

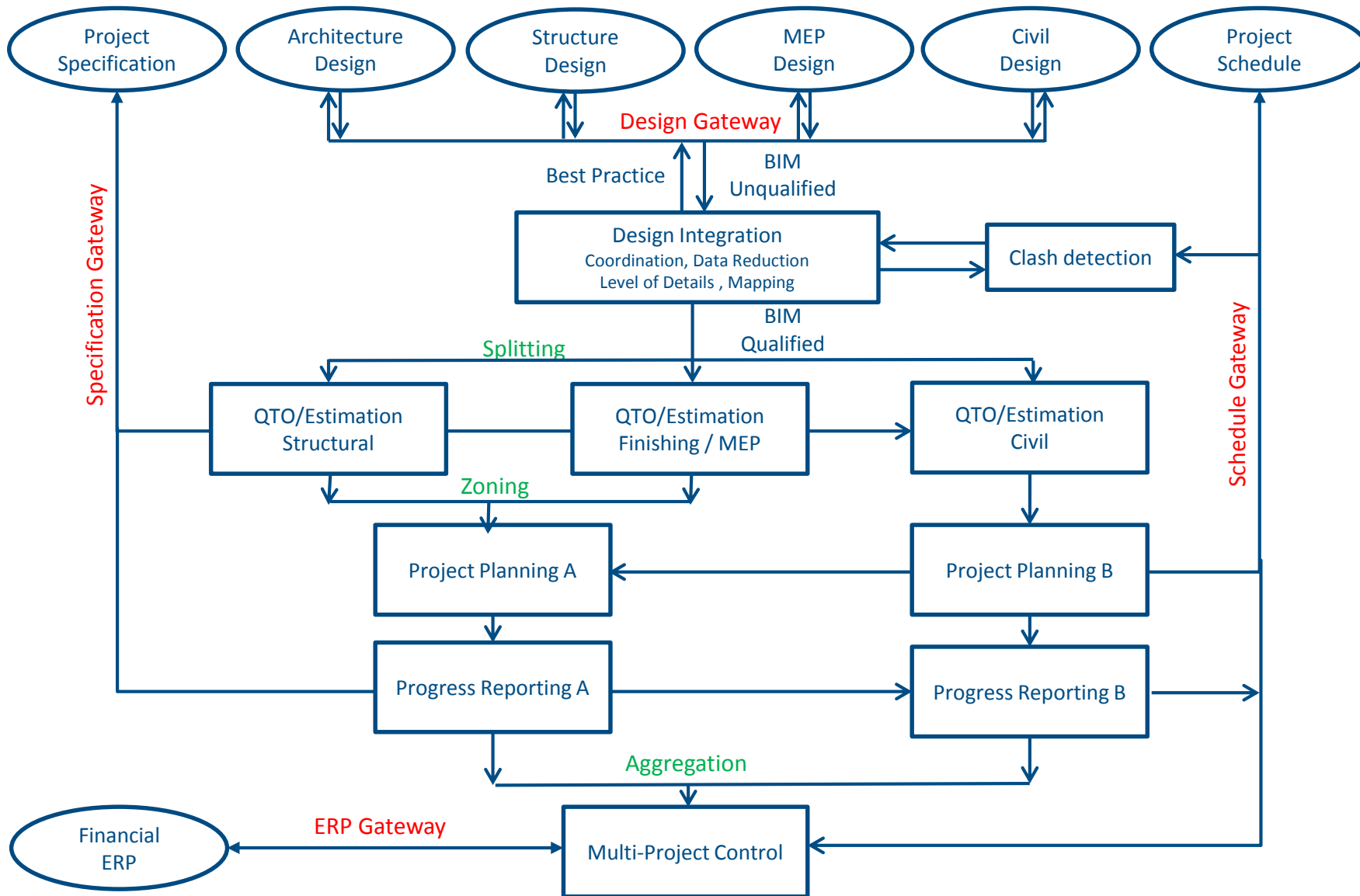


***5D best practice implementation of  
an airport building according to  
5Di specifications***

***Lake Constance 5-D Conference 2013***

Wolfgang Müller

# 5D Workflow



# 5D Project Management

## Construction Process Integration: Element Planning

The screenshot displays a software interface for 5D project management, specifically focusing on construction process integration through element planning. The central 3D view shows a multi-story building structure under construction, with a grid floor and various structural elements like slabs, beams, and columns. The interface is divided into several key panels:

- Top Ribbon:** Contains toolbars for navigation (Home, Perspective, View), visibility (Show All, Show Only Selected, Toggle Visibility), selection (Visible Only, Toggle, Deselect All), and mode (Select, Orbit, Look Around, Walk, Move, Zoom, Measure). It also includes View Options (Clipping, Light, Camera, Solid, Wireframe, Grid) and Tools (Screenshot, Copy).
- Navigation Tabs:** Model Check, Element Planning (active), Assignment, Quantities, BoQ Assignment.
- Element Planning Tree (Left):** A hierarchical tree structure showing the project's breakdown into elements. The active path is: Element Planning > Site > Foundation and footings > Foundation slabs > Concrete blinding 10 cm. Other elements include Footings, Strip foundations, Structure, Walls, Columns, Main beams, Defect main beams, Cross beams, Slabs, Filigran slabs, Filigran Slabs 2, Landings, Staircases, Steel works, Beams, and Columns.
- Object - Tree (Right):** A list of locations and elements, numbered 0 through 9, including Siteplan, default, and various E01-E08 elements.
- Object - CPI-Filter (Right):** A table for filtering objects based on various criteria. The table has columns for Object, Key, Label, QTO Details, and Calculation Quality. The CPI section includes fields for ID, Context, ComponentType, Composite, Object Type, cpiComponentDirec..., cpiDisableCutOff, cpiDisableCutOffs, and rniDisableFvnopt.

The status bar at the bottom indicates the software is 'Ready' and shows the current location as 'UF | NUM | RF'.

# 5D Project Management

## Construction Process Integration: Element Planning

The screenshot displays a software interface for 5D Project Management, specifically the Element Planning phase. The main window shows a 3D model of a building structure with a grid overlay, representing the construction process. The interface includes a toolbar at the top with various tools for Element Planning, Objects, Quantities, BoQ, Filter, Edit, and Structure. A tree view on the left lists locations, and a right-hand panel shows the CPI-Attributes for the selected object. The status bar at the bottom indicates the software is ready.

**Toolbar:**

- Element Planning Document Properties
- Project Window
- Project Catalogs
- Master Project
- Variable Update Wizard
- Update Links
- Update CPI Data
- Objects
- Entire Calculation
- Quantities
- Update BoQs
- BoQ
- Filter
- Edit
- Structure

**Navigation:** Model Check > Element Planning > Assignment > Quantities > BoQ Assignment

**Tree View (Locations):**

- 0 Siteplan
- 1 default
- 2 E01
- 3 E02
- 4 E03
- 5 E04
- 6 E05
- 7 E06
- 8 E07
- 9 E08
- 10 EU1
- 11 EU2
- 12 E02a
- 13 EU1 UKRD
- 14 E01 UKRD
- 15 E02a UKRD
- 16 E03 UKRD
- 17 E04 UKRD
- 18 E05 UKRD
- 19 E06 UKRD
- 20 E07 UKRD
- 21 E02 UKRD
- 22 EU2 UKRD
- 23 Foundation

**Right Panel (CPI-Attributes):**

- Object

**Status Bar:** Ready | UF NUM RF

## Construction Process Integration: Estimation

The screenshot displays a software interface for 5D project management. At the top, there is a toolbar with various icons for navigation and editing. Below the toolbar, the main window is divided into several panes:

- Item Selection (Table):** A hierarchical tree view showing the project structure. The selected item is 'Formwork wall upto th=30 cm' (Ref.No. 2.1.30).
- Object - Visualisation:** A 3D wireframe model of a building structure, showing walls, columns, and beams. A coordinate system (X, Y, Z) is visible at the bottom left of the model.
- Properties (Item):** A vertical pane on the right side of the 3D model.
- Properties (SubItem):** A vertical pane on the right side of the 3D model.
- Object - Legend:** A vertical pane on the right side of the 3D model.
- Copy Window:** A vertical pane on the right side of the 3D model.

The main data table below the 3D model provides a detailed breakdown of costs and quantities for the selected item and its sub-items:

Subi...	Code	Text	QTO-Detail	Quantity	UoM	Quantity Factor Detail	Quantity F...	Costs/Unit	CUR	Budget/U	Budget/UM Item
1		Prepare Formwork		1,000			1,000	50,83	EUR	2,20	2,20
▶	3414	Form Floor		1,000			1,000	2,20	EUR	2,20	2,20
	H3	Formwork		10,000	Hrs	0.25	0,250	19,45	EUR	0,00	0,00
2		Erect Formwork		1,000			1,000	48,63	EUR	19,45	19,45
	H3	Formwork		10,000	Hrs	0.25	0,250	19,45	EUR	7,78	19,45
3		Strike Formwork		1,000			1,000	97,25	EUR	0,00	0,00
	H3	Formwork		10,000	Hrs	0.5	0,500	19,45	EUR	0,00	0,00

## Construction Process Integration: Activity Planning

The screenshot displays a software interface for 5D Project Management, specifically focused on activity planning. The interface is divided into several key sections:

- Menu and Toolbar:** Located at the top, it includes options like 'Update', 'Status Bar', 'Configuration of Cost Comparison', 'Docking Window', 'View', 'Save', 'Reset', 'Main Window', 'Structure', 'New Window', and 'Close Window'.
- Work Items Tree:** On the left, it shows a hierarchical tree structure under 'BoQs'. The tree includes 'BoQ: 0 - Structural works-Material' and 'BoQ: 1 - Structural works - Construction'. Under 'BoQ: 1', there are sub-items for '1 Foundation and footings', '2 Structure', '1 Walls', '2 Columns', '3 Main beams', '4 Cross beams', '5 Slabs', '6 Filigran slabs', '7 Filigran Slabs 2', '8 Landings', and '9 Stairs'.
- Main Data Table:** The central part of the interface features a table titled 'Activity Model 1 - Construction Schedule'. The table has columns for 'Structure', 'Description', 'Start', 'Duration(D...', 'End', and 'Costs'. The data includes various construction activities such as 'Site General', 'Airport', 'Structure', 'Material Procurement', 'S7 Construction', and multiple levels (Level EU2 through Level E08) with their respective start and end dates and costs.
- 3D Visualization:** Below the tree, there is a 3D model of a building structure, showing a grid of columns and beams, with a coordinate system (X, Y, Z) visible.
- Gantt Chart:** On the right, a Gantt chart titled 'Bar Chart' displays the project schedule. The chart shows a timeline from 2013 to 2014, with bars representing the duration of various activities. The chart is divided into quarters: Spring, Summer, Autumn, and Winter for both years.
- Assigned Work Items and Quantity Splitting:** At the bottom, there are two smaller tables: 'Assigned Work Items' and 'Assigned Quantity Splitting', which provide further details on resource allocation and quantity distribution.

