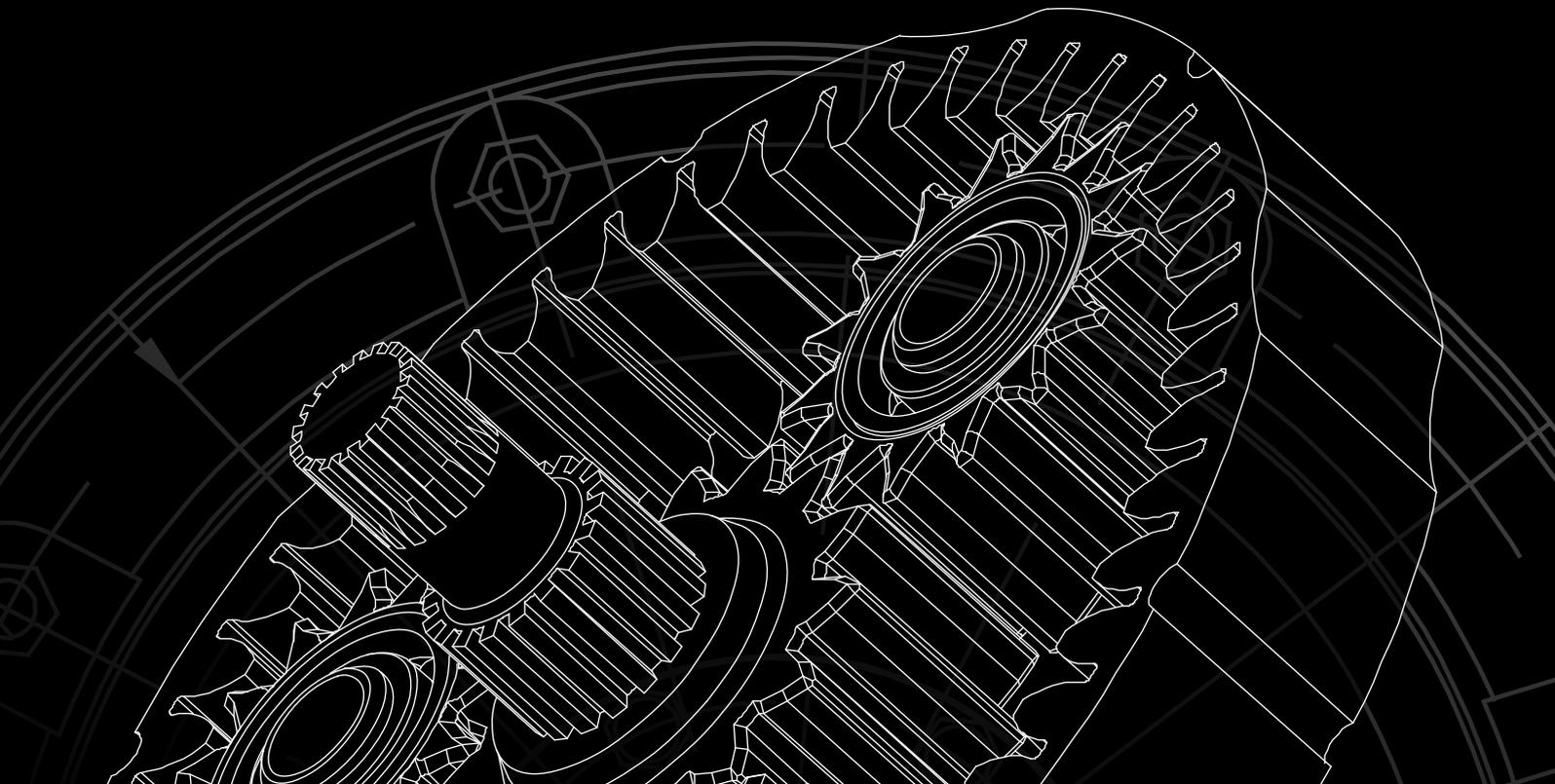


CorelCAD™ 2019

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REVIEWER'S GUIDE

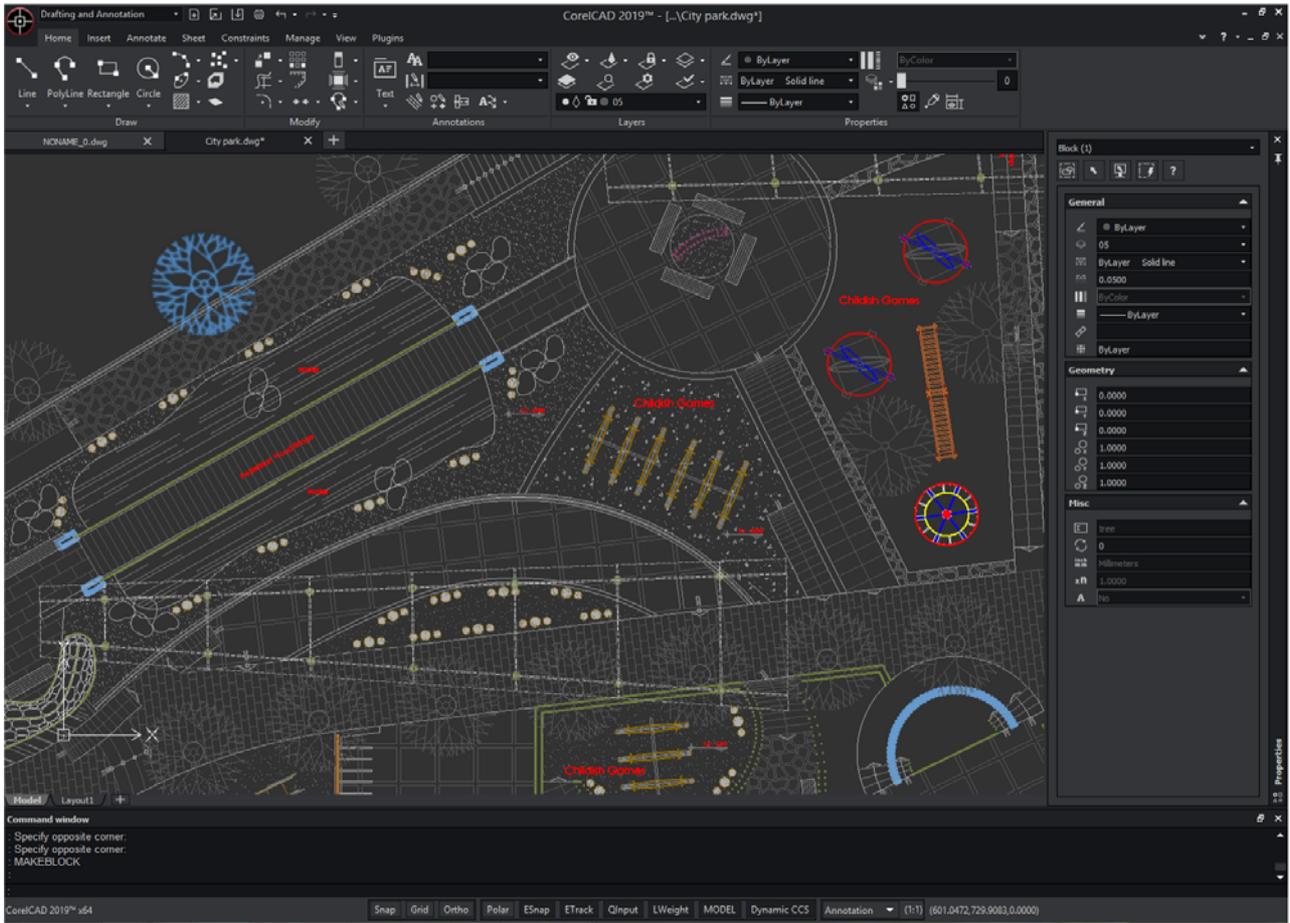


CorelCAD™ 2019

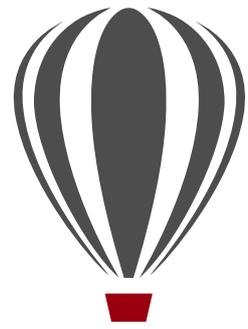
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1



Introducing CorelCAD™ 2019

CorelCAD™ 2019 delivers superior 2D drafting and 3D design tools that let graphics professionals enhance their visual communication with precision. It's the smart, affordable solution for drawing the detailed elements required for technical design. CorelCAD provides an enhanced UI for workflow efficiency and native .DWG file support for compatibility with all major CAD programs. With optimization for Windows and macOS, you can enjoy improved speed and impressive performance on the platform of your choice.

Some enterprises that need a CAD application have problems finding affordable software that delivers the features that they need to get the job done. While there are several budget-priced alternatives, many lack critical tools or use a format that impedes collaboration and sharing. CorelCAD 2019 simplifies things by offering an inexpensive, full-featured 2D CAD application with 3D solid modeling and editing tools.

