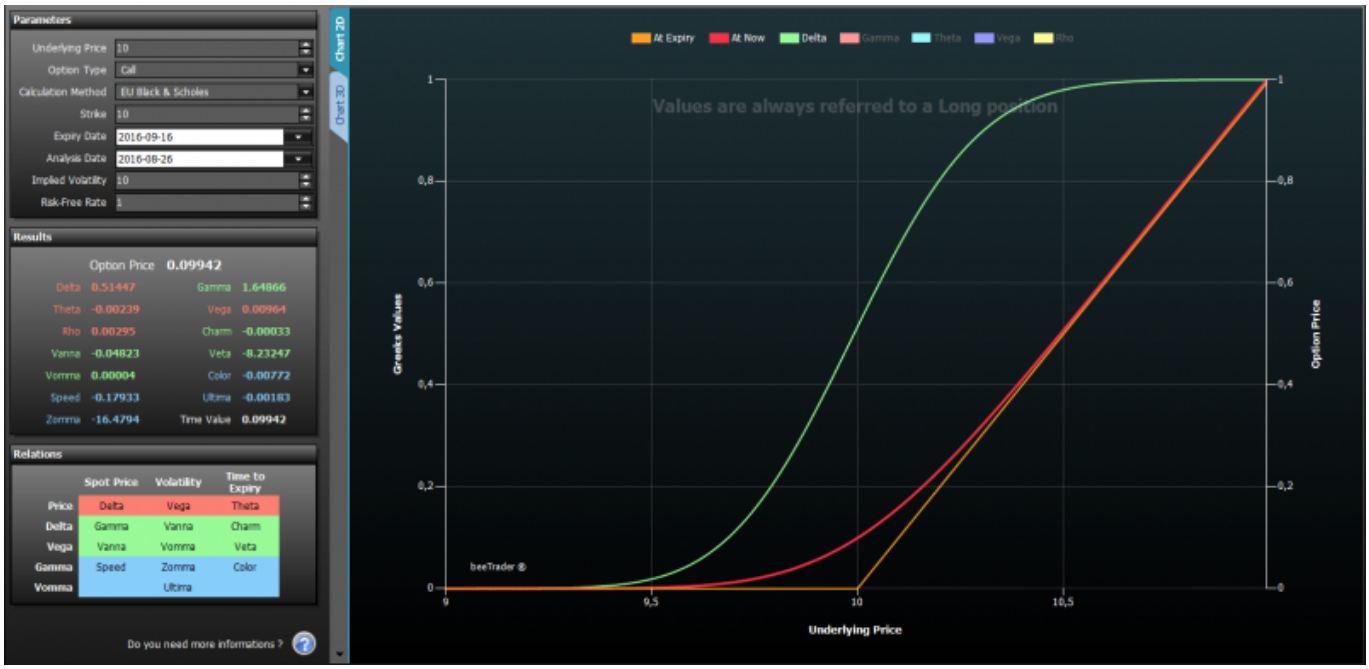
Options Evaluator

Options Evaluator is a tool that allows to plot the Greek of an option based on user-set parameters. The graphical representation can be in 2D or 3D.

Options Evaluator allows to analyze every single option at a time. In Iceberg there is a more sophisticated function: The Analysis which show the strategy with all its legs.