## Construction Process Integration: Activity Planning

Update | Status Bar | Configuration of Cost Comparison Planned vs. Actual | Docking Window | Activity Table Type | View | Save | Main Window | New Window | Close Window

General | View Options | Screen Configuration | Structure | Window

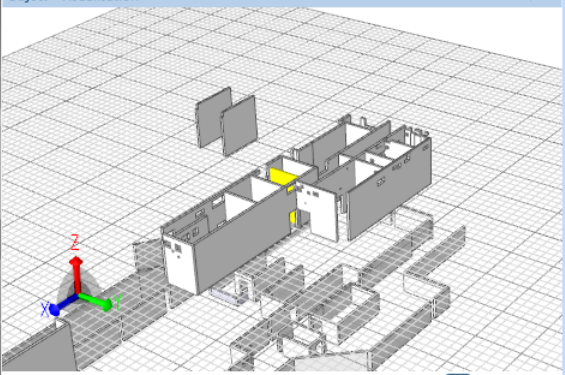
Activities | Performances | Resources | Activity Based Costs

Work Items Tree | Activity Model 1 - Construction Schedule | Filter (Description)

BoQs

- BoQ: 0 - Structural works-Material
- BoQ: 1 - Structural works - Construction
  - 1 Foundation and footings
  - 2 Structure
    - 1 Walls
    - 2 Columns
    - 3 Main beams
    - 4 Cross beams
    - 5 Slabs
    - 6 Filigran slabs
    - 7 Filigran Slabs 2
    - 8 Landings
    - 9 Staircases

Object - Visualisation



Structure	Description	Start	Duration(D...)	End	Costs
+	Site General	26.03.2012	440,00	29.11.2013	8.669.874,25
+	Airport	26.03.2012	387,00	17.09.2013	7.812.935,31
+	Structure	26.03.2012	387,00	17.09.2013	7.812.935,31
+	Material Procurement	26.03.2012	321,00	17.06.2013	3.409.319,13
+	S7 Construction	05.04.2012	379,00	17.09.2013	4.403.616,18
+	Level EU2	05.04.2012	75,83	19.07.2012	704.245,79
+	Level EU1	20.07.2012	49,69	27.09.2012	644.649,79
+	Level ED1	28.09.2012	33,22	14.11.2012	704.428,14
+	Level ED2	14.11.2012	51,22	24.01.2013	734.243,43
+	Level ED3	25.01.2013	62,29	23.04.2013	606.431,34
+	Walls	25.01.2013	15,19	15.02.2013	466.884,86
+	Formwork	25.01.2013	9,45	07.02.2013	453.595,46
+	Reinforcing work	08.02.2013	2,04	12.02.2013	6.004,02
+	Concrete work	12.02.2013	3,19	15.02.2013	7.285,39
+	RC wall 20cm C25/30	12.02.2013	0,18	12.02.2013	1,39
+	RC wall 25cm C25/30	12.02.2013	1,69	13.02.2013	5.760,48

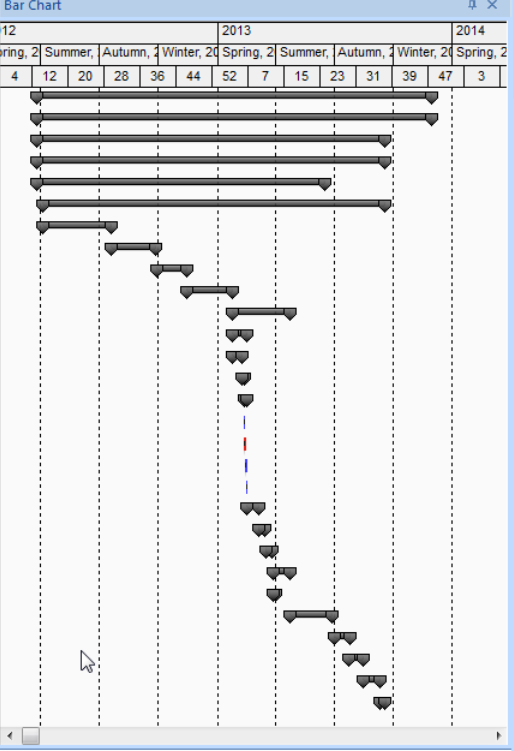
Assigned Work Items

Bill of Quantities	Ref No.	Subi...	Outline Spec	UoM	Split Quantity	%
1 Structural works - Cor	2.1. 10	111	Labour		236,9351	Item Split

Assigned Quantity Splitting

Descr. Locations	Activity	A...	AQ Quantity
5dki STB-Wand 25cm C25/30	001.001.001.005.00	✓	3,393
5dki STB-Wand 25cm C25/30	001.001.001.005.00	✓	4,220
5dki STB-Wand 25cm C25/30	001.001.001.005.00	✓	3,945

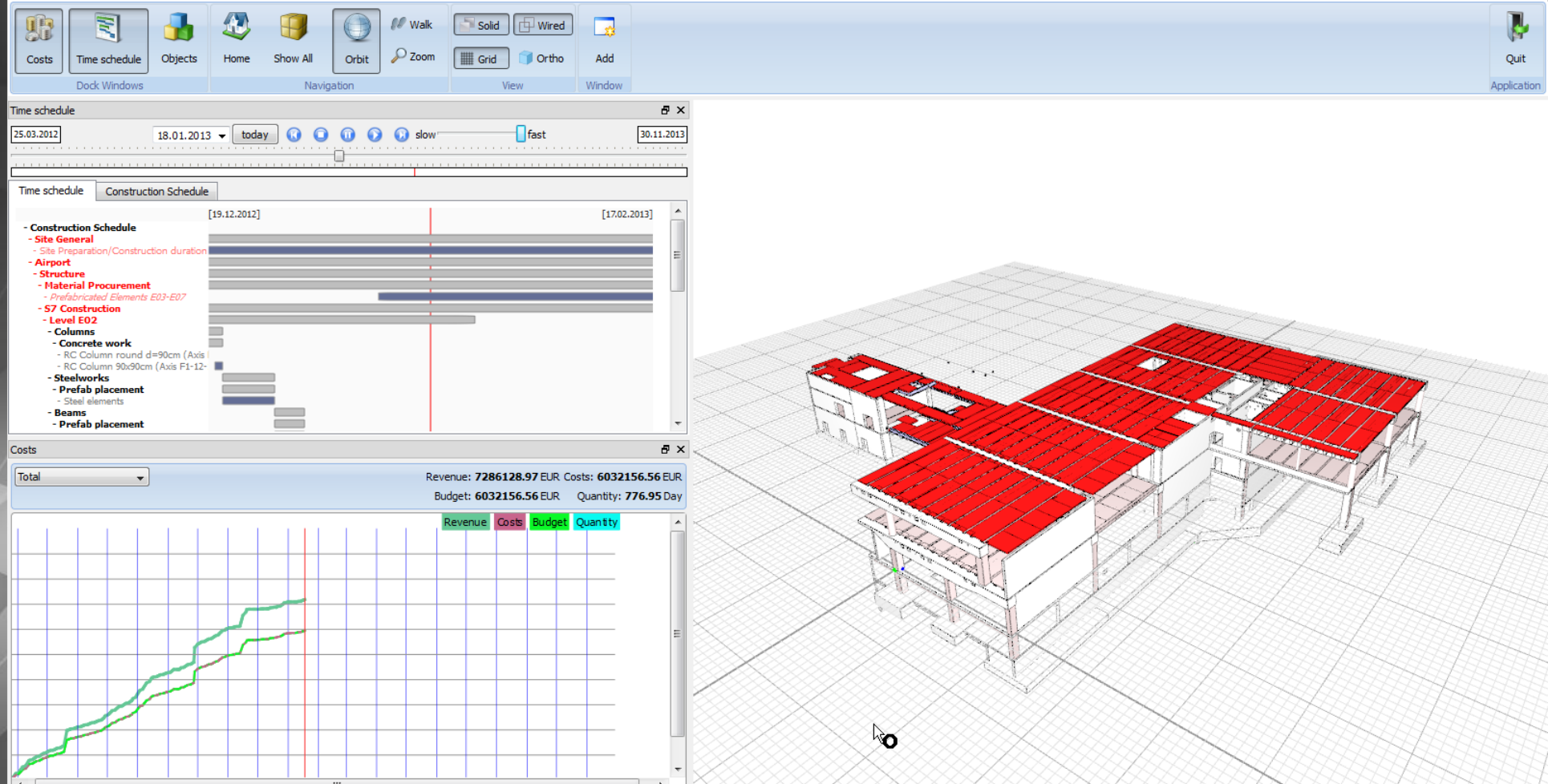
Bar Chart



Properties

Ready | UF NUM RE

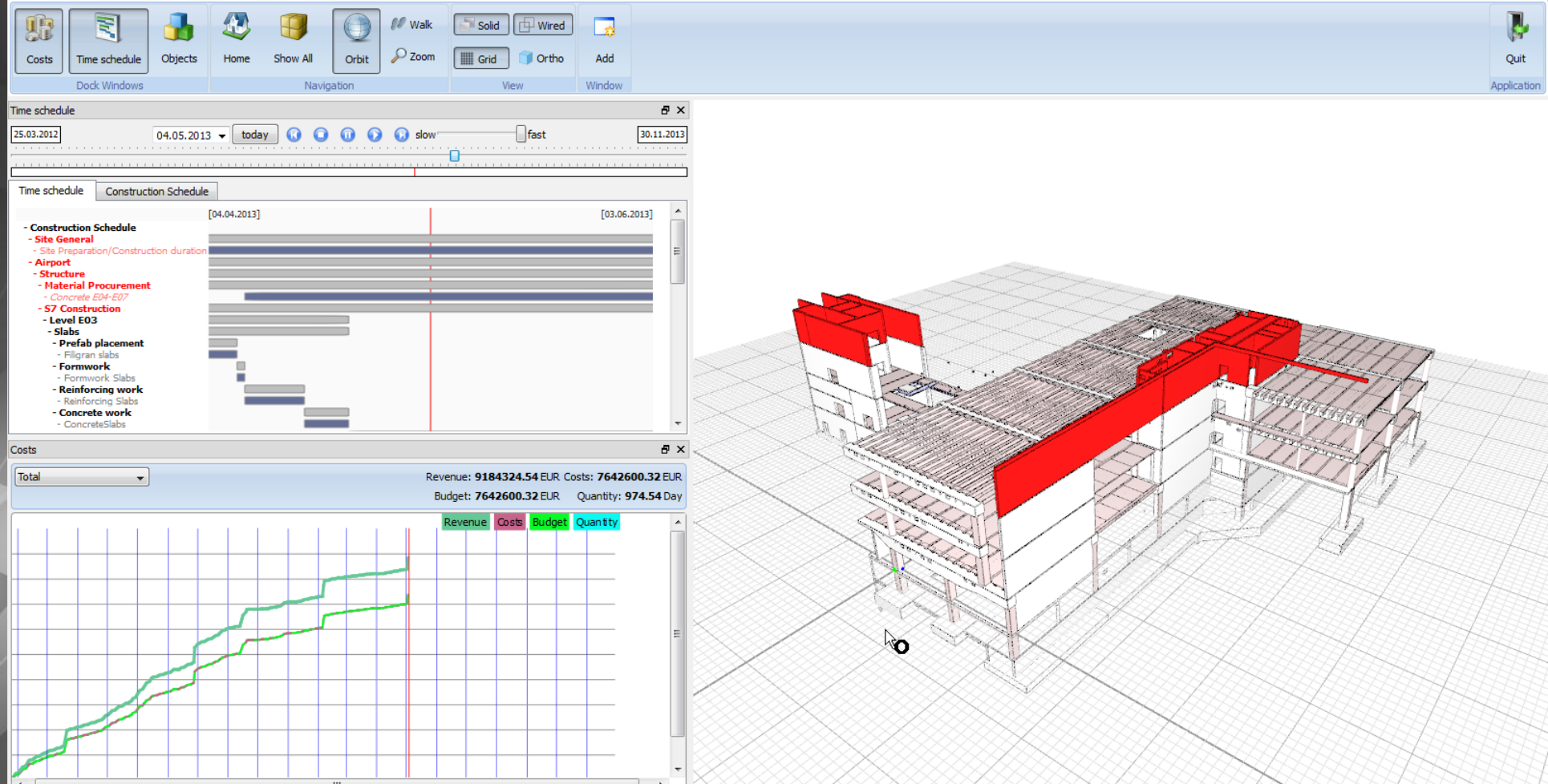
## Construction Process Integration: Simulation



