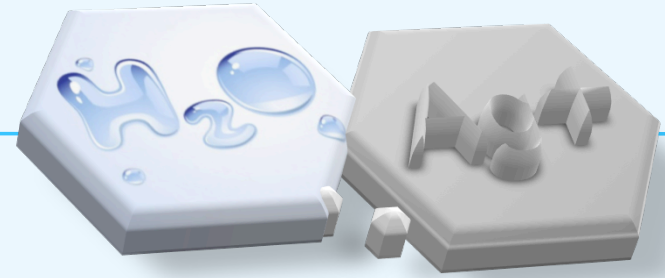


INTERNATIONAL RESEARCH INSTITUTE FOR ADVANCED
SYSTEMS (IRIAS)
CENTER FOR INTRODUCTION FOR
ADVANCED TECHNOLOGIES

A group of scientists of the IRIAS, has developed a technology for the production of nanosilver sorbent, to obtain drinking water with unique healing properties and antibacterial protection.



SILVER WATER



Worldwide known and scientifically proven useful properties of silver.

Silver is a natural bactericidal substance that has a detrimental effect on more than 650 species of pathogenic bacteria (unlike antibiotics, which are effective only against 15-20 species) and, moreover, resistance to silver is not developed.

Silver is absolutely non-toxic and can be used for children from the first days of life.

DISADVANTAGES OF MODERN TECHNOLOGIES

Modern technologies allow to obtain colloidal silver from solutions of silver salts (some of them are toxic)

The main problem of this method-the particles are quite large, they cant be stable for a long time and they precipitate in a few days and also deposited on the walls of tank. That is, the solutions are unstable. To avoid this, some manufacturers introduce stabilizers, such as protein or glycerin

The other problem is their size, they are difficult to digest by the body

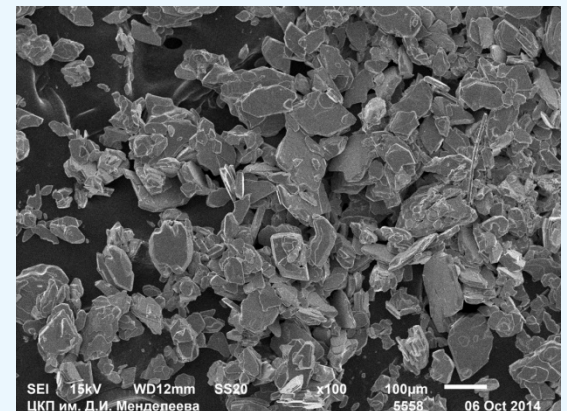
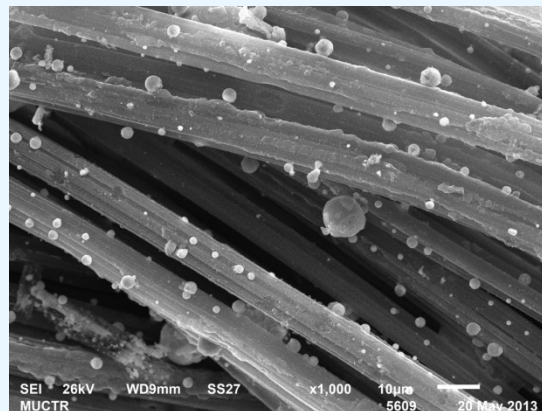
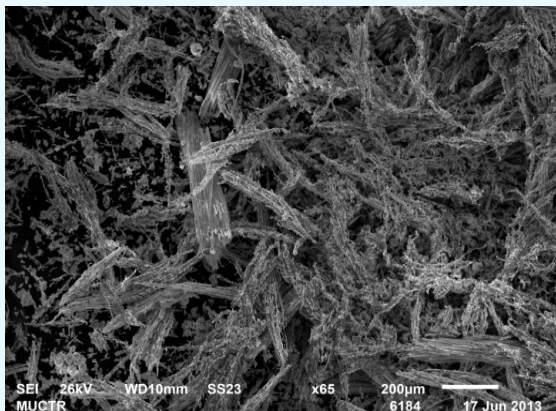
We have investigated more than a dozen samples of silver water and silver solutions on the market and, contrary to the statements of manufacturers, found only residual traces of silver

WHAT IS IT (OUR SILVER WATER) ?

