CASE STUDY

# The Badger Company improves Brownfield project execution with Octave Forte 3DWorx

## Key facts:

**Company:** The Badger Company

**Website:** thebadgercompany.eu

**Industry:** Oil & Gas

**Country:** The Netherlands

**Octave products used:** Forte 3DWorx *(CADWorx Plant Professional)*

## Key benefits:

- Immediate time savings because no manual measurements were needed on site
- Improved efficiency due to faster 3D modeling
- No additional training needed, engineers were able to start working immediately

The Badger Company is a multidisciplinary, internationally operating engineering office, offering execution of EPC services. The Badger Company is based on an integrated operation model consisting of the seamless cooperation between two offices, one in the Netherlands and the other in Romania, both operating as if being one office at a single location in the Netherlands.

## Identifying goals

The Badger Company is a multidisciplinary, internationally operating engineering office executing engineering and EPC(M) services. Operating within the international petrochemical, chemical, oil & gas, food and power generation industries, the company provides professional engineering, contracting, and construction supervisory services for the process industries and energy markets.

The Badger Company's customer, an owner operator with a natural oil plant in Gouda, Netherlands, was investigating the possibility of demolishing existing plants and building a new plant on the same brownfield site.

## Overcoming challenges

The major challenge the customer faced was a lack of accurate plant documentation, because the only existing plot plan available was based on outdated Google Earth images. Due to this, there was no way of knowing if the new equipment and the reactor would fit in the intended space.

The Badger Company suggested to conduct a 3D laser scanning study of the existing premises to create a point cloud and from this an accurate 3D model for the customer. This could then be used to produce a number of up-to-date views of the plant.

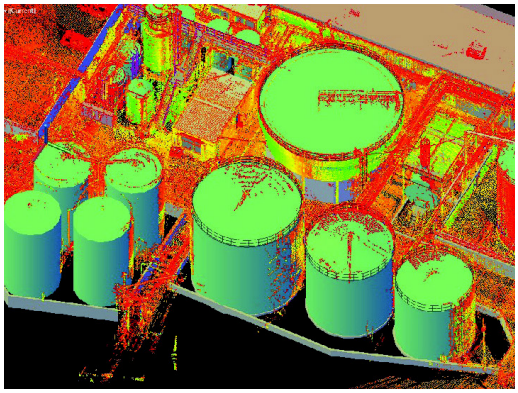
The first task The Badger Company needed to perform was to specify the positions for the scanner to ensure the optimised capture of the plant in the fewest number of laser scans (point clouds). Data capture was performed with a Leica Geosystems laser scanner, and Leica TruView technology was used to view the resultant point cloud.

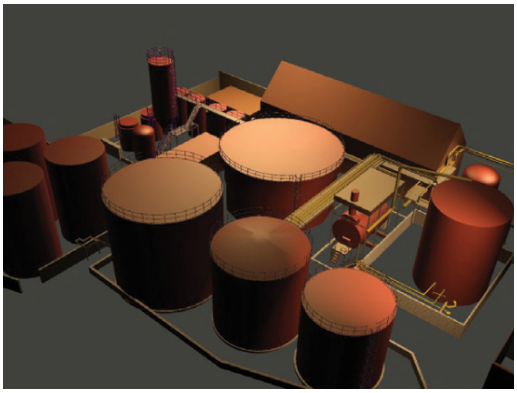
Once scanning was completed, to ensure that only relevant information was included and to optimize the file size, the different point clouds were first cleaned before being registered together in Leica Cyclone™ to create a single, unified high accuracy point cloud of the plant.

After this, a simplistic but accurate 3D model of the existing plan and premises was created, and from which various views and 2D plot plans were generated. This enabled the owner of the plant to see clearly how and where the new additions to the facility could be made and which parts of the existing facility had to be demolished or moved.

*"Forte 3DWorx has proven to be faster and easier to use than other similar solutions, and its scalability enables you to pay only for the features you need. This was our first laser-scanning project with Forte 3DWorx, and it was easy for us to get started with a new project - in fact our engineers needed no additional training."*

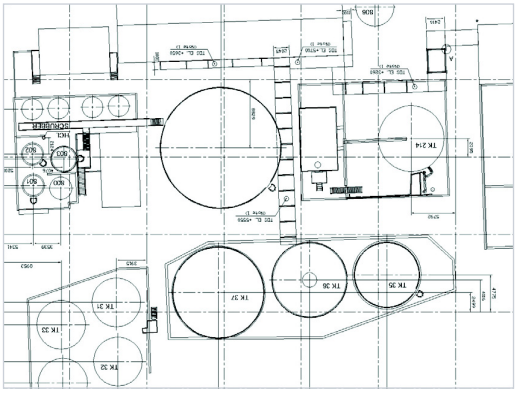
**Peter Klaassen**
Project Manager, The Badger Company





## Realizing results

During the project, The Badger Company successfully created a new, accurate 3D model of its customer's plant, without any existing documentation or plot plans. After the scanning of the premises and creation of the 3D model, the owner operator was able to safely plan the upgrade of the plant, and ensure that the new equipment would fit into the intended area.



Forte 3DWorx solutions were chosen for the project due to their ease of use, efficiency and scalability.

## Moving forward

As a long-term user of Octave solutions, The Badger Company has already standardized to use Forte 3DWorx in all of its future projects. Other examples of projects done in Forte 3DWorx include tank terminals, bitumen refineries, biodiesel plants, blast furnaces, skids and brownfield projects in chemical plants (such as new pumps, tanks and equipment).

The Badger Company sees that the addition of Forte 3DWorx to its engineering toolset strengthens its service offering, enabling it to deliver projects at higher accuracy, quality and more cost-effectively.

## About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property and assets – for any scope, at any scale. For decades, we've partnered with customers to sharpen performance, elevate efficiency and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what's possible from day one onward.