

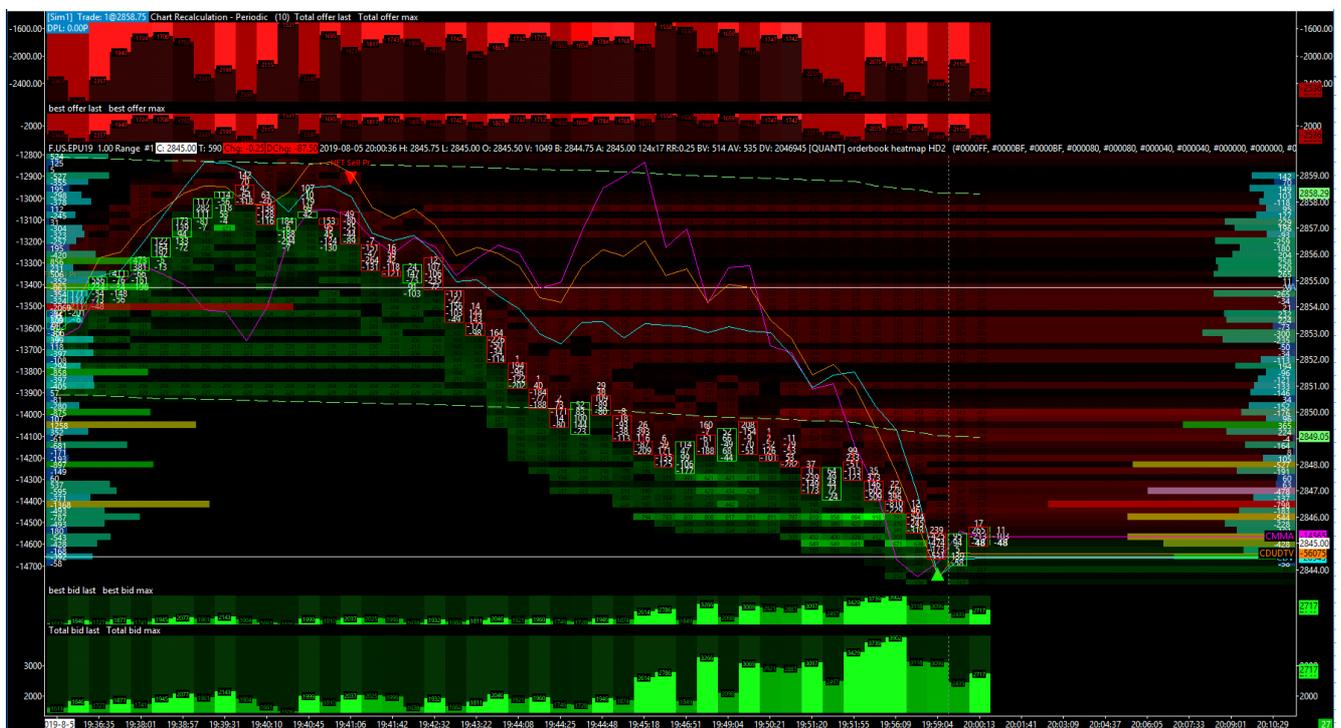
## Tools from [QUANT] - ULTIMATE - package - description & general usage

In this document we will try to list the different tools from the [QUANT] Ultimate package, we will see the main difference and the main features between each tools, and the best way in which we can use it.

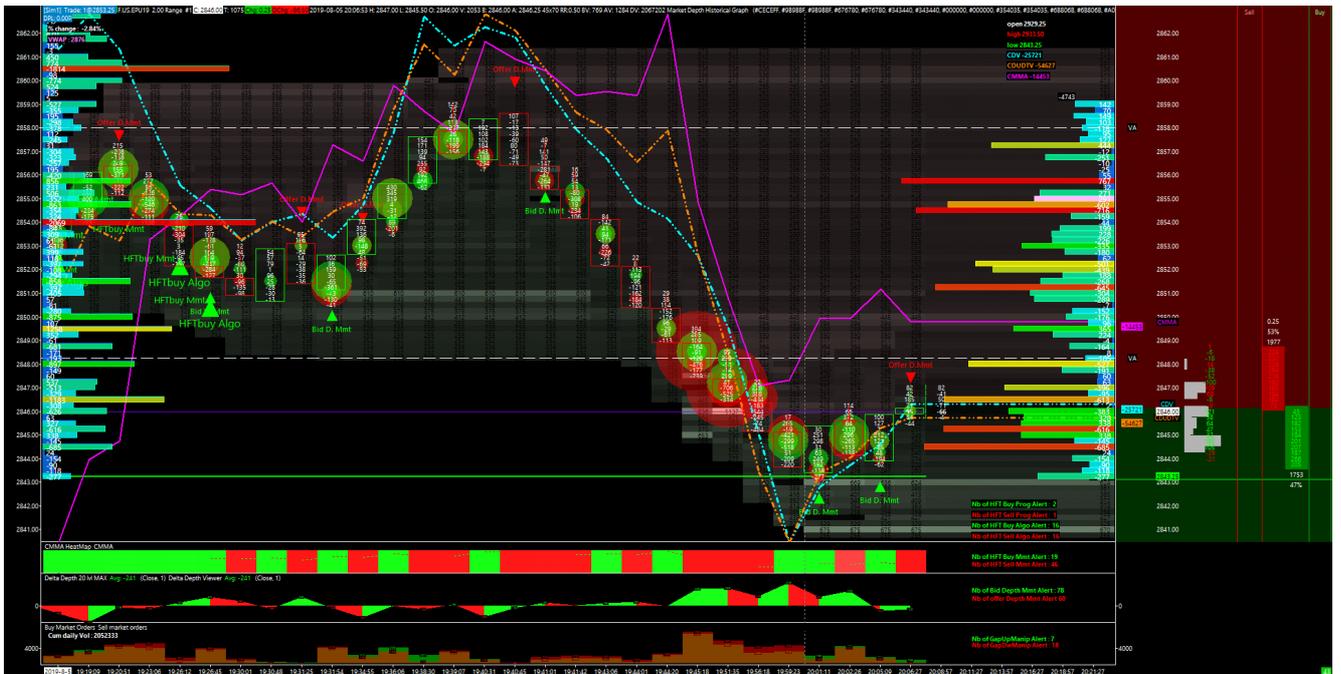
The list of the [QUANT] tools from the Ultimate package :

### - Quant Map :

the initial [QUANT] tools that i have built at the beginning of the story in 2015/2016 with the version 1 to 4. It is based on the need to have a multi dimensional view into the same only screen : price, volume & liquidity. The liquidity is displayed here both on the dom heatmap, and both on the top / bottom histogramm.

