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# Spider Project

## Advanced Features

# Spider Project Introduction

Spider Project is powerful professional project management software, developed in Russia. The first SP version was launched in 1993 and since then it has been constantly improved. The current Version 11 is used in 30 countries.

Spider Project is an integrated software that contains everything that is useful for good project and portfolio management. It supports all traditional methods and tools, and includes unique approaches and functions that have no analogues in other software packages.

It is the only PM software that optimizes resource, cost, and material constrained schedules and budgets for projects and portfolios.

# Spider Project Introduction

The unique features of Spider Project include:

- ✓ Quantity Based Scheduling
- ✓ Conditional Scheduling
- ✓ Skill Scheduling
- ✓ Cost and Material Leveling
- ✓ Resource Critical Path Calculation
- ✓ Cash and Material Flow Calculation and Management
- ✓ Management of project archives and Trend Analysis
- ✓ Multidimensional Quantitative Risk Analysis

# Spider Project Introduction

The unique features of Spider Project include:

- ✓ Analysis of Success Probability Trends
- ✓ Management of Project Time and Cost Buffers
- ✓ Application and management of Corporate Norms
- ✓ Management of many Parallel Budgets
- ✓ Line of Balance Reporting
- ✓ and many others.

# Spider Project Introduction

Spider Project has a lot of unique functions.

In this session we will discuss some of them starting from the project data structure and then will discuss scheduling, budgeting, risk simulation, project performance analysis, project plan and performance analysis reports.

Spider Project is an integrated package that includes everything useful for project and portfolio management.

We will not be able to discuss all Spider Project features and thus will pay attention only to those functions that are unique.

# **Spider Project Data Structure**

# Spider Project Data Structure

Main elements of a project schedule model include:

- project activities,
- activity dependencies,
- project resources and materials,
- activity, resource, and lag calendars,
- resource and material assignments,
- activity, material, resource and assignment costs,
- WBS, RBS, CBS



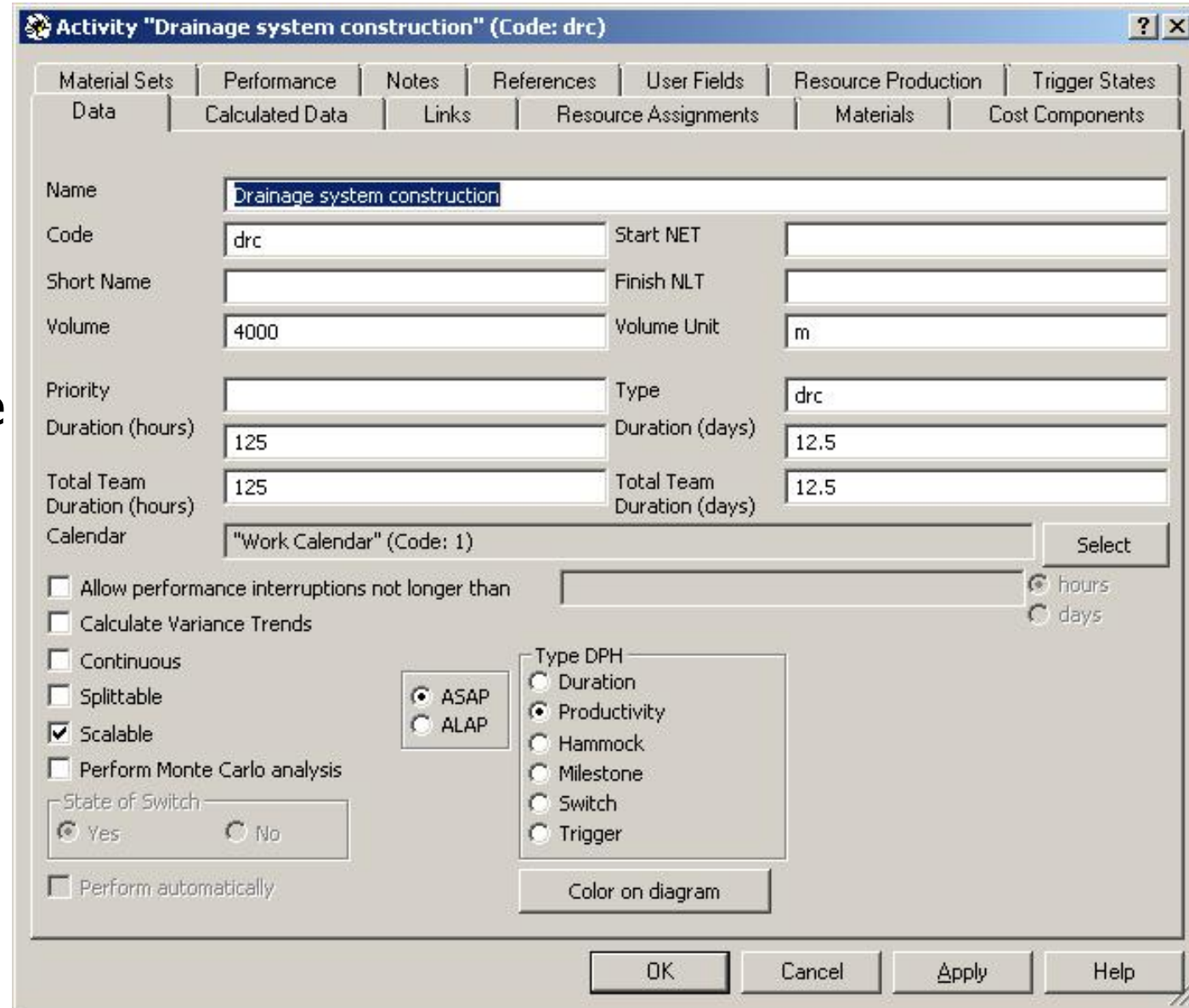
# Activities

Spider Project activity types include:

Duration (duration does not depend on assigned resources)

Productivity (for this activities you shall define activity volume of work and its duration will be calculated basing on assigned resource productivities)

Hammock (activity lasts from one event to another)



The screenshot shows a software window titled "Activity 'Drainage system construction' (Code: drc)". The window has a tabbed interface with the following tabs: Material Sets, Performance, Notes, References, User Fields, Resource Production, Trigger States, Data, Calculated Data, Links, Resource Assignments, Materials, and Cost Components. The "Data" tab is currently selected. The form contains the following fields and options:

- Name: Drainage system construction
- Code: drc
- Short Name: (empty)
- Volume: 4000
- Priority: (empty)
- Duration (hours): 125
- Total Team Duration (hours): 125
- Calendar: "Work Calendar" (Code: 1)
- Start NET: (empty)
- Finish NLT: (empty)
- Volume Unit: m
- Type: drc
- Duration (days): 12.5
- Total Team Duration (days): 12.5
- Buttons: Select, hours, days
- Checkboxes:
  - ☐ Allow performance interruptions not longer than
  - ☐ Calculate Variance Trends
  - ☐ Continuous
  - ☐ Splittable
  - ☒ Scalable
  - ☐ Perform Monte Carlo analysis
  - ☐ Perform automatically
- State of Switch:
  - ☒ Yes
  - ☐ No
- ASAP/ALAP: ☒ ASAP, ☐ ALAP
- Type DPH:
  - ☐ Duration
  - ☒ Productivity
  - ☐ Hammock
  - ☐ Milestone
  - ☐ Switch
  - ☐ Trigger
- Color on diagram: (empty)
- Buttons: OK, Cancel, Apply, Help

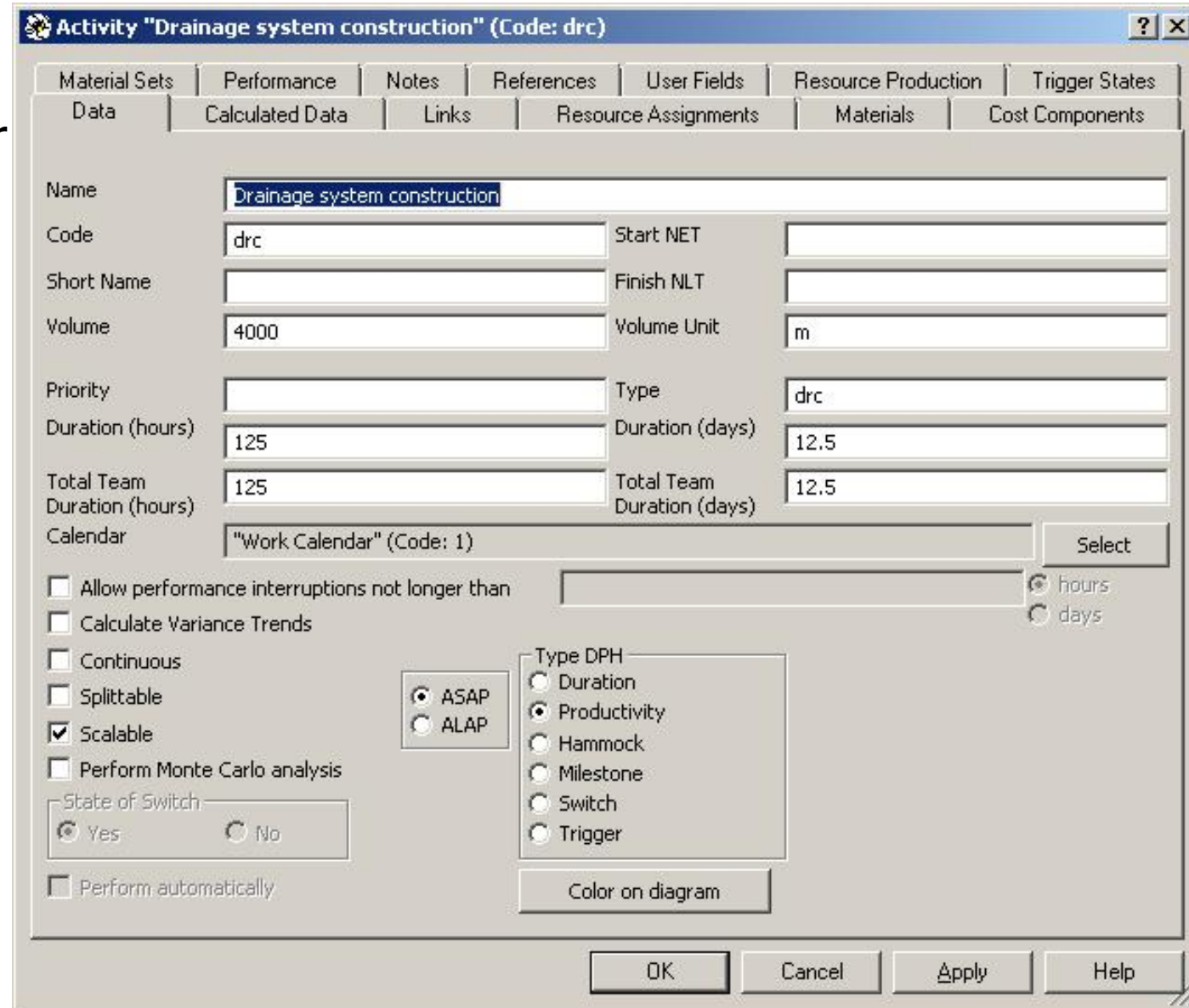


# Activities

Milestone (zero duration activity that shows major project events)

Switch (depending on its position Spider Project selects the course of the project).

Trigger (represent risk event that may happen with certain user defined probability). If trigger happens several paths may occur with defined probabilities.