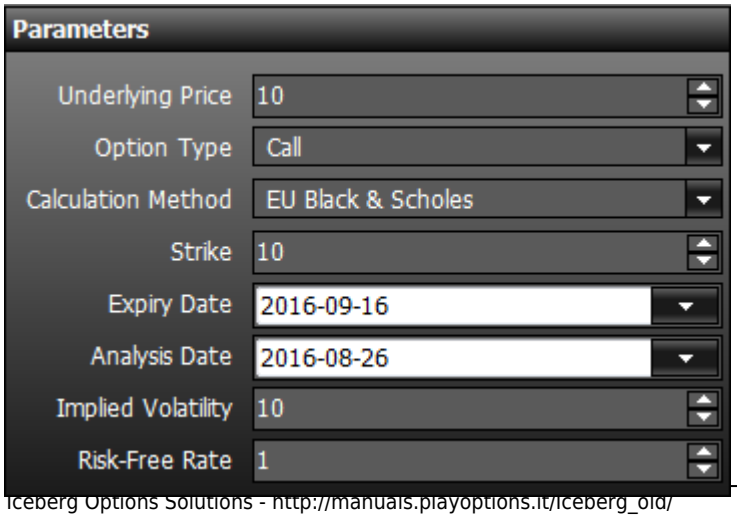


Video Tutorial

	15/09/2016	Options Evaluator - Valutatore di Opzioni	16:01	

Click here to watch others Video di Iceberg

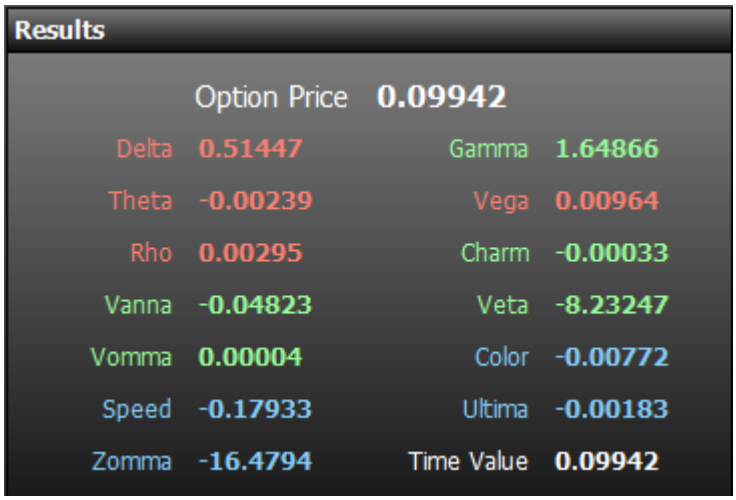
Parameters



Here the parameters to insert:

- Underlying Price;
- Options Type: Call or Put;
- Calculation Method: method used for the calculation of the Greek
- Strike;
- Expiry Date;
- Analysis Date;
- Implied Volatility;
- Risk-Free Rate: usually euribor 6 months.

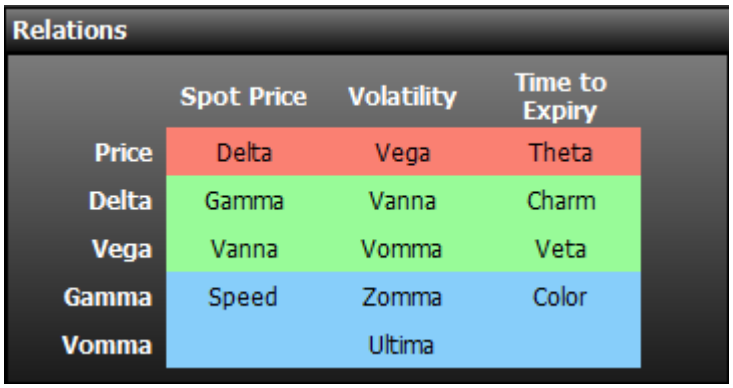
Results



Results			
	Option Price	0.09942	
Delta	0.51447	Gamma	1.64866
Theta	-0.00239	Vega	0.00964
Rho	0.00295	Charm	-0.00033
Vanna	-0.04823	Veta	-8.23247
Vomma	0.00004	Color	-0.00772
Speed	-0.17933	Ultima	-0.00183
Zomma	-16.4794	Time Value	0.09942

The section “Results” shows the value of each greek. The greeks are divided by color according to their order of derivation. first derivative (yellow), second derivate (green) and third (light blue).