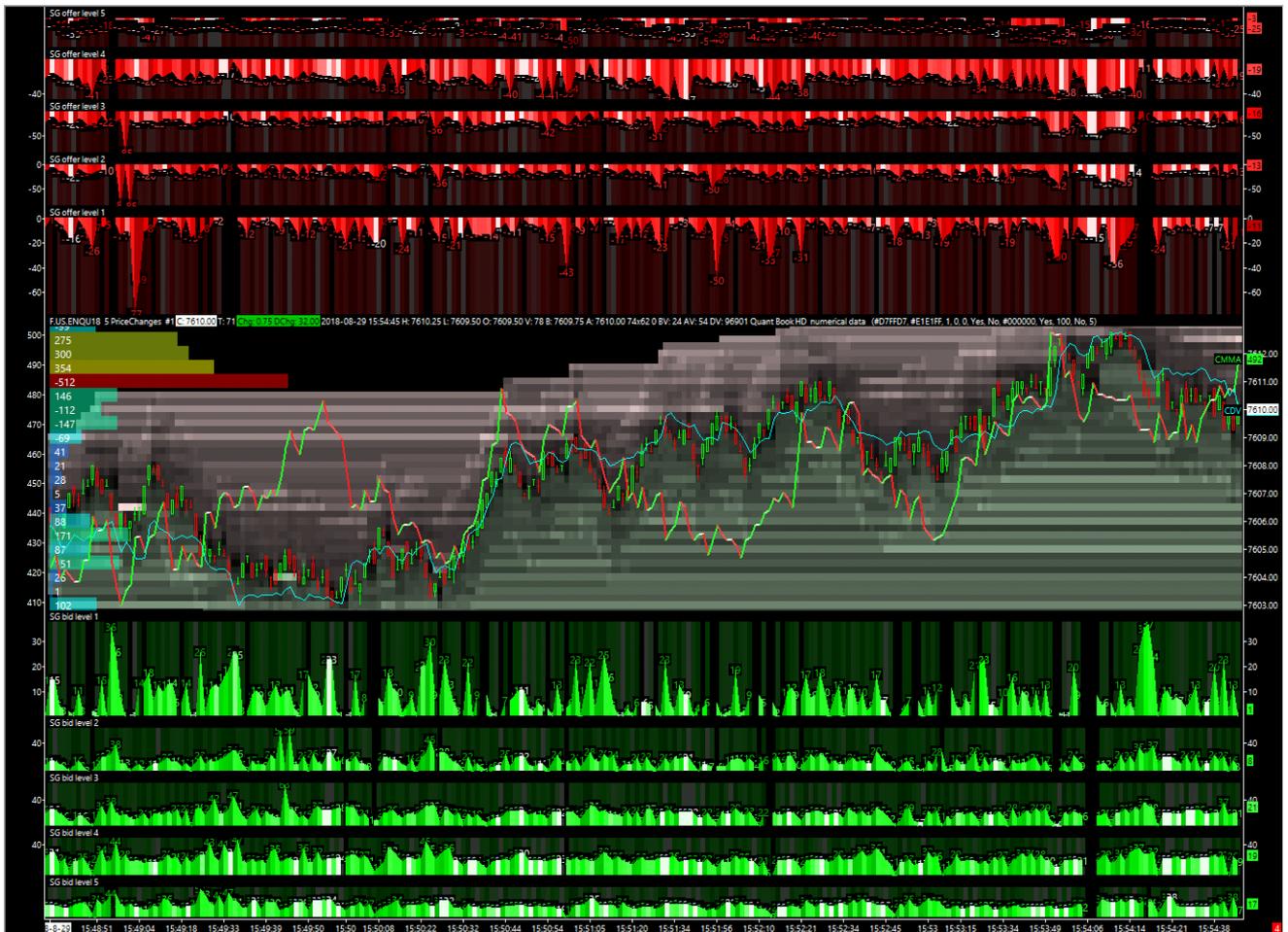


In 2017 and 2018 i have worked hard on the next Quant Map version with the version 5 to the version 12 ! More understandable, faster and more easy to read.



**- Quant Book :**

the only and unique tool which will let you watch inside the orderbook. In this tools, you have each dom levels which is displayed in a single horizontal histogram ; you have the best 5 bid size and the best 5 offer size which is displayed above and below the price action.



**- Quant Depth Mapper :**

this tool is a giant DOM with an heatmap logic integration. It is only used and displayed on a daily basis.

The goal of this tool is to have an entire view of the volume filled by price (for each price level) and also the liquidity.

The result is that you can see the liquidity for each price level, and that with the maximum depth value per level, and the last depth value registered, per level.

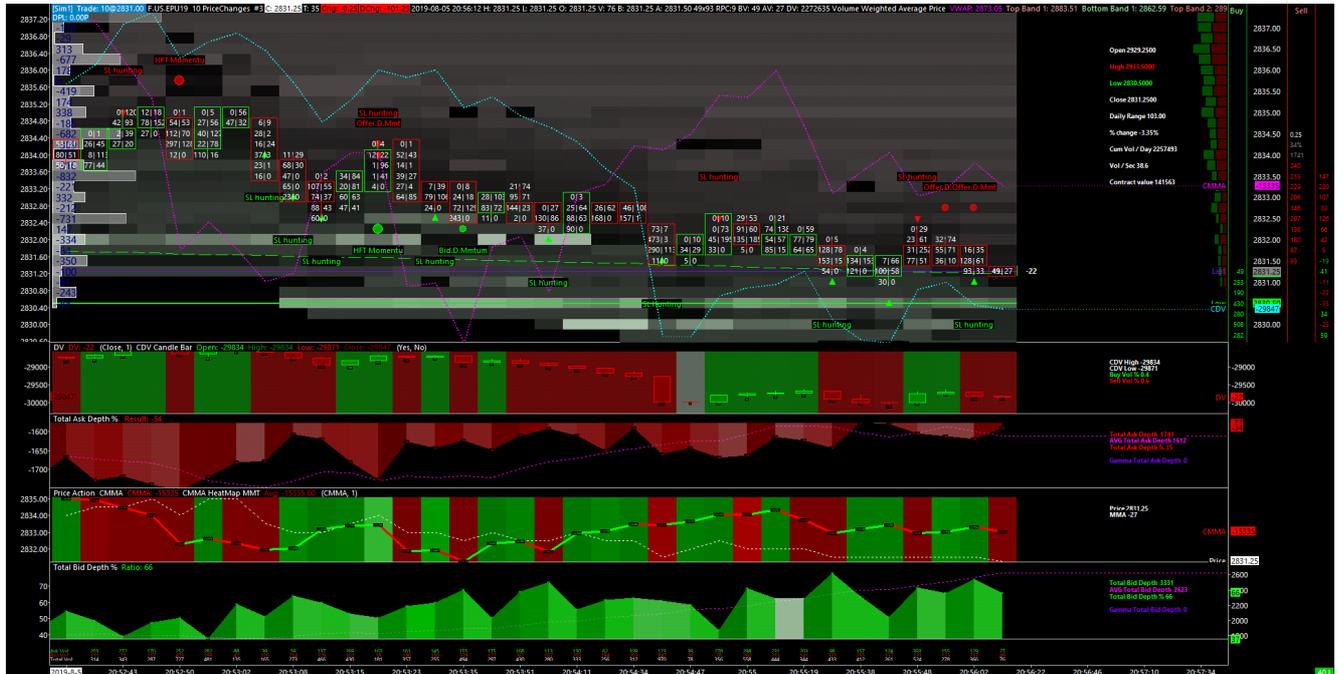
It could be extremely usefull to detect the main key price area where you had for example a lot of iceberg orders.

