

# The new Tradesignal version 6

We are delighted to present you with our new **Tradesignal 6**. Once again, this version offers you lots of interesting choices and usage options to make your trading even more successful. Some of the new features may be of particular interest to those trading on the energy market. For instance, the **Forward Curves** have been **extended**, and can now be edited in other formula languages including Equilla. **Inline instruments can now be replaced by inputs**, which gives you the option of varying your indicators and trading systems and building up wholly individual portfolios. You will find a comprehensive overview of the features of new Tradesignal Version in the following overview:

## Charting

### A new design for Forward Curves

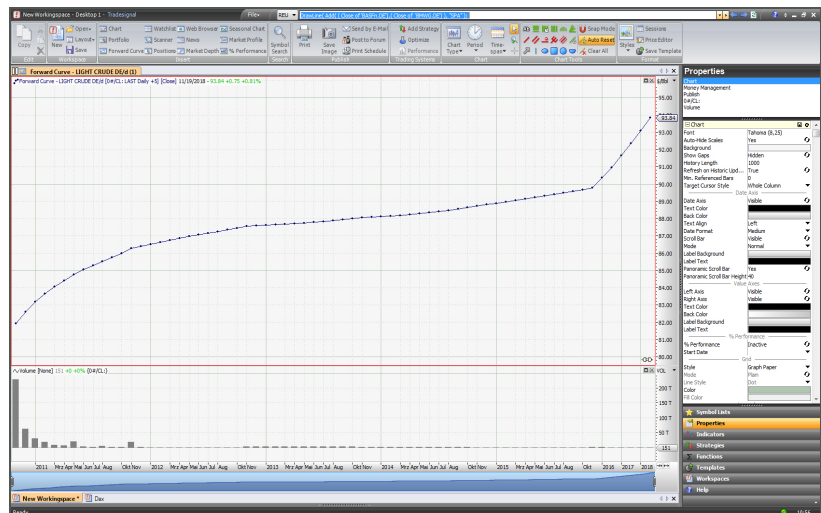
The energy trading segment's ever-popular Forward Curves has been completely revamped in the new Tradesignal.

The most significant improvement is that the programming language Equilla has now been linked to Forward Curves, allowing the application of complex calculations and strategies. It is now also possible to adjust Forward Curves periods with new options for obtaining intraday, weekly or monthly data.

Displacements are still possible of

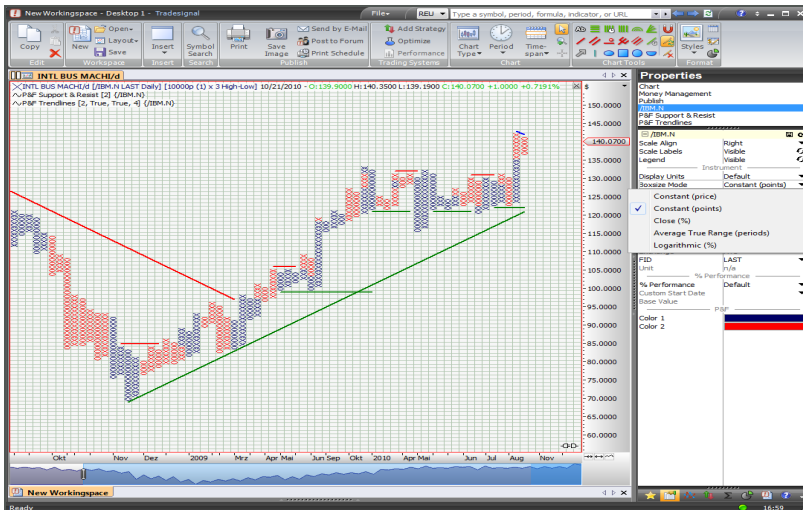
course, but drawing tools and indicators can now also be used with Forward Curves.

Once created, a Forward Curve can be saved as a symbol in a symbol list so it can be used again later or made available to other colleagues. Furthermore, Forward Curves can be displayed alongside normal charts as an overlay, allowing you to simultaneously view the price of the current contract and the Forward Curves for all contracts within the same chart. An additional new indicator is the 'Forward Curve Label', providing a label for each contract within a Forward Curve. An additional new indicator is the 'Forward Curve Label', providing a label for each contract within a Forward Curve. An additional new indicator is the 'Forward Curve Label', providing a label for each contract within a Forward Curve.