Relations

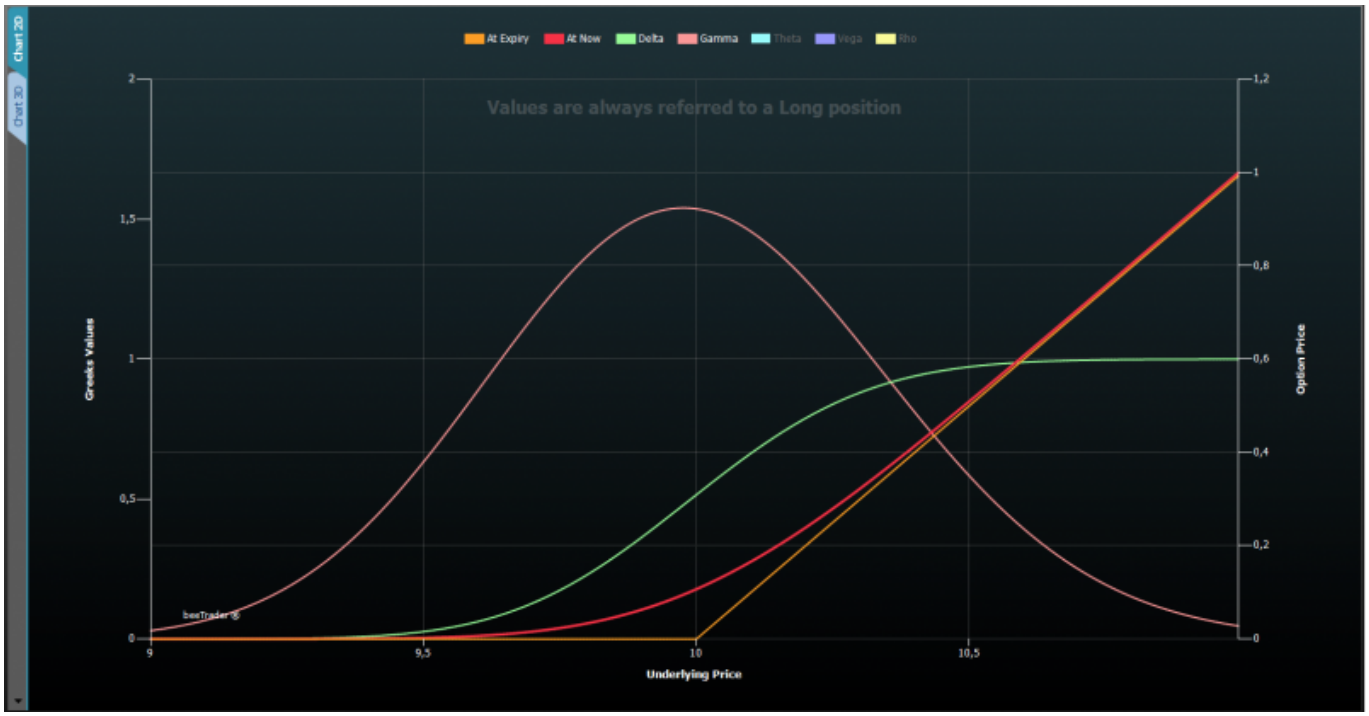


Relations	Spot Price	Volatility	Time to Expiry
Price	Delta	Vega	Theta
Delta	Gamma	Vanna	Charm
Vega	Vanna	Vomma	Veta
Gamma	Speed	Zomma	Color
Vomma		Ultima	

The Greek are linked together according to the relationships expressed in the table Relations. Example: the Speed measures the rate of change in Gamma with respect to changes in the underlying price.

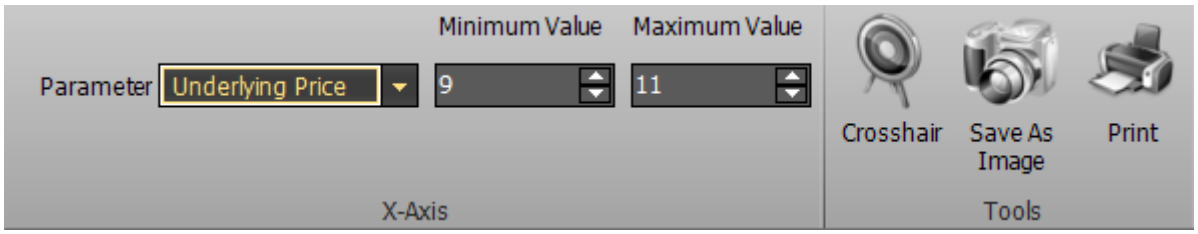
The greeks are divided by color according to their order of derivation. first derivative (yellow), second derivate (green) e terza (light blue).

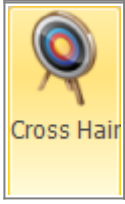
Chard 2D



On the left of Y-Axis we have the value of the greeks while on the right one we have the price of the option. For the X-Axis the user can choose the property to display by using the menù.

