

From Pulp to Biogas

12009 Astarta

Astarta is the largest sugar beet processing company from Ukraine. Adverio was contracted for the engineering, construction and commissioning management.

The AD facility processes 1,200 ton/day, 40-50°C and 21-23% dry matter sugar beet pulp during the season. The AD facility provides biogas 7,000 Nm³/hr to the sugar beet factory. It is the largest sugar beet industrial digester in Europe.

Adverio was selected with our network partner Opure BV. We jointly worked on the design and construction of sugar beet digester, providing the client with direct access to state of the art biological knowledge and insights.



Lack of references in this kind of facilities

- Only few facilities in the world working with sugar beet pulp.
- Early stage technology: continuous learning and improving.

Sugar beet as main feedstock

- Mono Digester produces biogas with only one feedstock type.
- ✓ Adverio designed nutrient dosing system plus a biological operators manual and training.

High probability of “foaming”

- Experience and biological tests shows foam production in the reactors.
- ✓ Adverio designed extra evacuation foam pipes.
- ✓ Anti foam system was implemented.

Very tight time schedule

- Normal engineering schedule is between 9 and 12 months.
- ✓ Adverio had 7 months to engineer and commission the facility, calling for rigorous planning and management of all phases and suppliers of the project.

Design to Build

Adverio was responsible for the Engineering, Procurement and Construction Management of the AD technology while working with the local general contractor and suppliers.

Feasibility Study

- Project Definition.
- Block Flow Diagram.
- Mass & Energy Balance.
- Raw Material & Utility consumption.
- Investment estimate (40% accurate).
- Technical/economical evaluation.

Conceptual Engineering

- Updated Project Definition.
- Process Flow Diagrams (PFDs).
- Mass & Energy Balance.
- Equipment List.
- Planning.
- 3D Simulations.
- Site Layout.
- Conceptual Design Description.
- Cost Engineering (25% accurate).

Basic Engineering

- PIDs.
- Equipment List.
- Data Sheets.
- Layout Proposals.
- Plot Plan.
- Area Classification.
- Civil Engineering.
- Project Planning.
- Updated Project Definition.
- Safety Studies (incl HAZOP).
- Cost Engineering (10% accurate).

Detailed Engineering

- Detailed Design.
- Equipment Specs.
- Material Specs.
- Requests for Proposals.
- Purchase Orders.
- Vendor Docs.
- Operating Manual.

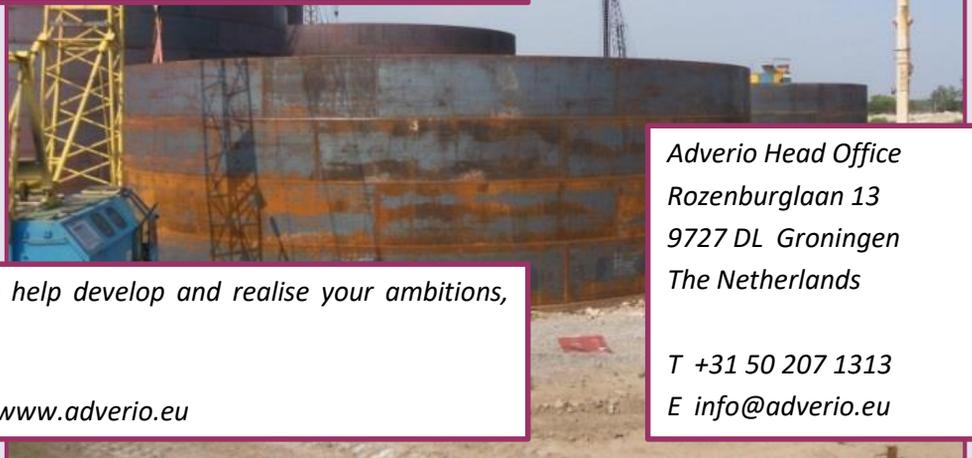
Construction & Commissioning

- Construction.
- Field Engineering.
- Commissioning.
- Handover documents.

7 months

Adverio's and Opure's expert engineers from the Netherlands and Genia Global Energy from Spain designed the facility in close cooperation with the general contractor and the client.

Adverio's project managers managed the construction on site while the engineers were carried out detail engineering in order to meet the time schedule.



To find out how Adverio can help develop and realise your ambitions, please contact us.

For a complete overview see: www.adverio.eu

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