

Best efficiency point pump impellers are one step closer

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Centrifugal pumps specialist Amarinth says it has moved one step closer to developing a cost effective and rapid process for designing and manufacturing bespoke best efficiency point (BEP) optimised impellers for pumping applications.

The company has now completed the first phase of a project supported by the Carbon Trust and has already proved that being able to provide optimised impellers will reduce annual CO2 emissions in Amarinth's market alone by 17,000 tonnes by 2020 and 110,000 tonnes by 2050.

Oliver Brigginsshaw, managing director of Amarinth, explains that the company is leading the High Efficiency Centrifugal pump (HEC-pump) consortium, working with Furniss & White (Foundries) and Pera Innovations.



The project, which is due for completion in June next year, aims to reduce impeller design lead time by 25% and impeller foundry pattern costs to just 10% of current production methods, with a lead time of less than one week.

The resulting impellers will reduce energy consumption by between 10% and 25% compared to current 'fit-to-curve' pumps.

During Phase One, the consortium analysed four case studies of live contracts in detail. They showed that the actual pumps sold operated between 4.5% and 16% away from the pumps' BEP. The reason a 'fit to curve' pump was sold is that it is not currently commercially viable to design an impeller for every customer's specific duty point.

"We are very pleased with the outcomes from Phase One of the work, which has proven that significant savings are possible by using optimised impellers and that technologies are available to reduce impeller design time significantly," comments Brigginsshaw.

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