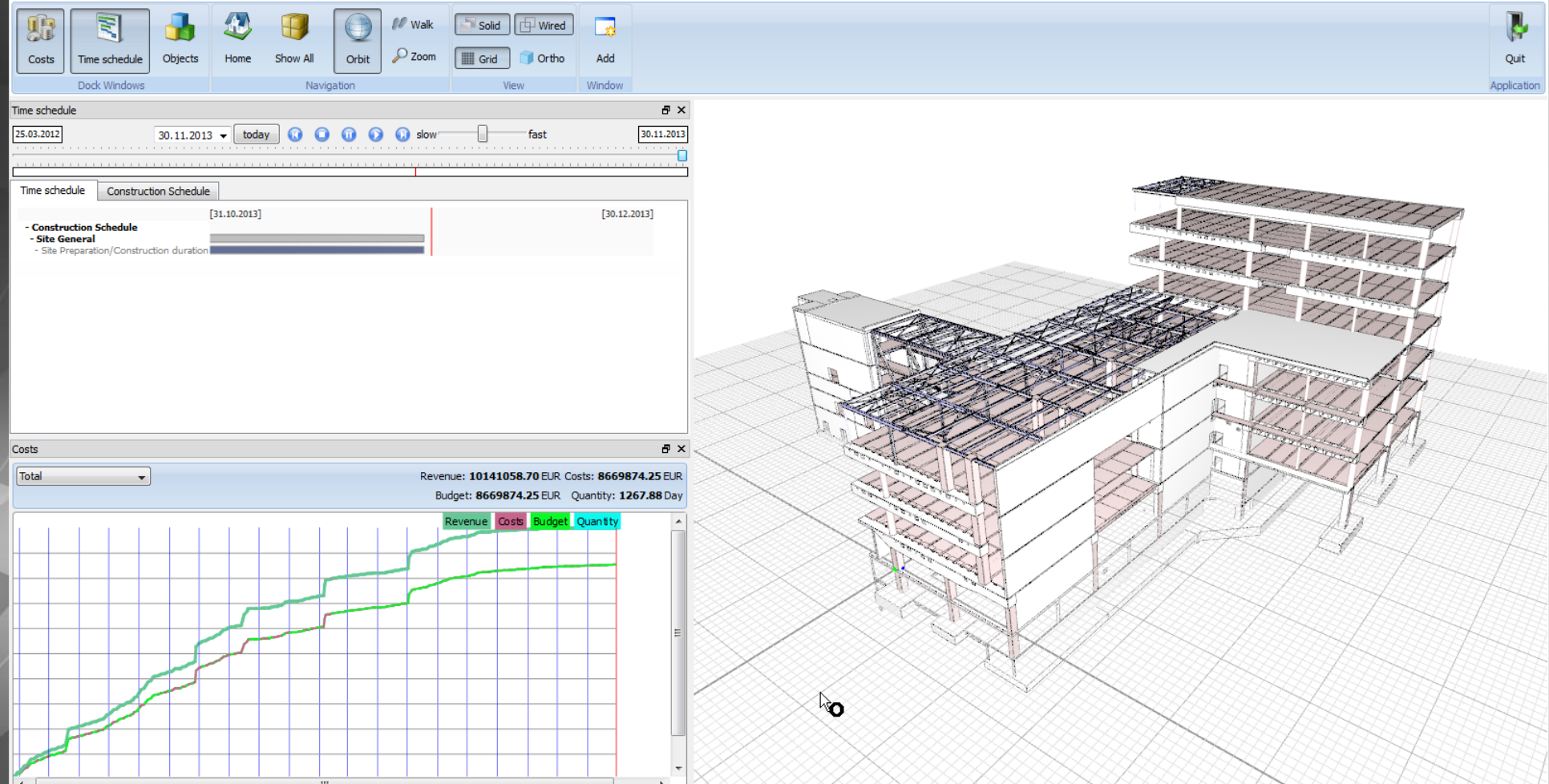


# 5D Project Management

## Construction Process Integration: Simulation



## Construction Process Integration: Simulation



## Construction Process Integration: Performance Measurement

The screenshot displays a software interface for 5D Project Management. The top toolbar includes options like 'Project Window', 'Project Catalogs', 'Master Project', 'Generate BQ Quantity', 'Generate IQ Quantity', 'Stage of Completion [%] 100,00', 'Update CPI Data', 'Filter', 'Edit', and 'Structure'. The main window is divided into a 'Job Estimate' table and an 'Object - Visualisation' area.

Structure	Ref.No.	Item	Outline Spec	AQ Quantity	IQ in RP	IQ per RP	UoM
<b>Job Estimate</b>							
+	BoQ: 0		Structural works-Material				
+	BoQ: 1		Structural works - Construction				
+	1.		Foundation and footings				
+	2.		Structure				
+	2.1.		Walls				
+	2.1. 10		Reinforced concrete wall upto th=30 cm	1.957,666	0,000	1.339,845	m3
+	2.1. 20		Reinforced concrete wall over th=30 cm	12,683	0,000	6,981	m3
+	2.1. 30		Formwork wall upto th=30 cm	14.829,251	0,000	10.009,087	m2
+	2.1. 40		Formwork wall upto th=50 cm	65,137	0,000	34,872	m2
+	2.1. 50		Reinforcement walls	200,825	0,000	137,257	t
+	2.2.		Columns				
+	2.3.		Main beams				
+	2.4.		Cross beams				
+	2.5.		Slabs				
+	2.6.		Filigran slabs				
+	2.7.		Filigran Slabs 2				
+	2.8.		Landings				
+	2.9.		Staircases				
+	6.		Steel works				
+	GC BoQ: 2		Preliminaries				

The 'Object - Visualisation' area shows a 3D model of a building structure with a grid overlay. A legend is visible in the bottom right corner of the visualization area:

- Actual State for current RP (in current RP partly reported)
- Actual State for previous RP (already reported completely in previous RP)
- Actual State for previous RP (already partly reported in previous RB and remaining performance is overdue)
- Planned State for Current RP
- Planned State for next RP
- Planned State for later RP

## Construction Process Integration: Performance Measurement

The screenshot displays a software interface for 5D Project Management. The top toolbar includes options for 'Generate to selected objects', 'Generate BQ Quantity', 'Generate IQ Quantity', and 'Stage of Completion [%] 100,00'. The 'Job Estimate' table is visible, listing various construction items with their respective quantities and units. The 3D model on the right shows a building structure with different components highlighted in various colors (red, yellow, green) to represent different states or stages of completion. An 'Object - Legend' window is open, providing a key for the colors used in the 3D model.

Structure	Ref.No.	Sitem	Outline Spec	AQ Quantity	IQ in RP	IQ per RP	UoM
<b>Job Estimate</b>							
	BoQ: 0		Structural works-Material				
	BoQ: 1		Structural works - Construction				
	1.		Foundation and footings				
	2.		Structure				
	2.1.		Walls				
	2.1. 10		Reinforced concrete wall upto th=30 cm	1.957,666	0,000	1.339,845	m3
	2.1. 20		Reinforced concrete wall over th=30 cm	12,683	0,000	6,981	m3
	2.1. 30		Formwork wall upto th=30 cm	14.829,251	0,000	10.009,087	m2
	2.1. 40		Formwork wall upto th=50 cm	65,137	0,000	34,872	m2
	2.1. 50		Reinforcement walls	200,825	0,000	137,257	t
	2.2.		Columns				
	2.3.		Main beams				
	2.4.		Cross beams				
	2.5.		Slabs				
	2.6.		Filigran slabs				
	2.7.		Filigran Slabs 2				
	2.8.		Landings				
	2.9.		Staircases				
	6.		Steel works				
	GC BoQ: 2		Preliminaries				

**Object - Legend**

- Actual State for current RP (in current RP partly reported)
- Actual State for previous RP (already reported completely in previous RP)
- Actual State for previous RP (already partly reported in previous RB and remaining performance is overdue)
- Planned State for Current RP
- Planned State for next RP
- Planned State for later RP

## Construction Process Integration: Performance Measurement

The screenshot displays a software interface for 5D Project Management. The top toolbar includes options for 'Generate BQ Quantity', 'Generate IQ Quantity', and 'Quantity generation on the basis of AQ Quantity'. A date filter is set to 'February 2013'. The main window is divided into a 'Job Estimate' table and an 'Object - Visualisation' 3D model.

