

Teamcenter Portfolio Management project-based budgeting

SIEMENS

White Paper

Deploying the single-solution Teamcenter® software across project, finance and operations throughout an enterprise reduces the time and effort required to build and reforecast budgets. Plus this solution increases visibility and control of a project portfolio.

Contents

Introduction	3
Build budget process	4
The project manager's perspective	5
Create/select a project budget.....	5
Build a project budget	5
Analyze the budget	5
Iterate changes to the budget.....	6
Summary of the project manager's perspective	6
The finance manager's perspective	7
Define organization structures	7
Define resource rates	7
Define capital amortization schedules	7
Create an organization budget.....	8
Analyze the budget against available resources and funding.....	8
Summary of the finance manager's perspective	8
Providing organization manager's perspective	9
Analyze the budget against available resources and funding.....	9
Summary of the providing organization manager's perspective.....	9
The executive perspective	10
Analyze the budget against portfolio objectives	10
Summary of the executive perspective	10
Strategic alignment.....	10
Summary	11

Introduction

For many organizations, the annual budget is the principal management and measuring tool.

The trouble with traditional budgets is that they take months to prepare and weeks to update, they are often obsolete before they are approved, and budgeting criteria and line items are driven by finance and do not maintain the operational details that really drive the business.

As a result, the traditional budgeting process consumes 20-30 percent of management’s time and does not provide executives ongoing visibility into a project portfolio or support agile decision-making.

According to the Hackett Group, the average company with annual sales of \$1 billion spends 25,000 person-days per year planning and measuring performance. Compare this with the upper quartile of companies that have been able to reduce this effort by approximately 75 percent to 6,000 person-days per year at a savings of \$19 million. Furthermore, the upper quartile has been able to reduce development time of financial plans by 25 percent to a 3-month process.

The purpose of this document is to demonstrate how companies can use Teamcenter to help them achieve the previously mentioned benefits. Teamcenter is a single solution that can be deployed across project, finance and operations across a company to:

- Reduce the time and effort required to build and reforecast budgets
- Increase visibility and control of a project portfolio

The demonstration described within this document is based upon the Planning and Execution Target User scenario shown below.



As shown in the model, managing financials is a continuous closed loop process of planning and execution. The process includes four sub-processes: Build Budget (budget, plan, forecast), Approve Spend, Execute against the plan, and Govern program execution.



Specifically, the demonstration covered in this document focuses on the value of improving the Build Budget process from the perspective of three distinct types of users:

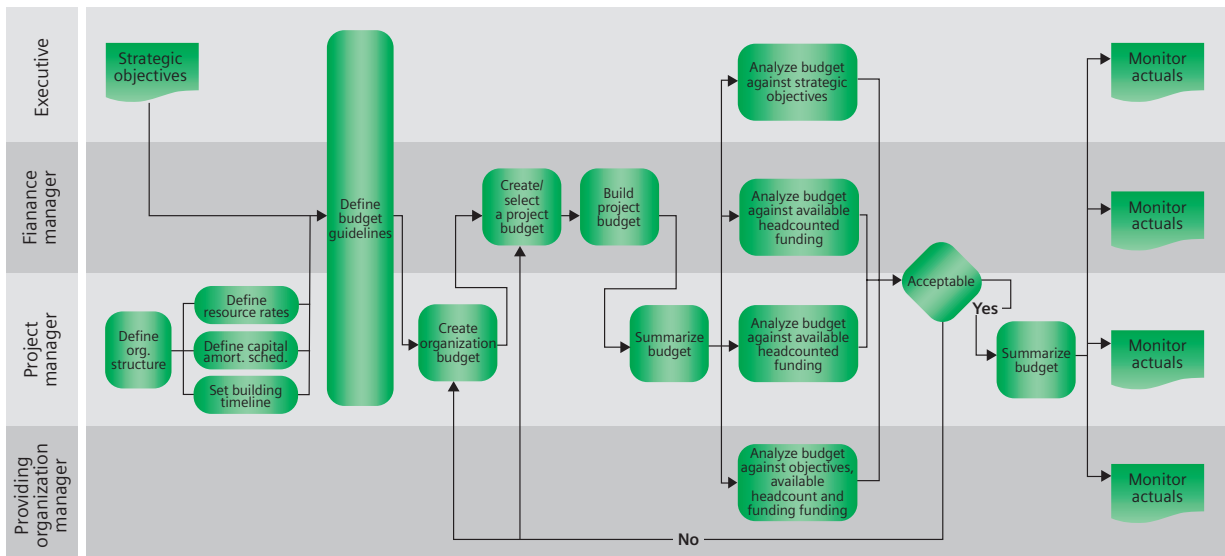
Finance manager The representative of the finance organization who is responsible for setting a common set of assumptions on which budgets are to be built and confirming that organizational budgets fit within those guidelines.