### Enhanced Point & Figure Chart

In addition to a new rasterized background display, the new Point & Figure Chart also provides a number of new box-sized options to different existing theories of the Point & Figure Display. The rasterized display has been optimised for the P & F Chart so that drawing tools can be used in the boxes of the charts.



### The following options are available:

- Constant (Price)
- Constant (Points)
- Close (%)
- Average True Range (Periods)
- Logarithmic (%)

Two new indicators designed especially for the Point & Figure Charts automatically draw trend lines, resistance lines and support lines.

### Inverted chart display

The entire chart - including drawing tools and indicators - can be inverted, showing the highest value of the scale on the bottom and the zero-line on top.

### Improved display

#### Times & Sales display

The display of Times & Sales was also upgraded. The bid/ask updates are now in one single column and can be zoomed-in or zoomed-out of, simplifying the process of differentiating between bid/ask and updates for the latest prices

#### Displaying absolute & percentage-based changes

The absolute and percentage-based change to the previous candle will now be displayed in the legend.

#### Displaying the Chart Legend for spreads

The Chart Legend for command line formulas has also been improved: When you enter a formula (e.g. spread) in the command line of Tradesignal, the actual name is displayed in the legend of the chart, offering better readability. This is

very useful when working with a data provider whose symbol is not expressive.

#### OHLC Charts for spreads

In addition to being displayed linearly, spreads can now also be displayed as OHLC Charts.

#### Connection lines in the Symbol Chart

In the chart type 'Symbol' the properties menu now allows you to create connector lines between individual points.

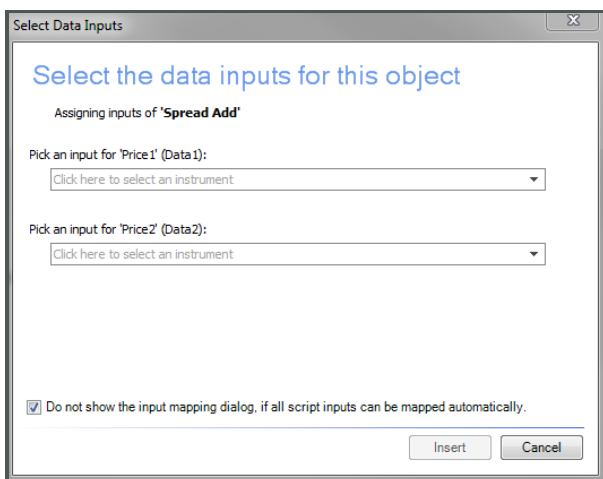


## New assistants to facilitate your work

The new Tradesignal now provides you with various assistants that will considerably facilitate your work.

### The Equilla Input Assistant

The first assistant is the new Equilla Input Assistant. This allows you to create an indicator output without first having to open the input of an indicator in a chart. To do this, an assistant opens when an indicator is used, allowing you to select the necessary inputs (instruments or outputs of other indicators). The result of a Crack Spread, for instance, can be displayed without having to open the inputs 'crude oil', 'gasoline' and 'heating oil' as charts. Only the Crack Spread has to be displayed.

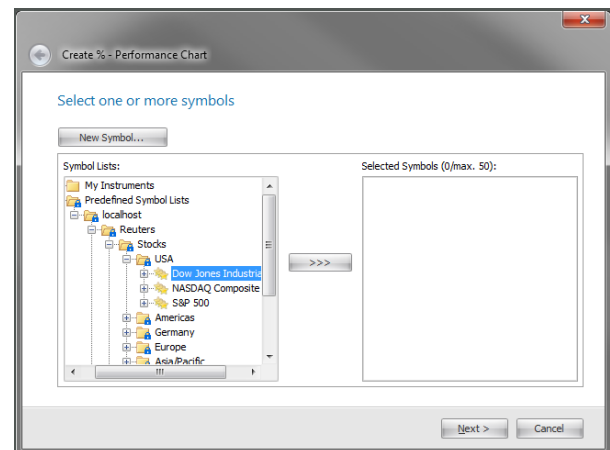


### The assistant for Seasonal Charts

Another new feature is the assistant for Seasonal Charts that allows you to create a chart for individual contracts in a few simple steps. An automatically created indicator displays the seasonal average for all futures contracts.