F.US.EPU19 1 Day #1 C:2832.50 T:1108864 Chg:0.00 DChg:-100.00 201				Offer	Bid
Avg Daily Range 103.00	872	1088	225		
% daily change -3.30%	-928	1137	245	2846.00	4600 3672
	-113	439	236		2622 2509
	720	475	290	2845.50	2884 3604
	-1398	441	258		3758 2360
	-280	730	257	2845.00	3071 2791
	-502	778	316		3269 2767
	-826	367	268	2844.50	2188 1362
	79	322	301		1534 1613
	-398	386	228	2844.00	1740 1342
	-112	298	282		1153 1041
	-415	310	281	2843.50	1475 1060
	-349	332	220		1066 717
	-388	708	261	2843.00	924 536
	27	389	246		431 458
	-78	624	230	2842.50	870 782
	69	415	257		739 808
	-855	432	236	2842.00	2057 1202
	-544	343	215		1116 572
	-375	477	222	2841.50	696 321
	-180	408	259		619 439
	-707	699	259	2841.00	1151 444
	-248	299	219		347 99
	99	403	339	2840.50	402 501
	-287	582	221		1038 751
	-644	666	331	2840.00	1180 536
	144	344	216		472 616
	533	363	256	2839.50	1077 1610
	-144	396	229		1399 1255
	418	358	238	2839.00	1316 1734
	721	305	213		1778 2499
	2292	982	271	2838.50	2053 4345
	-115	510	237		2746 2631
	-309	585	243	2838.00	2539 2230
	-280	335	238		1743 1463
	106	359	234	2837.50	2027 2133
	1084	492	227		2523 3607
	-118	445	239	2837.00	3014 2896
	29	425	228		2695 2666
	313	401	228	2836.50	3275 3588
	-677	376	309		3244 2567
	178	603	229	2836.00	2611 2789
	8	508	305		2438 2446
	-419	585	310	2835.50	2812 2393
	174	509	234		2153 2327
	338	542	234	2835.00	2454 2792
	-185	451	199		2122 1937
	-682	336	176	2834.50	2172 1490
	-309	294	176		1915 1606
	23	699	150	2834.00	2451 2428
	-316	289	139		2247 1931
	-832	503	125	2833.50	2043 1211
	-221	311	118		1376 1155
	329	425	89	2833.00	1165 1494
	-354	322	53		1717 1363
	-431	551	21	2832.50	1048 617
	146	307	175		337 483
	-164	767	467	2832.00	635 471
	-5	311	148		301 296
	-155	605	174	2831.50	629 474
	199	313	189		543 742
	-51	337	313	2831.00	805 754
	-243	320	188		479 236
	-48	542	444	2830.50	444 48
	2831	273	222		222
		545	506	2830.00	2341
		331	241		62%
		308	282	2829.50	
		302	225		
		574	528	2829.00	
		211	202		
		270	247	2828.50	
		233	232		
				2828.00	
-28920					AskV - BidV
-28920					AskV - BidV BarDiff
1111194					Ask Vol
1140114					Bid Vol
-209					Max Ask Vol-Bid Vol
-31911					Min Ask Vol-Bid Vol
1108864					Number Trades
2251308					Total Vol
49.36%					AskV %
50.64%					BidV %
103.00					Weekly Range

**- Quant MMA Panel :**

This tool is particularly focused on the liquidity aspect ! Indeed you have a panel of different HFT alert available which are almost all based on the DOM data : for example the offer / bid depth momentum which will show to you a trend on the orderbook. Or the gap up / down with manipulation alert ; the bid / offer iceberg alert, etc.

The liquidity from the DOM is displayed here in histogram and in percentage of the total liquidity available from the DOM. It's specifically designed for pure scalping strategy.



