

## Original COCOMO Model (aka COCOMO I or COCOMO 81)

| Model →<br>Mode ↓   | Basic<br>(function of program size)                            | Intermediate<br>(function of program size and a set of cost drivers) |
|---|--|--|
| <b>Organic</b><br>(relatively simple project)                       | $E = 2.4 * KLOC ^ 1.05$<br>$D = 2.5 * E ^ 0.38$<br>$P = E / D$ | $E = 3.2 * KLOC ^ 1.05 * EAF$<br>$D = 2.5 * E ^ 0.38$<br>$P = E / D$ |
| <b>Semi-Detached</b><br>(an intermediate project)                   | $E = 3.0 * KLOC ^ 1.12$<br>$D = 2.5 * E ^ 0.35$<br>$P = E / D$ | $E = 3.0 * KLOC ^ 1.12 * EAF$<br>$D = 2.5 * E ^ 0.35$<br>$P = E / D$ |
| <b>Embedded</b><br>(must operate within a tight set of constraints) | $E = 3.6 * KLOC ^ 1.20$<br>$D = 2.5 * E ^ 0.32$<br>$P = E / D$ | $E = 2.8 * KLOC ^ 1.20 * EAF$<br>$D = 2.5 * E ^ 0.32$<br>$P = E / D$ |

## COCOMO II Model (aka COCOMO 2000)

| Model                    | Estimation Formulae   |
|--------------------------|---|
| <b>Early Design</b>      | $E = 2.94 * KLOC ^ k * EAF$<br>where $k = 0.91 + 0.01 * (\text{sum of scale factors})$<br>and EAF is calculated using <u>7 cost drivers</u><br><br>$D = 3.67 * E ^ (0.28 + 0.2 * (k - 0.91))$<br><br>$P = E / D$  |
| <b>Post-Architecture</b> | $E = 2.94 * KLOC ^ k * EAF$<br>where $k = 0.91 + 0.01 * (\text{sum of scale factors})$<br>and EAF is calculated using <u>17 cost drivers</u><br><br>$D = 3.67 * E ^ (0.28 + 0.2 * (k - 0.91))$<br><br>$P = E / D$ |

## Earned Value Analysis (EVA)

*BCWS = Budgeted Cost of Work Scheduled*  
*BCWP = Budgeted Cost of Work Performed*  
*BAC = Budget at Completion*  
*ACWP = Actual Cost of Work Performed*

*Schedule Performance Index (SPI) = BCWP / BCWS*  
*Schedule Variance (SV) = BCWP – BCWS*  
*Percent Scheduled for Completion (PSFC) = BCWS /BAC*  
*Percent Complete (PC) = BCWP / BAC*  
*Cost Performance Index (CPI) = BCWP / ACWP*  
*Cost Variance (CV) = BCWP – ACWP*