Executives Management who is responsible for establishing corporate priorities and aligning funding to coincide with that strategy.

Project manager The individual who is responsible for building the project budgets. This individual often works with the Finance Manager and Providing Organization Manager to balance project-based budgets with budgeting guidelines and financial constraints, respectively.

The flowchart below details the Build Budget process. As shown in the flowchart, the process begins with input from an executive process of defining strategic objectives and concludes with output against which actuals are monitored.

Build budget process



The project manager's perspective

The project manager is the person or persons in an IT or R&D organization that often have responsibility for building project-based budgets. The “project manager’s perspective” to budgeting begins after broad organization budget guidance has been defined and continues through the process of building the budget and subsequently reforecasting the budget. Time and effort can be saved during the process of creating initial budgets and adjusting budgets to reconcile top-down cost center budgets with bottom-up project-based budgets. It also shows how quickly headcount and funding requirements can be assessed across projects on behalf of the organization providing the resources (a.k.a. the providing organization).

Create/select a project budget

The budgeting process for the project manager begins in Teamcenter with the identification of a project for which a budget will be built. The screen below shows how the project manager can save time and effort by being able to quickly find existing project budgets or create new budgets and eliminate time wasted on finding the most current budget version. The screen includes a status field that the project manager can use to monitor progress of assigned budgets and quickly identify budgets that are incomplete.

#	Name	Number	Level	Manager	Org. Unit	Start Date	End Date	Selected
1.	BookLab1.000	P-08	Project	Program Management	Program Management	4/1/2007		Yes
2.	BookLab1.001	P-07	Project	Program Management	Program Management	4/2/2006		Yes
3.	BookLab1.002	P-11	Project	Program Management	Program Management	5/1/2007		Yes
4.	BookLab1.003	P-10	Project	Program Management	Program Management	8/1/2006		No
5.	BookLab1.004	P-02	Project	Program Management	Program Management	4/1/2006		No
6.	BookLab1.005	P-01	Plan Group	Program Management	Program Management	1/1/2007	1/1/2009	No
7.	BookLab1.006	P-06	Idea	System Administrator	Program Management	8/2/2007		Yes
8.	BookLab1.007	P-05	Project	Program Management	Program Management	3/1/2007		No
9.	BookLab1.008	P-12	Idea	System Administrator	Program Management	4/1/2007	12/31/2009	Yes
10.	BookLab1.009	P-09	Project	System Administrator	Product Data Management	4/7/2006	4/7/2006	No

Build a project budget

Once a project is identified, a budget is created. Key information regarding who is requesting the project, the nature of the project, its expected duration, its justification and who will be funding the project is entered. Once this budget is created, the project manager can enter labor and non-labor costs. Unlike spreadsheets, all rates, structures and calculations are standardized simplifying the process and reducing the risk of time-consuming errors. The organization may define the periods by which they budget (e.g. by month or quarter.)

