

Estimate alternatives or variants

This document describes different ways to handle in Presto more than one option for an estimate, as variants or alternative proposals. The origin of the differences may be prices, work units, quantities or combinations.

The system for assigning different prices to work units in order to compare biddings or to manage prices composed in different currencies is covered in specific documents.

Different unit prices

Presto allows two unit prices for every concept, the contract price and the cost estimation -three if we take in account also the real cost-. But sometimes there are many more prices to compare.

This is the case when there is a set of different unit prices for the same structure of work units and WBS, like prices for different suppliers, zones, dates or conditions.

	Code	NatC	Description	Description2	Date	Currency	Est
1	Centro	CE	Madrid, Castilla-León, Castilla-La Mancha		04/01/2017	EUR	2.742.005,27
2	Este	CE	Valencia, Cataluña, Murcia, Aragón, Baleares		04/01/2017	EUR	2.870.570,80
3	Norte	CE	País Vasco, Cantabria, La Rioja, Asturias, Navarra		04/01/2017	EUR	3.031.138,38
4	Oeste	CE	Extremadura, Galicia		04/01/2017	EUR	2.810.919,51
5	Sur	CE	Andalucía, Canarias, Ceuta, Melilla		04/01/2017	EUR	2.997.487,63

Prices entities by zones

We can keep a collection of different values for every concept creating entities of the "Price" type. The different unit prices are entered in the "Comparison | PRICES" layout of the estimate and tree views.

	Code	NatC	Description	Est	SigmaPrice	AvgPrice	1: Est Centro	2: Est Este	3: Est Norte	4: Est Oeste	5: Est Sur
-	0		Edificación de 37 viviendas y garajes	3.004.527,09	0,04	2.890.424,32	2.742.005,27	2.870.570,80	3.031.138,38	2.810.919,51	2.997.487,63
+ 1	E01		ACTUACIONES PREVIAS	4.990,54	0,04	4.934,53	4.921,10	4.751,93	5.253,84	4.751,93	4.993,85
+ 2	E02		CONDICIONAMIENTO DEL TERRENO	60.064,46	0,03	57.930,62	56.501,34	57.435,78	60.311,78	55.854,42	59.549,78
+ 3	E03		RED DE SANEAMIENTO	3.591,23	0,10	5.278,35	4.455,84	5.652,29	5.463,58	4.897,49	5.922,57
- 4	E04		CIMENTACIONES	80.458,60	0,05	79.720,79	73.595,11	77.995,37	86.477,35	80.087,82	80.448,29
+ 4.1	E04CM040		Hormigón de limpieza	76,61	0,05	73,94	69,88	75,68	78,58	68,78	76,78
+ 4.2	E04CA060		Hormigón en zapatas y muros	151,44	0,07	151,00	134,95	146,60	167,30	154,90	151,25
+ 4.3	E04SE020		Encachado	8,42	0,02	8,18	7,98	8,08	8,28	8,08	8,48
+ 4.4	E04SA020		Solera	17,17	0,04	16,67	15,68	16,50	17,75	16,20	17,20
- 4.5	E04MA010		Hormigón armado	310,51	0,05	309,86	291,13	302,65	334,89	310,51	310,13
- 4.5.1	E04MEM010		Encofrado de muro con tableros de aglomerado	34,21	0,03	33,78	34,03	33,51	34,93	32,23	34,20
4.5.1.1	O01OB010		Oficial 1º encofrador	18,79	0,04	18,70	18,79	18,00	20,00	18,00	18,80
4.5.1.2	O01OB020		Ayudante encofrador	17,63	0,05	16,95	17,63	17,30	17,50	15,40	17,60
4.5.1.3	P01EM040		Tablero aglom. hidrofugo 3,66x1,83x22	16,96	0	0	16,96	16,96	16,96	16,96	16,96
4.5.1.4	P01EM290		Madera pino encofrar 26 mm.	260,29	0,05	252,86	234,00	258,20	267,00	244,80	260,30
4.5.1.5	P01DC050		Desencofrante p/encofrado madera	2,13	0	0	2,13	2,13	2,13	2,13	2,13
4.5.1.6	P01UC030		Puntas 20x100	7,72	0	0	7,72	7,72	7,72	7,72	7,72
+ 4.5.2	E04MM010		Hormigón HA-25/P/20/l, en muros, vertido r	92,83	0,05	90,31	85,34	89,15	96,73	87,23	93,08
+ 4.5.3	E04AB020		Acero corrugado B 500 S	1,27	0,13	1,33	1,09	1,25	1,56	1,50	1,26
+ 5	E05		ESTRUCTURAS	562.291,22	0,05	549.007,84	512.258,70	543.657,52	588.850,06	541.649,20	558.623,73
+ 6	E07		CERRAMIENTOS Y DIVISIONES	346.811,44	0,04	334.186,19	324.996,40	332.266,43	348.374,70	318.466,10	346.827,34