Structure	Ref.No.	Item	Outline Spec	AQ Quantity	IQ in RP	IQ per RP	UoM
<b>Job Estimate</b>							
+	BoQ: 0		Structural works-Material				
+	BoQ: 1		Structural works - Construction				
+	1.		Foundation and footings				
+	2.		Structure				
+	2.1.		Walls				
+	2.1. 10		Reinforced concrete wall upto th=30 cm	1,957,666	0,000	1,339,845	m3
+	2.1. 20		Reinforced concrete wall over th=30 cm	12,683	0,000	6,981	m3
+	2.1. 30		Formwork wall upto th=30 cm	14,829,251	0,000	10,009,087	m2
+	2.1. 40		Formwork wall upto th=50 cm	65,137	0,000	34,872	m2
+	2.1. 50		Reinforcement walls	200,825	0,000	137,257	t
+	2.2.		Columns				
+	2.3.		Main beams				
+	2.4.		Cross beams				
+	2.5.		Slabs				
+	2.6.		Filigran slabs				
+	2.7.		Filigran Slabs 2				
+	2.8.		Landings				
+	2.9.		Staircases				
+	6.		Steel works				
+	GC BoQ: 2		Preliminaries				

The 3D model shows a building under construction with a grid overlay. A legend in the bottom right corner defines the color coding for different states:

- Actual State for current RP (in current RP partly reported) - Green
- Actual State for previous RP (already reported completely in previous RP) - Light Green
- Actual State for previous RP (already partly reported in previous RP and remaining performance is overdue) - Orange
- Planned State for Current RP - Red
- Planned State for next RP - Blue
- Planned State for later RP - Light Blue

# 5D Project Management

## Construction Process Integration: Interactive Controlling View

Configure Table/Columns
Master Data Administration

Generate Costs to Complete
Import Actual Costs
Delete Data

Table Printing
Print

Activity Element
February 2013

KPI View extend
AK1

Structure	Description	Start Date	End Date	Contract Costs BCWS_Total	Budget	Revenue	Work Scheduled BCWS in RP	Work Performed BCWP in RP	Actual Costs ACWP in RP	Work Scheduled BCWS to RP	Work Performed BCWP to RP	Actual Costs ACWP to RP	Costs to Complete CTC	Costs at Completion ACWP + CTC	CPI BCWP / ACWP	SPI BCWP / BCWS
▶	Airport			8.669.874,49	8.620.905,94	10.141.089,92	653.902,19	187.155,27	284.680,00	6.785.160,95	6.306.026,03	6.523.390,00	2.363.848,46	8.887.238,46	0,97	0,93

**Cost Code Analysis**

Structure	Id	Name	Contract Costs BCWS_Total	Budget	Work Scheduled BCWS in RP	Work Performed BCWP in RP	Actual Costs ACWP in RP	Work Scheduled BCWS to RP	Work Performed BCWP to RP	Actual Costs ACWP to RP	Costs to Complete CTC
▶	1	Labour	4.127.171,84	4.105.372,30	495.704,50	35.907,66	35.940,00	3.205.690,92	2.761.728,79	2.766.140,00	1.365.443,05
▶	2	Material	3.575.482,09	3.503.874,36	130.737,80	130.682,53	227.400,00	3.122.716,19	3.103.514,79	3.314.500,00	471.967,30
▶	3	Formwork	61.993,14	61.993,14	6.337,35	1.230,08	2.000,00	47.322,01	42.214,75	42.960,00	19.778,39
▶	4	Plant	119.982,25	166.359,03	5.453,75	5.535,00	5.540,00	66.535,62	61.800,53	62.040,00	58.181,72
▶	6	General Costs	263.713,18	171.387,58	11.986,96	4.872,00	4.900,00	146.240,94	124.740,00	125.200,00	138.973,18
▶	7	Services	81.000,04	171.387,58	3.681,83	8.928,00	8.900,00	44.918,21	60.145,20	60.550,00	20.854,84
▶	8	Subcontractors	440.531,95	440.531,95	0,00	0,00	0,00	151.737,06	151.881,97	152.000,00	288.649,98
▶	Z	Revenue	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	n. def.

Cost Code Analysis
Cost To Complete
Bill of Quantities

# 5D Project Management

## Construction Process Integration: Interactive Controlling View

Configure Table/Columns
Master Data Administration

Generate Costs to Complete
Add
Delete

Import Actual Costs
Delete Data

Table Printing
Print

Activity Element
February 2013

KPI View extend
AK1

Structure	Description	Start Date	End Date	Contract Costs BCWS_Total	Budget	Revenue	Work Scheduled BCWS in RP	Work Performed BCWP in RP	Actual Costs ACWP in RP	Work Scheduled BCWS to RP	Work Performed BCWP to RP	Actual Costs ACWP to RP	Costs to Complete CTC	Costs at Completion ACWP + CTC	CPI BCWP / ACWP	SPI BCWP / BCWS
▲	Airport			8.669.874,49	8.620.905,94	10.141.089,92	653.902,19	187.155,27	284.680,00	6.785.160,95	6.306.026,03	6.523.390,00	2.363.848,46	8.887.238,46	0,97	0,93
▶	Site			856.938,97	807.970,42	0,00	38.951,77	38.970,48	38.990,00	475.211,61	475.242,81	477.190,00	381.696,16	858.886,16	1,00	1,00
▶	Building structure			7.812.935,52	7.812.935,52	10.141.089,92	614.950,42	148.184,79	245.690,00	6.309.949,34	5.830.783,22	6.046.200,00	1.982.152,30	8.028.352,30	0,96	0,92

**Cost Code Analysis**

Structure	Id	Name	Contract Costs BCWS_Total	Budget	Work Scheduled BCWS in RP	Work Performed BCWP in RP	Actual Costs ACWP in RP	Work Scheduled BCWS to RP	Work Performed BCWP to RP	Actual Costs ACWP to RP	Costs to Complete CTC
▶	1	Labour	3.901.183,46	3.901.183,46	485.432,32	23.654,71	23.690,00	3.080.370,10	2.606.237,22	2.610.040,00	1.294.946,24
▶	2	Material	3.409.226,97	3.409.226,97	123.180,75	123.300,00	220.000,00	3.030.520,17	3.030.449,28	3.241.200,00	378.777,69
▶	3	Formwork	61.993,14	61.993,14	6.337,35	1.230,08	2.000,00	47.322,01	42.214,75	42.960,00	19.778,39
▶	8	Subcontractors	440.531,95	440.531,95	0,00	0,00	0,00	151.737,06	151.881,97	152.000,00	288.649,98
▶	Z	Revenue	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	n. def.

Cost Code Analysis
Cost To Complete
Bill of Quantities

# 5D Project Management

## Construction Process Integration: Interactive Controlling View

Configure Table/Columns
Master Data Administration
Generate Costs to Complete
Add / Delete
Import Actual Costs
Delete Data
Table Printing
Print

Activity Element
February 2013

KPI View extend
AK1

Structure	Description	Start Date	End Date	Contract Costs BCWS_Total	Budget	Revenue	Work Scheduled BCWS in RP	Work Performed BCWP in RP	Actual Costs ACWP in RP	Work Scheduled BCWS to RP	Work Performed BCWP to RP	Actual Costs ACWP to RP	Costs to Complete CTC	Costs at Completion ACWP + CTC	CPI BCWP / ACWP	SPI BCWP / BCWS
▲	Airport			8.669.874,49	8.620.905,94	10.141.089,92	653.902,19	187.155,27	284.680,00	6.785.160,95	6.306.026,03	6.523.390,00	2.363.848,46	8.887.238,46	0,97	0,93
▶	Site			856.938,97	807.970,42	0,00	38.951,77	38.970,48	38.990,00	475.211,61	475.242,81	477.190,00	381.696,16	858.886,16	1,00	1,00
▶	Building structure			7.812.935,52	7.812.935,52	10.141.089,92	614.950,42	148.184,79	245.690,00	6.309.949,34	5.830.783,22	6.046.200,00	1.982.152,30	8.028.352,30	0,96	0,92
▶	Waterproofing layers			25.168,48	25.168,48	32.660,80	0,00	0,00	0,00	25.168,48	25.168,48	25.000,00	0,00	25.000,00	1,01	1,00
▶	Reinforcement works and materials			1.953.156,77	1.953.156,77	2.535.155,98	27.823,04	21.818,99	21.850,00	1.798.739,90	1.783.539,83	1.799.850,00	169.616,94	1.969.466,94	0,99	0,99
▶	Prefabricated steel elements			440.531,95	440.531,95	571.800,71	0,00	0,00	0,00	151.737,06	151.881,97	152.000,00	288.649,98	440.649,98	1,00	1,00
▶	Prefabricated concrete elements			1.252.255,60	1.252.255,60	1.625.415,59	123.180,75	123.300,00	220.000,00	1.113.758,63	1.112.222,13	1.307.250,00	140.033,47	1.447.283,47	0,85	1,00
▶	Formworks			3.014.529,01	3.014.529,01	3.912.794,47	456.661,25	3.065,80	3.840,00	2.497.407,13	2.046.019,44	2.049.600,00	968.509,57	3.018.109,57	1,00	0,82
▶	Concrete works and materials			1.127.293,71	1.127.293,71	1.463.262,37	7.285,38	0,00	0,00	723.138,14	711.951,37	712.500,00	415.342,34	1.127.842,34	1,00	0,98

Cost Code Analysis

Structure	Id	Name	Contract Costs BCWS_Total	Budget	Work Scheduled BCWS in RP	Work Performed BCWP in RP	Actual Costs ACWP in RP	Work Scheduled BCWS to RP	Work Performed BCWP to RP	Actual Costs ACWP to RP	Costs to Complete CTC
▶	1	Labour	153.412,54	153.412,54	7.285,38	0,00	0,00	127.963,77	116.847,80	117.300,00	36.564,74
▶	2	Material	973.788,88	973.788,88	0,00	0,00	0,00	595.082,08	595.011,28	595.200,00	378.777,60
▶	3	Formwork	92,29	92,29	0,00	0,00	0,00	92,29	92,29	0,00	0,00
▶	Z	Revenue	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	n. def.