Totals:	Total	2006Jan	2006Feb	2006Mar	2006Apr	2006May	2006Jun
Total Revenues/Benefits	\$75,000,000	\$0	\$0	\$0	\$4,000,000	\$4,000,000	\$4,000,000
Staffing (Labor)	\$2,800,000	\$1,700,000	\$1,000,000	\$1,000,000	\$1,700,000	\$1,070,400	\$1,070,400
Expenses (Non-Capital)	\$30,700,000	\$1,727,916	\$1,727,916	\$1,727,916	\$1,727,916	\$1,727,916	\$1,727,916
Capital Cash	\$2,000,000	\$0	\$4,000,000	\$0	\$500,000	\$0	\$0
Depreciation Cost	\$2,000,000	\$10,167	\$10,167	\$20,333	\$20,333	\$20,333	\$20,333
Total Costs (Cash)	\$36,700,000	\$5,465,116	\$5,527,016	\$5,527,016	\$5,465,116	\$5,465,116	\$5,465,116
Total Costs (P&L)	\$36,700,000	\$5,567,283	\$5,629,183	\$5,791,749	\$5,733,000	\$5,689,983	\$5,689,983
Net Return (P&L)	\$7,200,000	(\$5,567,283)	(\$5,629,183)	(\$5,791,749)	\$266,000	\$318,017	\$318,017
Simple Return on Inv.	16 %						

Totals:	Total	2006Jan	2006Feb	2006Mar	2006Apr	2006May	2006Jun
Risk-Adj. Revenues/Benefits	\$75,000,000	\$0	\$0	\$0	\$4,000,000	\$4,000,000	\$4,000,000
Risk-Adjusted Costs	\$36,700,000	\$5,567,283	\$5,629,183	\$5,791,749	\$5,733,000	\$5,689,983	\$5,689,983
Risk-Adj. Net Return	\$7,200,000						
Risk-Adj. Return on Inv.	16 %						

Totals:	Total	2006Jan	2006Feb	2006Mar	2006Apr	2006May	2006Jun
Total Cash Costs	\$36,700,000	\$5,465,116	\$5,527,016	\$5,527,016	\$5,465,116	\$5,465,116	\$5,465,116
Expected Cash Flow	\$7,200,000	(\$5,567,283)	(\$5,629,183)	(\$5,791,749)	\$266,000	\$318,017	\$318,017
Net Present Value	\$1,400,500						

Analyze the budget

At any time, the project manager (and the director of the providing organization) can quickly look at headcount across projects in order to assess gaps between demand and capacity. Thus the project manager can go through multiple iterations of the budget before being delayed by traditional summarization and review processes.

The project manager (and the director of the providing organization) can also quickly look at labor, non-labor and capital costs across projects and determine if they fit within finance’s budget guidelines.

This screenshot depicts a labor shortage with red, amber and green colors indicating the severity of the shortage. The source (project) of the demand for resources is shown in blue.

Resource	Project	Capacity
Labor Capacity (11 Month)	AB	41,463.00
Development Analyst Over/Under	AB	1,263.00
Development Analyst Over/Under	AB	1,823.30
Hardware Engineer Supply	AB	212.00
Hardware Engineer Supply	Product Data	12.00
Hardware Engineer	Product Data M	36.00
Hardware Engineer	Product Data M	46.00
Hardware Engineer	Product Data M	16.00
Hardware Engineer	Product Data M	9.00
Hardware Engineer	Product Data M	60.00
Hardware Engineer	Product Data M	33.75
Hardware Engineer	Product Data M	36.00
Hardware Engineer Over/Under	Product Data	-27.61
Hardware Engineer Over/Under	AB	16,820.00
Integration Engineer Over/Under	AB	70.00
Marketing Manager Supply	AB	14.00
Hardware Engineer Supply	AB	4,900.00
Hardware Engineer Over/Under	AB	3,600.00
Product Design Engineer Supply	AB	2,315.00

Iterate changes to the budget

Inevitably, the draft budget will not match the top-down guidance from finance or balance with the requirements of the providing organization units or be achievable with the available capacity of the providing organization units. In the event that this occurs, the finance manager can quickly create a new version of the budget for the project manager. The new version will contain all the information and estimates entered in the original budget, saving the project manager time in creating a new iteration to the budget.