Alternative prices for geographical zones

Alternate prices have to be entered only for the entities providing a different price for a concept. When there is no alternate (blank or "NA") price, Presto will use the main price, marked in orange.

In this way there is always a global estimate amount to compare even if only some variation prices are in place.

If alternate price is 0 (zero), then 0 must be explicitly entered.

Presto will calculate the prices of higher-level concepts for every price entity using exactly the same procedure for the normal price calculation, like rounding, indirect costs and other factors, so prices can be fairly compared at any level.

Alternate prices may be used in its own column or may be swapped for the main price in order to apply any Presto operation or resource, print reports... Then they can be swapped again for any other price alternative.

Alternative prices for concepts are also shown in the "Prices" window, displaying the pairs of entities and concepts with associated value.

	Entity	ResumenEntidad	Code	NatC	Unit	Description	Est	AvgPrice	Est
11	Centro	Madrid, Castilla-León, Castilla-La Mancha	P20TV250		ud	Accesorios acero negro	20,02	19,00	18,00
12	Este	Valencia, Cataluña, Murcia, Aragón, Baleares	P20TV250		ud	Accesorios acero negro	20,02	19,00	20,00
13	Centro	Madrid, Castilla-León, Castilla-La Mancha	P03ACA010		kg	Acero corrugado B 400 S/SD 6 mm	0,69	0,80	0,60
14	Este	Valencia, Cataluña, Murcia, Aragón, Baleares	P03ACA010		kg	Acero corrugado B 400 S/SD 6 mm	0,69	0,80	1,00
15	Norte	País Vasco, Cantabria, La Rioja, Asturias, Navarra	P03ACA010		kg	Acero corrugado B 400 S/SD 6 mm	0,69	0,80	0,70
16	Oeste	Extremadura, Galicia	P03ACA010		kg	Acero corrugado B 400 S/SD 6 mm	0,69	0,80	1,00
17	Sur	Andalucía, Canarias, Ceuta, Melilla	P03ACA010		kg	Acero corrugado B 400 S/SD 6 mm	0,69	0,80	0,70
18	Centro	Madrid, Castilla-León, Castilla-La Mancha	E04AB020		kg	Acero corrugado B 500 S	1,27	1,33	1,09
19	Este	Valencia, Cataluña, Murcia, Aragón, Baleares	E04AB020		kg	Acero corrugado B 500 S	1,27	1,33	1,25

"Prices" window, ordered by concepts.

The "Concepts" window shows the defined alternate prices of concepts in the "Prices" secondary window, layout "In price assignment entities"

	Code	NatC	Info	Description	QtyTotEst	Unit	Est	TotEst
49	O01OA020			Capataz	0,04	h	18,84	0,72
50	O01OA030			Oficial primera ...	9.943,70	h	19,18	190.720,18
51	O01OA040			Oficial segunda	3,46	h	17,69	61,28
52	O01OA050			Ayudante	2.101,83	h	17,08	35.899,19
53	O01OA060			Peón especializado	794,46	h	16,43	13.052,95

Prices O01OA030 Oficial primera					
In price assignment entities					
	Entity	Nat	Date	Description	Est
1	Centro	Price	04/01/2017	Madrid, Castilla-León, Castilla-La Mancha	17,30
2	Este	Price	04/01/2017	Valencia, Cataluña, Murcia, Aragón, Baleares	17,90
3	Norte	Price	04/01/2017	País Vasco, Cantabria, La Rioja, Asturias, N...	20,00
4	Oeste	Price	04/01/2017	Extremadura, Galicia	17,00
5	Sur	Price	04/01/2017	Andalucía, Canarias, Ceuta, Melilla	19,00

Concepts with associated prices

To enter prices in this window, lines need to be created first. Set a temporary price for all concepts in the tree window and then modify the price here or suppress it as will.

Different items

When analysing projects sometimes there alternatives based on different sets of work units. If the number of differences is relatively small, work units can be temporarily added or removed to the estimate calculation without being deleted.

