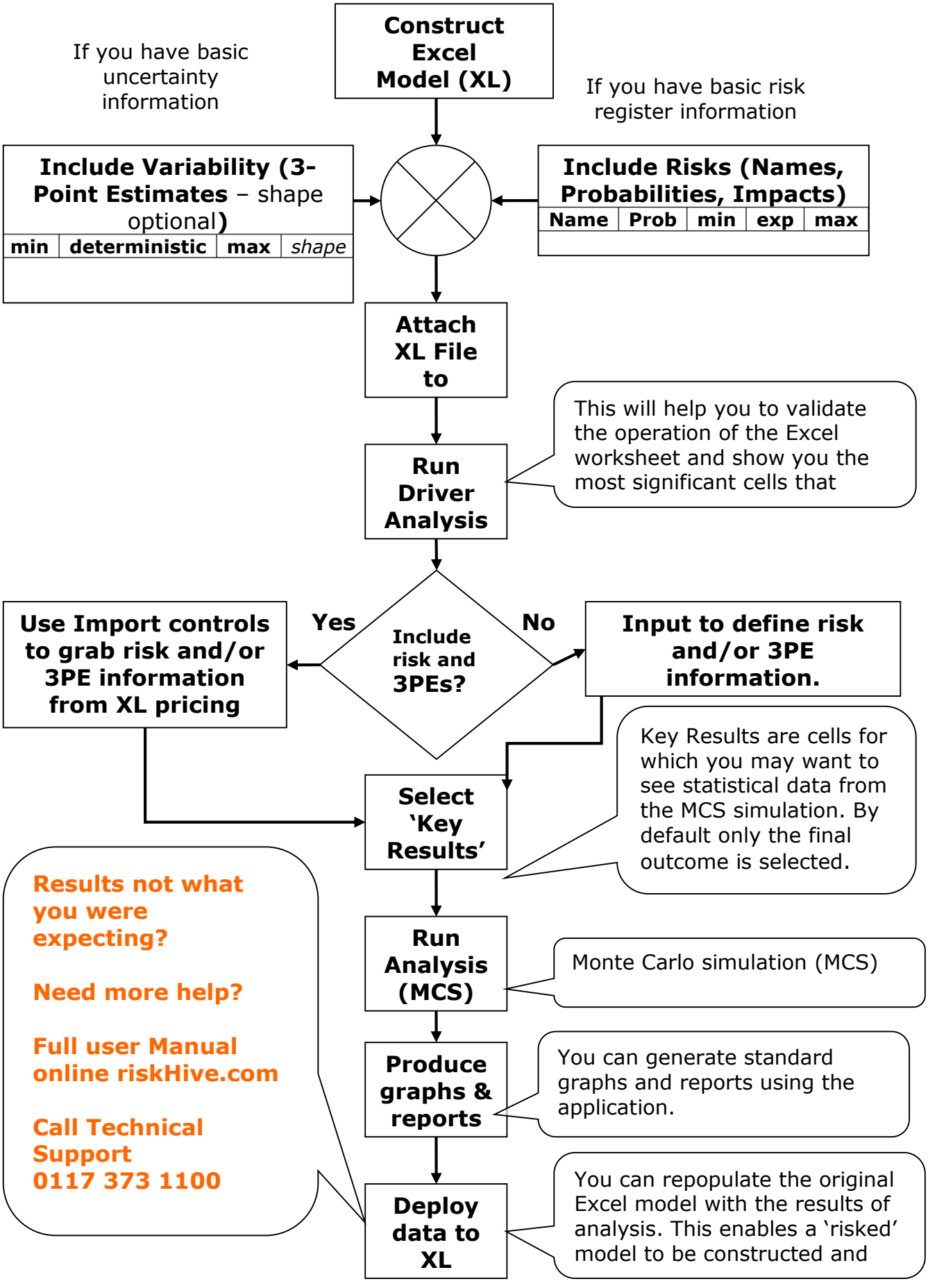
Arrisca Analyser FlexProfessional™

Software Version 4

Quick Start Guide - Excel version

Table of Content

1 Quick start overview



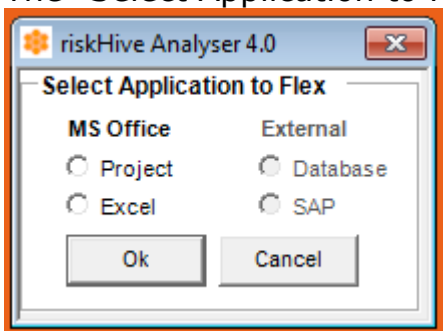
2 Getting Started

2.1 Launching the application

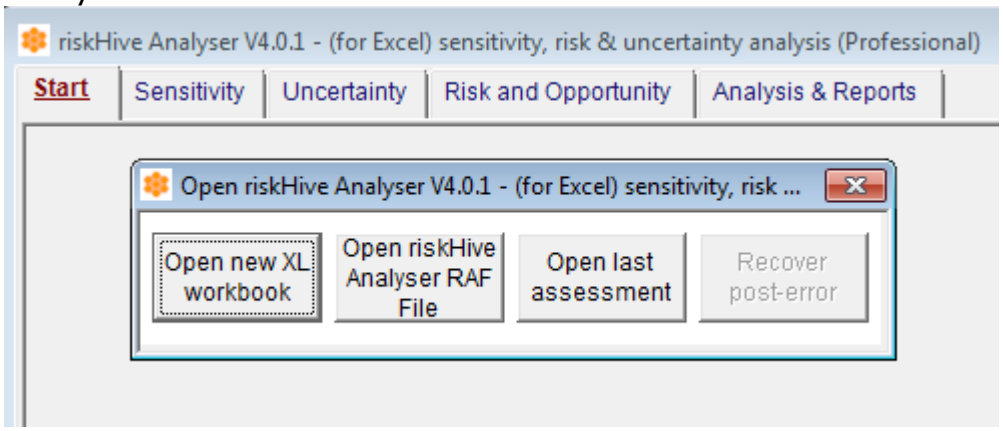
The application is launched from an icon on the desktop.

1. Double Click on the application icon on the desktop.

2. The "Select Application to Flex" start screen will be displayed.



3. Select Excel option under MS Office. This will display the "Open Analyser" box



4. Select the option you require:

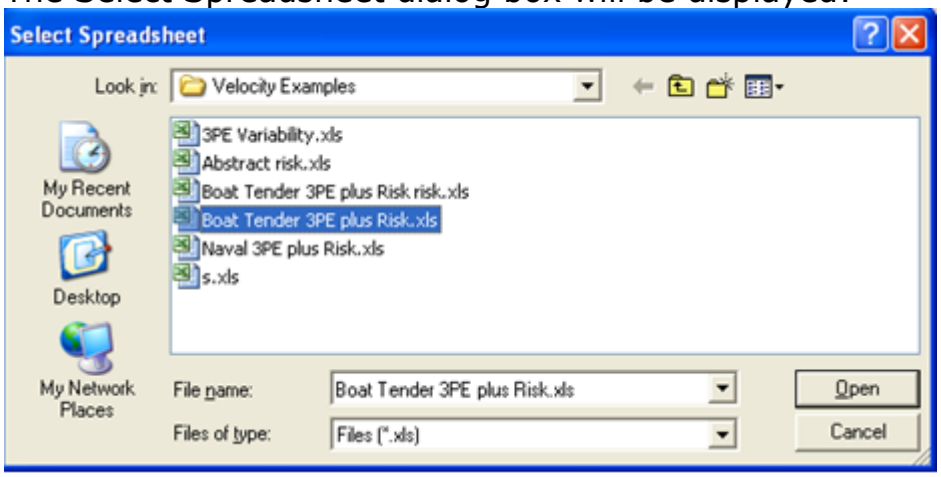
- **Open new XL workbook** – Browse for a workbook to perform an analysis
- **Open Arrisca RAF file** – Load a previous analysis as a complete package
- **Open last assessment** – Return to the last activity-state of the application

- **Recover post-error** – for use in case of an undesired application failure

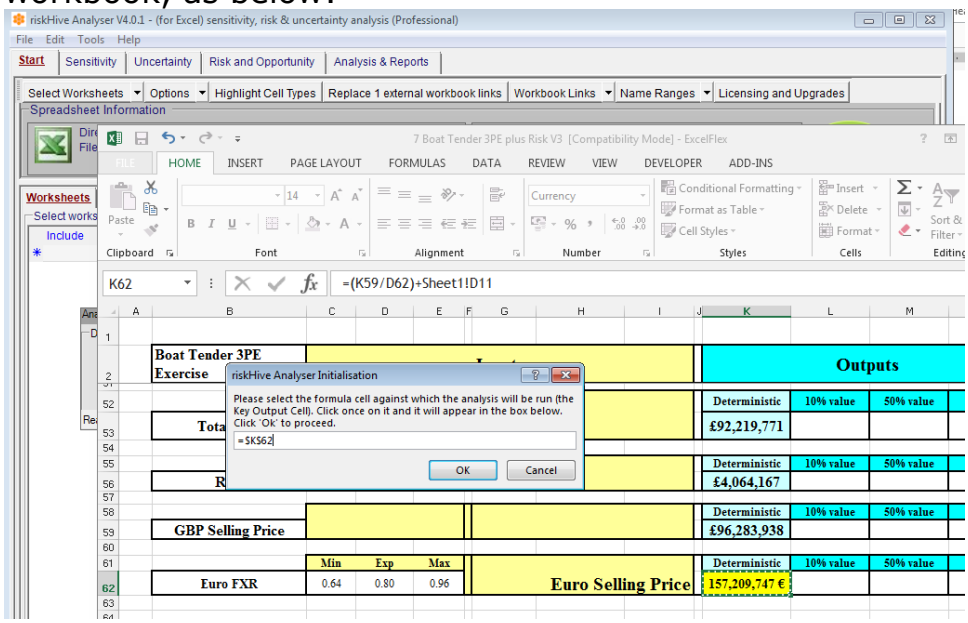
3 Application Launch and Navigation Excel option

3.1.1 Open new XL workbook

1. Click once on the **Open new XL workbook** button.
   The Select Spreadsheet dialog box will be displayed:



2. Select the workbook you wish to analyse and click **Open**.
   The workbook will automatically open and the FlexProfessional Initialisation cell-selector box will be displayed above the attached workbook, as below:



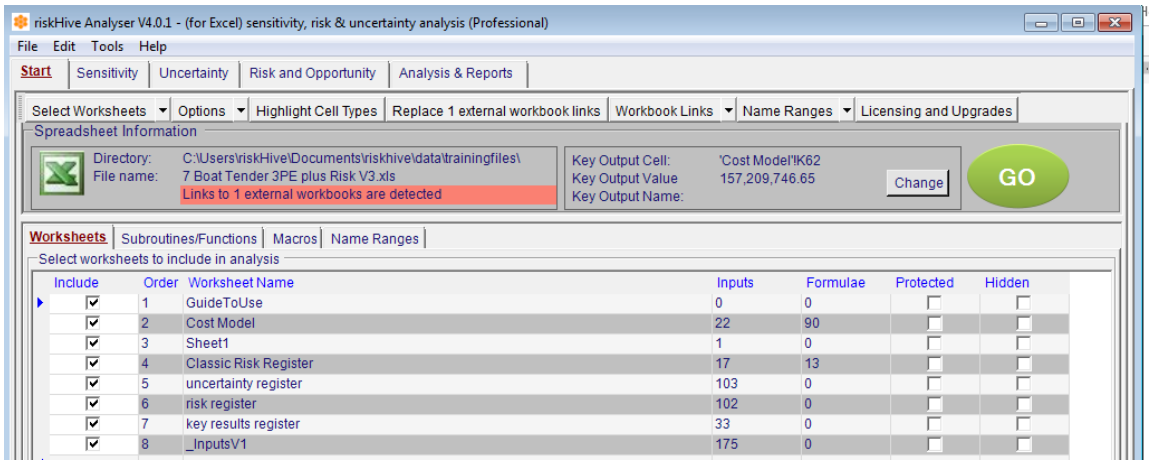
3. Select the worksheet and cell you wish to analyse the inputs and risks against. The cell reference will appear in the Initialisation box. This must

be a calculation or formula. It's usually the final value. This cell is known as the Key Output Cell (KOC) in the FlexPro application.

4. Click OK and the application will load and display the **Driver Analysis** Tab.

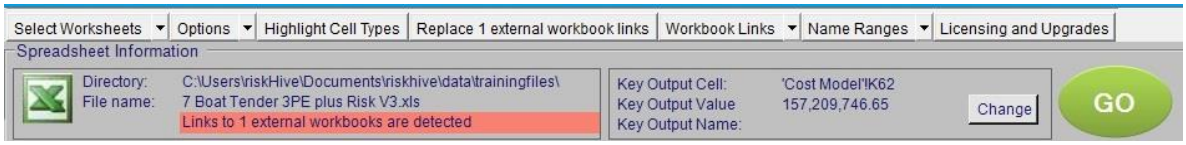
4 Start Control function tab

The Start Analysis Function Tab displays and manages controls related to the driver analysis itself. It can be accessed at any time from its Function Tab.



