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MARCH 2021

# Asset DB Analyst User Manual

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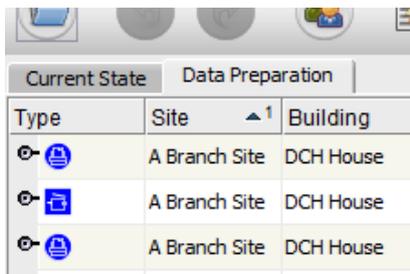
# 1 Data Preparation

The Data Preparation tab presents you with an alternative view on your asset data and helps you to prepare your data ready for the Volume Generation step described in Section 2, where you can calculate average monthly volumes for your fleet. Here you can:

- View your project assets in tabular format.
- Verify and edit meter reading data.
- Set and assign assumptions for volume generation.
- Calculate and view monthly volumes for each asset.

All print/scan assets that exist in your project (including those that are out of scope) will appear in the data preparation tab. There is a search bar at the bottom of the window which works in the same way as the one in the current state asset table and which you can use to quickly find an asset using several different criteria.

Double click on an asset in the table and you will be taken to the current state where the asset will be highlighted on the floor plan. If you click on the  button on the left-hand side of the device row, the row will expand to show you the meter readings (see Figure 1).



Type	Site	Building
 	A Branch Site	DCH House
 	A Branch Site	DCH House
 	A Branch Site	DCH House

Figure 1. Show meter readings

## 1.1 Meter Reading Errors

Once you have gathered all your audit data and you come to the data cleanse part of your project, you can use the Data Preparation tab to review your meter readings. The indications in the Meter Status column show whether volumes can be calculated correctly or not for each device. A warning symbol indicates meter-reading errors (see Figure 2). Hovering over the warning symbol will show the explanation of the error. Expand the row using the  button on the left of the row and any problematic meter readings will be shown in red. A warning symbol will appear when:

- Sub-meters don't add up to the total meter for the same date (e.g. the sum of Total Mono and Total Colour is larger than Life Total).
- A reading for a later date is smaller than the reading for an earlier date.
- Readings are present for a field, which is not visible in the Meter Readings tab. This can occur when meter readings are imported for devices which do not have all their capabilities correctly ticked (e.g. Importing A3 Colour readings for a device which does not have 'A3 Capable' and 'Colour Capable' ticked).
- There are no meter readings at all for the device.

To rectify these errors, you will either need to edit the meter readings (this can be done on this tab) or edit the capabilities of the asset in the Details Panel on the Current State tab.



Monthly Lar...	Monthly Lar...	Monthly Lar...	Monthly Lar...	Monthly Scan	Monthly Print	Volume Ge...	Overwrite	Meter Status
					1,220	Default	<input type="checkbox"/>	⚠
					1,836	Default	<input type="checkbox"/>	
					2,118	Default	<input type="checkbox"/>	⚠
There are meter readings present for the 'Large Colour' field which is hidden due to the selected capabilities for the asset. There are meter readings present for the 'Total Mono' field which is hidden due to the selected capabilities for the asset.								
					2,118	Default	<input type="checkbox"/>	⚠

Figure 2. Meter reading status

## 1.2 Field Validation Errors

The indications in the Validation column show whether there are any validation errors present for an asset. Hovering over the warning symbol will give an explanation as to which fields have validation errors and the reason why they are invalid. You are then able to use the filter option **Validation** next to the header in the Validation column, in order to only show rows that contain a particular error.

Where there are many validation errors occurring for the same reason (e.g. Manufacture Date missing) you can fix the problem directly in the Data Preparation tab without having to go back into the current state. In order to do so, right-click on the Validation column header and select Show Invalid Columns from the pop-up (see Figure 3).

Monthly Lar...	Monthly Lar...	Monthly Scan	Monthly Print	Volume Ge...	Overwrite	Validation
				Default	<input type="checkbox"/>	
			1,836	Default	<input type="checkbox"/>	
			2,092	Default	<input type="checkbox"/>	
			2,825	Default	<input type="checkbox"/>	
			1,836	Default	<input type="checkbox"/>	
			4,604	Default	<input type="checkbox"/>	
			4,604	Default	<input type="checkbox"/>	
			1,835	Default	<input type="checkbox"/>	
				Default	<input type="checkbox"/>	
			2,122	Default	<input type="checkbox"/>	
				Default	<input type="checkbox"/>	

Asset DB

Auto Resize This Column  
 Auto Resize All Columns  
 Select All the Cells  
 Clear Selection  
 Clear all filters  
**Show Invalid Columns**  
 Hide This Column "Validation"  
 More...

Figure 3. Validation column options

New columns for the fields that contain validation errors will now be displayed to the right of the 'Validation' column. To change the values for a single asset simply right-click in the tab and select 'Set field value'. To change assets in bulk, mark all assets that need amending, right-click in one of the cells that you want to change the value of and again select 'Set field value' (see Figure 4).



Monthly Lar...	Monthly Lar...	Monthly Scan	Monthly Print	Volume Ge...	Overwrite	Meter Status	Validation	Manufa... ^1
			1,187	Default	<input type="checkbox"/>	⚠	⚠	
			2,118	Default	<input type="checkbox"/>	⚠	⚠	
		0	5,755	MFDs	<input type="checkbox"/>			
29	16		1,727	Default	<input type="checkbox"/>			
			415	Default	<input type="checkbox"/>			
			2,118	Default	<input type="checkbox"/>			
			415	Default	<input type="checkbox"/>			
			410	Default	<input type="checkbox"/>			
			1,202	Default	<input type="checkbox"/>			
			1,177	Default	<input type="checkbox"/>			
			2,376	Default	<input type="checkbox"/>			
			2,118	Default	<input type="checkbox"/>			
			415	Default	<input type="checkbox"/>			
			4,337	Default	<input type="checkbox"/>			

Filter to Manufacture Date as "

Clear all filters

---

Select all cells

Clear selection

View On Floor Plan Ctrl+Shift-V

---

Assign Assumption Set ▶

Prevent Overwrite

Allow Overwrite

---

Set field value

---

Generate Volumes...

Figure 4. Editing invalid fields in bulk

To change the visible columns in this table, right-click in any column header bar and choose 'More...' from the options. A dialog box will appear, allowing you to choose which columns you want to display (see Figure 5).

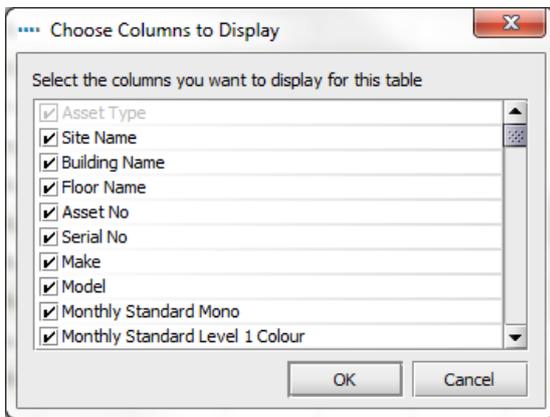


Figure 5. Selecting which columns to display



## 2 Volume Generation

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Volume Generation is a tool that calculates average monthly volumes based on various criteria.

Asset DB will generate average monthly volumes from individual meter readings. To calculate this, each device will either need two meter readings, or an installation date and one meter reading, or a manufacture date and one meter reading.

Before generating volumes, you should ensure that you have reviewed your data in the 'Data Preparation' tab. You may also want to define 'Assumption Sets'. These allow you to set parameters to 'fill in' any gaps in the data - for example, where functionality-specific meter readings are not available.

### Volume Generation Assumptions

Volume Generation Assumptions allow you to specify criteria for generating volumes in your project. The assumptions allow Asset DB to produce a detailed calculation even when the data you have is more general.

#### 1.1. Creating Volume Generation Assumptions

To set up your assumptions, click the  'Add, remove or edit Assumption Sets used for volume generation' button above the 'Data Preparation' tab (see Figure 6).

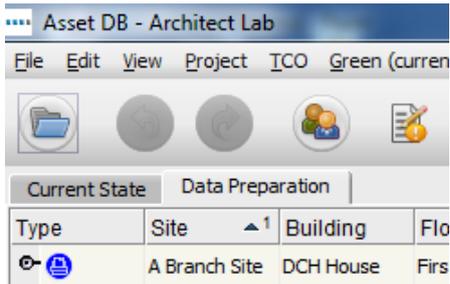


Figure 6. Create or edit volume generation assumptions

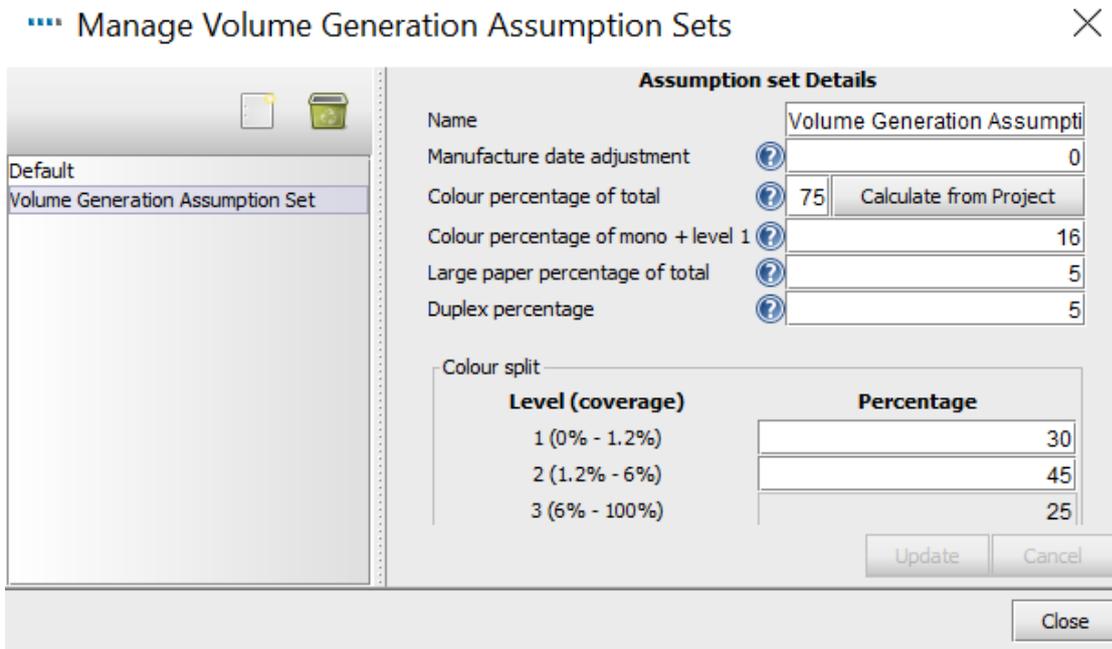


Figure 7. Manage Volume Generation Assumption Sets window

There is a default assumption set within Asset DB, which will be applied automatically to all devices unless you create your own assumptions and apply those.

To create a new assumption set, click the  'Create new' button at the top of the pop-up. Once you have edited the default values as necessary, click 'Update' to save your changes.

The fields you can edit are:

- **Name** – so you can tell the assumptions apart when you assign them to assets.
- **Manufacture date adjustment** – the number of days to add to the manufacture date to simulate a realistic installation date. This will be used only in the event a specific installation date is not available.
- **Colour percentage of total** – the proportion of the total or 'Life' meter reading that will be treated as colour. This will be used only if specific colour meter readings are not available. The default value is 75%, however if you click on 'Calculate from Project' you will get the value for the actual calculated colour percentage for all devices that have complete data, i.e. full mono and colour volumes or meter readings



- **Colour percentage of mono + level 1** – the proportion of mono + level 1 meter reading that will be treated as colour. This will be used only if separate mono and level 1 colour meter readings are not available.
- **Large paper percentage of total** – the proportion of the total or 'Life' meter reading that will be treated as large format. This will be used only if a specific large meter reading is not available.
- **Duplex percentage** – the proportion of the total or 'Life' meter reading that will be treated as duplex. This will be used only if a specific duplex reading is not available.

### ***Colour split***

This applies to tri-colour meter devices and allows you to manage the split of colour volume between each of the three levels when all you have is an overall colour value. The sum of the three percentages in this section should equal 100 as they refer to the percentage of the total colour volume that should be attributed to each level, not the percentage of the total volume to be attributed. If there is a single colour meter reading for a tri-colour meter device, the percentages here will be applied to the volume calculated from that. If there is only a Life Total for a tri-colour meter device, the percentages will be applied to the volume calculated from the 'Colour percentage of total' split applied further up in the assumption.

In an ideal world, you would always gather specific readings for each of the available meter reading types on a device. For an A3 colour device, that would mean having Standard Mono, Large Mono, Standard Colour, Large Colour and Life Total readings. Sometimes, however, it is only possible to obtain a total or 'Life' reading, and calculating a volume from there without assumptions would mean that you wouldn't have a colour/mono or standard/large split, which could greatly affect your TCO.

All the values entered into the assumption set will only be applied where there are gaps in your project data; they will not be used in circumstances where the real installation date or where functionality-specific readings are present.



### 1.2. Editing and deleting Volume Assumptions

To edit an assumption you have created previously, click to select the assumption in the list on the left hand side of the pop-up and type your values into the fields on the right. Click Update to save your changes.

To delete an assumption, click to select it from the list, then click the  'Delete' button above the list.

You can create as many assumptions as you require for a particular project.

### 1.3. Assigning Volume Generation Assumptions

Once volume generation assumptions have been defined, they should be assigned to devices in the Data Preparation tab. Volumes for devices to which a user-created assumption has not been assigned will be calculated using the 'Default' assumptions.

To assign user-created assumptions to devices, you can select the relevant devices and right-click on any one of them. Using menu option 'Assign Assumption Set', you can select the assumption set to be used for the selected devices. By default, all other devices will use the 'Default' Assumption Set.

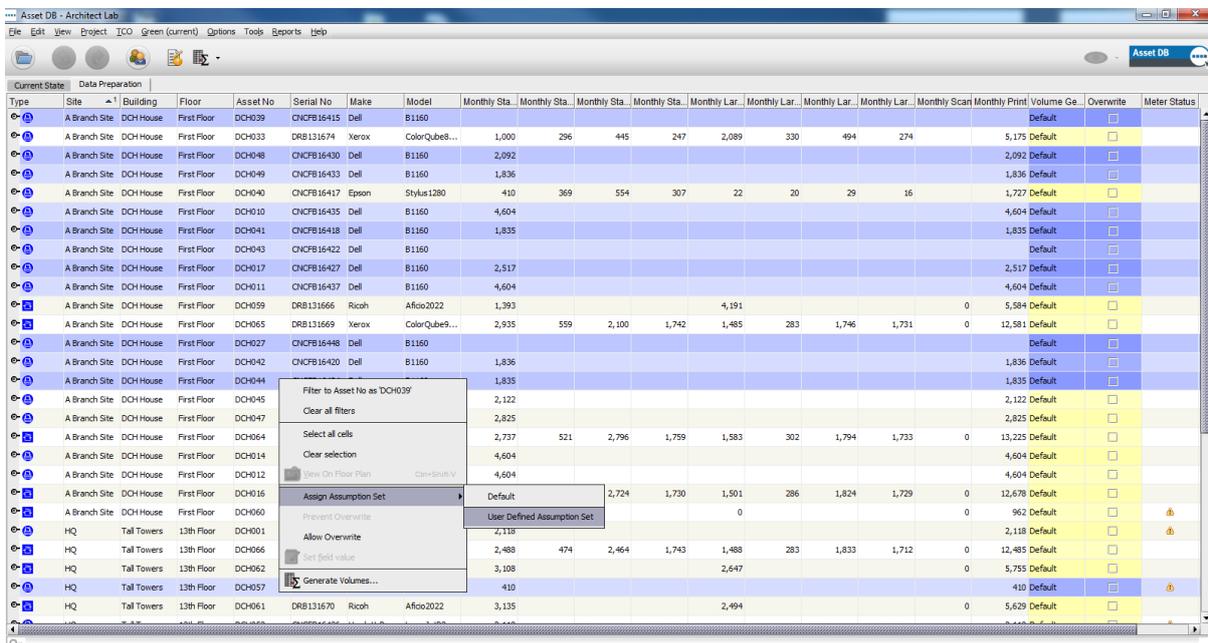


Figure 8. Assigning Assumption Sets to multiple devices



Alternatively, you can assign Assumption Sets to individual devices by clicking in the 'Assumption Set' column for the device in the 'Data Preparation' table and selecting the assumption set to be used.

