



SMART ESTIMATOR 2019.3 RELEASE NOTES

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SMART Estimator Draw IT

Use or want to learn AutoCAD? Try SMART Estimator Draw IT.

<https://smartscaffolder.com/our-products/smart-estimator/our-modules/draw-it/>

System Requirements

The hardware and software requirements for this version of SMART Estimator are available online at

<http://links.smartscaffolder.com/systemreq>.

Release Notes

This document includes all updates of **SMART Estimator**, including technical releases not publically available.

Version 2019.3 (Build 633): May 2019

The following enhancements have been made in this version of **SMART Estimator**:

1. **Revisions** and **Variations** are now fully supported. These new types of quotes are derived from an existing “parent” quote:
 - 1.1. A revision has the same content as the original quote until edited but a different, related quotation number.
 - 1.2. A variation is a new fresh quotation, but with a related quotation number.
 - 1.3. To support this, quotation numbers now have 5 parts:
 - 1.3.1. Prefix – Number – Suffix – Revision – Variation
2. **Rakers** are now available for Tube and Fitting independents.
 - 2.1. Rakers to the second or first lift are now available, replacing tie positions, as shown in Fig. 6.62 and 6.64 of the TG20:13 Operational guide.
3. “Road and building” maps can now be imported and traced over using BIM Toolbox. Snap points are included around buildings to speed up tracing the building perimeter.
4. Improvements when creating a new quote:
 - 4.1. When creating a new quote (project), you can now specify more information immediately, including: the contract number, description, pricing rates to use, creation date, start date, and a follow-up reminder date.
 - 4.2. When creating a new quote or later editing the address, the user interface has been updated to make the function of address groups clearer. A label now shows which address is currently selected, and how many addresses are in the current group.
 - 4.3. Revisions and Variations of existing quotes can now be easily created from the File menu > New tab.
5. Improvements in managing existing quotes:
 - 5.1. The layout of the grid for opening and editing quotes has been improved.
 - 5.2. Quotes can be copied with a new quotation number.
 - 5.3. A revision for a quote can now be created.

- 5.4. A variation of a quote can now be created.
- 5.5. Quotations can now be more easily grouped into folders (categories).
- 5.6. It is easier to create and re-name categories (folders).
- 5.7. Quotes can be dragged and dropped into folders (categories).
- 5.8. A new **Undo Sorting** button has been added, to return you easily to the default layout of the grid.
6. The **Hire Period** can now be set when specifying an item in **Schedule IT > Summary View**.
7. The lead-in for an item can now be removed in **Schedule IT > Summary View**.
8. The term “Contract number” has been replaced everywhere by “Quote number” for clarity.
9. The Price IT > Item pricing report now stretches to fill all available width. This should allow larger numbers to fit in the price boxes for most displays.
10. Draw Plan helper lines (for drawing 90 degree angles) now show even if the grid is active. This should make it easier to line up elevations correctly.
11. CADS is continuing to review and improve how SMART Estimator looks and works on high resolution and high scaling displays. In many cases, the layout has been improved to accommodate high resolution (“4k” and “8k”) displays.
12. The Project Browser no longer includes an image of the scaffold, instead showing the item ID.
13. SMART Estimator now uses Microsoft PDF Printer for generating PDFs if available. PDF Factory is no longer used. This improves the look, particularly for semi-transparent watermarks.
14. Draw Plan 90 degree snapping now works for the second elevation. Previously only the third elevation and later would snap.
15. The final graphic on the installer has been improved.
16. The stacked tubes image on the Project Browser has been removed to make the interface cleaner.
17. A rare issue that caused the TG20:13 summary not to appear the first time it was opened has been fixed.
18. An issue that would cause the split elevation grips to vanish in some circumstances has been fixed.
19. The default loading for Plettac Metrix loading bays has been updated to match the latest guidance.
20. Addresses will now always show in File > Address Settings once they are set.
21. A rare issue that would cause the material list to show error E03001 has been fixed.

22. An issue that caused edge protection guardrails to be offset from the top of the elevation by too much has been fixed.
23. The materials list layout on 4k monitors has been improved.

Version 2019.2 (Build 262): January 2019

The following enhancements have been made in this version of **SMART Estimator**:

1. An export is available to the following accounting packages:
 - 1.1.1. **Sage 50 desktop**
 - 1.1.2. **QuickBooks**
 - 1.1.3. **Xero**
- 1.2. This export is a CSV file for a Sage Audit Trail log, a Xero invoice import or a QuickBooks invoice import.
- 1.3. The new **Invoicing link** licence is required to access this feature.

Version 2019.1 (Build 229): December 2018

The following enhancements have been made in this version of **SMART Estimator**:

1. A new "Item ID" column has been added to the Schedule IT grid, allowing items to be assigned IDs other than the default "1", "2", "3", such as "6a", "6b", "6c", etc.
 - 1.1. The quotation includes a new **Item ID** SMARTText field to allow this new ID to appear in the quotation.
2. System scaffolding hop-up brackets can now be scheduled by size and material, instead of number of decks. This allows more control over the brackets and decks you want to use.
3. A new component is available for Tube and Fitting called "Kentledge". This new component must be switched on through the Configuration tab before it can be used. It is available as an Extra Material to be added to the material list.
4. New Readylok transoms are available for Tube and Fitting:
 - 4.1. XTENDA intermediate transom 1000m (4 + 3)
 - 4.2. XTENDA intermediate transom 1000m (5 + 3)
 - 4.3. Readylok transom: 3-board
5. Improvements in Plettac Metrix:
 - 5.1. The connection positions in standards are now placed to avoid lift levels.

- 5.2. A new 0.5m wide hop-up bracket has been added.
6. A new style of edge protection guardrails is available for Tube and Fitting: X-frame.
7. Fixed a bug that could cause some tabs to vanish after editing the addresses through the File menu.
8. Fixed an issue that would cause the Enterprise server data to be updated unnecessarily when installing SMART Estimator 2019 with SMART Estimator 2017.0 – 2018.3 already installed.
9. Fixed an issue with the material list when changing from Tube and Fitting to Plettac Metrix with hop-ups present.
10. Pricing rates are no longer listed as “This Project Rates(Name)” when they have no changes.
11. Fixed a crash when connecting to a brand new, never used server that you did not install.
12. Fixed an issue with the email created by Quote IT > Email As PDF sometimes having no body text.

Version 2019.0 (Build 62): October 2018

The following enhancements have been made in this version of **SMART Estimator**:

13. SMART Estimator 2019 has a new look. A new style and new icons used on all buttons.
14. SMART Estimator 2019 is sharper and clearer on high-resolution displays.
15. This product has been called SMART Estimator for some time. This version makes this name more prominent. The following have been renamed to SMART Estimator:
 - 15.1. The installed application name is **SMART Estimator 2019**.
 - 15.2. The installation directory is **SMART Estimator 2019**.
 - 15.3. The server tools application is called **SMART Estimator Server Tools 2019**.
16. 32-bit Windows is no longer supported.
 - 16.1. 32-bit editions of Windows are no longer supported, so SMART Estimator will not install on these systems. The more common 64-bit editions are still supported. View the system requirements <http://links.smartscaffolder.com/systemreg>, for more information.
17. Fixed an issue where under certain conditions the price would change on saving and reopening a project for the first time.
18. Fixed an issue where the fonts and table styles would sometimes change when opening the quote print preview.
19. Fixed an issue where changes to the columns shown in the scaffold dimensions table were not saved correctly to the quotation template.

20. Fixed an issue in pricing extra materials for quotes created in older versions of SMART Estimator.
21. Fixed an issue where the customer telephone and email was sometimes not updated to match the contact after first creating a quote.
22. Fixed an issue where add-ons could not be removed from all scaffolds at once in Schedule IT.
23. Improved the message shown when exporting the quote to a PDF that already exists and is read-only.

Version 2018.3 (Build 14147): August 2018

The following enhancements have been made in this version of **SMART Scaffolder**:

1. 3D chimney stack scaffolds are now available for **Tube and Fitting**.
 - 1.1. These chimney stack scaffolds can be created through the 3D model or schedule and include a number of options for different types of access.
2. A **1.5m lift** option is now available as a tick box in the Schedule IT Height column.

Version 2018.2 (Build 12107): April 2018

The following enhancements have been made in this version of **SMART Estimator**:

1. Improvements in scheduling:
 - 1.1. A new **First lift height** field is available so the first lift height can be changed without switching to custom lift heights.
2. Improvements in BIM Toolbox:
 - 2.1. Satellite photos can now be imported in three different sizes: small, medium and large.
 - 2.1.1. The smaller imports are higher quality photos, but the larger ones cover a wider area.
 - 2.2. You can now edit an imported PDF image, satellite photo or elevation image using new tools. This includes:
 - 2.2.1. Cropping the photo to decrease the size, and
 - 2.2.2. Drawing on the photo with a pen.
3. Improvements in pricing:
 - 3.1. A day work rate can now be set from the **Labour Options** menu.

4. Improvements in quoting:
 - 4.1. The day work rate can now be shown using a new SMARTText field.
 - 4.2. All prices can now optionally be displayed as words, rather than numbers.
 - 4.2.1. It is possible to show both on the same quote.
5. Improvements in Draw Plan:
 - 5.1. It is now possible to draw scaffolds in Draw Plan mode while the grid is hidden;
 - 5.2. Even when the grid is shown, points can be selected which are off the grid;
 - 5.3. New “Helper lines” have been added which assist with creating 90 degree corners and aligning Draw Plan points.
6. Improvements in Model IT:
 - 6.1. Inside guardrails can now be set differently from the outer guardrails, and can vary by lift.
7. Cloud export pricing data
 - 7.1. The cloud export now contains pricing data. Contact support@cadscad.co.uk if you would like access to this data.
 - 7.2. When setting the name of a contact in the address book and pressing tab, the address will no longer sometimes vanish, as it changes position.
 - 7.3. Changing the creation date for the open project using the File > Projects screen now causes the date to update immediately instead of on the next open.

Version 2018.1 (Build 776): March 2018

The following enhancements have been made in this version of **SMART Estimator**:

1. Improvements in performance:
 - 1.1. Performance on many of the Model IT add-ons tools, including bridges has been improved.
 - 1.1.1. You may notice that the preview (the image shown when you hover with a 3D tool) for these tools has changed. This improvement will be applied to more tools in future updates.
 - 1.2. For system scaffolding, the logic for choosing bay sizes has been optimised, so resizing and creating scaffolds is faster.
 - 1.3. The **Draw Plan** button is now available on the **BIM Toolbox** tab, so you no longer have to switch to **Model IT** before adding scaffolds to an imported site plan or satellite photo.
 - 1.4. **Quote IT** will now offer to automatically compress large images in quotation templates when you press the **Edit this Quote Template** button.

