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The Laser Centre Hannover (LZH) is the leading institute in the field of nanomanufacturing using ultrafast lasers. Working directions nanoscience are: Nanoparticles, Nano-Drugs, Nano-Biomaterials, Nanocomposites, Two-Photon-Polymerisation, Micro- and Nanostructuring, Plasmonics.

Nano-products and services are:

- Nanoparticles of any solid material in various liquids
- Nanocomposites
- Nanopatterning, Microstructuring
- 3D-Nanostructures
- Photonic Crystals, Plasmon nano devices

such as

Laser-manufactured ‘Nano-Cocktails’:

Nanoparticles are used as functional elements in medical products. The embedding of nanoparticles into a polymer is used to ‘bio-activate’ plastics with proliferative or antimicrobial effects.

A novel technique has been established using laser ablation in liquids: Multifunctional nanoparticle-based polymer implants and nano-drugs are manufactured with 100% purity and stability. There are no restrictions in the nanoparticle material (metal, ceramic) and the liquid carrier. This novel method allows a homogenous manufacturing of multifunctional medical products with embedded nanoparticles-mixtures, which are called ‘NANOCOCKTAILS’, shown during NanoTech2008 at the German Pavilion.