

# MORE SUSTAINABLE LIVESTOCK FARMING

The world needs to produce more food and reduce emissions. Farmers need solutions that improve their production and environmental footprint, combining environmental sustainability with financial sustainability.

Liquid manure – known as slurry – can greatly contribute to a more sustainable farming, but how? Livestock slurry is a natural fertiliser providing nutrients for plants and organic matter which improve soil health and enable better growth. However, the nitrogen content is too low for the optimum fertilisation of most crops, and the loss of nitrogen can be significant. This increases the need for chemical fertilisers, and the lost nitrogen also ends up as pollution in the form of ammonia. Manure management is also one of the major sources of greenhouse gas emissions in agriculture, particularly in the form of methane.

## Produce your own fertiliser while reducing emissions

N2 Applied in partnership with GEA have a solution that enables local production of fertiliser using only livestock slurry, air and electricity, – dramatically reducing harmful emissions and improving yield at the same time.

The N2 Unit is a revolutionary piece of technology that is installed locally on a farm or biogas plant, to turn liquid manure or biogas digestate into sustainable fertiliser using just air and electricity. It is a container-based solution and is easily implemented into the infrastructure. Liquid manure is treated continuously prior to storage for application at the right time.

This technology adds nitrogen from the air into slurry, which increases the nitrogen content. The process prevents the loss of ammonia and eliminates

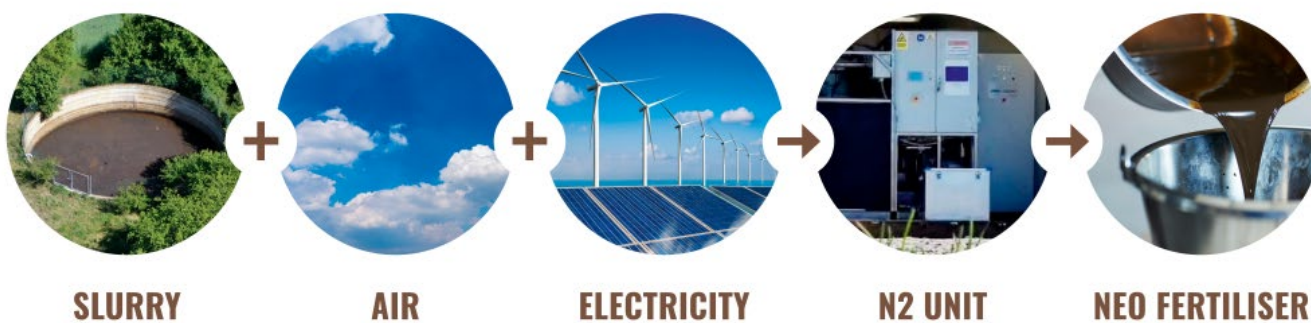


methane emissions, making it a real solution helping to achieve climate target commitments on an industrial scale.

The end-product is a nitrogen enriched organic fertiliser, which we call NEO. It has the same characteristics as normal slurry but contains more nitrogen and releases significantly less emissions. It can still be spread using existing farm equipment, enabling farmers to improve their own food production, reduce the need for chemical fertilisers, and make farming more circular.

## Benefits

- Eliminates methane emissions from manure storage
- Reduces ammonia loss and smell from manure management
- Reduces the need for chemical fertilisers
- Year-on-year reduction in carbon footprint up to 30% at source, on farm
- Reducing air pollution from farms up to 50%
- Improves crop yield by an average of 40% compared to regular manure







## Press Release

Düsseldorf, November 15, 2022 – GEA has entered a long-term exclusive strategic partnership with N2 Applied, an international agricultural technology business based in Norway. This partnership foresees the manufacturing and worldwide distribution of the manure processing solution for the dairy farming industry. The solution will support dairy farmers as well as the dairy industry in reaching their sustainability targets. The N2 Applied manure processing units will be sold globally through GEA's sales organization.

The manure management system converts slurry from livestock farming into an environmentally friendly, nitrogen-enriched fertilizer. By using plasma technology, the manure is enriched with nitrogen from the air. At the same time, the pH is lowered without adding chemicals, reducing 95 percent of ammonia and 99 percent of methane emissions from manure storage and spreading.

The end product provides farmers with cost-effective, sustainable fertilizer, increasing the average yield of the crop by up to 40 percent. An additional benefit is that the process eliminates the typical odor of manure. Built into a 20-foot container, the system operates automatically, can be monitored remotely and can be easily integrated into the farm's existing infrastructure. Overall, the solution promotes circular economy and reduces a farm's total greenhouse gas emissions by up to 30 percent.

“Our strategic partnership with N2 Applied enables a critical expansion of our GEA Farm Technologies portfolio,” says Peter Lauwers, CEO GEA Farm Technologies. “This innovative manure management technology fits perfectly with our solutions for modern dairy farms. In line with our sustainability goals, we can now offer our customers even more targeted state-of-the-art solutions to achieve climate targets on an industrial scale.”

“Joining forces with GEA puts our technology onto a global stage and can enable us to drive its adoption by livestock farmers much faster,” says Carl Hansson, CEO of N2 Applied. “At a time when farming is under pressure from environmental challenges and cost of chemical fertilizers have seen large



price increases combined with a scarcity of supply, the partnership will offer a clear and compelling path to more assured and sustainable food production.”

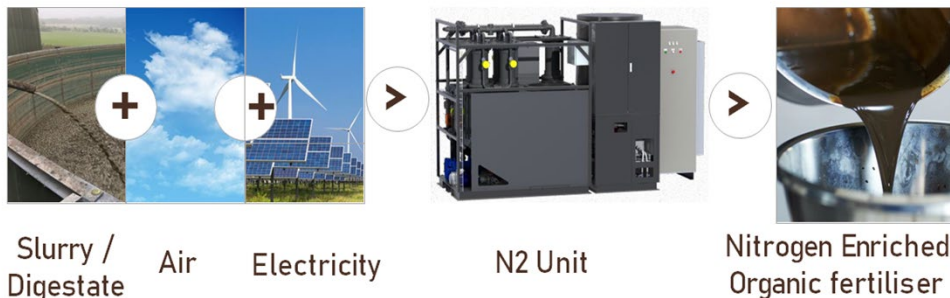
With this partnership, GEA extends its product portfolio for modern dairy farms and thereby strengthens its leading position in offering solutions for sustainable farming. At EuroTier 2022, the world’s leading trade fair for animal farming and livestock management, GEA demonstrates how dairy farms can implement the right strategy with the help of automated milking and feeding systems as well as manure management.

The manure processing solution is housed in a 20ft container. It adds nitrogen from the air into the slurry and turns it in an efficient fertilizer.



Global Esco is the Commercial Distributor of N2-Gea units for Greece.

## Slurry & Digestate Treatment for Organic fertilizer Production



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