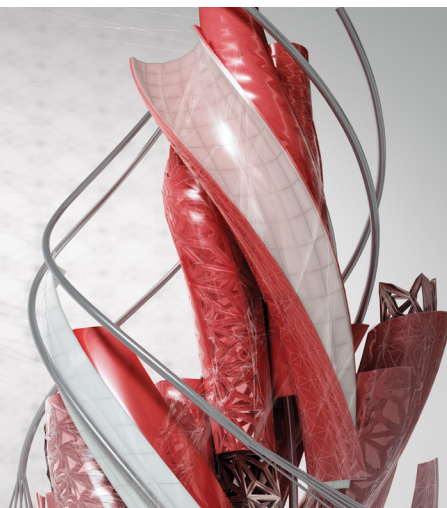Lynn Allen's

# Tips and Tricks
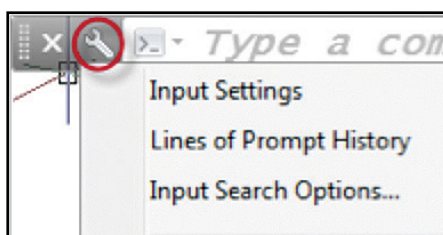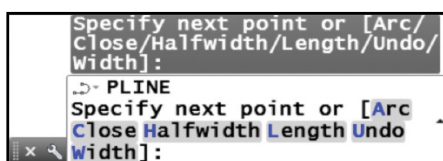
# Command line

You command line fans will love the many enhancements, including transparency, autocorrect and content search.
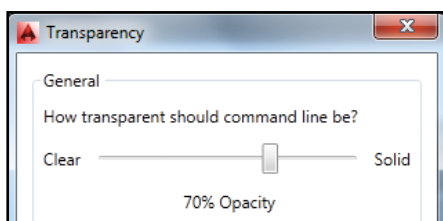
For those of you who are greedy with your screen real estate, float the resizeable undocked command line (which defaults to a single row) above the AutoCAD drawing window. Notice how the semi-transparent prompt history (displaying up to 50 lines) doesn't affect the drawing area.

Select the customise tool on the command line to control the number of lines of prompt history as well as Input settings and Search, Transparency and Options.





F2 (or the flyout at the right end of the floating command line) will display the history window. Click the >_ on the left to quickly access previously used commands.

**TIP** You can make the command line nearly completely transparent so that it just displays when you hover over it.



For those of you who prefer the command line at the bottom (or top) of the drawing window, you can dock it right back into place.

Notice that the command name is always displayed on the command line. You can even click the various command options (displayed in blue) from the command line (my personal favourite).

Fancy a change? You can change the colour of the command line using the Colours tool (Display tab, Options dialog box).
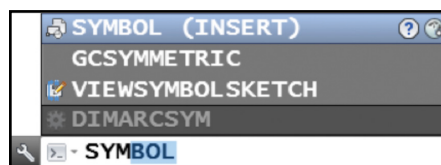
### Content

Timesaver alert! You can now access layers, blocks, hatch patterns, text styles, dimension styles and visual styles from the command line. For example, if you type in "Door", you can quickly insert the preferred door block from the suggestion list.

**TIP** With all these new command line options, you will find that some are displayed with expandable categories. Simply select the + or use the tab key to cycle through all the content.
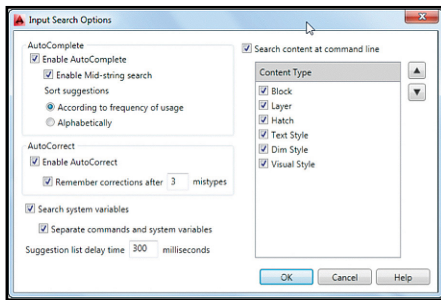
### Synonym suggestions

When you work on multiple CAD systems it's easy to get your nomenclature mixed up. The new synonym suggestions should help you find an appropriate match (and it's customisable too). For example if you type in SYMBOL, AutoCAD will suggest the INSERT command.



Customise your synonyms with the Edit Aliases tool (Manage ribbon tab).

AUTODESK.

## Internet search

Do you want even more information on a command or system variable? Move the cursor over the intended command in the suggestion list and then select the new Help or Internet icons in the upper right corner.
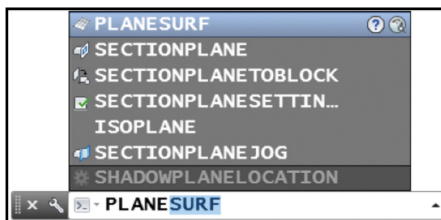


The new Input Search Options dialog (also available from the right-click menu) makes it easy for you to customise input and search features.



