the preparation of the company's next Business  
plan 2022-2026 where the collected data from the current regulatory  
period will be the basis for the forecast.
- ✓ AI and predictive analysis based on structured sets of data will be  
more and more used in near future, even in the water sector.



# THANK YOU FOR YOUR ATTENTION!