To be suspended for a long time, the size of silver particles should be comparable to the size of water atoms and participate in the Brownian motion. Our technology the Silver Fleece is designed to solve this problem

The technology of the Silver Fleece is based on the method of growing nanoscale structure of metallic silver. The structure is a network of very thin silver fibers covered with the smallest nanoscale "pile"

The area of the obtained sorbent is 1 700 m² per cm³

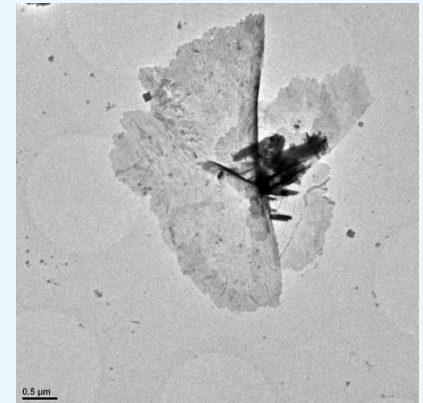
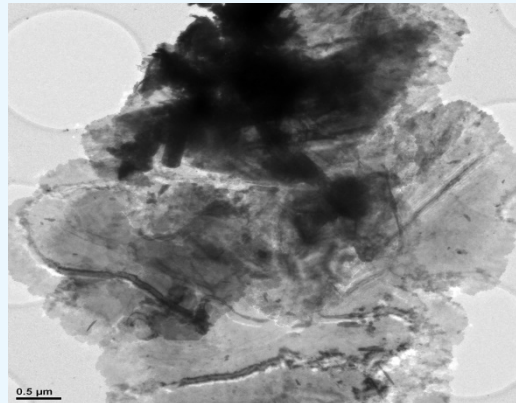
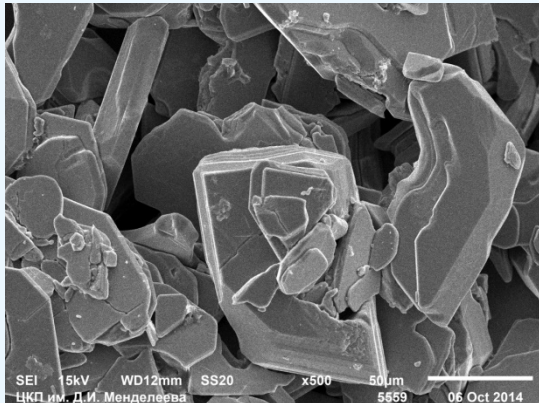


WHAT IS IT (OUR SILVER WATER) ?

This innovative structure allows to obtain silver water with unique characteristics

Water filtered through the silver Fleece sorbent is saturated with silver ions and nanoparticles at very high concentrations (up to 2000 $\mu\text{g} / \text{l}$)

To develop such a technology competitors will need 5-10 years of hard work and huge financial investments



WHAT HAPPENS TO THE BODY BY USING SILVER WATER



By using silver water a person is practically not exposed to epidemics of colds, including flu of all kinds. Gets protection from gastrointestinal infections and stuff.

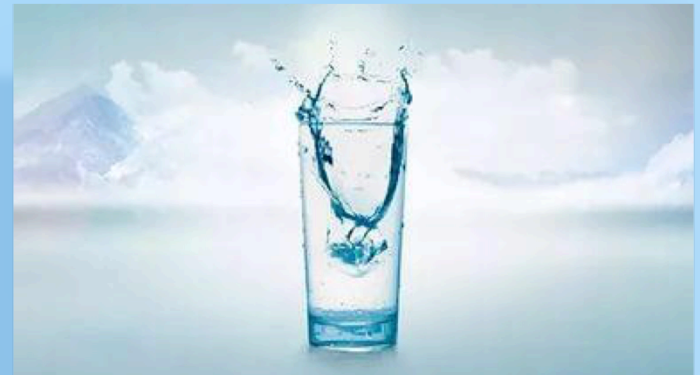
Increased by 24% the absorption of oxygen by tissues of the brain, in consequence of which improve cognitive abilities.

