nanoInk NETZWERK

managed by Cluster Nanotechnology

Special inks and industrial inkjet printing systems

www.nanoink.de

Network nanoInk

nanoInk is an interdisciplinary point of contact for the customer and application-specific development and characterization of special inks and dispersions for industrial printing processes.

- Bundled and complementary competencies
- Easy entry into innovative technologies
- Coordinated exchange among stakeholders along the value chain of inkjet printing
- Implementation and management of tailor-made cooperation projects
- Organisation of professional events, status meetings, workshops and seminars
- Joint public relations
- Advice and further information

Become a partner!

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Network partners

The network nanoInk comprises small to medium-sized enterprises, large enterprises and research institutions along the value chain of industrial inkjet printing. Taking advantage of synergies the network partners join to develop innovative special inks and new process technologies. nanoInk unites various expert fields and offers strong partners with outstanding know-how in the areas of raw materials, dispersion techniques, ink formulation, printing systems and process-integrated analytics.

The network was founded in 2014 and since has been managed by the Nanoinitiative Bayern GmbH.

EZD Das Dispergier-Zentrum · Technische Hochschule Nürnberg Georg Simon Ohm · GEBR. WAHL GmbH Druckfarben Printing Inks · SKZ Das Kunststoff-Zentrum · INM · Colloid Metrix · voxeljet · Leibinger · Formulaction Scientific instruments · TU Bergakademie Freiberg Technische Universität Bergakademie Freiberg Die Ressourcenuniversität. Seit 1765. · Krüss · Keeling & Walker World Leader in Tin Oxide · Cluster Nanotechnology

01/2023


Raw materials and functionalisation

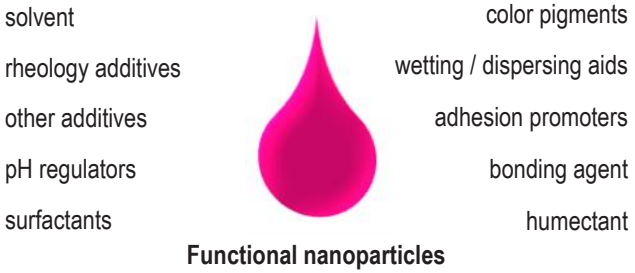

Dispersing techniques and process analytics


Ink formulation and printing systems

Aims of the Network

nanoInk is an open cooperation network offering enterprises and research institutes a platform for inkjet-related topics. The focus of the interdisciplinary network is the development of nano and special inks as well as the further development of process technologies and printing systems.

The network management coordinates joint cooperation projects and acts as an international point of contact for business inquiries.



Functional nanoparticles

Applications

In decorative printing, the use of special inks offers great potential, for example in the development of innovative color impressions. Growing markets include photo, books and label printing, as well as contactless printing on textiles, tiles, glass, floor panels, metal and other building materials.

Smart Inks are formulations made of conductive, magnetic or fluorescent nanoparticles and are used for counterfeit protection, codes and markings in the packaging industry as well as in functional textiles and polymers.

Printed electronics is one of the key technologies for the future development of electronic applications. Based on carbon nanotubes (CNTs) and silver nanoparticles, conductive inks are used for the design of electronic devices like antennas (RFIDs), printed circuit boards, flexible displays or photovoltaic modules.

Core competences of the network

- Specific development of materials, processes, applications and products for/with nanomaterials
- Individual development of functional pastes/inks for different materials and printing processes (incl. insulating layers)
- Energy-efficient production of dispersions
- Characterisation of inks, coatings, printing processes and substrates
- Expertise on a wide variety of substrates and surface finishing options
- Development of custom-fit inkjet printing systems
- Wide range of applications from different industries (Printed electronics, additive manufacturing, Labels, advertising and packaging printing, …)

We are looking forward to meet you!

From Special Inks

Many different components turn a drop of ink into a highly complex, technical structure, offering great potential for development of new applications.

Tailored to your applications / specifications the network nanoInk develops innovative special inks based on **functional nanoparticles**, such as nano silver, nano carbons, iron oxide, nano clays, and ITO.

To Process Technologies

The production of nanoinks is a demanding, multi-step process. Of crucial importance is the **dispersion and stabilization of the nanoparticles**, e.g. to avoid reagglomeration problems.

The network offers a variety of mixing, dispersing and grinding processes. Also available are modern measuring techniques for the **characterization** of the dispersions and the printed products.

To Printing Systems

Digital printing ideally serves the trend of **individualized** and **personalized** products in **small numbers**. Even complex 3d structures can be printed contactlessly and without the need for extra printing plates on various substrates.

The network pays particular attention to the mutual development of specialty inks and printhead technologies and keeps them in perfect alignment.