## AutoComplete

AutoComplete now supports mid-string search capabilities. If you type in "PLANE" for example, you will get all the commands and/or system variables that contain the word PLANE.
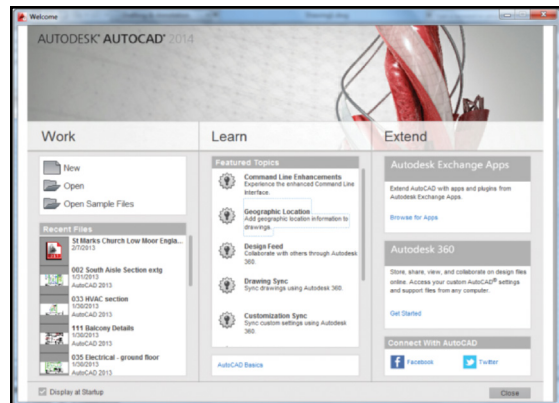


Commands in the AutoComplete suggestion list are initially displayed in order of their general popularity. As time goes on, the suggestion list will adapt to your own usage behaviour, making your AutoCAD smarter and smarter.

## AutoCorrect

No more of the dreaded "unknown command". Now if you mistype a command, AutoCAD will autocorrect to the most relevant command. (Hooray!)

# User interface

The updated modern UI in AutoCAD® 2014 software just gets easier and easier to work with.



## Welcome Screen

Who doesn't love a friendly welcome to start their AutoCAD day? The Welcome Screen provides easy access to drawing files, learning tools and online content.

Create new or open existing drawings from the Work panel. You can also quickly access recently used drawing files.
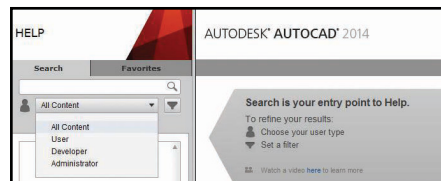
**TIP** Watch the "What's New in 2014" videos to get up to speed in no time!

Easily download a variety of valuable apps from Autodesk Exchange Apps. Connect to Autodesk® 360 and AutoCAD social media resources.

**NOTE** If you prefer not to see the Welcome Screen when you open AutoCAD, simply untick the Display at Startup option.

## Help

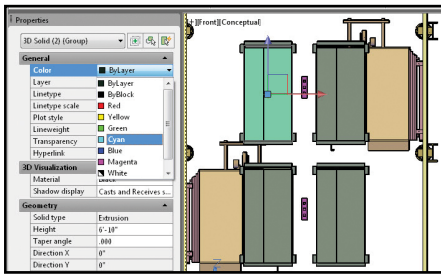Now you can search the help file for results based on the type of user you are.



**TIP** If you're new to AutoCAD, have a look through the Hitchhiker's Guide to AutoCAD Basics.
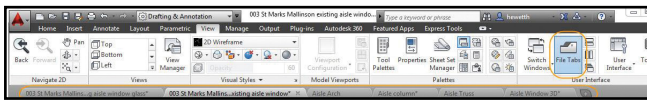
## In-canvas property preview

Dynamically view object properties as you select them (including transparency). Get the right property value every time.

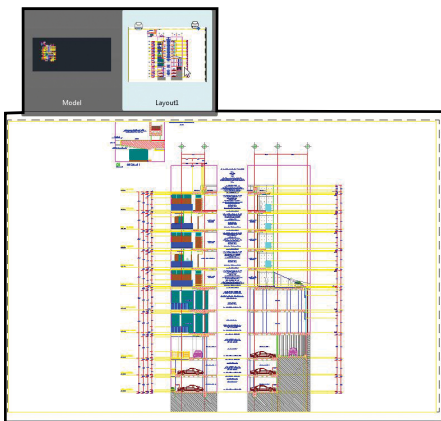Property preview can be controlled in Options (Selection tab).



## File tabs

The new file tabs will make it easier and faster than ever to move between open drawing files, or to create new ones.



**NOTE** If for some reason you prefer to turn off this cool new tool, you can do so from the File Tabs control on the View tab of the ribbon.

File tabs display in the order they were opened, but you can easily drag and drop them to change the order. If you run out of room, an overflow menu will appear on the right.



**TIP** A lock icon on a tab indicates read-only; an asterisk indicates that the file has been modified since the last save.

Passing the cursor over a file tab will display preview images of model space and layouts. If you hover over a preview image, it is temporarily displayed in the entire drawing area. You'll also find that the Plot and Publish tools appear.

Right-click on the file tabs to reveal additional options such as Save All and Close All. My personal favourite is "Close All Except This Tab".

**TIP** Select the Plus icon to the right of the drawing tabs to quickly create a new drawing.



# Everyday command improvements

Many improvements have been made to the basic commands of AutoCAD.

## Natural ordered sort for layers

If you number your layers, you'll love this improvement. Now numbered layers are sorted in their natural order such as 1, 2, 4, 6, 10, 21, 25 (as opposed to 1, 10, 2, 25, 21, 4, 6).

## Sheet sets

The CreateDate field (stored in the template file) displays the creation date of the new sheet (not the date of the template file).

**TIP** Snap mode now temporarily turns off when selecting objects (set it back to legacy behaviour in the SNAP command).
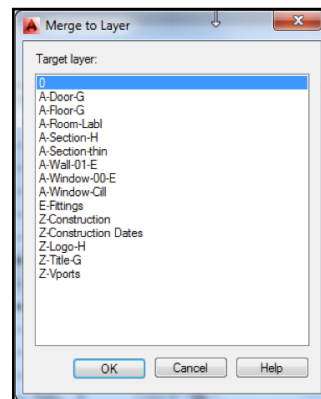
## Plot styles

CONVERTPSTYLES now supports spaces.