With strong bacteriostatic and bactericidal properties, silver water provides powerful support for immunity

PRINCIPLE OF OPERATION

The cells of the body are like sponges and after a while our water gently and carefully saturates them with silver ions and particles, ensuring the protection of your body.

Daily consumption rate of 1 liter



SILVER WATER IS EFFECTIVE IN DISEASES

ENT ORGANS

- × *Flu*
- × *ARI (rhinitis, sinusitis tonsillitis, etc.)*
- × *Angina*
- × *Condition after tonsillectomy*

ORAL CAVITY

- × *Periodontal disease*
- × *Stomatitis*
- × *Gingivitis*



SILVER WATER IS EFFECTIVE IN DISEASES

GASTROINTESTINAL TRACT

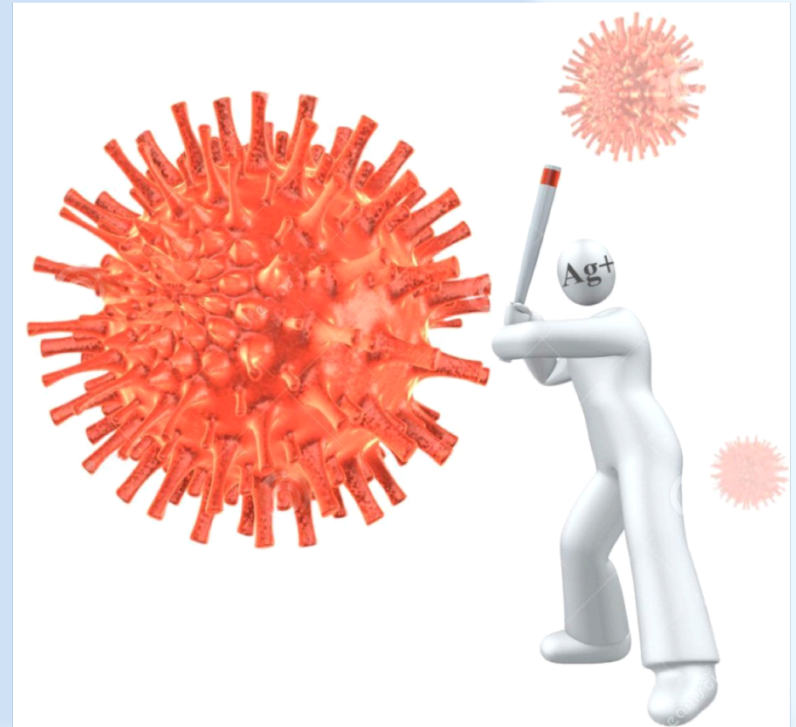
- × *Chronic gastritis*
- × *Gastric ulcer and 12-duodenal ulcer*
- × *Acalculous cholecystitis*
- × *Chronic colitis*
- × *Dysbacteriosis*

BRONCHOPULMONARY DISEASES

- × *Bronchitis (acute and chronic)*
 - × *Pneumonia*
 - × *Bronchoectatic disease*
 - × *Mucoviscidosis*
-

THE ANTISEPTIC EFFECT OF SILVER WATER IS PARTICULARLY EFFECTIVE IN THE TREATMENT OF SKIN, FUNGAL AND OTHER INFECTIOUS DISEASES

- × *Acne*
- × *Purulent wounds*
- × *Burns*
- × *Dermatosis*
- × *Eczema*
- × *Psoriasis*
- × *Different types of fungi*
- × *Urogenital infections*
- × *Venereal diseases*
- × *Hepatitis*

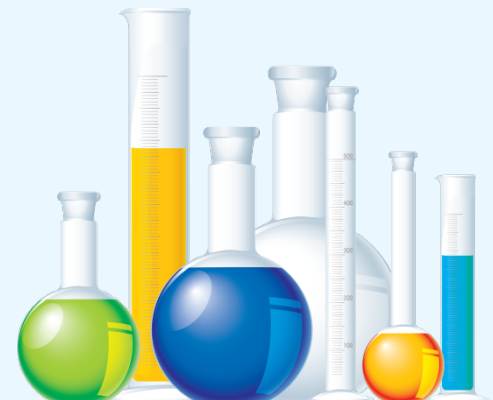


THE GOAL IS TO CREATE A PREMIUM SEGMENT PRODUCT.

