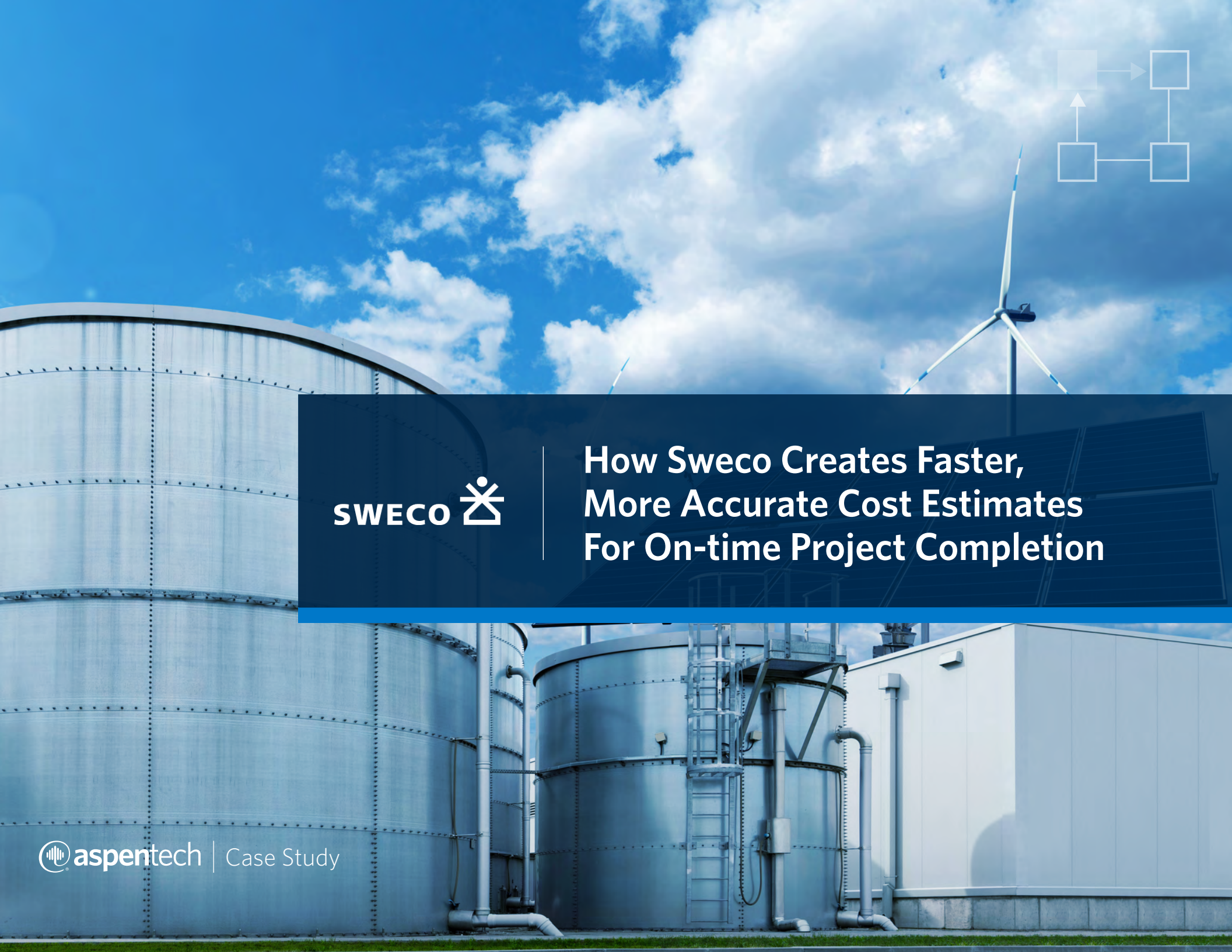

SWECO

How Sweco Creates Faster, More Accurate Cost Estimates For On-time Project Completion

aspentech | Case Study

"ACCE gives us better visibility into project costs and enables more rapid and reliable decision making in the wide variety of industries we serve."

–Eero Sahakoski, Project Control Manager, Sweco

Estimates completed

50-75% faster

40-60% cost reduction

from improved alignment

CHALLENGE

Spreadsheet-based cost estimation was inconsistent and scattered, leading to time-consuming manual work and a lack of alignment between cost estimators.