## Polylines

Now you can fillet a polyline to itself.

## Layer merge

LAYMRG has been incorporated into the Layer Manager. Right-click to merge two or more layers together onto one layer (and automatically delete the now empty layers).



## Arcs

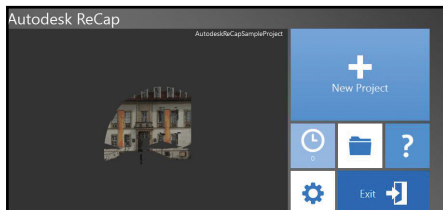Use the Ctrl key to change arc directions.

# Reality capture

More and more people are incorporating scans into their designs. Autodesk® ReCapTM makes working with 3D laser scans a breeze!
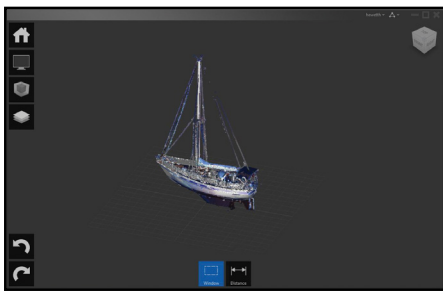
## Autodesk ReCap

Use Autodesk ReCap to convert scan file data from a variety of popular formats to a high-speed point cloud that can be viewed and edited in other products (including Autodesk Revit and Autodesk Inventor).

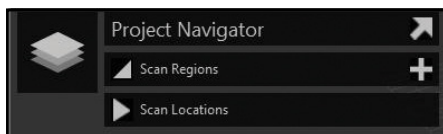**NOTE** Autodesk ReCap is a separate application that comes with AutoCAD 2014.

Begin by selecting scan files to import, and then use the tools inside of Autodesk ReCap to work with the scanned data. Use the Home tile menu to save the current project as a Point Cloud Project file (RCP) or export to a Point Cloud Scan file (RCS). Both can be used in AutoCAD.

Use the Display Tools tile menu to analyse, change the appearance and display of components and specify lighting options of the point cloud.
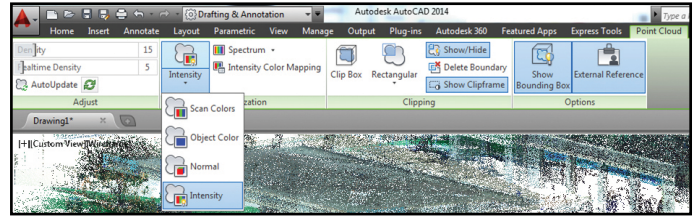
Use Limit boxes to control which areas of your project are visible.

The Project Navigator tile menu provides one-stop access to scan regions and individual scan files.

## New AutoCAD Point Cloud Support

Easily attach RCP and RCS files from Autodesk ReCap (as well as the traditional PCG and ISD formats).

The contextual ribbon (which I hope you're using) will switch to a Point Cloud tab when a point cloud is selected.

Additional features include Stylisation (colourisation) with the following options and more clipping tools.
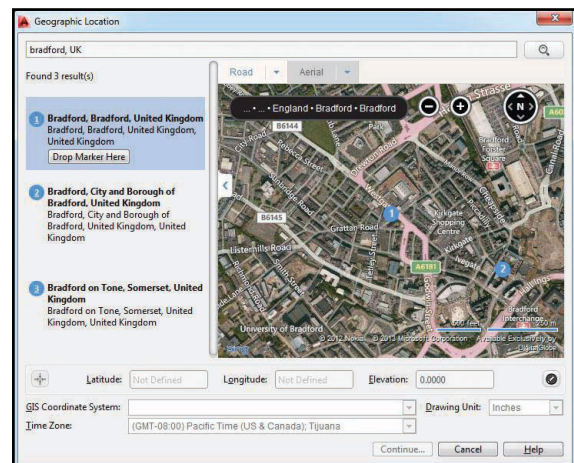- Scan colour
- Object colour
- Normal
- Intensity

**NOTE** AutoUpdate is turned off by default. Use the Refresh button to update manually.

# Geographic location

When you add a geographic location to your drawing, you reap many benefits from all the geographic data that goes with it.
- Display your drawing on map services such as Google Earth
- View it in the context of its actual location (great for sun studies)
- Geo-referenced blocks and images automatically go to their correct location (with the correct scale)
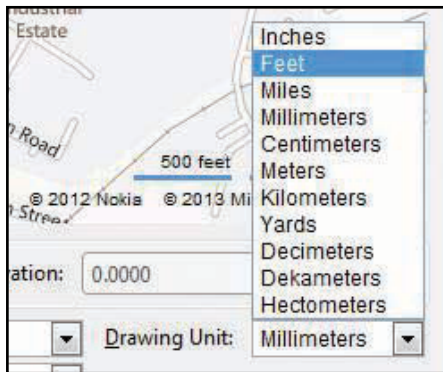- Navigate around in your drawing while you're in the field (if your computer is GPS enabled)

Set a geographic location using the Set Location tool (Insert tab). Easily search for an address or latitude and longitude from a map (if signed in to your Autodesk account) or by selecting a KML/KMZ file.