Type	Site	Building	Floor	Asset No	Serial No	Make	Model	Monthly Sta.	Monthly Sta.	Monthly Sta.	Monthly Sta.	Monthly Lar.	Monthly Scan	Monthly Print	Volume Ge.	Overwrite	Meter Status					
A	Branch Site	DCH House	First Floor	DCH039	CNCFB16415	Dell	B1160													Default	<input type="checkbox"/>	
A	Branch Site	DCH House	First Floor	DCH033	DRB131674	Xerox	ColorQube8...	1,000	296	445	247	2,089	330	494	274				5,175	Default	<input type="checkbox"/>	
A	Branch Site	DCH House	First Floor	DCH048	CNCFB16430	Dell	B1160	2,092											2,092	Default	<input type="checkbox"/>	
A	Branch Site	DCH House	First Floor	DCH049	CNCFB16433	Dell	B1160	1,836											1,836	Default	<input type="checkbox"/>	
A	Branch Site	DCH House	First Floor	DCH040	CNCFB16417	Epson	Stylus1280	410	369	554	307	22	20	29	16				1,727	Default	<input type="checkbox"/>	
A	Branch Site	DCH House	First Floor	DCH010	CNCFB16435	Dell	B1160	4,604											4,604	Default	<input type="checkbox"/>	
A	Branch Site	DCH House	First Floor	DCH041	CNCFB16418	Dell	B1160	1,835											1,835	Default	<input type="checkbox"/>	
A	Branch Site	DCH House	First Floor	DCH043	CNCFB16422	Dell	B1160													Default	<input type="checkbox"/>	
A	Branch Site	DCH House	First Floor	DCH017	CNCFB16427	Dell	B1160	2,517											2,517	Default	<input type="checkbox"/>	
A	Branch Site	DCH House	First Floor	DCH011	CNCFB16437	Dell	B1160	4,604											4,604	Default	<input type="checkbox"/>	
A	Branch Site	DCH House	First Floor	DCH059	DRB131666	Ricoh	Aficio2022	1,393				4,191						0	5,584	Default	<input type="checkbox"/>	
A	Branch Site	DCH House	First Floor	DCH065	DRB131669	Xerox	ColorQube8...	2,935	559	2,100	1,742	1,485	283	1,746	1,731			0	12,581	Default	<input type="checkbox"/>	
A	Branch Site	DCH House	First Floor	DCH027	CNCFB16448	Dell	B1160													Default	<input type="checkbox"/>	
A	Branch Site	DCH House	First Floor	DCH042	CNCFB16420	Dell	B1160	1,836											1,836	Default	<input type="checkbox"/>	
A	Branch Site	DCH House	First Floor	DCH044	CNCFB16424	Dell	B1160	1,835											1,835	Default	<input type="checkbox"/>	
A	Branch Site	DCH House	First Floor	DCH045	CNCFB16426	Dell	B1160	2,122											2,122	Default	<input type="checkbox"/>	
A	Branch Site	DCH House	First Floor	DCH047	CNCFB16428	Dell	B1160	2,825											2,825	Default	<input type="checkbox"/>	
A	Branch Site	DCH House	First Floor	DCH064	DRB131667	Xerox	ColorQube8...	2,737	521	2,796	1,759	1,583	302	1,794	1,733			0	13,225	Default	<input type="checkbox"/>	
A	Branch Site	DCH House	First Floor	DCH014	CNCFB16442	Dell	B1160	4,604											4,604	Default	<input type="checkbox"/>	
A	Branch Site	DCH House	First Floor	DCH012	CNCFB16439	Dell	B1160	4,604											4,604	Default	<input type="checkbox"/>	
A	Branch Site	DCH House	First Floor	DCH016	DRB131663	Xerox	ColorQube8...	2,423	461	2,724	1,730	1,501	286	1,624	1,729			0	12,670	Default	<input type="checkbox"/>	
A	Branch Site	DCH House	First Floor	DCH060	DRB131668	Ricoh	Aficio2022	962				0						0	962	Default	<input type="checkbox"/>	
HQ	Tall Towers	13th Floor		DCH001	CNCFB16419	Hewlett-Pac...	LaserJetP2...	2,118											2,118	Default	<input type="checkbox"/>	
HQ	Tall Towers	13th Floor		DCH066	DRB131671	Xerox	ColorQube8...	2,488	474	2,464	1,743	1,488	283	1,833	1,712			0	12,485	Default	<input type="checkbox"/>	
HQ	Tall Towers	13th Floor		DCH062	DRB131672	Ricoh	Aficio2022	3,108				2,647						0	5,753	Default	<input type="checkbox"/>	
HQ	Tall Towers	13th Floor		DCH057	CNCFB16445	Hewlett-Pac...	LaserJetP2...	410											410	Default	<input type="checkbox"/>	
HQ	Tall Towers	13th Floor		DCH061	DRB131670	Ricoh	Aficio2022	3,135				2,494						0	5,629	Default	<input type="checkbox"/>	

Figure 9. Assigning Assumption Sets to devices individually

## 1.4. Generating Volumes

Once Assumption Sets have been created and assigned to devices, volumes can be generated for all devices in a project or for a sub-set of the devices. To generate volumes for all assets,

click on the 'Generate Volumes' button in the Asset DB toolbar  and click 'All Asset', or use keyboard shortcut 'Ctrl-G'.

To generate volumes for a sub-set of devices in your project, you should select the devices from the Data Preparation table for which you wish to generate monthly volumes and then click the 'Generate Volumes' button in the Asset DB toolbar and choose 'Selected assets...'.

To overwrite any previously generated volumes, make sure to tick the 'Overwrite' box. This is unticked by default but any changes made to the tick status are remembered for the project in the local version.



Type	Site	Building	Floor	No	Make	Model	Monthly Sta...	Monthly Sta...	Monthly Sta...	Monthly Sta...	Monthly Lar...	Monthly Lar...	Monthly Lar...	Monthly Lar...	Monthly Scar...	Monthly Print	Volume Ge...	Overwrite	Meter Status
A Branch Site	DCH House	First Floor	DCH039	CNCFB16415	Dell	B1160											5,175	Default	<input type="checkbox"/>
A Branch Site	DCH House	First Floor	DCH033	DRB131674	Xerox	ColorCube9...	1,000	296	445	247	2,089	330	494	274					
A Branch Site	DCH House	First Floor	DCH048	CNCFB16430	Dell	B1160		2,092									2,092	Default	<input type="checkbox"/>
A Branch Site	DCH House	First Floor	DCH049	CNCFB16433	Dell	B1160		1,836									1,836	Default	<input type="checkbox"/>
A Branch Site	DCH House	First Floor	DCH040	CNCFB16417	Epson	Styus1280		410	369	554	307	22	20	29	16		1,727	Default	<input type="checkbox"/>
A Branch Site	DCH House	First Floor	DCH010	CNCFB16435	Dell	B1160		4,604									4,604	Default	<input type="checkbox"/>
A Branch Site	DCH House	First Floor	DCH041	CNCFB16418	Dell	B1160		1,835									1,835	Default	<input type="checkbox"/>
A Branch Site	DCH House	First Floor	DCH043	CNCFB16422	Dell	B1160												Default	<input type="checkbox"/>
A Branch Site	DCH House	First Floor	DCH017	CNCFB16427	Dell	B1160		2,517									2,517	Default	<input type="checkbox"/>
A Branch Site	DCH House	First Floor	DCH011	CNCFB16437	Dell	B1160		4,604									4,604	Default	<input type="checkbox"/>
A Branch Site	DCH House	First Floor	DCH059	DRB131666	Ricoh	Aficio2022		1,983			4,191					0	5,584	Default	<input type="checkbox"/>
A Branch Site	DCH House	First Floor	DCH065	DRB131669	Xerox	ColorCube9...	2,935	559	2,100	1,742	1,485	283	1,746	1,731	0		12,581	Default	<input type="checkbox"/>
A Branch Site	DCH House	First Floor	DCH027	CNCFB16448	Dell	B1160												Default	<input type="checkbox"/>
A Branch Site	DCH House	First Floor	DCH042	CNCFB16420	Dell	B1160		1,836									1,836	Default	<input type="checkbox"/>
A Branch Site	DCH House	First Floor	DCH044	CNCFB16424	Dell	B1160		1,835									1,835	Default	<input type="checkbox"/>
A Branch Site	DCH House	First Floor	DCH045	CNCFB16426	Dell	B1160		2,122									2,122	Default	<input type="checkbox"/>
A Branch Site	DCH House	First Floor	DCH047	CNCFB16428	Dell	B1160		2,825									2,825	Default	<input type="checkbox"/>
A Branch Site	DCH House	First Floor	DCH064	DRB131667	Xerox	ColorCube9...	2,737	521	2,796	1,759	1,583	302	1,794	1,733	0		13,225	Default	<input type="checkbox"/>
A Branch Site	DCH House	First Floor	DCH014	CNCFB16442	Dell	B1160		4,604									4,604	Default	<input type="checkbox"/>
A Branch Site	DCH House	First Floor	DCH012	CNCFB16439	Dell	B1160		4,604									4,604	Default	<input type="checkbox"/>
A Branch Site	DCH House	First Floor	DCH016	DRB131663	Xerox	ColorCube9...	2,423	461	2,724	1,730	1,501	286	1,824	1,729	0		12,678	Default	<input type="checkbox"/>
A Branch Site	DCH House	First Floor	DCH060	DRB131668	Ricoh	Aficio2022		962			0					0	962	Default	<input type="checkbox"/>
HQ	Tall Towers	13th Floor	DCH001	CNCFB16419	Hewlett-Pac...	LaserJetP2...		2,118									2,118	Default	<input type="checkbox"/>
HQ	Tall Towers	13th Floor	DCH066	DRB131671	Xerox	ColorCube9...	2,488	474	2,464	1,743	1,488	283	1,833	1,712	0		12,485	Default	<input type="checkbox"/>
HQ	Tall Towers	13th Floor	DCH062	DRB131672	Ricoh	Aficio2022		3,108			2,647					0	5,755	Default	<input type="checkbox"/>
HQ	Tall Towers	13th Floor	DCH057	CNCFB16445	Hewlett-Pac...	LaserJetP2...		410									410	Default	<input type="checkbox"/>
HQ	Tall Towers	13th Floor	DCH061	DRB131670	Ricoh	Aficio2022		3,135			2,494					0	5,629	Default	<input type="checkbox"/>

Figure 10. Generating volumes for selected assets

You will then be presented with a breakdown of the results of the volume generation calculation, showing the following:

- **Eligible assets updated** – the number of devices for which new monthly volume values were calculated and applied.
- **Eligible assets not requiring update** – the number of devices for which the newly calculated monthly values are the same as the values already present.
- **Eligible assets not calculated** – the number of devices for which no new monthly volume values could be calculated because not enough meter reading data was available. This may be because no meter reading data at all is available for the asset or because only one meter reading is available and there is no installation or manufacture date available.
- **Assets with volume generation errors** – the meter reading data present is incorrect. Very often, this is because two meter readings are available but the meter reading value for the later date is lower than a meter reading previously recorded.

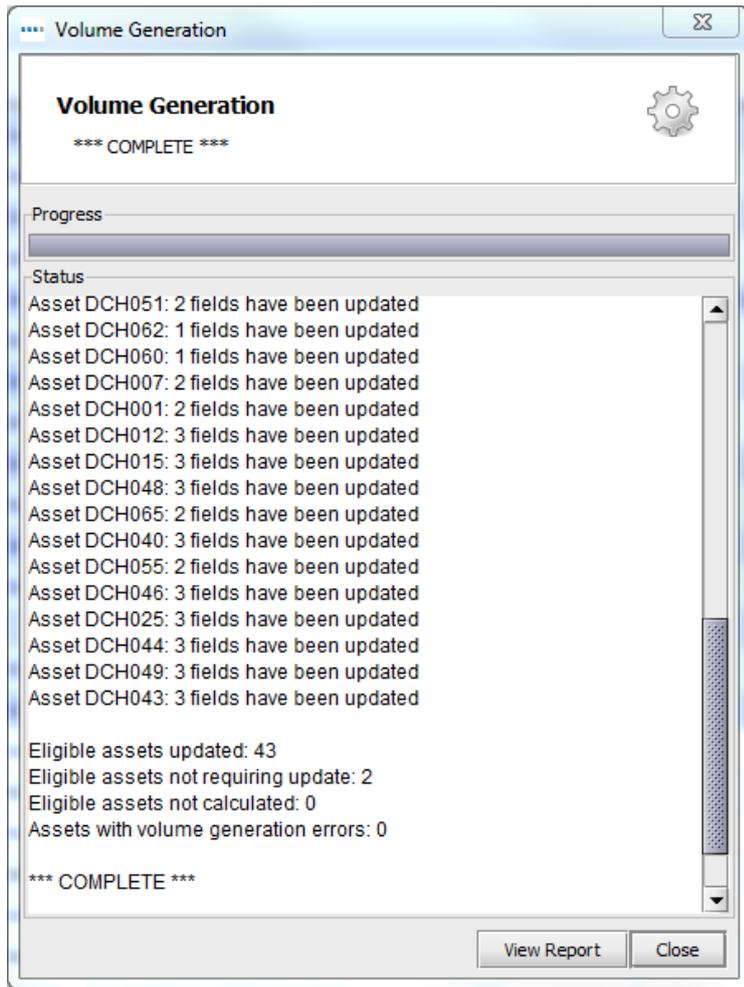


Figure 11. Volume generation summary

### 3 Calculating costs: The TCO Tool

For the TCO analysis, cost and yield data relating to printers and MFDs is held on a server hosted by Xerox, which allows easier and faster updates of the database. In order to access this data, an Internet connection will be required. If you choose to manually enter all pricing, consumable and other data, then you will be able to perform a TCO analysis without needing an Internet connection.

To access Xerox's database, firstly check whether your organisation uses a Proxy Server or direct connection to access the Internet. If using a proxy server, you will need to know the proxy settings so that you can enter them on the 'Server' tab under Options > General Options, Asset DB Cloud.

