

Within the work package WP4 – Upgrading research capacities, the Malvern Zetasizer Nano, with Multi-purpose titration has been purchased from the Malvern Instruments UK and installed at the Department of Materials Engineering (DEMATEN), Novi Sad, Serbia. Young researchers have already been trained by an expert from Hemtek Company.

Malvern Zetasizer Nano system is based on dynamic light scattering (measures Brownian motion and relates it to the particle size), which enables the measurement of size, molecular weight and zeta potential of dispersed particles and molecules in solution. Thus, using the technique of Non-Invasive Back-Scatter detection it is possible to measure size of particles dispersed in solution in the range 0.6 – 6000 nm, with higher concentrations of samples without negative effect of multiple scattering. This system also can measure zeta potential of small particles (with size range 5 – 10000 nm) and molecular weight in relatively broad range (10^3 – 2×10^7

Daltons) by using Laser Doppler Velocimetry combined with Phase Analysis Light Scattering. In addition, operating sophisticated equipment as described above requires proper training at customer site after installation, as well as warranty and post – warranty maintenance and service when needed.