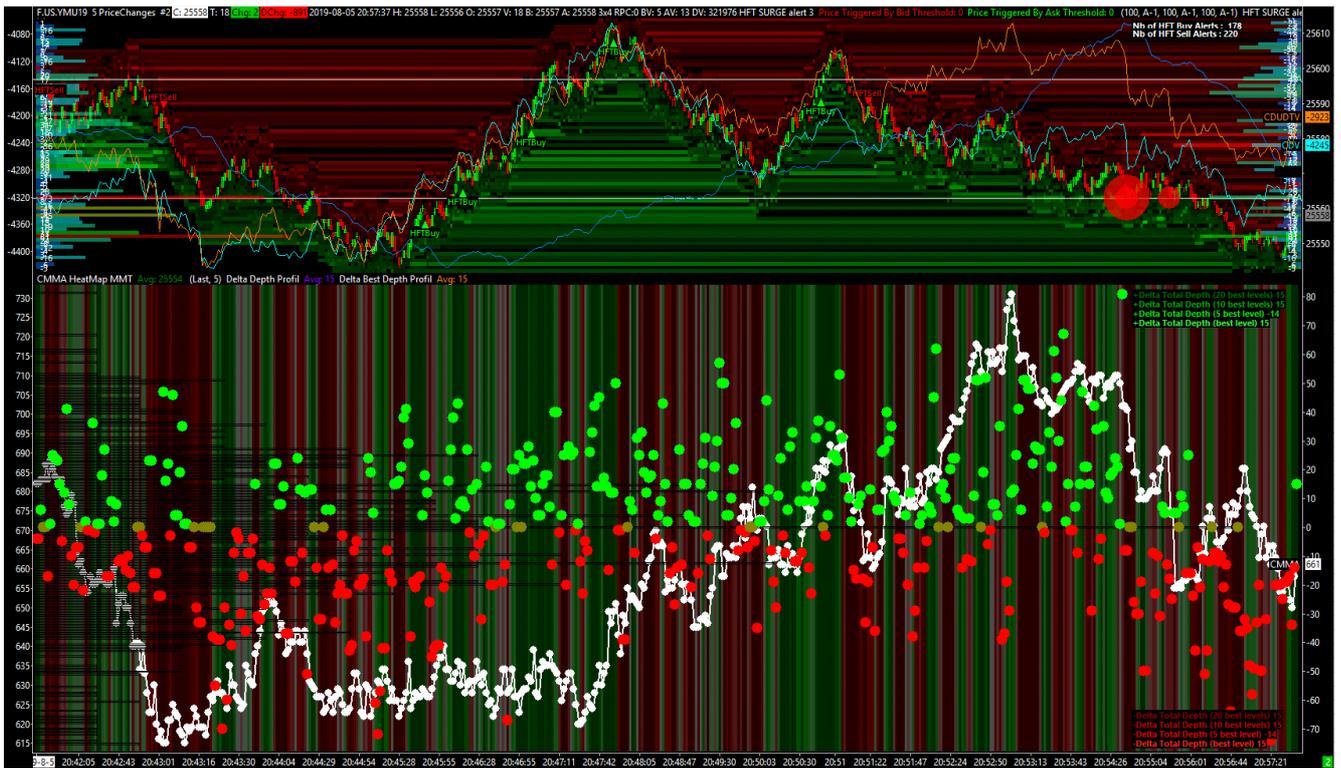
**- Quant PointMap :**

This tool is probably the most impressive to watch and read at the first stage, but it is not a big deal when you understand the main topic.

On the first region you have a standard view of the price action, the CDV line, the CDUDTV line, and the DOM heatmap overlaid on it. The second region is probably the most interesting one with this tool : indeed, in this second region you will be able to read the way that the liquidity has been distributed by the market maker on the DOM. It is viewed with a scatterplot chart. Each dot you can see is matching with a delta depth value.

This calculation (Bid depth - Offer depth) has been made for the best bid/offer and also for the 2 best bid/offer, the 3 best bid/offer, the 4 best bids/offer and the 5 best bid/offer. There are finally 5 delta depth calculated per unit of price or or time (depending on the timeframe / price frame).

These 5 delta depth value are all displayed with these red/green dot in order to evaluate the liquidity distribution potential, as seen from the orderbook. Just in the background of these 2nd region of the Quant PointMap, you can see a kind of heatmap ! This heatmap is based on the CMMA calculation.

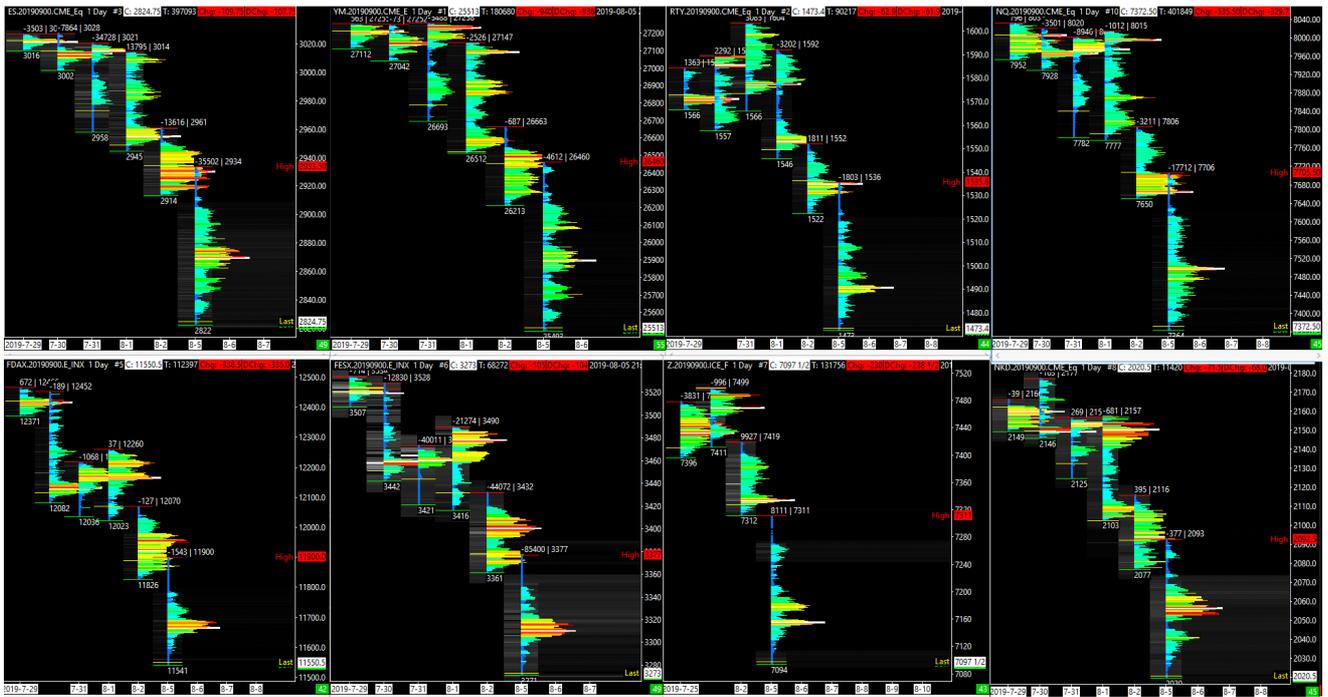


**- Quant VP Board :**

It's board of different instrument which are displayed here with a volume profile for each day. The particularity is these different instrument are all naturally correlated.

The goal is to detect the best/worth performer and also the instrument which are in late or in advance compared to the others. Here you have the single print price area which are colored mainly in shade of blue (cold color).

The vpc area and value area are mainly colored in shade of yellow/orange/red. (hot color). In the background of each windows, you can see the grey dom heatmap displayed for each day.