Just drop a marker on the map to mark the spot.

**NOTE** World-Mercator is the default coordinate system. Choose from a localised list of coordinate systems to get more accurate results.
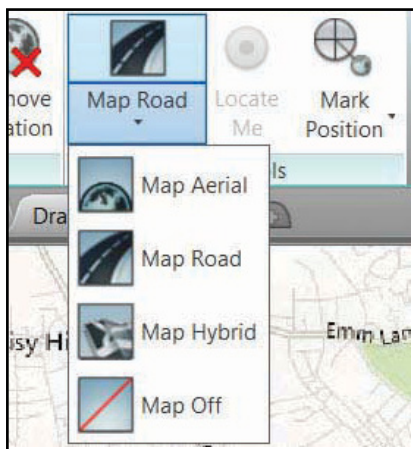
The selected coordinate system defines the scale of the map. You can easily modify the drawing units.

Use the Geolocation ribbon tab for modifying the geolocation and map display. Easily switch between aerial, road or hybrid map (or turn off the map completely).
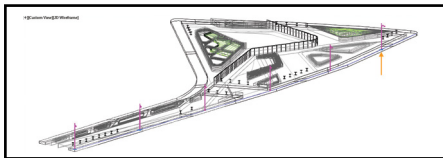


**TIP** If you're in the field, use the Locate Me tool to identify and mark your current location.

# Productivity enhancements

Let's face it, we all want to be more productive.

## Path arrays

By default, the selected items will be evenly distributed along the entire length of the path.
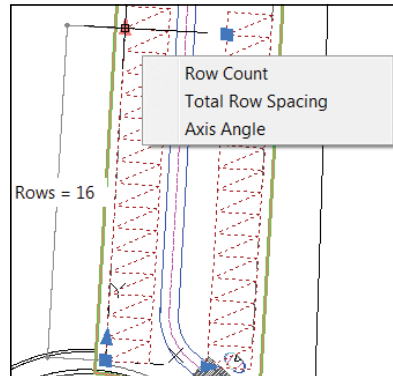


The item count toggle enables you to indicate a specific number of items to be arrayed, or to fill the path with the items. When off, an additional grip at the end of the array appears to provide dynamic editing.

## Rectangular and polar arrays

The visual preview makes it easier than ever to get your array correct the first time. Rectangular arrays are automatically displayed in a 3-row by 4-column grid. Polar arrays are displayed in a full circular pattern of 6.
The multi-functional grips can be used to quickly increase/decrease the number of rows or columns or to control the spacing between the rows and columns.
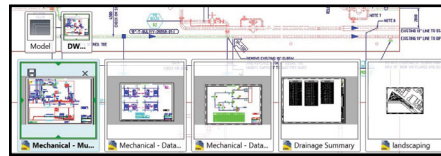


**TIP** Individual items in an array can be selected and edited by using the Ctrl key.

## Offset preview

Finally, there's now a preview in the popular OFFSET command.

## Quick View Drawings and Layouts

It's easier to distinguish the current active view in Quick View Drawings and Layouts with the colourful border and bolded text.
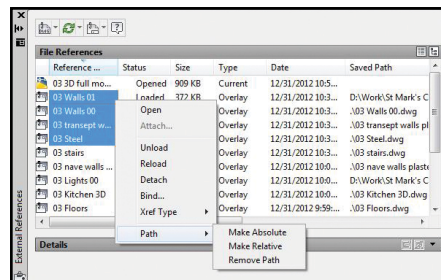


## Reverse polylines

Set the new PLINEREVERSEWIDTHS system variable to 1 if you want widths reversed when the REVERSE command is used.

## XREF enhancements

XREF linetypes are no longer displayed on the linetype list of the ribbon or the Properties palette. XREF layers are still displayed in the ribbon (but not in Properties).

Change the XREF type or path for multiple selected xrefs simultaneously from the right-click menu in the XREF Manager.



**TIP** Toggle between Attach and Overlay in the XREF Manager with a simple double-click.

Edit the Saved Path directly in the External References palette (found path is read-only). Relative Path is the new default (unless the relative path is not available).

# Annotation

Annotation is an important part of our designs – take a look at these timesavers.

## Text

Mtext background mask remembers the last used fill colour and offset. (So no more defaulting to red and 1.5)

**TIP** You can strikethrough mtext, multileaders, dimensions and tables.
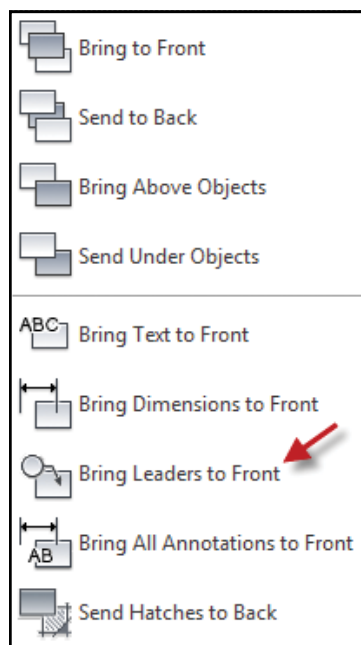
Single line text remembers the last justification setting.