Cost Code Analysis
Cost To Complete
Bill of Quantities



## Construction Process Integration: Interactive Controlling View

Configure Table/Columns  
Configuration

Master Data Administration  
Edit Data

Generate Costs to Complete  
Edit Data

Import Actual Costs  
Edit Data

Delete Data  
Edit Data

Table Printing  
Print

Print  
Print

Activity Element  
KPI View extend

February 2013  
AK1

Structure

Structure	Description	Start Date	End Date	Contract Costs BCWS_Total	Budget	Revenue	Work Scheduled BCWS in RP	Work Performed BCWP in RP	Actual Costs ACWP in RP	Work Scheduled BCWS to RP	Work Performed BCWP to RP	Actual Costs ACWP to RP	Costs to Complete CTC	Costs at Completion ACWP + CTC	CPI BCWP / ACWP	SPI BCWP / BCWS
▲	Airport			8.669.874,49	8.620.905,94	10.141.089,92	653.902,19	187.155,27	284.680,00	6.785.160,95	6.306.026,03	6.523.390,00	2.363.848,46	8.887.238,46	0,97	0,93
▶	Site			856.998,97	807.970,42	0,00	38.951,77	38.970,48	38.990,00	475.211,61	475.242,81	477.190,00	381.696,16	858.886,16	1,00	1,00
▶	Building structure			7.812.935,52	7.812.935,52	10.141.089,92	614.950,42	148.184,79	245.690,00	6.309.949,34	5.830.783,22	6.046.200,00	1.982.152,30	8.028.352,30	0,96	0,92
▶	Waterproofing layers			25.168,48	25.168,48	32.660,80	0,00	0,00	0,00	25.168,48	25.168,48	25.000,00	0,00	25.000,00	1,01	1,00
▶	Reinforcement works and materials			1.953.156,77	1.953.156,77	2.535.155,98	27.823,04	21.818,99	21.850,00	1.798.739,90	1.783.539,83	1.799.850,00	169.616,94	1.969.466,94	0,99	0,99
▶	Prefabricated steel elements			440.531,95	440.531,95	571.800,71	0,00	0,00	0,00	151.737,06	151.881,97	152.000,00	288.649,98	440.649,98	1,00	1,00
▶	Prefabricated concrete elements			1.252.255,60	1.252.255,60	1.625.415,59	123.180,75	123.300,00	220.000,00	1.113.758,63	1.112.222,13	1.307.250,00	140.033,47	1.447.283,47	0,85	1,00
▶	Formworks			3.014.529,01	3.014.529,01	3.912.794,47	456.661,25	3.065,80	3.840,00	2.497.407,13	2.046.019,44	2.049.600,00	968.509,57	3.018.109,57	1,00	0,82
▶	Concrete works and materials			1.127.293,71	1.127.293,71	1.463.262,37	7.285,38	0,00	0,00	723.138,14	711.951,37	712.500,00	415.342,34	1.127.842,34	1,00	0,98
▶	Walls			47.904,11	47.904,11	62.184,21	7.285,38	0,00	0,00	40.030,09	32.744,69	32.800,00	15.159,42	47.959,42	1,00	0,82
▶	Concrete works: walls	13.06.2012	14.05.2013	47.904,11	47.904,11	62.184,21	7.285,38	0,00	0,00	40.030,09	32.744,69	32.800,00	15.159,42	47.959,42	1,00	0,82
▶	Slabs			53.207,38	53.207,38	69.063,11	0,00	0,00	0,00	37.967,61	34.137,05	34.300,00	19.070,33	53.370,33	1,00	0,90
▶	Material procurement: concrete			973.881,17	973.881,17	1.264.119,07	0,00	0,00	0,00	595.174,37	595.103,57	595.200,00	378.777,60	973.977,60	1,00	1,00
▶	Foundations			43.549,32	43.549,32	56.535,77	0,00	0,00	0,00	43.549,32	43.549,33	43.700,00	-0,01	43.699,99	1,00	1,00
▶	Concrete binding			3.355,77	3.355,77	4.356,46	0,00	0,00	0,00	3.355,77	3.355,77	3.400,00	0,00	3.400,00	0,99	1,00
▶	Columns			5.395,96	5.395,96	7.003,75	0,00	0,00	0,00	3.060,98	3.060,96	3.100,00	2.335,00	5.435,00	0,99	1,00

**Cost Code Analysis**

Structure	Id	Name	Contract Costs BCWS_Total	Budget	Work Scheduled BCWS in RP	Work Performed BCWP in RP	Actual Costs ACWP in RP	Work Scheduled BCWS to RP	Work Performed BCWP to RP	Actual Costs ACWP to RP	Costs to Complete CTC
▶	1	Labour	47.904,11	47.904,11	7.285,38	0,00	0,00	40.030,09	32.744,69	32.800,00	15.159,42
▶	Z	Revenue	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	n. def.

Cost Code Analysis
Cost To Complete
Bill of Quantities

# 5D Project Management

## Construction Process Integration: Interactive Controlling View

Structure	Description	Start Date	End Date	Contract Costs BCWS_Total	Budget	Revenue	Work Scheduled BCWS in RP	Work Performed BCWP in RP	Actual Costs ACWP in RP	Work Scheduled BCWS to RP	Work Performed BCWP to RP	Actual Costs ACWP to RP	Costs to Complete CTC	Costs at Completion ACWP + CTC	CPI BCWP / ACWP	SPI BCWP / BCWS
▲	Airport			8.669.874,49	8.620.905,94	10.141.089,92	653.902,19	187.155,27	284.680,00	6.785.160,95	6.306.026,03	6.523.390,00	2.363.848,46	8.887.238,46	0,97	0,93
▶	Site			856.998,97	807.970,42	0,00	38.951,77	38.970,48	38.990,00	475.211,61	475.242,81	477.190,00	381.696,16	858.886,16	1,00	1,00
▶	Building structure			7.812.935,52	7.812.935,52	10.141.089,92	614.950,42	148.184,79	245.690,00	6.309.949,34	5.830.783,22	6.046.200,00	1.982.152,30	8.028.352,30	0,96	0,92
▶	Waterproofing layers			25.168,48	25.168,48	32.660,80	0,00	0,00	0,00	25.168,48	25.168,48	25.000,00	0,00	25.000,00	1,01	1,00
▶	Reinforcement works and materials			1.953.156,77	1.953.156,77	2.535.155,98	27.823,04	21.818,99	21.850,00	1.798.739,90	1.783.539,83	1.799.850,00	169.616,94	1.969.466,94	0,99	0,99
▶	Prefabricated steel elements			440.531,95	440.531,95	571.800,71	0,00	0,00	0,00	151.737,06	151.881,97	152.000,00	288.649,98	440.649,98	1,00	1,00
▶	Prefabricated concrete elements			1.252.255,60	1.252.255,60	1.625.415,59	123.180,75	123.300,00	220.000,00	1.113.758,63	1.112.222,13	1.307.250,00	140.033,47	1.447.283,47	0,85	1,00
▶	Formworks			3.014.529,01	3.014.529,01	3.912.794,47	456.661,25	3.065,80	3.840,00	2.497.407,13	2.046.019,44	2.049.600,00	968.509,57	3.018.109,57	1,00	0,82
▶	Concrete works and materials			1.127.293,71	1.127.293,71	1.463.262,37	7.285,38	0,00	0,00	723.138,14	711.951,37	712.500,00	415.342,34	1.127.842,34	1,00	0,98
▶	Walls			47.904,11	47.904,11	62.184,21	7.285,38	0,00	0,00	40.030,09	32.744,69	32.800,00	15.159,42	47.959,42	1,00	0,82
▶	Concrete works: walls	13.06.2012	14.05.2013	47.904,11	47.904,11	62.184,21	7.285,38	0,00	0,00	40.030,09	32.744,69	32.800,00	15.159,42	47.959,42	1,00	0,82
▶	RC walls next to H16	15.06.2012	19.06.2012	2.447,71	2.447,71	3.177,37	0,00	0,00	0,00	2.447,71	1.675,23	0,00	772,48	772,48	==	0,68
▶	RC walls H1/11-16	14.06.2012	15.06.2012	1.174,88	1.174,88	1.525,11	0,00	0,00	0,00	1.174,88	804,10	0,00	370,78	370,78	==	0,68
▶	RC walls F1-H1/12-16	21.06.2012	22.06.2012	1.332,98	1.332,98	1.730,34	0,00	0,00	0,00	1.332,98	912,31	0,00	420,67	420,67	==	0,68
▶	RC walls F1-H1/11-12	20.06.2012	20.06.2012	601,69	601,69	781,05	0,00	0,00	0,00	601,69	411,81	0,00	189,88	189,88	==	0,68
▶	RC walls E1-D1/11-16	19.06.2012	19.06.2012	327,03	327,03	424,51	0,00	0,00	0,00	327,03	223,83	0,00	103,20	103,20	==	0,68
▶	RC wall 8cm C25/30	22.10.2012	22.10.2012	2,24	2,24	2,90	0,00	0,00	0,00	2,24	1,53	0,00	0,71	0,71	==	0,68
▶	RC wall 46,5cm C25/30	14.05.2013	14.05.2013	20,23	20,23	26,26	0,00	0,00	0,00	0,00	11,14	0,00	9,09	9,09	==	==
▶	RC wall 46,5cm C25/30	10.12.2012	10.12.2012	22,51	22,51	29,22	0,00	0,00	0,00	22,51	12,39	0,00	10,12	10,12	==	0,55
▶	RC wall 46,5cm C25/30	22.10.2012	22.10.2012	51,30	51,30	66,59	0,00	0,00	0,00	51,30	28,23	0,00	23,07	23,07	==	0,55
▶	RC wall 36,5cm C25/30	13.05.2013	14.05.2013	41,31	41,31	53,62	0,00	0,00	0,00	0,00	0,00	0,00	18,57	18,57	==	==
▶	RC wall 36,5cm C25/30	15.02.2013	15.02.2013	77,09	77,09	100,08	77,09	0,00	0,00	77,09	42,44	0,00	34,65	34,65	==	0,55
▶	RC wall 36,5cm C25/30	10.12.2012	10.12.2012	47,12	47,12	61,16	0,00	0,00	0,00	47,12	25,93	0,00	21,19	21,19	==	0,55
▶	RC wall 36,5cm C25/30	22.10.2012	22.10.2012	48,80	48,80	63,34	0,00	0,00	0,00	48,80	26,86	0,00	21,94	21,94	==	0,55
▶	RC wall 30cm E1/16	13.06.2012	13.06.2012	896,01	896,01	1.163,11	0,00	0,00	0,00	896,01	613,24	0,00	282,77	282,77	==	0,68
▶	RC wall 30cm D1/12-13	13.06.2012	13.06.2012	196,03	196,03	254,47	0,00	0,00	0,00	196,03	134,17	0,00	61,86	61,86	==	0,68
▶	RC wall 30cm C25/30	10.05.2013	13.05.2013	1.453,60	1.453,60	1.886,91	0,00	0,00	0,00	0,00	994,86	0,00	458,74	458,74	==	==

# 5D Project Management

## Construction Process Integration: Interactive Controlling View

Configure Table/Columns
Master Data Administration
Generate Costs to Complete
Add / Delete
Import Actual Costs
Delete Data
Table Printing
Print