Additionally, the project manager is insulated from the time-consuming impact of rate or organization structure changes. Teamcenter can automatically update rates for budgeted resources and re-map organization structures.

	Total	2006Jan	2006Feb	2006Mar	2006Apr	2006May	2006Jun
Total Revenue/Benefits	\$76,000,000	\$0	\$0	\$0	\$4,000,000	\$4,000,000	\$4,000,000
Staffing (Labor)	\$24,000,000	\$1,700,000	\$1,800,000	\$1,800,000	\$1,700,000	\$1,670,000	\$1,670,000
Expenses (Over-Capital)	\$76,700,000	\$1,700,000	\$1,700,000	\$1,700,000	\$1,700,000	\$1,700,000	\$1,700,000
Capital Cash	\$2,500,000	\$0	\$4,000,000	\$0	\$500,000	\$0	\$0
Depreciation Cost	\$7,000,000	\$104,147	\$104,147	\$270,000	\$270,000	\$270,000	\$270,000
Total Costs (Cash)	\$86,700,000	\$5,904,148	\$6,207,294	\$6,207,294	\$6,207,294	\$6,207,294	\$6,207,294
Total Costs (P&L)	\$86,700,000	\$5,967,293	\$6,332,000	\$6,706,740	\$6,733,000	\$6,680,000	\$6,680,000
Net Return (P&L)	\$7,299,900	(\$1,967,293)	(\$1,832,000)	(\$1,706,740)	(\$260,000)	(\$180,000)	(\$180,000)
Simple Return on Inv.	10 %						
Risk-Adj. Revenue/Benefits	\$76,000,000	\$0	\$0	\$0	\$4,000,000	\$4,000,000	\$4,000,000
Risk-Adj. Costs	\$86,700,000	\$5,967,293	\$6,332,000	\$6,706,740	\$6,733,000	\$6,680,000	\$6,680,000
Risk-Adj. Net Return	\$2,264,000						
Risk-Adj. Return on Inv.	10 %						
Net Present Value	\$14,400,500						

Summary of the project manager's perspective

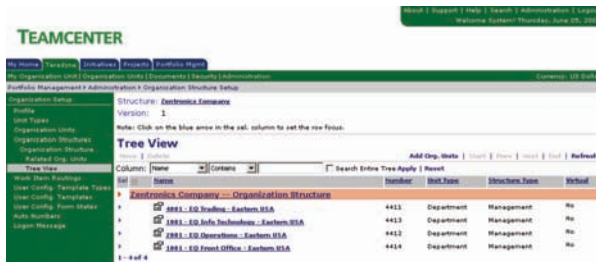
The project manager now has a tool that saves time by allowing rapid iterations through the budget while being able to quickly enter project-based financial information into a standard structure that minimizes time-consuming errors. The project manager or the providing organization manager can save time by being able to quickly analyze cost and headcount requirements across projects. In the case that rates or structures are changed, time is not wasted since the project manager is not impacted. In addition to time savings, the project manager can execute the project with confidence that it is consistent with the strategic and financial plans of the organization.

The finance manager's perspective

The finance manager is responsible for setting a common set of assumptions on which budgets are to be built, managing the development of the budget and confirming that organizational budgets fit within budget guidelines. The finance manager can reduce the time associated with building, consolidating and analyzing budgets.

Define organization structures

The finance manager initiates the budgeting process by defining the anticipated organization structure for the period being budgeted. The organization structure can be simultaneously defined geographically, organizationally, by management structure or line of business. The screen below shows how easily a hierarchical organization structure can be created. In the event of an organizational restructure, the finance manager can easily come back to this screen and make changes that impact all budgets; saving time and reducing errors.



Define resource rates

Once the organizational structure is defined, resource rates can be established at either a high or low level as shown in the screen below. Rates can be defined based upon one or two of organization structures previously mentioned. In the event of rate changes, time is not wasted since this screen is used to make global rate changes that automatically impact all budgets.