- ✘ *Any manufacturer tries to occupy all niches and price segments in the market. Our unique technology will allow the manufacturer of bottled water to create a top line of water in the highest price segment*
- ✘ *The premium segment will allow to increase revenue from the unit of output*
- ✘ *The company's entry into the market with an innovative product will declare it as a modern, dynamically developing*
- ✘ *Increase market status and brand awareness, which will further increase revenue in existing product lines*
- ✘ *The production of our unique silver water is a highly profitable business with high margins*

WHAT DO WE OFFER FOR THE PRODUCTION OF SILVER WATER

- ✘ *Build a plant for the production of silver filter adsorbent.*
- ✘ *To make filters from the produced sorbent (production and Assembly of filters is possible both at the plant and at other enterprises).*



WHAT DO WE OFFER FOR THE PRODUCTION OF SILVER WATER

- ✘ *Deliver the complete set of filter to the place of water filtration.*
- ✘ *Make concentrate*
- ✘ *Dilute the concentrate with water from a local source and pour into bottles.*



HIGH CLASS WATER SILVER CONTENT 50 µKG / L

THE COST OF SILVER WATER. THE COST OF CREATING. TERM OF CREATION-6 MONTHS. PAYBACK PERIOD ACCORDING TO THE TABLE. SCALE OF PRODUCTION OPTIONS.

No	Production T/ year	Initial cost \$	Costs of bottling and advertising \$/L	Production of filters \$/L	Estimated Gross Revenue \$/L	Estimated Gross Profit \$/L	project payback / months
1	1 080	\$300 000,00	\$0,30	\$2,00	\$4,00	\$1,70	2,0
2	1 800	\$450 000,00	\$0,28	\$2,00	\$4,00	\$1,72	2,0
3	3 600	\$750 000,00	\$0,26	\$2,00	\$4,00	\$1,74	1,5
4	5 400	\$1 000 000,00	\$0,25	\$2,00	\$4,00	\$1,75	1,3
5	7 200	\$1 250 000,00	\$0,23	\$2,00	\$4,00	\$1,77	1,2

- Water with silver content 50 mcg / L has a pronounced therapeutic effect.
- Water with a silver content of 50 mcg / L is prepared by diluting a concentrate of an aqueous solution of silver > 1000 mcg / L to a concentration of 50 mcg / L
- Initial costs are one-time costs for the creation of a filter sorbent manufacturing plant.
- The cost of bottling and advertising - for a bottle with a capacity of 1L weighted average, differs for each region
- Gross profit and gross revenue - profit before local taxes and fees
- Project payback - after reaching the design capacity
- Retail price should not fall below \$ 5.5 / L
- Holiday wholesale not lower than \$ 4 / L
- The company-manufacturer of filters at its own expense maintains the filtering equipment in working condition and performs scheduled replacement and regeneration of filters.

HIGH CLASS WATER SILVER CONTENT 25 µKG / L

THE COST OF SILVER WATER. THE COST OF CREATING. TERM OF CREATION-6 MONTHS. PAYBACK PERIOD

ACCORDING TO THE TABLE. SCALE OF PRODUCTION OPTIONS.

No	Production T/ year	Initial cost \$	Costs of bottling and advertising \$/L	Production of filters \$/L	Estimated Gross Revenue \$/L	Estimated Gross Profit \$/L	project payback / months
1	1 080	\$200 000,00	\$0,30	\$1,10	\$2,50	\$1,10	2,5
2	1 800	\$300 000,00	\$0,28	\$1,10	\$2,50	\$1,12	2,0
3	3 600	\$450 000,00	\$0,26	\$1,10	\$2,50	\$1,14	1,5
4	5 400	\$600 000,00	\$0,25	\$1,10	\$2,50	\$1,15	1,5
5	7 200	\$750 000,00	\$0,23	\$1,10	\$2,50	\$1,17	1,0

- Water with a silver content of 25 mcg / L has a therapeutic effect.
- Water with a silver content of 25 mcg / L is prepared by diluting a concentrate of an aqueous solution of silver > 1000 mcg / L to a concentration of 25 mcg / L
- Initial costs are one-time costs for the creation of a filter sorbent manufacturing plant.
- The cost of bottling and advertising - for a bottle with a capacity of 1L weighted average, differs for each region
- Gross profit and gross revenue - profit before local taxes and fees
- Project payback - after reaching the design capacity
- Retail price should not fall below \$ 3.5 / L
- Holiday wholesale not lower than \$ 2.5 / L
- The company-manufacturer of filters at its own expense maintains the filtering equipment in working condition and performs scheduled replacement and regeneration of filters.