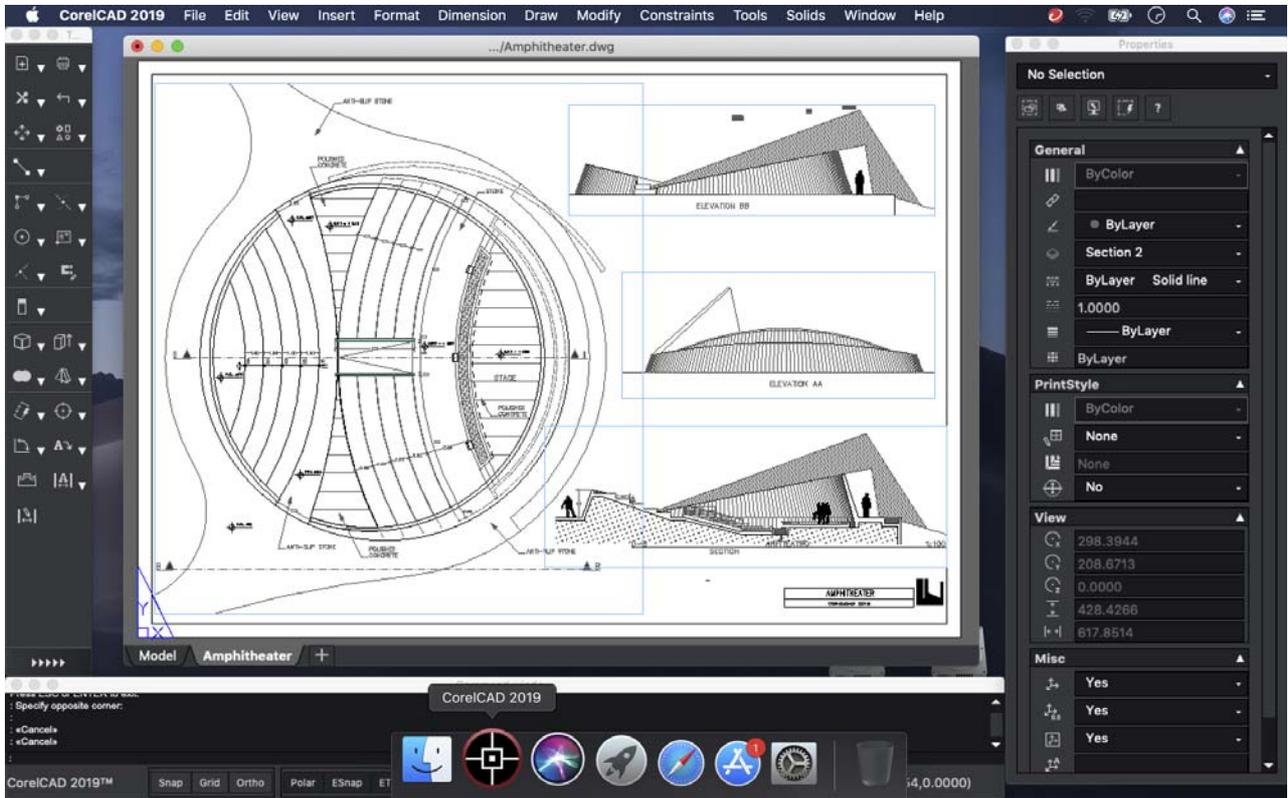
The use of CAD files is becoming more commonplace for a wide range of graphics professionals, from technical illustrators to designers in marketing departments — even among 3D printing enthusiasts. As such, businesses and hobbyists alike need a CAD solution that is versatile enough to be used effectively by a wide range of skillsets. What's more, the ability to open and repurpose CAD content, such as .DWG files, has become a requirement that saves organizations both time and money.

The native CorelCAD file format (.DWG) ensures versatile fidelity with industry standards and the most recent AutoCAD application versions up to AutoCAD 2018. It

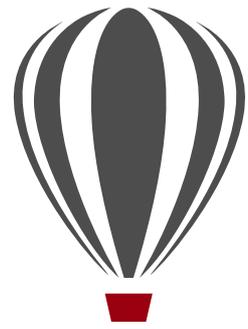
supports opening and saving to AutoCAD 2018 .DWG, offering robust handling of file attributes of non-supported AutoCAD features and preserving functionality in .DWG files, eliminating conversion and sharing issues.

For those who've worked with other popular CAD tools, making the transition to CorelCAD 2019 is straightforward. CorelCAD incorporates a range of intuitive tools, commands, and familiar UI elements found in other CAD software so any CAD designer can quickly get to work with no learning curve.