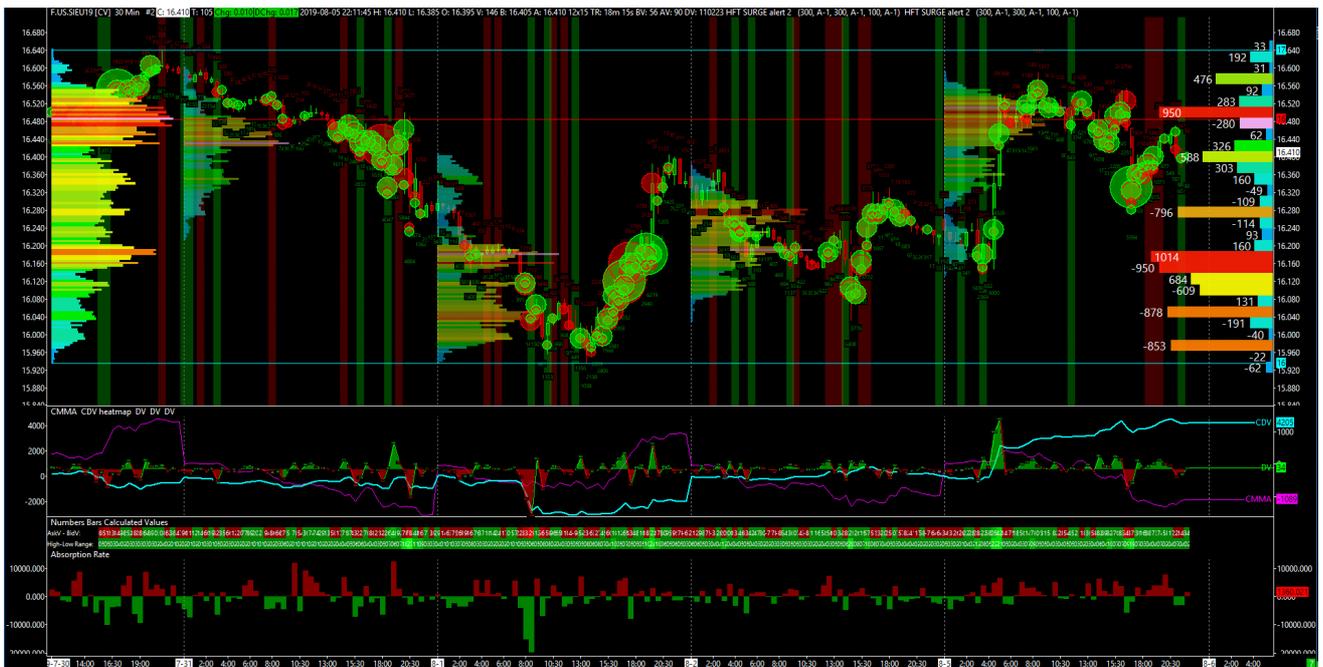
**- Quant VP & Absorption Rate :**

this tools is usually seen in hourly time frame. On the first region you have the price action and a volume profile for each period.

At the left side you have a composite volume profile. At the right side you have a composite delta volume profile. In the background of this first region, you can see an heatmap which is matching with the CMM value.

The particularity of this tools is located on the last region (region 4) where you will find a clue data : the absorption rate. It's an home made calculation which is used to measure the volume price impact (or the volume absorption phenomena).

The calculation is simple : i take the delta volume per price bar , and i divide it by the price range size of the price bar.



**- Quant Imbalance Reader :**

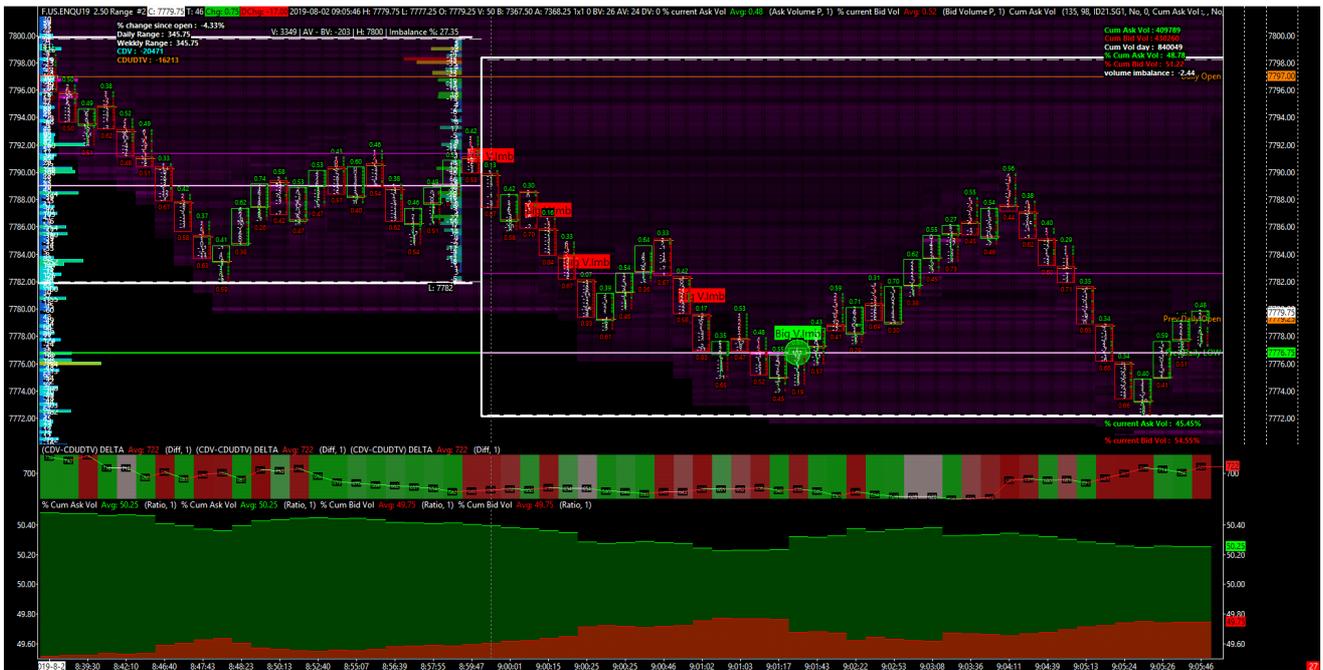
This tool has the particularity to be mainly focused on the price action, the volatility and the nature of the volume ! Indeed, you will see a new whyte range box, each time you have a new range of time which is finished (each 5 or 10 or 30 minute for example).

You will also find on the region 2 the famous CDV-CDUDTV value with its own heatmap. The third region is also very interesting, because it will show to you the cumulative value for the buy market orders, and the cumulative value for the sell market orders : both of them displayed in percentage of the total volume !