HIGH CLASS WATER SILVER CONTENT 10 µKG / L

THE COST OF SILVER WATER. THE COST OF CREATING. TERM OF CREATION-6 MONTHS. PAYBACK PERIOD ACCORDING TO THE TABLE. SCALE OF PRODUCTION OPTIONS.

No	Production T/ year	Initial cost \$	Costs of bottling and advertising \$/L	Production of filters \$/L	Estimated Gross Revenue \$/L	Estimated Gross Profit \$/L	project payback / months
1	1 080	\$200 000,00	\$0,30	\$0,60	\$1,50	\$0,60	2,5
2	1 800	\$300 000,00	\$0,28	\$0,60	\$1,50	\$0,62	2,0
3	3 600	\$450 000,00	\$0,26	\$0,60	\$1,50	\$0,64	1,5
4	5 400	\$600 000,00	\$0,25	\$0,60	\$1,50	\$0,65	1,5
5	7 200	\$750 000,00	\$0,23	\$0,60	\$1,50	\$0,67	1,0

- Water with silver content 10 mcg / L has a pronounced therapeutic effect.
- Water with a silver content of 10 mcg / L is prepared by diluting a concentrate of an aqueous solution of silver > 1000 mcg / L to a concentration of 10 mcg / L
- Initial costs are one-time costs for the creation of a filter sorbent manufacturing plant.
- The cost of bottling and advertising - for a bottle with a capacity of 1L weighted average, differs for each region
- Gross profit and gross revenue - profit before local taxes and fees
- Project payback - after reaching the design capacity
- Retail price should not fall below \$ 2.5 / L
- Holiday wholesale not lower than \$ 1.5 / L
- The company-manufacturer of filters at its own expense maintains the filtering equipment in working condition and performs scheduled replacement and regeneration of filters.

HIGH CLASS WATER SILVER CONTENT 1000 µKG / L

THE COST OF SILVER WATER. THE COST OF CREATING. TERM OF CREATION-6 MONTHS. PAYBACK PERIOD ACCORDING TO THE TABLE.

SCALE OF PRODUCTION OPTIONS.

No	Production T/year	Initial cost \$	Costs of bottling and advertising \$/L	Production of filters \$/L	Estimated Gross Revenue \$/L	Estimated Gross Profit \$/L	project payback / months
1	54	\$300 000,00	\$0,70	\$32,00	\$65,00	\$32,30	2,5
2	90	\$450 000,00	\$0,66	\$32,00	\$65,00	\$32,34	2,0
3	180	\$750 000,00	\$0,64	\$32,00	\$65,00	\$32,36	2,0
4	270	\$1 000 000,00	\$0,62	\$32,00	\$65,00	\$32,38	1,5
5	360	\$1 250 000,00	\$0,60	\$32,00	\$65,00	\$32,40	1,5

- Concentrate of an aqueous solution of silver 1000 mcg / L can be used for rinsing, inhalation, treating wounds, etc., as well as for preparing water for drinking the desired concentration
- Initial costs are one-time costs for the creation of a filter sorbent manufacturing plant.
- The cost of bottling and advertising - for a bottle with a capacity of 1L weighted average, differs for each region
- Gross profit and gross revenue - profit before local taxes and fees
- Project payback - after reaching the design capacity
- Retail price should not fall below \$ 80 / L
- Holiday wholesale not lower than \$ 65 / L
- The company-manufacturer of filters at its own expense maintains the filtering equipment in working condition and performs scheduled replacement and regeneration of filters.

