

CASE STUDY



Global Engineering Organization Improves Bids and Estimates with Aspen Capital Cost Estimator



“We knew that the solution to Linde’s estimating challenges was the Aspen Capital Cost Estimator. Working with their estimating team, we were able to effectively configure the solution to Linde’s estimating process and historical cost information.”

- Mike Monteith, Principal Estimator, SES



As one of the leading global producers of industrial gases—with an associated world-class engineering organization—Linde has a presence in approximately 100 countries with nearly 52,000 employees. The company is committed to technologies and products that unite the goals of customer value and sustainable development.

Recently, Linde’s U.S. engineering organization was challenged with high estimating variances and overruns, coupled with a large, dispersed estimating team. An internal analysis diagnosed the problem as an inconsistent use of tools and business processes in the estimating function.

Linde implements aspenONE® Engineering to simplify and streamline its estimating discipline, while improving the accuracy of capital cost estimates and achieving long-term cost savings.

CUSTOMER PROFILE - Linde Engineering - *Engineering & Construction*

CHALLENGE

Reduce cost overruns by achieving consistency in estimating methods and application.

SOLUTION

Aspen Capital Cost Estimator together with a deployment and training plan from AspenTech partner, SES.

BENEFITS

- Reduce estimating variance to improved accuracy of actual constructed costs
- Reduce estimating time and effort for improved efficiency
- Support modular design strategy
- Reduce instances of capital cost project overruns

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Looking for a more strategic, centralized solution, Linde (USA) turned to aspenONE Engineering and the Aspen Capital Cost Estimator (formerly Aspen Kbase). Now Linde relies on a powerful commercial tool that not only enables fast, accurate estimates and analysis, but also allows the company to phase out disparate legacy products for greater efficiency.

VALIDATING THE LINDE-SPECIFIC SOLUTION

To test the value of Aspen Capital Cost Estimator (ACCE), five recently built plants were fully modeled and implemented in the software, including hydrogen processes, gas processing, air separation, and sulphur removal and recovery. Each of these models was shown to reproduce actual installed capital costs closely. In addition, the models successfully matched the historical data within a small overall variability.

A key contributor to the success of this effort was the expertise of Strategic Estimating Systems (SES), which was able to rapidly build the process-specific models, as well as calibrate the new software to the historical capital project data.

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FULL-SCALE DEPLOYMENT

Following the initial implementation phase—in which Linde estimators shadowed experts using the system—the company put the solution to work on two hydrogen plant proposals, testing both the technical and work process aspects of the approach. ACCE was run in parallel with legacy systems to build confidence in the solution and fine tune the cost models to match Linde practices.

Having successfully performed these tasks, Linde is now in full implementation, using the new work process in place of legacy tools to help reduce man hours per estimate. The company is fully engaged in sharing the system with management, clients, the estimating community, and discipline engineers.

NEXT STEPS

The improved accuracy, consistency and efficiency of estimating with Aspen Capital Cost Estimator has enabled Linde to map out the next phase of implementation. Some areas of focus in the near future include additional improvements to the estimating workflow; expanded work on benchmarking and calibration to keep the models “live”; closer collaboration with suppliers; and development of custom reporting to further align the solution with Linde engineering practices.

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AspenTech is a leading supplier of software that optimizes process manufacturing—for energy, chemicals, engineering and construction, and other industries that manufacture and produce products from a chemical process. With integrated aspenONE® solutions, process manufacturers can implement best practices for optimizing their engineering, manufacturing, and supply chain operations. As a result, AspenTech customers are better able to increase capacity, improve margins, reduce costs, and become more energy efficient. To see how the world's leading process manufacturers rely on AspenTech to achieve their operational excellence goals, visit www.aspentech.com.

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