

PRESS RELEASE

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Page 1 / 2

Traceability and reliability: Quality standards for data in nano safety

- **FIZ Karlsruhe starts the NanoS-QM project together with research partners from the Leibniz Association. The aim is to develop quality standards for research data in the field of nano safety. This will create the basis for optimized risk assessment and thus greater safety in the application of nanoparticles.**

Karlsruhe, January 20, 2020 — Until Nanoparticles can be found today in almost all areas of work and life. They make touchscreens conductive, increase the storage capacity of batteries, improve the tolerability of drugs or make components lighter and more stable. More and more people are coming into contact with them. At 1 to 100 nanometers (1 Nm = 10^{-9} m), nanoparticles are similar in size to some viruses or medical drug molecules. This raises serious questions: What influence do nanoparticles have on the reactions in human cells? What properties must they have to be safe? And what is the best way to make the scientific data available and comparable?

Safety in the manufacture and application of nanoparticles is of great social importance. Extensive research is being conducted on the use of nanoparticles. However, the recommendations for approval for an increasing number of applications are still based on data that are generally difficult to understand.

With the NanoS-QM project, the Federal Ministry for Education and Research (BMBF) is promoting the development of overarching description standards and reliable quality criteria for data in nano safety research - and also in industrial application. This regards, for example, material production or material properties. Another topic are the mechanisms of action of nanomaterials in biological systems.

Traceable research data for safe applications

Valid research data are the basis for reliable recommendations for approval. Their multidisciplinary use should help to better regulate the use of nanoparticles so that their advantages can be exploited with as little risk as possible. For this reason, the research partners of FIZ Karlsruhe as coordinator of the joint project come from a wide range of different fields: material sciences, health and toxicology, pneumology, occupational safety, information infrastructure and knowledge transfer. Partners are: Leibniz-Institut für Arbeitsforschung (IfADo), Leibniz-Institut für Werkstofforientierte Technologien -

Prof. Dr. Eduard Arzt, Scientific Director of INM says: “The results of NanoS-QM are supposed to contribute to the standardization of procedures, descriptions and quality criteria in security research”. Project coordinator Matthias Razum, Head of e-Research at FIZ Karlsruhe, confirms this objective: “In the future, research data should be more comprehensive and reusable and at the same time be sufficiently reliable for regulatory processes”.

The ambitious research project will run until July 31, 2021. More information on the project is available on the websites of [FIZ Karlsruhe](#) and [Leibniz-Forschungsverbund “Nanosicherheit”](#).

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