The screenshot shows a software window titled "Activity "Drainage system construction" (Code: drc)". The window has a tabbed interface with the following tabs: Material Sets, Performance, Notes, References, User Fields, Resource Production, Trigger States, Data, Calculated Data, Links, Resource Assignments, Materials, and Cost Components. The "Data" tab is currently selected. The form contains the following fields and options:

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- State of Switch:
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- ASAP / ALAP radio buttons (ASAP is selected)
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  - ☐ Duration
  - ☒ Productivity
  - ☐ Hammock
  - ☐ Milestone
  - ☐ Switch
  - ☐ Trigger
- Color on diagram button
- Buttons: OK, Cancel, Apply, Help

# Activities

You may define if an activity is

Continuous (if an activity will not be finished before the end of the work day its start will be delayed to the next day),

Splitable (if an activity is splitable then its execution may be delayed even it was already started),

Scalable (if an activity is scalable and belongs to the project fragment then its volume and duration will be multiplied when the fragment is inserted in the project and the work package volume of work differs from the volume of work in the fragment)

For splitable activities it is possible to restrict performance interruptions.

# Activities

In construction most activities are of productivity type.

For these activities we shall define not durations or effort but volumes (amounts) of work to be done measured in meters, tons, cubic meters or other physical units.

Switch activities are used when technology depends on some factors that depend on project status (as an example - if switch activity is late then we select different technology for remaining works).

An example of continuous activity is concreting.

Curing does not depend on the concrete quantity and thus is not scalable.

# Activity dependencies

Spider Project supports all traditional types of activity dependencies (FS, SS, FF, SF) and adds strict and double dependencies.

Traditional dependencies are of No Earlier Than type. Succeeding activity may be delayed without dependency violation.

Strict dependency is of Just In Time type. Activities linked by this dependency are pasted and are delayed only together.

Double dependency links some point of preceding activity with another point on succeeding activity.

# Dependency Lags

Spider Project supports both time and volume lags.

Time lag is usual but Volume lag is unique.

Volume lag defines the minimal volume of work on preceding activity that shall be done before succeeding activity can start (for dependencies on start) or minimal volume of work on succeeding activity that shall remain after preceding activity finish (for dependencies on finish).

Double dependency uses two lags – for preceding and succeeding activities.

Volume lags are more reliable than time lags – when activity is done slower or faster than expected volume lag will work properly, time lag shall be adjusted.

# Resources

Resources are divided into two different objects: renewable (human resources and machines) and consumable (materials).

In Spider Project renewable resources are called Resources, consumable resources are called Materials.

Spider Project permits to define that resources consume materials (material quantities per work hour).

Example: a car consumes gas.

# Multi-Resources

Besides the individual resources one may set multi-resources and resource skills.

Multi-resources are the settled groups of resources working together (e.g. a team, a crew, a car with a driver, etc.). Multi-resource can be assigned to activities which means assignment of all resources comprising the multi-resource.

At any moment multi-resource participants may be changed and these change will be applied to all future multi-resource assignments.

The screenshot shows a software window titled "Multi-resource 'Asphalt Concrete Crew' (Code: Asph)". It has three tabs: "Resource Skills", "Notes", and "Attached documents and folder". The "Participants" tab is active, showing a list of resources and their quantities:

Resource	Code	Quantity
Asphalt paver	(asp)	1
Bulldozer	(bull)	1
Driver	(drv)	6
Machinist	(mch)	3
Road-roller	(rrl)	2
Truck	(trc)	6
Worker	(wrk)	5

Below the list, there is a "Search" section with radio buttons for "Code" and "Name" (selected). A "Quantity" input field is set to "1". On the right side, there are buttons for "Add", "Resource", "Resource Skill", "Delete", and "Update Content". At the bottom, there are "OK", "Cancel", "Apply", and "Help" buttons.



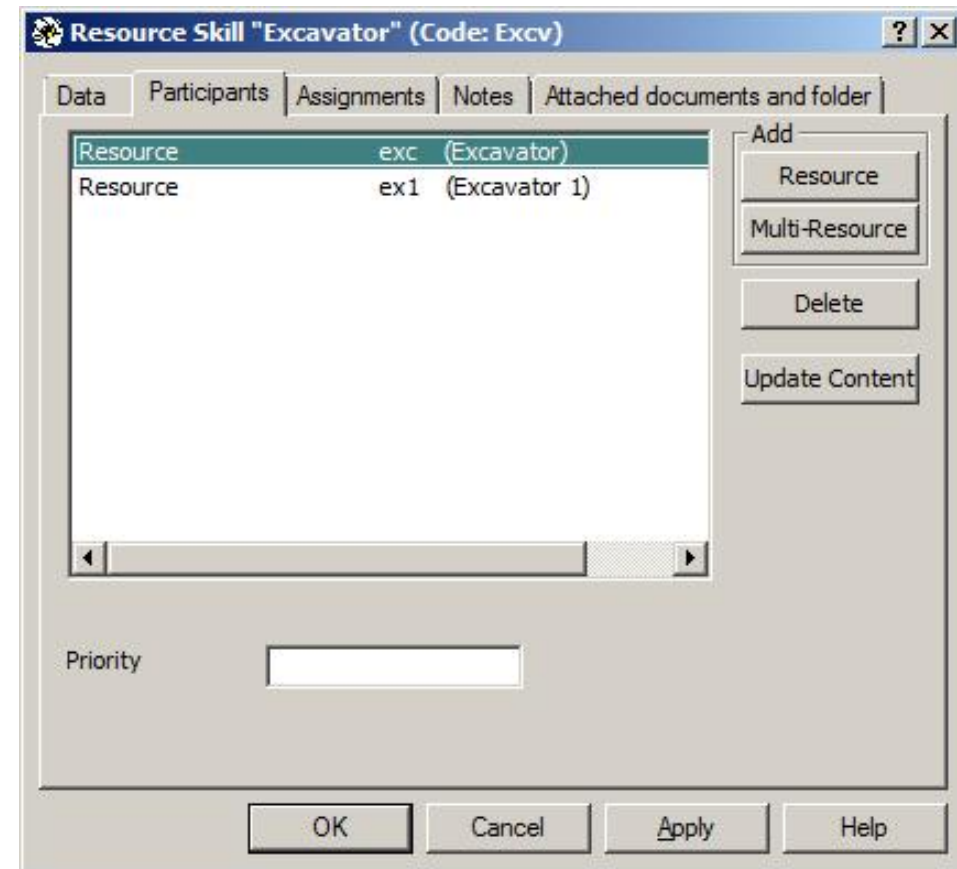
# Skills

Skills are the groups of interchangeable resources.

Resources belong to Skill set if they can do the same type of work. They may have different costs and productivity but still can replace one another.

Skills are usually assigned when it is not clear what resources will be available at the moment when activity become ready for execution.

At any moment skill participants may be changed and these change will be applied to all future skill assignments.



# Team Assignments

Assigning resources to activities in Spider Project implies the notion of a team - a group of resources working on an activity together.

The team may include individual resources, multi-resources and skills.

Resources belonging with the different teams work on an activity independently of each other.

# Team Assignments

One may set the volumes or duration of work for each team, but it is not obligatory.

When the volume or duration of assignment are not defined the team will continue working until the work on the activity is completed.

Teams permit to simulate working in shifts. Each shift is modelled as the separate team.

# Skill Assignments

If activity's initial information is work volume, one should set the productivity of at least one of assigned resources, to enable the package to calculate activity duration.

It should be noted that when the skills are assigned, activity duration can be calculated only in the process of scheduling.

Assigning resource skill to activity, one should either set a total number of skill resources necessary for activity execution or their total productivity.

Example: resource skill consists of the trucks with different carrying capacity. One may set a number of trucks necessary for activity execution or required total capacity of assigned trucks.

# Part Time Assignments

Resources can be assigned to activities part time.

In this case Spider Project users set percentage of assigned resources utilization together with resource quantity, which allows them to avoid a situation usual for other packages when a necessary amount of resources remains unclear (in other packages two resource units with 50% utilization are equivalent to one resource unit used to its full capacity).

# Variable Assignments

Spider Project users may define that an activity may be performed using from N1 to N2 resource units with P1 to P2 workload.

If N1 resource units become available for P1 percent of their work time an activity may start, if additional time and/or the number of resources will become available later they may join up to highest limit of N2 resource units with P2 workload.

This advanced feature helps to optimize resource usage.

One of potential application – to make variable resource assignments (from 0 to Max, from 0 to 100%) on the hammock activity that will accumulate all resources idle time.

# Material Assignments

Resources can consume materials in the process of their work (defined as quantities per hour),

Materials can be also assigned to activities or resource assignments directly.

In these cases material consumption may be set as fixed, per hour, or per work volume unit.

Material consumption per volume unit for typical activities are usually defined as the corporate norms. We will discuss it at the Enterprise session when will discuss corporate Reference-books.



# Resource and Material Production

Important feature of Spider Project is the simulation not only of consumption but also of production of resources and materials on activities and assignments.

Material supplies, resource mobilization and hiring are simulated as material and resource production.

Spider Project allows to manage material and resource flows and calculates project schedules taking into account all resource and material restrictions.

# Resource and Material Centers

For getting reports on groups of resources or materials it is useful to define Resource and Material Centers.

Examples: Resource Center "People" will include the workers with different skills, Resource Center "Excavators" will include excavators with different capacities, Material Center "Pipes" will include pipes with different diameters.

Spider Project may produce reports for both individual resources and materials, and resource and material centers.

In construction it is useful to know the overall number of people expected on construction site and overall amount of concrete used in construction.

# Calendars

The calendars can be set for all activities, resources and time lags.

We consider that availability of all these calendars is important for project simulation.

An activity may be executed at periods that are working by activity calendar and calendars of all assigned resources belonging to the same team. Different resource teams may work on the same activity at different time.

# Cost Components and Cost Centers

Spider Project allows to use unlimited number of cost components, with the different currencies used, and simulate both expenses and incomes.

This allows to account separately wages, material costs, cost of machinery, indirect costs, the revenues, etc.

Costs may be applied to resources (per work hour), materials (per unit), activities and resource assignments (fixed, per hour, per volume unit).

Groups of cost components may be included in the Cost Centers. This feature allows to manage any number of parallel budgets in the same project.

# Breakdown Structures

Spider Project users can create and use unlimited number of different Work, Resource, and Material Breakdown Structures.

The use of multiple breakdown structures allows not only to obtain different project reports as seen from the different standpoints, but also to provide that the project model is truly comprehensive.

# Work Breakdown Structures

Usually we use at least three Work Breakdown Structures in our projects: based on project deliverables, project processes and project responsibilities.

It should be stressed that the Responsibility Breakdown Structure successfully substitutes for the Responsibility Assignment Matrix that is usually elaborated as a part of the project plan.

# Resource Breakdown Structures

The use of Resource Breakdown Structures is especially important in project portfolio management.

In this case the matrix organizational structure determines the necessity of obtaining resource usage reports in both project and functional Resource Breakdown Structures.



# Project Archives

Spider Project users can store an unlimited number of project versions and to analyse the progress in project execution, comparing current project version not only with the baseline but with any other version.

This possibility enables to assess the progress in project execution for the last week, last month or since the beginning of the year, compared to the baseline, etc.

Spider Project restores and shows trends of any project parameter and permits to create any number of what if scenarios.

# Project Network Analysis

Spider Project allows to apply any filters on project activities and dependencies. These filters include:

Activities without predecessors

Activities without successors

All activities preceding selected

All activities succeeding selected

All activities linked to selected activity

Any filter can be applied in the Links Table and only filtered links will be shown (like hard links, soft links, links of selected activity, etc.). Spider Project users may filter activities showing only those that related to selected links.

# Corporate Databases (Reference-Books)

Corporate project management has to be based on the corporate norms and standards. These standards will include not only processes and document templates but also estimates of the typical activity and assignment parameters.

Activities, resources and assignments belong to the same type if they share the same characteristics like unit costs, material consumption per work volume unit, productivity, etc.