One of the key features in Teamcenter is the ability to define rates that change over time (time phase rates).

Your organization may experience substantial changes in your labor rates over time due to outsourcing, offshoring or shifts in labor costs. Teamcenter reflects those changes in your forecast using rates that reflect the forecasted cost at a certain point in time.

Organization: Teradyne
Rate Table: [Modify Table](#)

Rates

#	Rate Line Name	Currency Name	Start Date	End Date	Rate
1	Product Design Engineer	US Dollar	3/1/2006		9,400.000000000000
2	Test Engineer	US Dollar	3/1/2006		14,000.000000000000
3	Customer Engineer	US Dollar	3/1/2006		9,400.000000000000
4	Marketing Engineer	US Dollar	3/1/2006		14,400.000000000000
5	Installation Engineer	US Dollar	3/1/2006		9,400.000000000000
6	Development Analyst	US Dollar	3/1/2006		8,000.000000000000
7	Program Manager	US Dollar	3/1/2006		14,000.000000000000
8	Product Manager	US Dollar	3/1/2006		14,000.000000000000
9	Hardware Engineer	US Dollar	3/1/2006		14,400.000000000000
10	Software Developer	US Dollar	3/1/2006		12,800.000000000000

Define capital amortization schedules

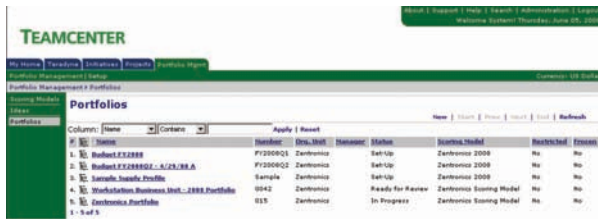
Amortization schedules can be set based on asset type and regional accounting requirements or conventions. Automatic calculation and allocation into each budgeting period saves the finance manager time in recalculating depreciation each time a change is made to a capital line item. This also ensures consistent application of accounting standards across the budgeting process.

Asset Amortizations

#	Asset	Type	Duration
1	Buildings/Improvements	Expenditure	40
2	Equipment	Expenditure	24
3	Hardware	Expenditure	40
4	Software	Expenditure	24

Create an organization budget

The organizational budget can include multiple project budgets. The screen pictured below shows an organization budget and associated project budgets. This screen allows the finance manager to have the ability to tightly manage the budget development process. The status field in particular, allows finance managers to quickly pinpoint incomplete budgeting efforts.



Analyze the budget against available resources and funding

Once budget components are complete, significant time savings occur when the once manual process of rolling up the budget and preparing it for reconciliation with top-down finance guidelines is now automated as shown in the report below.

The screenshot below provides red, amber and green indicators to display the availability of budget and resources to meet project demand. Here our capital budget is sufficient to cover the forecast but we have a shortage of expense budget.

Item	Qty	Unit	Budget	Name	Type	Status	Total
Target Labor	AB						\$451,809,000
Labor Over/Under	AB						\$352,879,000
Target Expenses	AB						\$71,000,000
Expense Over/Under	AB						(\$14,473,300)
Target Capital/Costs	AB						\$0
Capital Over/Under	AB						\$0
Labor Capacity (TE Month)	AB						41,463.00
Development Analyst Supply	AB						1,263.00
Hardware Engineer Supply	AB						1,023.00
Hardware Engineer Over/Under	AB						272.00
Hardware Engineer Supply	AB						27.00
Integration Engineer Supply	AB						16,026.00
Integration Engineer Over/Under	AB						13,645.00
Marketing Manager Supply	AB						70.00
Marketing Manager Over/Under	AB						14.00
Network Engineer Supply	AB						4,000.00
Network Engineer Over/Under	AB						3,933.00
Product Design Engineer Supply	AB						3,600.00
Product Design Engineer Over/Under	AB						2,915.00
Product Manager Supply	AB						432.00
Product Manager Over/Under	AB						370.00
Program Manager Supply	AB						192.00
Program Manager Over/Under	AB						150.00
Project Manager Supply	AB						300.00
Project Manager Over/Under	AB						314.00
Software Developer Supply	AB						13,770.00
Software Developer Over/Under	AB						13,123.00
Total Engineer Supply	AB						274.00
Total Engineer Over/Under	AB						517.00

Summary of the finance manager's perspective

The finance manager now has a tool that saves time and reduces errors by standardizing budget formats, facilitating multiple views of the budget, automating rollups, eliminating the manual process associated with rate and structure changes and automating the process of exporting the budget to the general ledger.