- 1.5. Reduced the size of the download, so this update will download faster.
2. The material list can now be sorted by product code as well as the existing component name.
3. Improvements in **Plettac Metrix**:
 - 3.1. Improved the logic for choosing bay sizes, so tube and fitting infill bays are now very rare.
 - 3.2. Hop-up brackets with a clip instead of a built-in collar now allow inside guardrails. A standard base collar is added to each hop-up.
 - 3.3. Attached stair towers now include an extra **Internal Guardrail** between the stair and the independent to act as fall protection.
 - 3.4. Many components added, including corner filler hop-ups, façade and plan bracing and some updates to component names.
 - 3.5. Birdcages now include additional façade bracing following a clarification from the manufacturer.
 - 3.6. Loading bay un-boarded lifts now receive plan bracing if two wing braces are not present.
 - 3.7. The 2.5m and 3m trapdoor decks now include a built-in ladder, while the shorter 2m and 1.5m require a separate ladder.
 - 3.8. Fixed an issue where the ladder would sometimes face the wrong way in 1.3m birdcage bays.
 - 3.9. Removed some unnecessary ledgers from the Plettac Metrix stair.
4. Improvements in **Quote IT**:
 - 4.1. New **Table of Items** SMARTText is available. This table summarises the name, hire period and price of all items in the project. The default quote now has 3 fewer sections.
5. Improvements in **SMART Estimator Enterprise**:
 - 5.1. The SMART Estimator client can no longer create an Enterprise data structure. This led to some confusion, so installing Enterprise can now only be done through the installer, as in SMART Estimator 2017 and earlier.
 - 5.2. Fixed an issue that caused non-admin users to be unable to access an Enterprise data structure created by an admin user.
6. Added a tooltip for system scaffolding bridges to let you know the available system beam sizes.
7. Fixed an issue that caused very small scaffolds created in earlier versions to have no lifts.
8. Fixed a slight delay in the stair tooltip, which meant you could hover the stair tool over a valid bay and it would appear to say the bay is the wrong size.
9. Fixed an issue that caused address books that contain some special characters to fail to upgrade.

10. The release notes and what's new documents changed to website links.
11. Fixed some minor highlighting and font issues on the front page of the installer.
12. Made a small change to façade bracing on inside corners for system scaffolding, so the inside bay is skipped if it is part of the main scaffold run.
13. Improved the loading graphic shown before the installer front page appears.
14. Cloud licence **Save and Close** button changed to **Save and Restart**, so you can automatically relaunch SMART Estimator after entering a cloud licence code.
15. Smoothed out the **Schedule IT** Height, Width and Add-ons controls, so they flicker less.

Version 2018.0 (Build 763): November 2017

The following enhancements have been made in this version of **SMART Estimator**:

1. The software name has been changed to **SMART Estimator 2018**. You might notice a new loading "splash" panel when you start **SMART Estimator 2018**, as well as a slightly refreshed welcome screen.
2. New features in **Schedule IT**:
 - 2.1. "Manual" chimney stacks and manual temporary roofs are now available to schedule!
 - 2.1.1. These two new scaffold types are available via the schedule and allow labour to be priced and a quote created for a chimney stack or temporary roof more easily.
 - 2.1.2. No 3D model or drawings are available for these two "manual" types, but materials can be added via Report IT, as for the existing Manual scaffold type.
 - 2.2. Even more flexibility to customise lift heights has been added. Many common lift heights are available by selecting them with the **Enter** key. Any combination of lift heights is possible using the new **Custom** option.
 - 2.3. It is now possible to specify which lifts are boarded instead of just the number of boarded lifts.
 - 2.4. Many add-ons can now be scheduled, including: banner, safety lamps, high-visibility standards, double standards, sheeting, debris netting, brick guards, cantilever fans, bridges and ladder positions.
 - 2.5. The Schedule IT UI has been streamlined. Many columns have been removed and combined to make the grid easier to read and navigate.
 - 2.6. Schedule IT now names independent scaffolds by default as if they are connected. This does not affect the 3D model, load list or drawings, but does show on the price and quote.
 - 2.7. Scaffold and / or elevation names may now be blank.
 - 2.7.1. We noticed some estimators setting the elevation names as "." or "-" to remove the elevation names on the quote. This is now possible by simply deleting the name.

- 2.7.2. Setting the scaffold name as blank also affects the quotation. See the quotation improvements below for details.
- 2.8. Edge protection scaffolds may now be up to 9999m long. This is ten times the previous limit. The 3D model is not shown for a very long edge protection scaffold.
3. The default lead-ins included with SMART Estimator have been improved. The new list is inspired by C.A.S.E. For this update, this list is only available when installing on a computer that has not had a previous version of SMART Estimator.
4. Improvements in **Quote IT**:
 - 4.1. The table of **Scaffold Dimensions** has been improved:
 - 4.1.1. The dimensions are now in clearly labelled columns;
 - 4.1.2. The table has a more spacious, easier to read style;
 - 4.1.3. Gable lifts are now more clearly separated from main lifts;
 - 4.1.4. Identical independent scaffold names are no longer repeated.
 - 4.1.5. If the independent scaffold name is blank, no row is included in the table for the name.
 - 4.2. The **Guardrails Description** has been improved:
 - 4.2.1. Guardrail descriptions are now clearer and shorter.
 - 4.3. The **Lift Heights Description** has been improved:
 - 4.3.1. Lift height descriptions are now clearer and more detailed.
 - 4.4. The **Loading Description** has been improved:
 - 4.4.1. Loading descriptions are now clearer and shorter.
5. Improved pricing:
 - 5.1. The Project pricing grid can now be printed showing all of the columns that you have set as visible.
 - 5.2. The pie chart report is now available via a new separate button.
 - 5.3. The item price “breakdown” report now includes the customer and site address.
 - 5.4. Driving directions are now available from a new option in the **Transport Options** menu.
6. Performance and workflow improvements:
 - 6.1. Schedule IT and BIM Toolbox are now the first tabs on the left.
 - 6.1.1. This means that tabs are generally used from left to right, improving the flow of the software. In particular, BIM Toolbox should come before Model IT, so site plans can be imported before tracing scaffolds onto them.

- 6.2. When copying via the **Project Browser**, the new item is now placed as the last item in the scaffold. This much-requested improvement reduces how often you will need to re-order items.
- 6.3. After installing **SMART Estimator**, the first launch is now faster.
- 6.4. The database containing all of your SMART Estimator Enterprise quotations no longer requires Microsoft SQL Server. This has the following benefits:
 - 6.4.1. Downloading and installing SMART Estimator is much faster. The installation is now simpler, with fewer options.
 - 6.4.2. The database is now a simple Windows directory structure, so backing up, moving, locating and accessing your Enterprise files is much easier.
7. It is our pleasure to offer SMART Estimator **Draw IT 2018**, available free-of-charge from the SMART Estimator website. This bolt on for Autodesk **AutoCAD 2018** provides blocks, guides and tools for editing scaffold drawings using AutoCAD. It works best when combined with the **Draw IT link** module, which creates AutoCAD files from your SMART Estimator scaffold drawings.

Version 2017.1 (Build 723): July 2017

The following enhancements have been made in this version of **SMART Estimator**:

1. Guard rails are now available for foot lifts for independents, circular tanks and tied towers, for all scaffolding systems.
 - 1.1. Foot lift guard rails are available for all scaffolding systems, including tube and fitting.
 - 1.2. Inside guard rails can optionally be applied.
 - 1.3. A footlift is required to add these guard rails, but it does not need to be boarded or decked.
 - 1.4. When the foot lift is boarded or decked and guard rails are added, toe boards are also included.
2. Split elevation grips are now available, allowing the position of a split to be easily changed.
 - 2.1. Dragging the split close to an elevation end will erase the split.
 - 2.2. These grips can optionally be hidden from the **Options** view.
3. New **Plettac Metrix** features:
 - 3.1. 4-leg stair towers are now available.
 - 3.2. Intermediate (deck-to-deck) and intermediate (deck-to-ledger) transoms are now used for erecting ladder hatches.
 - 3.3. Components have been added to support a 1.3m bay length.

- 3.4. Ledger-to-ledger side brackets are now available. The easiest way to apply these is to disable all hop-ups and sliding hop-ups.
- 3.5. Bridges have been updated:
 - 3.5.1. The beam is now placed one connection lower to facilitate connections for decking.
 - 3.5.2. Standards above the bridge beam are now supported by puncheons.
- 3.6. Loading bay gates now include 2 x **U-head ledger spigot for standards**.
4. **Draw Plan** features:
 - 4.1. It is now easier to find common buttons. Infrequently used buttons have been moved into a new menu.
 - 4.2. The **Snap to 90 degrees** feature is now disabled by default, but can be easily enabled.
 - 4.3. Scaffolds are now hidden by default, shown as grid lines.
 - 4.4. Double clicking to drop the **Zoom**, **Rotate** or **Pan** tools no longer finishes the independent that you are drawing.
5. A new clause recommended by the NASC Contractors Legal Group has been added for new, fresh installations.
6. Fixed an issue that caused the **Split Elevation** tool not to highlight the scaffold on hover.
7. **Copy Picture** now correctly trims whitespace around the scaffold.
8. **Copy Picture** and **Project Browser** items no longer sometimes capture pop-ups in front of the 3D model.
9. Clicking the **Copy** button for an item now copies that item rather than the active item.
10. Fixed some cases where saving fails. SMART Estimator will now automatically repair any such files.
11. Addressed an issue with 1st and 2nd generation Intel on-board graphics, where no separate graphics card is available, which would cause 50% of the 3D model space to work correctly and 50% to be white.
 - 11.1. If you face this issue, please set the **Graphics Quality** to Medium or Low. Some features are disabled in these modes, which are not supported by these on-board graphics.

Version 2017.0 (Build 702): March 2017

The following enhancements have been made in this version of **SMART Estimator**:

1. The software name has been changed to **SMART Estimator 2017**. You might notice a new loading “splash” panel when you start **SMART Estimator 2017**, as well as a slightly refreshed welcome screen.
2. New tools in **BIM Toolbox**:
 - 2.1. Photos and other images can now be added to the front face of the building.
 - 2.2. A satellite photo of the site can be imported and traced on. (Requires an internet connection)
 - 2.3. Non-vector PDFs can now be imported as images. (Vector PDFs can still be imported as lines and traced over.)
3. Performance:
 - 3.1. 3D model performance has been improved under the Windows 10 Anniversary Update.
 - 3.2. A new *Graphics Quality* setting is available from the *File > Settings* screen. This defaults to *Medium*, but can be reduced to *Low* to improve 3D model performance, or set as *High* to improve the 3D model look.
 - 3.3. A new *Check My Hardware* tool is available from the *File > Settings* screen. This tool checks your hardware against those required to run **SMART Estimator** and gives advice accordingly.
4. New birdcage features:
 - 4.1. System birdcage decking can now be set to alternate in a “checkerboard” pattern. This feature is available from the *Boards* menu in **Modelling > Tools** view.
 - 4.2. Safety lamps, high-visibility standards and rubbish chutes are now available for birdcages.
5. If you have **Enterprise**, an export to the **SMART Estimator Web Console** is now available from the *File > Projects* screen.
6. For **Tube and Fitting** scaffolding, **HAKI** stair components are now shown in the *Configuration* tab, so they can be more easily priced.
7. The layout of **Quoting** clauses, terms and conditions has been improved.
8. The installer has been simplified and now has fewer screens.
9. An issue where the site or customer address would sometimes be duplicated for **Enterprise Server** quotes has been corrected.
10. A rare issue related to duplicated configurations when moving between offline and online modes causing a crash has been corrected.
11. The **Draw Plan** grid now moves so it is always centred on the last selected point, to allow large scaffolds to be drawn more easily.

Version 2016.2 (Build 661): September 2016

The following enhancements have been made in this version of **SMART Estimator**:

1. **Plettac Metrix Advanced Guard Rails** are now available.

These frames replace the guard rails and façade bracing. Some sizes also act as a ledger and toe board.
2. The TG20:13 summary report has been updated.