### The assistant for the Percent Performance Chart

An additional assistant will help you to create a Percent Performance Chart, which offers a range of options. You can add individual prices and entire market lists as charts, and define the start date and chart type. The properties menu allows you to adjust the selected date for the chart. You can use the formula language Equilla by applying, for example, spreads to the charts.



### Start and end date in Money Management

The Money Management feature now allows you to set not only the start date but also the end date for a trading strategy. This allows you to precisely establish the testing period during test runs in a trading strategy.

### Drag & Drop in the command line

You can now drag and drop symbols from the symbol list into the command line, allowing you to quickly create spreads. You no longer have to manually look for symbols but can use Drag & Drop to insert symbol names directly into the command line. This is extremely useful when the data provider's symbol names are not expressive (e.g. with Trayport).



## User-friendly interface

### Search function for indicators and trading strategies

A search field for indicators and trading strategies has now been integrated directly into the Tool Box, allowing you to find and use the desired code with its symbol or name.

### Deleting older tools

When deleting older drawing tools (i.e. out-dated drawing tools that are no longer needed), you can now set the exact time when all past charts should be deleted.

### Extensive CSV export

The CSV export of complete chart contents (Data->Export) is now very simple because all the data from OHL and volumes, as well as data from all indicators and trading strategy outputs, is stored.

### Prefix selection button

The 'prefix button' allows you set your data provider in the command line. The new Tradesignal Market Data System allows you to work, for instance, with Reuters and Bloomberg simultaneously - the only thing you need to do is select your prefix and the correct symbol name.

### Opening defined workspaces automatically when the programme starts

Define a label (yellow, red, blue) for your workspaces and decide which ones should be automatically opened by Tradesignal when you start.

## Additional improvements

- Dragging and dropping symbols or symbol lists (including Chain Codes) into the chart using the Drag & Drop function either replaces or simultaneously inserts all the desired symbols at once.
- Quickly changing the timespan or period for all charts is now also possible. By holding down the CTRL key when selecting the period or timespan, you create the desired change for all charts in the selected workspace. The available options now include six months in addition to five and ten years.
- The Copy & Paste export of a chart into the Windows clipboard is also new, and can be inserted into a different programme (e.g. Excel).
- During the optimisation process when you apply a trading strategy to an indicator the parameters of the indicator can now be included and tested.
- In the editor for the Composite Symbol, a new Symbol Picker has been created for a simplified use of Inline Instruments.

## Collaboration

### Write and read protection for workspaces

Workspaces can now be password-protected. This is very useful if you want to prevent any changes being made when you are storing the workspace in a location that you share with others. Workspaces can not only be write-protected but also read-protected.

### Warning when updating packets

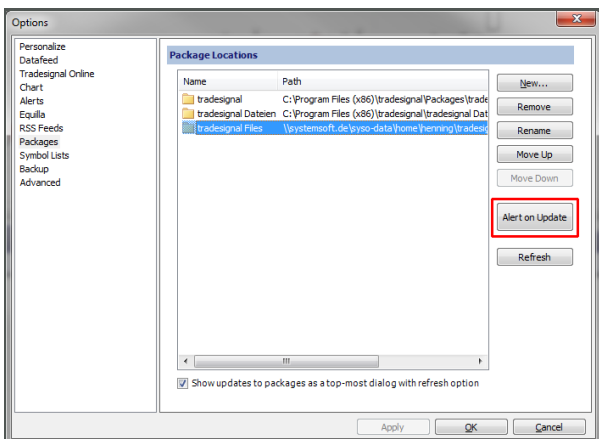
This means that with packets (i.e. directories) in which indicators, trading strategies or workspaces are stored, and where these are shared with other



users, you can activate a monitoring function. You will receive a warning to refresh the packet if data is added or changed within the packet, which ensures that you always see the most current content in the Tradesignal (Data -> Options -> 'Warning during refresh').

### Joint Symbol Lists

It is now possible to share Symbol Lists with other users. The options menu allows users to specify fol-



ders into which they (or other users) can copy Symbol Lists (Data -> Options -> Symbol Lists). The Symbol Lists (these are in an Output Format for Symbol Lists of Tradesignal) will be shown in the tree structure of Tradesignal. This allows users to create special Symbol Lists and share them with other Tradesignal users.