## Attributes

Now when you insert blocks with attributes, the dialog box displays by default (ATTDIA set to 1).

## Dimensions

You can control the gap around multileader text in a text frame. You can also extend the leader line all the way to the text (rather than ending at the bounding box).



Leaders are now part of the TextToFront tool.

Set the new system variable DIMCONTINUEMODE to 1 to create Continued and Baseline dimensions with the same dimension style as the base dimension.

## Wipeout frames

The WIPEOUTFRAME system variable enables you to display the wipeout frame without printing it.
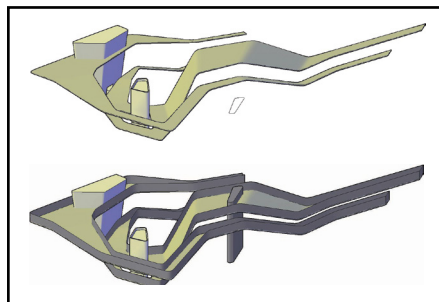
## Hatch

It is now possible to edit multiple hatch objects from the ribbon or from the command line version of the hatch editor.

Hatch remembers the previous method for selecting objects to hatch (Pick internal point or Select objects).
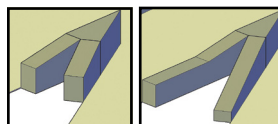
# 3D tips

After all, it's not just a 2D world – take a look at these 3D improvements.



## PressPull

Use the Multiple option or the Shift key to press/pull multiple objects in a single operation. You can now also select 2D and 3D curves.

**TIP** Use the Ctrl key when you select a planer face to offset it as it extrudes to follow the taper angles of adjacent sides.
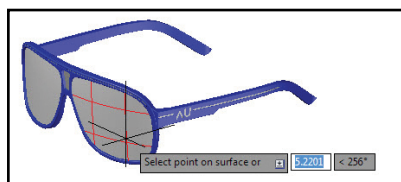


## Model documentation

It's never been easier to go from your 3D models to 2D documentation. You'll even find that if you modify the 3D model, the 2D documentation will update as well.

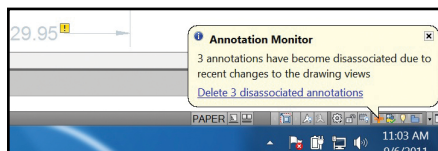## Surface curve extraction

Use the Extract Isolines tool (Surface ribbon tab) to quickly extract isoline curves from an existing surface or face of a solid.



You can change the direction of the isolines, select a chain or draw a spline on the curved surface.

## Associative dimensioning

Dimensioning of these drawing views is much smarter and will automatically update as the model changes.
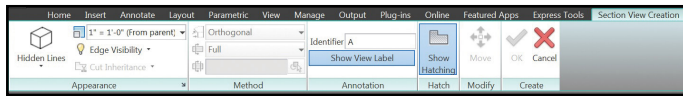


If you invalidate or disassociate annotations, the Annotation Monitor will help you identify and correct the disassociated annotations.
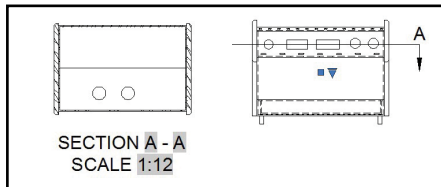Found on the status bar, the Annotation Monitor icon changes and issues an alert on each of the disassociated annotations. Click each alert to reassociate or delete individually, or select the link on the alert bubble to quickly delete them all.

## Section views

Creating section views is as easy as picking the points of the section line on an existing view. The Section View Creation tab includes tools such as depth and hatch controls.
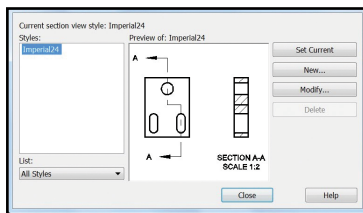


Once you've created a section view, a section identifier will be displayed. The identifier automatically increments as more section views are added. You can also display a view label displaying section and scale.
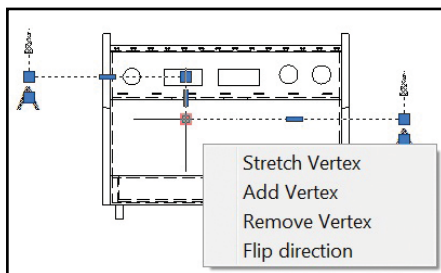


Use the Edit Components tool to modify the objects used in the section view. If a component is set to none, it will not be sectioned.