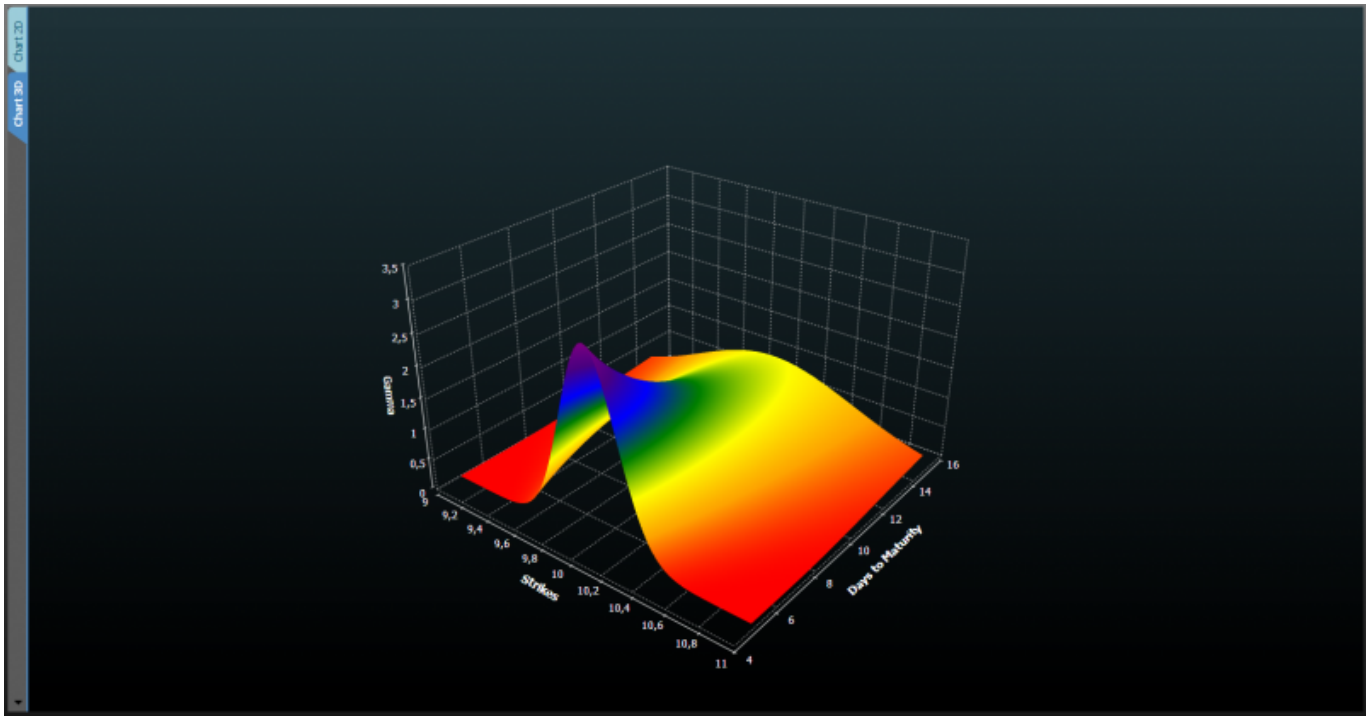
The menù



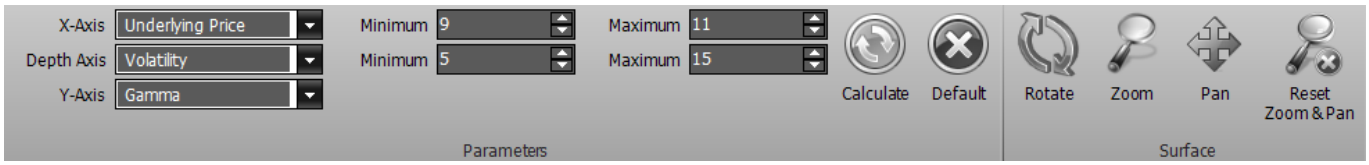
Parameter	it allows to select the properties to display on the X axis, between Underlying Price, Time to Expiry, Volatility, Risk-Free Rate
Minimum Value	It allows to choose the minimum value of the X axis, depending on the chosen property
Maximum Value	It allows to choose the maximum value of the X axis, depending on the chosen property
 Cross Hair	It enable or disable the Crosshair for 2D graphics

	It allows to save the current 2D graph in image format (*.png). The image will be saved in the Pictures folder of beeTrader, in the user's Documents
	It allows to print the 2D graph currently in use. Feature available on the PC in use if there is a printer