4.1 Feature Bar - Analysis Control

The Feature Bar contains function-specific controls and information pertaining to the attached workbook and Driver Analysis Control:

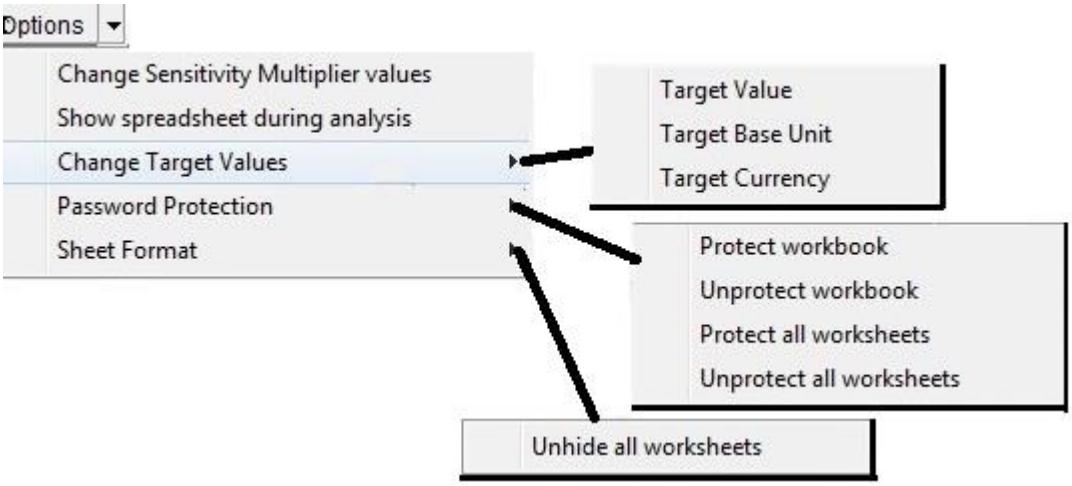


4.1.1 Select worksheets command

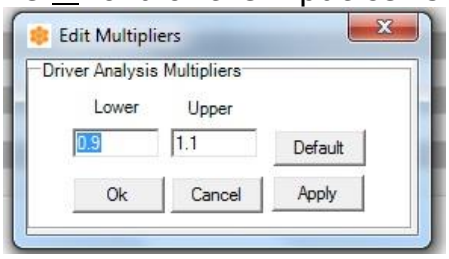
This command allows you to change what is included in the main panel selection:

- All Worksheets
- Key worksheet only (only the worksheet that contains the Key Output Cell)
- > zero inputs (all worksheets that have at least one viable input cell)

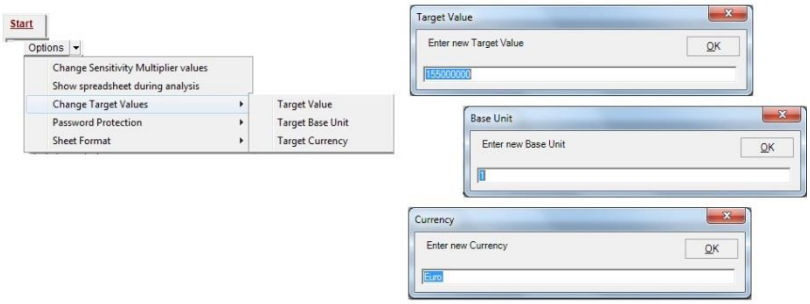
4.1.2 Options command



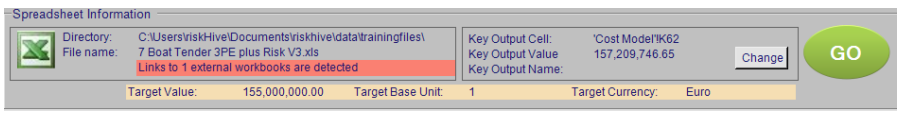
Change Analysis Multipliers – allows you to modify the upper and lower multiplier limits that are used during the sensitivity analysis itself. This will display a pop-up window that will allow you to enter new flex values for use in analysis The default values are ±10% of the input cell's value.



Change Target Values command-



Provides the facility to present additional bars on the S-curve reports to represent the desired outcome, which may be different from the deterministic or other confidence-related values To ensure that the graphic outputs reflect requirements, the target Value (Absolute), Base value(Divisor format) and currency can be changed via popup menus.



New Targets are displayed in the Spreadsheet Information Panel; it may be necessary to drag panel open to see results.

Password protection - FlexPro cannot flex protected or read-only worksheets or areas. You must either deselect the worksheet from the list of included worksheets or unprotect it. If you have selected a protected or read-only worksheet for analysis, you will get the following pop-up message on clicking the Start button and you must either deselect or unprotect the worksheet to continue with analysis:

4.1.3 Start Driver Analysis

This prominent button starts the Driver Analysis function.
To start the Driver analysis:

1. Click once on the green **Start Driver Analysis** button. The Excel workbook is hidden from view and a progress indicator is displayed to inform the user of analysis status.
2. During analysis the button changes to a red **Stop** button.
3. When the analysis is complete the **Sensitivity Function Tab** is displayed.

Warning- If the workbook uses formula linked to "Dates" in a date format, the sensitivity output will be bias towards those dates, change date cells to a formula format to overcome any issues.

Warning- spreadsheets should fully verified to ensure that pure inputs (constants) have not been entered as a formula cell (eg = 123) as the Arrisca tool will not include them in a sensitivity analysis.

The sensitivity analysis will produce results based on the deterministic inputs and all the elements that make up a risk impact e.g. probability, Min. ML & Max values

You cannot deselect the worksheet that contains the Key Output Cell.

4.2 Subroutine/Functions

The Subroutines/functions panel allows you to view any additional coded functions that exist in the workbook. You cannot run these from FlexPro because of their use of programming arguments that may need to be passed to or from other code areas and makes them unreliable to run as macros, so we list them instead.

If you want to use a Subroutines/functions, remove or replace its coded arguments in Visual Basic, save it and it will appear as a macro in the Macro list on reload.

4.3 Start- Macro view panel

The Macros panel allows you to select or deselect any macros that exist in the workbook that you may want to run during the execution of sensitivity analysis.

Each available macro in the workbook is summarised by a line in the panel.

By default, no macros are selected.
Use the checkboxes to select or deselect each macro for analysis.
You may define the order in which the macros are run by manually selecting and editing the Execute Order field. Select the Execute Order field for the desired macro, type the new order number and press the Enter key on your keyboard.

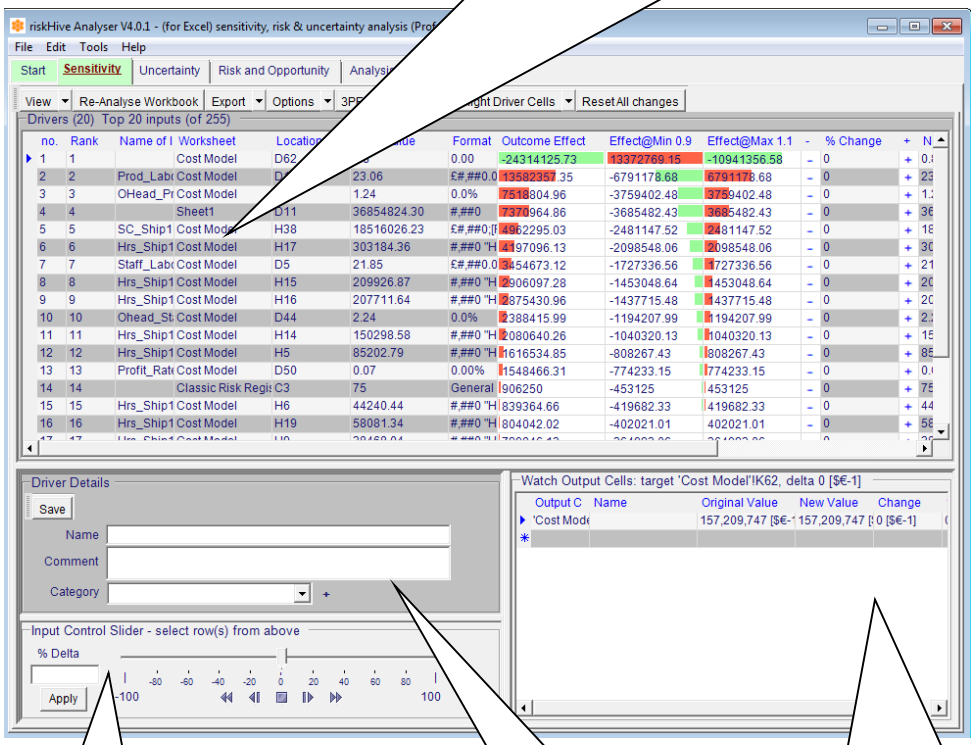
You can sort by Run, Execute Order or Name columns by clicking on the blue field column titles.

All macros need to be reviewed to ensure there are no embedded factors that may affect the outcome of the model.

5 Sensitivity function tab

The **Sensitivity** panel displays the results of the Driver Analysis and allows you to manipulate and monitor the inputs that were identified as Drivers. This is the primary interactive screen for Driver display, management and flexing.

View Panels are dynamic panes that contain lists and control windows. Both the main application window and all panels are resizable



Watch Panel by default the target cell selected for the

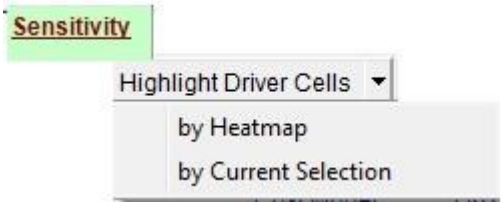
Input Control Panel enables selected drivers to be flexed

Driver Details Panels enables comments be added and classify the item with corporate terms

Many of the functions descripted in this section of the manual can be accessed by a "right" click on the mouse see 4.2.2.in full manual

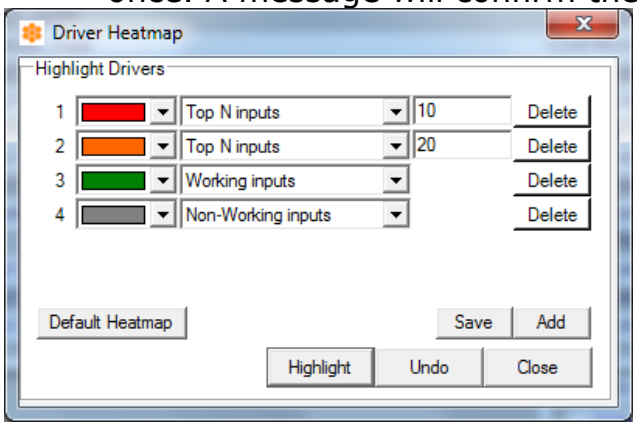
5.1.1 Highlight Driver Cells command

The application provides functionality for marking the input drivers displayed on the Sensitivity Drivers panel. It does this by using Excel to highlight cells.



5.1.1.1 To highlight the input driver cells currently displayed in the Sensitivity Drivers panel:

1. Select "**by heatmap**"
2. Select from popup menu the combination required for the display
3. Press **Highlight >** Select the required highlight colour from the drop down colour selector and then click the **Highlight** button once. A message will confirm the action



4. Click **Undo** to remove the last highlight action.
5. The **save** option will remember your chosen combination of colours and 'n' inputs.
6. **Close** option shuts heatmap.

: To create a Driver 'heatmap' based on significance, define and display sets of Drivers using the Drivers to Display control and different highlighting colours.

When using the heatmap function for spreadsheet verification i.e. to check for "non-working" inputs on sub totals within the spreadsheet it is

necessary to set the display options so that only "non-working" inputs will be highlighted.

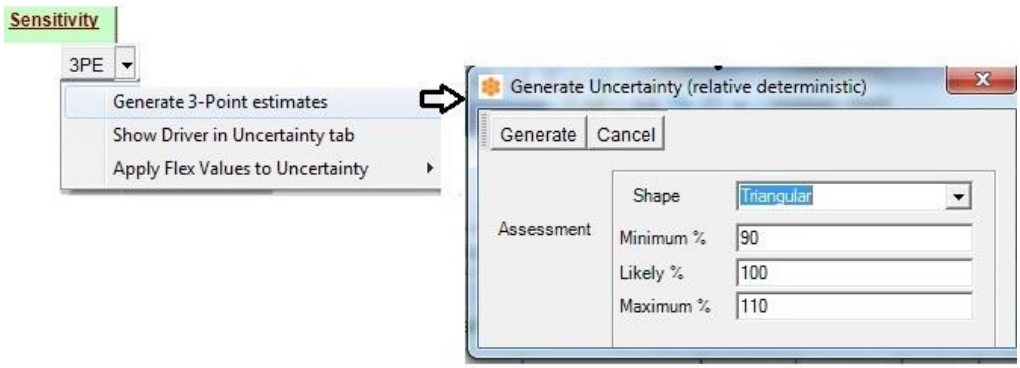
It should be noted that where an input cell value is used in many formulas it will not show up as non-working cell if missed from say a sub total elsewhere in the spreadsheet.

Input cells that have a value of zero will be classified as Non-Working

5.1.2 3 PE (Point Estimating)

5.1.2.1 Generate 3 Point Estimate

This command will allow you adjust the driver set by generating 3 point estimates, results can be viewed in the Uncertainty section.
Method: select rows to adjusted, select 3PE G**enerate 3 Point Estimate,** chose **distribution** shape and required values for **Min, Most Likey** & **Max,** press **Generate** button.



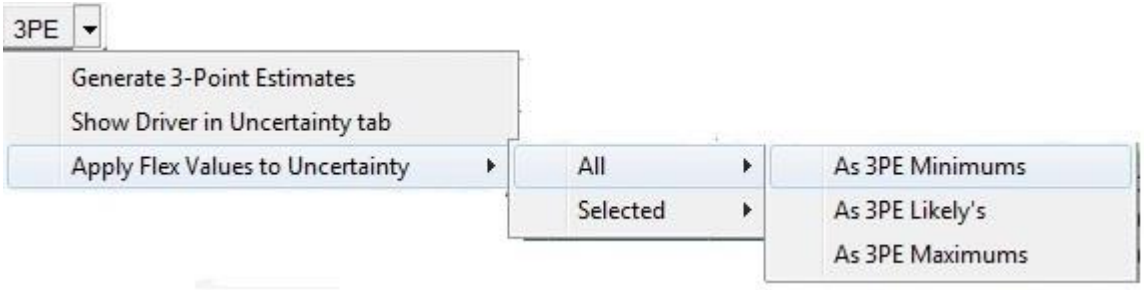
5.1.2.2 Show Driver in Uncertainty Tab command

This command allows you transfer selected drivers to the **Uncertainty Register** such that they may have Uncertainty Assessments made on them.

To transfer cells to the Uncertainty Register:
1. Select the Drivers you want to transfer to the Uncertainty Register
2. Click on the **3 PE** tab **>** select **Show Drivers in Uncertainty Tab** command.

