Project Size Units in Practice

Training materials 3.1 | Calculation model 3.0 | US edition: October 7, 2026

Original methodology published September 17, 2026. https://enableaisi.com/insights/project-size-model-instructor-guide/

Instructor article · Editorial edition 3.1 · Calculation model 3.0 · EnableAI · September 17, 2026

Reading guide and learning objectives

This article teaches you to turn a project description into a documented estimate of internal hours, external purchases, and uncertainty. Use it alongside the VP article, shared decisions and follow-up and the templates. Size estimation applies to AI, IT, new workflows, and organizational initiatives.

After working through the material, you should be able to conduct an estimating interview, break down scope, calculate a base estimate, distinguish risk from committed work, justify a residual reserve, and explain the differences among SE, a cash budget, and a schedule. You should be able to check an estimate without being an expert in every discipline involved.

1. Source foundations and EnableAI's choices

Source-based principle. GAO's estimating guide covers scope, work breakdown, assumptions, data, estimation, risk analysis, and updates using actual resource use. EnableAI uses this structure as a methodological foundation. S1: GAO, Cost Estimating and Assessment Guide, 2020.

EnableAI's model. The name SE, an internal hourly reference rate of approximately $90, a unit of approximately $3,400, the 2026 price year, the sum K + R + U, and the link to VP are EnableAI design choices. They do not come from GAO. The model simplifies decision support; it is not a complete GAO cost-estimating process.

Source-based inspiration. HM Treasury describes using experience from similar projects to address optimism bias. Our specific reserve formula and example percentages are EnableAI adaptations, not rates prescribed by that guidance. S2: HM Treasury, optimism bias guidance.

EnableAI's teaching approach. The question guide, activity cards, interpretation rules, and exercises below were developed to make the model useful in businesses. Adapt them to the significance of the project. A large, irreversible capital or systems investment requires more detailed financial, scheduling, and probabilistic analysis.

2. Four concepts that must stay distinct

Term	What does it show?	What does it not show?
Internal hours	Work performed by the business's employees	Elapsed calendar time or invoiced labor cost
Cash requirements	Actual payments and their timing	The full demand on internal staff
SE	Normalized resource use against a fixed reference	Financial ROI, available capacity, or a guaranteed budget
Schedule	When activities and dependencies can be completed	Total effort by itself

Depending on availability, 75 hours of work may take two weeks or two months. An employee who is already on payroll still consumes capacity, even when their work does not increase cash payments. An external consultant invoices at the agreed price; do not also count that person's time as internal hours.

Known size means “described and estimable,” not certain. Here, unknown size is an umbrella term for named possible events and other remaining uncertainty. Complete ignorance cannot be measured precisely. The reserve is a justified contingency, not proof of complete knowledge.

3. Agree on boundaries before counting hours

Describe the intended deliverable, actual adoption, measurement period, affected groups, prerequisites, and no-project alternative. Estimate the entire remaining path to the value in the VP model, even when the next funding request covers only a small test. Do not divide the benefit of full scaling by the cost of a pilot alone.

The starting profile includes setup and additional technical operations, support, and measurement during the first 90 days after adoption. Clearly state what falls outside that period. Long-lived solutions also need a common longer horizon showing lifetime, renewals, maintenance, later migration, and retirement. A cheap initial period must not conceal large future commitments.

Baseline work that would happen anyway is not an additional project activity. Employee participation in tests, workshops, cleanup, and training is. Handle recurring human review of an AI task either in net time savings or in size under a shared convention. In model 3.0, it is normally already deducted in D1 and therefore not counted again. Project quality design and technical monitoring are separate activities included in SE.

Also agree which shared platform costs belong to the project. For a combined investment decision, count the shared platform once. For independent subprojects, show a transparent allocation rule and total capacity needs.

4. The structured estimating interview

Ask a subject-matter lead to describe how the work is actually done. Break it down until quantity, unit, responsibility, and completion criteria can be stated. A few clearly bounded activities are better than many labels without a calculation basis.