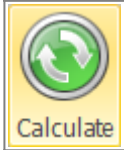
Chart 3D



Il menù



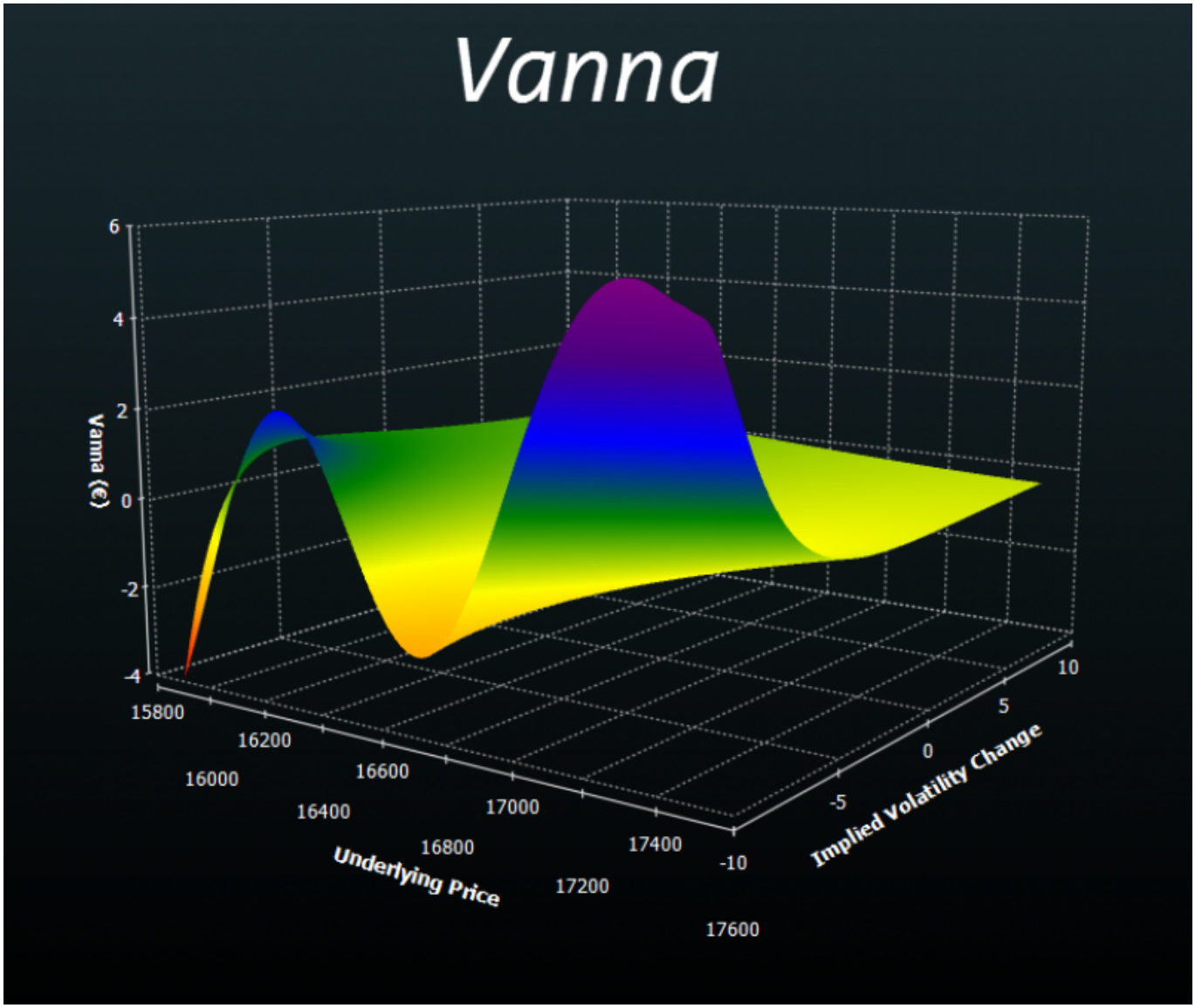
X-Axis	it allows to select the properties to display on the X axis, between Underlying Price, Time to Expiry, Volatility, Risk-Free Rate
Depth Axis	it allows to choose the properties to display on the Depth axis, between Underlying Price, Time to Expiry, Volatility, Risk-Free Rate
Y-Axis	it allows to choose the Greeks or the Options price to display on the Y axis. Greeks: Delta, Gamma, Theta, Vega, Rho, Vanna, Charm, Speed, Zomma, Color, Veta, Vomma, Ultima, Time Value

Minimum	It allows to choose the minimum value of the X axis or depth, depending on the chosen property
Maximum	It allows to choose the maximum value of the X axis or depth, depending on the chosen property
	It allows to make a new calculation and then a new drawing if the parameters have been changed
	It allows to load the configuration of the default parameters
	once activated by pressing and holding the left mouse button you can rotate the surface by moving the mouse
	once activated by pressing and holding the left mouse button you can zoom into the surface by moving the mouse
	once activated by pressing and holding the left mouse button you can move the surface by moving the mouse
	It reset all the graphical changes and return to the initial view

Example

Here the user can read a little extract from a thread of Playoptions forum in order to have an idea of the utility of higher order greeks.