A new warning graphic has been added for scaffolds that do not comply. For clarity, a column title has been changed and a footnote removed.
3. **Tube and Fitting** loading bays now include a foot lift, even when attached to a scaffold without a foot lift.
4. The dialog for setting the body text shown on a quotation email has been improved:
 - 4.1. Font and styling tools are now available in the dialog.
 - 4.2. A menu for adding SMARTText descriptions is now available in the dialog.
5. Some minor bug fixes are included.

Version 2016.1 (Build 660): July 2016

The following enhancements have been made in this version of **SMART Estimator**:

1. The **Turner OCTO** scaffolding system is now available!

Turner OCTO uses *Bracing Guardrails* to reduce required materials.
2. When emailing a quote, the email is automatically populated with:
 - 2.1. A recipient taken from the customer address contact;
 - 2.2. A subject based on the contract number and contract description;
 - 2.3. Customisable text, which may include automatic “SMARTText” descriptions;
 - 2.4. The attached document name now includes the contract number.
3. **Quoting** now includes a UK English spell checker.
4. Performance Improvements:

- 4.1. **SMART Estimator** now launches faster, by completing more launch activities simultaneously.
- 4.2. The grid of **Enterprise** projects now shows more quickly. The tile view is no longer loaded when the grid view is active.
- 4.3. **SMART Estimator** files and projects saved on the server are now smaller. Only quotation templates that you have actually viewed or edited are saved in the file.
5. **Plettac Metrix** bay logic

Plettac Metrix is now improved to use fewer but larger bays in some cases.

Version 2016.0 (Build 643): February 2016

The following enhancements have been made in this version of **SMART Estimator**:

1. The **Plettac Metrix** scaffolding system is now available!

Plettac Metrix allows a unique *divisible* corner detail, so that fewer standards are required than for other ring systems.
2. Performance Improvements:
 - 2.1. **SMART Estimator 2016** is 64-bit.

This means that **SMART Estimator 2016** can make use of more memory than previous versions, provided that you are using a 64-bit version of Windows.
3. **Scheduling 2016**

The following improvements have been made to **Scheduling**:
 - 3.1. Lead-In descriptions

You can now create and customise your own list of “lead-in descriptions” through the schedule. Use these paragraphs of rich text to insert common descriptions into the start of your quotation, without having to type them.
 - 3.2. Schedule cantilever (hop-up) brackets

A new column called “Hop-Up Decks” has been added to **Scheduling**. You can use this column to add inside cantilever (hop-up) platforms to every lift of an independent, tied tower or circular tank, or outside platforms to every lift of a birdcage.

3.3. Lift creation

In order to make creating a scaffold with the correct lifts even easier, the way that **SMART Estimator** creates lifts has been updated.

3.3.1. The scaffold top lift height automatically adapts by default.

Previously, **SMART Estimator** created all new lifts at a height of 2m by default. For a 6m high scaffold, you saw 3 x 2m lifts. For a 7.9m high scaffold, you still saw 3 x 2m lifts. This logic works well for some scaffolding types, and not very well for others.

Now, the top lift of the scaffold will adapt to match the maximum height required more closely.

3.3.2. Small foot lifts or base jacks no longer cause lifts to be removed.

In previous versions, even a very small foot lift or base jack could cause the top lift to be removed from a scaffold. For example, a 4m high scaffold with a 0.09m foot lift would have only one lift: 1 x 2m. A 4m high scaffold will have 2 x 2m lifts, even if it also has a small foot lift.

3.3.3. Preferred Drop height

The *Drop Height* column has been removed, and replaced by a new, simpler *Preferred Drop Height* column. When the preferred drop height for a scaffold is changed, the maximum allowed position of the top lift is reduced by that amount. For example, a 5m independent scaffold with a preferred drop height of 1m is created as if the elevation height was 4m.

3.3.4. Fixed column order

The option to change the order that schedule columns appear in has been removed.

The order of columns in the Schedule is now fixed. Working from left to right through the grid is now the best way to choose lift heights through the schedule.

3.3.5. Default scaffold heights updated

The default height of most scaffold types has been updated. For example, all four elevations of a box scaffold are now 4m instead of 5m. Scaffolds created by default have the same number of lifts as in previous versions of **SMART Estimator**.

3.4. Creating scaffolds with the Tab key

Scheduling has always automatically added a new independent whenever the *Tab* key is pressed on the final Schedule column in the *Scaffolds* view. This is a fast way to add scaffolds to the schedule before setting their type.

Scheduling will now ask you whether you want to create a scaffold before adding it.

3.5. Wider columns and horizontal scrollbar

3.5.1. All schedule columns now show at the 'best fit' width by default, and can be resized as required.

3.5.2. To fit all these new columns in, a horizontal scrollbar now appears, allowing wider columns.

3.6. Structural Lifts

Lifts created automatically by **SMART Estimator**, when the *Structural Lifts (as required)* schedule option is applied, are treated differently. These lifts are now considered part of the lift above. For example, for a 3m lift, a 2m structural lift will be inserted in to the scaffold. However, this lift's height will still display as "3.00m" in the 3D model and schedule.

3.7. Pasting scaffolds from the schedule of future versions of **SMART Estimator** into this version has been disabled.

4. Quoting

The following improvements have been made to **Quoting**:

4.1. "Exploding" SMARTText

It is now possible to "explode" any of the quotation descriptions that were automatically created for you by **SMART Estimator** (SMARTText) into basic text. This means that you can now easily change a few words in a long SMARTText paragraph without retyping the whole description.

4.2. Lead-In descriptions

You can now create and customise your own list of "lead-in descriptions" through the quote. Use these paragraphs of rich text to insert common descriptions into the start of your quotation, without having to type them.

4.3. Simpler widths and Add-on descriptions

When all scaffolds / elevations / lifts in an item are similar, the *Scaffold Width* and *Add-on Description* SMARTText will be shorter, by not listing the scaffolds.

4.4. Clause rich text controls

When entering the description for clauses and conditions in the quotation, rich text editing controls are now provided for the *Description* and *Group*.

4.5. Scaffold dimensions: width

A new option is available for the *Scaffold Dimensions* text. The width of the scaffold can now be shown or hidden.

4.6. Scaffold width in boards

The *Scaffold Width* SMARTText description now always describes the scaffold width by showing the number of boards wide. Previously this format was only used for **Tube and Fitting**.

4.7. Add clause button

When customising your clauses or conditions, a new *Add* button can be used instead of pressing *Tab* after entering a description.

4.8. The default quotation has been updated.

To help inspire you when customising your quotation for the first time, and to help do this more quickly and easily, the default *Full Quotation* has been updated to a new style.

4.9. Re-order quotation sections

The order of Quotation sections can now be changed. This means it is now possible to add a new quotation section which is not at the end of your quote.

5. Quadruple guard rails: **Kwikstage** and **Layher**

Quad guard rails can now be placed at the top lift for **Kwikstage** and **Layher** scaffolds.

6. Drawings improvements

The following improvements have been made to the drawings:

6.1. The font colour of dimensions in the drawings can now be set.

The default colour is now black rather than light grey.

6.2. The drawing dimension size can now be increased using a multiplier.

For example, setting the *Text Size* to 1.5 increases the text dimensions to 150% of the default size.

7. **Cost Analysis** improvements

7.1. The *Material Supply* multiplier on the item pricing report was previously located on the *Materials* line. This has been moved to the *Material Hire* price line, which excludes *Contract Expenses* such as transport and *Material Purchase*.

7.2. The *Labour Overhead* column in the pie chart report is now the sum of *Labour Overhead* plus *Output Pay Overhead*.

8. TG20:13 Compliance: Site Address

The site address can also be set from the Wind Factor menu in the **TG20:13 Compliance** tab.

9. **Modelling** improvements

The following improvements have been made to the 3D model:

9.1. Copy Picture

The *Copy Picture* button is now available from the **Modelling** tab in the *Options* view.

9.2. Loading bay sizes

Loading bay's lengths and widths are no longer fixed values. Instead, a loading bay may be any length or width for which the required components are configured in the *Configuration* tab.

9.3. Layher Allround components

The following new components have been added to the **Layher Allround** scaffolding system:

Bridging ledger, steel: 2m
Bridging ledger, steel: 2.5m
Bridging ledger, steel: 3m
Lattice beam with 4 wedge heads, steel: 3m

9.4. Buttress 'raker' lifts

The top 'raker' lift of a scheduled or single bay buttress no longer has a fixed height of 2.00m. The height can be set by hovering over the raker tubes.

10. IT administrator tools

It is now possible for IT administrators to disable the following functions:

10.1. Saving locally

It is now possible to prevent chosen users from saving projects to local directories (such as their desktop). You can use this to force estimators to save to the shared Enterprise database instead (if you have the **Enterprise** module licensed).

10.2. Editing component pricing

You can prevent users from accessing the way that individual scaffolding components are priced by default.

11. File menu

Some control styles and layouts in the File menu have been updated, including:

11.1. When selecting an address in File > New, a new *Back* button is available to cancel this action.

11.2. Project address settings, such as the customer and site address can now be edited from the File menu, even once the project has been created.

11.3. For users sharing quotations over the Enterprise Server, it is now easier to open projects. An *Open Project* button has been added to the File > Projects screen.

12. **SMART Estimator 2016:**

12.1. The software name has been changed to **SMART Estimator 2016**. You might notice a new loading “splash” panel when you start **SMART Estimator 2016**, a new launch icon and a refreshed welcome screen.

12.2. **SMART Estimator 2016** can be installed and run on the same computer as any one previous version of **SMART Estimator**. If you have the **Enterprise** module, a new Enterprise database will be created for **SMART Estimator 2016**. If you install to the same location as the previous version, all of your settings and projects will be copied to **SMART Estimator 2016**.

13. Supported operating systems

13.1. *Windows Vista* not supported

Microsoft Windows Vista is no longer a supported operating system. This version will not install on a **Microsoft Windows Vista** workstation.

13.2. **SMART Estimator 2016** supports the following operating systems:

SMART Estimator Enterprise Server	SMART Estimator
Windows 10	Windows 10
Windows 8.1	Windows 8.1
Windows Server 2012 R2	Windows Server 2012 R2
Windows 7 (with service Pack 1)	Windows 7 (with service Pack 1)
Windows Server 2012 (with service Pack 1)	Windows Server 2012 (with service Pack 1)

14. Other improvements

The following additional improvements have been made:

14.1. If services that **SMART Estimator** requires are disabled, **SMART Estimator** will now attempt to start these at launch.

Double clicking the project row still opens the project as before.

15. Bug fixes:

15.1. Fixed a crash where the maximum prefix / suffix length is exceeded;

15.2. Fixed a crash where the maximum possible contract number is exceeded;

15.3. Fixed a display issue where Draw Plan and BIM Toolbox red lines are too thick if no discrete graphics card is available.

15.4. Fixed an issue where too many components were included in the scheduled buttress, included components which should be shared with the main scaffold.

15.5. Fixed an issue where landscape PDFs imported in to BIM Toolbox were incorrectly stretched.

- 15.6. On steep slopes and steps in the ground, lifts which are made up of only a single pair of standards will now include transoms and ledger bracing as expected. In addition, the lift height can now be edited.
- 15.7. The PDF exports will now function correctly after installation on supported versions of Windows Server.
- 15.8. The My Address SMARTText is now stored, and will be automatically re-applied when the same Windows user uses **SMART Estimator**, as expected. Previously this address was resetting to blank.
- 15.9. Fixed a grammatical error in the TG20:13 advice given for attached scaffolds taller than their parent.
- 15.10. The **TG20:13 Compliance** wind factor location selector is now laid out better on low resolution displays.
- 15.11. The clauses and conditions pop-up edit controls are now sized to better fit the available space.
- 15.12. Fixed an issue preventing the IFC export from functioning when the site address includes only a postcode.