A confirmation message is displayed. Click **OK** to finish operation.
The selected cells are displayed in the **Uncertainty Drivers List** on the **Uncertainty Function Tab**. Their shapes are highlighted in red to indicate no assessment has yet been made.

5.1.2.3 Generating Uncertainty Inputs



Uncertainty may be added by recording the manipulation of the Sensitivity Drivers on the **Sensitivity 3 PE** Function Tab.
To add Uncertainty from manipulation of the Sensitivity Drivers:

1. Select the **Drivers** (cells displayed) to be flexed and added to the Uncertainty List
2. Set **Likely** values:
    i. Use either **the Input Control Slider** or the **+ or - Flex Buttons** to manipulate the selected drivers to a desired state which represents a set of **Likely (repeat for Minimum and Max**) Uncertainty values
    ii. Select **3PE** > **ALL or Selected**> **Apply Flex values to Uncertainty** select **As 3PE for Likely**
    iii. A progress indicator appears and a confirmation message is displayed once the task is finished. Click **OK** to complete.
    iv. The Driver cells have been added to the Uncertainty Drivers List on the Uncertainty Function Tab with a Constant shape of the value set by the flex manipulation
    v. Repeat for other two values **(Minimum & Max)**

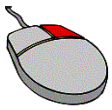
5.1.3 Reset all drivers command

This command allows you reset any changes that have been made to Driver cells.

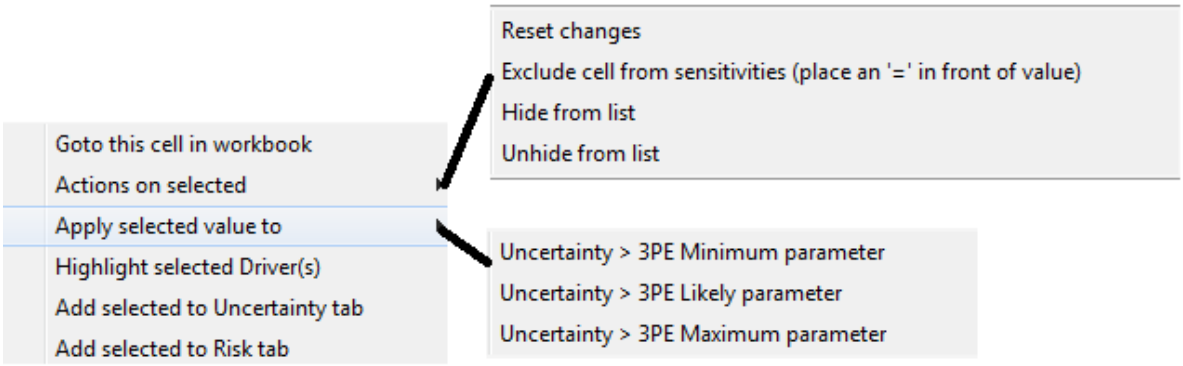
To reset Driver cells to their original (deterministic Excel) values:
1. Click once on the **Reset all drivers** command.
2. All Drivers will be returned to their original values.

Comments and Names cannot be reset

5.1.4 Sensitivity Driver panel contextual menu (right-click)



Select the row from sensitivity display panel, there are a number of options available by making a right click menu, as shown below:



6 Uncertainty function tab

6.1.1.1 Apply or edit QUALitative Assessment Parameters

The application provides a unique ability to assign Uncertainty by applying a qualitative level to the cell. Qualitative assessment parameters are described in detail in **Section 8** of the full manual. When the qualitative level is applied to the target cell the quantitative parameters, such as a three-point estimate, are automatically and dynamically calculated relative to the cell's value.

To apply a qualitative Uncertainty assessment to a single cell:

1. Select the cell row to which you wish to apply the assessment level
2. In the Uncertainty parameter pane, select the **Qualitative** button
3. In the type selector box, select either **Relative** or **Absolute** levels
4. Select the level you wish to apply from the **level** drop-down box
5. Click **Save**. The assessment is applied and the Level is displayed in the main Uncertainty Drivers list.

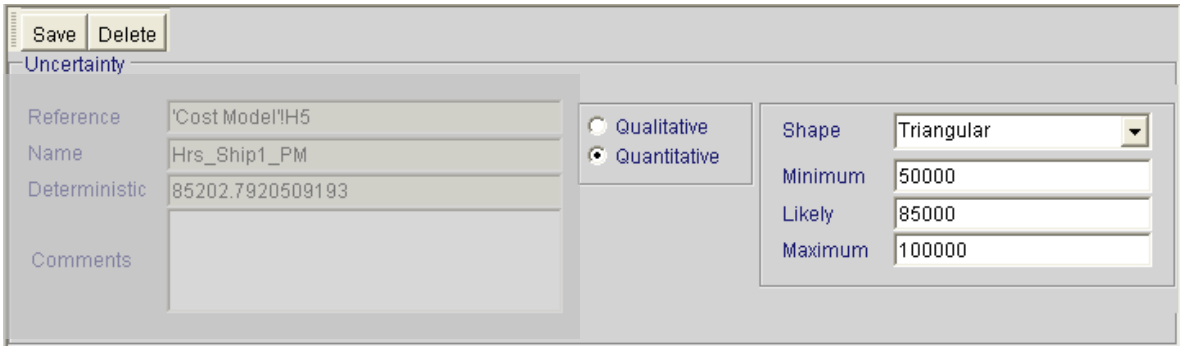
The information (circled in yellow) shown below the qualitative selection is an illustration of the factors that describe the distribution that will be applied the deterministic value, it does not use those numbers for any other purpose.

6.1.1.2 Apply or edit QUANTitative Assessment Parameters

Quantitative Uncertainty assessments may be made using several standard input distributions that are listed and described fully in **Section 8 of the Full manual**.

To apply a quantitative Uncertainty assessment to a single cell:

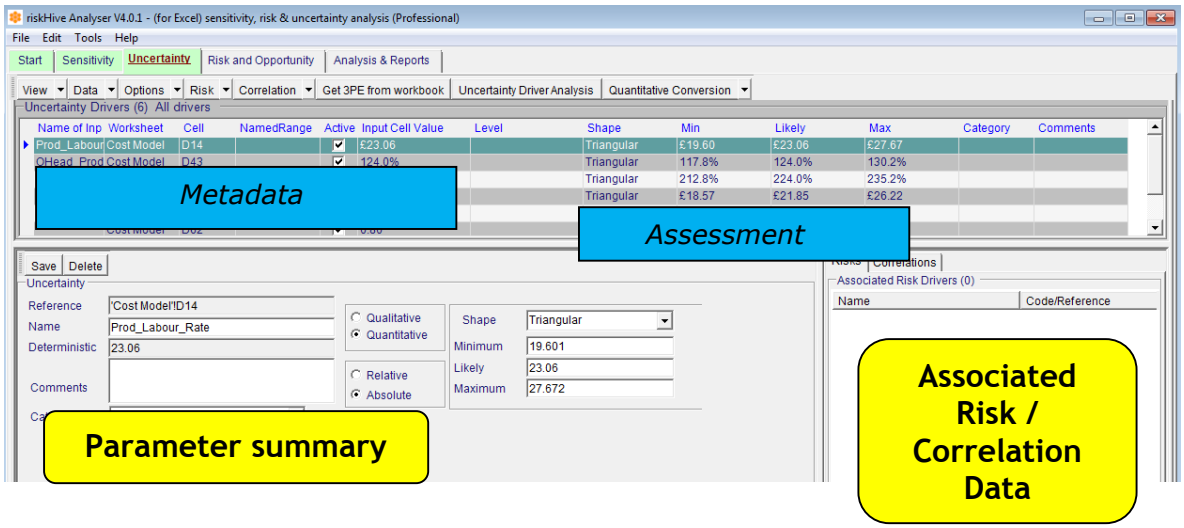
1. Select the cell row to which you wish to apply the assessment level
2. In the Uncertainty parameter pane, select the **Quantitative** button
3. Select the distribution **Shape** you wish to apply from the **Shape** drop-down
4. Type in the Minimum, Likely and Maximum values you wish to apply (the
5. Click **Save**. The assessment is applied and the parameters are displayed in the main Uncertainty Drivers list.



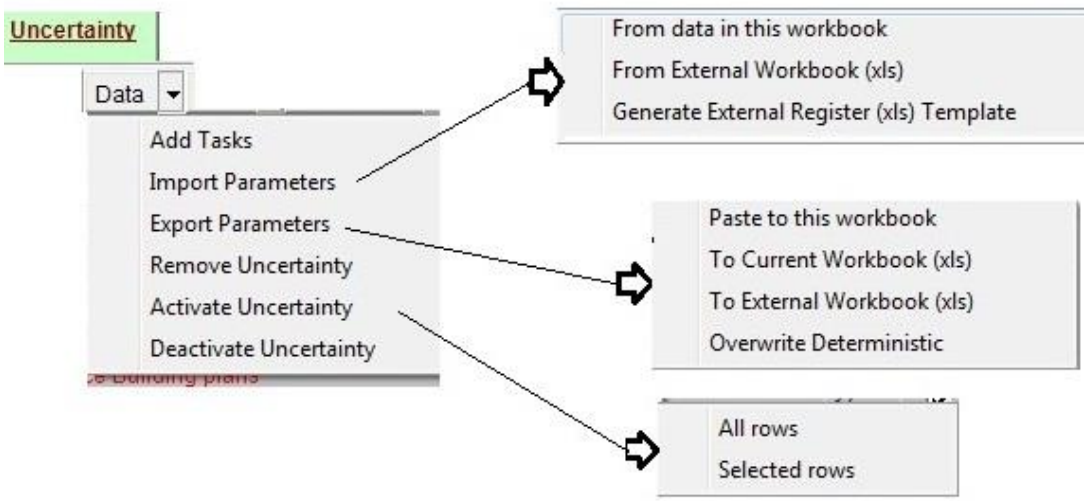
To apply quantitative parameters to **multiple cells** at the same time:

1. Hold down the Ctrl key and click once on each row you want to select
2. Repeat the qualitative level selection process above and click **Save**.

3. The assessment parameters are applied to each of the selected cells and are displayed for each selected cell in the main Uncertainty Drivers list.



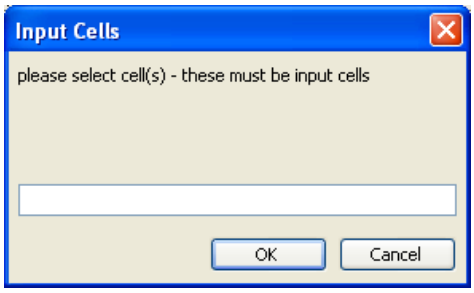
6.2 Data function



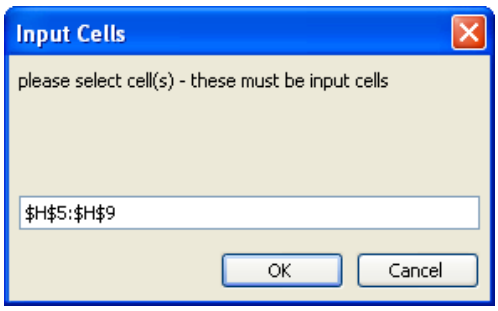
6.2.1 Add Cells selected from Excel

To add uncertainty by manually selecting cells from the attached workbook:

1. Click once on the **Data** tab on the **Uncertainty Feature Bar**
2. Select **Add Cells selected from Excel** from the drop-down list. The cell-selector will be displayed in Excel over the attached workbook:

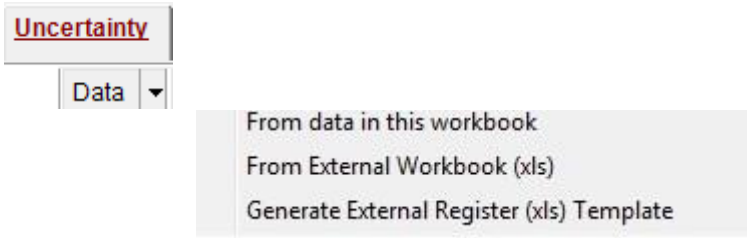


3. Select the cells to which you want to add uncertainty parameters. The cell locations or ranges will be displayed in the cell-selector window. Click **OK**.



4. A progress indicator appears and a confirmation message is displayed once the task is finished. Click **OK** to complete the operation.
5. The cells are now displayed in the main Uncertainty Drivers pane with their names, locations and deterministic values. Note that the shape column is highlighted in red denoting that although the cell is available for uncertainty assessment it currently has no parameters assigned to it.