Vanna - the power of the higher order greek



Vanna is the sensitivity of the option delta with respect to change in volatility; or alternatively, the partial of vega with respect to the underlying instrument's price.

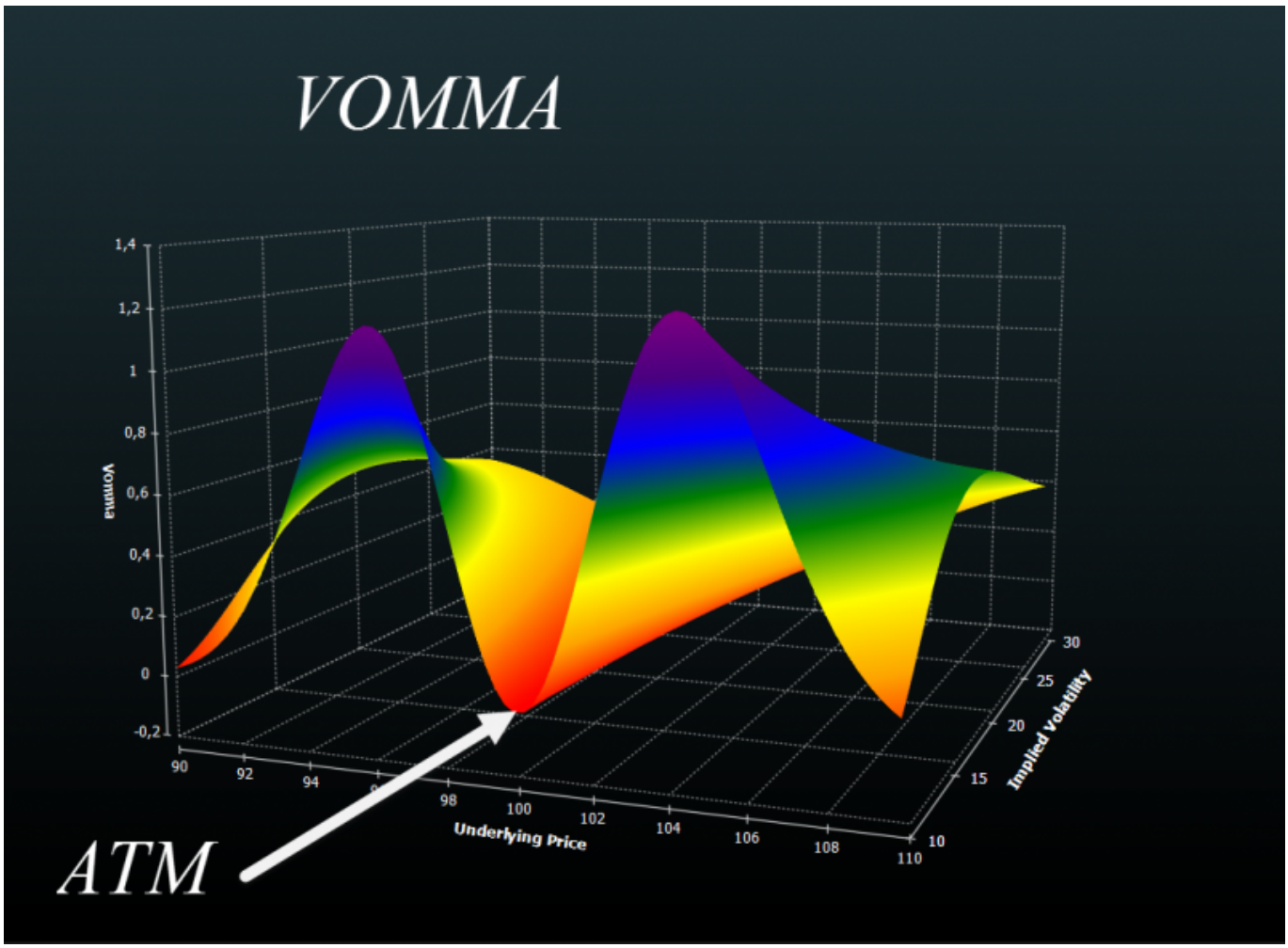
It has a positive value for Call options and a negative one for the Put. By increasing the implied volatility, the chance for the options to go ITM increase. This is like to have an higher Delta (in absolute value).
A Trader would think to hedge a strategy just looking at the delta: if the volatility increases, the delta increases and thus increases the amount of the underlying to use to neutralize the event.