The goal is clear here : be able to detect the slowdown and accelerations from the buy and sell market orders flow. It is very relevant to appreciate the relative strenght of the volume, and that displayed separatly! One green line for the cumulative buy market orders ; the other red line for the cumulative sell market orders.

In this same logic, i have also added two simple alert : Big Volume imbalance (red for the sell market orders amount) and Bid Volume Imbalance (green for the buy market orders amount). This alert will be triggered each time you have a volume imbalance superior than 80% of the total volume of the price bars. For example, if you have more than 80% of buy market orders with only 19% of sell market orders ; you will have a Big Volume imbalance (in green) triggered!

To help you to measure that with more precision, and in details, i have added two little green and red value for each price bar (just above and below each price bar of the chart) ; these value (0.47/0.53 for example) will show to you the percentage value of the buy and sell volume separatly. On the top of the price bar, you will find the % of buy market orders on the price bar ; on the bottom of the price bar, you will find the % of sell market orders on the price bar.



**- Quant StarMat :**

The famous StarMat is sliced in three main vertical part : the first one, on the left side is a board which will show to you a various number of instrument. These different instrument are all displayed on the same price unit (the % of price change since the open) and they are all displayed on a different color. On the left side of this same window, you will find the entire list of the displayed instrument, with their own respective performance in % of price change since the open.

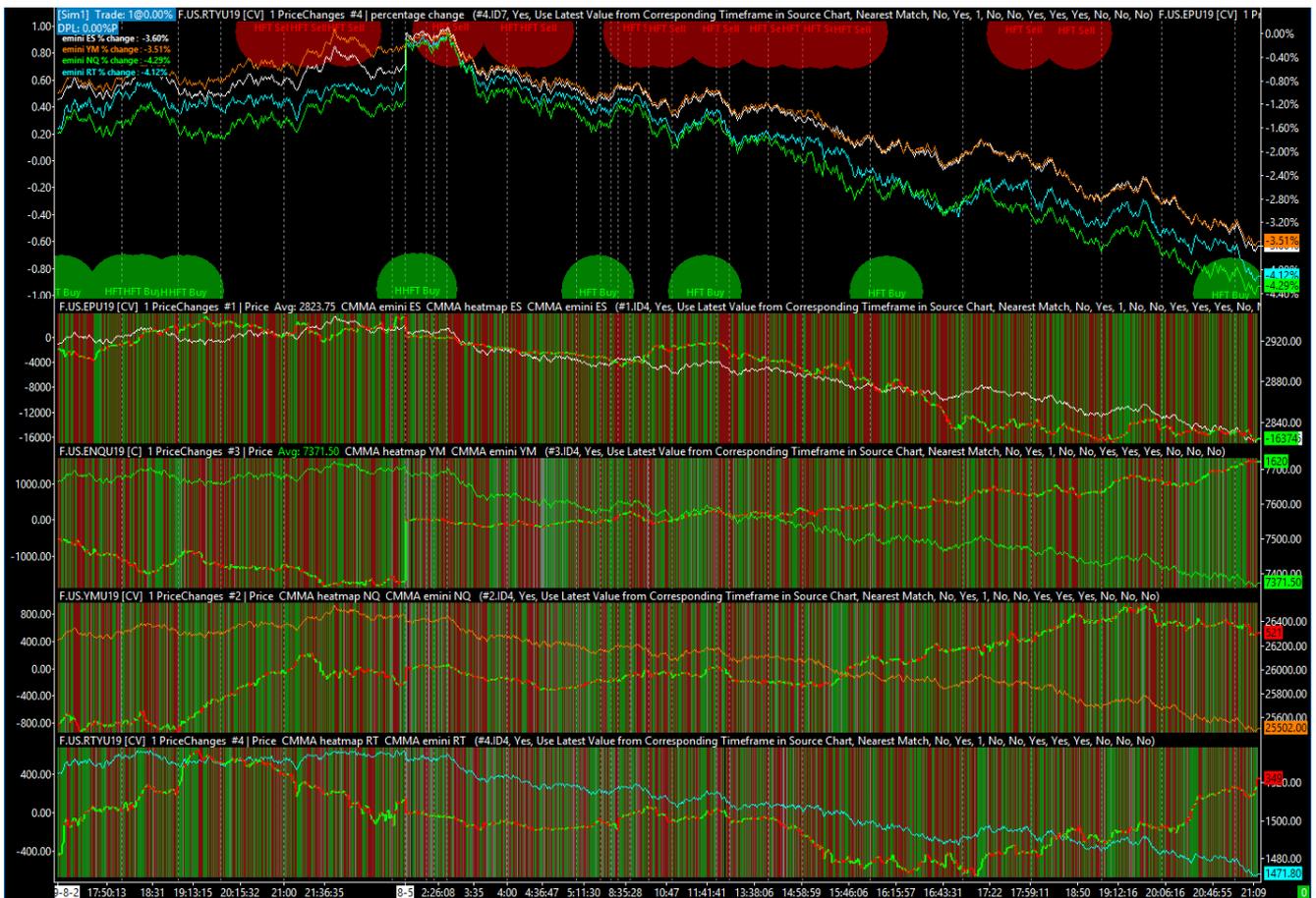
The aim of this region is to be able to see and to measure quickly the price behaviour for each instrument. We can do some quick comparison between the instrument wse desire, and we can see very fast, how are the price reaction, due to a main price event.

In this tools, i have selected a large pannel of different instrument, which are naturally correlated for few, and non correlated for others. There are US, and UE equity index, there are some FX currencies, there are some precious metals, some energy, some treseaurys, etc, etc. The main stuff here is to get different instrument from different asset class to get the entire sentiment of the market. Very important to get the right feeling.

On the second window you have a basic price heatmap ! and that, for the 4 US equity index (nasdaq100, ES, YM and R2K) ; this heatmap color logic is done with the price data only ! The more the price will be pushed down, the more the red color will be intense and vice versa.

On the third window at the right side, you have an other price heatmap board where you will have a larger list of instrument which are all displayed here with its respective price heatmap. It's a very good way to measure the relative strenght of the price action for a big list of instrument very quickly!





**- Quant Spread Tracker :**

This tool is particularly focused on the market making behaviour ! Indeed, to build it, i have strongly focused on the famous CDV-CDUDTV value.

The CDV-CDUDTV value is very important for me, because it will reveal a real clue about the market making behaviour. In this tool, you will also find a panel of different alert all based on the price and/or the volume / liquidity.