Windows has traditionally been the operating system adopted by the industry, but there are pockets of dedicated macOS users. With that in mind, CorelCAD is optimized for both platforms — and at a fraction of the price of other CAD software available for macOS. And as mobile devices are revolutionizing how we work, CorelCAD 2019 extends the desktop to iOS and Android devices with the CorelCAD Mobile subscription, which offers full 2D drawing, editing, and annotation capabilities. Or if you just need to view and add simple annotations, you can use CorelCAD Mobile in simple mode as a free companion app.



2



Customer profiles

Architects, Engineers, and Construction (AEC) service providers

In the AEC sector, some CAD designers work primarily in 2D, switching to 3D when their workflow calls for it. Other CAD designers work in 3D from start to finish. They work for small to medium-sized firms and create a variety of drawings, including 2D designs for drafting and construction plans, elevations, floor plans, and construction details. Their projects are just as likely to be created from scratch as to be based on legacy design components. The ability to collaborate and exchange files with colleagues and clients is critical to their workflow. And, many architects prefer macOS or work in a hybrid Windows PC and macOS environment. And as mobile devices become more powerful, the ability to work anywhere opens up a world of possibilities for this sector.

CorelCAD 2019 offers a lightweight, standards-compliant 2D application that supports 3D solid modeling. The ability to work in the .DWG format, including opening and saving to the latest AutoCAD .DWG files, eliminates any conversion issues when exchanging files with colleagues or reusing legacy files. Collaboration is simplified and accelerated through support for voice notations and commenting in editable drawings. Plus, files can be exported to CorelDRAW (CDR)*, Corel DESIGNER (DES)*, and PDF, simplifying information sharing with other departments in their company, such as documentation or marketing. What's more, CorelCAD 2019 is optimized for both Windows and macOS, so users can work on the platform they prefer.

And CorelCAD Mobile is the perfect tool for getting things done anywhere, anytime on iOS and Android devices. Available as a subscription, it works seamlessly with Windows or macOS versions of CorelCAD and allows users to design, edit, and annotate on the go. The free app mode is ideal for quickly presenting projects to clients and colleagues wherever and whenever the need arises.

** Windows version only*

3D Enthusiasts and DIY designers for 3D printing

3D enthusiasts and Do-It-Yourself (DIY) designers for 3D printing are playing a critical role as this technological revolution becomes more mainstream in the manufacturing of aerospace and automotive components, healthcare devices, and wide range of consumer products. They're at the forefront of realizing the unlimited potential and output possibilities of 3D printing.

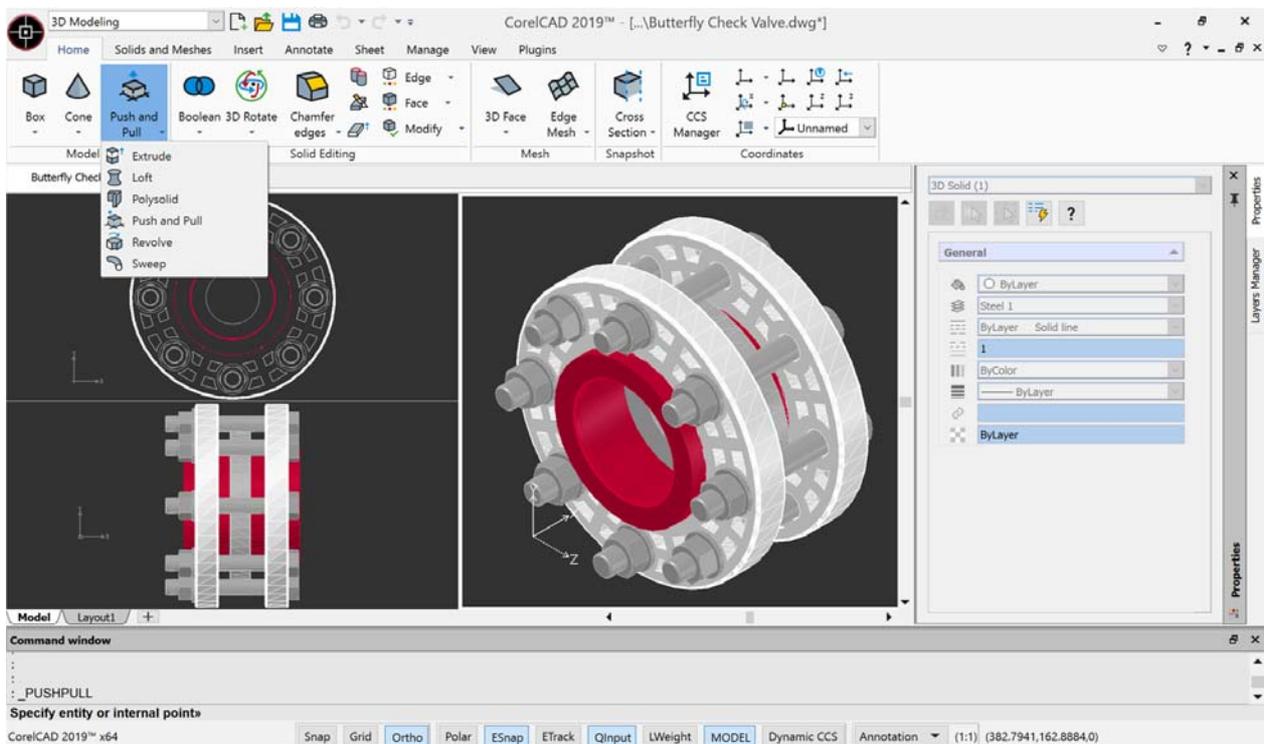
Sometimes the foundation of their 3D printing projects is built using 2D vector graphics. They start with 2D sketch because it's easier, faster and more intuitive than attempting to draw a 3D design from scratch. After exporting the 2D design to .DWG, they use a 3D design application to complete the transformation from 2D to 3D. Other times, they work in 3D right from the start by importing a 3D printing file and inserting ready-made 3D objects in their design. They then export it to print on a 3D printer or send it to a 3D printing output service.

CorelCAD is part of a powerful range of Corel products that provide all the specific tools needed for a 3D printing project. The ability to directly import CorelDRAW (CDR)* sketches means users can move from the initial sketching to the 3D design phase without any disruption. Then, DIY designers turn to CorelCAD 2019 for a simplified 2D-to-3D conversion process, precise design tools, and intuitive 3D-solid editing capabilities to complete the project.

CorelCAD 2019 also gives these users the power to leverage existing 3D models with STL file importing capabilities. After bringing these files compatible with 3D printing into CorelCAD 2019, they can insert 3D objects contained in those files into a design and modify them further.