# Corporate Databases (Reference-Books)

Corporate databases (Reference-books) may include:

- Typical activity cost and material requirements per volume unit,
- Typical resource assignment cost and material requirements per volume unit,
- Typical resource assignment productivities,
- Typical resource assignment workloads,
- Resource crews (multi-resources) on typical assignments.

Spider Project allows to create and to use in all projects any Reference-books including user defined.

# Fragment Library

Project fragments usually describe typical processes and technologies that are used more than once. Creating project computer models using the corporate library of typical fragments will help to avoid inconsistencies and assures that the project model follows corporate standards.

A library of typical fragments is very important tool for the development of corporate culture and management standards.

Application of the Reference-books and Typical Fragment Libraries will be further discussed in the Spider Project Enterprise session.

# Formulas and Filters

Spider Project users can create and use formulas that link any project fields and even project cells.

These formulas may be recursive (like increase all or certain productivities by 10%), may be applied to all or only to filtered data, calculated automatically or only by user command.

Any filter can be applied to any project data and objects, including activities, resources, links.

# User Defined Fields

Spider Project users can create and use any number of user defined fields of any type.

The data in these fields may be calculated and linked with other fields.

They may be also summarized on the project phases.

Any analysis (Earned Value, Trend Analysis, probability calculations, etc.) may be applied to these fields, any report created.

So user defined fields in Spider Project behave the same way as other standard project fields.



# **Project Planning with Spider Project**

# PM Software Tasks

The problems solved with the help of project management software usually include the following:

- Project scheduling without taking into account resource limitations (Critical Path Method),
- Project resource, financing, and supply constrained scheduling (resource, cost, and material leveling),
- Determination of the (resource) critical path and time floats for project activities,
- Determination of project requirements for financing, materials and equipment for any time period,

# PM Software Tasks

- Determination of project resource requirements at any time,
- Risk analysis, calculation of necessary contingency reserves, and setting reliable targets,
- Project performance monitoring,
- Project performance analysis and forecasting main project parameters,
- Keeping project history and archives.

# Project Scheduling

The problem of project schedule development without allowing for resource constraints has a correct mathematical solution (Critical Path Method), which would provide the same result for all PM software, provided that initial data are identical.

All other problems are solved using different approaches and yielding different results.

# Resource Constrained Scheduling

Spider Project uses advanced heuristics that steadily allow to obtain shorter project resource constrained schedules than using other PM software.

Besides Spider Project suggests more resource constrained scheduling options and unique material and cost constrained scheduling.

# Resource Constrained Scheduling Options

- Priorities
- Splits
- Rules for skill and variable assignments
- Portfolio schedule support
- Interruptions
- Resource dependencies
- Optimization
- Scheduling from the date
- Out of sequence options

**Resource Constrained Scheduling Options**

**Priorities**

**Resources to level**

**Method**

- ☐ Standard
- ☐ Advanced
- ☐ Optimization
- ☒ Optimization Plus
- ☐ Previous version support

**Direction**

- ☒ Forward
- ☐ Backward

**Define Previous Version**

Code: 1km\_O

Version: 1

Storage: C:\Exhibition

Select

**Constraints**

- ☒ Apply activity priorities
- ☐ Apply phase priorities
- ☐ Disable splits
- ☐ Fix resource skills
- ☐ Continuous performance not less than  hours ☐ days
- ☒ Minimize parallel activities
- ☐ Without calculating floats
- ☐ Detailed information
- ☐ Calculate early dates
- ☐ Create resource dependencies
- ☐ Consider Portfolio Schedule
- ☐ Consider portfolio spending

**In case of out of sequence execution**

- ☐ Retained Logic
- ☐ Retained Logic with exception of activities in progress
- ☒ Ignore preceding links if activity is in progress
- ☐ Ignore preceding links of activities finished

**Schedule**

- ☒ All activities
- ☐ Following project data date
- ☐ Following date

☐ Show Report

☒ Show this window before levelling

OK Cancel Help

# Resource Constrained Schedule Optimization

There are several levels of schedule optimization in Spider Project.

Standard leveling is similar to approaches used by other packages: activity priorities are defined by the values in activity fields selected by the user.

Advanced schedule improves the schedule created by standard algorithm.

Optimization uses iterative schedule improvement and guarantees that created schedule will be close to optimal.

Optimization Plus may improve the schedule even more but takes more time.

# Resource Constrained Scheduling Options

The schedule stability is no less important, especially at the project execution phase.

That is why Spider Project features an additional option - the support of the earlier project version schedule (the order of activity execution is the same as in selected earlier project version).

If the schedule model includes resource skills and variable resource assignments the scheduler can define the priorities that shall be used when resources are selected from the skill sets, and rules for assigning resources on parallel works if parallel assignments are variable.



# Resource Constrained Scheduling Options

If the project belongs to project portfolio project leveling may take into account project portfolio resource availability and dependencies of project activities with activities of other projects.

Project activities execution interruptions may be restricted.

If an interruption exceeds some maximal value activity execution will be delayed.

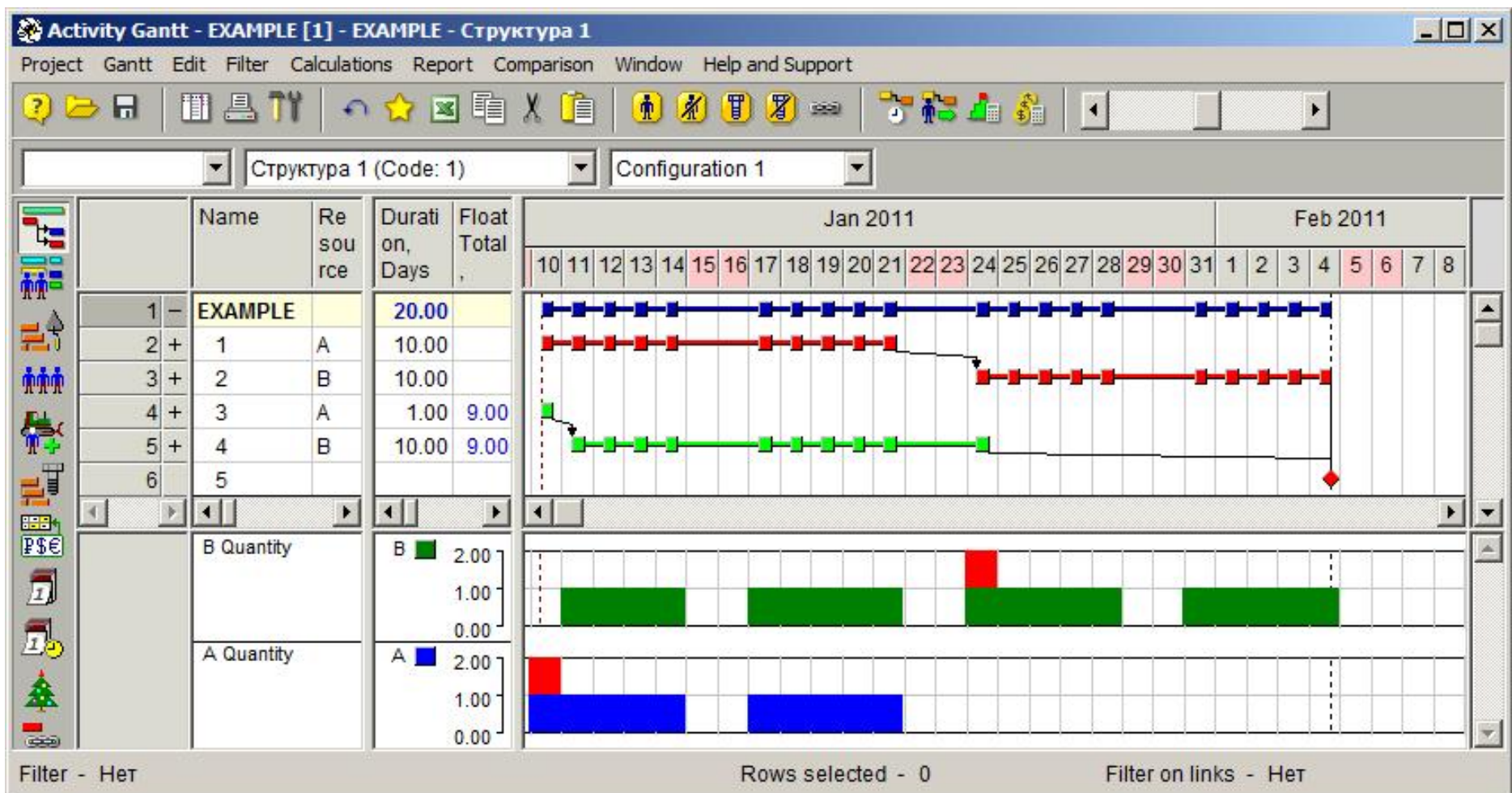
# Critical Path

Traditional notion of critical path makes sense only in case of unlimited resources availability.

Let us consider a simple project consisting of only four activities and finish milestone, with two resources A and B assigned to project activities as shown in the next slide.

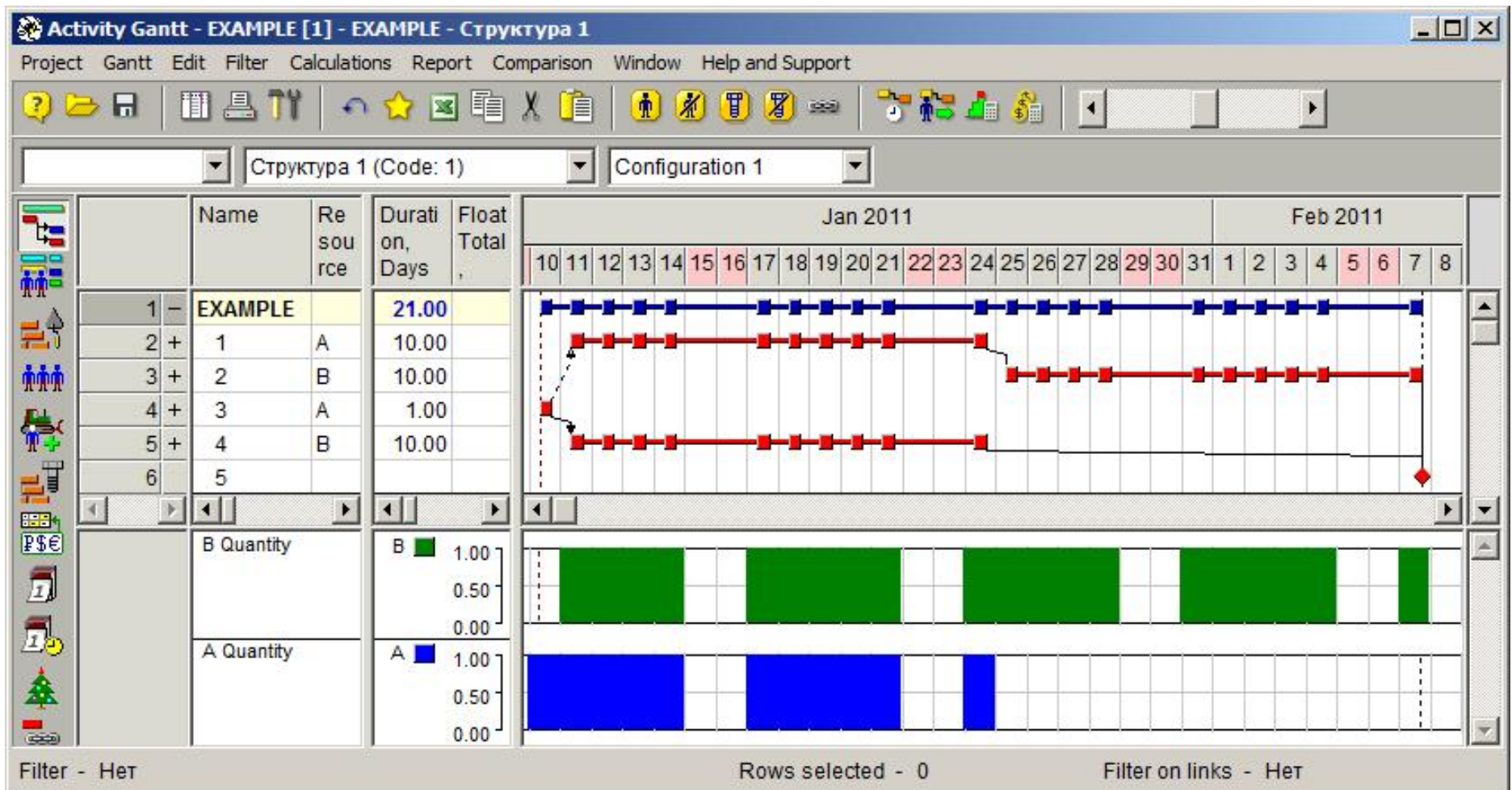
# Critical Path

Traditional Critical Path consists of activities 1 and 2, activities 3 and 4 have 9 days total float. Resources are overallocated as shown in the histograms.