**TIP** You can also specify full depth or just a slice.

Use the Section View Style Manager to customise the section views to meet your standards.
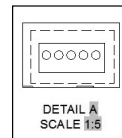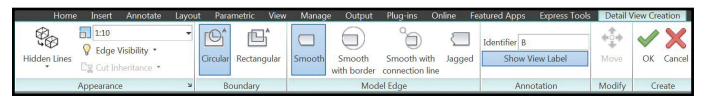


**TIP** Use multi-functional grips to modify the section line.



Grips on the section view, hatches and section view label enable you to make a variety of modifications.
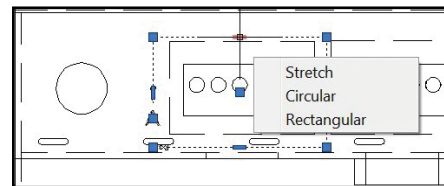
## Detail views

It's easy to create detail views in AutoCAD 2014. Specify a circular or rectangular boundary, smooth or jagged edges, connection lines and so on from the context-sensitive Detail View Creation tab.





A detail view label is automatically inserted (and incremented if necessary).
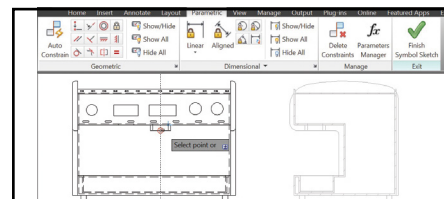
Use the Detail View Style Manager to control the appearance of the label, boundary and detail view.

Easily modify a detail view after the fact by using grips on the detail symbol, view or view label or on the Detail View Editor tab (which appears when a detail is selected).



### View symbol sketch

Why not constrain section lines and detail boundaries to key points of geometry? This will help ensure accuracy should the model change.



# Added extras

Are you using a Windows® 8 touch-enabled device? Use the new control on the System tab of Options to display a touch mode ribbon panel (when a touch screen is detected). You'll be on the road to smoother pan and zoom performance in no time.



### Render online

One of the great advantages of the cloud is its extensive computing power. Select Render in Cloud from the Render ribbon tab to render your 3D AutoCAD models while you continue working on your computer.
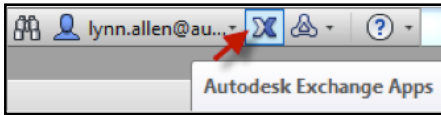
### Raster files

AutoCAD 2014 accepts more file formats for attaching: DDS, DOQ, ECW, HDR, JPEG2000, MrSID, NTF, OpenEXR and PSD.

All images from Autodesk® AutoCAD® Raster Design are automatically displayed.
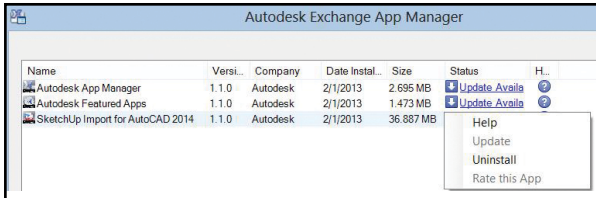
## Autodesk Exchange Apps

Get direct access to downloadable applications and content that can increase your productivity. Simply click the big X on InfoCenter.



Several valuable apps such as the Featured Apps ribbon tab, the Exchange App Manager and the SketchUp Import app are automatically installed in AutoCAD 2014.

Use the Exchange App Manager to view and update. Right-click on an app to rate, uninstall or learn more information about it.
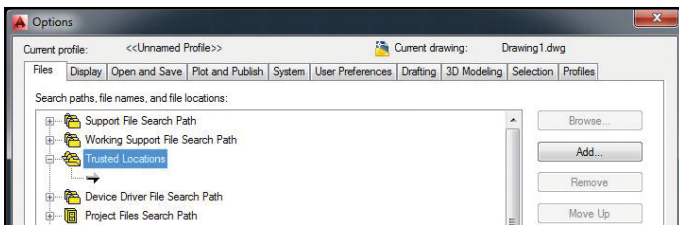


**TIP** A double-click on an app in the Exchange App Manager will automatically provide more information about that app.

## Multiple search paths for plot files

You can now specify multiple folders for PC3, PMP, CTB and STB files in Options.
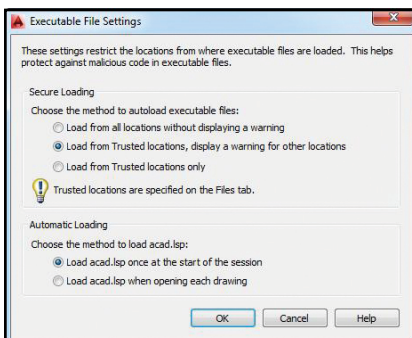
## Language packs

Do you need to install multiple languages of AutoCAD on your computer? Now you can install one full product and then add subsequent languages via Language Packs (from the Help menu). This will save you a lot of time and space.
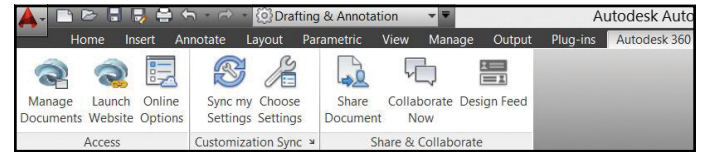


## Security

AutoCAD 2014 offers extra security controls to help protect your drawings. Set the Trusted File Search Path on the Files Tab in Options to prevent unauthorised execution of files such as scripts, AutoLISP or VBA applications.

