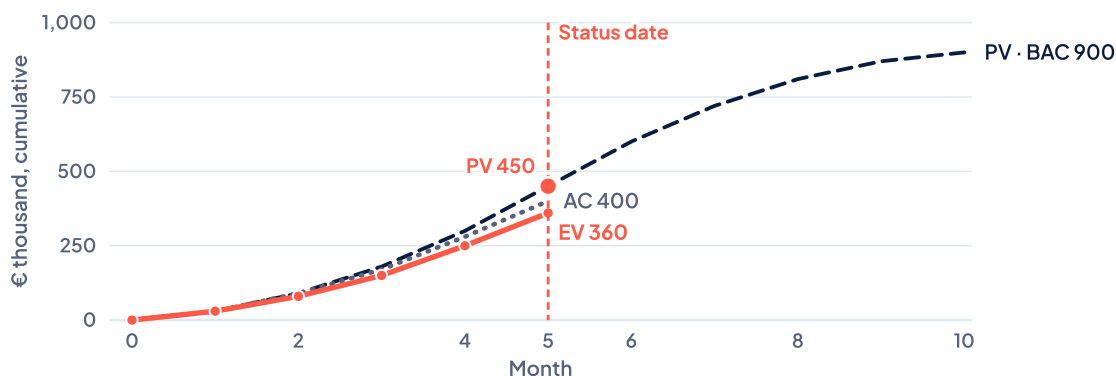


Earned value: the three curves

See on one chart whether the work is on time and on budget, by comparing planned value, earned value and actual cost.



Illustrative: a ten-month project. End of month 5: PV 450, EV 360, AC 400. SV -90, CV -40; SPI 0.80, CPI 0.90.

WHAT IT IS

Earned value measures progress in money. **Planned value (PV)**: work due by the status date, priced at budget. **Earned value (EV)**: work finished, priced likewise. **Actual cost (AC)**: what it cost. PV ends at the budget at completion (BAC); the method comes from US defence projects of the 1960s (Morris, 2013).

HOW IT WORKS

- 01 Time-phase the budget: the PV curve, ending at the BAC.
- 02 Agree credit rules: e.g. half at start, half at finish.
- 03 Each status date: EV, and AC on the budget's basis.
- 04 Schedule: $SV = EV - PV$, $SPI = EV \div PV$. Below 0 or 1: late.
- 05 Cost: $CV = EV - AC$, $CPI = EV \div AC$. Below 0 or 1: over.

MID-LEVEL · WORKED EXAMPLE

Apply it well

The situation: A city team has eight months to move resident parking permits online, with €576k of budgeted work. End of month 4: PV €360k, EV €288k, AC €300k.

$SV = 288 - 360 = -€72k$, $SPI = 288 \div 360 = 0.80$; $CV = 288 - 300 = -€12k$, $CPI = 288 \div 300 = 0.96$. Causes: late supplier integrations and extra staff hours.

In the exam: Define PV, EV and AC, work out both variances and indices, and say what they mean.

SENIOR · WORKED EXAMPLE

Design and lead it

The situation: A city is joining 14 online services under one login over 30 months, with two main suppliers; €11.5m of planned work is baselined phase by phase.

The baseline splits by service. Suppliers earn value only at accepted milestones, AC has a monthly cut-off, and the board sees variances beyond threshold.

In the exam: Explain the design: the baseline, who measures, the credit and AC rules, and what reaches the board.

WHERE IT SITS

IPMA · ICB4	PMI · PMBOK® GUIDE 8 · PMP® EXAM	APM · BOK 8 · PMQ EXAM
4.5.10: earned value analysis as a skill (p. 137); 4.5.7.5: SPI and CPI as indicators (pp. 126–127)	Guide pp. 169–170: PV, EV and AC; story points in adaptive work. Exam outline: Process task 9	BoK (APM's Body of Knowledge) §5.5.4: earned value analysis (EVA), measured against the deployment baseline. PMQ (APM's Project Management Qualification) 22b

Sources: IPMA ICB4 (2015); PMI, PMBOK® Guide, 8th ed.; PMI, PMP® Examination Content Outline (2026); APM Body of Knowledge, 8th ed.; APM, PMQ handbook (v6, 2026); Morris, Reconstructing Project Management (2013)

Key: IPMA = International Project Management Association; ICB4 = IPMA's Individual Competence Baseline (4.5.10 etc.: its competence elements); PMI = Project Management Institute; PMBOK® Guide = PMI's body-of-knowledge guide; PMP® = PMI's Project Management Professional; APM = Association for Project Management. Unofficial study material for IPMA®, PMI® and APM exams. Not affiliated with, endorsed by or approved by IPMA, PMI or APM, and not an accredited or endorsed training provider. IPMA® and IPMA ICB® are registered trademarks of IPMA in Switzerland and other countries. PMI, PMP, CAPM and PMBOK are registered marks of Project Management Institute, Inc. APM is a trade mark of the Association for Project Management. Other marks belong to their owners. PMP® exam facts are from PMI's public PMP® Examination Content Outline (2026); check the current version on [pmi.org](https://www.pmi.org). APM's qualifications are its own; this series is not an APM Accredited Provider or APM Endorsed. Examples use a fictional city and its projects. Levels (this series' labels): Mid-level = moderately complex projects (IPMA Level C, PMI's PMP®); Senior = complex projects and people (IPMA Level B, APM's Chartered Project Professional).

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