Activity Element
February 2013

KPI View extend
AK1

Structure	Description	Start Date	End Date	Contract Costs BCWS_Total	Budget	Revenue	Work Scheduled BCWS in RP	Work Performed BCWP in RP	Actual Costs ACWP in RP	Work Scheduled BCWS to RP	Work Performed BCWP to RP	Actual Costs ACWP to RP	Costs to Complete CTC	Costs at Completion ACWP + CTC	CPI BCWP / ACWP	SPI BCWP / BCWS
RC wall 36,5cm C25/30		10.12.2012	10.12.2012	47,12	47,12	61,16	0,00	0,00	0,00	47,12	25,93	0,00	21,19	21,19	∞	0,55
RC wall 36,5cm C25/30		22.10.2012	22.10.2012	48,80	48,80	63,34	0,00	0,00	0,00	48,80	26,86	0,00	21,94	21,94	∞	0,55
RC wall 30cm E1/16		13.06.2012	13.06.2012	896,01	896,01	1.163,11	0,00	0,00	0,00	896,01	613,24	0,00	282,77	282,77	∞	0,68
RC wall 30cm D1/12-13		13.06.2012	13.06.2012	196,03	196,03	254,47	0,00	0,00	0,00	196,03	134,17	0,00	61,86	61,86	∞	0,68
RC wall 30cm C25/30		10.05.2013	13.05.2013	1.453,60	1.453,60	1.886,91	0,00	0,00	0,00	0,00	994,86	0,00	458,74	458,74	∞	∞
RC wall 30cm C25/30		14.02.2013	15.02.2013	1.446,42	1.446,42	1.877,60	1.446,42	0,00	0,00	1.446,42	989,94	0,00	456,48	456,48	∞	0,68
RC wall 30cm C25/30		05.12.2012	06.12.2012	1.558,24	1.558,24	2.022,74	0,00	0,00	0,00	1.558,24	1.066,47	0,00	491,77	491,77	∞	0,68
RC wall 30cm C25/30		17.10.2012	17.10.2012	1.198,85	1.198,85	1.556,22	0,00	0,00	0,00	1.198,85	820,51	0,00	378,34	378,34	∞	0,68
RC wall 30cm C25/30		22.08.2012	27.08.2012	4.692,48	4.692,48	6.091,30	0,00	0,00	0,00	4.692,48	3.211,59	0,00	1.480,89	1.480,89	∞	0,68
RC wall 25cm C25/30		08.05.2013	09.05.2013	6.253,49	6.253,49	8.117,64	0,00	0,00	0,00	0,00	4.279,94	0,00	1.973,55	1.973,55	∞	∞
RC wall 25cm C25/30		12.02.2013	13.02.2013	5.760,48	5.760,48	7.477,67	5.760,48	0,00	0,00	5.760,48	3.942,52	0,00	1.817,96	1.817,96	∞	0,68
RC wall 25cm C25/30		07.12.2012	10.12.2012	6.023,96	6.023,96	7.819,68	0,00	0,00	0,00	6.023,96	4.122,84	0,00	1.901,12	1.901,12	∞	0,68
RC wall 25cm C25/30		18.10.2012	19.10.2012	7.087,34	7.087,34	9.200,06	0,00	0,00	0,00	7.087,34	4.850,64	0,00	2.236,70	2.236,70	∞	0,68
RC wall 25cm C25/30		22.08.2012	27.08.2012	3.913,36	3.913,36	5.079,93	0,00	0,00	0,00	3.913,36	2.678,34	0,00	1.235,02	1.235,02	∞	0,68
RC wall 20cm C25/30		08.05.2013	08.05.2013	105,39	105,39	136,81	0,00	0,00	0,00	0,00	72,13	0,00	33,26	33,26	∞	∞
RC wall 20cm C25/30		12.02.2013	12.02.2013	1,39	1,39	1,80	1,39	0,00	0,00	1,39	0,95	0,00	0,44	0,44	∞	0,68

**Cost Code Analysis**

Structure	Id	Name	Contract Costs BCWS_Total	Budget	Work Scheduled BCWS in RP	Work Performed BCWP in RP	Actual Costs ACWP in RP	Work Scheduled BCWS to RP	Work Performed BCWP to RP	Actual Costs ACWP to RP	Costs to Complete CTC
	1	Labour	5.760,48	5.760,48	5.760,48	0,00	0,00	5.760,48	3.942,52	0,00	1.817,96
	Z	Revenue	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	n. def.

Cost Code Analysis
Cost To Complete
Bill of Quantities

# 5D Project Management

## Construction Process Integration: Interactive Controlling View

Configure Table/Columns
Master Data Administration
Generate Costs to Complete
Import Actual Costs
Delete Data
Table Printing
Print

Activity Element
February 2013

KPI View extend
AK1

Structure	Description	Start Date	End Date	Contract Costs BCWS_Total	Budget	Revenue	Work Scheduled BCWS in RP	Work Performed BCWP in RP	Actual Costs ACWP in RP	Work Scheduled BCWS to RP	Work Performed BCWP to RP	Actual Costs ACWP to RP	Costs to Complete CTC	Costs at Completion ACWP + CTC	CPI BCWP / ACWP	SPI BCWP / BCWS
▲	Airport			8.669.874,49	8.620.905,94	10.141.089,92	653.902,19	187.155,27	284.680,00	6.785.160,95	6.306.026,03	6.523.390,00	2.363.848,46	8.887.238,46	0,97	0,93
▶	Site			856.938,97	807.970,42	0,00	38.951,77	38.970,48	38.990,00	475.211,61	475.242,81	477.190,00	381.696,16	858.886,16	1,00	1,00
▶	Building structure			7.812.935,52	7.812.935,52	10.141.089,92	614.950,42	148.184,79	245.690,00	6.309.949,34	5.830.783,22	6.046.200,00	1.982.152,30	8.028.352,30	0,96	0,92
▶	Waterproofing layers			25.168,48	25.168,48	32.660,80	0,00	0,00	0,00	25.168,48	25.168,48	25.000,00	0,00	25.000,00	1,01	1,00
▶	Reinforcement works and materials			1.953.156,77	1.953.156,77	2.535.155,98	27.823,04	21.818,99	21.850,00	1.798.739,90	1.783.539,83	1.799.850,00	169.616,94	1.969.466,94	0,99	0,99
▶	Prefabricated steel elements			440.531,95	440.531,95	571.800,71	0,00	0,00	0,00	151.737,06	151.881,97	152.000,00	288.649,98	440.649,98	1,00	1,00
▶	Prefabricated concrete elements			1.252.255,60	1.252.255,60	1.625.415,59	123.180,75	123.300,00	220.000,00	1.113.758,63	1.112.222,13	1.307.250,00	140.033,47	1.447.283,47	0,85	1,00
▶	Formworks			3.014.529,01	3.014.529,01	3.912.794,47	456.661,25	3.065,80	3.840,00	2.497.407,13	2.046.019,44	2.049.600,00	968.509,57	3.018.109,57	1,00	0,82
▶	Walls			2.918.323,89	2.918.323,89	3.787.917,46	453.595,45	0,00	0,00	2.423.137,85	1.969.542,41	1.972.100,00	948.781,48	2.920.881,48	1,00	0,81
▶	Slabs			62.631,36	62.631,36	81.301,69	0,00	0,00	0,00	48.167,31	50.375,01	50.560,00	12.256,35	62.816,35	1,00	1,05
▶	Foundations			10.318,06	10.318,06	13.390,12	0,00	0,00	0,00	10.318,06	10.318,06	10.400,00	0,00	10.400,00	0,99	1,00
▶	Columns			23.255,70	23.255,70	30.185,20	3.065,80	3.065,80	3.840,00	15.783,91	15.783,96	16.540,00	7.471,74	24.011,74	0,95	1,00
▶	Formwork: columns	22.06.2012	19.08.2013	23.255,70	23.255,70	30.185,20	3.065,80	3.065,80	3.840,00	15.783,91	15.783,96	16.540,00	7.471,74	24.011,74	0,95	1,00
▶	Concrete works and materials			1.127.293,71	1.127.293,71	1.463.262,37	7.285,38	0,00	0,00	723.138,14	711.951,37	712.500,00	415.342,34	1.127.842,34	1,00	0,98

**Cost Code Analysis**

Structure	Id	Name	Contract Costs BCWS_Total	Budget	Work Scheduled BCWS in RP	Work Performed BCWP in RP	Actual Costs ACWP in RP	Work Scheduled BCWS to RP	Work Performed BCWP to RP	Actual Costs ACWP to RP	Costs to Complete CTC
▶	1	Labour	14.389,09	14.389,09	1.835,73	1.835,72	1.840,00	9.998,23	9.998,25	10.040,00	4.390,84
▶	3	Formwork	8.866,61	8.866,61	1.230,07	1.230,08	2.000,00	5.785,68	5.785,71	6.500,00	3.080,90
▶	Z	Revenue	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	n. def.

Cost Code Analysis
Cost To Complete
Bill of Quantities

## Construction Process Integration: Graphical Reporting

ITWO Here you can enter your own Company Name

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View Project Forecast

Project: 5D\_01,Airport Current version: 1,AK1 Currency: Euro  
 Client: 999,Controlling Presentation Client

Key	Description	Contract	Current Report Period: 28.02.2013			Total				
			Work Scheduled in RP	Work Performed in RP	Actual Costs in RP	Work Scheduled to RP	Work Performed to RP	Actual Costs to RP	Costs to Complete	Cost at Completion
5D_01	Airport	8.669.874	653.902	187.155	284.680	6.785.161	6.306.026	6.523.390	2.363.848	8.887.238
10	Site	856.939	38.952	38.970	38.990	475.212	475.243	477.190	381.696	858.886
101	Site preparation & construction duration	856.939								
101A	Site preparation & construction duration	856.939								
20	Building structure	7.812								
201	Walls	25								
201A	Separating walls	25								
202	Prefabricated concrete elements	1.252								
202A	Slabs									
202A1	Placement works: prefabricated slabs	26								
202B	Beams	223								
202B1	Placement works: prefabricated beams	223								

Work Package: 101A Site preparation & construction duration

Project: 5D\_01,Airport Current version: 1,AK1 Currency: Euro  
 Client: 999,Controlling Presentation Client

Key	Description	Contract	Work Scheduled in RP	Work Performed in RP	Actual Costs in RP	Work Scheduled to RP
101A	Site preparation & construction duration	856.939	38.952	38.970	38.990	475.212
000.001	Site Preparation/Construction duration	856.939	38.952	38.970	0	475.212

Contract - Work Package: 101A Site preparation & construction duration

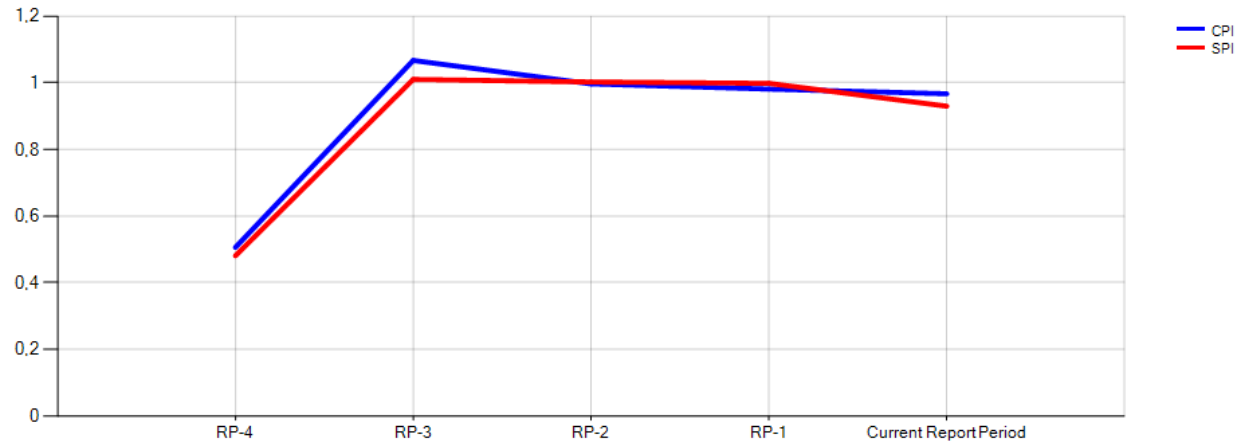
Project: 5D\_01,Airport Current version: 1,AK1 Currency: Euro  
 Client: 999,Controlling Presentation Client