Area	Specific questions	Quantity and evidence
Investigation	Which processes need mapping? How many interviews, observations, and baseline extracts?	Count × time; interview plan and data sources
Solution design	Which workflows, decision rules, and exceptions need to be designed?	Processes or variants × estimated time; design owner
Data and integration	Which sources, fields, interfaces, and access roles? What cleanup and migration?	Data profile, sample, technical test, and integration types
Business preparation	Who needs to change procedures, ownership, approvals, and staffing?	Deliverables × hours; process owner and acceptance
Change management	Which groups need to be involved? Who gains or loses responsibility?	Meetings, local adaptations, and time from lead users
Training	How many people, groups, hours, exercises, and repeat sessions?	Training plan including every participant's time
Communication	Which messages, channels, translations, and feedback rounds?	Production + participation + revision
Testing and controls	Which business, technical, and security requirements must be tested?	Tests × execution time + setup + fixes
Adoption	How will transition, parallel operation, fallback, and handoff work?	Rollout plan, coverage, and acceptance criteria

Area	Specific questions	Quantity and evidence
Operations and follow-up	Who handles incidents, quality, model changes, measurement, and reviews?	Frequency × participants × time within the measurement period
External purchases	Which licenses, usage charges, courses, consultants, and equipment?	Quotes, quantities, unit prices, commitments, and validity

A useful follow-up to any answer is: “What specific work have we just assumed someone else will do for free?” Another is: “What must be true for this hour estimate to hold?” The answer becomes a base activity, an assumption, or a named risk.

5. Document activities so someone else can check the estimate

Create an activity row with an ID, project and phase, deliverable, owner, unit, quantity, time or price per unit, internal and external resources, low/central/high estimates, source data, included and excluded work, dependencies, and acceptance criteria. Record both the next phase's share and the remaining project.

“Training: 100 hours” is insufficient. A traceable answer is: “40 employees attend for 2 hours = 80 hours; an internal facilitator spends 8 hours preparing and 2 hours teaching = 10 hours; an external instructor charges approximately $1,800. Total: 90 internal hours plus approximately $1,800.” The internal facilitator is a different person from the external instructor. If the instructor is external, do not also count that person’s 10 hours as internal work.

Estimate meetings as participants × duration, plus preparation and follow-up. Six people in a two-hour meeting use 12 hours, not two. A communication task might include two hours of editing, one hour of approval, and a 15-minute briefing for 40 employees: 13 hours in total.

Use a specific quote, trial activity, historical resource use, or expert assessment as the basis. A vendor price covers only what the quote includes. Record assumptions about the customer's time, integrations, testing, and support. If an input is a range without a probability model, its midpoint is not automatically the expected value; choose and justify the central scenario.

Choose an estimating technique based on available knowledge

Analogous estimating: Use a completed, comparable project and document differences in scope, data quality, reuse, and organizational reach. A 200-hour project is not comparable simply because both are called “AI assistants.”

Quantity-based estimating: Use, for example, documents × cleanup minutes or locations × training time. Validate time per unit with a representative sample. Separate fixed setup from variable units: ten integrations do not necessarily cost ten times the first, but the remaining nine are not free either.

Activity-based estimating: Add delivery work, business effort, purchases, and measurement. Check with an independent person and a historical reference. If the results differ substantially, investigate the cause rather than simply averaging them.

6. From hours and purchases to base K and SE

K = internal hours × the internal reference hourly rate + external purchases in current USD / price index. Use the unrounded FX-converted calibration for calculations. A price index of 1.00 means 2026 prices; 1.10 means 10% above the reference year. Convert items on different price bases before adding them. Convert currencies using a shared, dated exchange-rate rule. The spreadsheet's single index per decision requires mixed purchases to be consistently normalized outside the sheet first.

1 SE equals 37.5 internal hours at the reference rate, equivalent to approximately $3,400 in reference resources. 75 hours plus approximately $3,400 in purchases at 2026 prices produce (75 × the internal hourly reference rate + external purchases) / the SE reference value = **3 SE**. Approximately $3,750 at a price index of 1.10 still represents

approximately $3,400 in reference resources and therefore 1 SE, calculated before display rounding.

The reference rate is a deliberately stable resource weight, not actual pay, marginal cost, or a selling price. The standard profile uses the same rate for business and IT. If specialists need different weighting, management must establish a shared new profile and recalculate comparable historical figures. An individual project must not choose its own rate to appear smaller.

Keep a separate view of actual external payments and internal hours by role. A high-priced vendor may be the right choice when internal capacity is unavailable. SE alone cannot decide that. Include schedule and skill constraints in prioritization.