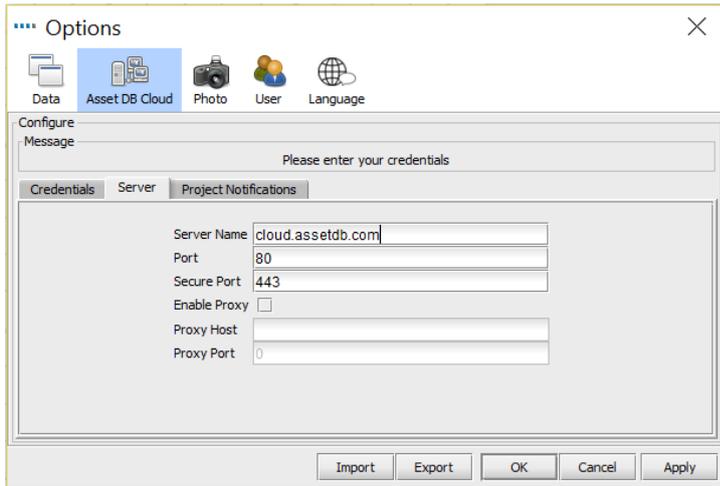


Figure 12. Configuration for use of proxy server

### 3.1 Creating a New TCO Analysis

Setting up a TCO Analysis in Asset DB is similar to the core project. You select File > New > TCO Analysis. This will then bring up a pop-up requesting you name your new TCO Analysis. Click 'OK' and the new TCO Analysis will be created. An existing TCO Analysis can be opened by navigating to File > Open, and selecting the relevant one from the list of TCO Analyses linked to the project you have opened. Once a TCO analysis is created or opened, a new workspace area is created (see Figure 13), showing a list of **all** the printers and MFDs in the scope of the Asset DB project, including the ones that have not been plotted but for which you have data in the table view. There is a 10 Step process to completing a TCO Analysis.

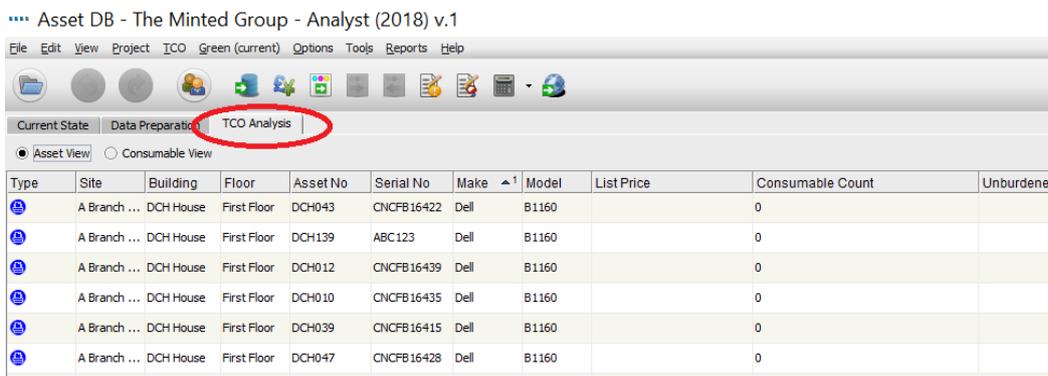


Figure 13. TCO Tab View

### 3.2 Assign a TCO Category Status to each printing asset

The first step is to decide how you want to perform the cost calculation on each print enabled device in the project. To assign a cost category, you can either left-click in the relevant cell in the Cost Category column to bring up options or you can click and drag to select multiple devices



from the list, right-click one of the selected assets and use the 'Cost Category' option to select a category.

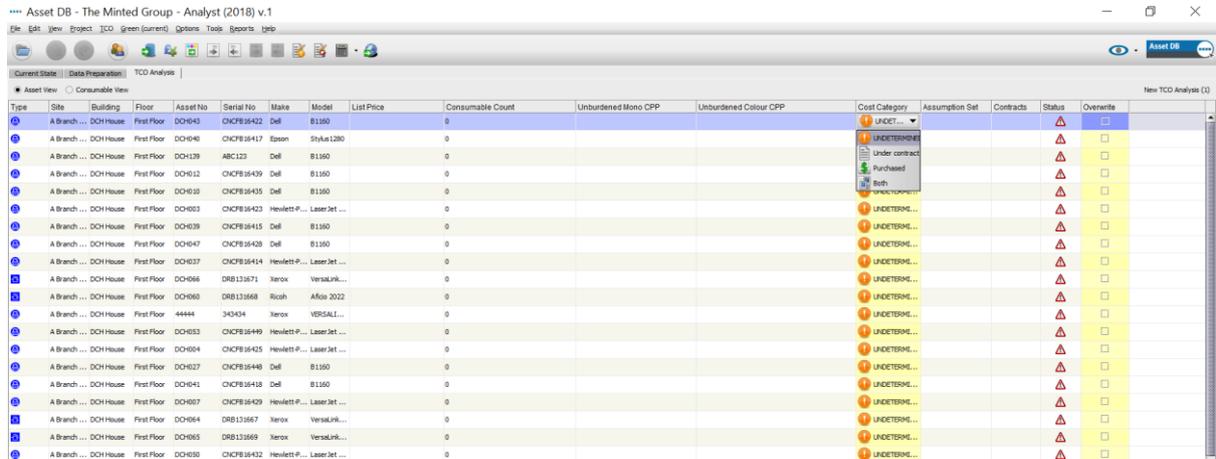


Figure 14. Assign a cost category to devices individually

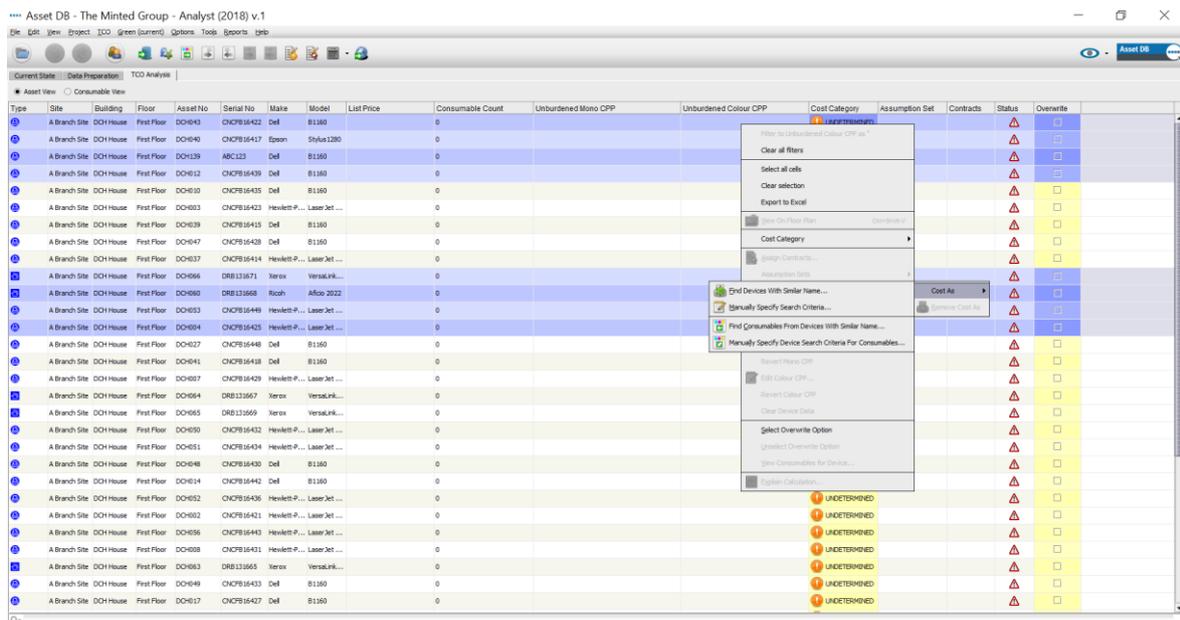


Figure 15. Assign a cost category to multiple devices



The available Cost Categories are:

- Under Contract  : Device is subject to an agreement with a lease provider or vendor.
- Purchased  : Device has no other on-going cost associated with it.
- Both  : Applies where a printer has been purchased but there is also a contract associated with it.

**Top tip:** Sort data alphabetically by clicking different column headers. You can then select multiple devices at one time and apply the same 'Cost Category' status allocation to the group. You can also filter the TCO categories by clicking the filter symbol to the right of the column header and clicking the tick boxes.

Once a Category Status has been selected this will be shown in the 'Cost Category' column. Hovering over the red warning triangle in the 'Status' column will display what information is still required before the TCO calculation can be performed.

### 3.3 Fetch Pricing and Yield Data

The next step is to fetch pricing and consumable information on all devices so that all the relevant data is available for an accurate TCO calculation. This step can be performed by clicking the 'Fetch Data' button . Once this has been done, you will see how many assets data was found for.

Note: if you use a proxy server to access the Internet you will need to enter your proxy server details via the main menu at Options > General Options... Asset DB Cloud.

Once the data has been collected, it will be displayed on the screen as per Figure 16 below.



Type	Site	Building	Floor	Asset No	Serial No	Make	Model	List Price	Consumable Count	Unburdened Mono CPP	Unburdened Colour CPP	Cost Category	Assumption Set	Contracts	Status	Overwrite
A.Branch...	DOH House	First Floor	DO0943	ONCFE18422	Dal	811650		299.99	1			Purchased			⚠	<input type="checkbox"/>
A.Branch...	DOH House	First Floor	DO0139	ABC123	Dal	811650		299.99	1			Purchased			⚠	<input type="checkbox"/>
A.Branch...	DOH House	First Floor	DO0132	ONCFE18409	Dal	811650		299.99	1			Purchased			⚠	<input type="checkbox"/>
A.Branch...	DOH House	First Floor	DO0135	ONCFE18415	Dal	811650		299.99	1			Purchased			⚠	<input type="checkbox"/>
A.Branch...	DOH House	First Floor	DO0208	ONCFE18415	Dal	811650		299.99	1			Purchased			⚠	<input type="checkbox"/>
A.Branch...	DOH House	First Floor	DO0247	ONCFE18428	Dal	811650		299.99	1			Purchased			⚠	<input type="checkbox"/>
A.Branch...	DOH House	First Floor	DO0237	ONCFE18448	Dal	811650		299.99	1			Purchased			⚠	<input type="checkbox"/>
A.Branch...	DOH House	First Floor	DO0241	ONCFE18418	Dal	811650		299.99	1			Purchased			⚠	<input type="checkbox"/>
A.Branch...	DOH House	First Floor	DO0248	ONCFE18430	Dal	811650		299.99	1			Purchased			⚠	<input type="checkbox"/>
A.Branch...	DOH House	First Floor	DO0214	ONCFE18442	Dal	811650		299.99	1			Purchased			⚠	<input type="checkbox"/>
A.Branch...	DOH House	First Floor	DO0249	ONCFE18433	Dal	811650		299.99	1			Purchased			⚠	<input type="checkbox"/>
A.Branch...	DOH House	First Floor	DO0137	ONCFE18407	Dal	811650		299.99	1			Purchased			⚠	<input type="checkbox"/>
A.Branch...	DOH House	Second Fl...	DO0245	ONCFE18426	Dal	811650		299.99	1			Purchased			⚠	<input type="checkbox"/>
A.Branch...	DOH House	Second Fl...	DO0244	ONCFE18424	Dal	811650		299.99	1			Purchased			⚠	<input type="checkbox"/>
A.Branch...	DOH House	Second Fl...	DO0211	ONCFE18407	Dal	811650		299.99	1			Purchased			⚠	<input type="checkbox"/>
A.Branch...	DOH House	Second Fl...	DO0242	ONCFE18420	Dal	811650		299.99	1			Purchased			⚠	<input type="checkbox"/>
A.Branch...	DOH House	First Floor	DO0248	ONCFE18417	Epson	50Jul2280		2291.72	2			Purchased			⚠	<input type="checkbox"/>
A.Branch...	DOH House	First Floor	DO0203	ONCFE18423	Headset P...	LaserJet...		1145.00	1			Purchased			⚠	<input type="checkbox"/>
A.Branch...	DOH House	First Floor	DO0237	ONCFE18414	Headset P...	LaserJet...		1145.00	1			Purchased			⚠	<input type="checkbox"/>
A.Branch...	DOH House	First Floor	DO0253	ONCFE18449	Headset P...	LaserJet...		1145.00	1			Purchased			⚠	<input type="checkbox"/>
A.Branch...	DOH House	First Floor	DO0204	ONCFE18425	Headset P...	LaserJet...		1145.00	1			Purchased			⚠	<input type="checkbox"/>
A.Branch...	DOH House	First Floor	DO0207	ONCFE18429	Headset P...	LaserJet...		1145.00	1			Purchased			⚠	<input type="checkbox"/>
A.Branch...	DOH House	First Floor	DO0205	ONCFE18432	Headset P...	LaserJet...		1145.00	1			Purchased			⚠	<input type="checkbox"/>
A.Branch...	DOH House	First Floor	DO0251	ONCFE18404	Headset P...	LaserJet...		1145.00	1			Purchased			⚠	<input type="checkbox"/>
A.Branch...	DOH House	First Floor	DO0202	ONCFE18436	Headset P...	LaserJet...		1145.00	1			Purchased			⚠	<input type="checkbox"/>
A.Branch...	DOH House	First Floor	DO0202	ONCFE18421	Headset P...	LaserJet...		1145.00	1			Purchased			⚠	<input type="checkbox"/>
A.Branch...	DOH House	First Floor	DO0206	ONCFE18443	Headset P...	LaserJet...		1145.00	1			Purchased			⚠	<input type="checkbox"/>

Figure 16. Asset View after TCO data has been collected

When moving to the consumable view via the radio button, you can see the full details of the consumables.

Make	Category	Capacity	Part Number	List Price	Mono Yield	Colour Yield	Units/Year	Use
Dal	Black Toner	Standard	593-11108	£49.05	1,500	1,500	0	<input checked="" type="checkbox"/>

Figure 17. Consumables View after TCO data has been collected

Keep in mind that if you did not use the drop down menus to select your device in the current state, the TCO data might not be pulled in automatically. The name of the device must match exactly with the name of the device in the database in order to pull in the data. If it does not, follow the directions below to perform a 'Cost As.'

If list prices or consumable data do not exist on the TCO Server, then a warning symbol will appear in the 'Status' column. In this circumstance, the 'Cost As' function can be used. This is a right-click function and requires you to remain online in order to retrieve a list of similar models from the hosted server from which you can select a comparable model whose price you can use instead.



Asset DB - The Minted Group - Analyst (2018) v.1

File Edit View Project Tools Green (Current) Options Tools Reports Help

Current State: Data Presentation TCO Analysis

Asset View Consumable View

Type	Site	Building	Floor	Asset No	Serial No	Make	Model	List Price	Consumable Count	Unburdened Mono CPP	Unburdened Colour CPP	Cost Category	Assumption Set	Contracts	Status	Overwrite
A Branch Site	DOH House	First Floor	DOH40	CHCFB1442	Dell	B1360		£95.99	1			Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH40	CHCFB1417	Epson	Stylus780						Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH139	ABC123	Dell	B1360						Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH102	CHCFB1439	Dell	B1360						Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH103	CHCFB1435	Dell	B1360						Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH103	CHCFB1433	Hewlett-P...	Laser 1						Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH103	CHCFB1415	Dell	B1360						Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH147	CHCFB1428	Dell	B1360						Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH107	CHCFB1414	Hewlett-P...	Laser 1						Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH106	DBE13567	Verax	Verax						Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH106	DBE13568	Rich	A50						Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH103	CHCFB1449	Hewlett-P...	Laser 1						Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH104	CHCFB1425	Hewlett-P...	Laser 1						Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH127	CHCFB1448	Dell	B1360						Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH141	CHCFB1418	Dell	B1360						Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH107	CHCFB1429	Hewlett-P...	Laser 1						Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH104	DBE13567	Verax	Verax						Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH103	CHCFB1432	Hewlett-P...	Laser 1						Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH103	CHCFB1434	Hewlett-P...	Laser 1						Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH148	CHCFB1430	Dell	B1360						Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH14	CHCFB1442	Dell	B1360						Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH102	CHCFB1436	Hewlett-P...	Laser 1						Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH102	CHCFB1421	Hewlett-P...	Laser Set 1		£145.00	1			Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH106	CHCFB1440	Hewlett-P...	Laser Set 1		£145.00	1			Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH108	CHCFB1431	Hewlett-P...	Laser Set 1		£145.00	1			Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH103	DBE13565	Verax	Verax/HP		£4,200.00	11			Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH149	CHCFB1433	Dell	B1360		£89.99	1			Purchased			△	<input type="checkbox"/>
A Branch Site	DOH House	First Floor	DOH117	CHCFB1427	Dell	B1360		£95.99	1			Purchased			△	<input type="checkbox"/>

Figure 18. Cost As function

Once the 'Cost As' model has been selected, the relevant model data will be fetched and a new icon  will appear in the 'List Price' column illustrating that a substitute model was used.

