**Scanning Electron Microscope**

**Equipment:** Scanning Electron Microscope (SEM) JEOL 7900F

**No. of Equipment: UPOL10**

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**Equipment Description**

Scanning Electron Microscope (SEM) JEOL 7900F

Technical parameters:

* electron source: Schottky cathode
* accelerating voltage: 0,01-30 kV
* magnification: 25 – 1 000 000x
* resolution in SE mode: 0,6 nm (15 kV) and 0,7 nm (1kV)
* microscope is equipped with analytic method EDS

**Specification of expertise relevant to NanoEnviCz workpackages:**

**WP3**a,c-h, **WP4**a,b, **WP5**c, **WP6**a,e,f, **WP7**a-c,h,i, **WP8**d-f,

**Detailed description of expertise**

**Please, specify the main research topics connected with equipment**:

SEM gives possibility to measure:

* material samples
* different powder samples (nanoparticles, clay, ect.)
* biological samples (bacteria, cells, etc.)
* industrial parts/components

Information about:

* size and shape of nanoparticles
* surface topology
* thickness of thin films
* defects and impurities of materials

**Please, specify the secondary research topics connected with equipment**:

The chemical composition of the samples –EDX spectra, chemical mapping

**Keywords describing research area:**

Scanning electron microscope (SEM), EDX, chemical mapping

**Competence**

**Relevance for applied and industrial research:**

Microscopic measurement of materials (particles and industrial parts) with confirmation of the elemental composition

**Relevance for fundamental studies:**

The identification of materials samples – quality of production, agglomeration, size and shape, surface

Confirmation of the chemical composition –EDX spectra