SOLUTION

Aspen Capital Cost Estimator™ (ACCE) provided standardization and a systematic, volumetric approach to creating estimates for Sweco's diverse customer portfolio.

VALUE CREATED

- Quick estimate generation during early project stages with minimal scope definition.
- Consistently aligned results with real project data, enhancing reliability.
- Improved collaboration between cost estimators.

Overview

Sweco is Europe's leading architecture and engineering consultancy. With the collective knowledge of 23,000 architects, engineers and other experts, Sweco undertakes projects across 70 countries each year. The company works together with clients to facilitate the green transition, maximise the potential from digitalisation and strengthen the resilience of our communities. Sweco's Industry and Energy Division in Finland serves a diverse client portfolio across a wide range of industries, including water, energy and hydrogen.

This diversity requires extensive and varied cost estimation data and models. In the past, this critical information was not centralized but instead was scattered across numerous spreadsheets and among different team members, with little collaboration between them. Compounding the issue, there was no standardized method for using the spreadsheets.

The reliance on various spreadsheet-based workflows demanded significant review efforts to bridge gaps between estimates and other disciplines. The challenge was particularly acute in projects where the clear definition of process areas was crucial for accurate estimation results.

An Efficient and Reliable Solution Increases Confidence

To address this challenge, Sweco chose to implement Aspen Capital Cost Estimator (ACCE) for model-based estimation. ACCE establishes a consistent model to enable the creation of accurate, detailed project cost estimates and high-level critical path method (CPM) schedules early in the design process. It has powerful capabilities that are able to evaluate construction hours and durations, identify long lead deliveries, optimize construction quantities, assess project technology location and capacity, and compare construction execution strategies.

During a proof-of-concept evaluation, the Sweco team was impressed by ACCE's efficiency in defining and organizing items by process areas, improving estimate transparency and facilitating communication between disciplines. ACCE's volumetric model effectively calculated bulk materials for these areas even with preliminary project scope definition.

Once material take-offs (MTOs) were clearly defined, integrating them into ACCE's model was swift and straightforward.

A dependable cost basis is essential for accurate cost estimates. This prompted Sweco to conduct extensive calculation and benchmarking tests on various pieces of equipment used across the industries they serve. ACCE demonstrated its accuracy and reliability by consistently aligning its results with real project data. Encouraged by these findings, Sweco chose to rely on ACCE's centralized cost database, which receives regular updates and eliminates the need for manual data collection. This capability also enables the company to confidently evaluate vendor quotations, particularly when significant price discrepancies among vendors are identified.

A Uniform Cost Estimation Structure Ensures Result Consistency

In early project phases the information available is very limited, and it is easy to forget some of the things needed in the project. ACCE provided the Sweco teams with a standard and structured cost estimation process, using a uniform methodology to ensure consistency in the contents of the estimates and improve alignment between cost estimators in the organization.

ACCE includes premade piping and instrumentation diagrams (P&ID) that use standardized instrumentation. They enable estimators at Sweco to begin project work with smaller teams, even when the process engineering group is still defining the equipment details and other disciplines have only provided the basics of the project. As the project moves forward, each discipline can check its own results and confirm the amounts are correct.

Conclusion

ACCE's reports provide the necessary transparency to thoroughly review estimate details and identify any gaps. The product's volumetric model enables Sweco to generate estimates more quickly during early project stages, relying solely on simulation data while maintaining trust due to its reliable cost basis. The output and layout of the data are the same for every estimator (i.e., the code of accounts is the same), making it easy for the reviewers to find what they are looking for in the estimate.

Across various industries and for projects of every size, ACCE enables Sweco to create better, more accurate estimates, helping them to deliver their projects on time and on budget.

About Aspen Technology

Aspen Technology, now part of Emerson, is a global software leader helping industries at the forefront of the world's dual challenge meet the increasing demand for resources from a rapidly growing population in a profitable and sustainable manner. AspenTech solutions address complex environments where it is critical to optimize the asset design, operation and maintenance lifecycle. Through our unique combination of deep domain expertise and innovation, customers in asset-intensive industries can run their assets safer, greener, longer and faster to improve their operational excellence.

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