Version 2015.0 (Build 522): September 2014

The following enhancements have been made in this version of **SMART Estimator**:

1. The software name has been changed to **SMART Estimator 2015**. You might notice a new loading “splash” panel when you start **SMART Estimator 2015**, as well as a slightly refreshed welcome screen.
2. This version of **SMART Estimator 2015** now includes an integrated TG20:13 check, which checks your scaffold for TG20:13 compliance! To use this feature you must have the **TG20:13 Compliance** module licensed on your hardware key.

You must have the NEW **SMART Estimator TG20:13 Compliance** module licensed on your hardware key to use the TG20:13 features.

3. The **Check IT** and **Check IT Plus** modules have now been discontinued. These modules do not unlock any features in **SMART Estimator 2015**.
- 3.1. The NASC no longer recommends erecting scaffolding in accordance with TG20:08. This guidance has been discontinued. However, if you wish to continue using the TG20:08 check with your **Check IT** and **Check IT Plus** module licences, you must install **SMART Estimator v5.31** (client only) in a separate location on your computer.

4. Lift shafts, Free-standing towers and Tied towers are available in **Modelling** and **Scheduling**.

Lift shaft towers

These are butted internal scaffolds, similar to birdcages.

(Available for all scaffolding systems except *Frame Scaffolding*)

Tied towers

The towers may be one or two bays wide. These are similar to independents.

(Available for all scaffolding systems)

Free-standing towers

May be one or more bays long. (Available for all scaffolding systems except *Frame Scaffolding*)

5. The wind map, used to set the TG20:13 wind factor, has been updated to include all of the factors required by TG20:13, including the seasonal factor, topography and surroundings.
6. It is now possible to add brick guards through **Scheduling**.
7. It is now possible to add 8-leg stairs through **Scheduling**.
8. The *Scaffold Dimensions* description now includes some new options:
- 8.1. The number of lifts can now be included or excluded from the description.
- 8.2. The elevation height can now be included or excluded from the description.
9. The *Ladder Tower* button in the schedule has been renamed *Attached Ladder Tower* to remove any confusion between an attached ladder tower and a free-standing tower. Scheduled attached ladder towers do not include any components which would be shared with their parent scaffold.
10. The *Loading Bay* button has been replaced by *Attached Loading Bay*. An attached loading bay does not include any materials that would be shared with their parent scaffold.
11. The scaffold types shown in the schedule toolbar can be changed by using the new 'scroll' buttons.
12. The *Building Colour* for rectangular birdcage elevations can now be set.
- 12.1. For example, it is now possible to hide the four elevations around a rectangular birdcage, by applying the *Transparent* building colour.
13. Projects created in previous versions of **SMART Estimator** are now automatically optimised. This improves the performance throughout **SMART Estimator 2015**. Projects saved in **SMART Estimator 2015** are slightly smaller as a result.
14. Gin wheels now include a diagonal brace in the ledger direction, for all systems except *Frame Scaffolding*.
15. A new *Also tie the top lift* option has been added for all tie patterns in the *Anchors* menu. This option causes the top lift to be tied at alternate standards in addition to any other ties already

- present. This option is automatically applied for sheeted independents and independents with hop-up brackets, as it is required for TG20:13 compliance.
16. Double standards can now be applied to attached ladder towers, bridges and attached loading bays for **Tube and Fitting**.
 17. The following components have been added to the **Layher Allround** system: 19" wide aluminium decks in sizes: 3'10", 5'2", 6', 7', 8' and 10'.
 18. For scaffolding systems which support 12-leg stair towers, these can now be created through the schedule. This is done by adding any scaffold and changing the type to "12 Leg Stair Tower".
 19. A bug was fixed which caused the word "Welcome" and a checkbox in the bottom right to sometimes be partially off-screen on the welcome screen.
 20. A bug which sometimes caused the *Main Lift Height* in the schedule to reset to "Varies" immediately after changing the value has been corrected.
 21. **Tube and Fitting** loading bays no longer include plan bracing if suitable wing bracing is already present on the same lift.
 22. The tie pattern for **Tube and Fitting** cantilever fans has been corrected.
 23. Single scaffold items now only generate a single page of drawings, rather than repeating.
 24. PDF site plan files with a capitalised extension will now be imported correctly.

Version 5.31 (Build 494): July 2014

The following enhancements have been made in this version of **SMART Estimator**:

1. You asked for quotation documents to be prepared for printing more quickly.

This version of **SMART Estimator** creates the print preview for a quotation document much more quickly than ever before.
2. **SMART Estimator** now uses less memory when generating quotation documents.

Version 5.3 (Build 490): April 2014

The following enhancements have been made in this version of **SMART Estimator**:

1. **SMART Estimator** now includes tools to allow integration into the Building Information Modelling (BIM) process.
 - 1.1. You can now create Industry Foundation Classes (IFC 2x3) models of your scaffolding, which can be used as part of an existing BIM model or exported to Revit, Scia Engineer or similar.

- 1.2. It is now possible to import a 2D site plan or building plan from an existing PDF, DXF or AutoCAD DWG File.
 - 1.2.1. The site plan is shown as a background in the 3D model. You can then use the points of the background to create your scaffolds in 3D.
 - 1.2.2. You can also move and re-centre your background.
 - 1.2.3. You can scale the background (using any known elevation length).
 - 1.2.4. You can even filter the background. You can show lines of only your selected colours. Also, if the imported file had layers, you can filter the background to show only the layers you want to use.

You must have the **SMART Estimator BIM Toolbox** module licensed on your hardware key to use the BIM Tools features.

2. Edge protection guard rails are now available in **SMART Estimator!**
 - 2.1. These guard rails can be erected using double or triple guard rails.
 - 2.2. Edge protection guard rails can be created in two styles:
 - 2.2.1. From the roof top: Here, guard rails are erected separate from any other scaffolding. They are erected at a roof or slab edge to provide fall protection.
 - 2.2.2. From the ground: Here, guard rails are erected by extending standards from the ground level above the roof line. The standards may be part of an existing independent scaffold.
 - 2.3. Edge protection scaffolds can be created from within the schedule, 3D model or *Draw Plan* modes.
 - 2.4. Edge protection can be supported by an independent scaffold. They can also be erected without this support.
3. The **SMART Estimator Enterprise Server** has been enhanced with the following tools and improvements:

3.1. **SMART Estimator Server Tools**

This separate application is installed whenever the server is installed. It includes the following features:

3.1.1. Backup & Restore

You can now backup your server to a single file. You can restore this file, providing protection against server failures.

3.1.2. Archive

Keep your server responsive and save space by archiving old projects, which are not regularly used. You can archive all the projects.

- Before a chosen contract number, or
- Before a selected date, or
- Select your own projects to archive.

4. Server Recycle bin

Erased projects on the server are no longer permanently deleted. Instead, they are moved to the server recycle bin. From the bin, they can be restored or permanently erased.

5. Follow-Up Reminders

Every server project can now be given a follow-up date. On this date, a message is displayed to everyone connected to the server, showing that a follow-up call is required.

6. It is now possible to search through your server projects using the search box at the top of the grid.

7. Server projects can now be grouped into categories (folders).

8. It is now possible to set up your scaffolding system and store it under your chosen name.

8.1. You may have more than one scaffolding system configuration per licenced scaffolding system. For example, if you have two locations carrying different scaffolding components, each can have their own configuration.

8.2. Your scaffolding system configuration can be given a unique name.

8.3. You can set the display name, which is used on the quotation and in the menu for changing the scaffolding system.

8.4. Changing the scaffolding system configuration settings will now update all project items, rather than a single one. For example, changing the available bay sizes for **Layher Allround** will now update all **Layher Allround** scaffolds in every item in the project.

9. **SMART Estimator** has had some major performance and memory improvements. It now uses significantly less memory, particularly for projects with twenty or more project items.

9.1. Memory improvements only effect projects created using **SMART Estimator v5.3**. Earlier projects will not be affected.

10. The **SMART Estimator** quotations have been improved.

10.1. The following SMARTText is now newly available for any section of a quotation.

10.1.1. Terms and Conditions

The terms and conditions SMARTText can be selected to tick a list of conditions. Each condition in the list can be set to appear:

- Automatically for every new quote, or
- Never automatically added.

Conditions can also be recommended so they are easy to find within longer lists.

11. Start Date

This date shows when work is expected to commence on the project.

12. The following SMARTText is now available for item description sections of a quotation.

12.1. Clauses

The clauses SMARTText field works exactly like the *Terms and Conditions* field above. Additionally, you can set clauses to appear only when certain types of scaffold are present in the item.

12.2. Item Usage Description

This description (sometimes known as a lead-in) can be set from a new column in the schedule. It describes how the project item is going to be used. For example, this might say “access” or “raising brickwork”.

12.3. Loading Description: Maximum nominal grid

This SMARTText describes the maximum nominal grid used to erect the scaffolding.

12.4. Scaffold widths

This describes the width of scaffolds, including inside boards, toe boards and cantilever (hop-up) platforms.

13. Terms and Conditions or Clauses can be imported from **SMART Scaffolder UK**, if you already have this product.

14. The Scaffold *Dimensions* SMARTText now shows optional qualifications. These qualifications can be set for any scaffold. For example: “Build off and partly over roof”.

15. Where the item will be erected and dismantled progressively can now be set from within the schedule. The settings from the new *Progressive Erection* and *Progressive Dismantle* columns are now used to create the *Progressive Description* SMARTText.

16. Whether items will be adapted can now be set from the schedule. Use the *Adaption description* and *Re-adaption description* columns to control the text which is shown in the *Adaption Description* SMARTText.

17. The *Decking Description* SMARTText has been improved. It now includes:
 - 17.1. The decking or boards material / type;
 - 17.2. How many lifts are boarded;
 - 17.3. A description of how the boards will be moved progressively.
 - 17.4. The *Access Description*, which describes ladder and stair access, has been improved. It now gives more details about access, such as:
 - 17.4.1. The number of ladders present and which lift they begin at;
 - 17.4.2. The number of ladder towers present and a ladder description for each;
 - 17.4.3. The number of stair towers present, grouped by their height.
18. The *Guard Rails Description* has been improved to better describe the scaffolding's guard rails.
19. The *Add-ons Description* is now much more detailed. It lists many add-ons, such as bridges and brick guards, to include more detail about their location and sizes.
20. The *Loading description* has been improved. In most cases it is much shorter, using improved logic to group scaffolds with the same loading.
21. When a single scaffold is present, it will no longer be given a special name by default. The first independent in an item is always called "Independent 1", for example not "Independent". This makes items with less scaffolding appear more consistently in the quotation. You can still set the scaffold name yourself, as before.
22. It is now possible to create a cantilever protection fan which protects only a section of the elevation, by setting the *Start* and *End* positions of the fan.
23. The **SMART Estimator Modelling** has been enhanced:
 - 23.1. The following improvements apply to all scaffolding systems:
 - 23.1.1. To help you create even better 3D visuals, it is now possible to create elevations which have no scaffolding. These elevations only appear in the 3D model. They are not shown in the quotation, pricing reports, etc.
24. Bridges have been improved

You can now choose which bay you wish to place a bridge in more easily, by selecting it when the bridge is first placed.

A single un-split elevation of independent scaffold can now hold more than one bridge.

Bridges no longer have to extend all the way to ground level. They can be lifted so they begin above any number of lifts.