	Code	NatC	le	Description	QtyEst	Unit	Est	AmntEst
	E03		eE	RED DE SANEAMIENTO	1		3.591,23	3.591,23
1	E03ALA010	▣	☒	Arqueta a pie de bajante	15,00	ud	111,94	1.679,10
2	E03OEP130	▣	☒	Colector PVC	81,16	m	23,56	1.912,13
3	E03OEP140	▣	☒	Colector PVC opción B	32,46	m	31,50	0
4	E03DMP020	▣	☒	Membrana drenante	322,06	m2	5,85	0

Quantity and price marked as null

Work units are cancelled with the context menu "Set field as null" on the quantity or the unit price, marked in grey background.

- Cancelling a quantity acts only in the work unit actual position
- Cancelling the unit price acts in any use of the work item in the estimate

The user has to manually add or remove the work units to get the desired results. If there are many combinations, or different quantities in the same work units, the following system may be more convenient.

Different quantities

As in the case of unit prices, Presto keeps two main quantities for every concept:

- The estimated quantity in the project, from the design team
- The new or revised measurement made by the construction company

This quantities are normally used together with the contract price and the unit cost to calculate the total contract value and the cost estimation.

To manage estimates with different quantities for one or more work units, quantities have to be entered using take-off lines. These quantities, as detailed as needed, can be then filtered in different ways to calculate the result of the alternatives.

Using spaces

Assigning lines to spaces is the best way to get automatic calculations of alternatives based in take-off lines. Lines can belong to the base estimate or to any variation.

Code	NatC	Description	Est [3.004.527,10]
SPC0000	▣	Terreno	9.841,70
SPC0030	▣	Saneamiento	10.256,26
SPC0030B	▣	Saneamiento opción B	8.132,51
SPC0045	▣	Garaje	88.216,51
SPC0051	▣	Planta-1	163.113,73
SPC0052	▣	Planta 0	87.175,40
SPC0053	▣	Planta 1	116.600,10

Drainage options

Tag	Space	Comment	N	Length	Width	Height	Formula	Quantity	QtyEst	Est
	Saneamiento								127,04	
<input type="checkbox"/>	Terreno	Muro nº 1	1	1,70		0,40		0,68		<input checked="" type="checkbox"/>
<input type="checkbox"/>	Terreno	Muro nº 2	1	6,60		0,40		2,64		<input checked="" type="checkbox"/>
<input type="checkbox"/>	Terreno	Muro nº 3	1	6,40		0,60		3,84	7,16	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Saneamiento	Muro nº 4	1	5,50		0,40		2,20		<input checked="" type="checkbox"/>
<input type="checkbox"/>	Saneamiento	Muro nº 5	1	9,20		0,40		3,68		<input checked="" type="checkbox"/>
<input type="checkbox"/>	Saneamiento	Muro nº 6	1	4,50		0,40		1,80	7,68	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Saneamiento opción B	Muro nº 7	1	16,00		0,60		9,60		<input checked="" type="checkbox"/>
<input type="checkbox"/>	Saneamiento opción B	Muro nº 8	1	13,20		0,40		5,28		<input checked="" type="checkbox"/>
<input type="checkbox"/>	Saneamiento opción B	Muro nº 9	1	4,60		0,50		2,30		<input checked="" type="checkbox"/>
<input type="checkbox"/>	Saneamiento opción B	Muro nº 10	1	7,30		0,40		2,92	20,10	<input checked="" type="checkbox"/>

Spaces of a work units assigned to base project and alternatives

Spaces in black or green state are included in the estimate, red and grey states are not. Space can be assigned manually or created based in any field or field's combination.

Example with Revit design options

Revit uses "design options" to account for alternatives, like different roof solutions.

Revit name	Presto variable	Example
Option set	Option	Roof
Option	Variation	Tiles Slate

Cost-It exports to Presto take-off lines for all the option sets and options.

