

Inkjet Technology Development

Providing innovative inkjet expertise to customers worldwide.

Xennia has a world class team of chemists, physicists, material scientists, and software, mechanical, electronic and production engineers. With over 140 years of combined industrial inkjet experience, Xennia's expertise is unrivalled within the industrial inkjet sector. Innovative chemistry and creative problem-solving is at the heart of Xennia's technical capability, underpinned by our fundamental understanding of the inkjet printing process.

Development service

Xennia's contract inkjet development services are highly flexible and customer-focussed. We have successfully completed over 300 development projects, ranging in size and complexity from proof of concept studies through to product level ink development and fully integrated production line solutions. Our customers can have full confidence that we will develop the very best cost-effective solution without commercial bias towards any particular printhead technology. Xennia is very sensitive to client confidentiality and every project is undertaken with absolute discretion. Projects are structured using milestones to help manage technical and financial risk.

Inkjet laboratories

Xennia's state-of-the-art inkjet laboratories include sophisticated inkjet characterisation equipment and print fixtures. Proprietary jet visualisation and droplet measurement systems allow full characterisation of the droplet formation process. Advanced optical systems allow quantitative analysis of fluids both in flight and on the substrate. All of the necessary equipment for mixing, milling, dispersion and filtration is available from laboratory scale to full production volumes.

Ink chemistry

Advanced inkjet ink chemistry is the core of Xennia's business. We have expertise in a wide range of ink types and chemistries including UV cure, solvent, oil, aqueous and hot melt inks. Xennia has particular expertise in creating ink formulations based on materials comprising large or dense particles. Our ability to design and formulate chemically stable dispersions based on difficult materials, together with our ink management technology, means that we can successfully implement solutions using materials most other companies would not consider jetting.

- 💧 Unrivalled expertise
- 💧 Advanced ink chemistry
- 💧 Application development



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Wide range of materials

Xennia has formulated robust inkjet fluids incorporating a wide range of specialist materials, including:

- Adhesives
- Abrasive materials
- Aggressive acid and alkali materials
- Anti-scratch materials/clear coats
- Biomedical antibodies, reagents and enzymes
- Bronze, aluminium and molybdenum powders
- Ceramic pigments
- Conductive graphite and metals
- Conductive polymers
- Decorative metallic pigments
- Electrochromic materials
- Inorganic phosphors and lanthanides
- Inorganic pigments
- IR absorbing materials
- Magnetic materials (MICR)
- Media coating materials
- Metal solutions and dispersions
- OLED and LEP materials
- Organic pigments and dyes
- Sintered metal and ceramic materials
- Textile pigments and dyes
- Titanium dioxide
- Ultra high purity materials
- UV cure structural polymers

Xennia offers an ink formulation service to create reliable inkjet inks with defined functional properties, either based on our own extensive library of materials or using our customers' proprietary materials of choice. Inks can be supplied from laboratory scale through to full production volumes.

Application development

Inkjet development is not just about inks. Xennia has many years of experience of developing complete application solutions to customer problems, built on our knowledge of the complete inkjet printing process, and based around our XenJet inkjet modules and Xennia printing systems. Application development takes customers through a staged process from feasibility study, through design and demonstration of developed inks and systems, up to installation and support of a complete solution on a production line.



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