It is also possible to fetch consumables for a device without fetching the cost data. This can be done by using the 'Cost As' function and choosing one of the 'Cost As' Find Consumables...' options (see Figure 18).

If the Cost as function was previously used for a device in another project, Asset DB will remember this and give the option to apply the same model and consumables for a device. You can decide whether to apply this by selecting Yes or No in the Apply column or delete the





The List price is displayed in an Excel spreadsheet and can be over-written. To import the new information back in, click the Import Data button on either the Asset View or Consumable View or use the main menu at TCO > Import > Asset Data/Consumable Data.

Once you have changed the prices, either manually or by import, the 'List Price' icon changes to a notepad with a pen to show which items have been manually entered by the user or customer for easy visual reference:

Part Number	List Price	Mon
593-11108	£35.00	
CE505A	£60.00	
108R00934	£72.83	

Figure 21. Manually entered price data

Note: Yield data is held in the database and will be used in the calculation but is not displayed in the export, as this is proprietary information of the data provider.

### 3.5 Removing Consumables

The TCO server will provide all known OEM consumables associated with any device in the project. Sometimes a consumable is not required; maybe it is rarely purchased, or the client uses non-OEM parts (see Section 3.6 Local Consumables).

After downloading data from the TCO server, click to select the 'Consumable View' as shown in Figure 22.

Make	Category	Capacity	Part Number	List Price	Mono Yield	Colour Yield	Units/Year	Use
Del	Black Toner	Standard	593-11108	£49.05	1,500	1,500	0	<input type="checkbox"/>

Figure 22. Consumables View

To deselect a consumable simply click in the 'Use' column next to the consumable you wish to deselect. When the TCO is calculated, the consumable is ignored by Asset DB.



### 3.6 Local Consumables

The TCO server provides access to tens of thousands of Original Equipment Manufacturer (OEM) consumables. Alternatively, you may wish to use Non-OEM parts or add a consumable that is not currently on the server. Consumables created manually in Asset DB are stored locally and can be used in other projects.

To create a local consumable click the 'Manage consumables for the TCO Analysis' button  on the tool bar. Select the Edit Local Consumables tab and fill in the data for the consumable to be added, as shown in Figure 23. Click 'Create' and the consumable will show in the 'Available Consumables' table. Please note that all fields are required.

Figure 23. Manage Consumables

Select the 'Assign Local Consumables' tab. The list on the left shows the 'Available Consumables'. Select the consumable you want to use and click the green arrow to move it to the 'TCO Analysis Consumables.'

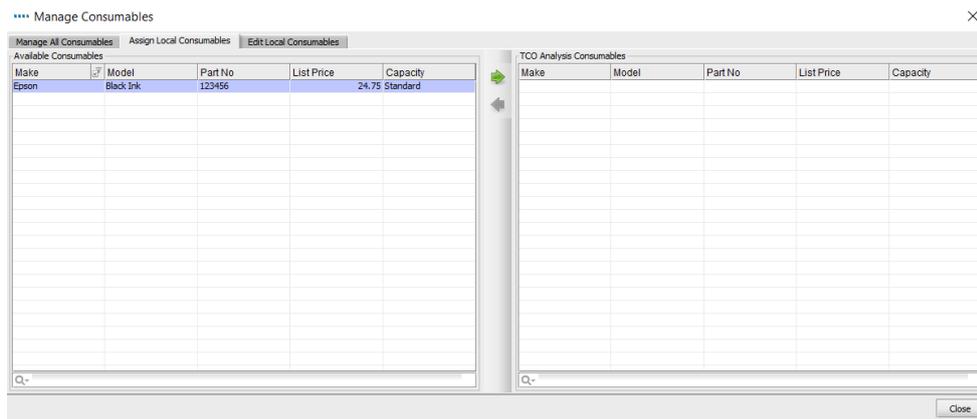


Figure 24. Assigning Consumables to TCO Analysis

Once the consumable is in the TCO Analysis Consumables table, it will automatically appear in the 'Consumable View' of the project as options to be used in the analysis.

Please note, as long as the local consumable works out cheaper than the OEM part, it will automatically be selected. If you wish to force the use of this consumable irrespective of its price, see Section 3.5 for how to deselect the OEM part.



### 3.6.1. Using previously created local consumables

As you build a local consumable database, you will want to use that data for other projects. When downloading data from the server you will see the option as shown below to use local consumables. Please select this if you wish to have them available for use. (Note: Only exact model matches will display).

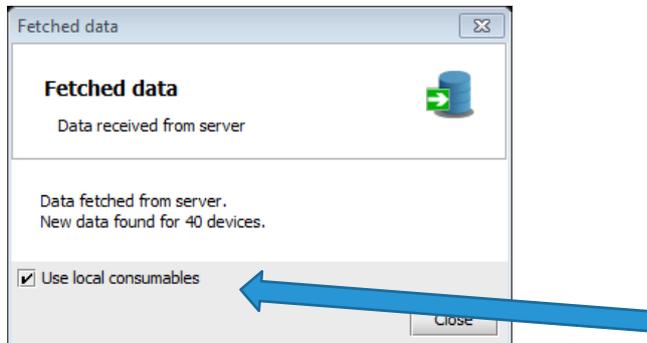


Figure 25. Use local consumables option

### 3.6.2. Managing Consumables

The 'Manage consumables for the TCO Analysis' button  can also be used to compare and copy consumables from one devices to another. Going to the Manage All Consumables tab enables you to compare consumables from different devices.

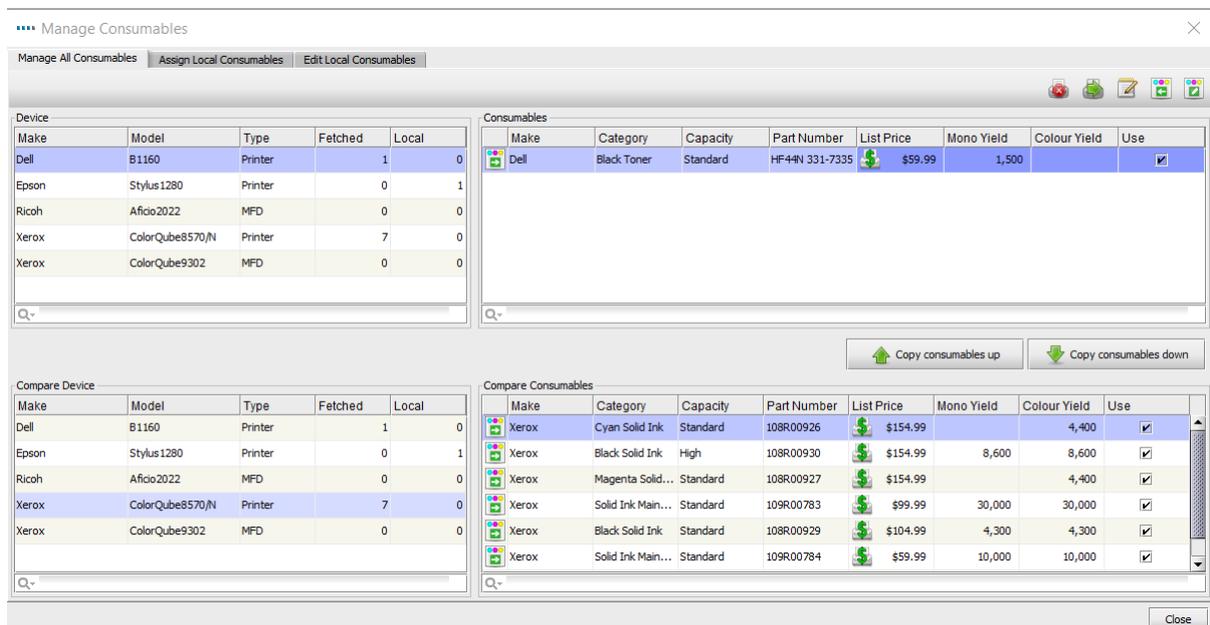


Figure 26. Manage All Consumables

Having a device selected in the top half, the Consumables table on the right shows the consumables connected to this device.



Selecting a device in the Compare Device table shows the connected consumables on the Compare Consumables table.

Selecting a consumable from one the two tables on the right allows you to copy the consumable up or down, hence associating it with a different device.

### 3.7 View Devices for Consumables

If you wish to see which devices use a specific consumable, right-click on 'Consumable' and select 'View Devices for Consumable.'

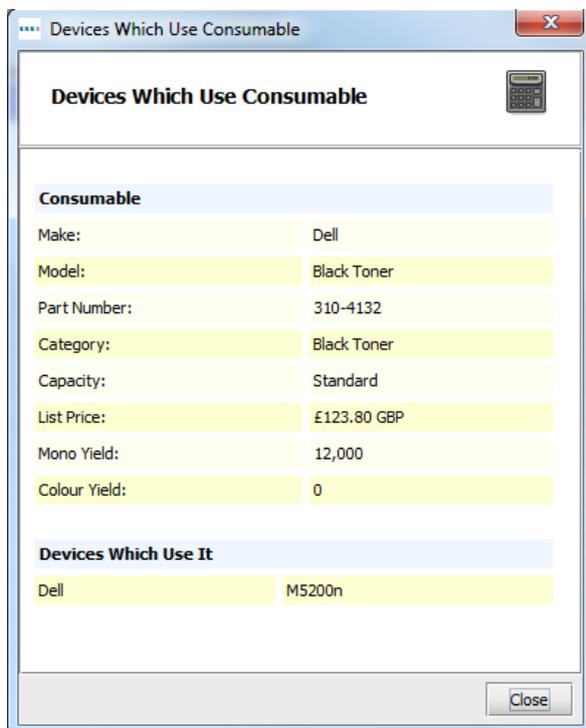


Figure 27. Devices which use consumable

### 3.8 Setting up contracts

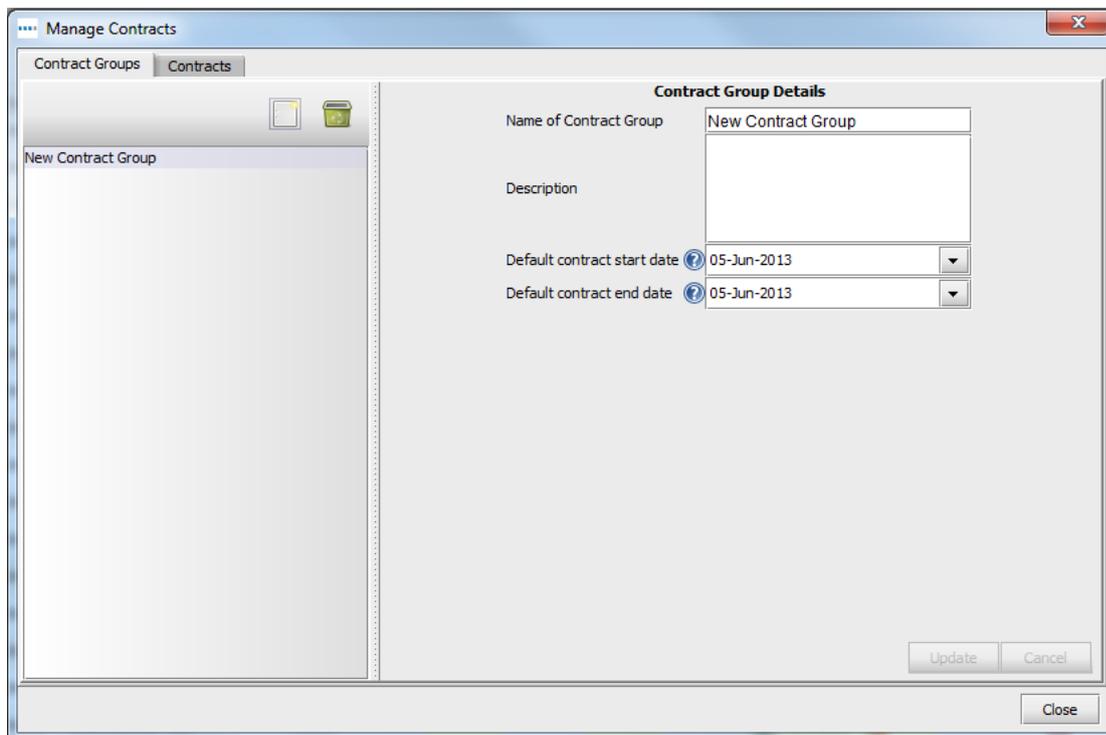
At the same time as sending the customer the hardware and consumables list, it might also be possible to request contract information for both the printers and the MFDs. If the customer is unwilling to provide contract information, benchmark cost data can be used in this step instead.

There are four types of contract that can be associated with a device:



- a.  A lease or rental contract in the form of a one to one relationship or several devices within the one lease contract.
- b.  A cost per click contract applying a fee per page or click printed/copied.
- c.  A cost per click contract for tri-colour devices, applying a different fee per page or per click printed/copied according to the level of colour.
- d.  Another support cost contract covering all other types of cost such as an annual maintenance contract for printers or soft costs like Helpdesk calls.

Since one device or brand of devices may have some, or all, of the above contract types associated with them, contracts are created within groups (see Figure 28 below).



The screenshot shows a software window titled "Manage Contracts" with two tabs: "Contract Groups" and "Contracts". The "Contract Groups" tab is active, displaying a list of contract groups with one entry: "New Contract Group". To the right, the "Contract Group Details" form is visible, containing the following fields and controls:

- Name of Contract Group:** A text input field containing "New Contract Group".
- Description:** A large empty text area.
- Default contract start date:** A date picker dropdown menu showing "05-Jun-2013".
- Default contract end date:** A date picker dropdown menu showing "05-Jun-2013".

At the bottom right of the form are three buttons: "Update", "Cancel", and "Close".

Figure 28. Setting up Contract Groups

The expectation is that contract groups will be set up by brand or perhaps by brand category such as HP Mono Printers or Lexmark Colour Printers. You can create a contract group by clicking on the paper 'Contract' icon (shown above, next to the green waste bin). If the contracts all terminate at the same time then this can be added in here. Otherwise, the individual contract dates can be added in the 'Contracts' tab.



### 3.8.1. Setting up a Lease or Rental contract

Move from the 'Contract Group' tab to the 'Contracts' tab where a new screen will appear as shown in Figure 29. The 'Lease Contract' tab requires a number of key areas to be completed:

- From the drop down list, select the Contract Group that you want the lease to belong to.
- Click on the 'Create a New Lease Contract' button  to start entering new contract information.
- Give the contract name as much detail as possible to make it easily identifiable later on when you will assign it to a device.
- Enter the contract number.
- Enter a lease cost and the time period that the lease payment represents (e.g. monthly/quarterly/annual).
- Enter the contract start and end date, which will be useful for early termination fee calculations.
- Enter the number of devices associated with the contract. The TCO calculator will divide the lease payment by the number of devices to come up with an individual device hardware cost.