25. Birdcages have been updated

Birdcages can now be perimeter boarded: Only the outer bays of a lift are boarded. When adding boards to a lift, add them once to get perimeter boards and twice to fully board the lift. When erasing, you must now erase twice to remove all of the decking from a lift.

Birdcages can now include elevations, which they will automatically butt against.

26. Attached ladder towers have been improved

Attached ladder towers can now be extended so they are multiple bays long. Just drag the end to make your ladder tower longer. Extended ladder towers share façade and ledger bracing.

Inside guard rails can be added to, or removed from any bay of an attached ladder tower, giving you control of how the tower is accessed.

27. Double sole boards and double sole pads are now available.

Just apply the *Boards* tools to the base plates twice to add double sole boards.

28. Unit beams are now 605mm deep.

29. Ladder beams have been visually improved in the 3D model.

30. The following improvements are only available for **Tube and Fitting: UK** scaffolds:

30.1. Bridges have been improved

In compliance with TG20:13, bridges now use existing bays as supports. They no longer require additional shorter 'tower' bays.

The lacing and bracing for bridges has been updated to conform with TG20:13. Scaffolds with bridges now require less bracing, as the façade and ledger bracing for the bridge is also considered to reinforce the scaffold it is attached to.

Additional beams are now added above existing bridges for very tall independent scaffolds, in compliance with TG20:13.

Double standards and sole boards are automatically added for bridges on very tall independents and birdcages as required by TG20:13. These can be removed with the eraser as usual.

31. Loading bays have been updated.

The loading bay which appears in the **Special scaffolds** section (requiring structural calculations) of TG20:08 is no longer used by **SMART Estimator**. Instead, the TG20:13 style of loading bays are available.

These loading bays:

31.1. Are available in 3 sizes: 2 x 2m bays, 2 x 1.8m bays, or 2 x 1.5m bays;

31.2. Show a new style of loading bay gate;

- 31.3. Include double sole boards by default;
- 31.4. Include brick guards at the top lift;
- 31.5. Are tied at both end standards;
- 31.6. Include underslung structural transoms at every node position.

- 32. Birdcages have been updated.

Birdcages now use the new *Continuous Bracing* pattern as shown in the TG20:13 eGuide, by default.

- 33. Façade bracing has been updated.

Single Bay bracing, as recommended in TG20:13, is now the new default.

Façade bracing can now be moved! You can drag columns of bracing to get the bracing you desire. Bracing will be added automatically if it is required to comply with TG20:08 or TG20:13.

You can reset to the default bracing by applying the tool from the Bracing dropdown again.

The logic for placing façade bracing has been improved. Bracing is now placed so that a single continuous tower is created wherever possible, especially when gables, slopes or steps in the ground are present.

The horizontal tube which acts as a single guard rail at ground level, can now be erased using the Ctrl key.

- 34. Free-standing ladder towers and buttresses have been improved.

Free-standing ladder towers can now be extended so they are multiple bays wide. For this reason, the Double bay ladder tower and Double bay buttress options have been removed.

The sole boards, default width and bracing of free-standing ladder towers has been updated with reference to TG20:13.

- 35. Inside (hop-up) platforms now have extra toe boards and guard rails in some cases, as described in TG20:13.
- 36. Cantilever protection fans are now 6 boards wide by default. They are supported by tubes from below where possible, and now use fewer components, as described in TG20:13.
- 37. Façade bracing, ledger bracing, transom, ledger and guard rail heights and overlaps have been improved to match the description in TG20:08 and TG20:13.
- 38. Double standards are now placed one board width apart. They no longer require parallel couplers, as shown in TG20:13.
- 39. The tie patterns have been improved to match the TG20:13 description when a pavement lift is present. This continues to comply with TG20:08.
- 40. The following improvements are only available for **Layher Allround** scaffolds:

40.1. Californian guard rails

These guard rails, once activated from the *Configuration*, raise the guard rail height. They are used to comply with some OSHA or state regulations.

40.2. Bridge beams

Layher bridges will now appear in-line with the connection positions, rather than below.

40.3. Triple guard rails

It is now possible to apply triple guard rails to boarded lifts, or to the top lift only.

40.4. Public access handrails

Layher 10-leg stairs can now be given public access handrails, which have closely set bars, better suited for public access stairs.

41. The following improvements are only available for **Kwikstage: UK** scaffolds:

41.1. Single Bay (Alternating) bracing is now available.

This alternating bracing is only recommended for shorter scaffolds.

42. The **SMART Estimator** pricing reports have been improved:

42.1. You can now set the address of your depot (yard).

42.2. It is now possible to calculate the transport distance in kilometres, miles or hours, using Google maps automatic calculations.

42.3. Transport can now be priced using new methods:

42.3.1. Miles or kilometres;

42.3.2. Tonnes or tons per mile, km or hour;

42.3.3. Hours per mile or km.

42.4. Circular tanks no longer share pricing rates with independent scaffolding. They can now be set to automatically use a different pricing method and rate.

42.5. The *Extra Hire* figure is now always shown, even when the *Materials* section is hidden.

43. The Configuration pricing view now shows more decimal places, even when a price is not highlighted.

44. It is now possible to import your pricing methodology and rates from **SMART Scaffolder UK**, if you have this product.

45. The **SMART Estimator** address book has been enhanced:

45.1. Whenever a project is newly created through the *File* menu or welcome screen, you are prompted to provide a customer and site address before continuing.

- 45.1.1. The customer address can be viewed and updated from within the quotation.
- 45.1.2. The site address can be viewed and updated from within the quotation or item pricing report.
- 45.1.3. The site postcode is automatically applied to the TG20 wind calculations.
- 45.2. Addresses can now be set into *Groups*. A *Group* of addresses might include all of the addresses for the branches of a company, or a certain type of address.
 - 45.2.1. An addresses' *Group* does not appear in the quotation.
 - 45.2.2. You can use new arrow buttons to quickly switch between addresses in a *Group*.
- 46. **Scheduling** Improvements:
 - 46.1. The schedule has now been organised into two views:
 - 46.1.1. Summary View

This view shows columns which apply to the item as a whole. It is shown automatically when a new project item is created from the schedule.
 - 46.1.2. Scaffolds View

This view shows columns which can be different for each scaffold. It is shown automatically when a new scaffold is created.
 - 46.2. Scaffolding systems which you do not have a licence for will no longer appear as options in the *Scaffolding System* column.
- 47. It is now possible to set a loading through the **Check IT** tab for each decked lift of: independents, birdcages, circular tank scaffolds, ladder towers, loading bays.
- 48. The *CADS Hardware Key Update* utility, which is installed with **SMART Estimator** has been improved:
 - 48.1. Each licence now includes an information (i) icon. Clicking on it shows the hardware key's unique serial number.
 - 48.2. Network licences are now shown as red, while other licences are shown as green.
 - 48.3. Licences which you have are now shown first in the list. Unlicensed modules are shown last.
- 49. The menus for saving and deleting your quotation templates, pricing rates and scaffolding system configurations will now highlight the item you are currently changing.
- 50. Drilled anchor ties now require one less double coupler.

51. It is now possible to install the **SMART Estimator Enterprise Server** and **SMART Estimator** on the same computer in a single installation. You will still need the **SMART Estimator Enterprise** licence to connect to the server.
52. While **SMART Estimator** is loading, it now provides more detail about what it is doing. It is now possible to hide the loading panel, while you wait for **SMART Estimator** to launch.

Version 5.21 (Build 464): November 2013

The following enhancements have been made in this version of **SMART Estimator**:

1. **SMART Estimator** and the **SMART Estimator Enterprise Server** will now install and run under Windows 8.1 (32-bit and 64-bit).
2. The **SMART Estimator Enterprise Server** will now install and run under Windows Server 2012 R2 (64-bit).
3. The following components have been added to the **Kwikstage: UK** system: Components for bay sizes: 3.2m, 1.27m, 1.5m 2.0m, 2.5m and 3.0m and components for bay widths: 0.7m and 0.76m (2'6").

Version 5.2 (Build 460): September 2013

The following enhancements have been made in this version of **SMART Estimator**:

1. **SMART Estimator** now does more to help standardise your quotation and pricing methodology. You can share a single address book, your quotation templates, pricing rates and material configurations across a network using the new **SMART Estimator Enterprise Server**.

From the File menu, you can track, view and edit projects saved to the Enterprise server.

You must have the Enterprise module licensed on your hardware key to use this feature.

2. You can now license all of your **SMART Estimator** users with a single license! You can keep this license locked away safely in the server room.
3. **SMART Estimator** now includes a full screen option, making it easier to use on a tablet, such as the *Microsoft Surface Pro*, or on a smaller screen.
4. Contract Numbers are now automatically assigned, so every project can be identified.

This contract number can be formatted to suit your business. If you have the network version, all projects saved on the server will have a unique contract number. You can even use the optional prefix and suffix to identify who created a quotation and when. You can set the prefix, suffix and how many digits you want to use from the Settings screen in the *File* menu.

5. A new full screen *File* menu has been added. If you have the network version, **SMART Estimator** now includes an optional welcome screen to help you get started.

6. You can now track your projects by setting their *Status*: Won / Lost / In Progress or Quoted.
7. Share quotation templates more easily by importing and exporting them.
8. Enhance your quotations with a signature graphic.
9. A *My Job Title* SMARTText field has been added to the quotations.
10. Components for the following bay sizes have been added to the **Layher Allround** system: 10', 5'4", 1m, 1.5m and 2m.
11. The following components have been added to the **Kwikstage: UK** system: A 4.88m (16') bowstring birdcage transom, Standards (legs) sized 1m, 1.5m, 2m; components for bay sizes: 2'6"(0.76m), 1.3m, 1.5m, 2m, 2.5m, 3m, 3.2m; components for scaffold widths: 0.5m, 0.6m, 0.7m, 2'62(0.76m), 1.5m, 2m, 2.5m.
12. A new **HAKI** guard rail post has been added, which is used when creating openings on a **HAKI** stair tower.
13. *Gravlock couplers* (used to suspend scaffolds from beams) can now be manually added to any material list. These must be selected from the *Configuration*.
14. The operating systems that **SMART Estimator** works with have changed for this version:
 - 14.1. **Microsoft Windows XP** is no longer a supported operating system. This version will not install on a **Microsoft Windows XP** workstation.
 - 14.2. **SMART Estimator version 5.2** supports the following operating systems:

SMART Estimator Enterprise Server	SMART Estimator
Windows 8	Windows 8
Windows 7 (with Service Pack 1)	Windows 7 (with Service Pack 1)
Windows Vista (with Service Pack 2)	Windows Vista (with Service Pack 2)
Windows Server 2008 R2 (with Service Pack 1)	
Windows Server 2012	

Version 5.1 (Build 435): May 2013

The following enhancements have been made in this version of **SMART Estimator**:

1. A 10-leg stair is now available for the **Layher Allround** system.
2. The **Kwikstage** 12-leg stair can now be built using a wider (stretcher) stair unit.
3. It is now possible to show the material list for a range of heights or lifts, or for a single elevation. This feature is available through the Material List *Print Preview*.
4. Loading Bays may now have more than one decked lift.

