

HEAVY METALS IN POTABLE WATER SOURCES

Solutions for pollutants-free water

COST-EFFECTIVE COMPLIANCE

- **Compliance** with strict regulations
- **Minimize** waste and liabilities

POLUTANT SELECTIVITY

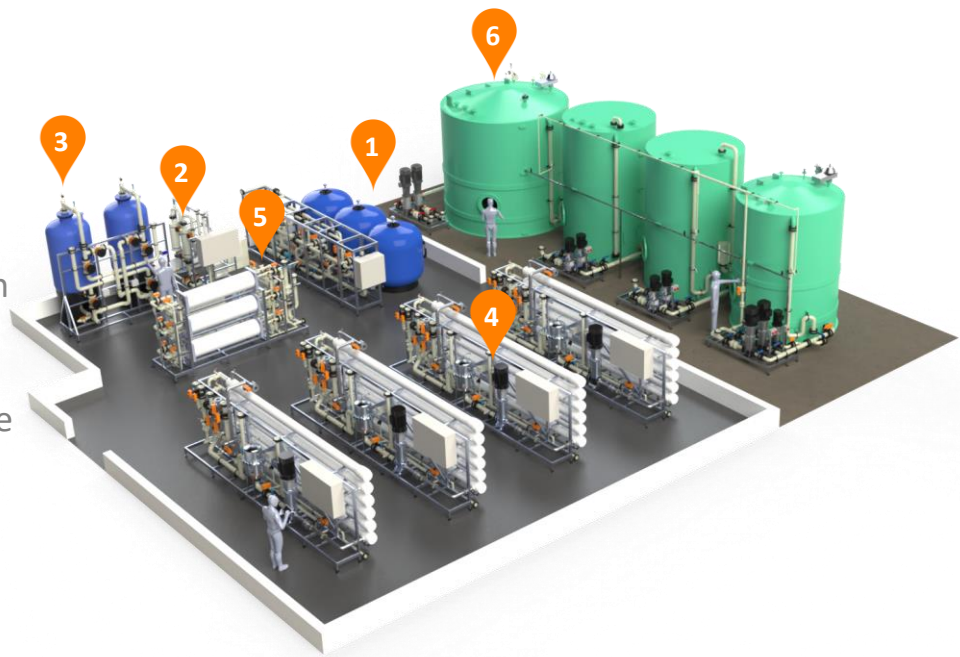
- **Specific** media or ion-exchange resin for targeted substances
- **Extended** technology portfolio for customized design

INCREASED RELIABILITY

- **Extended** equipment lifetime
- **Control** of scaling, fouling and corrosion

Our Solution

- 1 ▶ Multimedia Filtration
- 2 ▶ Ultrafiltration
- 3 ▶ Adsorbers / Ion Exchange
- 4 ▶ Reverse osmosis/ Nanofiltration
- 5 ▶ Disinfection
- 6 ▶ Potabilization and water storage



Special features

- ▶ Specific adsorption media or ion-exchange for targeting specific substances
- ▶ Containerization to minimize the site works and footprint
- ▶ Pre and/or post treatment: options are available according to the required water quality/application needs
- ▶ Potabilization with disinfection and water conditioning



ARSENIC REMOVAL FROM GROUND WATER

Armenia, 360 m³/d

Aim of the Project

The challenge of this project was to treat a spring water which contains 1 mg/L of Arsenic as well as 5 mg/L of Total Iron. Pilot experiments have been conducted on site in Armenia to evaluate the treatment capacity and to find the best operating parameters for the full-scale installation.

In addition to the pollutants mentioned above, the spring water also contains high concentration of silica, calcium and bicarbonate which could not be removed or affected by the treatment.

Lenntech has engineered and built a full filtration and adsorption system fully automated and resistant to demanding environment. The adsorbers are filled with LennSorb103® for arsenic remediation.

This system allows entire flexibility and lead and lag operation considering 3 adsorbers working in series. The backwash of each vessel is triggered on delta pressure or on timer.

The system is built with drinking water certified PVC-U and ACS equipment (when applicable).

Scope of Work

- ▶ Pilot unit design and assembly
- ▶ Remote pilot data monitoring
- ▶ Engineering, manufacturing and assembly of the full-scale plant
- ▶ Multimedia filtration and LennSorb® adsorbers
- ▶ Automatic rinse and backwash sequences
- ▶ Additional customized production sequences
- ▶ Commissioning
- ▶ Remote monitoring and system optimization
- ▶ Supply arsenic removal media

FEED WATER QUALITY

TDS: 2500 ppm Total Iron: 5 ppm
Arsenic: 1000 ppb Silica: 45 mg/L

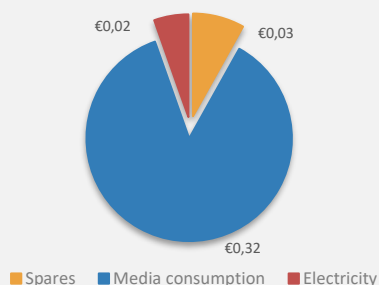
PRODUCT WATER QUALITY

< 10 ppb of Arsenic
< 50 ppb of Iron
All other parameters are unchanged

Key accomplishments

OPEX < 0,01 EUR / LITER OF PRODUCED WATER

OPEX repartition, per m³ of produced water



ARSENIC CONCENTRATION CONTROL < 10 PPB

Arsenic concentration over 1-year operation