**TIP** You will also find new Executable File settings on the System tab of Options.



# Autodesk 360

Today it's all about the cloud. Connect to your secure Autodesk 360 account for file sharing, customisation syncing and more.



## Autodesk 360 tab

Use the Autodesk 360 tab for all things related to your Autodesk 360 account.

## Manage Documents

Use this for easy access to your local Autodesk 360 folder.
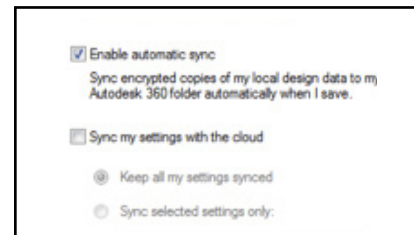
## Launch Website

This tool takes you online to your stored documents and folders via browser.

**NOTE** You'll also find Autodesk 360 access in many of the Select File dialog boxes.

**BONUS** When you upload drawings from AutoCAD to Autodesk 360, external references and other dependent files upload as well.

## Online options

Be sure to set up your cloud settings to control when your design data and custom settings are synced. Choose to automatically store your design data each time you save, or only when you specify.



**TIP** Specify the cloud folder you want your files saved to for easy management.
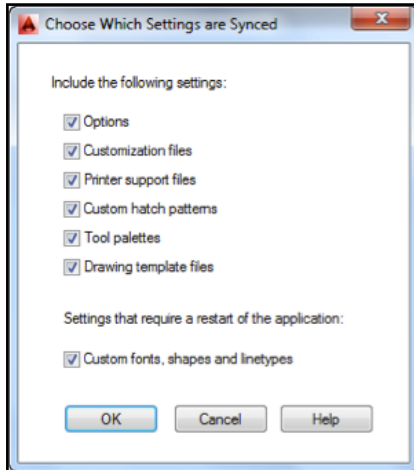
## Sync my settings

We all set up AutoCAD to work the way we like to work. Now you can save and sync those settings with Autodesk 360. Save your program appearance, profiles, tool palettes, customisation files, Options and support files to Autodesk 360 so you can restore them onto any computer.

## Choose settings

Choose which settings you'd like Autodesk 360 to sync automatically.



## Share Document

Share the current drawing with others via email. You can control the access level of those you choose to share with.
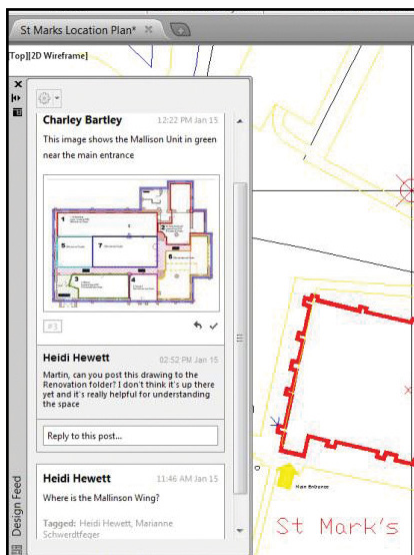
## Collaborate Now tool

The Collaborate Now tool launches Autodesk 360 and initiates a collaboration session with another Autodesk 360 user.

**NOTE** The CAD Manager Control Utility enables CAD Managers to control their users' access to Autodesk 360 and customisation synchronisation.

## Design Feed

The new Design Feed tool displays a palette where you can enter text messages and attach images to be shared online through Autodesk 360.
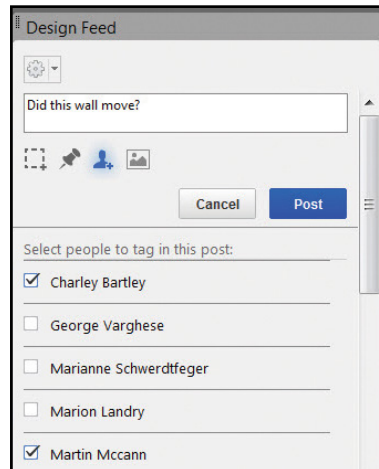


**TIP** Posts will remain with the related drawings on the desktop, web and across mobile devices.

Associate a message with a location in your drawing and a corresponding bubble will be displayed. When the post is selected in Design Feed, AutoCAD zooms in accordingly.

**TIP** Use the Settings button on the Design Feed palette to control the display of bubbles.

Tag others via email to notify them of your post (will also appear within AutoCAD).
Design Feed makes corresponding with others about an AutoCAD drawing so much easier.



**TIP** Resolve the thread to hide it when the post is no longer needed or active.

# AutoCAD 360

Have you tried the Autodesk® AutoCAD® 360 web app yet? With AutoCAD 360 you can view, edit and share drawings through the web or mobile device (so you can take your drawings on the road).

Collaborate with others on the same drawing in real time. Use the basic editing features to mark up a drawing file. Use the Timeline tool for a detailed design history.