They also seek the file compatibility CorelCAD 2019 offers with a range of common formats integral to 3D printing projects.

** Windows version only*



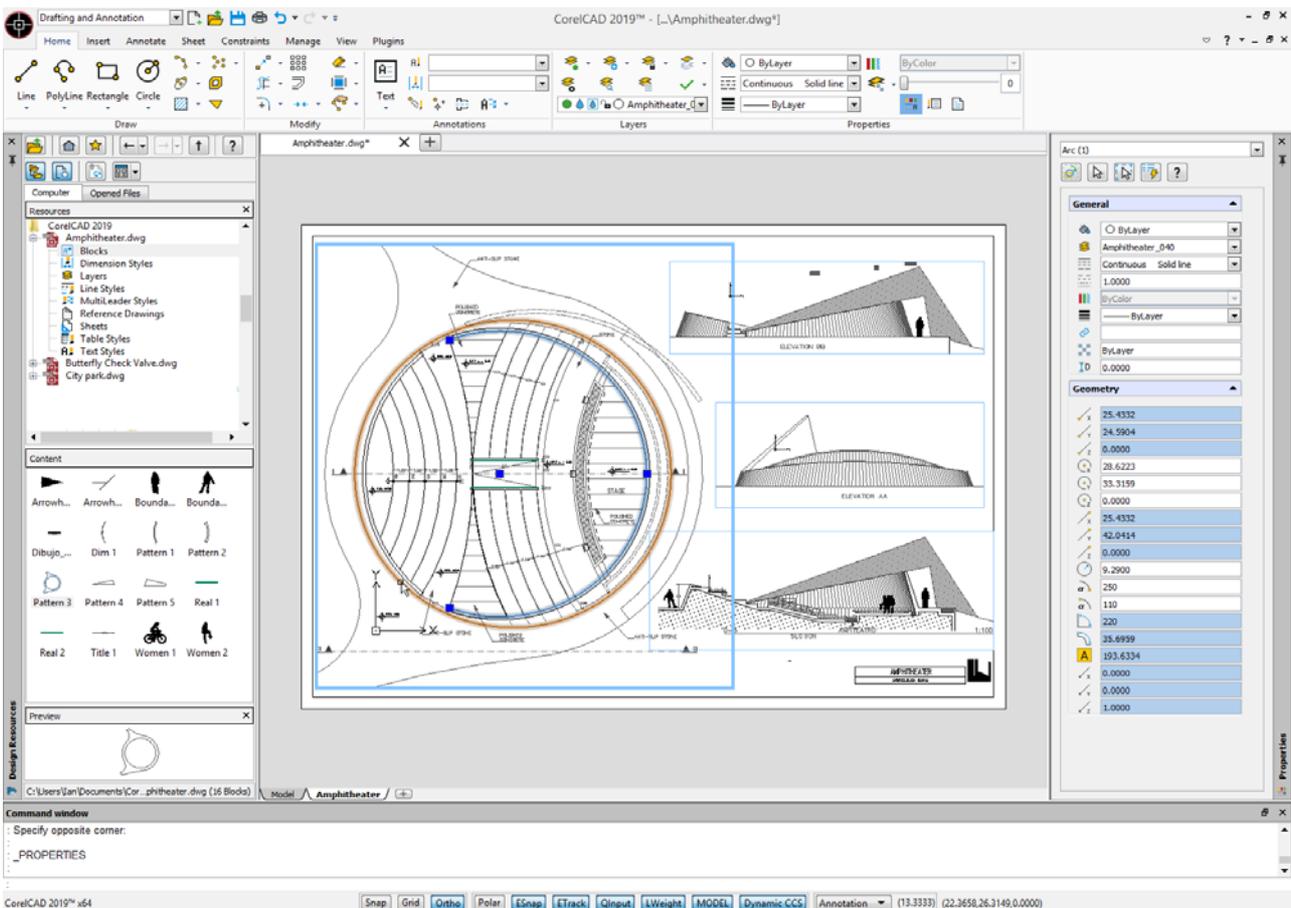
Occasional 2D CAD users

CAD designers working for large enterprises in the manufacturing sector design primarily in 3D, however, they still need 2D support. The types of drawings they design include assembly schematics and parts details, and many of their legacy files are 2D CAD (.DWG), which have to be maintained. A 2D draft will often serve as the basis for a 3D design, and they need to be able to repurpose 3D files to add detail to 2D drawings. To share their work with other departments, they publish CAD drawings to a range of formats.

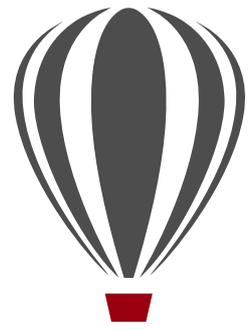
Graphic designers need an intuitive tool to edit CAD files that supports all elements of .DWG drawings, such as model spaces and layout sheets. They work in marketing and technical documentation departments, and the ability to work with 2D CAD files allows them to reuse design content in user guides, marketing materials, and presentations.

CorelCAD addresses these needs by offering an affordable, standards-compliant 2D CAD application that complements 3D CAD solutions. The ability to import drafts from CorelDRAW (CDR), and export CAD drawings to CorelDRAW and Corel DESIGNER file formats* simplifies repurposing content, ensuring that users can maintain and reuse legacy content.

* Windows version only



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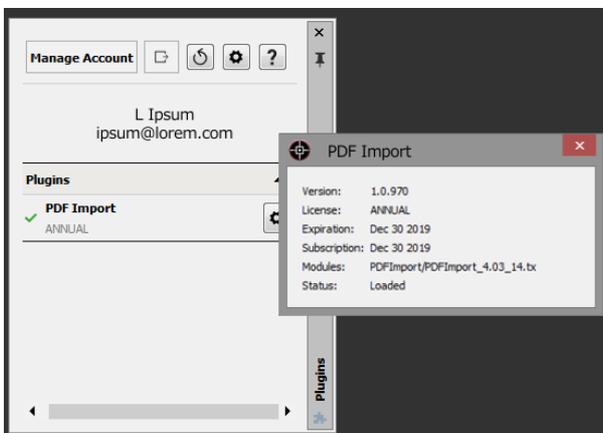


Key features

With native .DWG support and industry-standard CAD features, CorelCAD 2019 helps users be more productive with intuitive 2D- and 3D-design tools and versatile file-format compatibility. Optimized for Windows and macOS, CorelCAD delivers impressive speed and powerful performance on your preferred platform.

CorelCAD 2019 offers new time-saving productivity enhancements, a redesigned layers workflow, new solid-modeling options, and more security and peace of mind with drawing-recovery and file-authentication features.