# Resource Critical Path

After leveling all activities become (resource) critical. Activity 1 was delayed because resource A was busy on activity 3 and it is shown by resource dependency (dotted arrow)



# Resource Critical Path

Spider Project calculates resource constrained floats and determines Resource Critical Path – a set of activities with zero resource constrained floats.

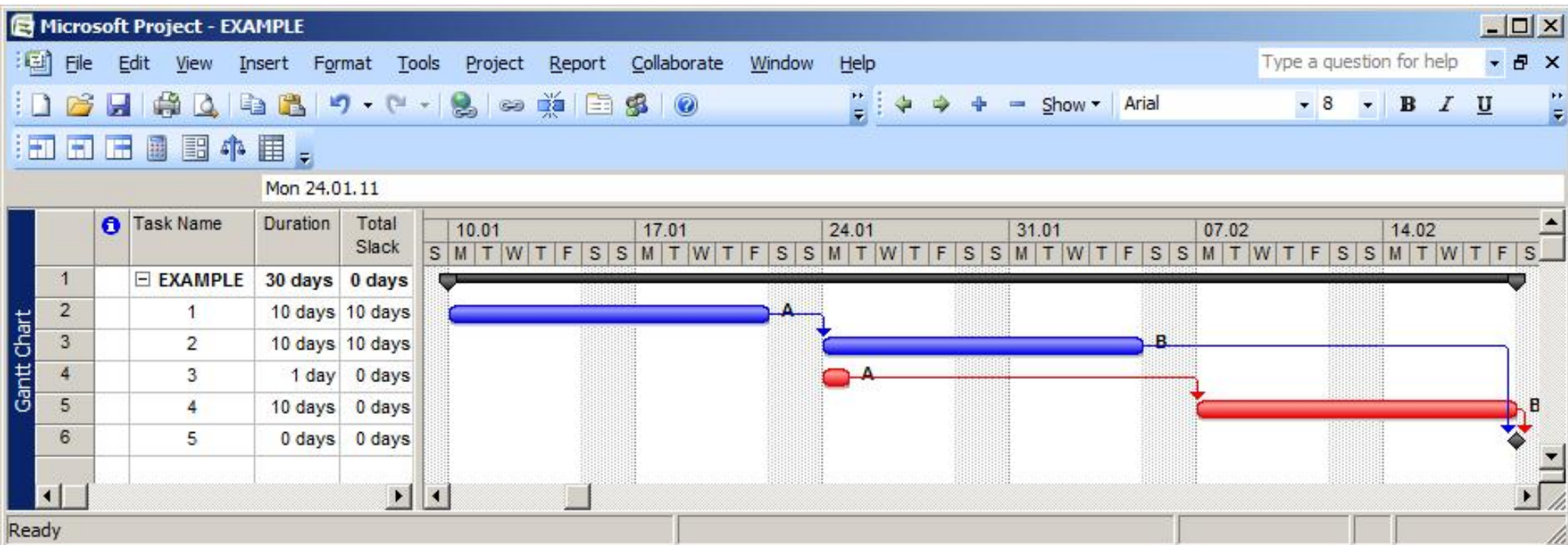
Resource Critical Path is the same as Critical Chain when cost and material constraints are not considered.

It looks easy but other packages calculate wrong resource constrained floats.



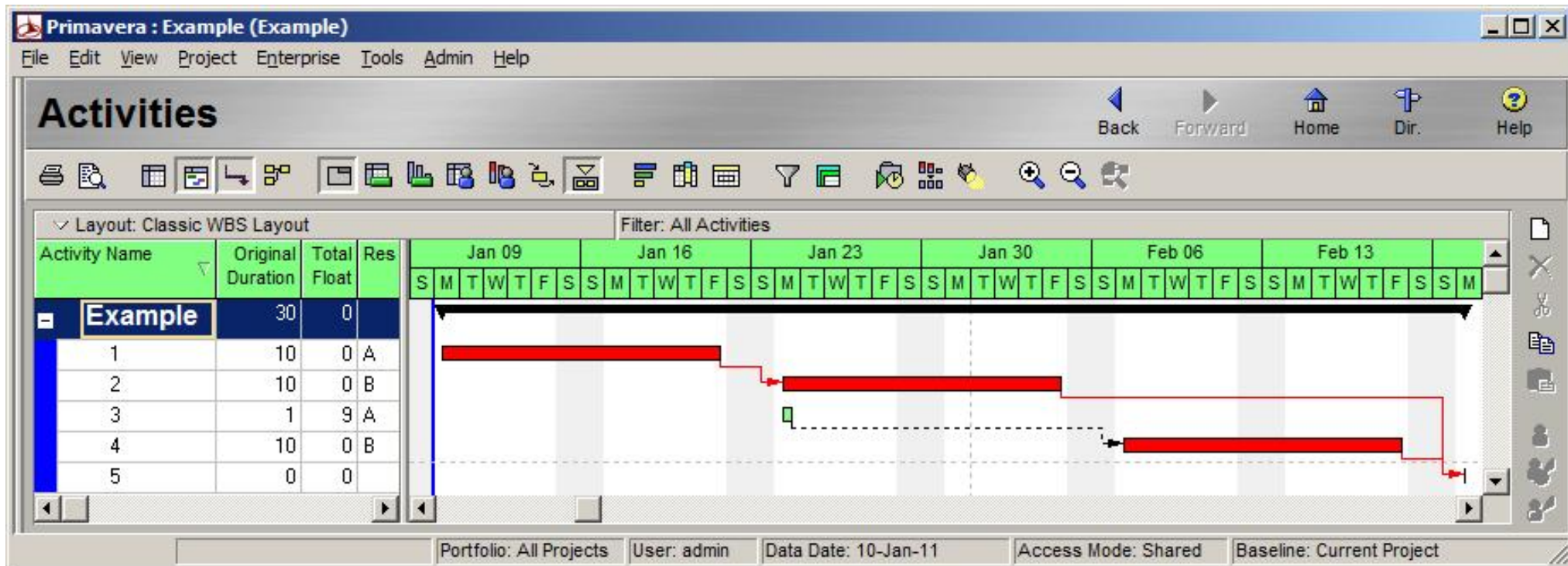
# Resource Critical Path

In this slide you may see the schedule created for the same project by MS Project. Project duration is 30 days instead of necessary 21, total slacks are wrong and activity 3 is shown as critical though it has 9 days free float.



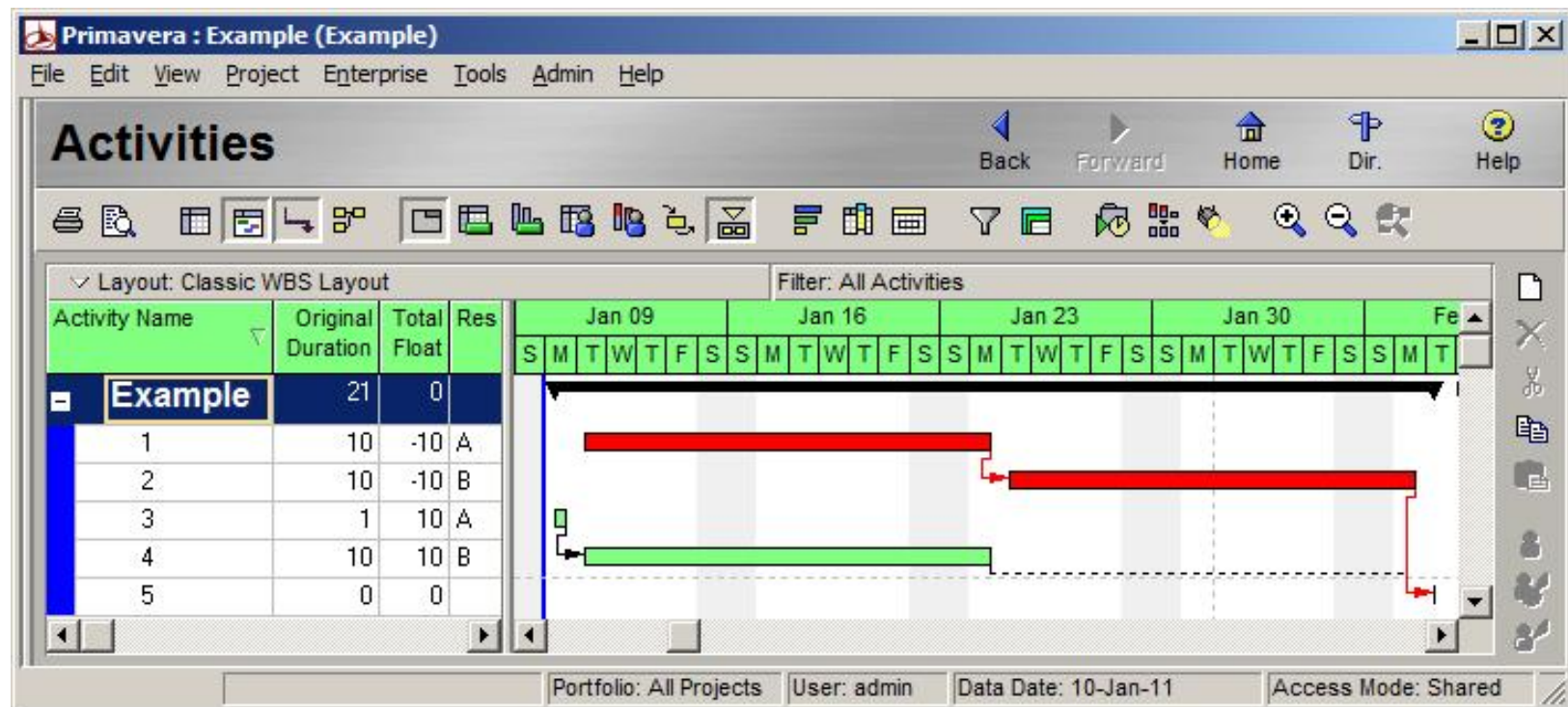
# Resource Critical Path

Default schedule of P6 is the same but resource constrained floats are correct. If to select proper resource leveling criterion the schedule can be improved (only manually in MS Project).



# Resource Critical Path

But resource constrained floats are still wrong and resource critical path is not shown.





# Quantity Based Scheduling

Spider Project calculates project schedules basing on entered volumes of work to be done on project activities.

Activity durations depend on assigned resource productivities and workloads. With skill and variable workload assignments activity durations may be calculated only in the process of project scheduling (leveling).

