**Innovative filter media for arsenic removal**

The continued supply of safe drinking water is one of the most urgent challenges facing society today. As the effects of climate change are felt in declining fresh water resources, so too the global population increases, making the development of affordable and sustainable water treatment technologies imperative. The removal of arsenic from drinking water is particularly relevant here in Serbia, with more than 20 municipalities currently supplying the public with water which contains arsenic (present in two different compounds, both as As(III) and As(V)) in concentrations greater than the regulated maximum allowable concentration of 10 µg/l. This project will build on previous cooperation between the two consortium members: DOO Real Impeks Palić, an engineering firm with prior experience of constructing pilot and full scale drinking water treatment plants, and University of Novi Sad Faculty of Sciences (UNSPMF), which has been heavily involved with research into novel drinking water treatment technologies for more than 20 years. Together, we will develop a novel filter material specially designed for the removal of arsenic.

These materials have been developed and investigated in the laboratory by UNSPMF. During the project, larger scale production processes will be developed, allowing sufficient quantities of material to be manufactured to carry out extensive testing both in the laboratory and in the field. Laboratory testing will first focus on quality control, to establish the optimum operational parameters of the manufacturing process, followed by extensive testing to prove the effectiveness of the material for removing arsenic, and to establish the sustainability of the technology, but developing regeneration processes and ensuring the used adsorbent is non-hazardous waste material which can be safely disposed of in landfills. Multiple pilot demonstrations will be carried out in water works throughout Vojvodina, in order to demonstrate the resulting filtration systems to a broad audience of public water works managers, industrial clients, local water management authorities and other water management professionals.