New! Plugins Manager: The enhanced Plugins command gives quick access to the new Plugins Manager palette, where you can manage third-party plugins for specific industries, activities, or post-processing. After you install a plugin, the palette acts as a hub for plugin administration. In one central interface, you can activate and update plugins and access your account with the vendor, and view license settings.



Enhanced! Productivity: Because time is so critical to our users, CorelCAD 2019 introduces a range of productivity features and workflow improvements.

New options help you work more efficiently by giving you the choice of using color or dashed-line highlighting when selecting or previewing objects. If you choose color highlighting, you can specify the thickness and opacity when an object is selected or hovered over, making easier to distinguish between single and compound objects. You can choose different colors for previewed or selected objects, ensuring that they always stand out against the rest of the design, so you can work faster than ever. You can also control whether highlighting is always activated or only when a command is active, and exclude certain command types from highlighting.

CorelCAD 2019 lets you design with more efficiency and precision thanks to new object cycling. It's sometimes difficult and time-consuming to select a single object from a group that's close together or lie on top of one another, but object cycling simplifies removes the guesswork. Now you can use **Shift + Spacebar** to quickly cycle through objects while making selections, so you can choose the one you need faster than before.

CorelCAD 2019 also makes it easier to edit objects divided into separate hatch or gradient areas that are associated with boundary entities. By default, trimmed hatches and fills maintain associativity with changed boundary entities, even if they are split into different areas. The new EditHatch command separates divided hatches and fills into unique objects,

allowing for precise adjustment of individual sections.

Give it a try

Selecting objects

- 1 Open the sample file **Select.dwg**.
- 2 Type **Options** in the command prompt window, and press **Enter** to open the **Options** dialog box.
- 3 Click **System Options**, then click **Display ▶ Element Colors**.
- 4 Select **Dynamic Highlight** from the list, and choose a color from the **Color** list box to set the color that displays when you hover over an object.
- 5 Select **Selected Entity** from the list, and choose a color from the **Color** list box to set the color that displays when an object is selected.

You can customize the thickness and opacity of highlighting using the **Selection highlight effect thickness** and **Selection highlight effect opacity** boxes.

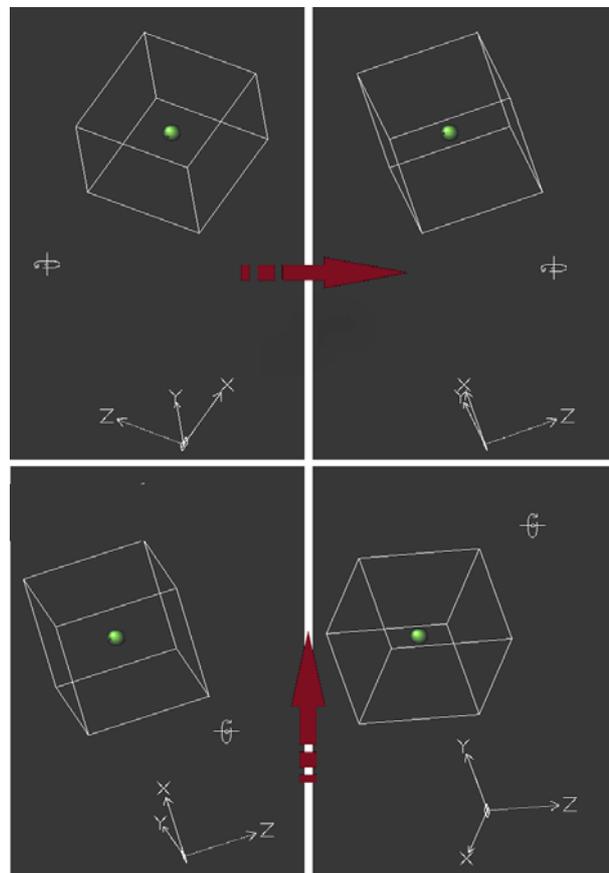
- 6 Click **Apply**.
- 7 Type **Select** in the command prompt window, and press **Enter**.
- 8 Position the selection box over the intersection of the objects.
- 9 Hold **Shift** and press **Spacebar** repeatedly to cycle through the objects.

To select an object, release **Shift** and click the highlighted object.

Enhanced! 3D mouse support*: CorelCAD 2019 now automatically detects and configures a 3D mouse, so there's no downtime setting things up. At first launch, you can use your 3D mouse to navigate 2D or 3D drawings, pan and zoom in a design, and rotate models.

(Available only in CorelCAD 2019 for Windows)

New! RollView commands: You can expand your ability to view a model interactively in 3D with new RollView commands. RollViewContinuous lets you rotate the view in 3D space with continuous motion about a specified pivot point, and RollViewFree allows you to view your model in 3D space without constraining roll. You can swivel the view of a model left and right using RollViewHorizontal, and tilt it left and right with RollViewVertical. In addition, RollViewAutoTarget lets you specify whether the orbit pivot point is the center of all visible geometries or selected entities, or where you click in the drawing.

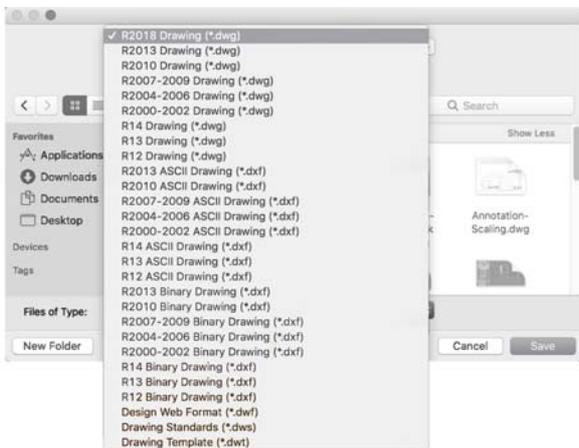


New! Drawing recovery commands: If you experience a crash due to a hardware issue, power failure, or software problem, the new Drawing Recovery Manager palette has you covered. Launched with the DrawingRecovery command, it displays the autosave and backup files available for each drawing that was open when your system shut down unexpectedly. It also lists details about each file, as well as a preview. From there, you can open or delete any of the drawings.

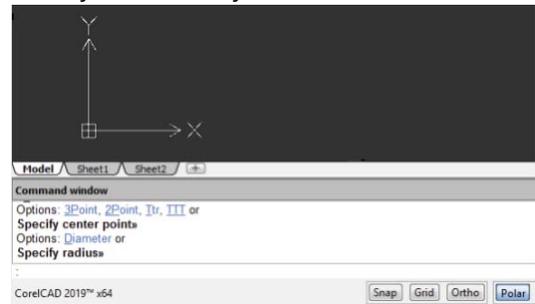
New! Authentication commands: When you're working on collaborative projects, CorelCAD 2019 gives you extra peace of mind with new authentication commands. After you've acquired a signature certificate from a Certificate Authority (CA), you can secure drawing files (.dwg), drawing template files (.dwt), and drawing standard files (.dws) using the SignFile command. It associates the file with a digital signature, a block of encrypted information that identifies the originator and indicates whether there have been any modifications since it was signed. The VerifySignature command lets the recipient of the file verify that the digital signature is valid and that the drawing has not been altered since signing. In addition, the RemoveSignature command removes an existing digital signature in your current drawing or from another file that you've signed.

