



**PETROLTERV KFT.**

**European Engineering Company Saves \$400,000  
USD on CAPEX Using Performance Engineering**

“With the flexibility of Aspen HYSYS and the full Performance Engineering suite, our organization has been able to expand its consulting services outside of our traditional oil and gas industry market, such as chemical, agriculture and heavy industries.

Ákos Kiss  
Petroleum Engineer  
PETROLTERV Ltd.

**\$400K**  
**USD CAPEX savings**

## CHALLENGE

Revamp the gas treatment technology at Hungary’s largest underground gas storage facility to meet new European (EN) standards.

## SOLUTION

Using Aspen HYSYS® and Aspen Exchanger Design & Rating™ (EDR), PETROLTERV rigorously simulated and designed improvements to their gas treatment process that met new EN standards.

## BENEFITS

- Saved up to \$400,000 USD on CAPEX via greater design accuracy
- Reduced costs by enabling PETROLTERV to perform design projects that were previously outsourced
- Completed projects on time and on budget



**The Performance Engineering suite from Aspen Technology offered the perfect solution—a single process simulation software platform that seamlessly integrated all the capabilities they required.**

PETROLTERV is an engineering design and consulting company founded in 1967 and based in Szeged, Hungary. The company traditionally delivered projects for the oil and gas industry; however, with the aid of state-of-the-art software such as Performance Engineering, they also serve other industries including chemical, agriculture and heavy.

PETROLTERV consists of in-house teams focused on process control system engineering, mechanical engineering, equipment design, civil engineering, electrical engineering and GIS/geodesy. Using the expertise of these teams, PETROLTERV can provide full service on complex projects for their clients, and consider environmental responsibility during the preparatory and planning phases of those projects.

Their mission is to provide high-quality and reliable engineering designs and services, as well as consultancy for their existing and future partners.

## **Complete Solution Supports Effort to Deliver More for Less**

PETROLTERV's primary objective was to optimize the processes their client employed, while also delivering the work at a minimum cost, which they aimed to do by limiting their outsourced work. The company needed an integrated process simulation/design solution that could handle more than just process simulation. They required the solution to handle rigorous heat exchanger design and rating, as well as the design of dehydration units, acid gas treatment units, flare systems and pressure safety valves. The Performance Engineering suite from Aspen Technology offered the perfect solution—a single process simulation software platform that seamlessly integrated all the necessary capabilities.



## Performance Engineering for Better Design

PETROLTERV applied the Performance Engineering solution to redesign the gas treatment technology at Hungary's largest underground gas storage (UGS) system, Zsana UGS, with a 2170 Mm<sup>3</sup> working gas capacity to meet new gas quality requirements stipulated by EN standards.

This new standard imposed more stringent hydrocarbon and water dew point requirements for natural gas handling systems than previous requirements in Hungary. The site had three gas treatment trains, each employing a TEG (triethylene glycol) dehydration unit and a low temperature separation (LTS) unit which employed a propane refrigeration system and brazed aluminum heat exchangers (BAHX).

**Using Aspen HYSYS and its seamless integration with EDR, the team was able to rigorously simulate the propane-based refrigeration system and the brazed aluminum heat exchanger operation to find design alternatives that met stringent new standards.**

Using Aspen HYSYS and its seamless integration with Aspen Exchanger Design & Rating (EDR), the team could rigorously simulate the propane-based refrigeration system and the brazed aluminum heat exchanger operation to evaluate new design alternatives in order to meet new stringent standards. PELTROTERV proposed the following key design modifications to meet the new requirements:

- Increase the capacity of the refrigeration units
- Replace the refrigerant medium
- Change BAHX units and install filter separators to protect the new heat exchangers

PETROLTERV estimates that they saved up to \$400,000 USD on CAPEX of the Zsana UGS revamp project via greater design accuracy offered by the integrated aspenONE Engineering suite of products. In addition, after using the suite, PETROLTERV is no longer forced to outsource large numbers of engineering projects, such as air cooler design, pressure safety valve sizing, etc. Completing more work in-house has enabled them to bring down their project costs, as well as deliver those projects on time and on budget.



## About Aspen Technology

Aspen Technology (AspenTech) is a leading software supplier for optimizing asset performance. Our products thrive in complex, industrial environments where it is critical to optimize the asset design, operation and maintenance lifecycle. AspenTech uniquely combines decades of process modeling expertise with machine learning. Our purpose-built software platform automates knowledge work and builds sustainable competitive advantage by delivering high returns over the entire asset lifecycle. As a result, companies in capital-intensive industries can maximize uptime and push the limits of performance, running their assets safer, greener, longer and faster. Visit [AspenTech.com](https://www.aspentech.com) to find out more.