### Additions to the Equilla area

The formula language Equilla offers a high degree of flexibility in creating indicators and trading strategies across all Tradesignal products. We have expanded this area even further in the new version of the Tradesignal.

### Inline instruments

Inline instruments can be replaced with Inputs. This long requested function allows for entirely new variants when creating indicators and trading strategies. It allows you to create and assemble portfolios entirely on your own. Using the Optimiser, you can test strategies with Inline instruments against a number of instruments.

### Example:

This example displays arrays and inline instruments with the List command. In the example, they are used to create a portfolio system without first opening the individual instruments as charts; instead, the instruments are loaded and traded in the code. The resulting equity curve displays the P/L of all traded instruments.

```

Meta:
  Synopsis("Example indicator that is designed to be the parent of a trading
  strategy for which the strategy author would like to 'stress test' by
  varying the indicators input parameters during optimization.",
  Author("Tradesignal GmbH");

Inputs:
  Security(SIE, DTE, LHA), // Change the security being tested
  Period(Minutes1, Minutes5, Minutes60, Daily, Weekly, Monthly) = Daily; // Change the
  period being tested

Instruments:
  inst( IFF(Security = SIE, "SIEGn.DE",
  IFF(Security = DTE, "DTEGn.DE",
  IFF(Security = LHA, "LHAG.DE",
  "")) + " " +
  IFF(Period = Minutes1, "1m",
  IFF(Period = Minutes5, "5m",
  IFF(Period = Minutes60, "60m",
  IFF(Period = Daily, "daily",
  IFF(Period = Weekly, "weekly",
  IFF(Period = Monthly, "monthly",
  "")))))); // We only every load a single instrument, thus ensuring our date/time
  series is not full of gaps

//Output the data as we get it
DrawBar(Open of inst, High of inst, Low of inst, Close of inst);

// Tradesignal GmbH
// www.tradesignal.com
  
```



## New functionality: Multidimensional Arrays

New real Multidimensional Arrays are now also possible in the new version of Tradesignal. The new command reference: `ArrayLength`, `SetArrayLength`, `GetArrayDimensions`, `SetValRangeArray`, `FillArray`, `InsertAtArray`, `InsertSortedArray`, `RemoveAtArray`, `ClearArray`, `CopyArray`, `Array_Copy`, `AppendArray`, `HighestArray`, `LowestArray`, `IndexOfHighestArray`, `IndexOfLowestArray`, `SortArray`, `Array_Sort`, `SearchArray`, `BinarySearchArray`, `CompareArray`, `Array_Get-Type`, `Sort2DArray`, `CreateSortedIndexArray`, `Array_Sum` `SummationArray`, `SummationRecArray`, `SummationSqrArray`, `MedianArray`, `AverageArray`, `AvgDeviationArray`, `HarmonicMeanArray`, `KurtosisArray`, `SkewnessArray`, `StdDeviationArray`, `StdErrorArray`, `VarianceArray`.

### Example:

This example displays arrays and inline instruments with the `List` command. In the example, they are used to create a portfolio system without first opening the individual instruments as charts; instead, the instruments are loaded and traded in the code. The resulting equity curve displays the P/L of all traded instruments.

### Code:

```

Meta:
  Synopsis("Example portfolio trading system that demonstrates the use of
  arrays and non-trivial trading commands applied to a user-defined list
  of securities. The strategy will trade long any portfolio member
  whose normalized price crosses the portfolio average and guard the
  new position with a stop loss set a number of points below the next
  bar's open.");
  Author("Tradesignal GmbH");

Inputs:
  PortfolioSymbolList("//My Symbol Lists/DAX30"), // Portfolio of securities to trade
  Period(10, 1), // Period for the lowest low/highest high calculation to determine the price
  range for price normalization
  StopRetracePoints(50, 1); // Number of points the position must retrace from the open of
  the bar in which a position is held

Instruments:
  portfolio(List(PortfolioSymbolList));

Variables:
  i, avg, lo, priceRange, count(Len(portfolio));

Arrays:
  prices[count](0); // Stores normalized prices for each portfolio member so we do not have
  to recalculate them

avg = 0;

// Compute the portfolio average based on normalized prices
For i = 0 To count - 1 Begin

  lo = Lowest(Low, Period) of portfolio(i);
  priceRange = (Highest(High, Period) of portfolio(i)) - lo;

  prices[i] = IFF(priceRange > 0, 100.0 * (Close of portfolio(i) - lo) / priceRange, 0.0);
  avg = avg + prices[i];

End;

avg = avg / count;

// Generate orders for each portfolio member
For i = 0 To count - 1 Begin

  // Enter long if the normalized price crosses over the portfolio average
  If prices[i] Crosses Over avg Then
    Buy Next Bar at Market Trading portfolio(i);

  // Exit if the price drops 50 points below tomorrow's open
  Sell Next Bar at (Open of Next Bar - StopRetracePoints Points) of portfolio(i) Stop Trading
  portfolio(i);

End;

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// www.tradesignal.com
  