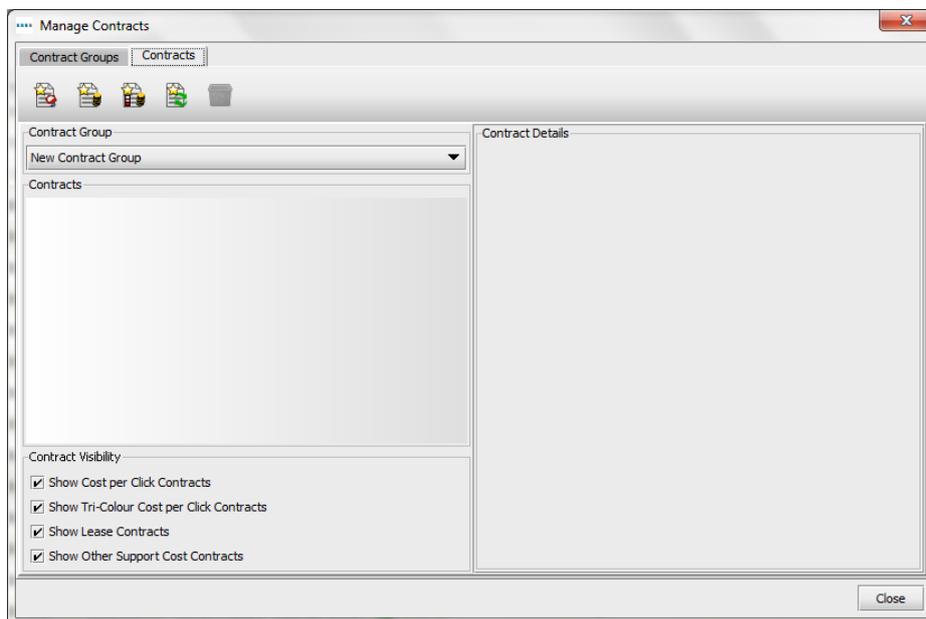
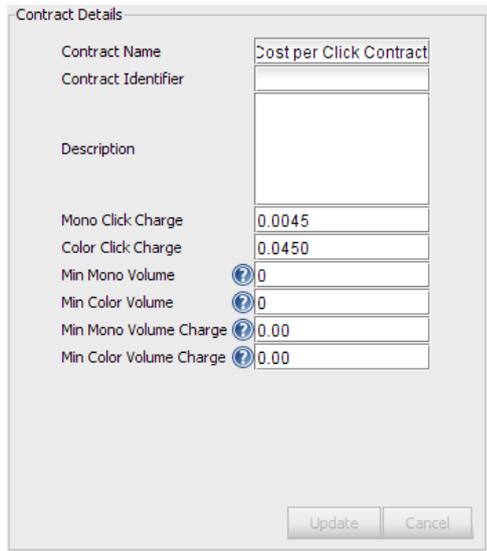


Figure 29. Creating a lease contract



### 3.8.2. Setting up a Cost per Click Contract

Creating a 'Cost per Click' contract  is much the same as the lease one, enter key information from a click contract name to any minimum monthly volumes.



The screenshot shows a 'Contract Details' dialog box with the following fields and values:

Field	Value
Contract Name	Cost per Click Contract
Contract Identifier	
Description	
Mono Click Charge	0.0045
Color Click Charge	0.0450
Min Mono Volume	0
Min Color Volume	0
Min Mono Volume Charge	0.00
Min Color Volume Charge	0.00

Buttons: Update, Cancel

Figure 30. Setting up a Cost per Click contract

### 3.8.3. Setting up a Tri-Colour Cost per Click Contract

A 'Tri-Colour Cost per Click' contract is created in the same way as a 'single-colour Cost per Click' contract. The only difference is that costs and minimum and maximum volumes can be specified by colour level.



Contract Details	
Contract Name	New Tri-Colour CPP Contract
Contract Identifier	
Description	
Mono and Level 1 Click Charge	0.0025
Level 2 Click Charge	0.0150
Level 3 Click Charge	0.0650
Min Mono and Level 1 Volume	0
Min Level 2 Volume	0
Min Level 3 Volume	0
Min Mono and Level 1 Volume Charge	0.00
Min Level 2 Volume Charge	0.00
Min Level 3 Volume Charge	0.00

Update Cancel

Figure 31. Setting up a Tri-Colour Cost per Click contract

### 3.8.4. Other Support Cost contracts

The final contract type is for any other support costs that are attributed to a device or set of devices. For MFDs, this might be a software support contract or a managed service fee, while for printers it could be an annual maintenance fee. It is possible to have multiple 'Other Support Cost' contracts such as 'Mono Printer Maintenance' and 'Mono Printer Relocation fee'.

Contract Details	
Contract Name	New Other Support Contract
Contract Identifier	
Description	
Cost	100.00
Cost Period	Monthly
Contract Start Date	07-Jan-2013
Contract End Date	06-Jan-2015
Cost Per Device Per Month	£100.0000

Update Cancel

Close

Figure 32. Setting up an Other Support Cost contract

As the 'Other Support Cost' contract allows for generic data entry, it can be used for soft costs as well as hard costs; for example, an annual cost for raising and managing printer consumables invoices.



### 3.8.5. Exporting and importing contract data

It is also possible to export contract data to be sent to your customer for completion, similarly to how cost and consumable data can be exported. Contract fees can then be completed in a spreadsheet editor and imported into Asset DB. To do this, select menu option TCO > Export > Contracts, and choose a location on your computer to save the .xls file generated.

The screenshot shows the 'Export Contracts' menu option selected in the 'TCO' menu. The main window displays a table of contract data with the following columns: Serial No, Make, Model, List Price, Consumable Count, Unburdened Mono CPP, Unburdened Colour CPP, Cost Category, Assumption Set, Contracts, Status, and Overwrite. The table lists various contracts, including those for VersaLink C7030 and Hewlett-Packard LaserJet P2035n, with details on their prices, counts, and categories.

Serial No	Make	Model	List Price	Consumable Count	Unburdened Mono CPP	Unburdened Colour CPP	Cost Category	Assumption Set	Contracts	Status	Overwrite
DRB133672	VeriLink	VersaLink C7030	£4,298.00	11			Under contract		1	△	<input type="checkbox"/>
DRB133670	VeriLink	VersaLink C7030	£4,298.00	11			Under contract		1	△	<input type="checkbox"/>
DRB133668	Ricoh	Affice 2022	£4,298.00	11			Under contract		1	△	<input type="checkbox"/>
DRB133666	Ricoh	Affice 2022	£4,298.00	11			Under contract		1	△	<input type="checkbox"/>
DRB133670	Ricoh	Affice 2022	£4,298.00	11			Both		1	△	<input type="checkbox"/>
DRB133672	Ricoh	Affice 2022	£4,298.00	11			Both		1	△	<input type="checkbox"/>
DRB133672	Ricoh	Affice 2022	£4,298.00	11			Both		1	△	<input type="checkbox"/>
CHCFB16403	Hewlett P...	LaserJet P2035n	£145.00	1			Purchased		1	△	<input type="checkbox"/>
CHCFB16414	Hewlett P...	LaserJet P2035n	£145.00	1			Purchased		1	△	<input type="checkbox"/>
CHCFB16449	Hewlett P...	LaserJet P2035n	£145.00	1			Purchased		1	△	<input type="checkbox"/>
CHCFB16425	Hewlett P...	LaserJet P2035n	£145.00	1			Purchased		1	△	<input type="checkbox"/>
CHCFB16429	Hewlett P...	LaserJet P2035n	£145.00	1			Purchased		1	△	<input type="checkbox"/>
CHCFB16432	Hewlett P...	LaserJet P2035n	£145.00	1			Purchased		1	△	<input type="checkbox"/>
CHCFB16436	Hewlett P...	LaserJet P2035n	£145.00	1			Purchased		1	△	<input type="checkbox"/>
CHCFB16411	Hewlett P...	LaserJet P2035n	£145.00	1			Purchased		1	△	<input type="checkbox"/>
CHCFB16410	Hewlett P...	LaserJet P2035n	£145.00	1			Purchased		1	△	<input type="checkbox"/>
CHCFB16411	Hewlett P...	LaserJet P2035n	£145.00	1			Both		1	△	<input type="checkbox"/>

Figure 33. Exporting contract data to spreadsheet for editing

You can then enter the values that you wish to use for lease, cost-per-click and other support contracts into the table, save and import back to Asset DB via menu option TCO > Import > Contracts.

You should always export a contract's .xls-type file and fill in details for import rather than creating your own spreadsheet with similar column headers and trying to import this.

**Top tip:** Create a contract of each type in Asset DB before you export the spreadsheet. This way, you can see which columns in the file will need to be completed for each contract type.

## 3.9 Creating Assumption Sets

Now that all the known costs have been added into the TCO Tool, the last piece to define is the assumptions to be applied to the variable cost elements in the TCO Calculation. The TCO Tool applies an important area of flexibility in this step by allowing different Assumption Sets to be used in order to compare and contrast the effect they have. For example, a Finance Director might want a depreciation period-only approach to writing down hardware values while an IT Director might want a Technology Refresh one.



There are several assumptions to take into consideration, and putting in the correct values will have a major impact on the accuracy of the final cost calculations for printers where the variable elements are greater.

The Assumption fields to enter are:

- Write-down period - depreciation or technology refresh period.
- Toner wastage - the estimated percentage of toner left in a cartridge when the 'Toner Low' warning comes on. Typically 10-15% depending on the manufacturer.
- Discount on hardware - the discount the TCO Tool will apply from the Retail/List Price provided by hosted server download. This is for devices where the End User has not been able to provide the specific price they paid for a purchased item.
- Discount on consumables - the discount the TCO Tool will apply from the Retail/List Price provided by hosted server download. This is for consumable items where the End User has not been able to provide the specific price they paid.
- Mono coverage- the average amount of toner coverage on the pages printed. The average can vary from 3-11% across different departments with a company-wide average of between 4-6% for mono. Colour coverage is added in the 'Data Preparation' Tab; see section 1.2: Creating Volume Generation Assumptions.
- If the customer uses High Capacity cartridges this box should be ticked and if such a cartridge type exists for a printer, the TCO Tool will then use this item.

Assumption Set Details	
Name of Assumption Set	New Assumption Set
Writedown Period (months)	36
Depreciate to zero	<input type="checkbox"/>
Toner Wastage	0
Discount on hardware	0
Discount on consumables	0
Mono coverage	5
Use high capacity consumables	<input type="checkbox"/>

Figure 34. Setting up Assumption Sets



### 3.10 Assign Contracts and Assumption Sets

With all the costs and Assumption Sets created, the final step before running the calculation is to assign the contracts and the relevant Assumption Sets to either a group of devices or a single device as appropriate. Every device that has been purchased will need an assumption set assigned to it, and every device that has been listed as 'Under Contract' will need at least one contract assigned. Those devices categorised as 'Both' will need an assumption set and a contract assigned to them.



Figure 35. Assigning an assumption

To assign an assumption set, right-click on the row in question, select Assumption Sets > Assign Assumption Set, and the pop-up in Figure 35 appears. Select and assign the appropriate Assumption Set and click 'OK'.

To assign a contract is a similar process; right-click in the relevant row then select 'Assign Contracts' and the following pop-up will appear:

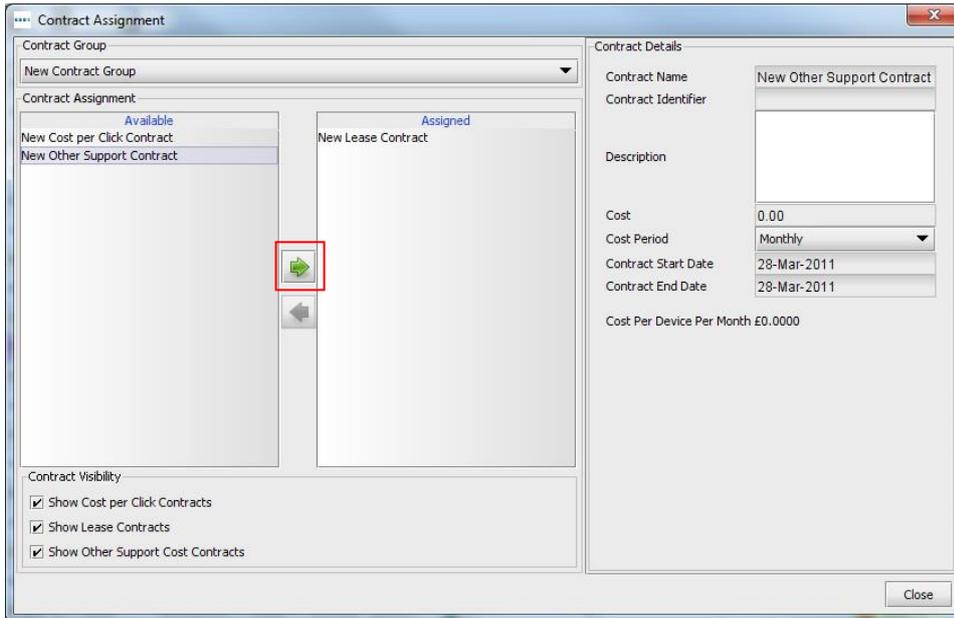


Figure 36. Assigning a contract

Select your contract group from the drop down at the top, then select the desired contract in the 'Available' list and click on the green arrow to move it to the 'Assigned' list. You can assign multiple contracts at the same time.

Please note that a Tri-Colour Cost per Click contract can only be assigned to devices that have been set as having three colour meter levels. This is determined in the Colour Meter Levels field on the Specification tab of the Device Details panel in the Current State.

When a device has had the relevant Assumption Set and/or contracts assigned, the Red Warning Triangle in the 'Status' column will change to a green tick to indicate a TCO Calculation can now be performed. See Figure 37.

Type	Site	Building	Floor	Asset No	Serial No	Make	Model	List Price	Consum...	Unburdened Mono...	Unburdened Colour ...	Cost Category	Assumption S...	Contracts	Status
	HQ	Tall Towers	13th Floor	DCH007	CNCFB16429	Hewlett-Pack...	LaserJetP203SN	£110.90	1			Under contract			
	HQ	Tall Towers	13th Floor	DCH004	CNCFB16425	Hewlett-Pack...	LaserJetP203SN	£110.90	1			Both	New Assumpt...		
	HQ	Tall Towers	13th Floor	DCH058	CNCFB16446	Hewlett-Pack...	LaserJetP203SN	£110.90	1			Both	New Assumpt...		
	HQ	Tall Towers	13th Floor	DCH037	CNCFB16414	Hewlett-Pack...	LaserJetP203SN	£110.90	1			Under contract			
	HQ	Tall Towers	13th Floor	DCH008	CNCFB16431	Hewlett-Pack...	LaserJetP203SN	£110.90	1			Purchased	New Assumpt...		
	HQ	Tall Towers	13th Floor	DCH054	CNCFB16440	Hewlett-Pack...	LaserJetP203SN	£110.90	1			Purchased	New Assumpt...		

Figure 37. Ready to calculate screen

**Top Tip:** Hover over the red triangle to see what parts you still need to complete to make it change to a green tick.



### 3.11 Calculate the costs

Once all the costs and assumptions have been entered and assigned, the TCO Tool is ready to calculate the costs and turn these into a cost per page. This function is carried out by clicking on



the calculator button. If you select 'Calculate for All Assets' the TCO will take all assets into consideration. Should you only want to calculate it for a few selected devices, select the devices in your Asset View first, and then click on the calculator button and select 'Calculate for Selected Assets'.

