



**FOR IMMEDIATE RELEASE – 10 September 2009**

**Amarinth awarded Carbon Trust grant to develop  
high efficiency centrifugal pump**

**Amarinth, a leading company specialising in the design, application and manufacture of centrifugal pumps and associated equipment to the industrial, chemical and petrochemical industries has been awarded a grant from the Carbon Trust of £160,000 to develop a new process for manufacturing impellers optimised for best efficiency point to better match the pumps to the customer’s duty point.**

Amarinth aims to develop a cost effective and rapid process for the design and manufacture of bespoke best efficiency point (BEP) optimised impellers for use in industrial pumping applications. Amarith will be the lead organisation in this project, which is due for completion in June 2011, and will work with Furniss & White (Foundries) Ltd and Pera Innovations Ltd.

The project aims to reduce impeller design lead time by 25% and impeller foundry pattern cost to 10% of current production methods with a lead time of less than a week. The resulting impellers will reduce energy consumption by between 10% and 25% compared to ‘fit-to-curve’ pumps. It is estimated that this project could reduce annual CO<sub>2</sub> emissions in Amarith’s target market by 17,000 tonnes by 2020 and 110,000 tonnes by 2050.

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End users generally select centrifugal pumps for particular applications by matching the required pumping parameters to performance curves produced by manufacturers. However, it is estimated that about 50% of these pumps operate between 10% and 40% away from BEP (i.e. the maximum efficiency). The key to pumping efficiency is to design the pump's impeller to match the pumping requirement exactly, which has the potential to reduce energy consumption by between 10% and 25%.

Producing bespoke impellers is not usually commercially viable however because it can cost three to five times more than 'fit-to-curve' impellers and they are generally on a significantly longer lead time.

The project aims to develop a new process for manufacturing impellers optimised for BEP at the customer's duty point. The work will involve:

- Carrying out industrial research for the design and testing of optimised impellers
- Developing a rapid and cost effective impeller design process
- Developing the commercially viable pattern equipment
- Carrying out the mould making and casting of optimised impellers
- Developing an alternative method of fusing the impeller materials base and optimised impeller.

Oliver Briggshaw, Managing Director of Amarith commented: "We are delighted to have been awarded this grant from the Carbon Trust for undertaking a project that we have thought long overdue. We have a number of ideas to achieve the project aims of significantly reducing the carbon footprint of pumps and look forward to working with our partners over the coming years in delivering this."

More information about the Carbon Trust can be found at [www.carbontrust.co.uk](http://www.carbontrust.co.uk)

## OPTIONAL PANEL or BOX ITEMS



Designing the Amarith API 610 VS4 Vertical Sump Pump



A bespoke Amarith impeller

**NOTES TO EDITORS:**

Founded in 2002, Amarinth has harnessed the skills, creativity and passion of people who have worked in the pump industry for many years. Amarinth delivers world-leading expertise in the design, application and manufacture of centrifugal pumps and associated equipment to ISO, ANSI & API standards, primarily for the industrial, chemical & petrochemical markets. Their portfolio includes:

- **Pumps:** Horizontal and vertical API 610 pumps, chemical and industrial pumps, many of which are interchangeable with the Girdlestone pump ranges, eliminating the need for expensive modifications when replacements are required.
- **Pressure Vessels:** Protect System Plan 52 and 53A and 53B sealant systems with inbuilt condition monitoring for pumps and mixers that are suitable for Safe area up to Zone I.
- **Spares & Service:** High quality, fast lead-time re-engineered spare parts to improve performance and extend pump life, including many which are directly interchangeable with the Girdlestone pump ranges.
- **Packages & Modules:** Condensate Recovery Units manufactured for Spirax Sarco incorporating the innovative Ci-Nergy intelligent variable speed control system, plus bespoke packages & skids built to order.
- **Business Systems:** state-of-the-art e-commerce technologies that deliver 24/7 support enabling customers to select pumps and place orders on-line and then track every stage of manufacture through to delivery, any time, anywhere in the world.

The company operates globally from its base in Rendlesham Suffolk, United Kingdom and has a customer base of world-leading companies, including BP, Shell, ExxonMobil, GlaxoSmithKline, Pfizer, Spirax Sarco, Diageo, AMEC, Fluor and Halliburton.

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