CodSup	CodInf	Space	Option	Variation	Comment	RelType	N	Length	Width	Height	Formula	Quantity	Est
2000038	16255	Nivel 01			Nivel 01 Techo de PVL	Principal	1	23,53	8,58	0,02		201,89	<input checked="" type="checkbox"/>
2000126	EADW.1a01	Nivel 00			Nivel 00 Fencing - Post and Wire	Principal	1	116,600	35,950	1,200		116,600	<input checked="" type="checkbox"/>
2000170	11849	Nivel 01	Muro Norte	Original Mies <principal>	Nivel 01 Cocina 4 Acristalado	Principal	1	0,02	3,23	2,82		9,11	<input checked="" type="checkbox"/>
2000170	11849	Nivel 01			Nivel 01 Acristalado	Principal	1	0,02	1,53	2,82		4,31	<input checked="" type="checkbox"/>
2000170	11849	Nivel 01	Muro Norte	Original Mies <principal>	Nivel 01 Cocina 4 Acristalado	Principal	1	0,02	3,23	2,82		9,11	<input checked="" type="checkbox"/>
2000170	11849	Nivel 01	Muro Norte	Original Mies <principal>	Nivel 01 Acristalado	Principal	1	0,02	3,23	2,82		9,11	<input checked="" type="checkbox"/>
2000170	11849	Nivel 01			Nivel 01 Acristalado	Principal	1	0,02	3,23	2,82		9,11	<input checked="" type="checkbox"/>
2000170	11849	Nivel 01	Muro Norte	Propuesta EUBIM	Nivel 01 Acristalado	Principal	1	0,02	1,30	2,82		3,67	<input type="checkbox"/>
2000170	11849	Nivel 01	Muro Norte	Propuesta EUBIM	Nivel 01 Acristalado	Principal	1	0,02	0,01	2,82		0,03	<input type="checkbox"/>
2000170	11849	Nivel 01	Muro Norte	Original Mies <principal>	Nivel 01 Acristalado	Principal	1	0,02	0,01	2,82		0,03	<input checked="" type="checkbox"/>
2000170	11849	Nivel 01	Muro Norte	Propuesta EUBIM	Nivel 01 Acristalado	Principal	1	0,02	1,30	2,82		3,67	<input type="checkbox"/>
2000170	11849	Nivel 01	Muro Norte	Propuesta EUBIM	Nivel 01 Acristalado	Principal	1	0,02	2,55	2,82		7,19	<input type="checkbox"/>

Take-off lines as exported with cost-it to Presto

Only lines belonging to the primary option have the "Est" field check, so the rest are excluded from the estimate.

Variations can be assigned to spaces to calculate the amount of the secondary options. Go to the "Take-off lines" window.

1. Add the "Option", "Variation" and "RelType" column to the "[*] Summary" layout or any other with the "[*]" filter, to include all the lines.

- Filter by differences on the "Variation" column to identify and review the alternatives.
- Copy the name cells.
- Paste the names into the "Code" columns in the "Spaces" window, beginning in a new line. This will create the needed spaces.
- In the "Take-off lines" window, remove the filter by differences and copy and paste the whole "Variation" column into the space column. Blank lines or values not belonging to spaces will not affect the existing space value.
- Check the "Est" field in the secondary variation lines. Ordering in descending values and reviewing the "RelType" column will help to understand the result.

[*]	Code	NatC	Description	Est [163.265,69]
5	00136		ST 01	15.231,84
6	00143		Nivel 01	54.013,29
7	00458		Nivel 02	
8	99999		Spc0010	5.008,55
9	Mles		Original Mies	14.750,28
10	Propu		Propuesta EUBIM	22.293,73

Spaces of variations

Now, change the colour of the space as needed to add or remove variations to the estimate.

Using take-off lines with a filter

Any take-off line can be added or removed temporarily from the estimate without deleting the line, checking or un-checking the "Est" field. This allows using any field to define alternatives, and then apply filters to recalculate the desired one.

Using the estimate approval state

Variation estimates can also be handled using states.

Tag	Space	Comment	N	Length	Width	Height	Formula	Quantity	QtyEst	StateEst	Est
	Saneamiento								1.901,80	Initial estimate	
<input type="checkbox"/>	Saneamiento opción B	Encuentro con parcela 44-PRT	1	11,00	12,50	0,55		75,63		Approved change	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Saneamiento opción B	Encuentro con parcela 46-PRT	1	14,00	1,50	0,55		11,55		Approved change	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Terreno	Vaciado después de limpieza	1	12,00	12,60	0,55		83,16		Initial estimate	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Terreno	Zona de instalaciones	1	11,60	3,00	0,55		19,14		Initial estimate	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Terreno	Zona de servicios	1	4,00	9,40	0,70		26,32		Initial estimate	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Terreno	Ampliación por presencia de acuífero	1	9,00	10,10	3,90		354,51		Pending change	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Terreno	Ampliación por presencia de acuífero	1	12,00	5,00	2,00		120,00	1.901,80	Pending change	<input checked="" type="checkbox"/>

Approval states

Take-off lines can be assigned to three states:

- Black lines represents the initial estimate
- Green lines are change orders, quantities added later, but approved by the owner
- Red lines are quantities in pending of approval change orders.