Defining purchase costs: In the original model, recoverable VAT is excluded from resource costs and nonrecoverable amounts are included. Finance must determine the treatment actually applicable to the business and transaction; this does not imply a US tax exemption. Do not count both equipment purchase cost and depreciation as separate project purchases. A paid investment is historical resource use; assess future additional costs and alternative uses separately.

7. Named risks R: from concern to additional size

Describe a risk as cause → possible event → consequence. “Integration is difficult” is insufficient. “If the vendor's export lacks required fields, the team must build and test an additional integration” can be estimated.

A risk row needs an ID, linked activity, time window, probability, additional internal hours, additional external purchases, evidence, owner, prevention, trigger, overlap, and any effect on VP. The probability concerns the event in the specified project, not an abstract lifetime risk.

R = sum of probability × additional resource use if the event occurs. Example: 35% × (60 additional hours × the internal reference hourly rate + approximately $1,500) = **approximately $2,450 in reference resources**, equivalent to 0.716 SE. The 60 hours and approximately $1,500 must not already be included in K.

Ask: “Which comparable events support 35%?” Document the number of comparable observations or the expert assessment. An expert judgment without historical data is an assumption; show sensitivity to lower and higher probabilities. Do not convert labels such as “medium” directly into 50% without an approved shared mapping.

Approved prevention belongs in K. If a clarifying test confirms that work is necessary, move the remaining additional work to K and remove it from R. Move completed work into the actual-use history. Do not retain the same reserve on top of an activity that is now known.

Relationships among risks

Expected additional costs can be added without statistical independence if the consequences are correctly bounded and additive. However, the risk of a large combined outcome depends on relationships among events. Three risks might arise from the same data problem or represent mutually exclusive solutions. Do not blindly add their full consequences in a stress scenario.

One event can reduce VP and increase SE: low adoption can reduce time savings and require 20 extra support hours. These are two different consequences. Document the connection in one risk register and a consistent scenario; do not add a general “AI risk allowance” for the same event.

8. Residual uncertainty U: make it specific and justified

After estimating base work and named risks, some work may remain poorly understood. EnableAI's simplified model uses **U = K × share with uncovered residual uncertainty × justified residual allowance**. Identify the exposed activities. “50% of K” must correspond to specific components, not be chosen to reach a desired total.

Example: K is approximately $33,900. Activities representing approximately $17,000 remain poorly understood, and a provisional 15% allowance has been approved for that portion. U = K × 0.50 × 0.15 = **approximately $2,550 in reference resources**. The 15% is a training assumption, not an industry standard or guarantee.

Ask: What residual uncertainty is not already in R? Which completed projects show relevant unplanned resource use after adjusting for additional scope? How were they selected? Why are they comparable? Which investigation could reduce the uncertainty?

Do not automatically add a historical total budget overrun on top of fully estimated named risks. It may already include those events. Either isolate the residual after known events or use an overall reference-class adjustment as an alternative checking estimate. Document the choice and overlap check.

If no useful history exists, label the allowance a provisional management assumption and show a wider scenario. More knowledge can reveal more work. U must therefore not automatically decline as the project moves from Hypothesis to MVP. The example percentages of 15/8/4% are illustrative, not phase rules.

9. A complete, reproducible calculation

Part	Calculation	Reference USD (rounded)	SE
K: base estimate	300 hours × reference hourly rate + $6,800	$33,900	10.000
R: risk	35% × (60 hours × reference hourly rate + $1,500)	$2,450	0.716
U: residual reserve	$33,900 × 50% × 15%	$2,550	0.750
Total	K + R + U	$38,900	11.466

If the project's documented VP is 19.5, its priority indicator is 19.5 / 11.4656 = **1.70 VP/SE**. Do not present approximately $38,900 as a guaranteed cash budget: it includes normalized internal effort and expected risk allowances. Base external purchases are approximately $6,800; describe risk funding and internal staffing separately.

Funding must also withstand a full risk event. A 35% probability of approximately $6,950 in exposure produces approximately $2,450 in expected allowance, but the event could require the full $6,950. Leaders therefore determine funding, access to reserves, and stop criteria using both central estimates and scenarios.

10. Scenarios, accuracy, and follow-up

Build coherent favorable, central, and unfavorable scenarios. State exactly which quantities, prices, and events change. Low and stress size in the example sheet are simple calculation scenarios. They are not P50/P80 estimates, and their bounds have no guaranteed coverage probability. A statistical budget percentile requires an explicit probability model and relevant dependencies.