But if he watch the Vanna what would change?

Suppose you have a type Reversal Strategy, long Call e Short Put and suppose that happen two simultaneous events: the price falls and the volatility increases.
This case would cause more damage on Put side beacause you will have an increase of the implied volatility and thus the delta.
In practice the position Vanna positive is becoming more exposed in a market which is falling.
So the bearish risk grow due to the implied volatility and spot price.

This shows that in cases of multiple events the greater the risk is measured by the greek Vanna.

The importance of Vomma

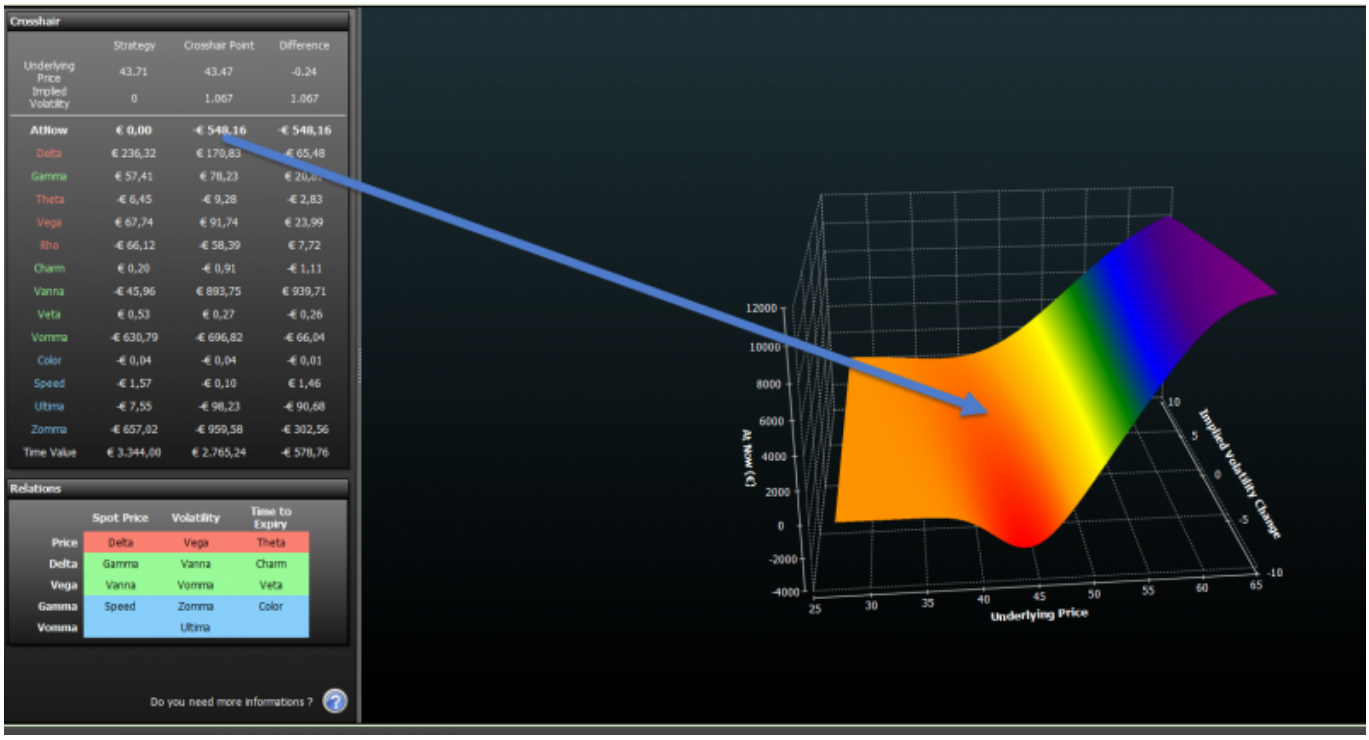


Gamma measures the rate of change in the delta with respect to changes in the underlying price while Vomma measures the rate of change to vega as volatility changes.
It is very important for Calendar or other volatility strategy.
When the trader watch the vega he knows that when the volatility will vary of 1 point the value of the strategy will change of the amount of Vega.