Advanced .DWG file support: You can open and edit the latest AutoCAD 2018 .DWG files, including ones created using subscription versions of AutoCAD. CorelCAD 2019 also saves to AutoCAD 2018 .DWG natively, so you're assured of worry-free collaboration.

Many CAD tools and their proprietary file formats contain elements that aren't supported in .DWG. And conversely, AutoCAD has features that aren't supported by some applications, which can cause untimely and unwanted surprises during file conversion. With CorelCAD 2019 and its ability to process the file attributes of non-supported AutoCAD features, you'll enjoy full compatibility when collaborating with partners and customers who work with the .DWG file format.

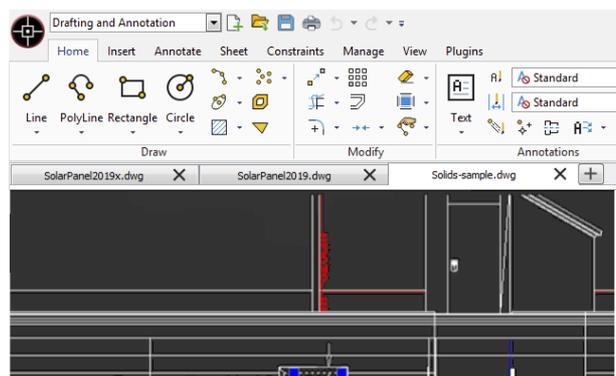


Familiar CAD user interface: If you've worked in other popular CAD applications, you'll be familiar with the user interface in CorelCAD, reducing the amount of time you spend learning a new work environment. You can be productive quickly thanks to the same commands, keyboard shortcuts and command line that you've always used.

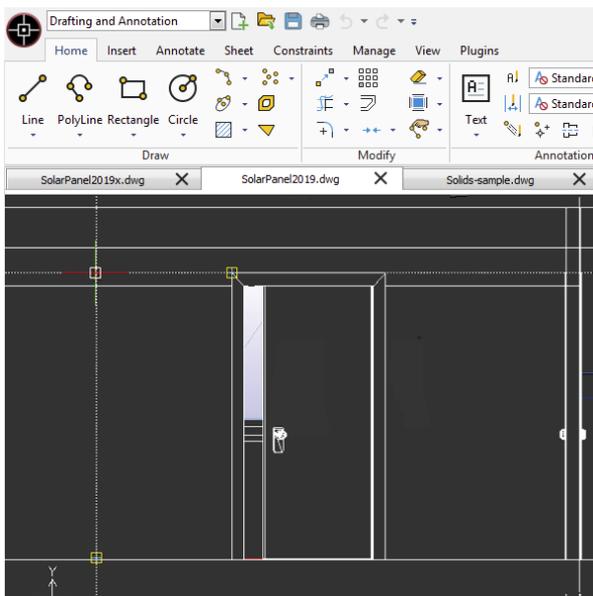


Ribbon user interface (UI): Familiar UI and efficient tool access help to ease the transition for new users migrating from other Windows-based CAD applications, such as AutoCAD. CorelCAD 2019 is compatible with all major CAD programs so users will feel at home working with a classic UI and traditional menu items or modern ribbon UI workspaces. In addition to offering workflow-oriented Ribbon workspaces*, such as 2D Drafting or 3D Modeling, CorelCAD 2019 lets you tailor a workspace to specific needs with Ribbon UI customization. Plus, you can easily import customized AutoCAD workspace files (CUIX) and map those tools and functions directly to the CorelCAD ribbon.

When working on Windows, the DrawingTabs command lets you switch between several documents that are open and active at the same time using. It displays thumbnails of each model or layout sheet when you hover over a tab and gives one-click access to a shortcut menu of frequently used commands.



Smart drafting tools: CorelCAD 2019 has all the smart drafting tools you expect in CAD software, offering the same functionality that professional designers have grown accustomed to in graphics software. You can quickly copy selected objects or clipboard content to the active layer rather than the source layer. Technical graphics professionals can speed up drafting with a variety of entity snap modes, entity tracking, and polar guides. You can also save time by using EntityGrips to quickly reposition, align, copy, or resize entities.

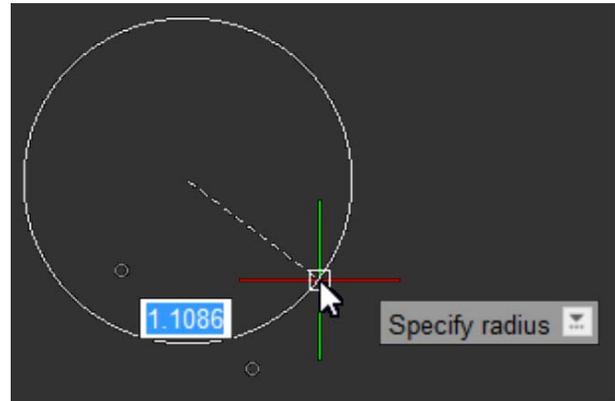


Dynamic Custom Coordinate Systems: Custom coordinate systems (CCS) can be created to align the construction plane with drawing objects. CorelCAD 2019 offers Dynamic CCS that align the active drawing plane to the planar face of a 3D solid object when you create 2D or 3D objects, text or when inserting a block or a reference drawing. In addition, you can enable or disable the Dynamic CCS feature with a simple click to keep your workflow as productive as possible.

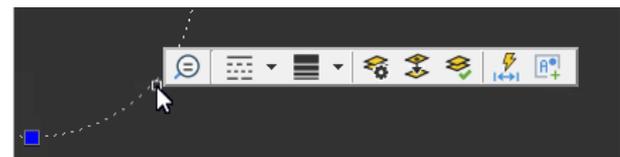
Time-saving editing features: CorelCAD 2019 is designed to help you work quickly and with precision.

The Quick Input feature brings a command-entry interface directly to the cursor, so you can focus on your drawing. Tooltips display context-sensitive prompts near the pointer, simplifying the input of coordinate positions, lengths, angles, lines, and more. When you

reposition the pointer, the tooltips track data that's been entered so you can quickly access and reuse it.