# Conditional Scheduling

If the schedule model includes switch activities the resulting schedule (not only the order but also project scope and a set of project activities) depends on switch conditions.

With schedule delays not only dates and costs but also project scope may change.

# Project Cost Planning

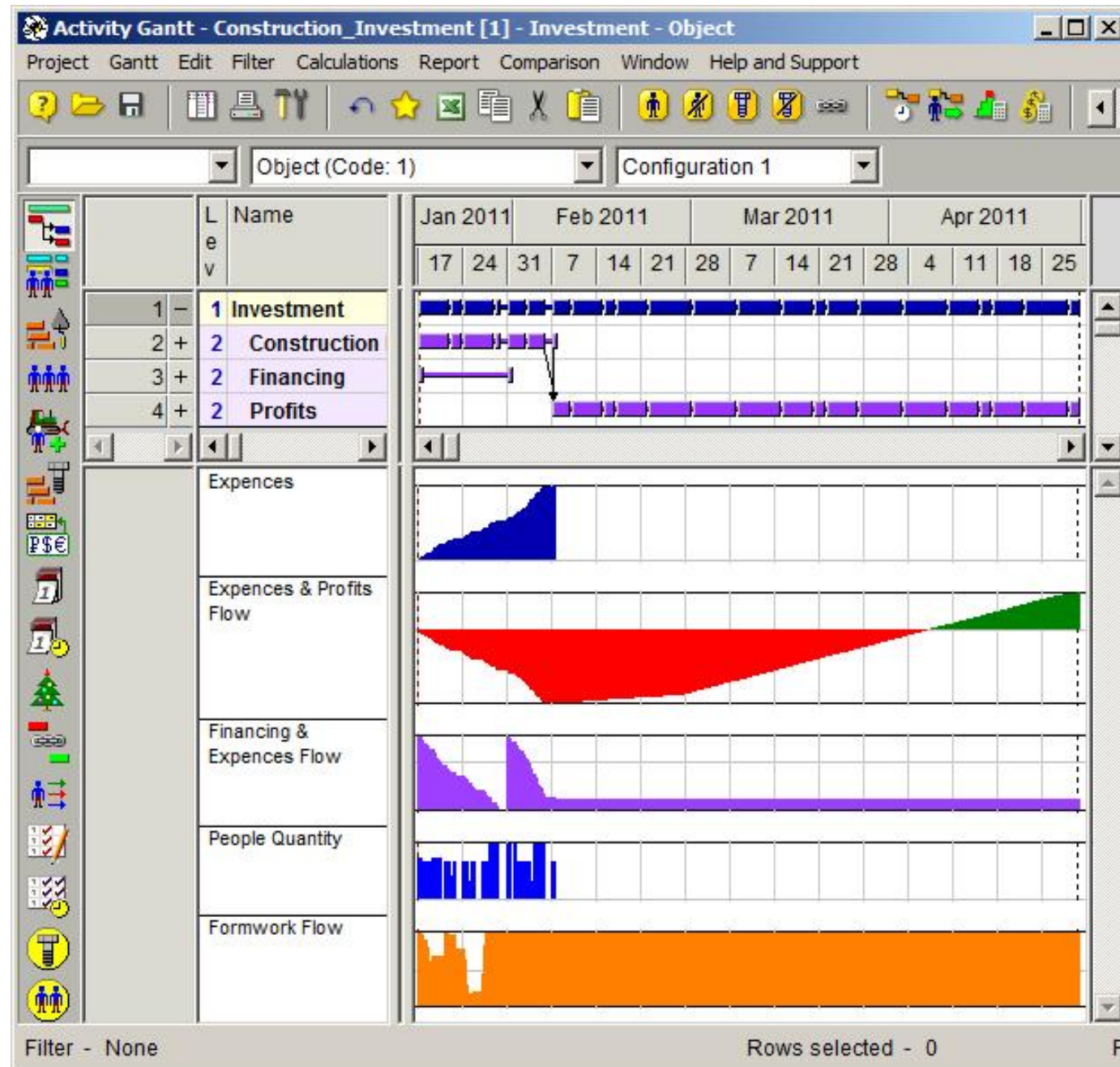
Spider Project not only calculates any number of parallel project budgets but also allows to simulate incomes, apply discounting and analyse such project parameters as NPV, IRR, Payback Period.

The screenshot shows the 'Cost and Material Calculation Options' dialog box. It is divided into several sections for configuring project calculations.

- Discounting:** Includes a checkbox for 'Apply'. If checked, it allows selection of a 'Discounting Period' (Months, Quarter, or Year), a 'Percentage' (Simple or Complex), and an 'Application Rule' (Start of the Period or End of the Period).
- Payback date:** Features a 'Parameter' dropdown set to '" Total Cost"', a 'Select' button, and radio buttons for 'First' or 'Last'. It also includes fields for 'Calculate Payback date', 'Cumulative', and 'Remaining'.
- NPV, IRR and MIRR:** Contains a 'Parameter' dropdown set to '" Total Cost"', a 'Select' button, and buttons for 'Calculate IRR' and 'Calculate MIRR'. Each calculation has associated 'Cumulative' and 'Remaining' fields.
- Expenses:** Includes a 'Parameter' dropdown set to '" Total Cost"' and a 'Select' button.
- EVA Columns:** Features a 'Parameter' dropdown set to '" Total Cost"', a 'Select' button, and checkboxes for 'Calculate EVA Columns' and 'Default Performance Factor'. A 'Performance Factor' input field is set to 1.
- Resource Center:** Includes a checkbox for 'Calculate Columns' and a 'Select' button.
- Payment schedule:** Contains a checkbox for 'Create payment schedule'. If checked, it allows selection of a 'Parameter', 'Payment', and 'Calendar', each with a 'Select' button. A 'By Period' section offers radio buttons for 'By Years', 'By Quarters', 'By Months' (selected), 'By Weeks', and 'By Days'.
- General Options:** Includes checkboxes for 'Show this window before calculating' (checked) and 'Show Report'. At the bottom are 'OK', 'Cancel', and 'Help' buttons.

# Project Cost Planning

In Spider Project it is possible to manage flows of money and materials.



# Project Risk Analysis

Spider Project includes two risk analysis techniques – method of three scenarios and Monte Carlo simulation.

Using three scenarios method Spider Project users create three project scenarios – Optimistic, Most Probable, and Pessimistic.

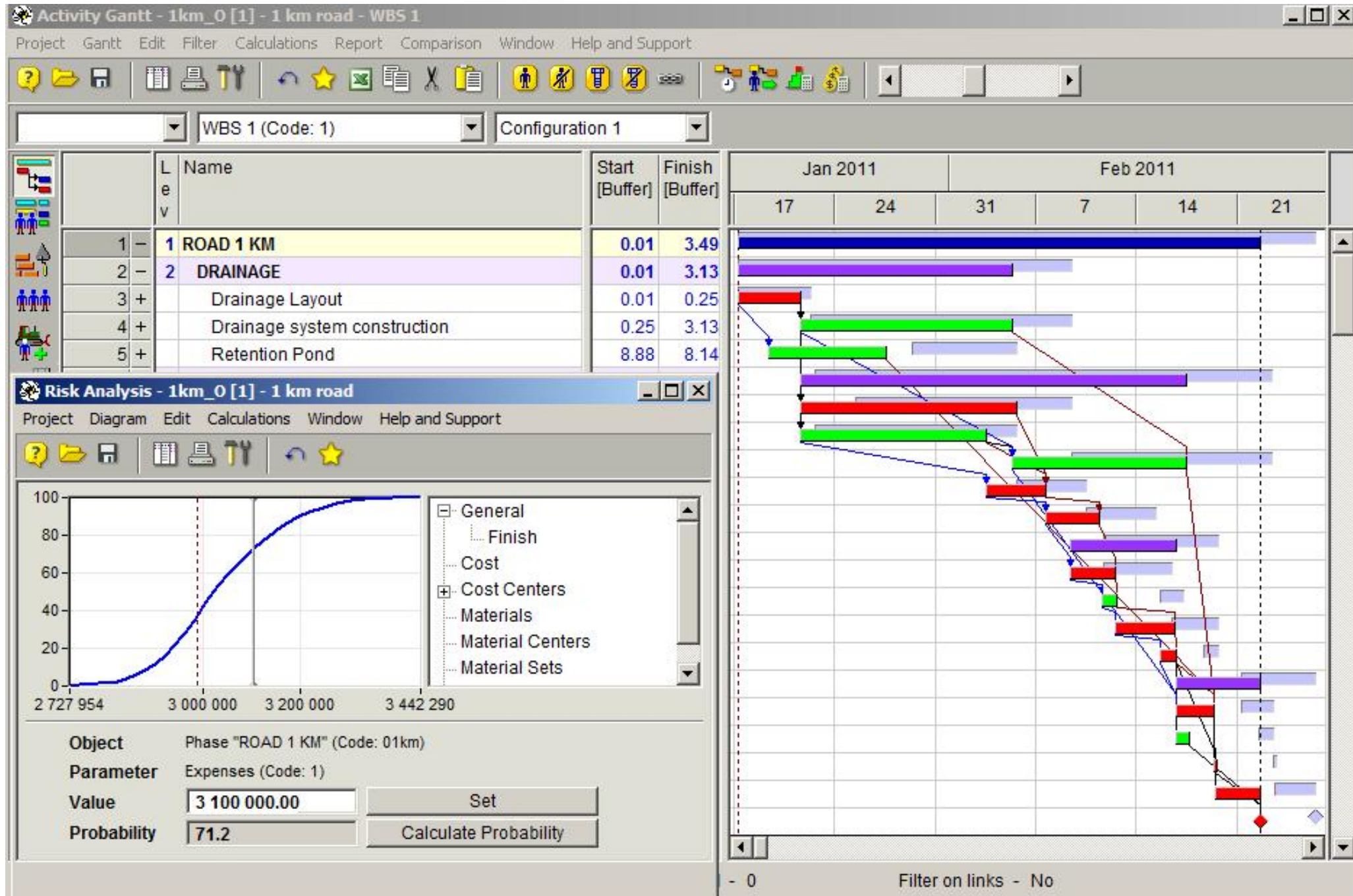
Basing on these scenarios Spider Project restores Probability curves and suggests to set target dates and costs that will be met with user defined probability.

If targets are set Spider Project calculates probabilities to meet project targets (success probabilities).

This permits to create reasonable contingency reserves (time and cost buffers) and manage them through project execution.