6.2.2 Import parameters

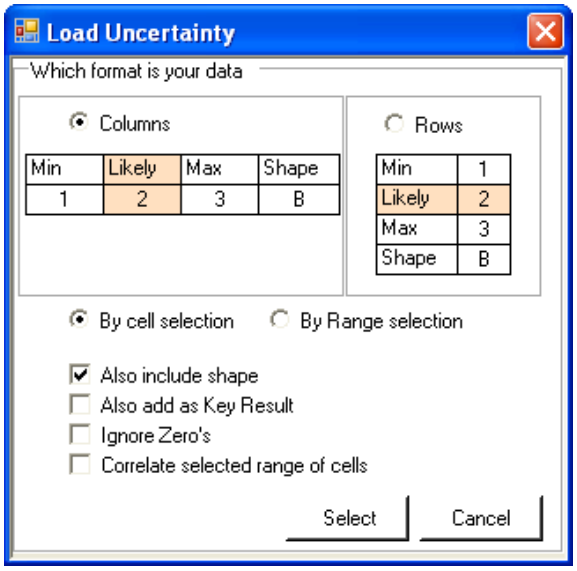


6.2.2.1 From data in this workbook

6.2.2.1.1 Grab 3PE Uncertainty from columns in worksheet

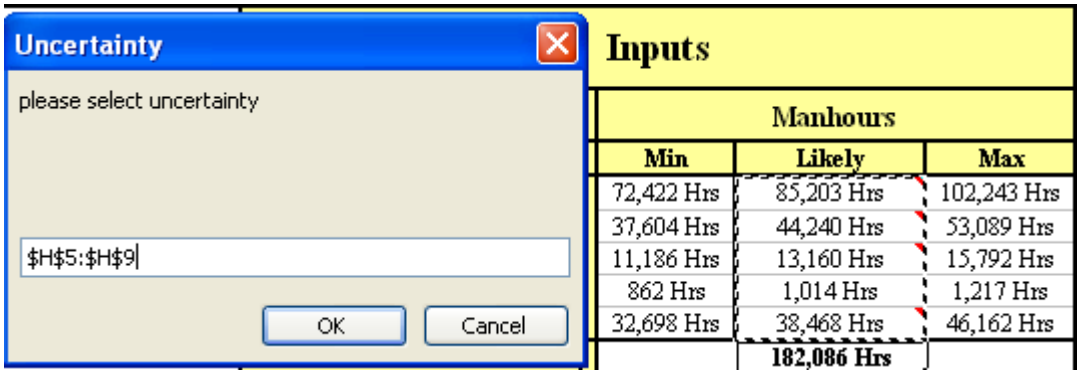
To grab 3-point estimate uncertainty input data from the attached workbook:

1. Click once on the **Data** control on the **Uncertainty Tab > Feature Bar**
2. Select the **Import parameters** > **From data in this workbook** option. The input dialog appears:



3. Select the **Columns** option. If you have defined the distribution shape by typing its initial to the left of the max value select the **Include Shape** box.
4. Click **Select**. The cell-selector is displayed in the attached workbook.
5. Use the mouse to select only the Likely values in the column.

The application expects the min and max values to be adjacent (either side) so you don't have to select them all, as shown in the graphic below.

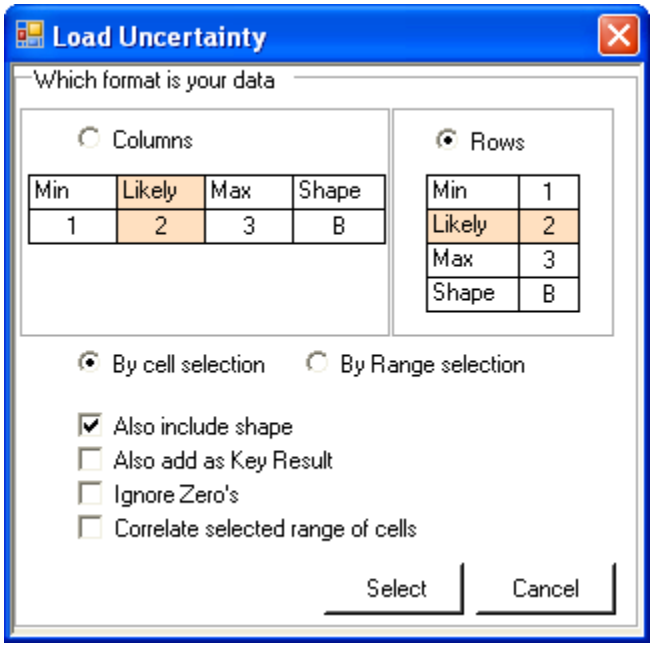


6. Once you have selected the Likely cells click **OK**.
7. A progress indicator appears and a confirmation message is displayed once the task is finished. Click **OK** to complete the operation. The selected cells are added to the Uncertainty list, the 3PE parameters are applied and the new selections are displayed in the main Uncertainty Drivers list.

6.2.2.1.2 Grab 3PE Uncertainty from rows in worksheet

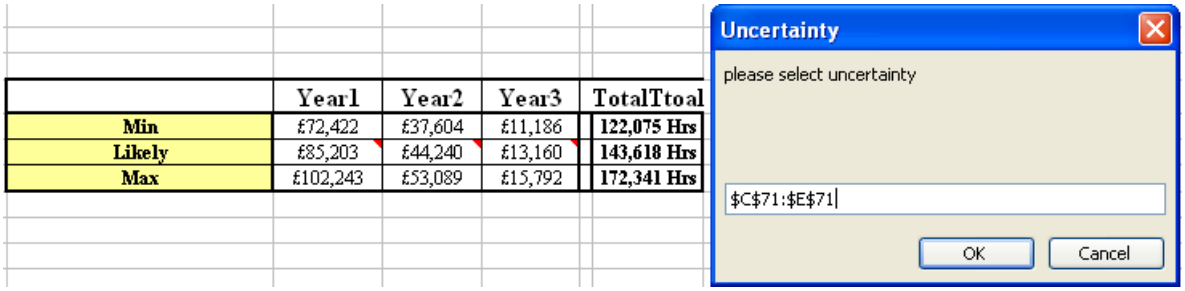
To grab 3-point estimate uncertainty input data from the attached workbook:

1. Click once on the **Data** control on the **Uncertainty Tab > Feature Bar**
2. Select **Import Parameters**>**From data in this workbook** option. The input dialog appears:



3. Select the **Rows** option. If you have defined the distribution shape by typing its initial to the left of the max value select the **Include Shape** box.
4. Click **Select**. The cell-selector is displayed in the attached workbook.
5. Use the mouse to select only the **Likely values** in the row.

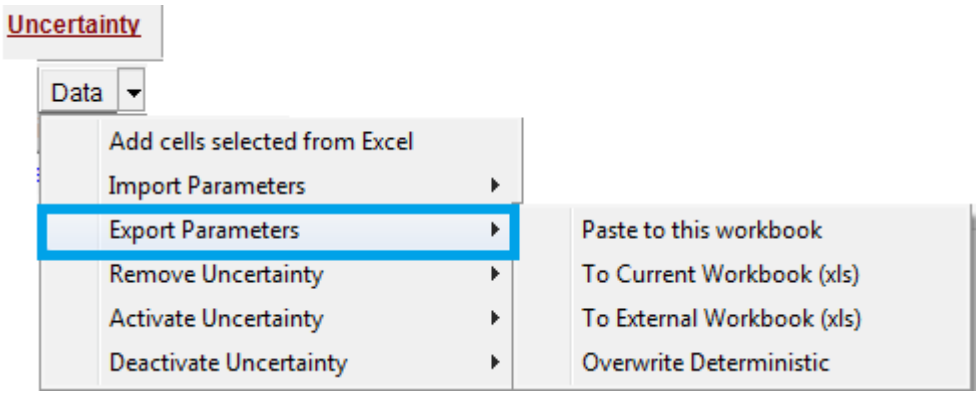
The application expects the min and max values to be adjacent (above & below) so you don't have to select them all, as shown in the graphic below.



	Year1	Year2	Year3	TotalTtoal
Min	£72,422	£37,604	£11,186	122,075 Hrs
Likely	£85,203	£44,240	£13,160	143,618 Hrs
Max	£102,243	£53,089	£15,792	172,341 Hrs

6. Once you have selected the Likely cells click **OK**.
7. A progress indicator appears and a confirmation message is displayed once the task is finished. Click **OK** to complete the operation. The selected cells are added to the Uncertainty list, the 3PE parameters are applied and the new selections are displayed in the main Uncertainty Drivers list.

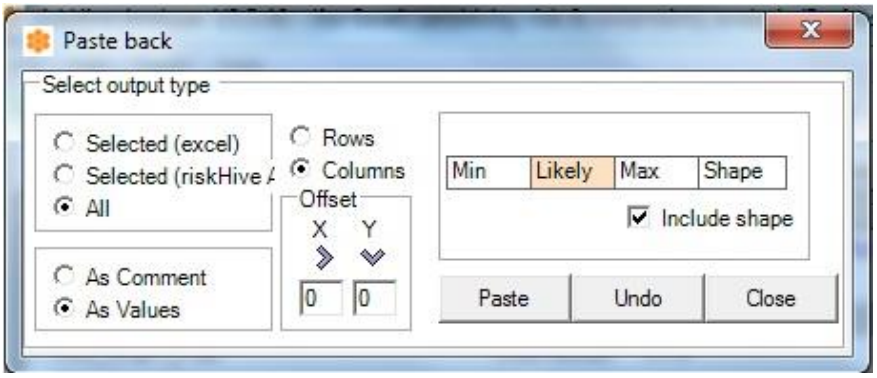
6.2.2.2 Export parameters



6.2.2.3 Paste to this workbook

This will you add Arrisca values to Excel workbook

- Select paste to this option
- Fill in popup "paste back" options
- Note addition values can be added as rows or columns with offsets



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6.2.2.4 Export to Current Workbook

This allows you to export uncertainties to the current workbook as a new worksheet.

- Select To current workbook from Data> Export Parameters
- A popup option box will allow to change the name of worksheet if required, sheet is pre name by the Arrisca tool , press OK to finish operation.

6.2.2.5 Export to External Workbook as an uncertainty register

To export Uncertainty to an external register in a new Excel workbook:

1. Click once on the **Data** control on the **Uncertainty Tab Feature Bar**
2. Select **Export Parameters** then **To external register (.xls)** option.
3. Select the file name and location in the displayed file-browser window
4. Click **Save**.
5. A progress indicator appears and a confirmation message is displayed once the task is finished. Click **OK** to complete the operation.

The Uncertainty parameters are exported in the following format:

Cell Reference	Name	Level	Minimum	Likely	Maximum	Shape	Whole
'Cost Model'!H6	Hrs_Ship1_Design		50		150	Uniform	FALSE
'Cost Model'!H7	Hrs_Ship1_Proc		50	100	150	Triangular	FALSE
'Cost Model'!H8	Hrs_Ship1_ILS		75	100	125	Beta	FALSE
'Cost Model'!H9	Hrs_Ship1_OpsMan		0.1	50	0	Normal	FALSE
'Cost Model'!H5	Hrs_Ship1_PM	High					

The parameters may be edited, extended or reduced as required in Excel and then re-imported into the application using the **Uncertainty Tab Feature Bar Data > Import Parameters > From external register (.xls)** control described in Section 5.3

6.2.2.6 Remove Uncertainty

Uncertainty may be removed by one of two methods:

- All
- Selected rows only

To remove **all** uncertainty assessments and clear the Uncertainty Driver list:

1. Click once on the **Data** on the Uncertainty Tab Feature Bar then select **Remove uncertainty**
2. Select the **All** option
3. A progress indicator appears and a confirmation message is displayed once the task is finished.

To remove **selected** uncertainty assessments and remove them from the Uncertainty Driver list:

1. Select the rows representing the cells you want to remove from the Uncertainty Drivers list
2. Click once on the **Data** on the Uncertainty Tab Feature Bar
3. Select the **Remove uncertainty** then **Selected rows** option
4. A progress indicator appears and a confirmation message is displayed once the task is finished.

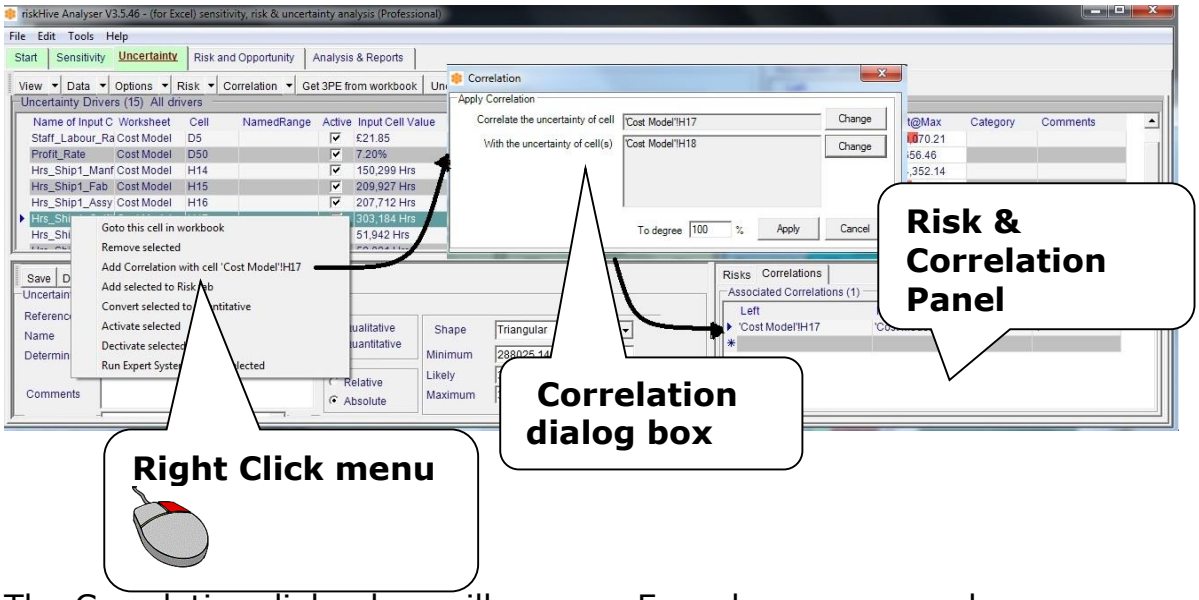
6.3 Correlation

Correlation between any uncertainty inputs can easily be applied from the Uncertainty Drivers List and managed from the Associated Correlations box.