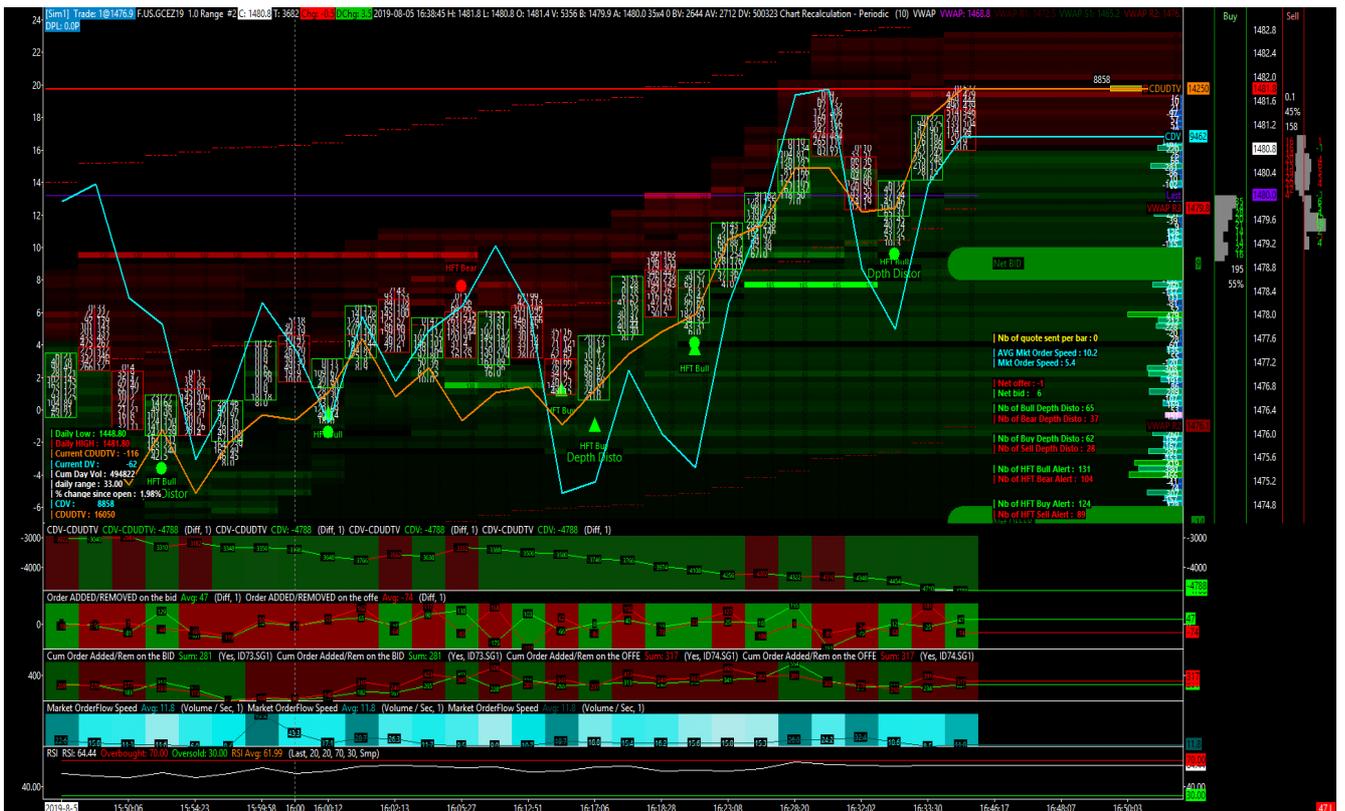
You have a delta volume profil on the right side, and two horizontal bar (green/red) which are there to display the adding/removing limit orders process from the orderbook. There are also two region specially designed for the market depth data, and the dynamic of this market depth structure from the DOM.

The goal here is to calculate the NET bid and the NET offer to understand and measure the DOM dynamic ! On the 5th region, you will find a blue heatmap which is based on the speed of the volume orderflow ; it is calculated in contract transacted per second (market orders transacted).

This kind of speed indicator could be particularly interesting, especially when you want to detect the different acceleration and slowdown orderflow volume sequence. Indeed, you will quickly see that the main price top and price bottom are usually created with a very high speed of market ordersflow. (x2/x5 or even x10 the average speed).

On the last region, you will find the standard RSI indicator which is based on moving average of 20 .The overbought area will be located above +70, then an oversold area will be located below +30. Among the different alerts illustrated on the first region, you will see a other alert named "Overbought" or "Oversold" in text label. This alert will be 100% based on the RSI indicator, so on the price strictly. It could be a good additional indication to merge with other data which are pointing on the same direction and/or

on the same logic.