5. Foot lifts can now be decked.
6. Stairs may now be raised so they start from a higher standard connection.
7. Buttress has been corrected so they use fewer components.
8. Every component can now be assigned a *Labour Time* value (in minutes) through the *Configuration*. The new *Component minutes* method can be used to price a scaffold based on the amount of labour time required for each component.
9. Tie tubes can now be set attach to either just the outer standard; or to the inner and outer standards.
10. A special pricing line has been added for structural lifts. Lifts which are not decked can be set as structural or unboarded.
11. Buttons have been added to **Scheduling** for copying and pasting scaffolds.
12. Sliding brackets (which hook on to the ledgers) have been added to the **Layher Allround** system.
13. These are used for cantilever platforms, to allow infill bays to be decked.
14. The labour for fixing beams, rubbish chutes, debris netting and sheeting can now be priced in imperial or metric units.
15. The *Change Scaffolding System* menu has been added to the editable material list.
16. The shortcut keys for adding a new blank project item (*Ctrl + Insert*) now appear in the *Project Browser*.
17. Some tools could only be applied previously by clicking on the standards. This has been improved so that many tools can now be applied by clicking anywhere on the scaffold.
18. Address contact titles, forenames and surnames can now be set without opening the address book, by clicking on the address in the quotation.
19. The following components have been added to **Layher Allround**: components for 8', 7'4" and 3'10" (1.15m) bays; stair components and robust ladder access decks for 2.5m and 3m bays; corner decking up to 1.3m; 9.5" width timber and aluminium decking for imperial length bays.
20. The following components have been added to **Kwikstage: UK**: 1.83m (6') and 2.44m (8') transoms; 0.81m timber deck;
21. Plastic caps (armadillos) have been added to the configuration. These can be added to the material list in the *Extra Materials* section.
22. To improve the layout, the word "Erect" has been removed from scaffold lines in the **Cost Analysis** "ERECT" section.
23. A single scaffold will no longer appear as "Scaffold" in **Cost Analysis**. Instead, the scaffold's name will be used.

24. The *Change Scaffold Direction* button, used to make independents swap to the other side of an elevation, is now a tool which can be dropped on a scaffold.
25. **Kwikstage** buttress and loading bay ledger bracing has been corrected.
26. **Kwikstage** loading bays are no longer plan braced by default, unless a wing brace is removed.
27. The **Cuplok: UK** façade bracing pattern has been corrected.

Version 5.0 (Build 410): March 2013

The following enhancements have been made in this version of **SMART Estimator**:

1. This version of **SMART Estimator** includes integrated quotations.

Use the quotations provided to quickly print a letter to send to the customer, or design your own with easy-to-use tools.

Create one-off documents or save them to My Quotes to use again and again.

SMARTText lets you add words or phrases to the quotation which change as you make changes to the contract.
2. A new item pricing report has been added.

This flexible pricing report allows you to automatically calculate a price for every item in the contract.

This report is highly customisable, so you can price your scaffolding the way you want to. All of your preferred settings can be saved. You can also export them and send them to a colleague. It is possible to create multiple different pricing methods and change between them easily if you prefer.
3. There is a new project pricing report available in this version of **SMART Estimator**.

This report summarises the pricing for the entire contract. It is easy to quickly change the pricing for any item from here, or for all items at once.
4. This version of **SMART Estimator** also includes a new scheduling report.

The scheduling report can be used to quickly create even large, multi-scaffold contracts. Scaffolds and contract items can be added to the project with a few key presses. Editing with just the keyboard is equally easy.

A new type of scaffold has also been added which is only available through this report: Manual scaffolds. A manual scaffold is not modelled in 3D, but you can use it to create a customised scaffold with the exact materials that you require.

You can also use this module to copy and paste scaffolds within a single item, or between items.
5. It is now possible to edit the material list.

Opening the material list now shows an editable report. You can change the quantities and types of materials used, as well as changing the weights.

You can use this feature to add or remove materials from a scaffold. It can also be used to create materials on an otherwise blank item, or to set the materials for a manual scaffold.

There are two parts to the editable material list. In the summary section, you can adjust the materials which were automatically calculated for your scaffold. In the extra materials section, you can add new materials which will be used even if the scaffold changes.

It is possible to view and change the material list for each scaffold as well as for the whole item.

6. The button layout has been streamlined for ease of use. In most cases, buttons which you do not have licensed on your hardware key will be hidden.

The buttons have been grouped depending on what they are for. For example, all of the 3D modelling buttons are now available on the **Modelling** tab.

Buttons with related functions have been grouped together. For example, the button for setting the image to be used on scaffold banners is now grouped with the button for adding a banner to the model.

7. It is now possible to rename scaffolding components.

In the configuration, you can now change the names which are used for components in the material list. This means that if you want to call the "Steel tube: 14" component "14 foot tube" you can change it.

8. It is now possible to change the weight of any component in the configuration.

9. It is now possible to edit the product code for any component in the configuration.

10. A 4-leg stair is now available for **Kwikstage**.

11. Canadian and US-style vertical ladders are now available for all systems. These ladders can be placed on the end of a scaffold run, or on the outside face.

12. A free-standing loading bay has been added for estimation purposes only.

13. There is a new option available for scaffold run corners in *Setting Out View*. You can use the *constrain in both directions* option to restrict a corner bay in both directions. In most cases this will create a square bay in the corner.

14. It is now possible to change the display name for a system in **Modelling**. The display name is used in the *Change Scaffolding System* menu and in the quotation.

15. Circular tanks may now be smaller than 3m in diameter. For internal scaffolds, the scaffolding will disappear if the tank is too small to accommodate it.

16. Wing bracing is now added by default to most attached scaffolds. It can be erased with the eraser (or from a single lift by pressing the *Ctrl* key when erasing).

- Wing bracing can also be added to an attached scaffold by using the tool on the *Bracing* menu.
17. There is a new ledger bracing option available from the *Bracing* dropdown for **Cuplok: UK** scaffolds. **Cuplok: UK** scaffolds still do not use ledger bracing by default.
 18. Ledger bracing can now be erased from a single elevation using the *Ctrl* key and the eraser. Ledger bracing can now be erased from all elevations using the *Shift* key with the eraser.
 19. You can now specify that toe boards will not be used in your scaffold. It is recommended that toe boards are provided in most cases, but this option is provided for estimating purposes.
 20. It is now possible to set the colour of the main tubular components for a scaffolding system. The available options are:
 - Galvanised Steel
 - Painted Yellow
 - Red
 - Dark Red
 - Green
 - Blue
 21. Cantilever platforms can now be lifted up to 1m above the lift as well as below the lift, or 0.5m for the top lift.
 22. The **Kwikstage** loading bay is no longer façade braced.
 23. Various **Layher Allround** components have been added for bays sizes: 4m, 3m, 2.5m, 2m, 1.5m, 1.25m, 1.065m, 1m, 0.75m (2'5"), 2'2", 0.5m, 2' – 9'.
 24. A **Kwikstage** 2'8" (0.81m) steelstage deck and ledger have been added.
 25. A 5m timber board has been added.
 26. When you apply a watermark, it will now be remembered and used for future jobs automatically.
 27. When you apply a toe board material or deck material, this setting will be saved and used for future jobs.
 28. Different colours of sheeting and debris netting can now be mixed on the same scaffold.
 29. The gallery of skins, which change the look and feel of the software, has been moved to the *Help* tab.
 30. A warning message now appears before erasing a scaffold with the eraser in **Modelling**.
 31. **Tube and Fitting** buttress ledger bracing now faces upside towards the main scaffold.
 32. Elevation numbers are now drawn last, so they are not hidden by scaffolding on top of them.
 33. There is a new 'Not Loaded' option available from the **Check IT Loading** dropdown.
 34. The **Form-scaff Kwikstage** ladder hatch has been corrected.

35. An error with the drawings for scaffolds which have been rotated has been corrected.

Version 4.11 (Build 369): February 2013

The following enhancements have been made in this version of **SMART Estimator Modelling**:

1. The software will now install and run under Windows 8 (32-bit and 64-bit).

Version 4.1 (Build 368): August 2012

The following enhancements have been made in this version of **SMART Estimator**:

1. Enhanced modelling: Multiple Scaffolds is now available in **Modelling**.

It is now possible to create several scaffolds next to each other. Now you can model several separate scaffolds. Depending on the modules that you have licensed, you can:

- Create a 3D model and image for multiple scaffolds.
- Get a quick list of quantities required for multiple scaffolds.
- Get a single material list for multiple scaffolds
- Get a single set of drawings for multiple scaffolds.

You can use this great new feature to estimate complicated scaffolds more easily.

You can also use it to group scaffolds together.

2. Loading bays, Ladder towers and Simple buttresses are now available in **Modelling**.

Ladder Towers

Ladder towers can be created as standalone scaffolds, or attached to independents. If you attach two ladder towers next to each other, they will stick together: The guard rails and bracing between them is removed to create one continuous platform.

Simple Buttresses

Single bay buttresses can be added to independent as extra support.

Loading Bays

Every system except for *Frame Scaffolding* now has loading bays available. **Cuplok** and **HAKI Universal** loading bays are knee braced, while other systems use beams to support the boarded lift.

3. The *Frame Scaffolding* system is now available in **Modelling**.

Based on the Superior Frame system, this new system can be used to model independent, birdcage, circular tank, or standalone staircase scaffolds.

Walkthru or Standard frames can be used for each lift. Cross-bracing or guard rail panels can be used at each lift, inside and outside. Guard rails will automatically be added to cross-bracing, to meet the OSHA guidelines. Vertical ladders can be added to a scaffold.

Depending on the modules that you have licensed, you can use the Frame Scaffold system to create a list of components and drawings, or export the drawings to PDF or AutoCAD dxf.

4. The **HAKI Universal** staircase is now available for **Tube and Fitting** scaffolds in **Modelling**.

If you have **Tube and Fitting** licensed, the **HAKI Universal** staircase is now available, to be attached to **Tube and Fitting** independent scaffolds.

5. The *US English* language is now available in **Modelling**.

The language can now be switch to *US English* from the File menu.

6. Models and reports can now be viewed using Imperial Measurements!

Tired of having to use metric measurements for entering the size of your elevations? Want to see your material list report in pounds instead of kilograms? Switch to Imperial Measurements from the File Menu, and now you can!

Metric measurements will continue to be supported as well.

7. You can now add a watermark to reports!

The watermark feature is now available for the material list and drawings. Enhance your reports by adding a watermark for more professional, smarter documents.

8. Scaffolds which fail TG20:08 will now produce a report saying why they have failed. Previously this report was only available for **Tube and Fitting** independent scaffolds.

9. Many staircases, ladder towers, loading bays and buttresses can now be attached to a single elevation.

There is no need to split an elevation in order to place one of these add-ons. You can also choose exactly which bay you would like the staircase to be added to, instead of dragging it in to position.

10. You can now hide the ground, using the new ground options on the Options tab.

11. The minimum distance between circular tank towers can now be controlled through *Setting-Out View*, giving you more control over the bays used.

12. You can now move scaffolds using the new Move Scaffold button in draw plan, or on the Edit Scaffold tab.

13. Scaffolds can now be renamed.

14. Scaffolds can be rotated so that they face in the desired direction.

15. Draw Plan can now be accessed without deleting all of the scaffolds in the item. This allows you to add more scaffolds, or move them around.

16. The guard rails used on the top lift can now be different from other lifts, using the new Top Lift Only tool on the Guard rails dropdown menu.
17. You can now hide scaffolds, so that it is easier to see what you are doing.
18. The default **HAKI Universal** prices and weights have been updated.