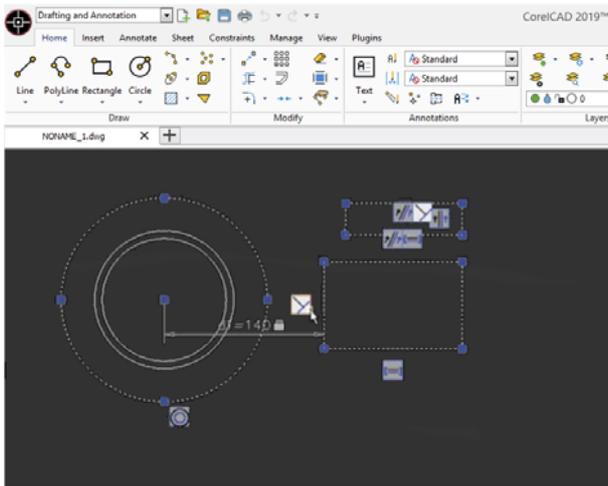
The Head-up toolbar is another time-saver, which you can choose to display whenever you select an object. It gives you quick access to frequently used tools, magnification controls, and settings for an object's layer, line and dimension properties.



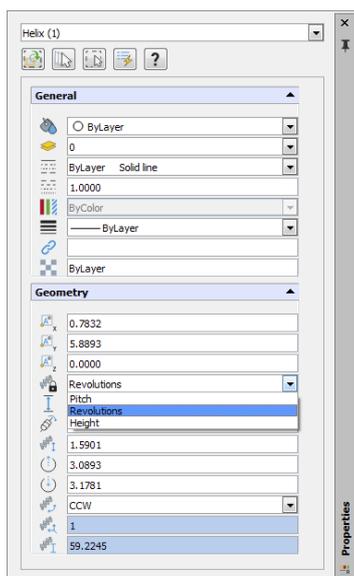
EntityGrips help you reposition, align, copy, or resize entities in no time. When you hover over an EntityGrip, an updated contextual shortcut menu is displayed that speeds up editing the geometry of objects. What's more, auto-completion commands speed up the entry of command names as you type them by displaying a suggestion list with command and variable names that contain the sub-string that you enter. And you can move selected entities with incrementally by holding down Shift and pressing an Arrow key.

Drawing constraints: The drawing constraints feature helps you work more efficiently and precisely. The dimensional constraints let you force object dimensions to adhere to fixed sizes and angles. The geometric constraints let you control dependencies and relationships between shapes in your 2D designs. For example, when you're working with designs that contain a variety of window types, you can vary the size of windows while maintaining the

distance between the frame and the glass. Drawing rules can be defined on an object level so that variants can be quickly created without having to stick to the constraint.

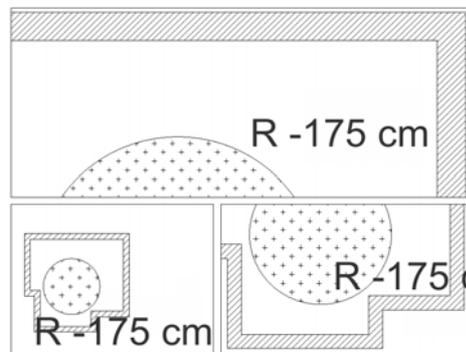


Properties palette: Whether your background is graphic design or CAD, the Properties docker is a familiar feature. It offers quick access parameters for manipulating and editing both 2D shapes and 3D solid objects. The Properties docker gives you the ability to manipulate the geometry and properties of entities, including layers, colors, line styles, and line weights. It also lets you easily copy attributes from one object to another. Drawing entity properties are divided into groups, and you can work faster and more efficiently by collapsing property groups you don't require.

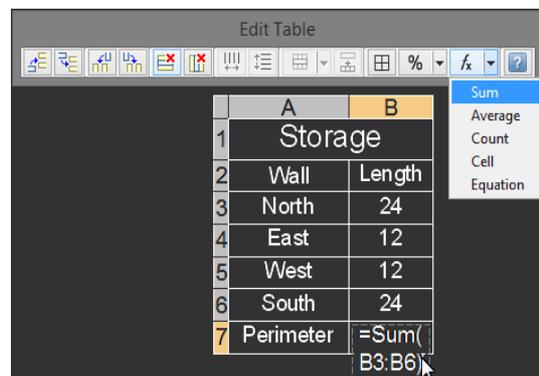


In-place text editing: Instead of using a separate dialog box, CorelCAD offers direct onscreen text editing. You can quickly stack text and paste formatted text from Microsoft Word or WordPerfect within your project. With in-place text editing, it's easy to modify the definitions of components (block definitions) or elements (referenced drawings). Plus, for greater efficiency, Component instances in your drawings show changes in real time.

CorelCAD 2019 also gives you the ability to view legible text at all times regardless of how small or large your design elements become. Annotative Scaling lets you achieve consistent and uniform sizes and scales of text, dimensions, hatches, and blocks when viewed in different viewports or printed.



Tables: CorelCAD 2019 gives you more versatility when working with tables. The ExportTable command lets you export tables in a comma-separated format (CSV) for reuse in spreadsheet or database software, such as Microsoft Excel or other CSV-compatible applications. What's more, you can add formulas into cells with arithmetic operators and the Sum, Average, and Count functions, then include them in a spreadsheet or database program.



Precise Dimension tools: CorelCAD 2019 has tools and features that simplify working with dimensions. The Smart Dimension tool suggests the most appropriate and precise dimension type automatically. The Dimension palette also speeds up your workflow by simplifying the reuse of text, precision, and tolerance settings and allowing you to modify multiple dimensions at the same time. And the SplitDimension command has a range of options for splitting dimension and extension lines of Dimension entities where they intersect other entities.

MultiLeader tool: CorelCAD 2019 lets you draw, edit, and configure callouts with multiple leader lines to give your drawing a consistent, ordered look using the MultiLeader commands. This handy tool also allows you to add and remove leader lines to and from the MultiLeaders so you can adjust and edit them as your drawing changes.

New! Layers Manager palette: The Layer command opens the new Layers Manager palette, which simplifies navigating a design's layer structure and gives quick access to layer controls easily without leaving the drawing UI. The Layer Manager also offers a new option that lets you create a layer that is initially frozen in all existing viewports on layout sheets. If you prefer the legacy Layers Manager dialog box you can use the new LayerDialog command.

New! Merging layers: The new MergeLayer command lets you quickly and intuitively merge layers to a destination layer. You can set the source and destination layers in a dialog box or specify them in the drawing window. You can also delete redundant merged layers from a drawing in a couple of clicks.

