

Aeolus Technologies: Value Proposition

Aeolus Technologies



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Company Profile:

Aeolus Technologies Ltd was formed in 2009 to commercialise and identify further applications for the patented Whirlwind system, developed originally for enhanced pipework product recovery and CIP technology.

The SME markets, develops, tests and installs Whirlwind systems for the process industry sector.

The technology is sold directly to individual end users as a bespoke unit, tailored to specific client requirements, using fully automated control and requiring minimal maintenance.

The Whirlwind System is a novel CIP technology that uses controlled **vortex airflow** to clear, clean and dry the inside of processing pipeline.

The system works through a four phase clearing, cleaning and drying process:

- Product is pushed through the pipework using a laminar air stream: recovery 80-90%
- A vortex airflow is introduced into the pipework increasing recovery to 95-99%
- A small amount of water is introduced into the whirlwind and the turbulent air/water mix cleans the inner surfaces of the pipework
- Vortex airflow used to dry the pipework ready for production start

The technology is ready for market with a number of installations already in place, primarily in the food and drink sector. Current applications include alcohol, soft drinks, sauces, food pastes and perfumes.

At its in-house laboratory facility the company can undertake customer trials and tests developments of the vortex technology.



The Whirlwind system installed at Glenmorangie consisting of three core pieces:

Whirlwind unit

Blower unit

Electrical control box

Value Proposition

The Whirlwind technology was developed a decade ago in response to a specific need for a CIP process to clear sticky cream from pipework in a water scarce environment (Africa). In the UK and other developed societies, however, the resource-efficiency advantages of the technology have become more relevant recently as the process industries pay increasing attention to sustainability requirements.

The technology has potential applications across a wide range of process industries, but to date installations have primarily been within the Food and Drink sector. This is a highly competitive industry which has stringent legislative requirements surrounding food safety and hygiene.

Procurement is often conducted via regular contractors and consultants and, in general, investments are required to comply with strict performance, risk and cost criteria. In addition, Aeolus Technologies faces a barrier in trying to introduce a technology that is still relatively unknown. In response, the company has formed clearly defined value propositions that help to address these barriers and which are tailored to a number of different customer groups. These include financial, operational, and environmental solutions.

Operations and process engineers

- Improved performance
 1. Whirlwind consists of a single installation serving multiple pipes of differing sizes
 2. Reduced down time between batches associated with the speed of the recovery and cleaning process
 3. Low maintenance. Installed systems are proving extremely reliable, with maintenance generally being limited to an annual maintenance check.
- Flexibility: the system can be installed both inside and outside existing plant, and can be used as a hybrid alongside CIP technology if just installed for recovery phases.
- Safety: removes the need for any high pressure systems, e.g. to move obstructed 'pigs'.

Financial directors

- Cost reduction
 1. Enhanced product recovery, particularly important for high value product streams e.g. whisky
 2. Reduction in water consumption, waste and effluent disposal and associated costs
 3. Low operating and maintenance costs and high reliability,
- Good payback: typically within one year

Sustainability and environmental managers, and third party resource-efficiency consultants

- Significant reduction in water use and associated reduction in energy use and CO2 emissions
- Significant reduction in chemical use and associated reduction in effluent concentration and effluent costs

In addition two key elements used by Aeolus for market development and re-assurance in the buying procedure for this relatively new technology are:

- Provision of testimonials and reference sites that potential customers can refer to
- Trial facility where customers can see technology performance and results for their own product

Ian Auger, Project Engineer, Orchard House Foods, *'We call on the system on average 80 times a week. The system has had a very significant positive financial impact since installation [...] and has run pretty much maintenance free since the first time it was switched on.'*