managed by
Cluster Nanotechnology

nanoInk NETZWERK

Network partners

The network nanoInk comprises small to medium-sized enterprises, large enterprises and research institutions offering strong partners with outstanding know-how in the areas of raw materials, dispersion techniques, ink formulation, printing systems, substrates and process-integrated analytics.

By bundling these **interdisciplinary expertise** and taking mutual benefit of **synergy effects**, nanoInk offers solution-oriented development services even for complex problems.

Since its foundation in 2014 nanoInk has been managed by the Nanoinitiative Bayern GmbH.

Keeling & Walker World Leader in Tin Oxide
edding
LEIBINGER
GEB Druckfarben Printing Inks Wahl GmbH
KRÜSS
INK SOLUTION
voxeljet
SKZ Das Kunststoff-Zentrum
COLLOID METRIX
EZD Das Dispergier-Zentrum
ohm Technische Hochschule Nürnberg
INM Leibniz Institute for New Materials
Cluster Nanotechnology
TECHNISCHE UNIVERSITÄT BERGAKADEMIE FREIBERG

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Network nanoInk

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

- Bundled expertise (e.g. on raw materials, dispersing techniques, ink formulations, printing systems, process-related analytics, nanotechnology, ...)
- Application-specific development and characterization of special/ nano inks
- Consulting and professional exchange within the network as well as with external stakeholders/experts
- Implementation and management of tailor-made cooperation projects, funding advice
- Joint public relations work, organisation of professional events, status meetings, workshops, seminars and trade fair participations

Join nanoInk!

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Special inks and industrial printing systems

www.nanoink.de


Raw materials and functionalisation

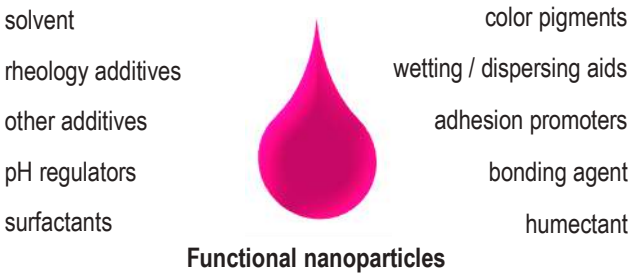

Dispersing techniques and process analytics


Ink formulation and printing systems

Aims of the Network

nanoInk is an open cooperation network offering enterprises and research institutes a platform for mutual **professional exchange**, interdisciplinary **cooperation projects**, and targeted **public relations** work. 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: photo, books, label printing, as well as contactless printing on textiles, glass, metal and other 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.

In **additive manufacturing**, nano inks are used because of their diverse functional properties.

Core competences of the network

- Modern process engineering for the synthesis, functionalization and dispersing of pigments and nanomaterials
- Formulation of inks and dispersions for industrial applications (Inkjet printing, screen printing …)
- Analysis of particles, dispersions, pastes and inks as well as characterization of drying and sintering processes
- Developing customised inkjet printing systems
- Label, advertising and packaging printing as well as marking technologies
- Characterising printed structures

Are you interested in joining the network or are you looking for a solution to your specific questions?

We are pleased 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 e.g. based on **functional nanoparticles**, such as nano silver, nano carbons, or nano 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**. Different materials and even complex 3d structures can be printed contactless without the need for extra printing plates.

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