Note you will only see this effect after you install (or re-install) **Modelling** and the **HAKI Universal** system is already licensed.
19. Ladder beams have been added in the following sizes: 11', 16', 21'.
20. The **Form-scaff Kwikstage** 900mm width stair unit has been added. When the 900mm stair unit is configured, just drag the staircase out sideways to change its width.
21. **HAKI Universal** standards have been fixed. They are now correctly removed for most 90 degree corners.
22. **HAKI Universal** staircases have been fixed so that you ascend the staircase clockwise.
23. **Layher Allround** standards without spigots will now be used correctly.
24. **Kwikstage** return transoms in the foot lift have been fixed for independents on flat ground.
25. **Layher Allround** part boarded lifts now use the correct transoms.
26. A 4'2" ledger has been added to the **Kwikstage** system.
27. **Layher Allround** components have been added for bays size 2' – 9'.
28. **Layher Allround** ledgers have been added sized 0.5 – 3m.

Version 4.0 (Build 327): April 2012

The following enhancements have been made in this version of **SMART Estimator**:

1. Circular tank scaffolds are now available in **Modelling**.

It is now incredibly fast and simple to create a scaffold around a circular tank. Just grab and drag the tank to resize it, and the scaffold is created automatically.

All of the add-ons and attachable staircases available for independent scaffolds are also available for circular tanks.
2. The **HAKI Universal** scaffolding system is now available within **Modelling**.

HAKI Universal can be used to create independent, birdcage, standalone staircase or circular tank scaffolds. Toe boards can be made using Steel or Timber. Decking can be created from Steel, Timber or Lite Deks.

Depending on the modules that you have licensed you can print a **HAKI Universal** material list and drawings, or export drawings to PDF or AutoCAD DXF.

3. The Material Configuration has been organised into categories, to make it quicker and easier to navigate.
4. The Material Configuration also has a “Reset to Factory Settings” button.

This is for when you are not happy with the changes you have made, or you have forgotten what you changed. Simply press the “Reset to Factory Settings” button and all of your components and component prices will return to the way they were when **Modelling** was first installed.

5. The “Cuplok inside board transom: 1.895m” has been added to the **Cuplok: UK** material catalogue.
6. **Form-Scaff** now uses ledger bracing in every second bay.
7. **Form-Scaff** ladders have been improved. They can now be placed on either side of a transom, or attached to the top guard rail at the end of a scaffold run.
8. Cantilever fans will now be carried through to an exported DXF file.

Version 3.3 (Build 294): January 2012

The following enhancements have been made in this version of **SMART Estimator**:

1. The **Layher Allround** scaffolding system is now available within **Modelling**.

Layher Allround scaffolding can be used to build independent or birdcage scaffolding, or standalone staircases. Decking may be built from Steel, Timber, Stalu or Robust decks. Access hatch decks can be chosen from Aluminium or Robust as well as the 4 legged staircase. Further options are available to remove ledgers from decked bays, or change the infill material, making this a truly flexible system.

Depending on the modules that you have licensed you can print a **Layher Allround** material list and drawings, or export drawings to PDF or AutoCAD DXF.

2. Gables may now be adjusted horizontally as well as vertically, allowing much greater flexibility in the type of scaffolds that can be modelled.
3. **Van Thiel** components have been added to the **Tube and Fitting** catalogue.
 - 3.1. Thiel-Lock system transoms, including extendable transoms, can now be used in place of tube-and-fitting transoms or Readylock transoms. They can be displayed in the 3D view, included in the drawings and material list, and exported to AutoCAD via the **Drawing Link**.
 - 3.2. Various **Van Thiel** couplers have been added to the **Tube and Fitting** catalogue.
4. Saved **Modelling** files are now automatically compressed, allowing even large projects to be attached to emails.
5. Placing an access hatch deck for the **Cuplok NL** system now causes the foot lift to become boarded.

6. A one foot long tube has been added to the **Tube and Fitting** catalogue.
7. The placement of façade bracing has been improved to make it more efficient across split elevations.

Version 3.2 (Build 267): October 2011

The following enhancements have been made in this version of **SMART Estimator**:

1. You can now create and organise several items of scaffolding with the new *project browser*:
 - 1.1. You can create projects with combinations of different scaffolding structures and even use several scaffolding systems within the same project, depending on which scaffolding systems you have licensed;
 - 1.2. You can enter a contract number, a description of the project and a description of each item that will be included in the headers of your drawings, material lists and TG20 checks.
 - 1.3. Scaffolding items can be copied to allow you to quickly model similar structures.
 - 1.4. You can select which items to include when you print your drawings, material lists and TG20 check reports. If you include more than one item in your printed material list you can print the total quantities plus the breakdown of quantities for each item.
2. The export of the drawings to the Adobe PDF electronic format has been greatly improved. The resulting PDF documents load and print more quickly and to a higher quality, while the file size is greatly reduced to make them easier to send by email.
3. The *Setting-Out View* for system scaffolding now shows the return direction at corners with graphical arrows that can be clicked to easily change the priority of fly-pasts.
4. The setting-out of the **Kwikstage** system has been improved to build rectangular bays in the corners by default. The positioning of tube-and-fitting in-fills has also been improved to avoid building them adjacent to returns where possible.
5. The 12-legged **Kwikstage** staircase has been improved to include additional ledgers and façade bracing.
6. The setting-out of system scaffolding has been improved to use fewer bays in cases where a tube-and-fitting in-fill is required.
7. Ladders are now automatically removed from an elevation when placing a staircase.
8. The layout of **Cuplok** façade bracing has been improved to avoid the end bays, where possible, following the guidance from the **Cuplok** user guide.
9. The AutoCAD DXF drawings have been improved to include the toe boards in the side views and to improve the positioning of some of the scaffolding components.
10. Tube-and-fitting safety gates have been updated to use fewer tubes and couplers.

11. The **Form-Scaff** scaffolding system has been provided for use in South Africa. Please contact CADS if you would like to purchase this system and activate it on your hardware key.
12. A bespoke engineering check developed for Lyndon Scaffolding has been included.

Version 3.1 (Build 241): July 2011

The following enhancements have been made in this version of **SMART Estimator**:

1. The **Kwikstage** scaffolding system is now available within **Modelling**.

Kwikstage scaffolding can be used to build independent or birdcage scaffolding. Options are available to build with continuous or single-bay façade bracing, with steel or timber battens, using guard rails or Kwikguard frames.

Depending on the modules that you have licensed you can print a **Kwikstage** material list and drawings, or export drawings to PDF or AutoCAD DXF.
2. The **Cuplok Omega** system has now been added, allowing you to use modular decks and hop-up platforms with **Cuplok** scaffolding.
3. New system staircases have been provided for **Cuplok** and **Kwikstage** scaffolding: you can now build a **Cuplok** staircase with 8 or 10 legs or a **Kwikstage** scaffold with 8 or 12 legs. You must have the **Cuplok UK** or **Kwikstage UK** modules licensed on your hardware key to use these features.
4. Ladder hatches are now shown in the 3D model, drawings and material list. If you do not use ladder hatches you can deselect them from the material configuration.
5. The tubes selected for the material list and drawings have been improved for tube-and-fitting scaffolding to use shorter lengths where possible.
6. Ladder landings have now been improved to allow you to build within a single bay, if it is longer than 2.4m, or across two shorter bays.
7. Cantilever fans are now shown in the drawings and their representation in the 3D model has been improved to show the extension of the supporting tubes to the inner standards.
8. The **Cuplok** deck adaptor component is now available, allowing you to build a **Cuplok** birdcage without standards protruding through the deck. The latest **Cuplok** components from the Harsco catalogue have also been added, including new steel toe boards and standards without top spigots.
9. A new option has been provided to display a brickwork pattern on the building façade.
10. Corner fillers are now provided for system scaffolding, where available, to fill the gaps left by cantilever platforms at internal returns.
11. The **Dutch Cuplok** scaffolding system has been improved to add the single-board extension bracket, to improve the display of the consoles in the 3D model and drawings, and to add the ladder-access transom component.

Version 3.0 (Build 209): April 2011

The following enhancements have been made in this version of **SMART Estimator**:

1. This version of **Modelling** now includes an integrated TG20 check, which checks your scaffold for TG20 compliance automatically as you model! To use this feature you must have either the **Check IT** or **Check IT plus** module licensed on your hardware key.
 - 1.1. A TG20 compliance report can be printed at any time to prove whether or not your scaffold is TG20 compliant and therefore exempt from requiring a structural design. If your scaffold is not compliant the report explains why, so that you can amend the scaffold to comply if required.
 - 1.2. A built-in TG20 wind calculator has been provided, so that you can determine the wind speed at your site location. This affects the TG20 maximum safe height and required tie duty, especially for sheeted or debris-netted scaffolds.
 - 1.3. A postcode lookup is also available – just type in the site postcode and the wind speed will automatically be looked up.
 - 1.4. The TG20 Appendix H requirements for scaffolds tied to open structures are supported: select the Permeable Façade option to check whether your scaffold will be safe if it is tied to an open structure or one with a high percentage of openings.
 - 1.5. Any combinations of loaded lifts are supported, including fully-loaded scaffolds and scaffolds with fully-loaded inside boards.
 - 1.6. The transom spacing is automatically determined from the TG20 loading rules.
2. Readylock system transoms, including extendable transoms, can now be used in place of tube-and-fitting transoms. Readylock transoms can be displayed in the 3D view, included in the drawings and material list, and exported to AutoCAD via the **Drawing Link**.
3. The placement of façade bracing for tube-and-fitting scaffolding has been improved to minimise the bracing requirements while still complying with TG20.
4. The placement of internal ladders and external ladders has been improved.

Version 2.2 (Build 160): November 2010

The following enhancements have been made in this version of **SMART Estimator**:

1. Professional drawings and accurate material lists are now available for tube-and-fitting scaffolding, as well as for **Cuplok** scaffolding:
 - 1.1. Drawings and material lists are available for independent and birdcage scaffolding.
 - 1.2. Please note that you need to activate this feature on your hardware key unless you already own the **SMART Estimator** base licence, in which case the drawings and material lists will be activated automatically.

- 1.3. The materials used to build the scaffold can be configured, allowing you to use only the tube lengths, board lengths, fittings, and add-ons that you have in stock.
- 1.4. Metric and Imperial tube and board lengths are available.
2. The supported features for tube-and-fitting independent scaffold drawings include:
 - 2.1. Dimensioned plan drawings can be created, including scaffolds with non-rectangular returns.
 - 2.2. Dimensioned elevation drawings can be created, including complicated elevations with changes in height, sloping or stepped ground, and any number of gable ends.
 - 2.3. The plan drawings act as a numbered key plan for the elevation drawings.
 - 2.4. Bridges can be drawn, with or without a unit or ladder beam.
 - 2.5. Tie positions are drawn, which can be selected from the standard TG20 patterns.
 - 2.6. Inside boards, hop-up bracket platforms, and single-stage cantilever platforms are included in the plan and elevation drawings.
 - 2.7. Sheeting, debris netting, and brick guards are drawn.
 - 2.8. **Cuplok** system staircases attached to tube-and-fitting scaffolds are included in the plan and elevation drawings.
3. The supported features for tube-and-fitting birdcage scaffold drawings include:
 - 3.1. Dimensioned plan, elevation, and side-view drawings that include sloping ground, bridges, sheeting, debris netting, hop-up bracket platforms, and single-stage cantilever platforms.
 4. All **Modelling** drawings can be exported to AutoCAD DXF files so that they may be modified or arranged professionally on large drawing sheets.
 - 4.1. Please note that you need the **Drawing Link** module activated on your hardware key to export drawings to AutoCAD.
 5. The modelling of hop-up bracket platforms and single-stage cantilevers has been improved:
 - 5.1. The 3D representation of the building facade now steps in and out around cantilever platforms and inside boards that span part of the elevation, allowing recesses and bay windows to be modelled.
 - 5.2. Hop-up platforms and single-stage cantilevers have been improved for tube-and-fitting scaffolding to make them consistent with system scaffolding, including improved inner guard rails.
 - 5.3. The spacing of hop-up brackets can now be modified for platforms around tube-and-fitting birdcage scaffolding as well as for independent scaffolding, introducing extra standards around the perimeter.
6. Drawings and material lists can now be exported to high-quality Adobe PDF documents and Microsoft Word documents that can be emailed.
7. It is now possible to erase any single ladder using the CTRL key, making it possible to define more realistic ladder layouts and to use combinations of staircases and ladders.
8. It is now possible to add your company banner to a birdcage.
9. The *Setting Out View* for system scaffolding has been improved:
 - 9.1. The SHIFT key can now be used to set the length of multiple bays at the same time.
 - 9.2. The gap between the scaffold and facade can be set from the *Setting-Out View*.