Providing organization manager’s perspective

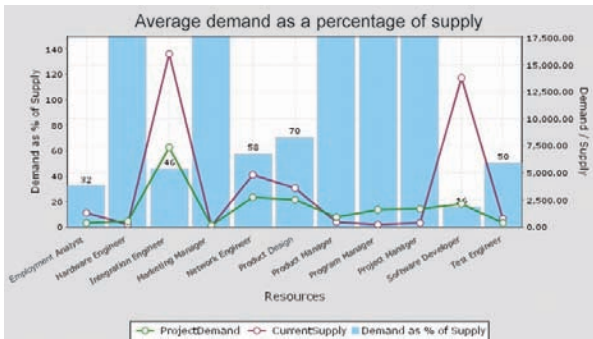
Providing organizations get involved in the budget process to determine if they have enough funding to cover the projects they have requested.

Summary of the providing organization manager’s perspective

The providing organization manager now has immediate access to information that can be used to increase the alignment of available funding to the most important projects, minimize risk of over committing resources and funding and continually monitor performance of project investments.

Analyze the budget against available resources and funding

The report below can be generated at any time during the process and quickly provides the providing organization manager with the availability (supply) of various resources against the demand for those resources. Iterative reviews of this report can be used to confirm that project demands are balanced with funding and resource supply.



The executive perspective

Many executives do not rely on the budget as a management tool, because the budget is a static document that is usually out of synch with real-world portfolio activity. The improvements in budgeting and reforecasting achieved by managers (shown in project and finance manager sections of the demonstration) improve the timeliness of the budget and thus transform the budget into a tool for real-time financial visibility, management and control.

Analyze the budget against portfolio objectives

The chart below demonstrates the information that is available to executives. As shown in the chart, executives can quickly determine where money is being spent and align funding with the most important projects and initiatives.

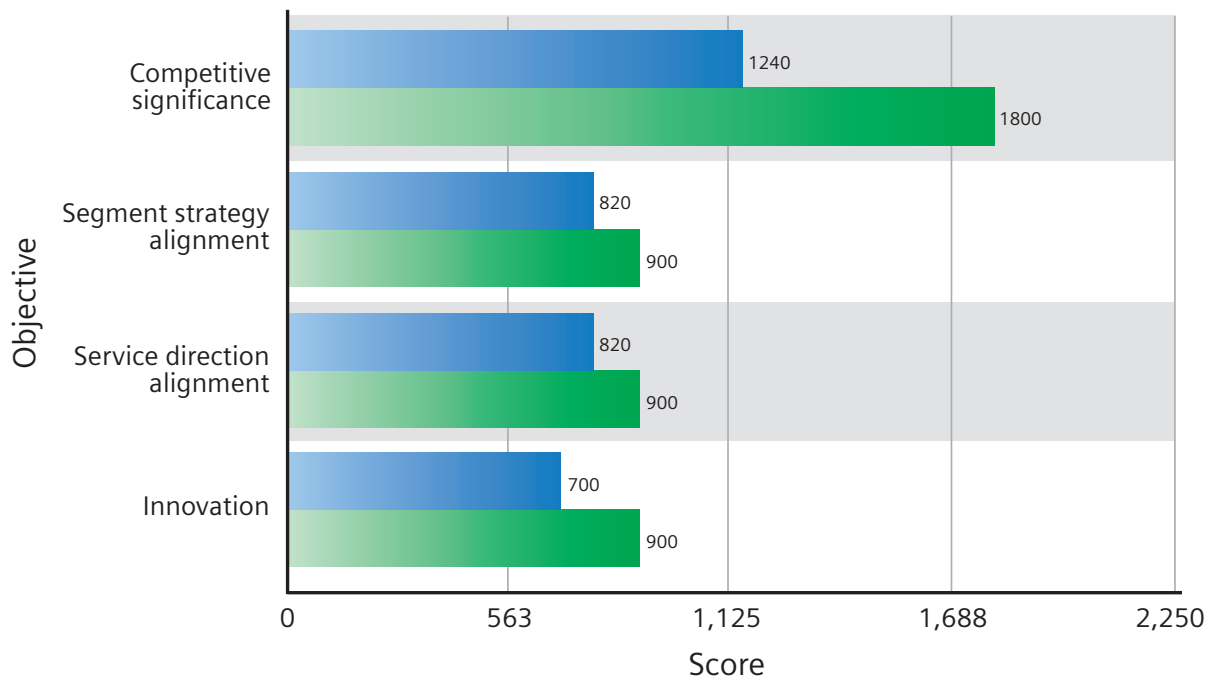
Once the budget is in place, executives can monitor where money is actually being spent. This allows executives to quickly identify situations in which projects are overspending. They can also quickly assess potential changes to their financial strategy.