A pop-up will appear with a message on whether a complete calculation can be made as well as if any volumes are missing; there is an additional 'Calculate' button to confirm the intention to proceed. The TCO Tool will then report that a calculation has been completed and when you close the pop-up, you will see that the 'Unburdened Mono' and 'Colour CPP' columns will be populated with the actual running costs as shown in Figure 38 below:

Type	Site	Building	Floor	Asset No	Serial No	Make	Model	List Price	Consumable Count	Unburdened Mono CPP	Unburdened Colour CPP	Cost Category
	A Branch ...	DCH House	First Floor	DCH033	DRB131674	Xerox	ColorQub...	£429.00	7	£0.0195	£0.0942	Purchased
	A Branch ...	DCH House	First Floor	DCH060	DRB131668	Ricoh	Aficio 2022	£	0	£0.0040		Under contrac
	A Branch ...	DCH House	First Floor	DCH002	CNCFB16421	Hewlett-P...	LaserJet ...	£110.90	1	£0.0261		Purchased
	A Branch ...	DCH House	First Floor	DCH003	CNCFB16423	Hewlett-P...	LaserJet ...	£110.90	1	£0.0261		Purchased

Figure 38. Populated running costs

**Tip:** Be sure to right-click on a column header and choose 'Clear All Filters' before running the TCO calculations to ensure you have not missed any devices that you may previously have filtered out.

Should you need to rerun your TCO calculations please make sure you have ticked the Overwrite box for your assets, before you calculate again. This ensures that the data you already have will be overwritten by the new calculation.

### 3.12 Import and Export TCO Analyses

It is possible to export and import TCO analyses Via File > Export > TCO Analysis. The result is a portable .tco file. If the associated project is synchronised to the Asset DB Cloud (explained in the Auditor manual), the TCO analysis can then be reimported into any downloaded version of that same project. This allows a handover of the TCO calculation where necessary.



### 3.13 Move TCO data to the Current State in Asset DB

Once you are happy with your calculations, the TCO data can be pushed over to the Current

State of the Asset DB project. To do this, click  to apply values from the TCO calculation to assets in the current project, which will bring up a dialogue box as shown below.

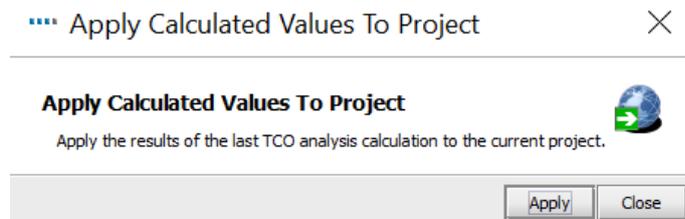


Figure 39. Transfer cost data to the current view

Asset DB will then transfer the data across to the Financials tab in the Current State view. The actual calculation behind the costs can be verified by right-clicking on an icon on the floor plan or on a row in the table view and selecting Explain Calculation > TCO Analysis. The pop-up shown in Figure 40 will appear. This Explanation window can also be exported into HTML format for use in reports or presentations, etc.



TCO Analysis Calculation Explanation

**TCO Analysis Calculation Explanation**

View basic data underlying the TCO calculation for this asset.

Asset Details	
Make:	Dell
Model:	M5200n
Monthly Mono Volume:	1,351
Installation Date:	01 March 2006

Costing Basics	
Cost Category:	Purchased

Assumptions	
Assumption Set:	New Assumption Set
Refresh Period:	36 months
Hardware Discount:	0.0%
Consumables Discount:	0%
Toner Wastage:	0.0%
Mono Coverage:	5.0%
Use High Capacity Consumables:	No

Asset Pricing	
List Price:	£617.71 GBP
Discount:	0%
Paid Price:	£617.71 GBP
Writedown Period:	36 months

Export... Close

Figure 40. Show TCO Calculations pop-up

### 3.14 Confirm TCO costs

With all the costs populated, it is possible to check whether there are any anomalies. This can either be done on screen or if a total figure for hardware and consumables costs is a better starting point, then the full data can be exported by going to Project > Export > Asset DB Data.

The export then provides 16 additional fields with cost information. The definition for each TCO column is as follows:

- Consumables Mono/Colour/Colour Level 1/Colour Level 2/Colour Level 3 CPP:** the pure running costs per page without any hardware or other contract information.



- **Total Mono/Colour CPP:** these two columns give the total cost per page with all costs included, such as depreciation or lease costs and all other recurring costs. Useful for a true comparison between device types (e.g. a printer vs. an MFD).
- **Monthly Hardware Cost:** the monthly depreciation or monthly equivalent lease cost.
- **Monthly Recurring Cost:** the monthly cost of any recurring costs applied to a device.
- **Monthly Mono/Colour/ Level 1 Colour/Level 2 Colour/Level 3 Colour Costs:** these five columns give the actual total consumable costs per month for that device (monthly volume x the CPP).
- **Overall, Monthly/Annual Running Cost:** these two columns give the sum of the monthly/annual hardware, recurring and consumables costs.

## 4 Calculating CO<sub>2</sub>: The Green Calculator

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The Asset DB Green Calculator enables the user to calculate, quickly and consistently, the environmental impact of devices in a fraction of the time it takes to do this through MS Excel. It speeds up data collation through access to a quality database provided by leading market research company, Gap Intelligence, and an easy to use interface. The data supplied covers:

- Copy Speed Mono.
- Copy Speed Colour.
- Operating Power (Watts).
- Standby Power (Watts).
- Power Save (Watts).

All values are as quoted by the manufacturer. For errors or omissions, please contact us advising of make, model, the value and the source of your data. All data can be updated manually where required and variables like toner coverage, hours/days in a working week can all be adjusted through a simple assumption set.

Using this tool the user will calculate total kW used, CO<sub>2</sub> emissions, cost of power and the number of trees consumed.

### 4.1 Starting a Green Calculation Analysis

**Note:** For a green calculation to work you will need to have monthly volumes generated (please see Sections 0 & 2).

Start by opening the project that you wish to evaluate and clicking File > New > Green Analysis (Current State).



You will be presented with a new tabbed workspace called 'Green Analysis (Current State)', which will show all the devices in a list ready for you to connect to the service and search for data (see Figure 41).

Type	Site	Building	Floor	Asset No	Serial No	Make	Model	Operating (Watts)	Standby (Watts)	Power Save (Watts)	Speed Mono	Speed Colour	Assumptions	Status	Monthly Power (kWh)	Monthly CO2 (kg)	Overwrite	
A Branch Site	DCHouse	First Floor	DCH493	CNFR18402	Dell	S1180												
A Branch Site	DCHouse	First Floor	DCH490	CNFR18417	Epson	Stylus1280												
A Branch Site	DCHouse	First Floor	DCH139	ABC123	Dell	S1180												
A Branch Site	DCHouse	First Floor	DCH612	CNFR18438	Dell	S1180												
A Branch Site	DCHouse	First Floor	DCH610	CNFR18435	Dell	S1180												
A Branch Site	DCHouse	First Floor	DCH603	CNFR18430	Hewlett-P...	LaserJet...												
A Branch Site	DCHouse	First Floor	DCH639	CNFR18415	Dell	S1180												
A Branch Site	DCHouse	First Floor	DCH47	CNFR18428	Dell	S1180												
A Branch Site	DCHouse	First Floor	DCH37	CNFR18414	Hewlett-P...	LaserJet...												
A Branch Site	DCHouse	First Floor	DCH66	DRB121671	Xerox	VersaLink...												
A Branch Site	DCHouse	First Floor	DCH60	DRB121668	Ricoh	Aficio 2022												
A Branch Site	DCHouse	First Floor	44444	34304	Xerox	VESCAL2...												
A Branch Site	DCHouse	First Floor	DCH653	CNFR18440	Hewlett-P...	LaserJet...												
A Branch Site	DCHouse	First Floor	DCH64	CNFR18405	Hewlett-P...	LaserJet...												
A Branch Site	DCHouse	First Floor	DCH627	CNFR18408	Dell	S1180												
A Branch Site	DCHouse	First Floor	DCH611	CNFR18418	Dell	S1180												
A Branch Site	DCHouse	First Floor	DCH607	CNFR18420	Hewlett-P...	LaserJet...												
A Branch Site	DCHouse	First Floor	DCH64	DRB121667	Xerox	VersaLink...												
A Branch Site	DCHouse	First Floor	DCH685	DRB121669	Xerox	VersaLink...												
A Branch Site	DCHouse	First Floor	DCH630	CNFR18432	Hewlett-P...	LaserJet...												
A Branch Site	DCHouse	First Floor	DCH651	CNFR18434	Hewlett-P...	LaserJet...												
A Branch Site	DCHouse	First Floor	DCH48	CNFR18430	Dell	S1180												
A Branch Site	DCHouse	First Floor	DCH614	CNFR18442	Dell	S1180												
A Branch Site	DCHouse	First Floor	DCH52	CNFR18438	Hewlett-P...	LaserJet...												
A Branch Site	DCHouse	First Floor	DCH602	CNFR18421	Hewlett-P...	LaserJet...												
A Branch Site	DCHouse	First Floor	DCH636	CNFR18440	Hewlett-P...	LaserJet...												
A Branch Site	DCHouse	First Floor	DCH608	CNFR18433	Hewlett-P...	LaserJet...												
A Branch Site	DCHouse	First Floor	DCH63	DRB121665	Xerox	VersaLink...												
A Branch Site	DCHouse	First Floor	DCH49	CNFR18433	Dell	S1180												
A Branch Site	DCHouse	First Floor	DCH617	CNFR18427	Dell	S1180												

Figure 41. Green tab



The first icon is the fetch data icon. Click the icon to connect to the server where the master database of information is held.

Asset DB will search for the information for your devices. Asset DB requires the data to be formatted correctly, which is why we advise that you use the make and model drop downs in the details console. Once the search is complete, Asset DB will tell you how many devices for which it has been able to 'Fetch' data.

**Top Tip:** If you do not use the drop downs to enter Make and Model you may not get information back from the server in this first process.

## 4.2 Treat As

The device shown in Figure 42, an Epson Stylus1280 has not been found, so to locate this device we click to highlight the device, then right-click and select Treat As > Find Devices with Similar Name. Asset DB will search the database for all likely options and return them in a list as shown below. As you can see, the device is in the list as Epson Stylus Photo 1280. Click to select and click 'OK'. This will apply these values to that device. If there are multiple devices not found that have the same name, you only need to perform the Treat As procedure for one of them and Asset DB will automatically match the rest of the same type of device.



Figure 42. Treat As

Once the data has been returned, it can be exported as a .csv file and if required changes can be made and imported back using the next two buttons on the Green tab console.



### 4.3 Assumptions

Just like the TCO tool, the Green Calculator requires assumptions to be created that will affect the calculation. These elements include toner coverage, working hours and days, cost of electricity and two assumptions that fill gaps in the data, standby and power save, were you can use a percentage of the power in operation.

All of these factors will have an impact on the calculation and enable a credible calculation to be performed with transparency of what assumptions were necessary to arrive at the final calculation.



To start the assumptions dialogue, click  and the Green Calculator Assumptions window will appear. Click the button shown in Figure 43 to create a new assumption set.



Assumption Set Details	
Name of Assumption Set	Green Assumption Set
Mono Coverage %	5
Colour Coverage %	5
Daily working hours	10
Days in working week	5
Turned off at night	<input type="checkbox"/>
Cost of electricity	0.08
Power to CO2 conversion rate	0.54
Standby Power %	15
Power save Power %	3
Sheets of Paper Per Tree	8333

Figure 43. Green Calculator Assumption Sets

As with the TCO, you can manage factors like coverage, number of hours in a working week and the cost of electricity, and apply assumptions to standby and power save where you do not have the actual figures.

Make your selections and click 'Close'. You can now assign your assumptions to your devices. In Figure 44, all the devices have been selected in order to apply a single assumption set to them all. Different assumptions sets can be applied to different groups of devices (e.g. to reflect the set-up of different buildings). To assign the assumptions, right-click the mouse and select Assumptions > Assign Assumption Set, and then select the assumption you want from the list and click OK.

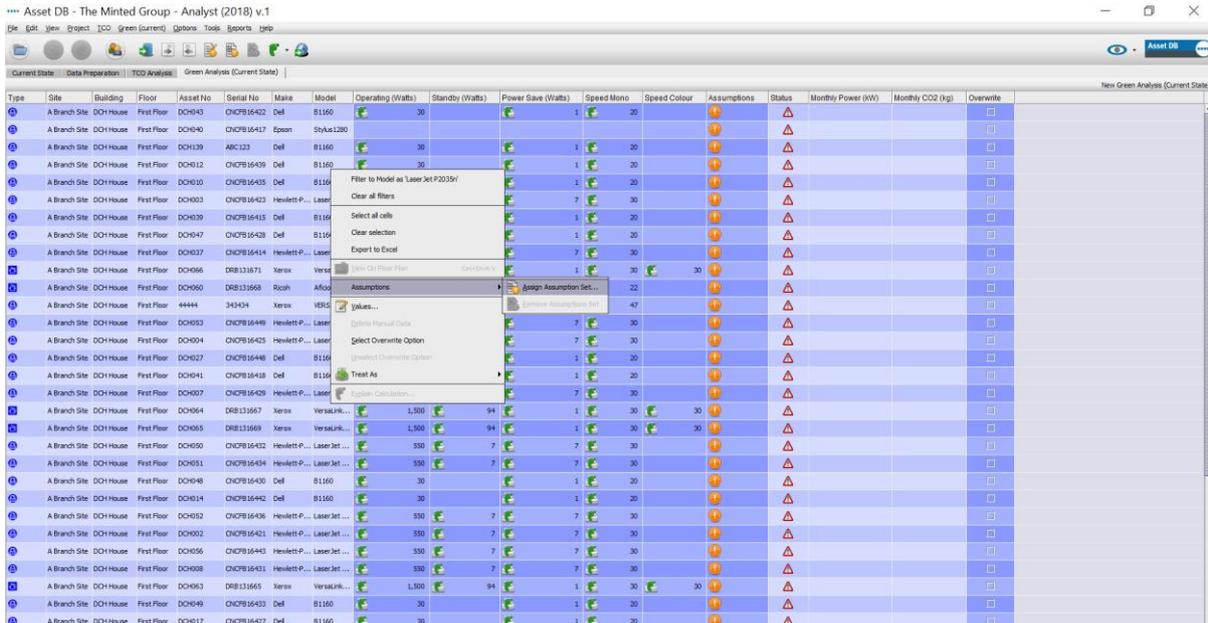


Figure 44. Assigning Assumption Sets

## 4.4 Calculate

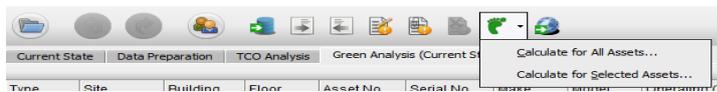


Figure 45. Calculation

Asset DB indicates when it is ready to calculate the environmental impact with green or amber ticks in the Status column. An amber tick indicates that some data had to be manually added to complete the data set. With ticks in the status column, we are ready to calculate our environmental impact. Click the green foot button shown in Figure 45, if you select 'Calculate for All Assets' the Green calculation will take all assets into consideration. Should you only want to calculate it for a few selected devices, select the devices in your Green Analysis tab first, and



then click on the green foot button and select 'Calculate for Selected Assets'. Follow the instructions and you will be presented with a summary (see Figure 46).