Version 2.1 (Build 131): August 2010

The following enhancements have been made in this version of **SMART Estimator**:

1. Birdcage scaffolding can now be modelled:
 - 1.1. Birdcages can be built with either tube-and-fitting scaffolding or **Cuplok** scaffolding.
 - 1.2. Material lists and drawings are available for **Cuplok** birdcage scaffolding.
 - 1.3. Birdcages that are rectangular on plan are supported, with one step or slope at the ground level.
 - 1.4. Birdcages can be built with platforms that are either fully-boarded, non-boarded, or have a ladder landing. The platforms can be built from timber (for tube-and-fitting and **UK Cuplok** scaffolding) or from timber, steel, or aluminium (for **Dutch Cuplok** scaffolding).
 - 1.5. A birdcage can be built with or without edge protection on each side: either using guard rail frames (for **Cuplok**) or up to three guard rails.
 - 1.6. Cantilever platforms can be built around the perimeter of the birdcage, and it is possible to build cantilever platforms along part of the perimeter if required.
 - 1.7. Bridges can be built through the birdcage – with or without beams – with up to one bridge per lift level.
 - 1.8. Sheeting and debris netting can be fitted around all or part of the birdcage.
 - 1.9. Individual bay lengths and widths of system birdcages can be defined with the Setting-Out View.
 - 1.10. Sole boards or sole pads may be placed under all, or part, of the birdcage.
2. Anchors can now be added to independent scaffolding.
 - 2.1. Several anchor patterns are available: the six TG20 patterns for tube-and-fitting scaffolding, four patterns for **UK Cuplok** scaffolding, and four patterns for **Dutch Cuplok** scaffolding. The patterns can vary for each elevation of scaffolding if required.
 - 2.2. Anchor positions are shown in the 3D model and the total number of anchors is included in the on-screen Quantities display.
 - 2.3. The TG20 rules for the placement of anchors with sheeting or a pavement lift are automatically followed.
 - 2.4. Anchor positions are included in the **Cuplok** drawings, and the components required to build them are included in the **Cuplok** material list.
3. External ladders can now be placed against an independent or birdcage scaffold, with or without a ladder safety gate.
4. Several improvements have been made to cantilever platforms:
 - 4.1. Cantilever platforms can be built from timber (for tube-and-fitting and **UK Cuplok** scaffolding) or from timber, steel, aluminium, or a combination of steel and aluminium (for **Dutch Cuplok** scaffolding).
 - 4.2. The start and end positions of a cantilever platform can be specified per elevation, allowing a platform to be built around a bay window, for example. This is also true for inside boards, which can now be built along part of an elevation.

- 4.3. It is now possible to place cantilever platforms of different widths on different lifts if required. The available platform widths are determined by the available bracket sizes for system scaffolding, whereas tube-and-fitting scaffolds can now build platforms with hop-up brackets or as single-stage cantilever platforms.
5. Foot lifts can now be used with stepped or sloping ground.
6. The editing of elevation lengths has been improved, especially for 'split' elevations.
7. Intermediate transoms can now be erased from a non-boarded lift to model a structural lift.
8. Inner guard rails can now be placed per lift.
9. Lacing and bracing tubes are now modelled between bridge beams.
10. Several improvements have been made to the **Cuplok** drawings:
 - 10.1. A dimensioned plan drawing of the whole scaffold is now provided. The scaffold elevations are numbered in the plan to match the individual elevation drawings and act as a key plan.
 - 10.2. Elevations that have been 'split' in the 3D model are now drawn together in one elevation drawing, allowing complex elevations to be drawn with: stepped heights, multiple gable ends, several slopes or steps on one elevation, or more than one bridge along one lift.
 - 10.3. Sheeting and debris netting are now shown in the drawings.
 - 10.4. The ground profile is now drawn under the base plates.
11. Several improvements have been made to the **Cuplok** material list:
 - 11.1. The **Cuplok** material list can now be exported to Microsoft Excel.
 - 11.2. The total number of components is now displayed.
 - 11.3. The 'preferred components' **Cuplok** material configuration now allows components to be selected per scaffold type. For example, it allows a 2.5m horizontal to be used as a birdcage transom but not as an independent scaffolding transom, if required.
12. Several improvements have been made to the modelling of **Cuplok** scaffolding:
 - 12.1. Plan bracing can now be optionally applied to **Cuplok** scaffolding (as well as to tube-and-fitting scaffolding, as in previous versions).
 - 12.2. **Dutch Cuplok** platforms can now be built with combinations of decks of different widths.
 - 12.3. **Dutch Cuplok** scaffolding can now be built with H-frames.
13. The system scaffolding *Setting-Out View* has been improved:
 - 13.1. The setting-out blocks are now split into lifts and bays, rather than just bays, to show gable lifts and lifts that are built on sloping ground.
 - 13.2. The width of each bay is now shown using a colour, making it easy to see the width of each scaffolding elevation (for independent scaffolds) or bay of scaffolding (for birdcages).
 - 13.3. System staircases are now included in the Setting-Out View.
 - 13.4. The calculation of bay lengths has been improved to use fewer bays in many cases.
14. The on-screen *Quantities* display now shows the surface area of the scaffold (rather than the facade) to be more helpful for price estimation. It also now includes the total surface area of decking.
15. The display of the 3D model is now smoothed, for graphics cards that support it.

Version 2.0 (Build 86): March 2010

The following enhancements have been made in this version of **SMART Estimator**:

1. It is now possible to create an independent scaffold using either tube-and-fitting or the **Cuplok** scaffolding system. The use of **Cuplok** requires an upgrade to your hardware key, so please contact CADS for more information.
 - 1.1. A new 'Setting-Out View' is available for system scaffolding that helps you to easily set out the scaffolding bays around a building. The scaffolding bays are represented by coloured blocks, enabling you to see the scaffold dimensions at a glance. You can even print the setting-out view to help you to set-out the scaffold on site.
 - 1.2. A new facility has been provided to specify the maximum gap between the scaffold and the building, which is used when setting out the scaffold.
 - 1.3. An automatic layout is provided, with options provided to override the automatic bay lengths and to alter the priority of the scaffolding at returns.
2. Drawings and material lists can now be created for **Cuplok** scaffolding. At present the UK and Dutch variants of the **Cuplok** catalogue are supported. This feature requires an upgrade to your hardware key.
 - 2.1. The drawings and material list can be configured to only use the components that you have available, so for example it is possible to configure the available lengths of standards, ledgers and transoms.
 - 2.2. Drawings and materials lists are available for **Cuplok** independents and staircases.
3. **Cuplok** scaffolds can now be exported to the Scia Engineer structural software for analysis and design. This feature requires an upgrade to your hardware key and is presently available for the **Dutch Cuplok** catalogue.
4. The following improvements have been made to the scaffold modelling:
 - 4.1. Sole pads can now be used under each base plate instead of sole boards that span between two base plates, if preferred.
 - 4.2. Bridges can now be created with a ladder beam, a unit beam, or without a beam.
 - 4.3. The scaffold platforms can now be built from timber, steel, or aluminium decks, while toe boards can now be built from timber or steel.
 - 4.4. Ladders can now be placed between boarded lifts, with a maximum height of one lift, or across boarded lifts as preferred.
 - 4.5. A foot lift can now be placed, the height of which can be specified.
 - 4.6. A new option has been provided to use double guard rail frames for system scaffolding.
 - 4.7. Scale figures can now be placed at the ground level for use when creating graphical visualisations. Two figures are available: a pedestrian and a scaffolder.
5. The volume of the scaffold in cubic metres is now reported in the quantities.
6. The user-interface theme has been updated to match **SMART Estimator 2.0**. It is possible to restore the previous theme, or to choose one of several themes that have been provided.
7. This version is compatible with the 32-bit and 64-bit versions of Microsoft Windows 7.
8. This version of **Modelling** is now available in two languages: English and Dutch.

Version 1.1 (Build 42): August 2009

The following enhancements have been made in this version of **SMART Estimator**:

1. 3D system staircases can now be created, either as a standalone item or attached to an independent scaffold.
2. Safety lamps can now be added to standards, in one of two styles.
3. Hop-up brackets may be added, up to three boards wide. An option is available to specify the spacing of the brackets, adding extra standards where required, and it is possible to alter the vertical position of the cantilever platform.
4. Double standards may be added, either to the full height of the scaffold or to a specified height.
5. A gin wheel and rope may now be added to the scaffold.
6. The building facade can now be hidden, allowing pictures of the scaffold to be taken as standalone structures.
7. An estimate of the total length of tube required for the scaffold is now displayed in the quantities.
8. The scaffold library has been improved to allow library items and item groups to be renamed and deleted.

The following corrections have been made:

1. Sole boards are now omitted when bridged.

Version 1.0 (Build 32): May 2009

The first release of **SMART Estimator**, with the following features:

1. 3D models of independent scaffolds can be created, either from a standard building shape or by drawing a plan view. Complex scaffolds can be created, including curved and angular plans.
2. The following scaffolding features are supported:
 - 2.1. Boarded lifts, un-boarded lifts, and landings;
 - 2.2. Ladders, including multiple ladders per elevation and ladders from the first lift;
 - 2.3. TG20:08 bracing patterns: single- and double-bay facade bracing, ledger bracing, and plan bracing. It is also possible to erase the ledger bracing below the first lift to create a pavement lift;
 - 2.4. Guard rail options: double or triple rails on working lifts, with up to three guard rails on non-working lifts. The TG20:08 and SG04:05 recommendation of double guard rails on working lifts and single guard rails on non-working lifts is provided by default;
 - 2.5. Bridges built with pairs of beams;
 - 2.6. Plastic sheeting and debris netting in a variety of colours;
 - 2.7. Brick guards;
 - 2.8. Rubbish chutes in red or yellow;

- 2.9. Safety standards, in red-and-white or black-and-yellow configurations, plus foam sleeves;
- 2.10. Light-duty cantilever fans constructed from boards, corrugated iron sheets, or sheeting;
- 2.11. Your configurable company banner, for display on the scaffold.
3. The following scaffolding quantities are automatically produced: total elevation area, total lift length, total length of boards, total length of beams, total sheeting area, total length of rubbish chutes, total length of cantilever fans, and total length of brick guards.
4. Scaffolds can be saved to file, saved as picture files, or saved in a library for reuse. Scaffold pictures can also be copied-and-pasted into other applications, such as Microsoft Word.
5. Undo and redo features are supported.
6. The 3D view can be manipulated by zooming, rotating, and panning, with pre-set views provided.