

ACE vs. Spreadsheets

ACEIT's Automated Cost Estimator (ACE) is designed to perform specific cost estimating techniques with minimal effort on the user's part to structure the spreadsheet or calculate core cost estimating techniques. Thus, an expert ACE user can build an estimate in a fraction of the time required to do the same effort in a spreadsheet.

Although commercial general-purpose spreadsheets allow users complete freedom to define a structure, this total freedom is also a deficiency. This becomes apparent when an analyst is required to transfer an estimate to another analyst either for review or to update. ACE is a combination spreadsheet and database. It provides some standardization (with pre-defined columns), but it allows plenty of flexibility (with user-defined rows). Also, it has integrated tailorable reports to document the basis of your analysis.

Below are several reasons why you should consider using ACE instead of a spreadsheet:

1. Implements standardized process and increases estimate quality while reducing management challenges.

- Supports development of consistent, systematic, and defensible Life Cycle Cost Estimates
- Improves estimate review and verification process through consistent model structure
- Enhances quality by eliminating many errors often made in spreadsheets (which frequently go undetected)
- Structured modeling platform shortens time for ACE users to learn a new model
- Eases organization-wide distribution of key standards (WBS, inflation, etc.)

2. WBS/CES definitions and expansion modules are built into ACE

- Creates a measure of standardization
- WBS/CES structures are built-in
 - All MIL-STD-881C system WBSs
 - All Army Cost Element Structure (CESs)
 - WBS/CES element descriptions are also included
- Easily add/change definitions
- Documentation can be imported from models, cost proposals, etc.
- Reduces errors of omission
- WBS/CES structures can be saved as templates for use on other estimates

3. Methodology libraries are built into ACE

- Contain rates, factors, CERs, models, sources, etc.
- Linked to WBS items for easy search and retrieval
- Built-in descriptions contain relevant information such as: uses, data, and statistics
- Analysts can create custom libraries

4. ACE rows automatically sum by indenture level, e.g., by WBS

- Add, delete, move rows with no adverse effect
- Requires fewer equations and less memory
- Eliminates summing errors
- Calculates faster

5. Cost/pricing and Date functions are built into ACE

- Economic analysis (discount factors/values, payback period, break-even year)
- Yearly/Monthly (return actual, cum, or max/min at any time period; time period of max/min value; etc.)
- Site procurement (quantity/cost by subsystem by system by site by year)
- Step values and Vlookup (material/quantity discounts)
- Date math easily accomplished to facilitate time phasing

6. Learning functions are built into ACE

- Support 2 theories (cum avg and unit)
- Supports multiple reference cost types (UC, CAC, LTC)
- Slopes and quantities can be variables
- Computes different customer costs for same item (shared learning)
- Computes effect of changes in production rate (rate-adjusted learning)
- Models breaks in production (shift, rotation, lost learning)

7. Time phasing/cost spreading modules are built into ACE

- Several time-phasing methods available, including beta curves
- Spread costs over a specified time period, evenly or with ramp up/ramp down
- Spread costs over time period based on milestone dates

8. US Government inflation tables are built into ACE

- Automatically normalizes methodology throughputs and equation results

- Converts time phased constant year estimates to then year (budget dollars)
- Latest indices can be downloaded from the ACEIT website
- Custom inflation/price indices can easily be added or imported

9. ACE has a built-in word processor for documentation

- Analyst can document analysis rationale (methodology) for each row
- Also document learning and risk assumptions, phasing methodology, what-if drills
- External model inputs/outputs/descriptions can be imported
- Contractor cost proposal basis of estimate can be imported
- Documentation is automatically integrated into reports

10. ACE has a wide variety of built-in reports

- There are many standard reports which can be customized
- Results can be summarized by any category (Appropriation, Service, CLIN, SOW, WBS, function, etc.)
- Time-phased risk results adjusted to a specified confidence level
- Most reports can be generated in base year or then year dollars

11. ACE provides automatic side-by-side what-if results

- Create and compare an unlimited number of side-by-side excursions
- Change multiple input drivers for each what-if case and view the results
- Create reports for any selected excursion

12. ACE can combine results from multiple estimates

- ACE-to-ACE plug-in imports results from one ACE session into another
- Excel-to-ACE plug-in imports data from an Excel spreadsheet

13. ACE traps a multitude of errors, which frequently remain undetected in spreadsheets

- Error log states what the problem is and where it is located
- Recommends ways to correct the problem, often with examples

14. ACE provides specific cost estimating help

- Explains how to use each workscreen and column to perform analysis
- Help on hundreds of topics such as inflation, time-phasing, learning curves, risk analysis, and ACE functions

- Tutorials on how to implement various methodologies in ACE

15. ACE provides a consistent format for analyzing and displaying results

- Makes the analyst and reviewer's jobs much easier
- As one user commented, "The major advantage of ACE is the standardization it imposes, without in any way limiting the ingenuity of the user."
- The Inputs/Results Viewer allows the user to quickly see time phased (BY, TY, SY), RI\$K and present value (real and nominal) results
- The Program Office Support Tool (POST) has numerous tabular and graphical reports instantly available for use with any ACE session

16. Formulas needed for typical spreadsheets are not necessary

- ACE users have stated it takes only one-fourth to one-tenth the amount of time to perform an analysis in ACE that would be required to perform the same analysis in a spreadsheet
- Additionally, time is saved using built-in documentation and reporting

17. ACE integrates with non-ACEIT applications through an open platform

- Ability to link to virtually any other tool through the robust API
- Plug-ins facilitate the exchange of data between other applications such as MS Project, SEER SEM/H, and PRICE-H

18. Access ACEIT's Automated Cost Database (ACDB)

- Search for actual cost, schedule, and technical data
- Automatically transfer cost, schedule, and technical data to CO\$TAT for analysis
- CO\$TAT analyses can be imported into ACE
- Search for and return cost proposal data