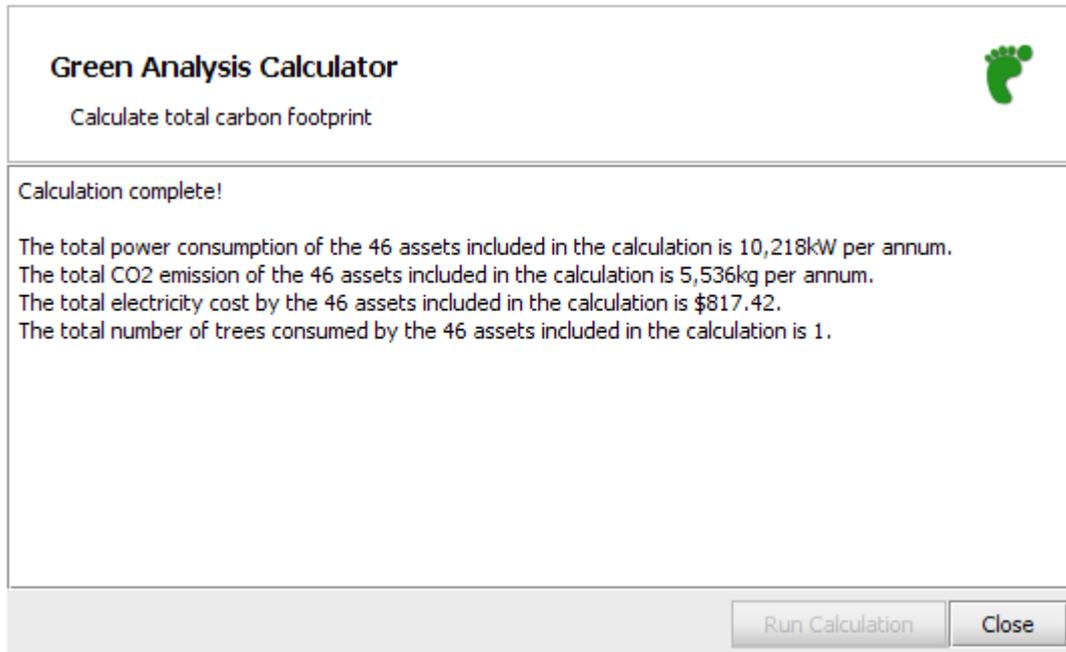


Figure 46. Calculation summary

The final step is to click the globe button  to transfer this data to the Environmentals tab in the Asset Details console in the Current State.

In the same way as for the TCO, you can verify the actual calculation behind the costs by right-clicking on an icon on the floor plan or on a row in the table view and selecting Explain Calculation > Green Analysis (current state).

The information will also be summarised in the Print Assessment Summary report.

Should you need to rerun your Green calculations please make sure you have ticked the Overwrite box for your assets, before you calculate again. This ensures that the data you already have will be overwritten by the new calculation.

## 4.5 Import and Export Green Analyses

Green Analyses are also exportable in the same way as the TCO calculations. This is explained in more detail in Section 3.12.



## 5 User Data

Being able to visualise how a printing environment is being used is a powerful way of supporting a design strategy and presenting and demonstrating document workflow arguments. To achieve this, Asset DB can now import third party user data from programs such as Print Assessor 6 and SafeCom, which is then visually represented as annotations around user and output device icons.

### 5.1 Import User Data

To import a data file click 'Project > Import > User Data > User Data'. Browse to the user data file which must be a CSV (Comma Separated) file and click 'Open'.

This will start the user data import process. The process is similar to the asset data import, where you will match the fields in the import to the corresponding Asset DB Fields. Help windows at the bottom will walk you through the process. Once the import is complete, click 'Close'. Please note that User Data files can be very large and the import process may take a few minutes.

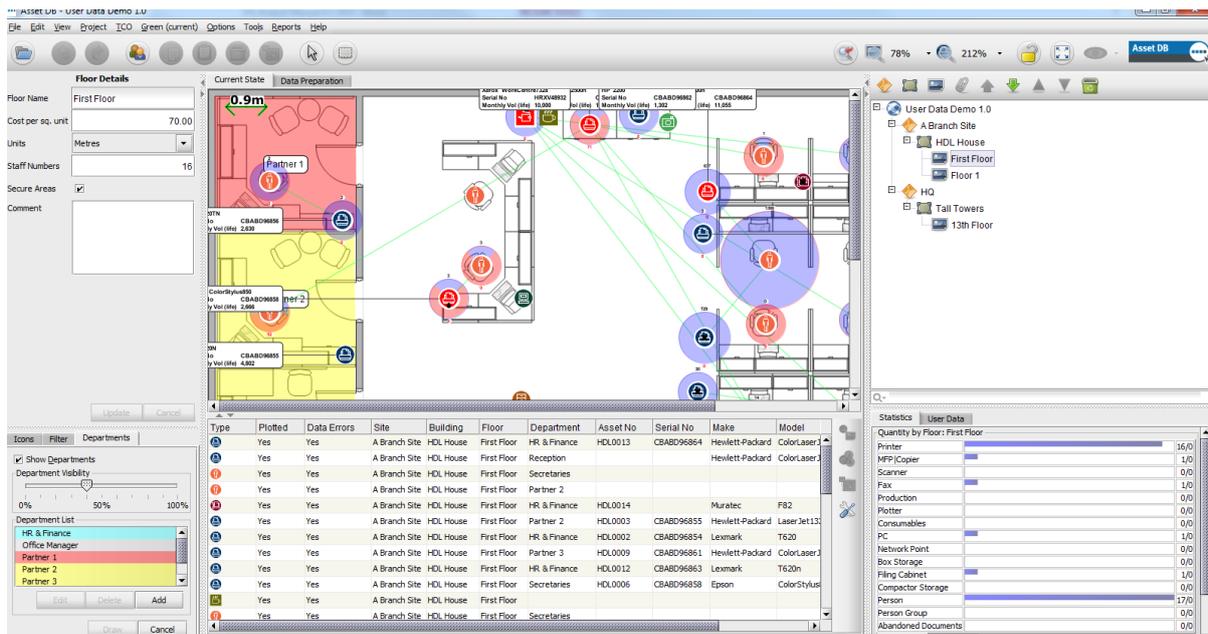


Figure 47. User Data Visualization



## 5.2 Mapping and Viewing

Asset DB will automatically map users to output assets via the IP address, where this is captured in the User Data file. Directly connected devices will have to be mapped manually.

If the IP address is not included and the only printer identifier is the Print Queue name, there is a special Asset DB export, which can be sent to the Client IT department. They can provide you with the IP address that matches the Print Queue. The Client IT Manager will have easy access to this table. Click Project > Export > User Data > Device IP Mappings, and give this file to the IT manager who will be able to link the Print Queue to an IP address. This file can then be reimported to provide the correct IP address mapping. Click Project > Import > User Data > Device IP Mapping.

To map users, the best approach is to import user data before going on site to audit. The auditor can then use the imported data to drop user icons on the floor plan as he or she comes across them.

To see just the unmapped users or devices click either 'Unmapped Users' or 'Unmapped Devices' tabs. These unmapped users and devices can also be seen shaded in pink in the users and devices list. Unmapped devices/users can be added by selecting and clicking the appropriate icon. You can add an unmapped user (highlighted in pink) to the floor plan by

selecting them from the table and clicking this button . You can also select multiple users and map them as a group using the Add Group icon .

When adding a device it is important to select the correct asset type:



is printer



is MFD and



is a production device.

You can also map a device or person by linking user data to a device/person previously mapped. Select the device/person icon that you have placed on the floor plan and then highlight the

device in the un-mapped users/devices list. Then click the following button  to link the user/device data to that icon. Un-mapping a device or user is simple, select the user or device

and click the  un-map button.

Once users are mapped to devices, you will see the links as shown in Figure 48. The green line indicates the link between the user and the device, while the circle around the user or device represents the volume, split between colour (light red shade) and mono (light blue shade). To see all the devices to which a user prints, simply click on the user in question.

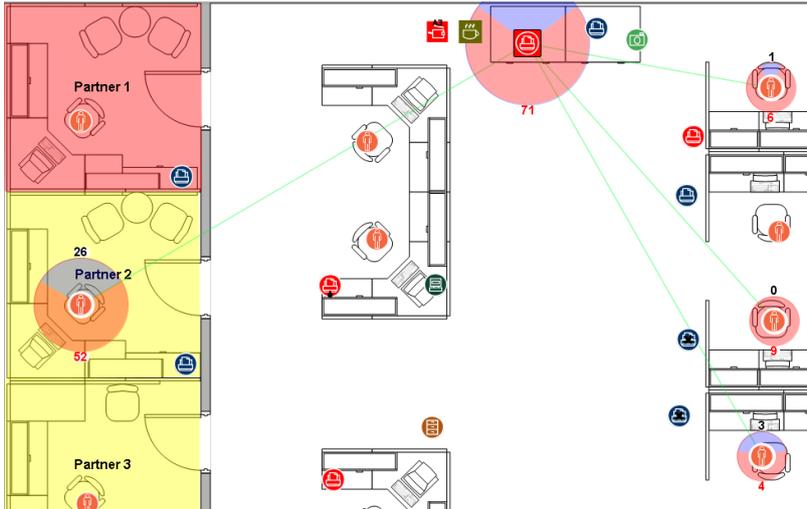


Figure 48. Visualisation of all users who print to a device

If a User prints to a device on another floor, it will be indicated by a green edge to the volume circle. Hovering the cursor over the user will then bring up an image of the alternative floor to which that user prints. The same applies to a device where a user prints to it from another floor.

To change the default columns shown, you click  and select the columns you wish to view. If you wish to import new data, you must first remove the old data. To do this click Options > User Data Configuration, which will present a pop up window as seen in Figure 49. First, delete all user data mappings and then delete all user data. You can now reimport user data.

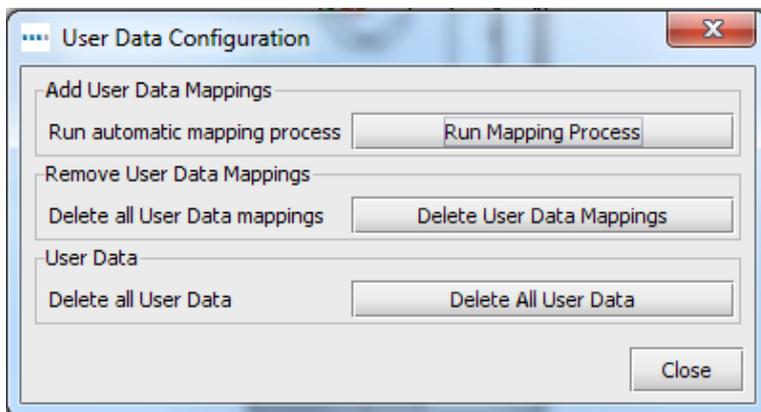


Figure 49. User Data Configuration



## 6 Analyst Features

### 6.1 Statistics

In addition to the basic statistics tab found in Auditor, Analyst has ‘Storage Statistics’, ‘Print Statistics’ and ‘Space Utilisation’ options, which can be found in the View menu. Statistics are displayed based on the level of the project you currently have highlighted - Project, Building, Floor or Department.

These statistics panels can also be exported using the Export button or via a right-click menu into HTML format.

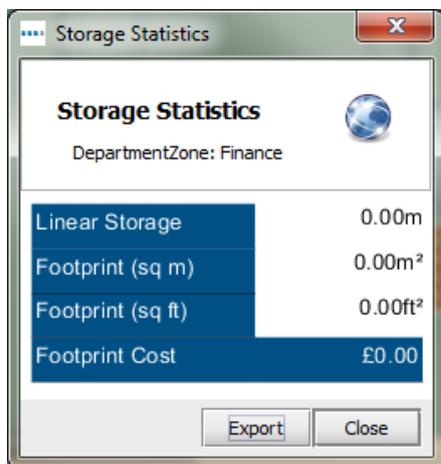


Figure 50. Storage statistics

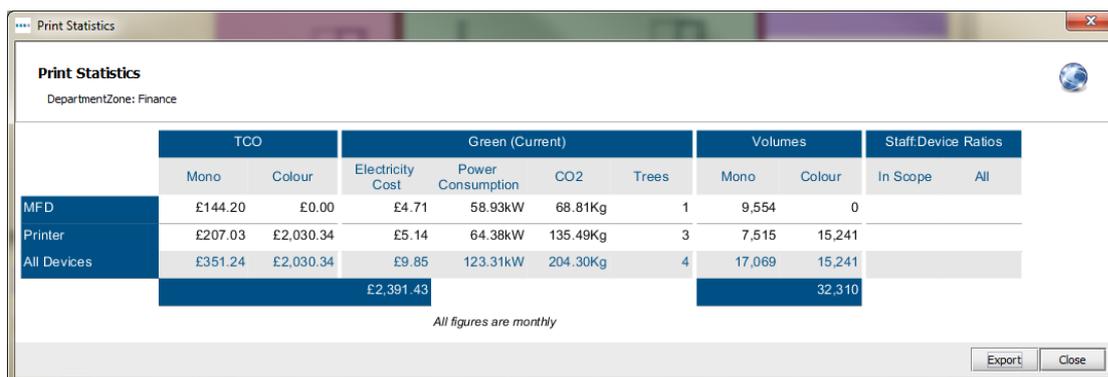


Figure 51. Print statistics



The screenshot shows a window titled "Space Utilisation" for "Building: Building 1". It contains a table with the following data:

Department	Area		Per Staff	
Finance	62.84m <sup>2</sup>	676.40ft <sup>2</sup>		
IT	72.88m <sup>2</sup>	784.42ft <sup>2</sup>		
Manager 1	18.07m <sup>2</sup>	194.50ft <sup>2</sup>		
Manager 2	18.07m <sup>2</sup>	194.47ft <sup>2</sup>		
Secretaries	67.16m <sup>2</sup>	722.94ft <sup>2</sup>		
Overall	239.01m <sup>2</sup>	2,572.73ft <sup>2</sup>	13.28m <sup>2</sup>	142.93ft <sup>2</sup>

Buttons for "Export..." and "Close" are located at the bottom right of the window.

Figure 52. Space utilisation

## 6.2 Highlight/Filter Assets Tool

Using the Highlight/Filter tool found under View > Highlight or Filter Assets, you are able to uniquely create filters and display assets based on particular criteria. Figure 53 shows the various options available to determine exactly which assets to highlight or filter.