Key	Description	Contract	Work Scheduled in RP	Work Performed in RP	Actual Costs in RP	Work Scheduled to RP	Work Performed to RP	Actual Costs to RP	Costs to Complete	Cost at Completion
101A	Site preparation & construction duration	856.939	38.952	38.970	38.990	475.212	475.243	477.190	381.696	858.886
1	Labour	225.988	10.272	12.253	12.250	126.321	156.492	166.100	0	0
2	Material	166.256	7.657	7.383	7.400	92.196	73.068	73.300	0	0
4	Plant	119.982	5.454	5.535	5.540	66.536	61.801	62.040	0	0
6	General Costs	263.713	11.987	4.872	4.900	146.241	124.740	125.200	0	0
7	Services	81.000	3.882	8.928	8.900	44.910	60.145	60.550	0	0

## Construction Process Integration: Graphical Reporting

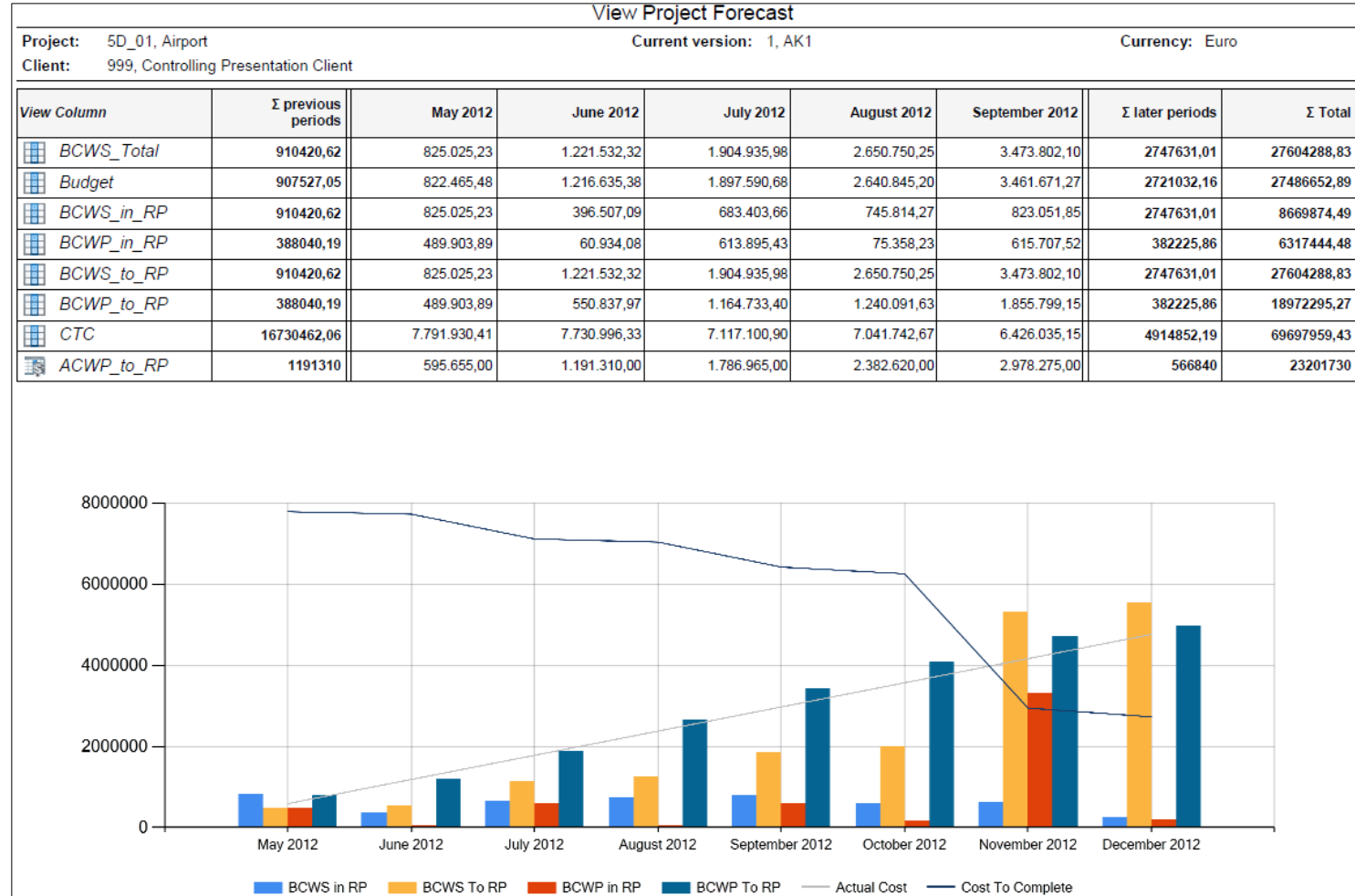
iTWO      Here you can enter your own  
Company Name

Project: 5D\_01 Airport  
Client: 555  
Control Unit 1346 Airport



	RP - 4	RP - 3	RP - 2	RP - 1	Current Report Period 28.02.2013
Work Scheduled	5.015.562,70	5.663.647,00	5.922.243,48	6.131.258,76	6.785.160,95
Work Performed	2.410.203,66	5.719.361,47	5.935.218,62	6.118.870,76	6.306.026,03
Actual Costs	4.765.240,00	5.360.895,00	5.956.550,00	6.238.710,00	6.523.390,00

## Construction Process Integration: Graphical Reporting



## Construction Process Integration: Cross-Project Controlling

Update  
 Docking Window  
 Fix

Status Bar  
 Docking Window  
 Save  
 Reset

Docking Window  
 Save  
 Reset

Drag a column header here to group by that column.

Structure	Description	Project Type Description
▶	Airport	Public Buildings
▶	Cruise Terminal	Public Buildings
▶	Elementary School	Public Buildings
▶	Concert Hall	Public Buildings
▶	Seaside Residence	Residential
▶	Loft Apartments	Residential
▶	High School	Public Buildings
▶	The Moon Residence	Residential

**Filter Criteria**

Please select the filter criteria for the cross-project controlling. The filter criteria are based on the selected client. If no element of a particular criterion is selected, then the filter is independent of this.

**Client** 999 Controlling Presentation Client

**Projects**

**Project Types**

**Project Categories**

**Project Status**

**Project Manager**

Structure	Id	Name
▶	<input checked="" type="checkbox"/> 1	Public Buildings
▶	<input type="checkbox"/> 7	Other Projects
▶	<input checked="" type="checkbox"/> 2	Residential
▶	<input checked="" type="checkbox"/> 3	Industrial Projects
▶	<input type="checkbox"/> 4	Highway
▶	<input type="checkbox"/> 5	Roads

Show this dialog always on startup?

Reset OK Cancel

	Costs at Completion	CPI - Cost Performance Index	SPI - Scheduled Performance Index
16	8.887.238,46	0,97	0,93
12	3.458.750,02	0,99	0,96
18	3.748.527,58	0,75	0,93
16	4.257.050,26	1,00	1,04
16	872.250,00	1,18	1,01
18	829.257,28	0,95	0,70
16	1.816.050,00	1,05	1,05
18	1.923.499,98	1,16	0,98

**Cost Code Analysis**

Structure	Id	Name	Cost
▶	1	Labour	4.1
▶	2	Material	3.5
▶	3	Formwork	
▶	4	Plant	119.982,25 166.359,03 66.535,62 61.800,53 62.040,00 58.181,72
▶	6	General Costs	263.713,18 171.387,58 146.240,94 124.740,00 125.200,00 138.973,18
▶	7	Services	81.000,04 171.387,58 44.918,21 60.145,20 60.550,00 20.854,84
▶	8	Subcontractors	440.531,95 440.531,95 151.737,06 151.881,97 152.000,00 288.649,98



# 5D Project Management

## Construction Process Integration: Cross-Project Controlling

Update
 Status Bar
  Docking Window
  Fix

View
 Docking Window
  Save
  Reset

Structure
 Docking Window
  Save
  Reset

Project Manager

Structure	Description	Project Type Description	Project Category	Project Status	Project Manager	Contract	Budget	Work Scheduled to RP	Work Performed to RP	Actual Costs to RP	Costs to Complete	Costs at Completion	CPI - Cost Performance Index	SPI - Scheduled Performance Index
Project Manager: Neil Armstrong (2 items)														
▶	Airport	Public Buildings	New Building	in Execution	Neil Armstrong	8.669.874,49	8.620.905,94	6.785.160,95	6.306.026,03	6.523.390,00	2.363.848,46	8.887.238,46	0,97	0,93
▶	The Moon Residence	Residential	New Building	in Execution	Neil Armstrong	2.172.317,13	2.299.999,98	1.826.817,13	1.792.817,15	1.544.000,00	379.499,98	1.923.499,98	1,16	0,98
Project Manager: David Beckham (2 items)														
▶	Cruise Terminal	Public Buildings	New Building	in Execution	David Beckham	3.428.292,90	3.085.463,64	3.349.026,10	3.208.292,88	3.238.750,00	220.000,02	3.458.750,02	0,99	0,96
▶	High School	Public Buildings	New Building	completed	David Beckham	1.820.975,73	2.500.000,00	1.820.975,73	1.913.635,63	1.816.050,00	n. def.	1.816.050,00	1,05	1,05
Project Manager: Paul Gascoigne (2 items)														
▶	Elementary School	Public Buildings	New Building	in Execution	Paul Gascoigne	2.933.827,01	2.999.999,96	2.518.827,01	2.353.507,84	3.151.400,00	597.127,58	3.748.527,58	0,75	0,93
▶	Loft Appartments	Residential	Renovation	in Execution	Paul Gascoigne	816.658,58	999.999,99	378.843,12	264.911,30	277.510,00	551.747,28	829.257,28	0,95	0,70
Project Manager: Tina Turner (1 item)														
▶	Concert Hall	Public Buildings	New Building	in Execution	Tina Turner	4.250.507,02	4.250.507,02	2.414.863,43	2.509.106,76	2.515.650,00	1.741.400,26	4.257.050,26	1,00	1,04
Project Manager: Michael Phelps (1 item)														
▶	Seaside Residence	Residential	New Building	completed	Michael Phelps	1.018.533,26	2.246.429,94	1.018.533,26	1.026.033,25	872.250,00	n. def.	872.250,00	1,18	1,01

Cost Code Analysis

Structure	Id	Name	Contract	Budget	Work Scheduled to RP	Work Performed to RP	Actual Costs to RP	Costs to Complete
▶	1	Labour	4.127.171,84	4.105.372,30	3.205.690,92	2.761.728,79	2.766.140,00	1.365.443,05
▶	2	Material	3.575.482,09	3.503.874,36	3.122.716,19	3.103.514,79	3.314.500,00	471.967,30
▶	3	Formwork	61.993,14	61.993,14	47.322,01	42.214,75	42.960,00	19.778,39
▶	4	Plant	119.982,25	166.359,03	66.535,62	61.800,53	62.040,00	58.181,72
▶	6	General Costs	263.713,18	171.387,58	146.240,94	124.740,00	125.200,00	138.973,18
▶	7	Services	81.000,04	171.387,58	44.918,21	60.145,20	60.550,00	20.854,84
▶	8	Subcontractors	440.531,95	440.531,95	151.737,06	151.881,97	152.000,00	288.649,98