```

### Expanded DrawText commands

The `DrawText` command has been expanded with a hyperlink function, allowing additional information for a security to be displayed from a Watchlist. This allows users to create an indicator that displays additional information for a specific instrument from in-house intranet sources or even external internet sources.



### New functionality: FilledOrders

This expansion of Equilla displays detailed information on executed orders. The new command reference: FilledOrderAmount, FilledOrderCount, FilledOrderDate, FilledOrderDateTime, FilledOrderIsEntry, FilledOrderIsExit, FilledOrderLabel, FilledOrderPrice, FilledOrderTime.

### New Meta-property OutputTimeStamps

The new Meta-property "OutputTimeStamps" allows users to set timestamps for the output for strategies or indicators using several input instruments.

### New Equilla commands for P&F Charts

There are two commands to facilitate trading strategies used in Point & Figure Charts: Boxsize(Price), AddBoxes(Price, Quantity)

### Drag & Drop functions in one script

Drag and drop Symbol Lists into an Equilla script for a more simplified way of creating instrument lists: simply drag a symbol into your script in order to avoid typos. Symbol Lists are automatically inserted as a Chain into the script.

### Improved output window

A new output window with its own filter input field enables a 'Pause for Updates' and simultaneously increases the maximum number of entries in the output window. The output was increased to 100,000 entries but can be increased further to 10,000,000.

## Additional options for administrators

### Central configuration for the connection setup

The new Tradesignal can be configured so that connection settings for the TMDS will be loaded from a central location. Afterwards, the user will only have

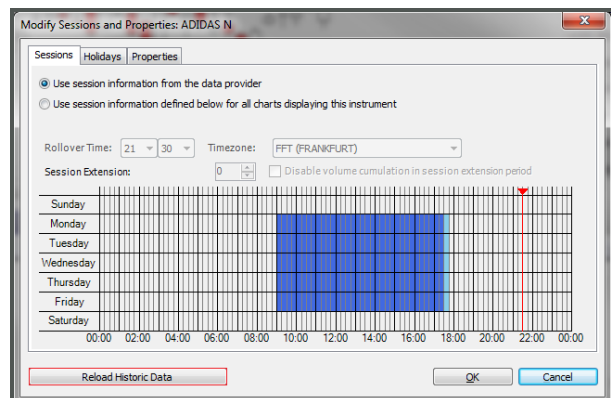
read-only access to connection settings.

### Central update server

By adding an update server, Tradesignal can continuously check whether a new edition of Tradesignal is available. Tradesignal displays a message when a new update is available, allowing the user to install it.

### Deleting historical data

When historical data for a Bloomberg data feed has to be reloaded, you can do this yourself by using the Session Manager. The data will then be loaded directly onto the TMDS.