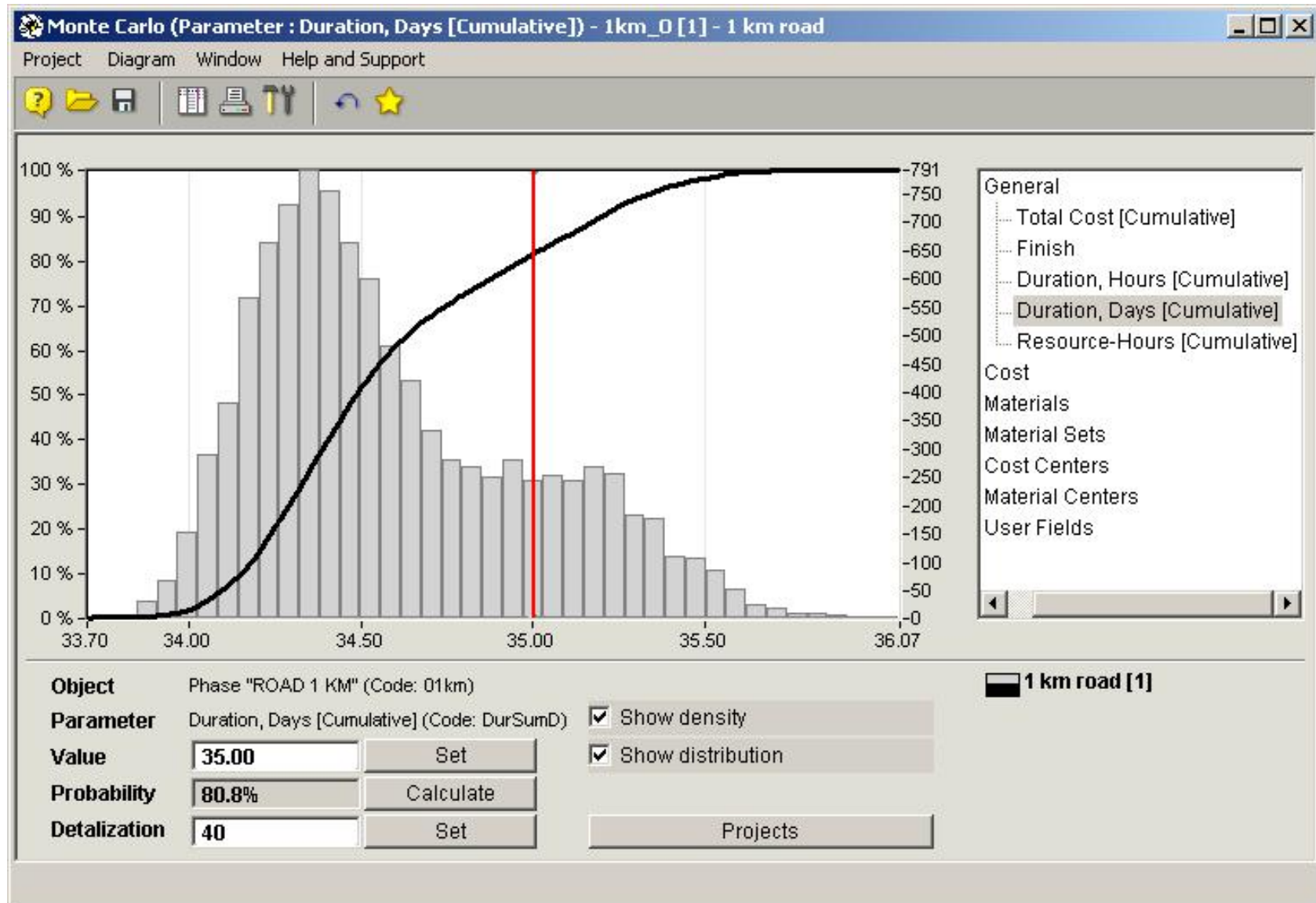


# Project Risk Analysis



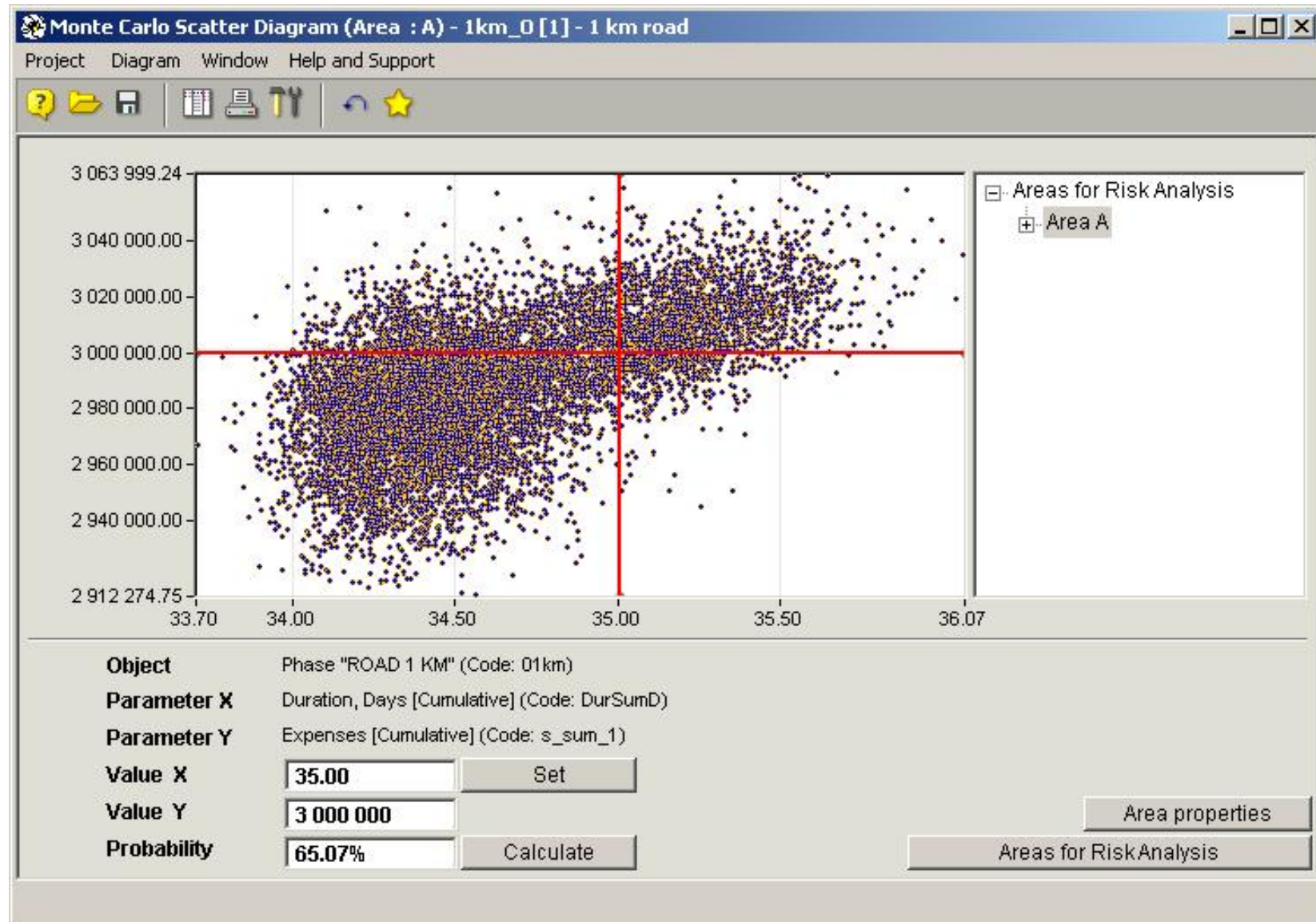
# Project Risk Analysis

## Monte Carlo simulation results: Probability Distribution



# Project Risk Analysis

## Monte Carlo simulation results: Scatter Diagram





# **Project Performance Analysis**

# Entering Actual Data

Spider Project users do not enter percent complete – they enter real actual data: what volumes of work have been done, what time did it take, what amounts of materials were consumed, what money spent.

Actual data are entered in simple table forms that are sent to persons responsible for project activities and collected automatically.

Group work with Spider Project will be further discussed at the Enterprise session.

# Project Updates

Each time when actual data are entered Spider Project creates new project version keeping project history and project archive.

Any two versions may be compared and project planner can analyse what happened between any two dates.

The number of project baselines is unlimited. Actually any project version can be set as the baseline.

If risk analysis is applied and three scenarios are set all three project versions are synchronized. When actual data are entered in one version other two are also updated automatically.

# Performance Analysis

Analysing volumes of work done and actual durations allows to readjust initial assessments of project resource productivities.

Project archives provide an opportunity to identify and to analyse project parameter trends including trends of the performance indices used in Earned Value Analysis.

In Spider Project Earned Value Analysis may be applied not only to total cost, but also to individual cost components and cost centers, project materials, resource hours and even to user defined fields.

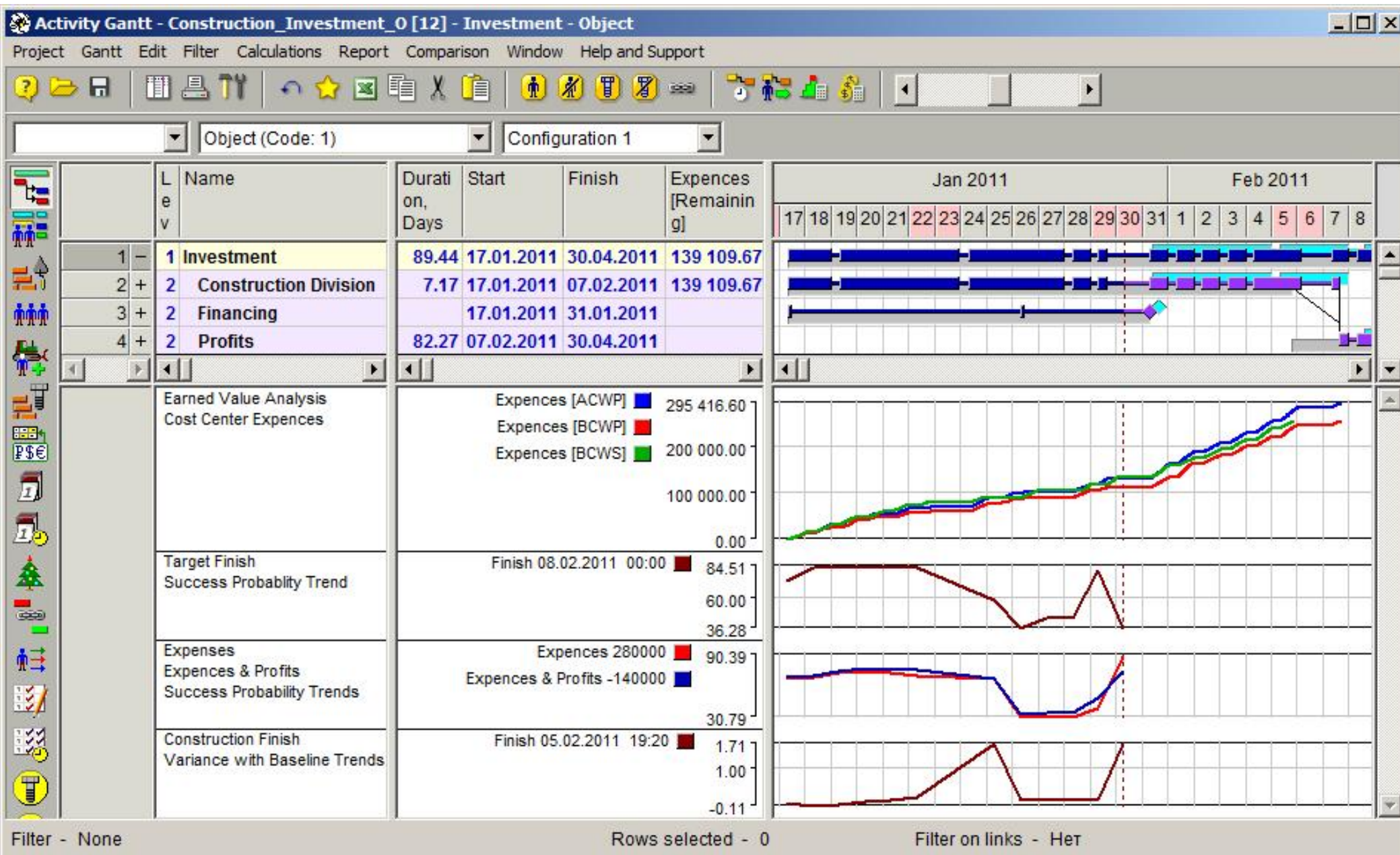
# Performance Analysis

Comparing any two project versions Spider Project users can see the values of any field in current version, in compared version, and their difference.