SILVER AQUEOUS SOLUTION CONCENTRATE 1000 μG / L APPLICATION

Solutions and concentrates of our silver can be applied:

- For the treatment and prevention of various ailments (the list may take a weighty volume);
- In hospitals, sanatoria, dispensaries, schools, kindergartens and other places of mass gathering of people, the use of silver-enriched water can reduce the spread of infectious diseases by an order of magnitude and stop epidemics;
- Disinfection of water in emergency areas;
- Storage of strategic water reserves without the use of chlorine and other conservation methods (ships, aircraft, submarines, yachts, autonomous objects);
- Preservation of any food product line ECO (dairy products, juices, other drinks, almost the whole range of canned food, pastries);
- Processing filters air conditioners and ventilation systems;
- Disinfection of seed, the acceleration of germination;
- Treatment of plants from fungal and bacterial diseases;
- Veterinary medicine

The author of the technology, the Scientific Director of the Center for the implementation of advanced technologies of the IRIAS:

Provotorov Michail Victorovich

Ph.D., associate professor. He graduated from RHTU Mendeleev in 1969, Faculty of Silicate Technology, specializing in chemical technology of electrovacuum materials and devices. Works in RHTU Mendeleev since 1970. The number of published works -194, of which teaching and learning - 2. The number of inventions and patents - 41.

Scientific interests:

- Growing sapphire shaped monocrystals
- Processes of obtaining nanostructured diamond glasses
- Strengthening nanodisperse modification of materials

What courses leads:

- Crystal growth processes
- Equipment for the production of electronics and nanoelectronics materials
- Single crystal technology

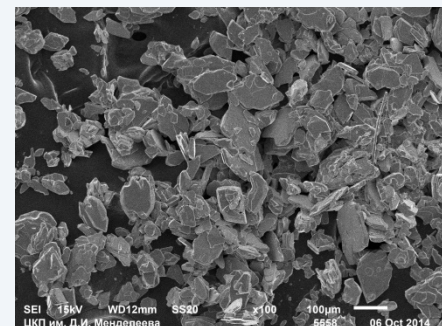
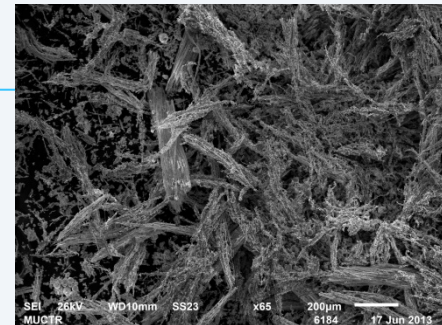
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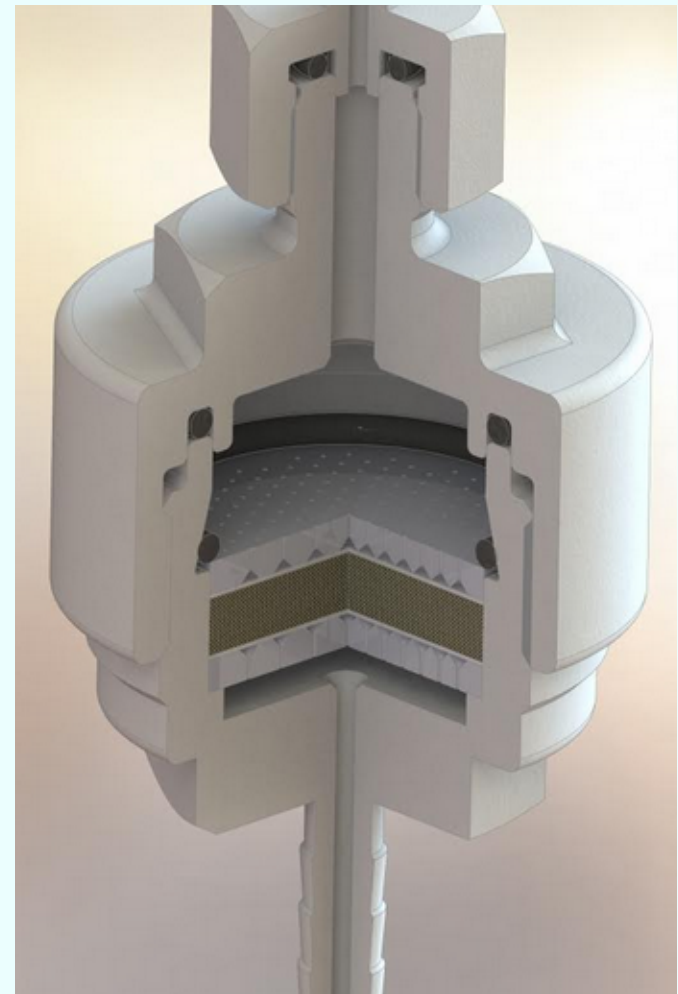