Presto calculates the separate amount of these three states as well as the normal estimate, including black and green states, and the total possible estimate, including red state.

Using stages

Assigning take-off lines to stages or financial periods can also be used to keep alternatives, as the amounts belonging to every stage are calculated and displayed by Presto in any window with stages information.

Different structures

If differences affect not only prices and quantities by also the complete estimate structure, variants have to be defined in independent projects.

In this case the information can be easily compared using the system for integration of projects:

1. Create a new estimate, that will act as the master for integrating the whole set of variations
2. Add the estimates as linked projects with "Processes: Multi-project: Link"
3. Compare the results, using the same window for data as in single projects.
4. Update if needed

The structure of the master file can be personalised, creating an EDT with nodes for different customers, building types or other properties.

	Code	NatC	Description	Cert	AmntEst	AmntCertCurr	AmntCert	PerCertEst
1/0	- 0		Integración de todos los ejemplos	5.848.314,75	23.717.295,01	834.920,79	5.849.314,75	24,68
2/1	- 1 Z1		PRESUPUESTOS Y MEDICIONES. QMASS	0	3.557.322,84	0	0	0
3/2	+ 1.1 ZPR-001		Presupuesto de vivienda unifamiliar obtenido de Revit	0	419.251,99	0	0	0
4/2	+ 1.2 ZPR-002		Seguridad, Calidad y Gestión ambiental	0	3.138.070,85	0	0	0
5/1	- 2 Z2		PLANIFICACIÓN ECONÓMICA Y TEMPORAL	545.019,63	8.130.760,75	23.644,13	545.019,63	6,70
6/2	+ 2.1 ZPL-001		Objetivo de coste y planificación	0	3.006.529,96	0	0	0
7/2	+ 2.2 ZPL-002		Obra en fase de contratación	0	3.007.433,60	0	0	0
8/2	+ 2.3 ZPL-003		Edificio educativo RIB Spain	545.019,63	2.116.797,19	23.644,13	545.019,63	25,75
9/1	- 3 Z3		GESTIÓN DEL PROYECTO	1.619.849,61	3.007.172,11	206.431,16	1.619.849,61	53,87
10/2	+ 3.1 ZPM-001		Comparativo de ofertas y EVM para el director de obra	1.619.849,61	3.007.172,11	206.431,16	1.619.849,61	53,87
11/1	- 4 Z4		EJECUCIÓN: PRODUCCIÓN Y FACTURACIÓN	3.684.445,51	9.022.039,31	604.845,50	3.684.445,51	40,84
12/2	+ 4.1 ZPF-001		Producción y control de costes a partir de partidas	992.901,83	3.007.433,60	155.296,13	992.901,83	33,01
13/2	+ 4.2 ZPF-002		Producción y control de costes a partir de conceptos básicos	992.901,83	3.007.433,60	155.296,13	992.901,83	33,01
14/2	+ 4.3 ZPF-003		Obra en ejecución con el Método del Valor Ganado	1.698.641,85	3.007.172,11	294.253,24	1.698.641,85	56,49

Prices of a work ZPF-001 Producción y control de costes a partir de partidas

	Code	Nat	Unit	Description	Date	Country	Currency	Est	Code2
1	4001001	Supplier		Servicios varios	22/03/2012	ESPAÑA	EUR		
2	4001200	Supplier		Mano de obra de la empresa	22/03/2012	ESPAÑA	EUR		
3	4001300	Supplier		Maquinaria de la empresa	22/03/2012	ESPAÑA	EUR		
4	4001500	Supplier		ALQUIRENT S.L.	22/03/2012	ESPAÑA	EUR		
5	A01A010	Material	m3	PASTA DE CAL APAGADA AMASADA	01/01/2011	ESPAÑA	EUR	79,40	
6	A01A020	Material	m3	PASTA DE ESCAYOLA	01/01/2011	ESPAÑA	EUR	107,04	
7	A01A030	Material	m3	PASTA DE YESO NEGRO	01/01/2011	ESPAÑA	EUR	90,81	

Integrated information of projects