Both versions may be showed in Activity, Resource, and Material Gantt Charts, Time-Location Diagram and other Spider Project reports.

Any number of signals (street lights) can be defined and showed, bringing attention to certain performance deviations.

# Performance Analysis



# Performance Analysis

We consider Success Probability Trends as the best integrated project performance indicators.

They accumulate scope, time, cost, and risk information providing early warnings on potential project problems.

Project Management technology based on Success Probability Trend analysis we call Success Driven Project Management (SDPM).

# **Spider Project Views & Reports**



# Reports

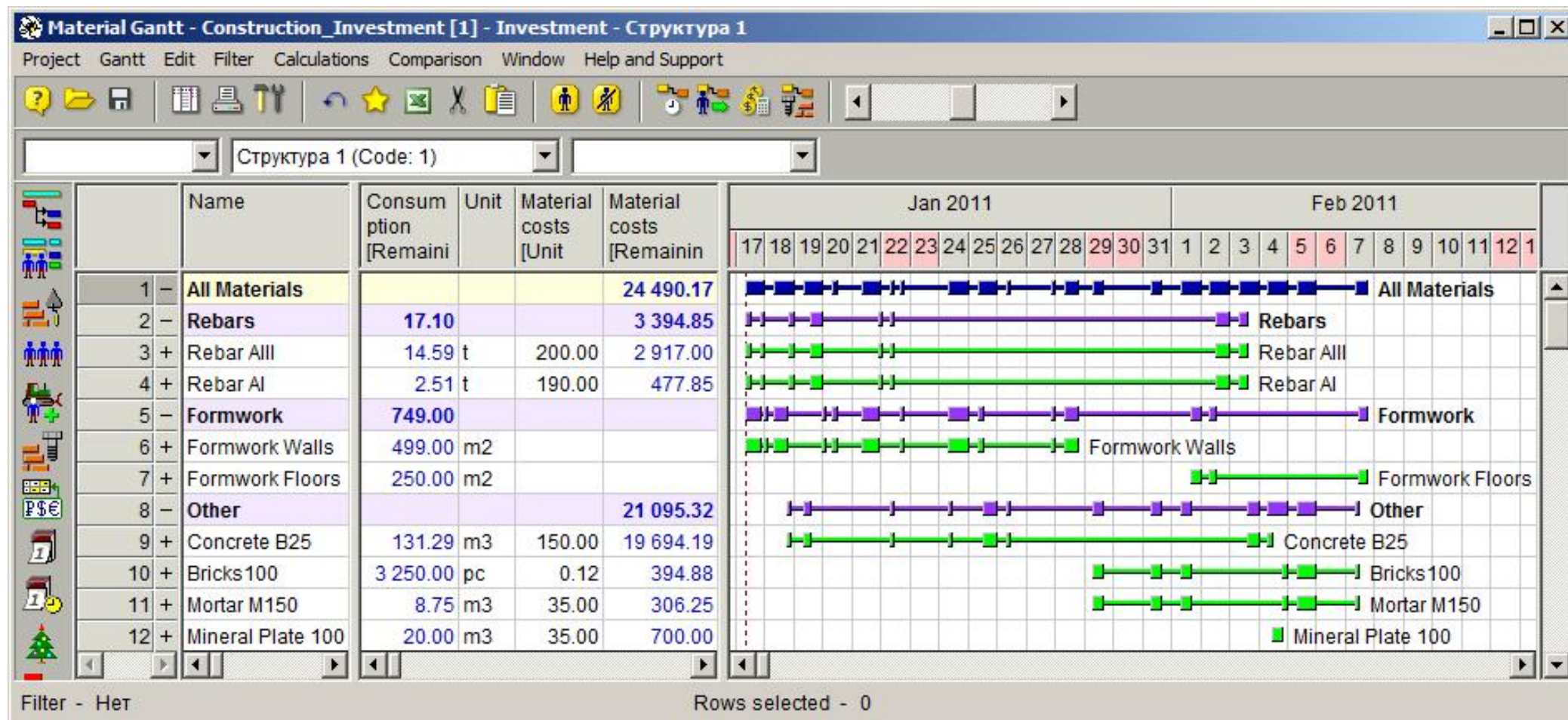
Together with the standard graphic reports (Activity Gantt charts, Network diagrams, Resource and Material histograms, Cost S-curves for both the project and its individual phases) Spider Project offers its users:

- Resource and Material Gantt Charts (with time scales from minutes to years)
- Time-Location Charts
- Trend Charts
- Banana Curves
- Project Truncation
- Any Table Reports for any time period including user defined

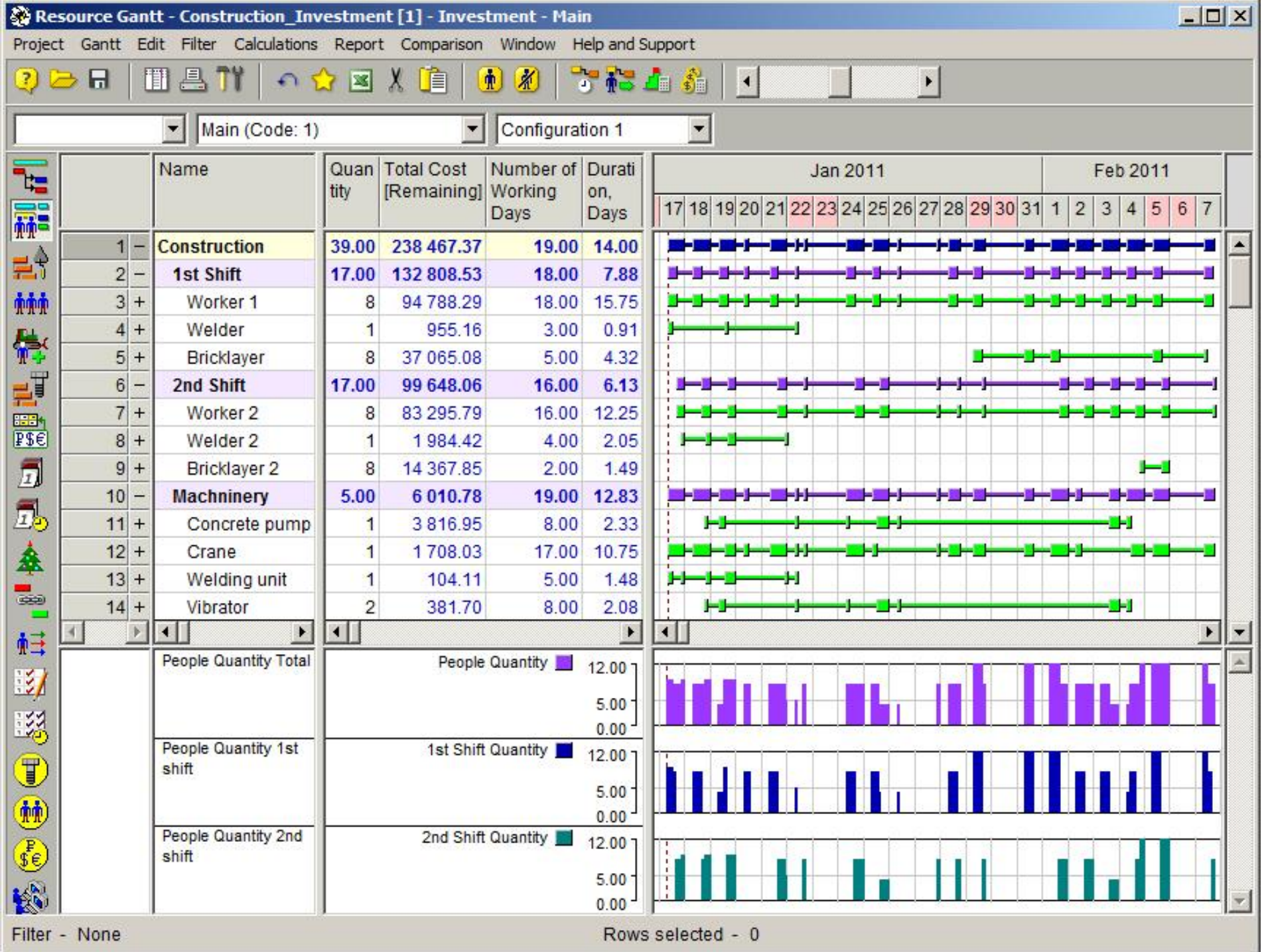
# Resource and Material Gantt Charts

Material Gantt Chart shows periods of material consumption.

Resource Gantt Chart shows periods of resource utilization.







# Time-Location diagram

Time-Location diagram is a clear and compact way of project schedule presentation.

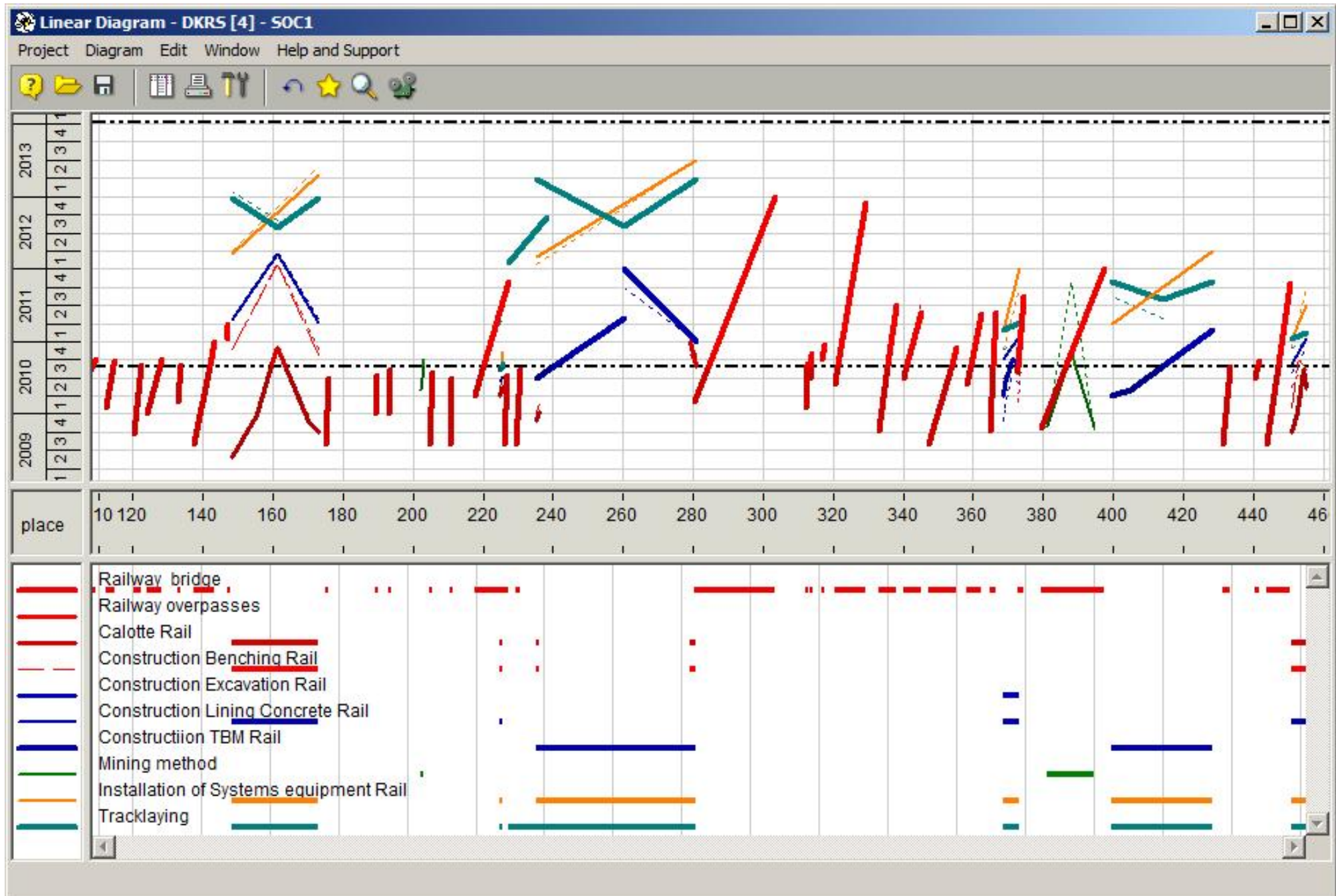
The time is plotted on the Y-axis of this diagram and the project metrics (in kilometers, floors, or any other units) is plotted on the X-axis.