**CREATING A SILVER WATER PRODUCTION
WITH THE HELP OF UNIQUE MODERN
TECHNOLOGIES WILL BECOME A VERY
PROFITABLE BUSINESS AND A REAL
OPPORTUNITY TO HELP CONSUMERS OF
OUR PRODUCT STAY HEALTHY AND
PROLONG THEIR COMFORTABLE LIFE,
GETTING RID OF NUMEROUS DISEASES.**

Thank you for your attention!

WHAT ELSE CAN WE OFFER TO OUR PARTNERS?

- ✘ Our team has developed a unique filter based on silver nanosorbent.
- ✘ This is a new water filter design, with a membrane of active elements of nano-silver, thanks to which the filtered water acquires unique properties. The surface area of the sorbent is 1,700 sq.m./1cm³ and is comparable only with the surface of activated carbons, which, unlike our filters, are carcinogenic.
- ✘ Under pressure, water passes through a silver adsorbent, which structures and cleans it (a similar effect can be created during air purification)



WHAT IS SILVER WATER DIRECT FILTRATION?

This is a new unique Product - Structured Water, prepared using high technology:

The most important thing is that water acquires a structure, and due to silver nanoparticles it is capable of maintaining the structure for several months;

Water is purified from impurities of solid nanoparticles that fall, for example, when filtered with activated carbon or from the external environment, which break through the membranes of human cells;

Water is purified from impurities of heavy metals and chlorine;

Light minerals are stored in almost the same amounts as in the source water;

The new product is saturated with silver at a concentration of up to 35 mcg per liter. Silver is contained in the form of Ag + ions in the amount of 23 mcg / liter (at room temperature) and silver metal nano particles in the colloidal state of 5-10 mcg / liter. Silver in this form is evenly distributed throughout the volume of water and persists for a long time;

Silver ions suppress the vital activity of almost all known pathogens and viral infections, preserving the beneficial microflora and not disrupting the function of the human digestive system;

We can arrange the release of such water.

WHAT IS THE DIFFERENCE BETWEEN OUR FILTER AND EXISTING FILTERS ON THE MARKET

FILTER MATERIAL FOR SILVER WATER

- × Pure metal silver
- × Clean water from micro-organisms, has a bacteriostatic effect, biofilm, retains radioactive elements.

FILTER MATERIAL FROM OTHER MANUFACTURERS

- × Active coals, polymers, silicate glasses, porous ceramics
 - × Require additional disinfecting water treatment, carbon sorbents are given into the water carcinogenic particles, these materials are non-biophilic.
-

WHERE IT IS POSSIBLE TO USE NANOFILTERS



- × In the production of high-quality bottled water.
- × Water purification in the domestic environment.
- × Water purification in transport, aviation, railway, sea.
- × In individual portable filters.
- × To clean water contaminated with radioactive elements (filter recovery technology allows you to collect radioactive elements from the sorbent in the washing liquid, from 1000L of radioactive water after washing will be about 10l of washing liquid).

REFERENCES TO INTERNATIONAL STUDIES OF THE BENEFICIAL PROPERTIES OF SILVER

Scientists from all over the world are studying the beneficial properties of silver, today there are more than 450 scientific papers and studies. Links to some of them:

<http://www.mdpi.com/1420-3049/16/10/8894>

<http://www.mdpi.com/1420-3049/20/5/8856>

<http://www.mdpi.com/1420-3049/21/1/26>

<http://www.silverhealthinstitute.com/wp-content/uploads/2014/07/Malaria-Silver-2010.pdf>