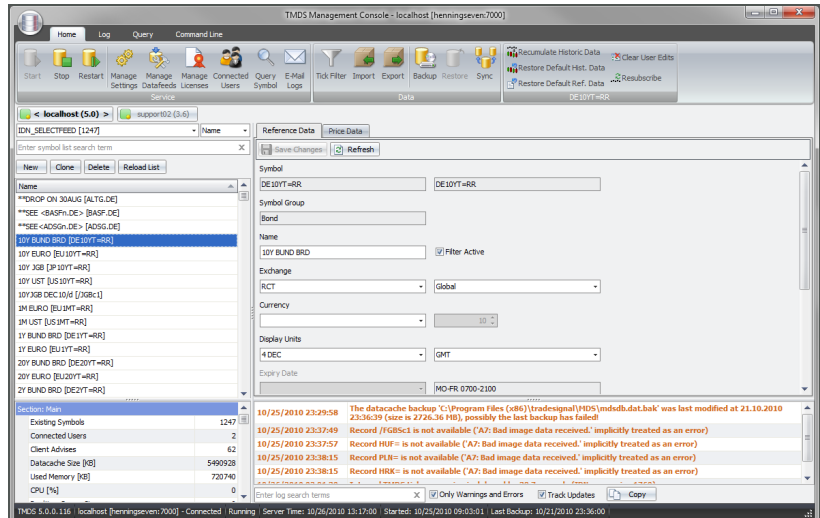
### Landing screen

It is now possible to turn off the News Window on the landing screen. Your Tradesignal application will then start by itself.



# The new Tradesignal Market Data System

We would like to tell you about the new version of our Tradesignal Market Data System, which is now even more powerful and more efficient than ever. As of now, Tradesignal Market Data System enables you to use several data feeds simultaneously and up to 10,000 instruments in addition to the user interface. You will also find information on other improvements to the Tradesignal Market Data System in the following overview:



## A new interface

Many aspects of the new Tradesignal Market Data System's interface were tailored to the needs of users. The Tradesignal Market Data System Management Console is now managing several Tradesignal Market Data systems - irrespective of the version used. The version in use is displayed with its current name.

Several commands that drive the data bank can only be executed by clicking a button.

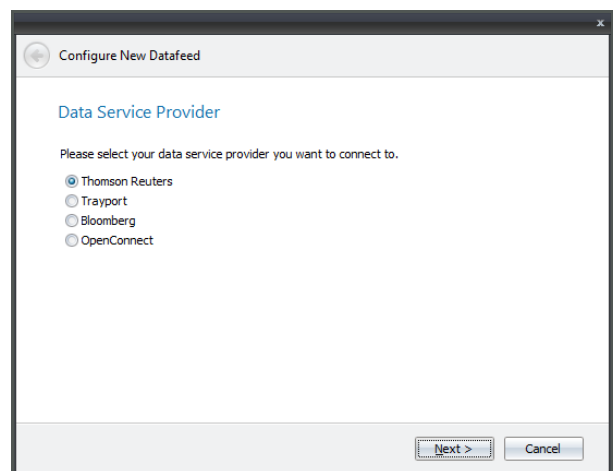
The activation of functions for logging information has been simplified and now facilitates a more intuitive operation.

## Several data feeds

From now on the new Tradesignal Market Data System can be used simultaneously with the Reuters, Bloomberg and Trayport data providers.

## More symbols

The limit of 2000 instruments per Tradesignal Market Data System has been increased to 10000.



### Official support for new Windows versions

In addition to the 32-bit versions (Windows 2000 to Windows 7), all 64-bit Windows versions are now also officially supported.

### Connecting to Bloomberg

From now on the Tradesignal Market Data System (only locally) can be connected to a Bloomberg Professional Terminal via the BBComm Interface and allows users to simultaneously use other data feeds such as Reuters or Trayport.

### Expanded recovery of missing ticks

With this new version the Tradesignal Market Data System supports the data reconciliation with a Failover Tradesignal Market Data System instead of a Recovery Tradesignal Market Data System. This saves a server in the Tradesignal Market Data System infrastructure.

### Improved tick filtering

The filtering of ticks has been considerably expanded. Criteria for filtering bad ticks can now be precisely established in the Tradesignal Market Data System.

### Deleting unused symbol classes by users

You can define individual settings for deleting symbol classes in the new Tradesignal Market Data System.

### Expanded contract displays (Reuters)

A Reuters data feed also allows you to access expired contracts. These are displayed as Symbol Lists in Tradesignal.

### Improved license management

The new Licence Manager now supports setting up

groups and importing and exporting licence settings.

### Batch Import

Using a batch command allows you to import RIC lists and their corresponding histories in a DBU format.

### E-Mail logs

On request, the Tradesignal Market Data System can create a ZIP file via the Email Function, which contains all the necessary logs of the connected providers.

