

A large chemical company is planning to develop a new computer program to keep track of the materials stored in the company. This system will be developed by a team of analysts and programmers of the company that have been developing similar programs for many years. An initial study has determined that the program size will be approximately 32000 deliverables code instructions.

Calculate, using COCOMO 81:

- Effort spent on developing the project.
- Project duration.
- Productivity.
- Resources.

Solution:

As this is a project developed by the company itself a Basic model is applied and due to the size of the system we can say that a Organic model is applied.

We calculate the total effort:

$$MM = A * (size^B) = 91,3 \text{ MM}$$

Where:

$$\begin{aligned} A &= 2,4 \\ B &= 1,05 \\ \text{Size} &= 32 \end{aligned}$$

We calculate the length:

$$TDEV = 2.5 * (MM_{total}) + 0.38 = 2.5 * (91.3) + 0.38 = \text{Months } 13.75.$$

We calculate productivity:

$$\text{Productivity} = 32 \text{ KDSI} / 91.3 = 0.35 \text{ KDSI MM} / \text{MM}$$

We compute resources:

$$\text{Resources} = 91.3 / 13.75 = 6.64 \text{ Man}$$