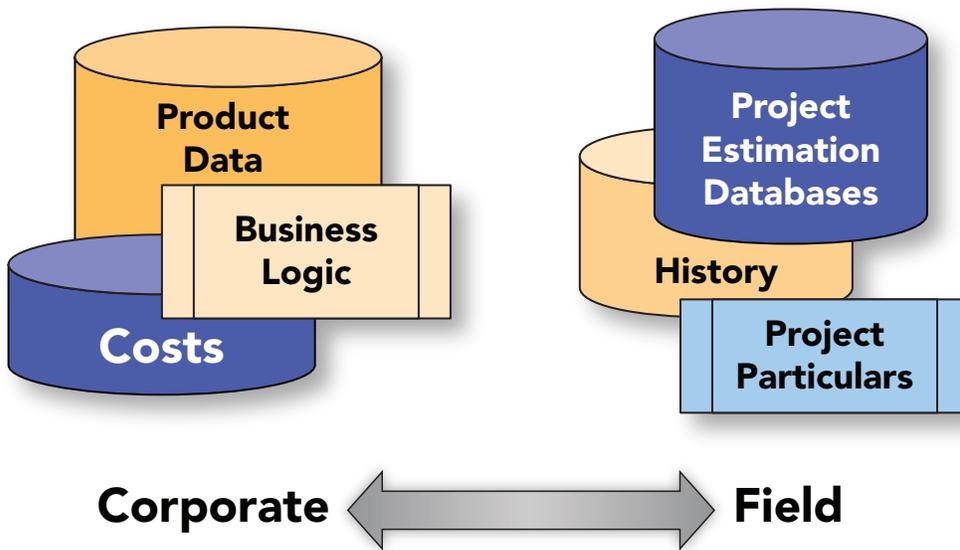


Full Life-Cycle Design and Development of Interactive Analysis Tool



Accurate estimates of materials and labor provide the basis for business success when providing building infrastructure solutions for commercial and industrial construction projects. A Fortune 500 industrial equipment manufacturer needed to upgrade an existing, but aging, internal software system for international project estimation. The company weighed a variety of options before deciding to invest in a ground-up revision for the estimator. However, creating it internally wasn't an option with their limited resources.

Esterline Control Systems - AVISTA collaborated with the manufacturer to completely revamp the project estimation software. The most time- and cost-effective solution dictated the estimator software to operate in current [Microsoft® Windows®](#) environments and take advantage of new database and communication technologies, as well as update its functionality to meet current business needs. The team [worked with the manufacturer to understand its users'](#) needs and created a completely new tool.

Today, the estimator tool is used to estimate the price and profit margin for material and labor on proposed construction projects. Now more user-friendly, it is used extensively by a global, corporate sales force in the office and on the road. The estimator is seamlessly integrated with databases in sales offices and the company's corporate headquarters. Finally, the updated tool was extremely well-received by users.

Fast Facts

Company: Industrial equipment manufacturer

Industry: Other / Construction

Geography: United States

Project: Update the project estimation application to run in a Microsoft® Windows® environment taking advantage of new database and communication technologies

Certification: Not required, although standards-based development processes were used for a high-quality application

Challenge: A product upgrade effort would have overwhelmed internal software development resources

Solution: Outsource the full life-cycle development project

Results: The AVISTA team took an application that users didn't want to use and turned it into something they did want to use. The project was also completed quickly and cost-effectively through efficient and effective software reuse



Esterline Control Systems - AVISTA Success Factors

By upgrading a proprietary application and turning it into a Microsoft® Windows®-based product, the AVISTA team brought the following strengths to the project:

- **Familiarity with the client's products and processes.** This manufacturing firm had worked with the AVISTA team before and appreciated their dedication, flexibility, and willingness to work together. They awarded the team with entire responsibility for the estimator software project — including tasking them to determine what was needed to create a new software tool.
- **Experienced program management and software engineers.** As part of this project, the AVISTA team collaborated on requirements definition, established the project plan, programmed the software (leveraging as much existing code as possible), designed a new graphical user interface, tested the software, and field-verified that it met project requirements.

“The biggest home run on the project was that AVISTA took an application that users didn’t want to use and turned it into something they *did* want.”

- **Experienced in software reuse.** The pre-Windows graphical user interface (GUI) was hard to use, had serious quality issues, and the program’s functionality failed to address the current complexity of the proposal process. The team was able to leverage the existing code base, and saved thousands of hours of coding by reusing 90 percent of the 60,000 lines of code in the original system.
- **Knowledge of software life-cycle processes.** The company completely outsourced product development, making the team responsible for system and software requirements, software design, software implementation, requirements-based testing and the initial software releases.

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