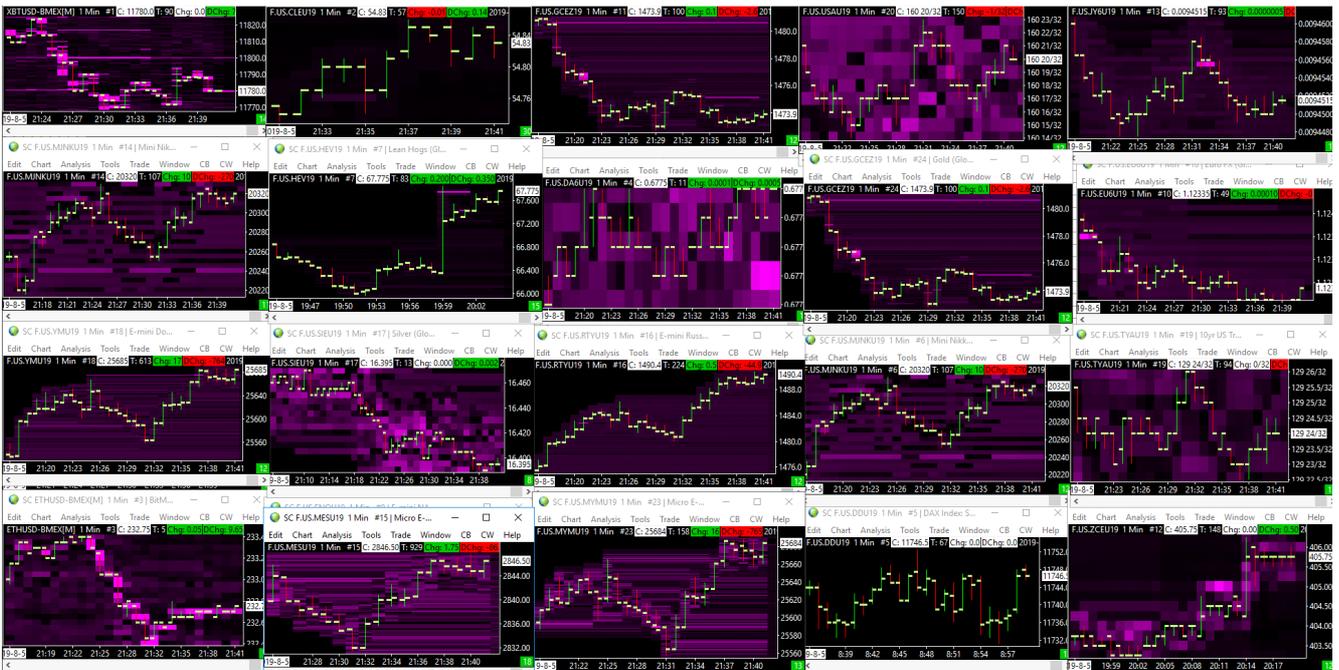


### - Quant Base :

This tool is specially designed to receive and collect the market depth data file (.depth file used to feed the heatmap) on the : C:/SierraChart/Data/marketdepthdata folder ! For each instrument, and for each day, you will have a unique .depth file stored on these destination : C:/SierraChart/Data/marketdepthdata folder.

The size of the .depth file will globally depends on two main item : the liquidity of the instrument, and the volume transacted on the day. Usually, on very liquid instrument like the FESX (eurostoxx50), the .depth file will be about 100 to 150 mega octet. On a special day trading session with big volume, it's possible to have some .Depth file of 200, 300 mega octet per day ! Therefore, for a more typical and standard instrument like the SP500 or nasdaq100, it's a little bit lesser. About 20, to 60, 80 MO per day per instrument.

I suggest you to let this chartbook opened all the time, and that for the instrument list you desire to save the market depth data on your computer.

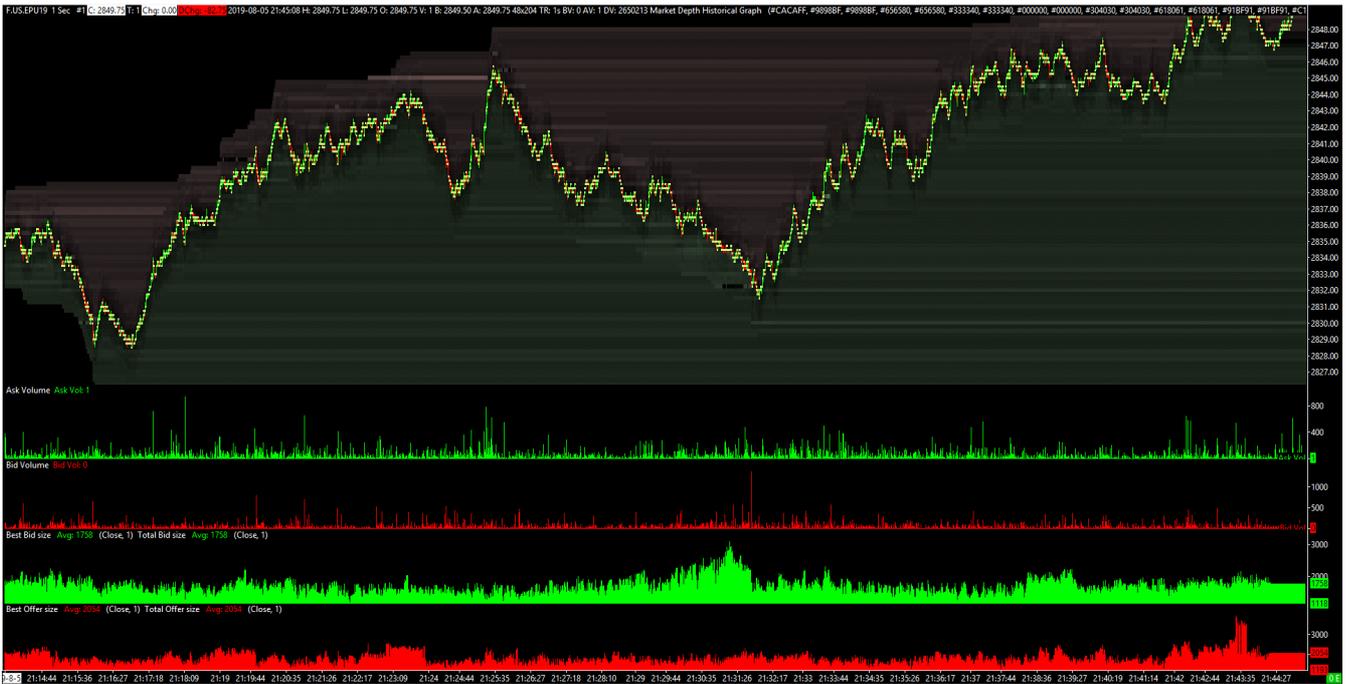


**- Quant Extract :**

This [QUANT] tool will work with a spreadsheet window in order to collect the main market data that you can see on the chart ! Indeed, you will be able to collect some market data which are relative to : the price action (open/high/low/close per bar) ; the volume transacted (bid volume and ask volume per bar) ; the liquidity offered (on the bid and on the offer). All of these data are directly printed on a spreadsheet on the SC Station on this same chartbook called [QUANT] Extract.

The goal here could be multiple ! For example, if you are Microsoft excell friendly, there are probably a lot of work and analysis to do! It could be a first step to try to create your own trading strategy based on these true market data. And that, especially if you have detected/analyzed some specific behaviour/impact or phenomena through these market data).

Please notice that the price data, and the volume data are directly loaded/downloaded from the CQG server ! Regarding the market depth data level 2, it's possible that this data are loaded/downloaded locally from your own computer (from this C:/sierraChart/data/marketDepthData folder).



**- Quant Algo :**

The Qalgo (for [QUANT] Algo) is a prototype used to run an automated trading strategy ! It works in integration with the SC station, and the ACSIL infrastructure, a futures data feed with the market depth data level 2, and the famous HFT alert system detection of the [QUANT] tools !

The goal of this prototype here is simple : automatize a trade strategy which will be based on one or more HFT alerts. Each time an HFT Alert is triggered, a new position will be opened! It's a very interesting tool because it will let us do a lot of analysis, studies, statistics, test, and backtest of different strategy, and that, with different money management. A lot of work stay to do on this part to achieve a real optimized trading strategy, but the first step made on this direction are very encouraging !