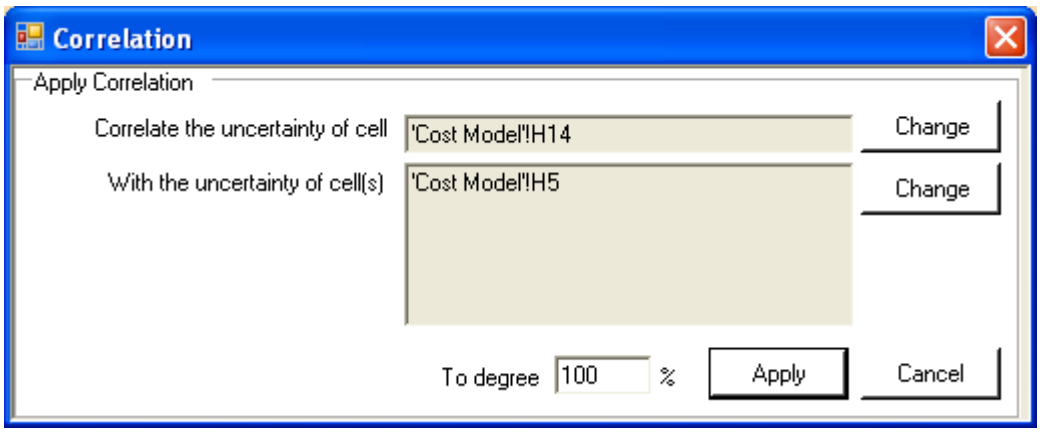
6.3.1 Add correlation to Uncertainty Driver cells

In the Uncertainty Drivers list on the Uncertainty Function Tab:

1. Select the Uncertainty Driver rows you wish to correlate using the Ctrl key
2. Right-click once on one of the selected cells and a menu appears
3. Select the **Add Correlation with uncertainty of 'Cell x'** option



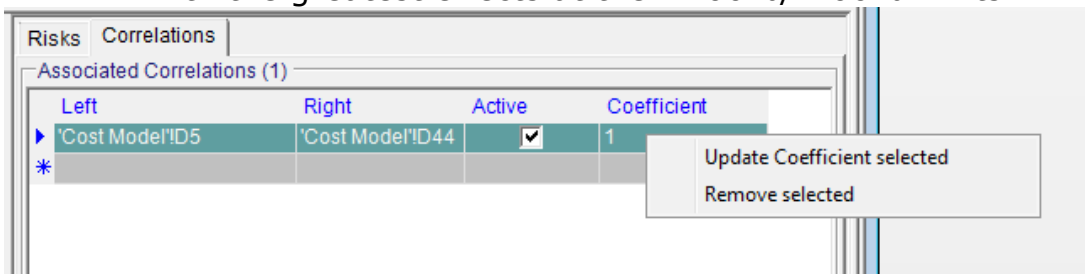
4. The Correlation dialog box will appear. From here you can change either the cells to be correlated or the degree of correlation to be applied.



5. Using the **Change button** select the desired cells and degree of correlation selected, click once on the **Apply** button to commit the correlation to the simulation.

The Associated **Correlations panel** will be populated.
Correlation coefficient (value = -100% through 100%)

- Any degree of Direct or Inverse correlation can be specified, with the greatest effects at the +100%/-100% limits.



6.4 Get 3PE from workbook

There are certain common layouts of Uncertainty values in a spreadsheet.
The application provides the ability to 'grab' this data from the spreadsheet.
The two most common layouts are:

- **Columns** – where the minimum & maximum values are in adjacent cells to the left and right of the likely value, laid out as in the following graphic;

Min	Likely	Max
1	2	3

and

- **Rows** - where the minimum & maximum values are in adjacent cells directly above and below the likely value, laid out as in the following graphic;

Min	1
Likely	2
Max	3

The cells may be grabbed either individually, as contiguous or non-contiguous selections or by ranges. The main purpose of this feature is to 'grab' large amounts of 3PE input data in one go. It is quite normal to select a range of cells containing many thousands of 3-point estimates to import by a single click.

6.4.1 Grab options for 3PE Uncertainty import from worksheet

As well as grabbing the 3-point estimate cells and parameters from the workbook it is possible to carry out additional functions during the process:

- **Also include shape** – allows specification of distribution to be applied.
  Simply ensure the initial letter of the distribution is included to the right of for Columns or below for Rows. Common shapes, with parameters, are:
  - C = Constant (Likely)

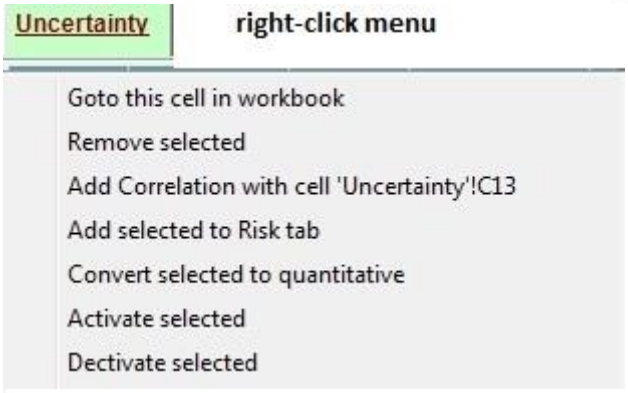
  - U = Uniform (Min, Max)
  - T = Triangular (Min, Likely, Max)
  - B = Project Beta (Min, Likely, Max)
  - N = Normal (Sigma, Mean, Mu) – Mu is normally 1
  - L = Lognormal (Sigma, Mean, Mu) – Mu is normally 0

- **Also add as Key Result** – This option adds the Likely cells to the list of Key Results as part of the grab process. This results in statistical data being calculated for all of the likely cells during a Monte Carlo simulation and the subsequent paste-back of the statistical confidence-related values.

- **Ignore zeros** – this option identifies and ignores zero-value likely cells during the grab process, reducing the number of nugatory cells that are imported and displayed in the Uncertainty Drivers and Key Results lists.

6.4.1.1 Sensitivity Driver panel contextual menu (right-click)

There are a number of options available by making a right mouse click menu within the driver panel, as shown below:



7 Risk and Opportunity function tab

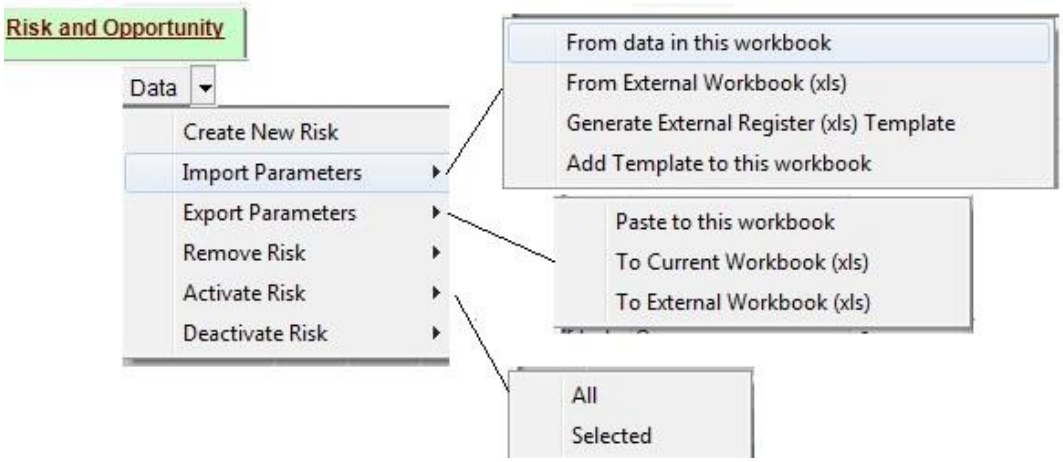
7.1 Risk

As far as the term Risk is used you may consider the word Opportunity to be exchangeable where the effect of the impact is of the opposite polarity.

The differentiator between Risk (and Opportunity) and Uncertainty is the Probabilistic element – also known as Likelihood.

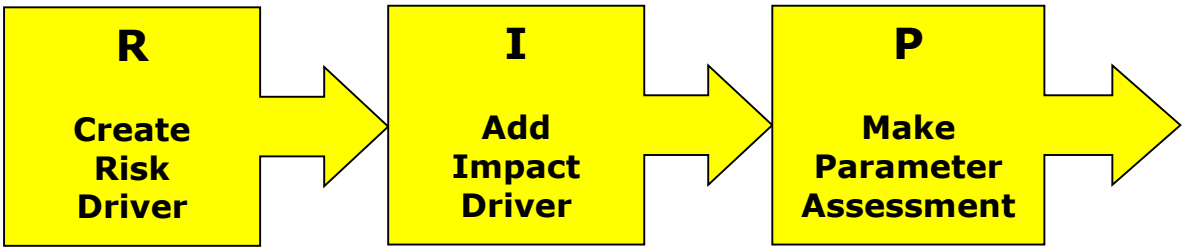
In risk, for there to be a Likelihood of occurrence, recorded as Probability on a scale of 0% - 100%, there must be an associated event or root-cause for the impact to manifest.

7.2 Data



7.2.1.1 Create a new risk

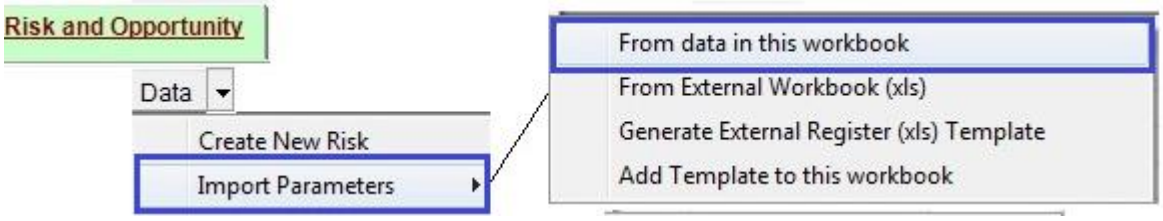
To add a **Risk Driver** by manual entry, follow the following 3-point procedure:



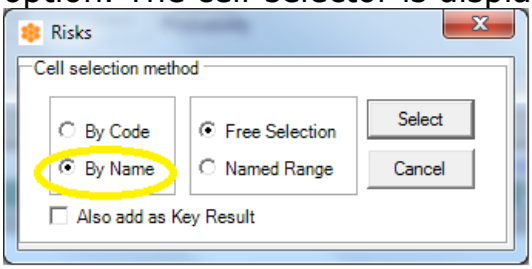
Risk may be added in one of three ways:

- Import from cells in the attached workbook
- Import from a separate Risk Register
- Add by manual entry

7.2.2 Import from the attached workbook:

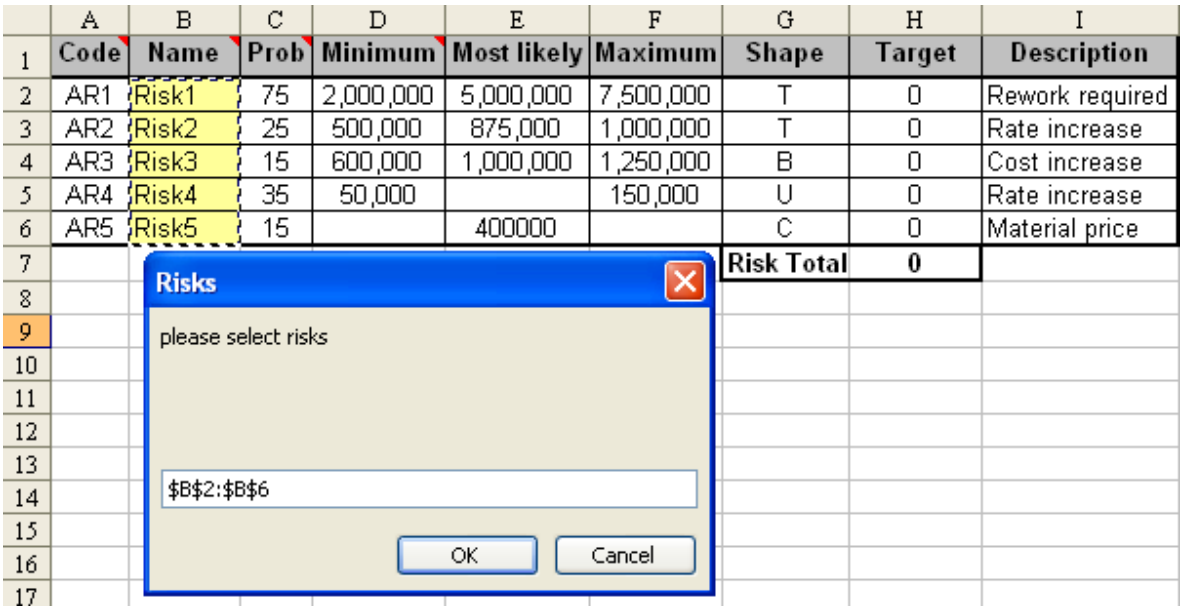


1. Click once on the **Data** on the **Risk and Opportunity Feature Bar**
2. Select **Import Parameters** then **From data in this workbook** option. The cell-selector is displayed in the attached workbook.



3. Use the mouse to **select only** the **Names** of the risks in a column. The application expects the risk parameters to be laid-out as described above so you don't have to select them all, as shown in the graphic below (the selected cells containing the risk names are highlighted in yellow):

4.

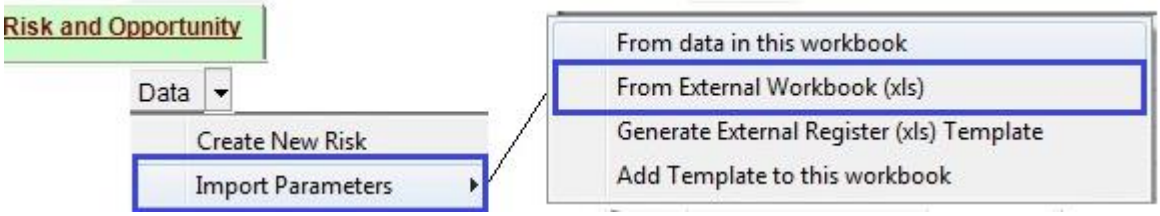


	A	B	C	D	E	F	G	H	I
1	Code	Name	Prob	Minimum	Most likely	Maximum	Shape	Target	Description
2	AR1	Risk1	75	2,000,000	5,000,000	7,500,000	T	0	Rework required
3	AR2	Risk2	25	500,000	875,000	1,000,000	T	0	Rate increase
4	AR3	Risk3	15	600,000	1,000,000	1,250,000	B	0	Cost increase
5	AR4	Risk4	35	50,000		150,000	U	0	Rate increase
6	AR5	Risk5	15		400000		C	0	Material price
7							Risk Total	0	

5. Once you have selected the risk **Names** cells click **OK**.
6. A progress indicator appears and a confirmation message is displayed once the task is finished. Click **OK** to complete the operation. The selected risks are added to the Risk Drivers list.