Summary of the executive perspective

Executives can now rely on the budget as a tool for agile management. A project- and financial-based view of the portfolio allows executives to:

- Continually align funding to the organization's most important initiatives quickly identify the financial impact of portfolio changes
- Monitor financial portfolio performance against objectives and quickly identify projects that are performing outside of guidelines
- Make quicker and better strategic decisions based on timely financial information

Strategic alignment



Summary

Teamcenter converts the once manual and outdated process of budgeting to a high performance process that saves project managers time in preparing budgets, providing organizations time in reviewing budgets, finance managers time in managing and reviewing budgets. The result is the transformation of the once outdated budget into a real time executive management tool. By employing Teamcenter, organizations can:

- Eliminate, delay or minimize funding to lower priority projects
- Reallocate management time wasted on traditionally cumbersome processes for budgeting and reforecasting
- Reduce nonvalue-added analytical headcount

The result: increased organizational agility and return on project portfolio investments.

About Siemens PLM Software

Siemens PLM Software, a business unit of the Siemens Industry Automation Division, is a leading global provider of product lifecycle management (PLM) software and services with nearly 6.7 million licensed seats and 63,000 customers worldwide. Headquartered in Plano, Texas, Siemens PLM Software works collaboratively with companies to deliver open solutions that help them turn more ideas into successful products. For more information on Siemens PLM Software products and services, visit www.siemens.com/plm.

Siemens PLM Software

Headquarters

Granite Park One
5800 Granite Parkway
Suite 600
Plano, TX 75024
USA
972 987 3000
Fax 972 987 3398

Americas

Granite Park One
5800 Granite Parkway
Suite 600
Plano, TX 75024
USA
800 498 5351
Fax 972 987 3398

Europe

3 Knoll Road
Camberley
Surrey GU15 3SY
United Kingdom
44 (0) 1276 702000
Fax 44 (0) 1276 702130

Asia-Pacific

Suites 6804-8, 68/F
Central Plaza
18 Harbour Road
WanChai
Hong Kong
852 2230 3333
Fax 852 2230 3210

www.siemens.com/plm

© 2010 Siemens Product Lifecycle Management Software Inc. All rights reserved. Siemens and the Siemens logo are registered trademarks of Siemens AG. D-Cubed, Femap, Geolus, GO PLM, I-deas, Insight, Jack, JT, NX, Parasolid, Solid Edge, Teamcenter, Tecnomatix and Velocity Series are trademarks or registered trademarks of Siemens Product Lifecycle Management Software Inc. or its subsidiaries in the United States and in other countries. All other logos, trademarks, registered trademarks or service marks used herein are the property of their respective holders.

X3 14401 8/10 C