This report is especially useful in linear construction projects (roads, railways, pipelines, high rise buildings, etc.)

Next slide shows a linear diagram of a railway construction project.

In Spider Project Time-Location diagrams may be created for any time periods and besides they are animated and may show the construction process step by step.

# Time-Location diagram





# Trend Charts

Expences and Expences & Profits Success Probability Trends



# Trend Charts

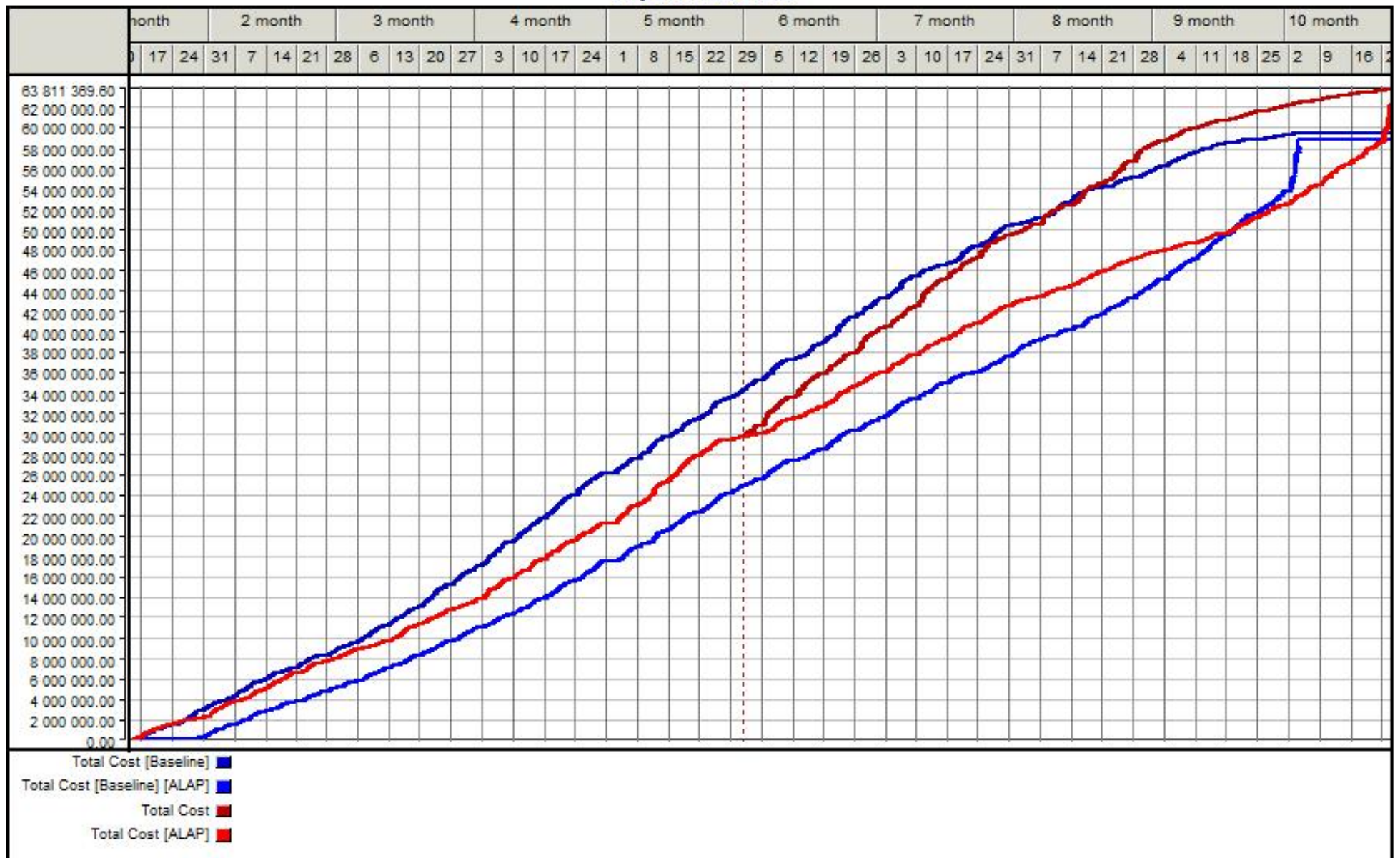
Earned Value Analysis Trends  
CPI & SPI



# Banana Curves

## Building Construction Banana Curve

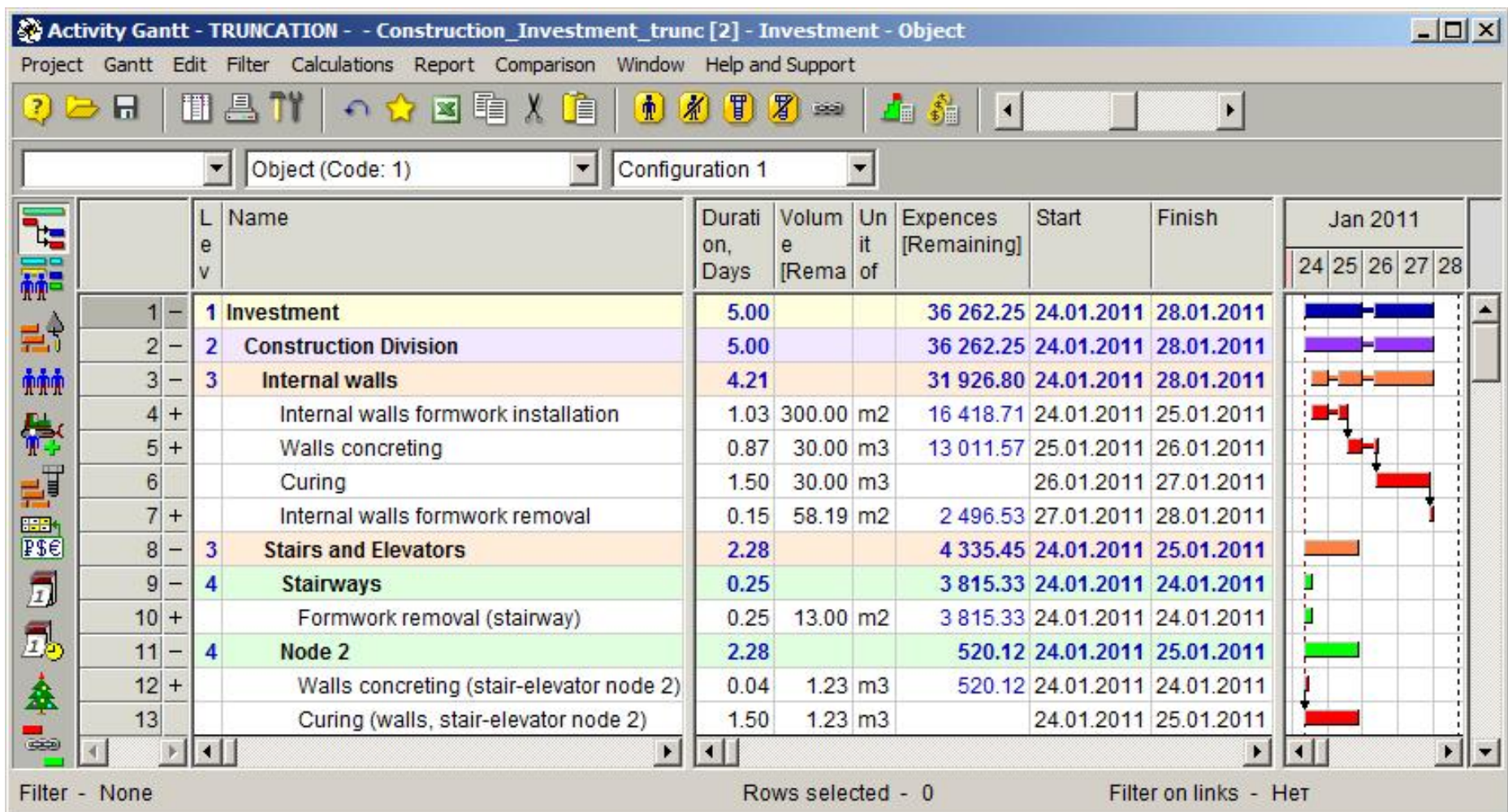
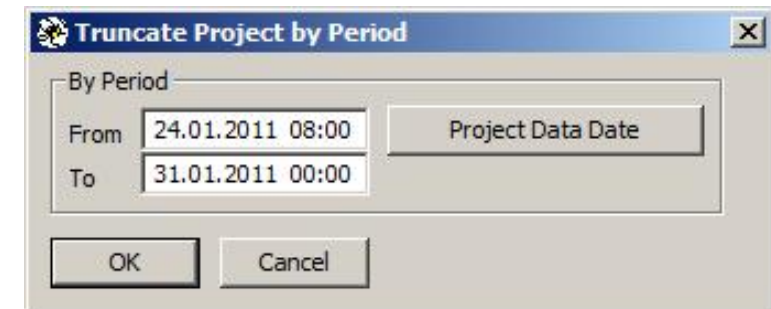
Early and Late S-curves





# Project Truncation

Projects can be sliced by user defined periods



# Table Reports

Table reports can be created for any parameters and for any time period including user defined.

**Parameters and Data - General Reports and Diagrams**

Report Name:   
Report Code:  Report Version:

Report Beginning and End:  
☒ Whole Project Start:  Finish:   
☐ Selected Period Shift of Beginning:  Shift of End:   
☐ Shift from Data Date

Report Parameters Wizard  
Formulae

☒ General ☐ Materials ☐ User Fields  
☐ Cost Components ☐ Material Centers ☐ Resources  
☐ Cost Centers ☐ Material Sets ☐ Resources Centers

Total Cost (CostTotal)  
Duration, Hours (DurSum)  
Resource-Hours (WorkLoadSum)  
Volume (VolSum)

>>  
<<

Search ☐ Code ☒ Name

Resources  
☒ Resource Hours  
☐ Quantity  
☐ Resource Hours (Free)  
☐ Quantity (Free)

Parameter Type  
☒ Total  
☐ Consumption  
☐ Income  
☐ Total Cost

☐ Baseline  
☐ Credit Percentage   
☐ ALAP

☒ Include object name into report name

Done Save as Report Template

Properties Sort Clear

By Period  
☐ By Years  
☐ By Quarters  
☐ By Months  
☒ By Weeks  
☐ By Days  
☐ By Hours  
☐ User defined

☒ Cumulative  
☒ Include Actual  
☒ Include Plan  
☐ Show Revenue as Positive  
☐ Availability

User defined period  
Start:  Duration, Hours:

< Back Next > Cancel Help

# Advanced Features of Spider Project

There are many other advanced features of Spider Project that we have no time to discuss in this short session.

Some of them like creating and application of the corporate norms and standards, advanced project portfolio management, management of parallel budgets, etc. will be discussed further in the Enterprise session.

If you will meet a problem that is hard to model ask how Spider does it at [www.planningplanet.com](http://www.planningplanet.com) forum.



# Thank you!

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