: If your risk register is not exactly in this layout format you can create a template for the layout and then link the relevant cells to it. The import function can grab formulaic cells as well as 'constant' input cells.

7.2.3 Import from a separate Risk Register



To import risk data from an external risk register in an Excel workbook:

1. Ensure the external register is prepared and saved in the following format shown on the following page. The red box denotes the named range RISKS:
2. Click once on the **Data** control on the **Risk and Opportunity** Features Bar
3. Select **Import parameters** then **From external Workbook (.xls)** option.
4. Select the file name and location from the displayed file-browser window
5. Click **Open**.

6. A progress indicator appears and a confirmation message is displayed once the task is finished. Click **OK** to complete the operation. The imported information is added to the **Risk Drivers** list and displayed in the main list.

to allow consistent parameter application where the target cell reference is not consistent between workbooks.
***Scatter or Blanket** – scatter means all impacts of a risk instance are probabilistically independent – blanket means they are probabilistically linked.*
*Use either **Probability Level** (Qualitative)OR **Probability** (Quantitative)– not both.*
*Use either **Impact Level** (Qualitative)OR **Min, Likely, Max** (Quantitative)– not both.*
***Serial or concurrent** has no effect in Excel workbook modelling.*

7.3 Risk Probability

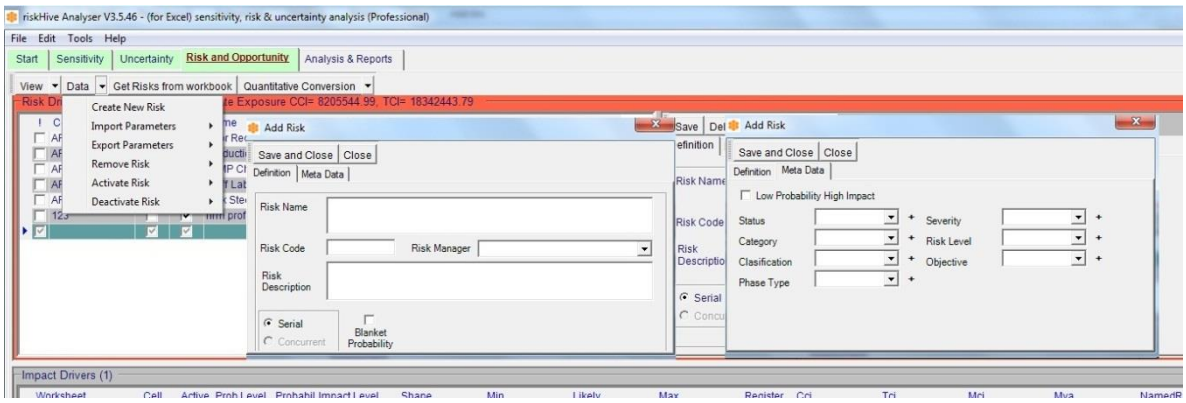
To correlate the probabilistic parameters of **Impact Drivers** within a **Risk Driver**, use the **Blanket Probability** control in the Risk Driver Metadata pane on the **Risk and Opportunity Tab**

To correlate Impact Driver Probabilities:
1. Select the **Risk Driver** for which you want to apply Blanket Probability.
2. Check the **Blanket Probability** box.
3. Set **Blanket Probability** value:
    a. Select either of the **Qualitative** or **Quantitative** options.
        i. **Qualitative:** Select the desired **Probability** Level from the drop-down list that appears to the right of the option;
        ii. **Quantitative:** Type in the desired **Probability** value (an integer between 0 and 100) in the field that appears to the right of the option.

4. Click **Save.** Updated Risk Driver Probability is displayed in the **Risk Drivers** List in the pane to the left. The **Scatter/Blanket** column is updated.

- ***Relative*** *will produce values for min. most likely and max (3PE) based on the deterministic value used in the model.*
- ***Absolute*** *option will add the deterministic value to the pre-determined 3 PE defined by "User". This option is best suited to "Design to cost" modelling when detailed risk impact information is limited.*

7.4 Create New Risk (manual entry)



7.4.1 To add a Risk Driver by manual entry:

1. Click once on the **Data** control on the **Risk and Opportunity Feature Bar** then select **Create New Risk .** The Risk Add Driver will pop up:
    a. Type the **Name** of the new risk driver (mandatory),
    b. Enter the **Risk Code**, if applicable (optional)
    c. Select the **Risk Manager** (optional)
    d. Enter a high-level **Description** of the risk (Optional)
2. **Meta Data** - will require you to fill the relative metadata via dropdown menus. These dropdown menus can be update by the user to reflect your Organisations policy see 10.1 for details. Alternatively menu can be change using the "+" alongside the dropdown menu box.
3. Select Metadata from the pop up box Fill in the appropriate level from the dropdown menus
4. Click **Save**. The Risk Driver is displayed in Risk Drivers List on the left and metadata on right.

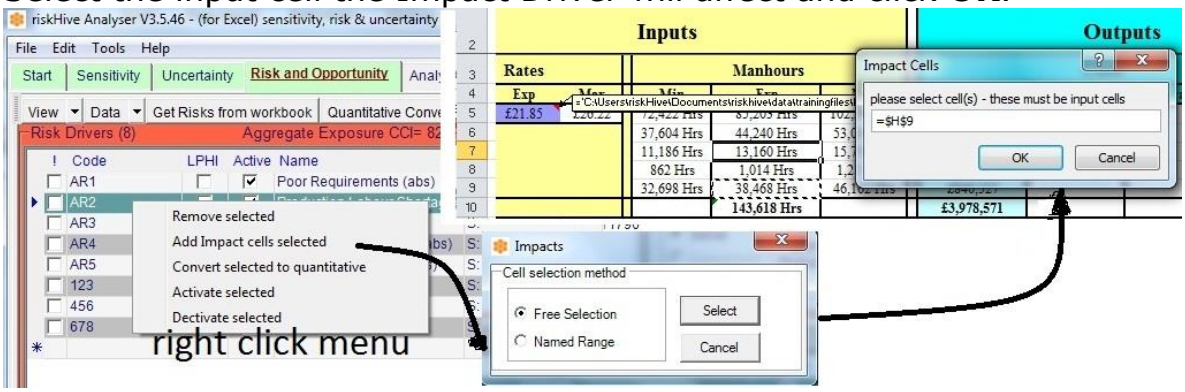
7.4.2 Add an Impact Driver to a Risk Driver

On its own a Risk Driver has no effect on the analysis. It requires the application of at least one **Impact Driver** to describe its effect on the workbook model. Each Risk Driver may have an unlimited amount of Impact Drivers, each affecting a different cell in the attached workbook. In this way it is possible to build-up complex effects of risk and opportunity and yet measure their aggregate effect.

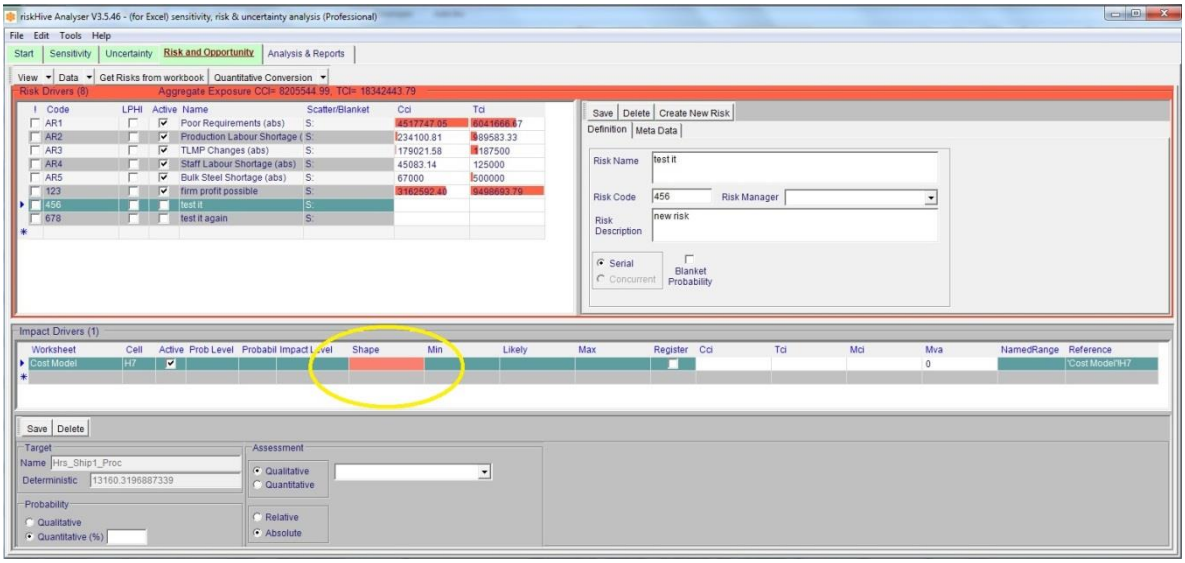
To add an **Impact Driver** by manual entry:

1. In the Risk Drivers list pane select the **Risk Driver** row to which the Impact Driver is to be added by clicking once on the desired row.
2. Right-click once on the selected row and click on the **Add Impact Cells [risk name]** control on the context menu that appears.

3. Switch to Excel – the cell-selector box will appear in the attached workbook.
4. Select the input cell the Impact Driver will affect and click **OK**.



5. A confirmation message is displayed once the Impact is added is finished. Click **OK** to complete the operation. The impact is displayed in the **Impact Drivers List** pane. The Shape column is coloured red denoting an incomplete or incorrect parameter set.



7.4.2.1 Add an Impact Assessment to an Impact Driver

To have an effect on the workbook during analysis an **Impact Driver** needs an Impact Assessment to describe its effect on the workbook model. Each Impact Driver has one impact assessment that pertains to and is quantified in the units of measurement of the cell to which it applies. e.g. if the cell's units are in $ then the impact assessment is also in $; and if the cell's unit is hours then the assessment is also in hours – not $ or the final currency of the workbook.

To add an assessment to an **Impact Driver** by manual entry:

- In the **Impact Drivers** list pane select the **Impact Driver** row to which the Impact Assessment is to be added by clicking once on the desired row.

- The Impact Assessment Parameters pane at the base of the Risk & Opportunity Function Tab now relates to the selected Impact Driver.
- Set **Probability**:
    a. Select either of the **Qualitative** or **Quantitative** options in probability sub panel.
        i. **Qualitative:** Select the desired **Probability** Level from the drop-down list that appears to the right of the option;
        ii. **Quantitative:** Type in the desired **Probability** value (an integer between 0 and 100) in the field that appears to the right of the option.
- Set **Impact**:
    a. Select either of the **Qualitative** or **Quantitative** options in the Assessment sun panel.
        i. **Qualitative:**
            1. Select either **Relative** or **Absolute** levels;
            2. the desired **Impact Level** from the drop-down list that appears to the right of the option;
        ii. **Quantitative:**
            1. Select the desired **Shape** from the drop-down list that appears to the right of the option;
        iii. Type in the desired Impact Values (min, likely, max, etc) in the fields that appear underneath the shape drop-down.
- Click **Save**. The Impact Driver Assessment parameters are displayed in the Impact Drivers List pane in their respective fields.

 ***: Any blank, inappropriate or illegal field values are highlighted in red.***

- ***Relative*** *will produce values for min. most likely and max (3PE) based on the deterministic value used in the model.*
- ***Absolute*** *option will add the deterministic value to the pre-determined 3 PE defined by "User". This option is best suited to "Design to cost" modelling when detailed risk impact information is limited.*

 ***Blanket Probability*** *will take presentence over individual risk settings if two or more risks have an impact on a selected cell*

Input Risk by import from cells in the attached workbook

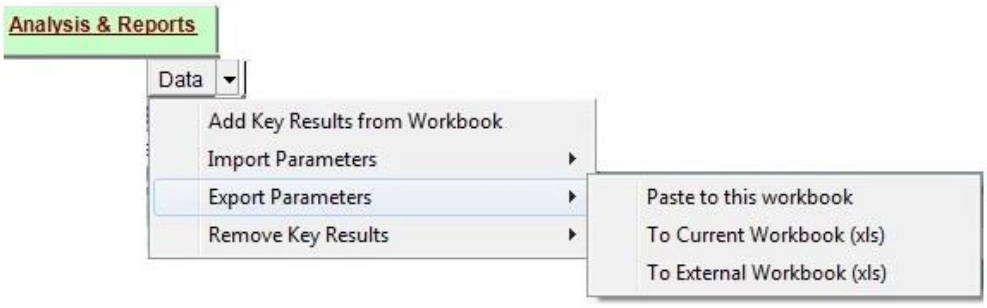
There are certain common layouts of Risk values in a spreadsheet. The application provides the ability to 'grab' this data from the spreadsheet.
The most common layouts is:

Code	Name	Prob	Minimum	Most likely	Maximum	Shape	Target	Description
AR1	Risk1	75	2,000,000	5,000,000	7,500,000	T	0	Rework required
AR2	Risk2	25	500,000	875,000	1,000,000	T	0	Rate increase
AR3	Risk3	15	600,000	1,000,000	1,250,000	B	0	Cost increase
AR4	Risk4	35	50,000		150,000	U	0	Rate increase
AR5	Risk5	15		400000		C	0	Material price

The risk parameters may be grabbed in one go by selecting the **Names** of risks. The main purpose of this feature is to 'grab' large amounts of risk input data in one go. It is quite normal to select a range of cells containing an entire risk register to import by a single click.

: The Target cells must have a value of zero and if you want to calculate the total risk value you must create a sum total of all the risk target values. This total risk value can be summed with the total of the spreadsheet model to provide a risk-adjusted grand total value. You can select the Target cells as Key Results to generate individual statistical data or graphs for each risk.

