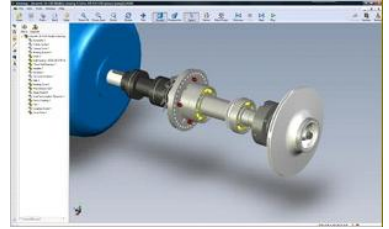
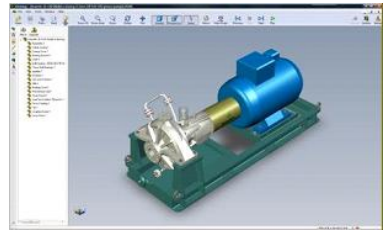


## Amarinth improves collaborative working with detailed 3-Dimensional CAD models of pumps

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 recently launched an innovative new on-line service that gives access to detailed 3-Dimensional CAD models of its pumps that are assisting understanding, communication and collaborative working across organisations.

When an organisation is specifying pumps, designing new systems or developing other processes such as maintenance schedules, there are numerous other people in addition to the engineers involved, many of whom don't have direct access to engineering models or drawings, or indeed are not in a position to understand or work with these if they did. In many cases it can be extremely difficult for these people to understand the various components within a pump and how they all fit together and so can prove frustrating for them when trying to have a meaningful conversation with engineers or pump suppliers.

In a first for the industry, Amarith is rolling out an innovative new service that delivers through any web browser detailed models of its pumps to any person working in any organisation. This new service will help address the communication and understanding issues, making the purchasing process smoother and ensuring that general communication about the pumps is more meaningful for all concerned.



*Pictured top right: Amarith A-series OH2 3-Dimensional Model, and below: Amarith A-series OH2 3-Dimensional Model - Internals.*

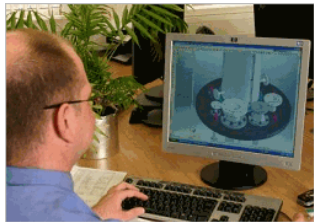
The advantages of having these models available across the organisation has been underlined in the demanding environment of a major worldwide contractor headquartered in the USA where the company has installed the Amarith models on its own intranet and has been utilising them for training new employees and existing staff across 30 different sites. So valuable have they proven that the company has requested additional pump models to help their staff identify the differences between different types of pumps.

The on-line models enable both engineers and other staff to explore a pump in three dimensions. The detailed models can be rotated to see all aspects and features and zoomed into for closer inspection. The model is built as a full assembly and so selected parts can be made transparent or hidden in order to see internal components. More advanced features are also available such as measuring, sectioning and mass properties. Finally a mark-up feature allows sharing of information and comments between people and organisations. Importantly, no special software, platform or licensing is needed to view and manipulate these models. When the downloaded file is opened all of the software features are available immediately to the user to start work with.

Oliver Briggins Shaw, Managing Director of Amarith commented: "We have taken this initiative to openly provide detailed 3-Dimensional CAD models of our pumps as we have seen so many issues within organisations, particularly as engineers and non-engineers try to communicate about aspects of pump design, maintenance and procurement. Although many pump suppliers would be extremely cautious about releasing this level of detail into the public domain we believe that the benefits that this will deliver, both for organisations using our pumps and in communications between Amarith and our customers, far outweigh any perceived risk."

The first of the Amarith pump models to be released are the API 610 A-series OH2 and V-series VS4 pumps. Other pumps along with Amarith Protect System seal support systems will follow in due course over the year.

The on-line 3D pumps can be viewed by visiting: [www.amarith.com/downloads/CAD-models](http://www.amarith.com/downloads/CAD-models)



## Amarinth awarded Carbon Trust grant

Amarinth 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 CO2 emissions in Amarith's target market by 17,000 tonnes by 2020 and 110,000 tonnes by 2050. Amarith awarded Carbon Trust grant to develop high efficiency centrifugal pump.

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%.



*Pictured above. Top: Designing the Amarith API 610 VS4 Vertical Sump Pump. Below: A bespoke Amarith impeller.*

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: **1)** Carrying out industrial research for the design and testing of optimised impellers. **2)** Developing a rapid and cost effective impeller design process. **3)** Developing the commercially viable pattern equipment. **4)** Carrying out the mould making and casting of optimised impellers. **5)** Developing an alternative method of fusing the impeller materials base and optimised impeller.

Oliver Briggins Shaw, 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."

For further information about the Carbon Trust view website: [www.carbontrust.co.uk](http://www.carbontrust.co.uk)

### Amarinth in profile

Founded in 2002, Amarith has harnessed the skills, ills, creativity and passion of people who have worked in the pump industry for many years. Amarith 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:

- 1) **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.
- 2) **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 1.
- 3) **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.
- 4) **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.
- 5) **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.

For further information, e-mail: [Steve.Buckley@Amarinth.com](mailto:Steve.Buckley@Amarinth.com) or view website: [www.amarinth.com](http://www.amarinth.com) [Refer to page 10](#)