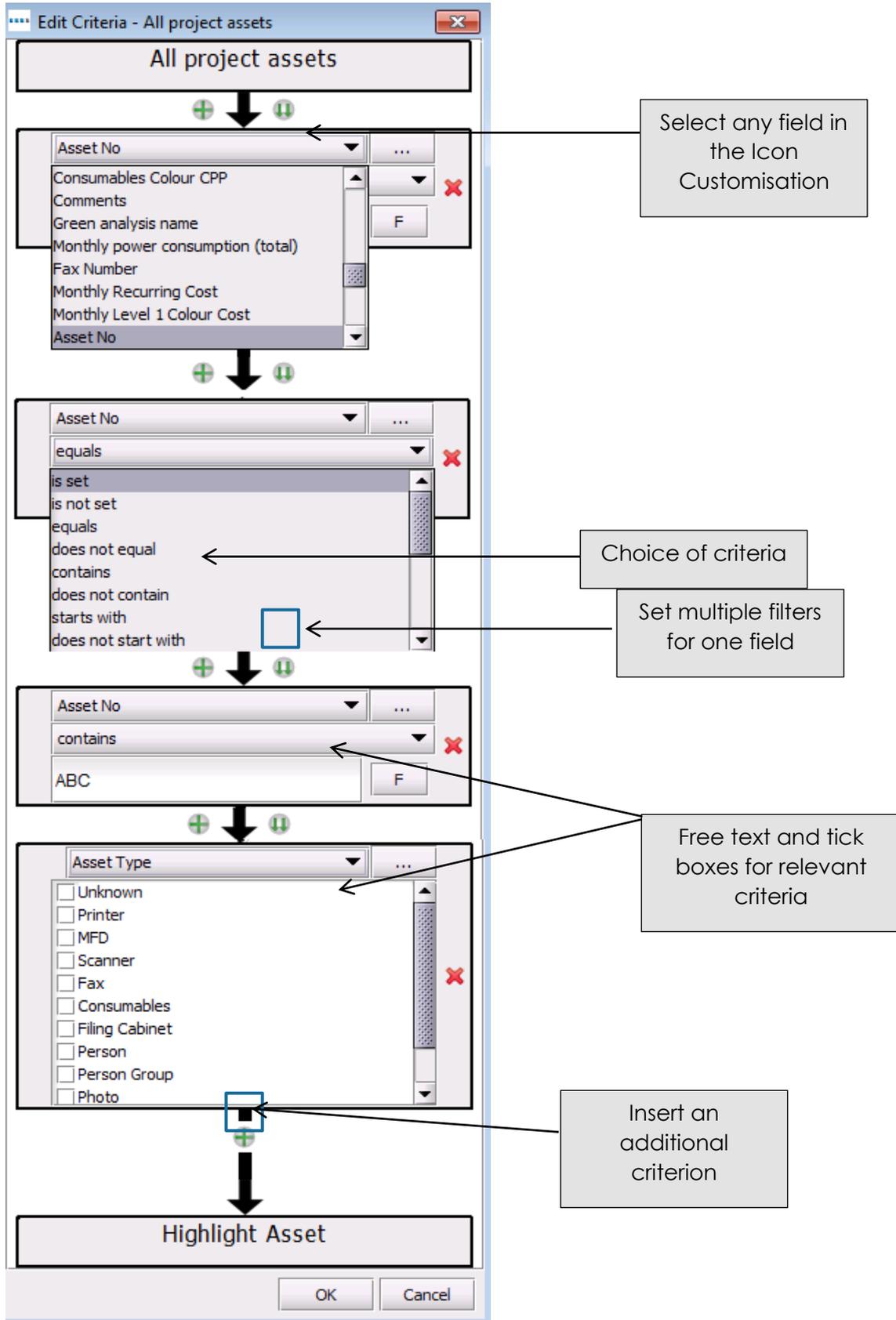


Figure 53. Edit Filter Criteria



Highlight styles include a large star surrounding the icon, a star next to the icon or a circle around the icon. The highlight style is selected using the 'Shape' drop-down in Figure 54 along with the colour, size and opacity of the highlight type. Each filter is also given a name that will appear in the filters list along with an indication of the highlight style. Multiple highlights/filters can be applied to the project at any one time and they can be toggled on and off in the filters list. .

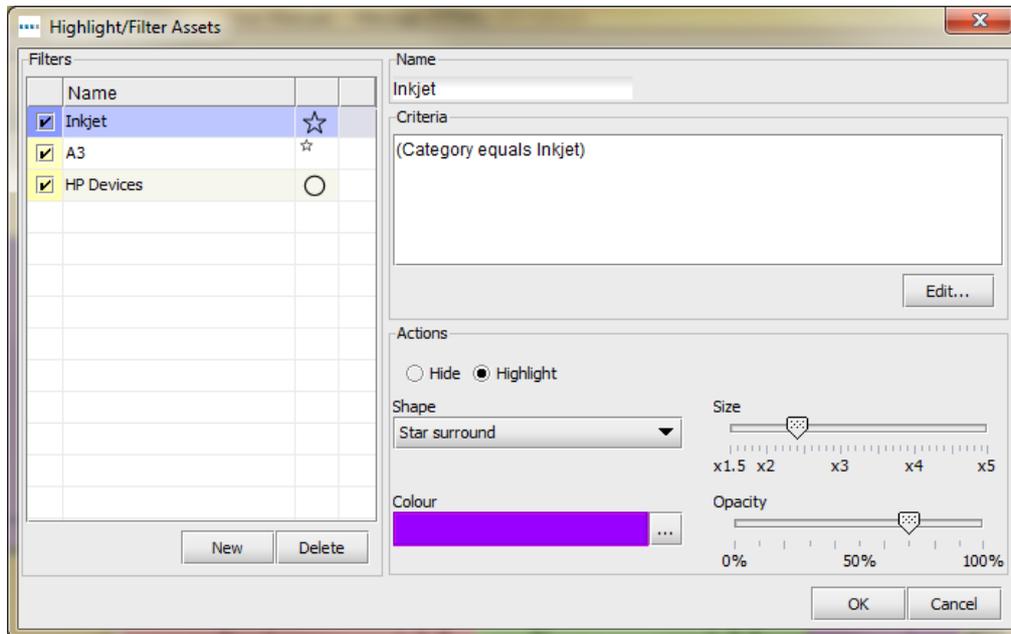


Figure 54. Highlight/Filter Assets

Figure 55 shows a representation of each of the highlight styles available.



Figure 55. Asset Highlighting Options



The highlight/filter tool can also be used to filter out particular assets by selecting the Hide radio button.

### 6.3 Showing Distances around Icons

Distances around an icon can also be shown permanently on the floor plan. To activate this feature go to View > Show Distances, and the pop-up in Figure 56 will be displayed.

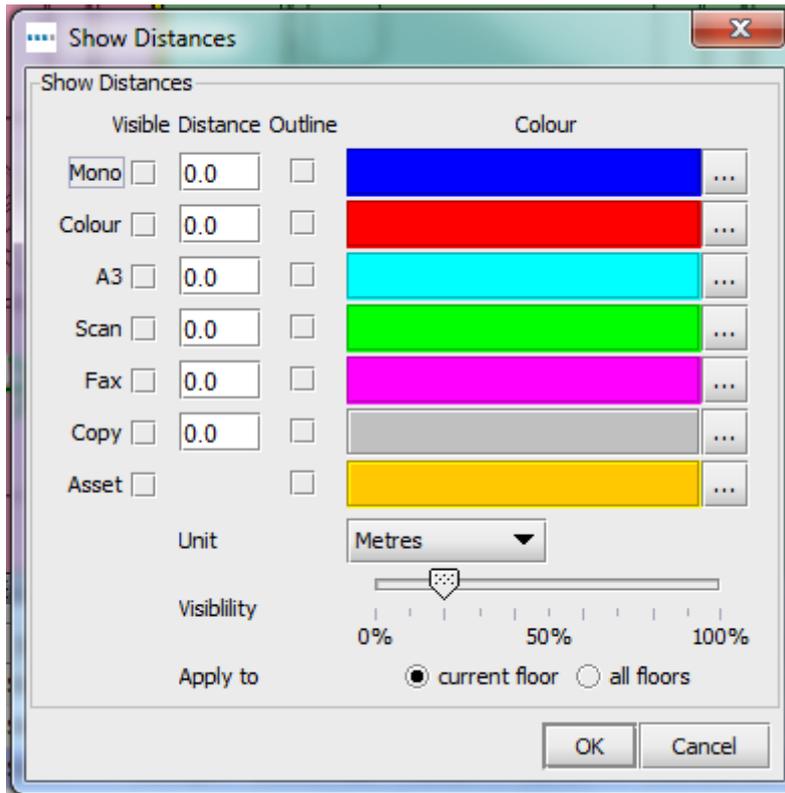


Figure 56. Show Distances settings

For each attribute, you can determine a distance and a colour, which will then be displayed on the floor plan. If multiple attributes from the same device will be used then the outline feature may be a better visual indicator than a colour. This is particularly useful in the Solution Design where a floor plan can be displayed with the distance colours to illustrate that all the users are covered by a maximum walking distance parameter. See Figure 57.

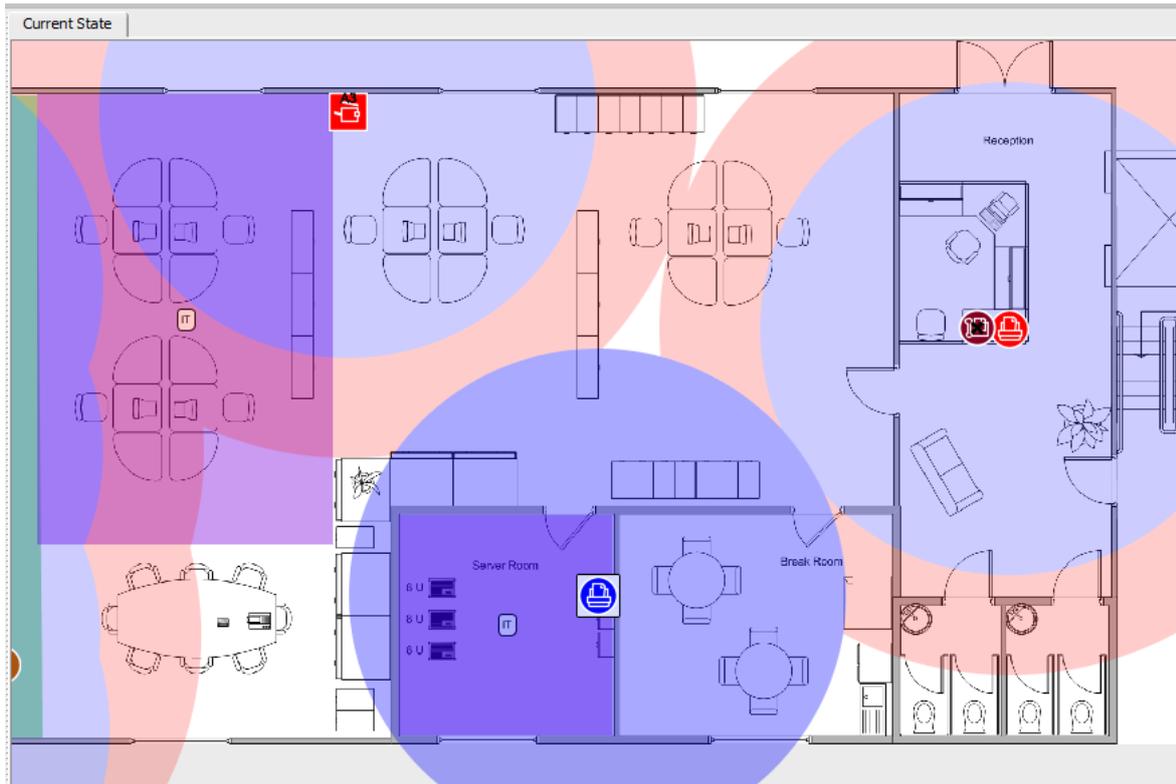


Figure 57. Asset Circulation Distances Displayed

The Asset tick box at the bottom enables the user to select a specific asset or icon to display individually and separately from the others. To activate this feature, right-click the device in question and select 'Set Asset Distance'.

## 7 The Print Assessment Summary Report

Once calculated TCO and Green analyses have been performed and data transferred to the current state, the Print Assessment Summary report will automatically include the TCO and Green data.

The report can be generated by going to Reports > Run, in the top menu and selecting 'Generate Print Assessment Summary'. You can choose the language of the report and the parts of the project you want to include in the report before clicking 'Run' to generate the report.

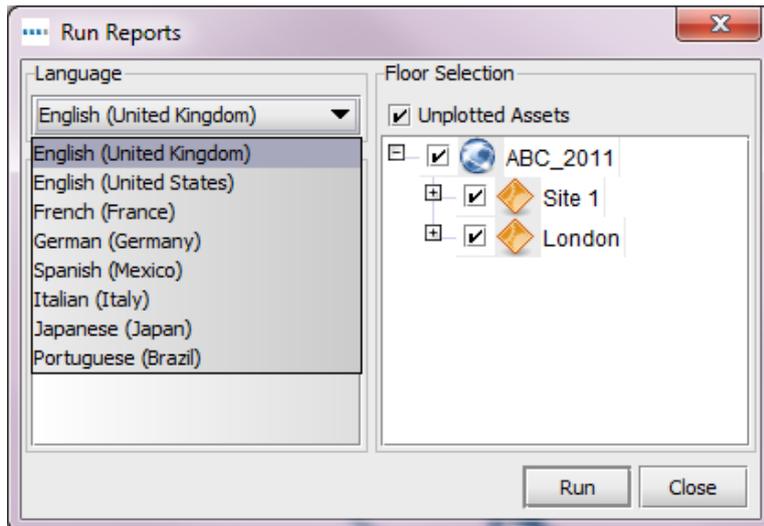


Figure 58. Print Assessment Summary Report request

The report can be produced in Word, Excel, PowerPoint or PDF and this is determined by changing the file type when you give the file a name and decide where to save it. All the charts are generated from the data in the Asset DB project. Floor plans are also included based on what is visible in Asset DB (e.g. whatever display options you have set up in Asset DB will show on the plans in the report). Reports are currently available in the languages seen in Figure 58.

## 8 Portfolio

If you have finished working on an analysis and need to keep the data but no longer need to be working on it day to day in Asset DB, it is possible to mass export/import Asset DB file types for archiving purposes<sup>1</sup>. This will provide you with an .atc file you can save outside Asset DB and allows you to then delete the local version to reduce clutter in the Open dialogue. It can also be used as a means of sharing data with other users.

### 8.1 Exporting Portfolio

To export a portfolio, open the project for which you want to export any elements (it is not necessary to open all of the elements; having the project open is enough), then go to File > Export > Portfolio.

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<sup>1</sup> The export/import Portfolio functionality is not available with all licence types.

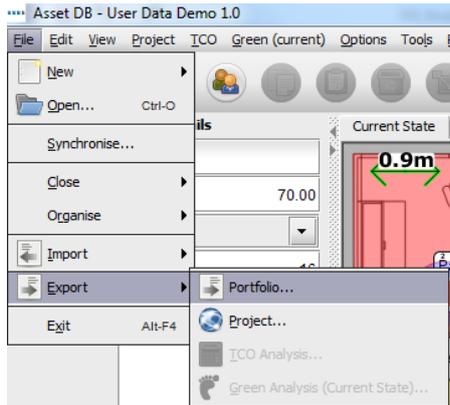


Figure 59. Export Portfolio

You can then choose which elements you wish to export by ticking the box next to that element in the list (see Figure 60).

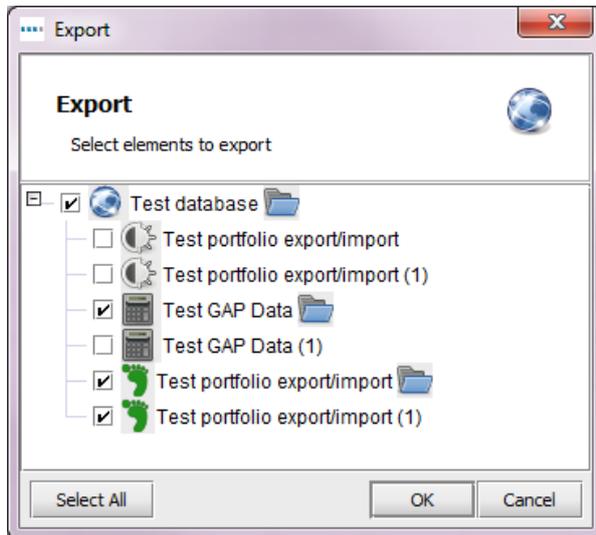


Figure 60. Select elements to export

It is possible to export any or all of the elements this way in a single file. When it comes to importing these back into Asset DB, you can either bring all the elements back in or choose specific ones to import. You can also use this as a means of sharing project data with other users.

## 8.2 Import Portfolio

To import a Portfolio file, go to File > Import > Portfolio and navigate to where you have saved the file. Click to select the file and click 'Open' to have the option to choose which components you wish to import. You can import some or all of the available components.



**Note:** if you choose to import the project part of the portfolio and the project still exists in Asset DB, this will create a copy of the project and import the other analysis components against that copy, rather than against the original. If you wish to import the analyses against the original project, make sure that you do not select the project, but just the analyses you wish to import. This will import the analyses as copies against the original project.