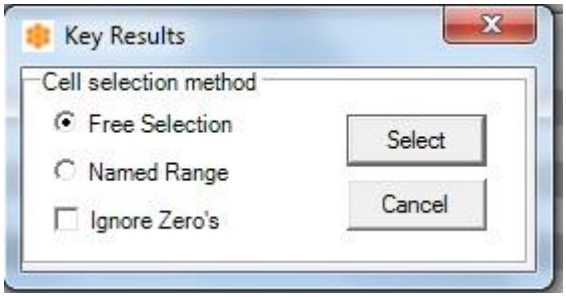
8 Analysis and Reports function tab



8.1.1 Add Key Results to list

Adding Key Results to the list is done by selecting cells from the attached workbook.

On the Feature Bar click once on the **Add Key Results from Workbook** Button. This can also be reached via the **Data** feature The Key Results dialog box will open and present selection options:



8.1.1.1 Add all selected cells to the list

1. Select **Free Selection** and click once on the **Select** button. The cell-selector tool will appear and allow you to select cells to be added to the list of Key Results.
2. When you click **OK** ALL cells that are selected will be added to the list of Key Results.
3. A progress indicator appears and a confirmation message is displayed once the task is finished.
4. Click **OK** to complete the operation.

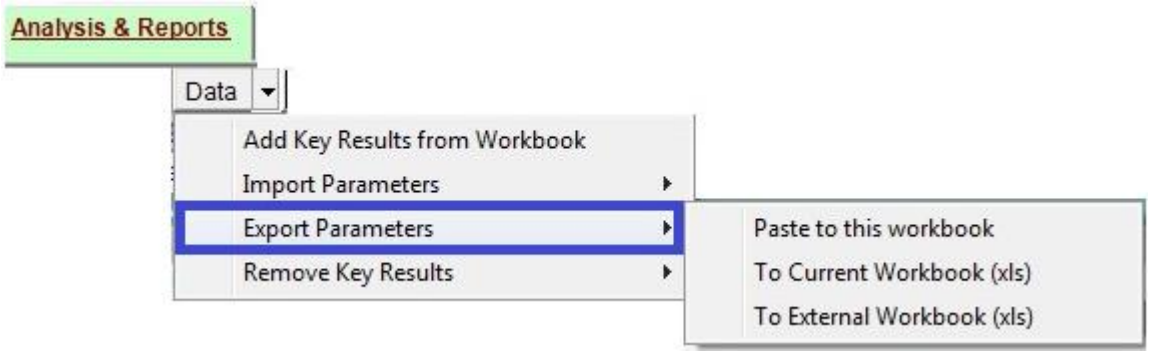
: You may select an individual cell, multiple cells, contiguous groups of cells or non-contiguous cells (using the Ctrl key).

8.1.1.2 Add all Named Range to the list

1. Select Named Range and click once on the Select button. The Popup menu will appear and allow you to select ranges (use Crtl + left click) to be added to the list of Key Results.
2. When you click Apply the ranges that are selected will be added to the list of Key Results.
3. A progress indicator appears and a confirmation message is displayed once the task is finished.

8.1.1.3

8.1.2 Export Key Results



Parameters related to Key Results may be exported from the application in two ways:

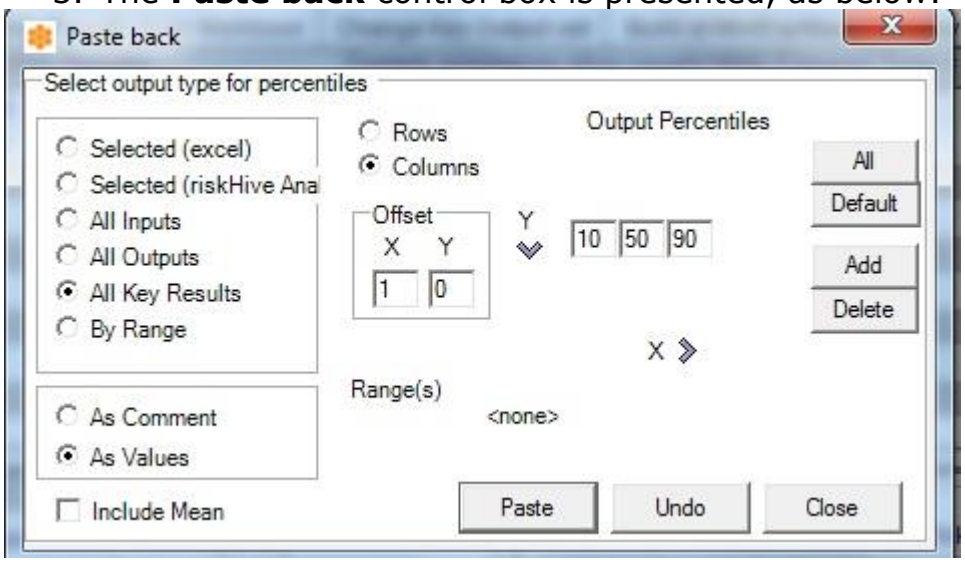
- As a list of Key Result Cells to a separate Excel workbook
- As a data-paste of statistical data values into the attached workbook

8.1.2.1 Export Key Results Statistical Data Values to attached workbook

The ability to export the statistical data values pertaining to Key Results to the attached excel workbook using a paste function provides the ability to populate the data set with the results of a simulation and analysis with minimal effort.

To export the list of Key Result cell references to Excel:

1. On the Feature Bar click once on the **Data** control
2. Select **Export Parameters** then **Paste to this Workbook**
3. The **Paste back** control box is presented, as below:



4. Make your selection from the options of:
   - **Selected** (excel) will paste back all cells you select with the cell-selector

- **Selected (riskHive analysis)** will paste back to the riskHive analysis sheet
- **All Inputs** will paste back to all variable input cells (constants)
- **All Outputs** will paste back to all calculation cells
- **All Key Results** will paste back to all cells marked as Key Results
- **By Range**

And

- **As Comment** (will add a comment to each cell to be pasted)
- **As Values** (will paste actual data values in matrix format)

5. If you selected **As Values**, use the **matrix** control to specify where the data should be pasted. The origin is the centre cell of the matrix and this value will be pasted over the existing Key Result cell value. You can use the **X and Y Offset** fields to move the pasted fields away from the origin.
6. A progress indicator appears and a confirmation message is displayed once the task is finished.
7. Click **OK** to complete the operation.

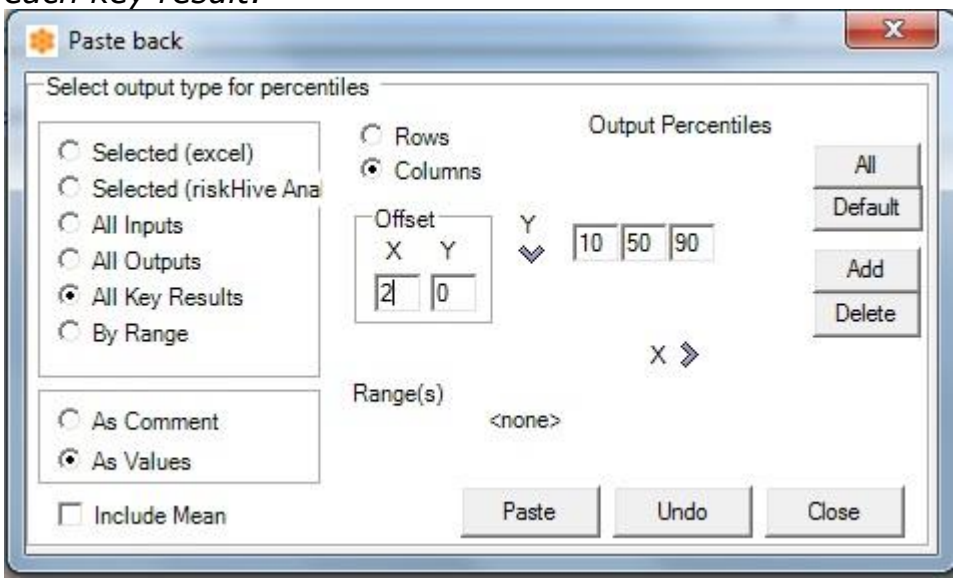
: Example of Paste-back with Offset

Element	Key Result	10% value	50% value	90% value
Total Price	£114,356,157	£89,910,801	£95,528,186	£123,146,520
Risk	£0	£871,449	£4,921,029	£5,818,036
Selling Price	£114,356,157	£94,162,944	£99,660,882	£127,014,411

The Key Results are indicated with the green fill. Statistics for these values were generated during the Monte Carlo simulation.
The 10%, 50% and 90% values for each Key Result were then pasted back into the worksheet adjacent to the deterministic values using the settings below:

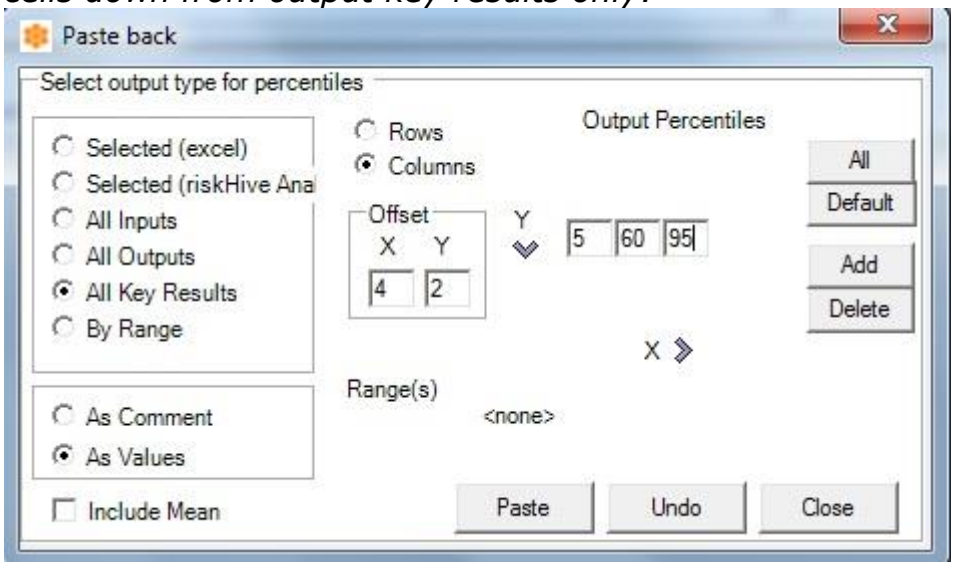
: Paste-back alternate statistical values or layouts
*You can paste-back values other than the 10%, 50% and 90% default by selecting **All** from the **paste back** menu or over typing with required inputs*

Example 1
Paste back 10%, 50%, 90% values centred on 2 cells to the right of each key result:



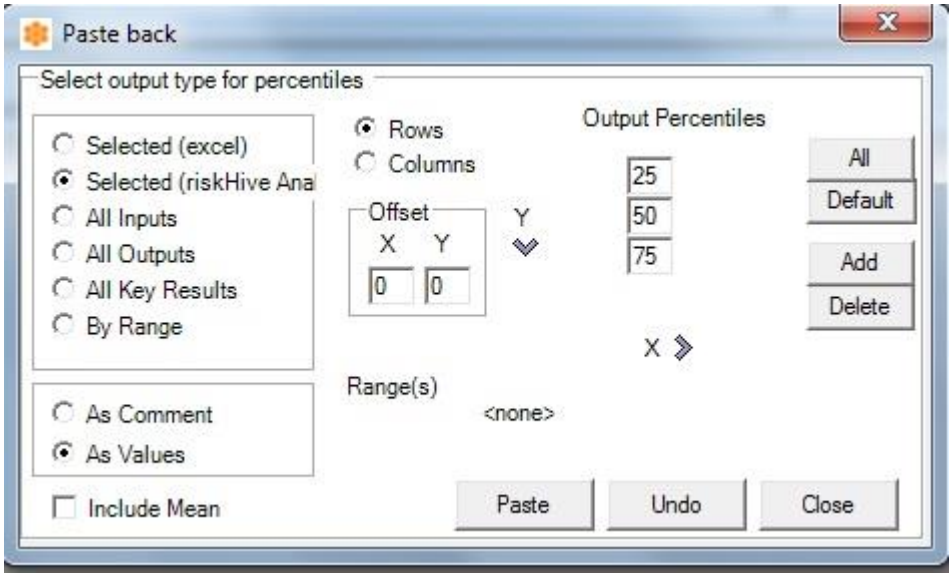
Example 2

Paste back 5%, 60%, 95% values centred on 4 cells to the right and 2 cells down from output key results only:



Example 3

Paste back 25%, 50%, 75% values over selected key results in row format:



8.1.2.2 Export a List of Key Result Cells to an Excel workbook

The ability to export the list of cell references to an external excel workbook provides the ability to edit, maintain and subsequently import the whole list of selected Key Results, thus negating the need to repeat the selection process.

To export the list of Key Result cell references to Excel:

1. On the Feature Bar click once on the **Data** control
2. Select **Export Parameters** then **To External Workbook (xls)**
3. A progress indicator appears and a confirmation message is displayed once the task is finished.
4. Click **OK** to complete the operation.

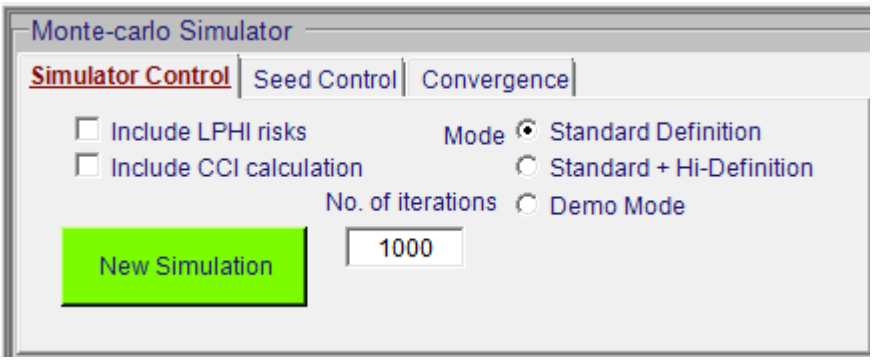
8.1.3 Build at Min/Exp/Max

The MS workbook is constructed using deterministic estimates, this function replaces the deterministic values with the 3 point estimates that fed the Hullograms with data so that the extreme values can be displayed on the graph.

