

# Amarinth provides 40 centrifugal pumps with innovative design features for the Artlant MegaPTA plant in Portugal

case study



**ARTLANT**  
The best from PTA

## MegaPTA plant

The Artlant MegaPTA plant has the capacity to produce 700,000kg of PTA per annum. It is the largest single stream PTA plant in Europe covering a 25 hectare site. The PTA produced at this plant will be used in the production of PET resin for packaging.

## A variety of demanding duties

A total of 40 centrifugal industrial process pumps, worth in excess of €2M, was ordered by Artenius UK / Tanton Technology. These had to meet a number of demanding duties, including low NPSH, high temperature, high speed, low flow, high head and pumping of slurry. Installed power ranged from 5.5KW to 315 KW.

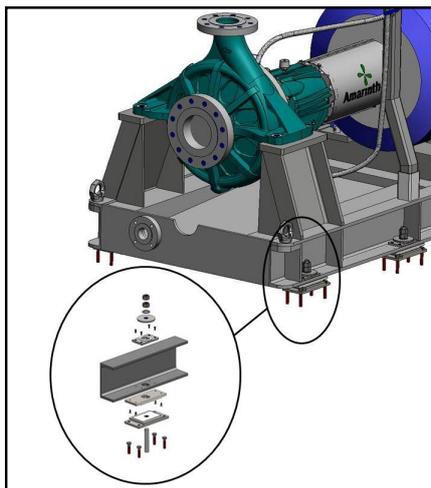
Amarinth was invited onto the project vendor list by Artenius UK / Tanton Technology based on its previous experiences of working with Amarinth and its staff.

## Innovative design

To meet the stringent hydraulic requirements of the project required a bespoke design for most of the pumps. Amarinth based the designs around its A Series API 610 OH2 and C Series ISO 5199 pumps incorporating numerous modifications to suit the application.

For example, the process of manufacturing PTA produces high temperatures and the resulting thermal expansion of pipework can put large stresses on equipment nozzles, including pumps. The traditional method of handling thermal expansion is using expansion joints and bellows, but for pumping slurries and high temperature acetic acid these are not desirable.

To overcome these issues Amarinth adopted an innovative sliding baseplate so that the pump was able to move as the pipework expanded, reducing the risk of leakage.



## Savings on the seal support system

For the Plan 54 double mechanical seals Amarinth turned to Kytola in Finland and incorporated an innovative seal support system that would meet the specifications but at a significantly reduced cost over the traditional seal support system, a saving that Amarinth passed on directly to Artlant.

## Managing documentation

The project produced a significant volume of documentation but with its comprehensive web based document management system Amarinth was able to keep all parties supplied in a timely manner.

## Helping in a world recession

The world recession hit the project during construction causing delays in the build, however Amarinth was able to assist Artlant and stored the pumps for 18 months until the plant was finally ready to commission them.



## Artlant PTA, SA

Artlant PTA, SA (formerly Artenius Sines PTA, SA) commenced construction of a new Purified Terephthalic Acid (PTA) plant in Sines, Portugal in 2007. The complex consists of the production facility, raw material and finished product silos, pipe work, wastewater treatment plant and administrative and logistics areas.

The plant has been constructed with EU grant aid as it was a significant employer in the Coastal Alentejo region of Portugal. The total investment in the plant has been over €400M.

The project was managed by Tanton Technology Ltd, formerly Artenius UK Ltd.

The engineering design and construction management was by Jacobs E&C Ltd, formerly Aker Solutions.

*"Amarinth proved to be responsive and highly knowledgeable in pump specification and design. They were able to offer cost competitive solutions which met our project requirements and then supported this with excellent management of the order execution."*

**Stewart Brennan**  
Senior Project Engineer  
Artlant PTA, SA