Give AutoCAD 360 a try – did I mention it's free*?

Download the free* app for iOS mobile devices at the App Store. Also available for Android.

Visit **www.autocad360.com** today.



\* Free products and services are subject to the terms and conditions of the end-user licence agreement that accompanies them.
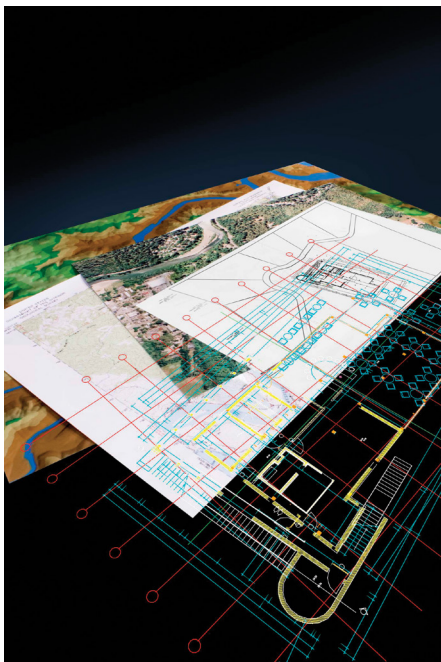
# Autodesk AutoCAD Design Suite

Enhance the power of AutoCAD with easy-to-use visual communication solutions. Autodesk® AutoCAD® Design Suite helps designers work more creatively, rapidly evaluate designs in context and effectively communicate and sell ideas.



AutoCAD Design Suite Standard contains AutoCAD, Autodesk® SketchBook® Designer, Autodesk® Showcase®, AutoCAD® Raster Design and Autodesk® Mudbox® software.

The Premium edition of the suite adds Autodesk® 3ds Max® Design. The Ultimate edition of the suite also adds Autodesk® Alias® Design.

## AutoCAD Raster Design



Get more value from your raster imagery (such as scanned drawings, maps, aerial photos) with AutoCAD Raster Design.

- Easily clean up, edit, enhance and maintain scanned drawings in a familiar AutoCAD environment (includes despeckle, bias, mirror and touchup)
- Raster to Vector Conversion, including OCR (Optical Character Recognition) gives you accurate results when you create lines and polylines from raster data
- Use standard AutoCAD commands on raster regions and primitives; erase raster lines, arcs and circles easily.

## Autodesk SketchBook Designer



Image courtesy of Michal Jelinek

Sketch conceptual designs directly in AutoCAD. Tap into a unique hybrid paint and vector workflow, explore many different design concepts and communicate your ideas graphically.
- Illustrate on a blank screen
- Design conceptually with pencil and paper-like sketching
- Combine and compose images
- Create graphic designs and communications

## Autodesk Mudbox



Image courtesy of Benjamin Brosdau

Refine your models with Autodesk Mudbox. You can fine-tune the details of your ultra-realistic models using its powerful textured painting and digital sculpting toolset.
- Get fast, smooth and accurate results with a world-class 3D sculpting toolset
- Paint directly onto high-resolution 3D models and see results immediately
- Create accurate normal, displacement and ambient occlusion maps with texture baking

## Autodesk Showcase



Quickly and easily transform your AutoCAD designs into compelling imagery, movies and interactive presentations for design reviews and sales pitches. Evaluate design variations and accelerate feedback by reducing the need for physical prototypes and long rendering times.
- Accelerate the path to new business by selling your ideas more effectively
- Reduce the time, expense and expertise required to prepare visualisations
- Facilitate informed decision-making by viewing design options in context and in detail

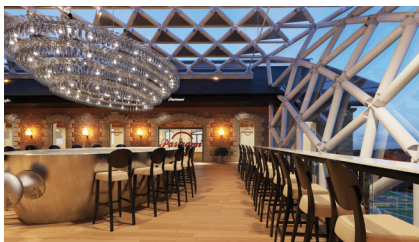## Autodesk 3ds Max Design
(Available in Premium)



Image courtesy of Homologue

Perform daylight analysis and create cinematic-quality 3D visuals with the animation, character, effects, point-and-shoot rendering and lighting analysis tools. Convey the story behind your design for design reviews, marketing materials or public outreach – before it's real.

- Benefit from optimised compatibility with Autodesk and third-party solutions
- Analyse lighting scenarios with confidence
- Bring your design to life in a highly realistic way using 3D technology proven in the entertainment industry



Lynn Allen, Cadalyst columnist and worldwide Autodesk Technical Evangelist, speaks to more than 30,000 users each year. For the past nineteen years she has written a column in *Cadalyst* magazine called "Circles and Lines" and is the voice behind *Cadalyst's* "Tips and Tricks Tuesdays". Lynn started using AutoCAD software with Release 14, over 20 years ago, and got her start by teaching at the corporate and collegiate level for 12 years. A sought-after public speaker with a unique comedic style, Lynn has served as the Autodesk University emcee for over ten years and is always one of the highest rated speakers. Her latest book is entitled *AutoCAD Professional Tips and Techniques.*

AUTODESK.