Cost Code Analysis
Bill of Quantities

# 5D Project Management

## Construction Process Integration: Cross-Project Controlling

Update | Status Bar | Docking Window | View | Docking Window | Save | Structure | Fix | Reset

Project Manager | Project Type Description

Structure	Description	Project Type Description	Project Category	Project Status	Project Manager	Contract	Budget	Work Scheduled to RP	Work Performed to RP	Actual Costs to RP	Costs to Complete	Costs at Completion	CPI - Cost Performance Index	SPI - Scheduled Performance Index
Project Manager: Neil Armstrong (2 items)														
Project Type Description: Public Buildings (1 item)														
	Airport	Public Buildings	New Building	in Execution	Neil Armstrong	8.669.874,49	8.620.905,94	6.785.160,95	6.306.026,03	6.523.390,00	2.363.848,46	8.887.238,46	0,97	0,93
Project Type Description: Residential (1 item)														
	The Moon Residence	Residential	New Building	in Execution	Neil Armstrong	2.172.317,13	2.299.999,98	1.826.817,13	1.792.817,15	1.544.000,00	379.499,98	1.923.499,98	1,16	0,98
Project Manager: David Beckham (2 items)														
Project Type Description: Public Buildings (2 items)														
	Cruise Terminal	Public Buildings	New Building	in Execution	David Beckham	3.428.292,90	3.085.463,64	3.349.026,10	3.208.292,88	3.238.750,00	220.000,02	3.458.750,02	0,99	0,96
	High School	Public Buildings	New Building	completed	David Beckham	1.820.975,73	2.500.000,00	1.820.975,73	1.913.635,63	1.816.050,00	n. def.	1.816.050,00	1,05	1,05
Project Manager: Paul Gascoigne (2 items)														
Project Type Description: Public Buildings (1 item)														
	Elementary School	Public Buildings	New Building	in Execution	Paul Gascoigne	2.933.827,01	2.999.999,96	2.518.827,01	2.353.507,84	3.151.400,00	597.127,58	3.748.527,58	0,75	0,93
Project Type Description: Residential (1 item)														
	Loft Apartments	Residential	Renovation	in Execution	Paul Gascoigne	816.658,58	999.999,99	378.843,12	264.911,30	277.510,00	551.747,28	829.257,28	0,95	0,70
Project Manager: Tina Turner (1 item)														
Project Type Description: Public Buildings (1 item)														
	Concert Hall	Public Buildings	New Building	in Execution	Tina Turner	4.250.507,02	4.250.507,02	2.414.863,43	2.509.106,76	2.515.650,00	1.741.400,26	4.257.050,26	1,00	1,04
Project Manager: Michael Phelps (1 item)														
Project Type Description: Residential (1 item)														
	Seaside Residence	Residential	New Building	completed	Michael Phelps	1.018.533,26	2.246.429,94	1.018.533,26	1.026.033,25	872.250,00	n. def.	872.250,00	1,18	1,01

Properties | Column Properties

# 5D Project Management

## Construction Process Integration: Cross-Project Controlling

Update
 Status Bar
  Docking Window
  Fix
 View
 Docking Window
  Save
 Structure
 Screen Configuration
  Reset

Project Manager
Project Type Description

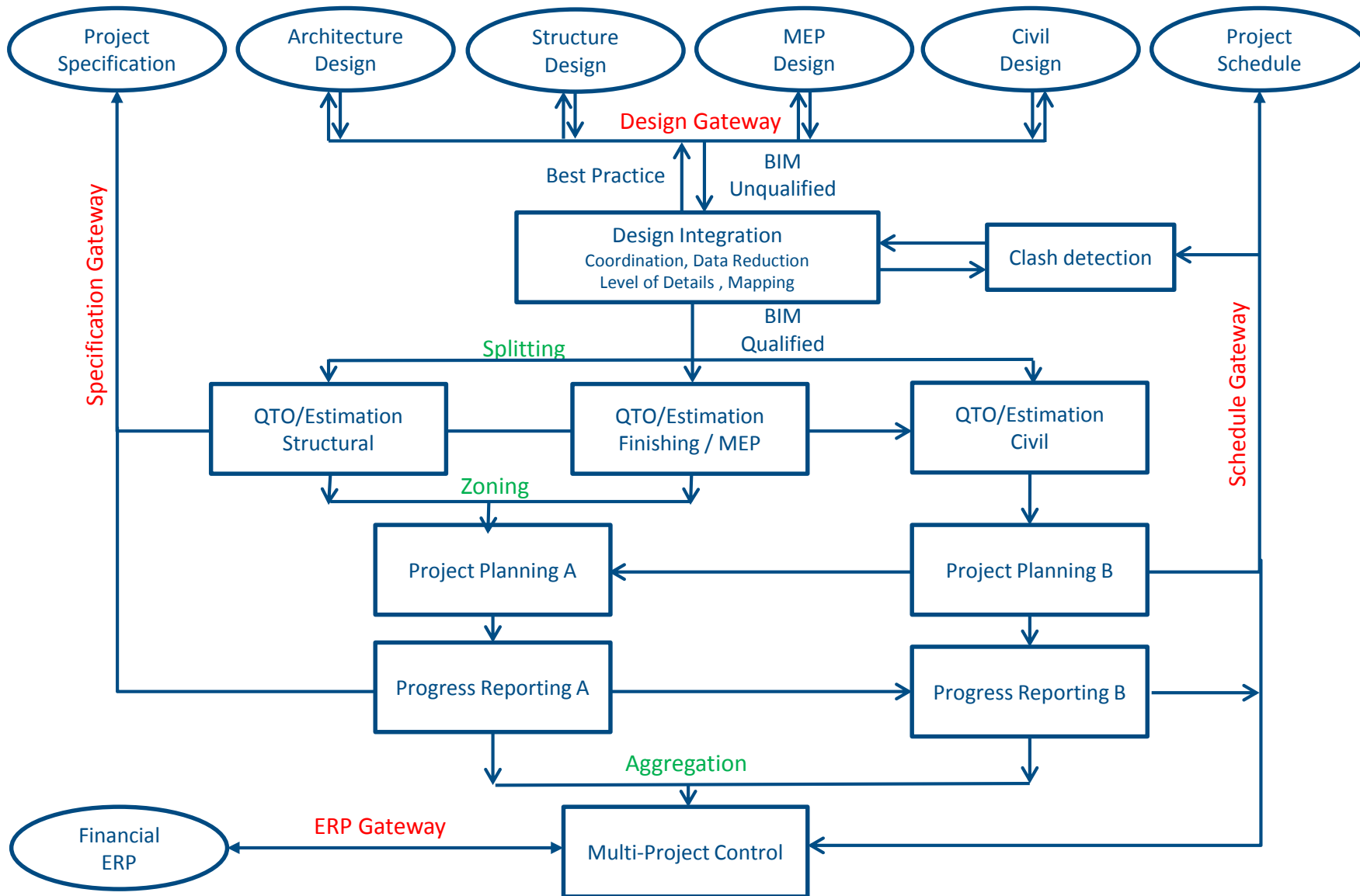
Structure	Description	Project Type Description	Project Category	Project Status	Project Manager	Contract	Budget	Work Scheduled to RP	Work Performed to RP	Actual Costs to RP	Costs to Complete	Costs at Completion	CPI - Cost Performance Index	SPI - Scheduled Performance Index
Project Manager: Neil Armstrong (15 items)														
Project Type Description: Public Buildings (14 items)														
▶	Airport	Public Buildings	New Building	in Execution	Neil Armstrong	8.669.874,49	8.620.905,94	6.785.160,95	6.306.026,03	6.523.390,00	2.363.848,46	8.887.238,46	0,97	0,93
▶	Site	Public Buildings	New Building	in Execution	Neil Armstrong	856.938,97	807.970,42	475.211,61	475.242,81	477.190,00	381.696,16	858.886,16	1,00	1,00
▶	Building structure	Public Buildings	New Building	in Execution	Neil Armstrong	7.812.935,52	7.812.935,52	6.309.949,34	5.830.783,22	6.046.200,00	1.982.152,30	8.028.352,30	0,96	0,92
▶	Waterproofing layers	Public Buildings	New Building	in Execution	Neil Armstrong	25.168,48	25.168,48	25.168,48	25.168,48	25.000,00	0,00	25.000,00	1,01	1,00
▶	Prefabricated concrete elements	Public Buildings	New Building	in Execution	Neil Armstrong	1.252.255,60	1.252.255,60	1.113.758,63	1.112.222,13	1.307.250,00	140.033,47	1.447.283,47	0,85	1,00
▶	Formworks	Public Buildings	New Building	in Execution	Neil Armstrong	3.014.529,01	3.014.529,01	2.497.407,13	2.046.019,44	2.049.600,00	968.509,57	3.018.109,57	1,00	0,82
▶	Foundations	Public Buildings	New Building	in Execution	Neil Armstrong	10.318,06	10.318,06	10.318,06	10.318,06	10.400,00	0,00	10.400,00	0,99	1,00
▶	Walls	Public Buildings	New Building	in Execution	Neil Armstrong	2.918.323,89	2.918.323,89	2.423.137,85	1.969.542,41	1.972.100,00	948.781,48	2.920.881,48	1,00	0,81
▶	Formwork: walls	Public Buildings	New Building	in Execution	Neil Armstrong	2.918.323,89	2.918.323,89	2.423.137,85	1.969.542,41	1.972.100,00	948.781,48	2.920.881,48	1,00	0,81
▶	Slabs	Public Buildings	New Building	in Execution	Neil Armstrong	62.631,36	62.631,36	48.167,31	50.375,01	50.560,00	12.256,35	62.816,35	1,00	1,05
▶	Columns	Public Buildings	New Building	in Execution	Neil Armstrong	23.255,70	23.255,70	15.783,91	15.783,96	16.540,00	7.471,74	24.011,74	0,95	1,00
▶	Concrete works and materials	Public Buildings	New Building	in Execution	Neil Armstrong	1.127.293,71	1.127.293,71	723.138,14	711.951,37	712.500,00	415.342,34	1.127.842,34	1,00	0,98
▶	Reinforcement works and materials	Public Buildings	New Building	in Execution	Neil Armstrong	1.953.156,77	1.953.156,77	1.798.739,90	1.783.539,83	1.799.850,00	169.616,94	1.969.466,94	0,99	0,99
▶	Prefabricated steel elements	Public Buildings	New Building	in Execution	Neil Armstrong	440.531,95	440.531,95	151.737,06	151.881,97	152.000,00	288.649,98	440.649,98	1,00	1,00

Cost Code Analysis

Structure	Id	Name	Contract	Budget	Work Scheduled to RP	Work Performed to RP	Actual Costs to RP	Costs to Complete
▶	1	Labour	2.885.556,25	2.885.556,25	2.395.933,87	1.947.445,69	1.950.000,00	938.110,56
▶	3	Formwork	32.767,64	32.767,64	27.203,98	22.096,72	22.100,00	10.670,92

Cost Code Analysis
Bill of Quantities

# 5D Workflow



**Thank You!**