# Program Management and Control using Earned Value Based Project Management

**Are your projects under control, do you experience delays, over- and under-expenditures and organizational goals not met?**

This document provides an overview of an earned value based program management and control system, for the management and control of a project program and/or a group of projects.
*By : Alfio R.B. Troeman Msc MBA PMP, director of MADECO Project Vision*
*Alfio Troeman has actively been managing multi-discipline, large and complex projects both on the international scene and locally in the Netherlands Antilles. Alfio Troeman possesses 25 years of dedicated experience in the areas of general management, project program management and development.*

## Introduction

Effective management and control of a single project can be quite challenging and time consuming. Management and control of a group of projects, combined for instance in a project program or project portfolio is even more demanding, certainly considering the variations in complexity, budgets, priority and resources required for the projects involved. On the other hand, systems available for project program management and control tend to be very detailed requiring extensive resources and efforts for keeping these up to date, and are aimed at primarily single, large projects.

Faced with the aforementioned and considering the fact that inadequate management and control of project programs generally lead to an organization not meeting its (yearly) business targets, we developed the Earned Value based Program Management and control System, abbreviated as EVPMS. This system is a specific application of  the principles of earned value based management and has been limited to some key components to contain the complexity whilst providing sufficient information for effective project program management, planning and control.

## Benefits of EVPMS

1.   Management and control of an entire project program and any other project groups for instance aggregated by department.
2.   Enables projects of various size and complexity to be grouped for overall management and control.
3.   A clear relation between commitments, the work performed or earned value, payments, and control of these components.
4.   Control of budgets and avoidance of over- and under-expenditure.
5.   Forecasting of liquidity requirements and control of payments
6.   Forecasting of end of year's performance results.
7.   Enables setting of benchmarks via performance data obtained  from the system.

EVPMS has been formally introduced in 2002 and has since been used successfully by some organizations to manage and control their yearly project programs. In a specific case the level of under-expenditure of the yearly program budget has been reduced from 23% to 11% in one single year and thus leading to the organization meeting 89% of its goals.

## Overview of EVPMS

Earned Value (EV) in the literature traditionally referred to as BCWP (budgeted cost of work performed) indicates the progress of the work performed on a project, including materials

utilized, expressed in monetary terms. For a proper view on the status of one or several projects versus their planned budgets, EV is the commonly accepted tool in the project management industry. A common mistake is the usage of payments made as an indicator of work progress. Payments generally do not provide valid information on project progress because they generally are after the fact and are subject to a time lag caused by the process of invoicing, payment conditions and possibly the liquidity position of the contract principal.

The EVPMS utilizes three basic variables, Earned Value, Commitments and Payments. Both the planning and the actual values of these variables are required. The latter values are used for tracking and control, and possible corrective actions. The basic components of EVPMS are as follows:

| Planned data | Actual data |
|---|---|
| Planned earned value ( = PV). This is a forecast of the development of the earned value during work execution. The traditional reference of PV is BCWS (budgeted cost of work scheduled). | Actual earned value (EV). EV ( = BCWP or budgeted cost of work performed) is the actual earned value of the work executed. |
| Planned commitment ( = PComm). This is a plan of the commitment(s) ( = contracts) of the work prior to its execution. | Actual commitment (Acomm). These are the actual commitments made. |
| Planned payments ( = Ppaym). This is a liquidity forecast of the payments to be made. | Actual payments ( = Apaym). Payments made on work performed. |

Figure 1 provides typical results of EVPMS and is an example of a management and control graph. The graph visualizes the plan and actual data and enables possible corrective actions to be taken quickly and at all levels of management, and across all budgets.
The graph illustrates the relationship between commitments, EV and payments and for both the planning and actual values. Other key data included are : budget data, performance data PLI and SPI( planning index and schedule performance index). The graph typically applies for an individual project or a group of projects. In case all projects are grouped together the figure effectively represents the yearly project program of an organization.
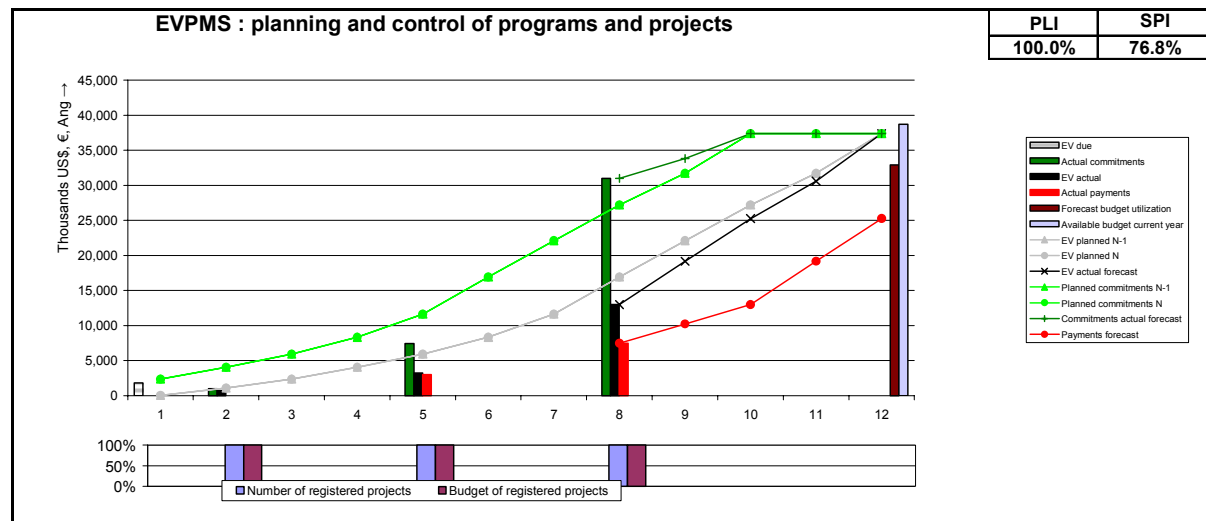


Figure 1 : EVPMS : typical management and control graph

**EVPMS is in short an organizational wide common system approach for defining, planning, management, controlling and reporting of project programs, and EVPMS can essentially be used for all kinds of projects.**

(Ref. : evpms_sum_aa)