

# Sustainability through R&D

**Sustainability and efficiency are fundamental drivers of our R&D strategy. We want to anticipate customer challenges and develop inkjet technologies that create real-world value by addressing reliability, efficiency and sustainability hand-in-hand.**

While developing our Ultra High Viscosity Technology, we knew we needed to translate it into tangible benefits for customers. This led to the creation of our DIVA project – Demonstration of Increased Viscosity Advantages. Through extensive research, testing, and collaboration with ink manufacturers, we found that the technology delivers a clear sustainability advantage as well as cost savings for customers.

In collaboration with Swansea University's Welsh Centre for Printing and Coating, we worked on a peer-reviewed study, published in the Journal of Coatings Technology and Research. The findings confirmed the transformative impact of our Ultra High Viscosity Technology and our Xaar Aquinox printhead when combined with innovative high viscosity water-based fluids developed by Nazdar. With access to a broader range of ingredients thanks to our technology, ink chemists at Nazdar were able to develop these advanced fluids to unlock a new world of possibilities.

We also hosted our 'Seeing is Believing' Open Day in November 2023, to demonstrate these advantages to our customers and partners.

## Key takeaways from the research included:

- Colour density increased by up to 67% on coated white corrugated substrates, enhancing vibrancy and print quality.
- Lower ink consumption, with high viscosity fluids requiring less ink to achieve the same intensity.
- Reduced drying energy, thanks to the minimal absorption into substrates.



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# Savings in action

## Automotive coating

**Traditional spray painting methods in the automotive industry can waste up to 40% of paint, leading to excessive material consumption and energy use.**

However, our partnership with Axalta, a global leader in coatings, and Dürr, an expert in automated painting systems, is helping to revolutionise automotive coatings to provide significant environmental and cost saving benefits.

By integrating Dürr advanced robotic automation, Axalta's pioneering digital paint technology and Xaar's sustainable inkjet technology, we deliver precise, highly efficient paint application. This innovation is drastically reducing waste and saving time while ensuring high quality, consistent finishes for car manufacturers, which are difficult to replicate using other technologies.

# 30%

## Reduction in CO2 emissions

Significant cost savings for two-tone vehicle manufacturers



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INNOVATION

# Savings in action

## Battery coatings

**We're the first inkjet company to enter the EV battery sector with a printhead specifically designed for this application – setting new standards for coating technology.**

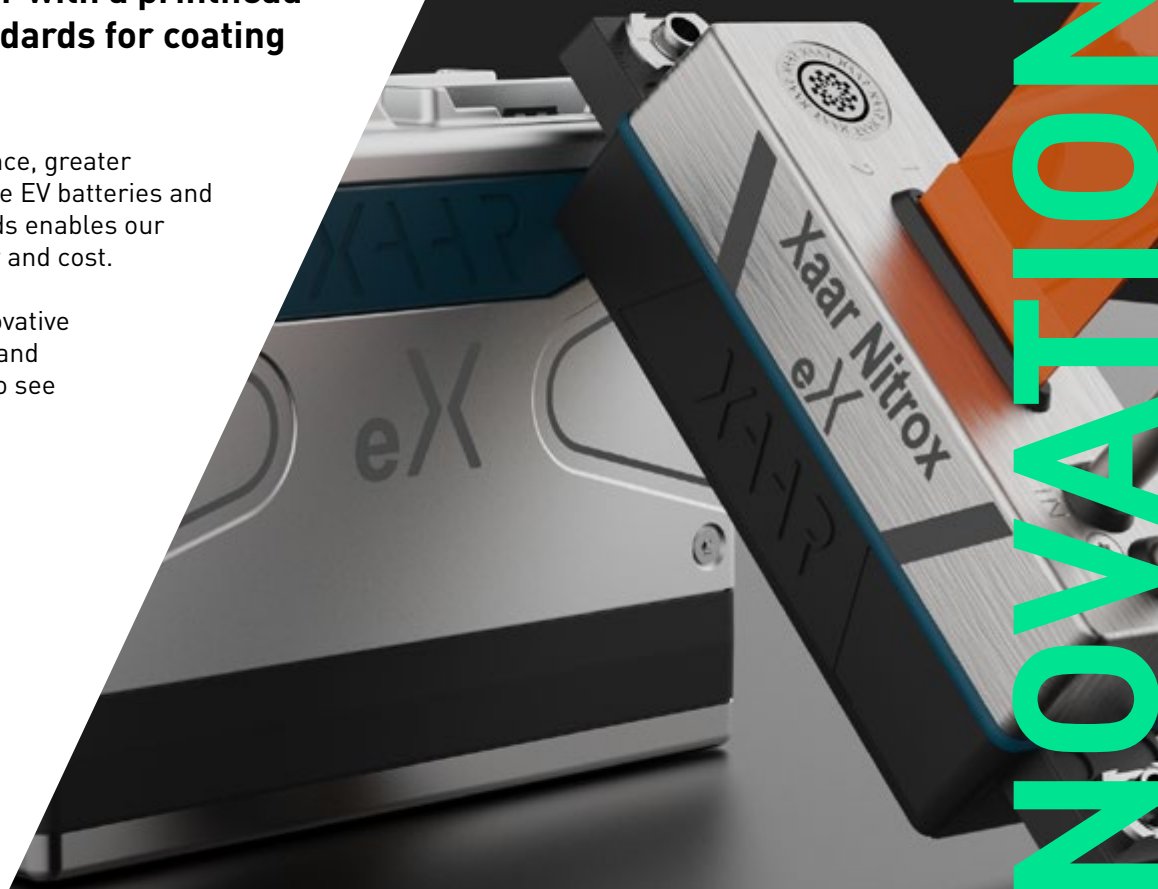
Technology to jet advanced functional fluids, enabling superior UV coating performance, greater mechanical robustness, and the enhanced dielectric strength required by high voltage EV batteries and energy storage systems. Operating these coating machines with higher viscosity fluids enables our customers to deposit a thicker coating in a single pass, reducing machine complexity and cost.

In the spirit of collaboration, our partners at Shifang are currently developing an innovative coating solution with an ink utilisation rate of over 99%, significantly reducing waste and improving the sustainability of the whole battery coating process, which is fantastic to see and only made possible with our technology.

# 99%

**Ink utilisation rate**

For the whole battery coating process



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# INNOVATION