Approximately!

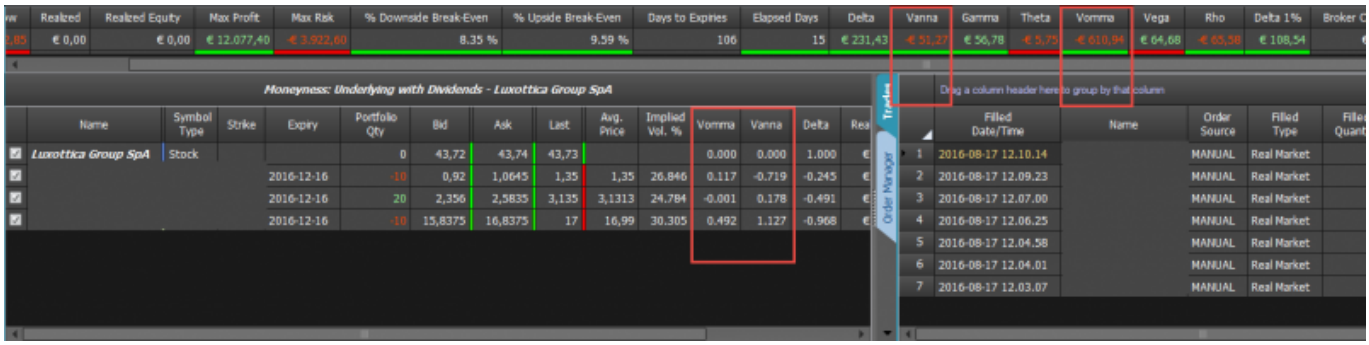
Because Vega, similar to a snowball rolling on more snow, change its size!! It can become unexpectedly large or small.
So we measure the variation of Vega by watching value of Vomma.

the figure shows that it is practically irrelevant in the ATM options but becomes important in the wing, symmetrically.



The Vomma grows when the volatility falls so if you have a “long Vega” strategy a decrease of volatility will have an higher impact than shown by the Vega!

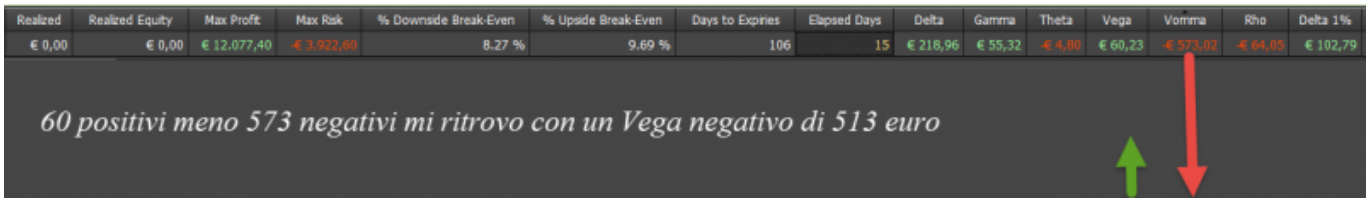
You can find this values by clicking right in Strategy, in the columns of the individual option values, strategy or portfolio. The analysis with the respective graphs can be found in Option Evaluator or in the window Analysis.



Look here what happens zooming-in the image above of real strategy:

The strategy is Vega positive!

But it isn't true! It is negative by 10 times.



Realized	Realized Equity	Max Profit	Max Risk	% Downside Break-Even	% Upside Break-Even	Days to Expries	Elapsed Days	Delta	Gamma	Theta	Vega	Vomma	Rho	Delta 1%
€ 0,00	€ 0,00	€ 12.077,40	-€ 3.922,60	8.27 %	9.69 %	106	15	€ 218,96	€ 55,32	-€ 4,80	€ 60,23	-€ 573,02	-€ 64,05	€ 102,79

And it is also visible in the chart of At-now.

From:
http://manuals.playoptions.it/Iceberg_old/ - **Iceberg Options Solutions**

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