Before each phase, save approved K, R, U, remaining SE, next-phase funding, resources already used, assumptions, and version. Afterward, record actual hours and purchases on the same scope basis. Explain variances through factors such as incorrect quantities, lower productivity, price changes, forgotten work, realized risk events, or separately approved scope changes.

Phase error = (scope-adjusted actual resource use - approved phase estimate) / approved phase estimate. Also show unadjusted resource use, because additional scope still costs something. Forgotten training hours are an estimation error, not automatically “new scope.” If the denominator is zero, show the absolute difference instead.

Final forecast = actual resource use to date + updated expected remaining size, in the same reference unit. The next investment decision depends on the future difference between continuing, stopping, or choosing another option. Preserve historical expenses for accountable follow-up, but do not use them alone to justify continuing. S3: HM Treasury, Green Book 2026.

11. Check the estimate's credibility

A colleague should be able to answer yes to these questions: Is the scope clear? Are all material beneficiary groups included? Have participant time and follow-up been counted? Can the activities be reconstructed from quantities and unit times? Are external quotes clearly scoped? Are prevention, risk, and residual uncertainty separated? Are the schedule and cash requirements shown alongside SE? Does the scope match the promised VP?

Also check whether one untested assumption determines the decision. If a quote is missing or an integration has not been tested, a small investigation may be the most useful next funding decision. The model must allow “insufficient evidence” instead of forcing every idea into an artificially precise number.

NAO's 2011 review of the NHS care records program illustrates how reducing deliverable scope may not produce a corresponding cost reduction. Use it to ask which integration and change activities remain even when scope is cut. It is not a size benchmark for a small business. S4: NAO, NHS care records systems.

12. Training exercises and answer key

Exercise A: hidden participation time, 15 minutes. A project requires 75 hours for delivery, training for 30 participants for two hours each, 10 hours of internal preparation, and approximately $1,800 for an external instructor. All values use 2026 prices. Answer: 145 internal hours; K is approximately $14,900 using the unrounded reference hourly rate and external cost; **4.40 SE** before risk. The external instructor's time is included only in the invoice. If the project's 75 hours already include training preparation, do not add the 10 hours again.

Exercise B: risk, 10 minutes. A 25% risk of 40 additional internal hours plus approximately $1,200 externally. Answer: 0.25 × (approximately $3,600 + $1,200) gives approximately $1,200 in reference resources, calculated before rounding, or **0.356 SE**. If a clarifying test confirms that all the work is necessary, future base resources increase by approximately $4,800, and the associated R allowance of approximately $1,200 is removed. The central forecast therefore rises by approximately $3,600, calculated before rounding and before any completed investigation or other changes.

Exercise C: reserve, 10 minutes. K is approximately $30,200; 30% of the base has other uncovered uncertainty, with a provisional 20% allowance. Answer: U = **12,000**, not approximately $6,050. The participant must identify the exposed activities and explain why R does not cover them. Otherwise, the arithmetic is correct but the estimate is unsupported.

Exercise D: accuracy, 15 minutes. The approved phase estimate is approximately $15,100; actual resource use is approximately $19,600; separately approved additional scope is approximately $1,500; tolerance is ±15%. Answer: the unadjusted variance is +30%, and the scope-adjusted variance is +20%, calculated before rounding. Show both. The adjusted variance exceeds tolerance. A reserve does not justify erasing variances in base activities.

Instructor assessment. Give the participant a short project brief and ask them to identify at least one missing business activity, one possible instance of double counting, and one uncertainty worth investigating. Then ask a colleague to reproduce K, R, U, and SE. Accept the explanation only when the calculation, evidence, and limitations are understandable.

Sources and further use

S1-S4 are linked alongside the relevant arguments. None specifically recommends EnableAI’s reference hourly rate of approximately $90, its SE reference value of approximately $3,400, or its reserve percentages. Always label these as local assumptions. See documentation templates, shared phase follow-up, five project examples and workshops.

Currency: rounded USD equivalents at the ECB reference rates for October 6, 2026. Calculations use unrounded values; displayed amounts may not reproduce exact totals. The original model calibration is retained. Reference rates are resource weights, not US market rates or billing prices.