

## **Specific properties of nanomaterials and their potential in technical applications**

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Nanomaterials can generally be divided into single nanoparticles and two- and three-dimensional structures based on them. In my talk, I will address nanomaterials' structural, electronic, and mechanical properties that make them superior to traditional materials. The current state of research and the range of applications of nanomaterials, their possible applications based on nanoparticle selection, manufacturing processes, particle size and composition, and the influence on their mechanical properties are presented and discussed using examples. This underlines the growing future importance of nanomaterials in the development and application of materials science.