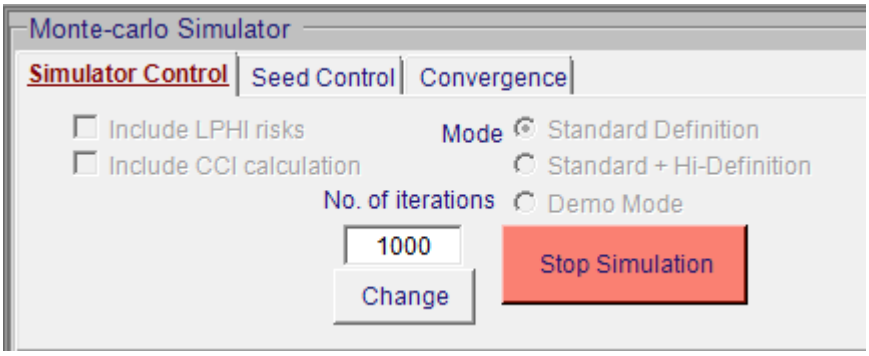
: ***It is important that this run before hullograms are prepared.***

8.2 Run a new simulation set

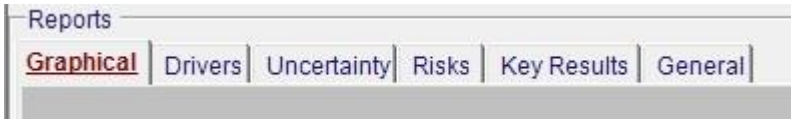
If the system has not yet run a simulation there is only one option available, the **New Simulation** button.



1. Type in the number of simulation iterations required in the **No. of iterations** data entry field to the right of the button.
2. Chose if you require to include or exclude low probability high impact (**LPHI**) risks
3. Chose **Mode** - **Standard** will produce data suitable for good quality graphical and output data. Whereas **Standard+ Hi Definition** will provide data that will enable high quality graphs to be produced also the data for each simulation is available that records which risk are active and any given point.
4. Chose to include exclude **CCI calculations**.
5. Click once on the green **New Simulation** button.
6. The workbook will be hidden and the simulation will begin.
7. The **Stop Simulation** button is displayed- this will abort the process.

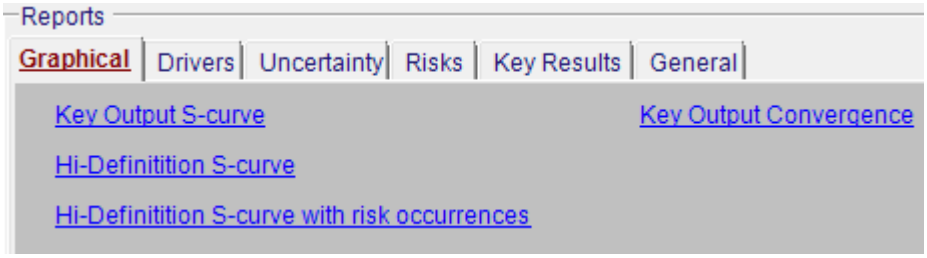


8.3 Reports



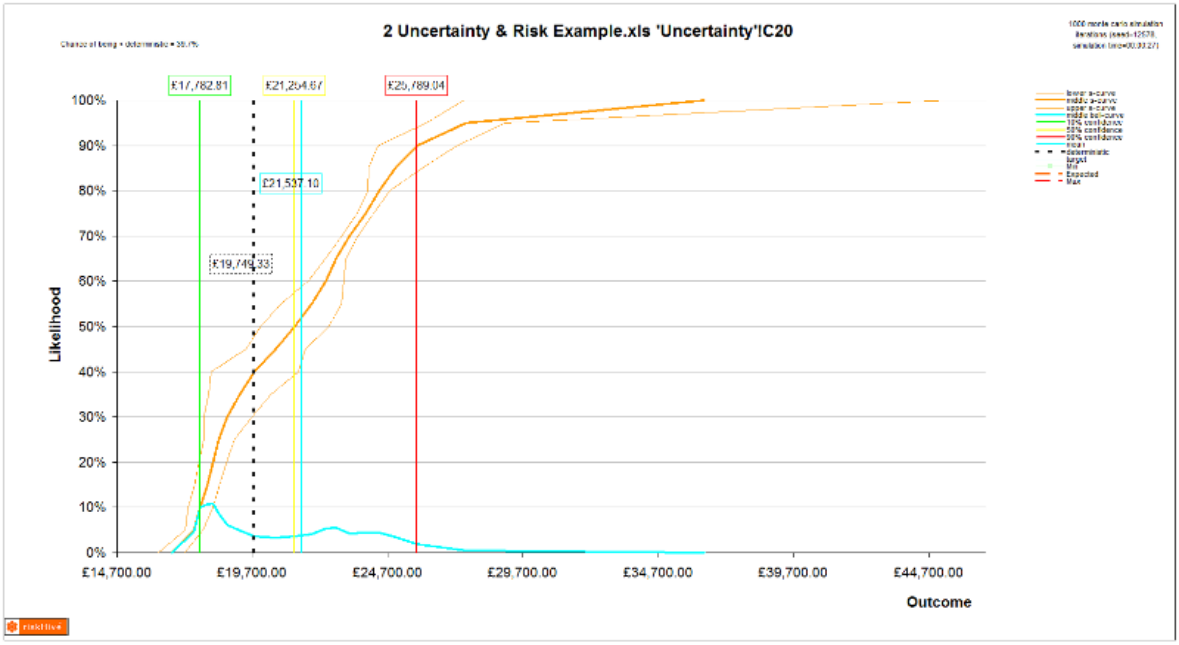
The application features a range of graphical and text-based reports. All reports are produced by exporting data and information to templates that are built in Excel. This enables each user to customise or edit templates and reports to their own specification.

8.3.1 Graphical

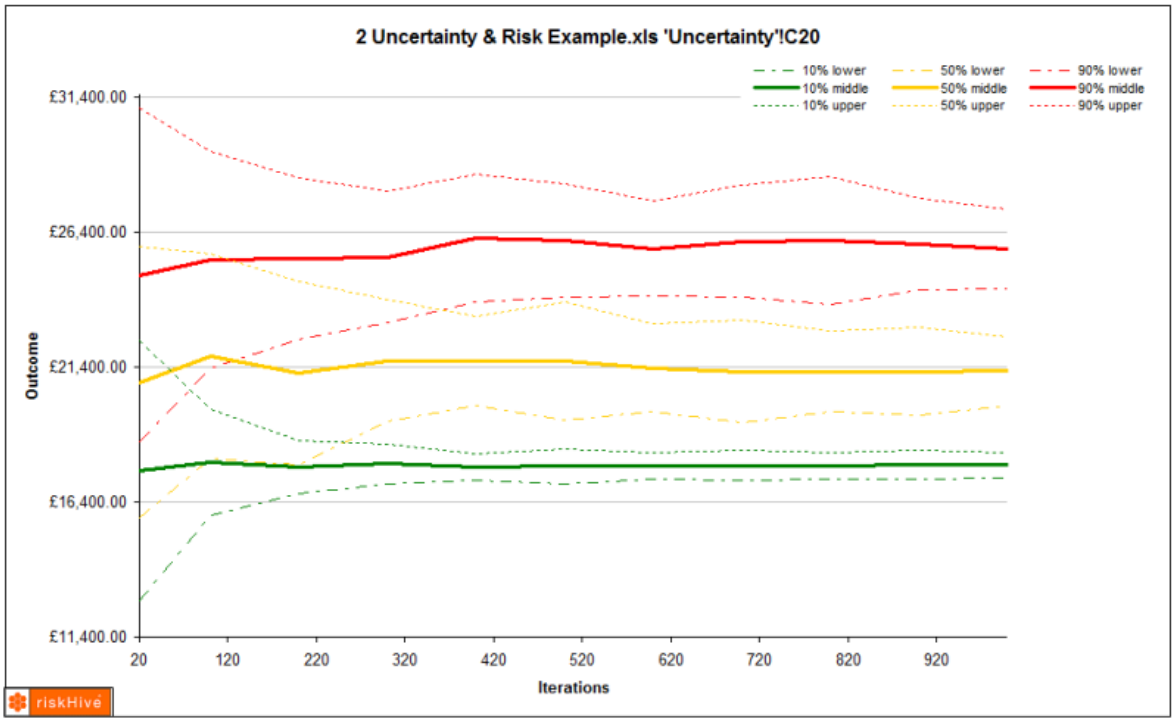


Graphical reports such as S curves and frequency distributions may be easily produced (post simulation) for any cell in the workbook that is a Key Result

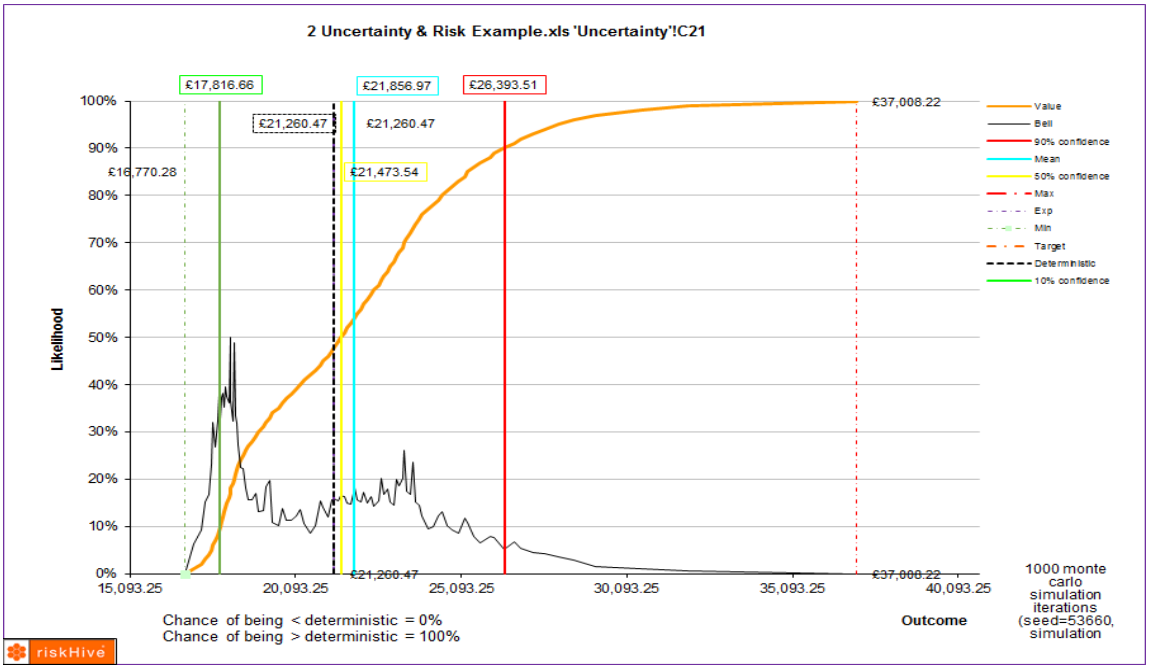
- Press **Key Output Hullogram (s-curve)** to show the 10%, 50%, 90%, Statistical Mean and Deterministic values over the Total Price Distribution S-curve.



- Press **Key Output Convergence** to show the range of outcomes of the Contract as an S-curve without overlays



- Press **Hi Definition S-curve** for very detail graphical output, similar to Key output graph but with greater detail as it uses 1% steps.



A Full "User" manual is available online at riskHive.com

9 Support

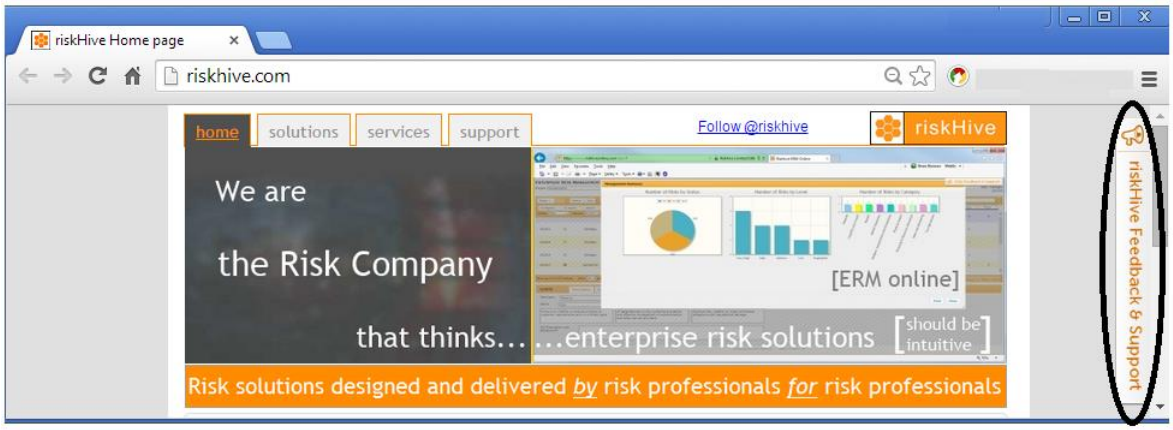
Your appointed reseller is:

riskHive Ltd.
Dilkush
2 Farlers End
Nailsea
Bristol BS48 4PG

Tel: +44 (0)117 373 1100
Fax: +44 (0)117 373 1103
www.riskHive.com

Support

Support service: Via the 'feedback & support' online service. It will keep you posted on the progress of your enquiry



Alternatively

email: support@riskhive.com

Phone +44(0)117 373 1100

Support lines are open from 09:00 to 17:30 (GMT) Monday to Friday.

General enquiries email: info@riskhive.com