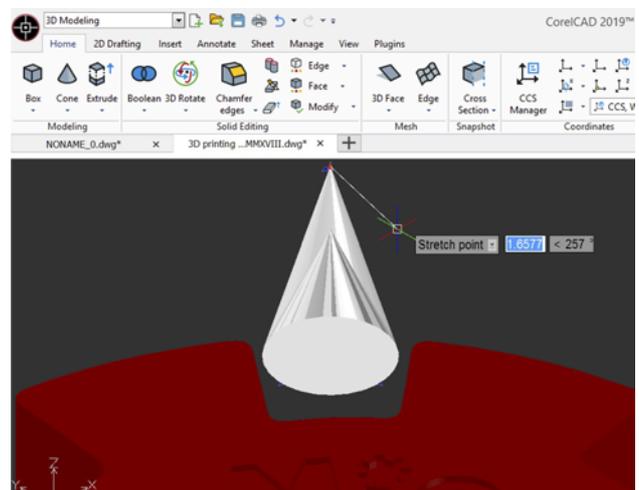
Layer tools: CorelCAD 2019 has features to help you easily keep layers in perfect order, control the appearance of design components in your drawings, and preview layer contents. The Layer States Manager is a hub for saving, restoring, and managing configurations of layer properties and layer states, which are snapshots of current settings. You can also edit Layer properties, or save them to a LAS file so they can be shared across projects. For advanced designs, you can apply layer transparency to highlight specific content, or to

make content below the current layer visible. And to help you to understand a drawing's layer structure and find specific content, you can quickly and easily preview the content of layers in complex CAD files.

Enhanced! Solid modeling tools: With enhanced 3D solid modeling tools, CorelCAD 2019 ensures that you can work with increasingly common 3D designs. The new PolySolid command lets you draw 3D solids in the shape of polygonal walls. It's also now easier to extrude a 2D shape, such as an arc or line, into the surface of a 3D model with the PushPull command. Also new is the ChamferEdges command, which simplifies the creation of recessed edges on a range of design components, from concrete formwork to roofing.

You can take advantage of the Helix tool to give any object a three-dimensional shape in a single layer around a cylindrical shape. It lets you use 2D spirals and 3D helices as paths to create threads, springs, and spiral stairs, maximizing shaping possibilities in your designs.

Just like 3D CAD applications, you can add 3D solid primitives to your design and use Boolean operations to unite, intersect and subtract bodies. 2D entities can be extruded, revolved, or swept along a path. You can also loft between 2D entities to create solid objects. CorelCAD 2019 also gives you the ability to slice and intersect solids, and edit edges, faces and bodies of 3D solids.

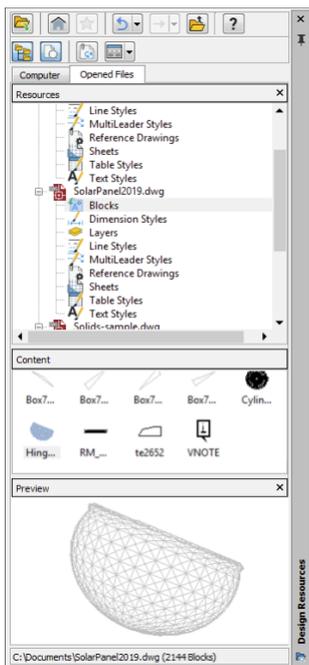


Give it a try

Designing in 3D

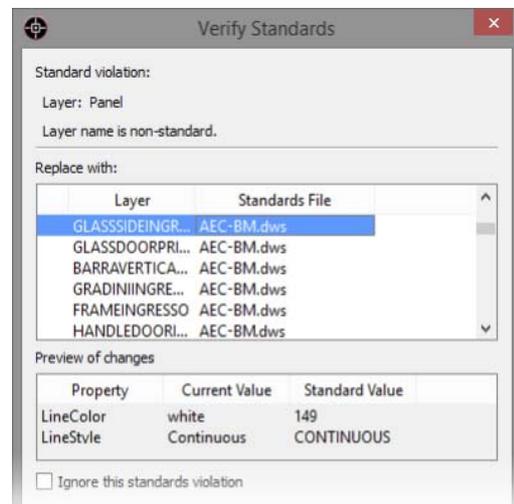
- 1 Click **File** menu ► **New**, choose the standard template, and click **Open**.
- 2 Click the drop-down menu | **Classic** ▼ in the upper left corner of the workspace, and choose **3D Modeling**.
- 3 Click the **Home** tab.
- 4 In the Modeling area, click the **Box** group, and choose **Box**.
- 5 Click in the graphics area to set the center point, and drag to create the box.
- 6 Click the **Extrude** group, and choose **Push and Pull**.
- 7 Interactively extrude a face of the box by positioning your cursor over a side. When the corners of the face that you want to pull are highlighted, click and drag.

Design Resources docker: With the handy Design Resources docker, you can quickly access and repurpose existing design assets, such as blocks, dimension styles, layers, line styles, reference drawings, sheets, table styles, and text styles. The Design Resources docker makes it easy to find and access both local and network design assets.



PDF Underlay: You can reference PDF files in a drawing as a PDF Underlay. You can specify the layer visibility of PDF Underlays, clip the PDF Underlay to display only a portion of the PDF, and detach underlays from current drawings. CoreCAD 2019 also supports Microstation DGN files as underlays.

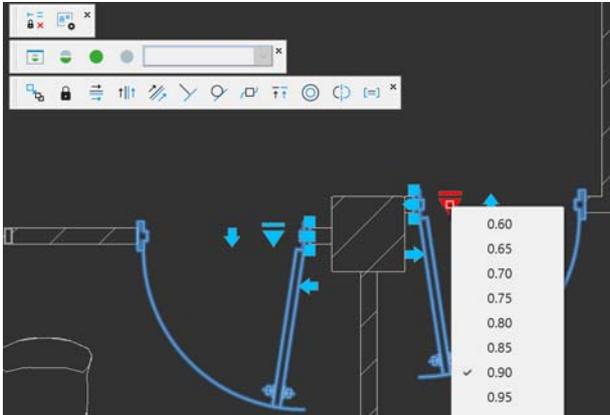
CAD standards verification: CoreCAD 2019 makes it easy to verify a drawing to ensure compliance with industry, corporate, or project standards. The VerifyStandards command checks the current drawing to match naming conventions, such as layer properties, line styles, dimension styles, and text styles, with an associated Drawing Standards file (DWS). You can then quickly replace any nonstandard items.



New! CustomBlocks: The new CustomBlocks feature offers huge time savings when you have several similar blocks in a project by reducing the number that you must maintain and manage. CustomBlocks let you define rules and constraints for existing Blocks, allowing you to quickly change their size, rotation, and appearance when inserting them into a drawing.

Using the CustomBlock Editor, you can draw and modify the geometric entities of a CustomBlock. It also provides tools for adding constraints that specify relationships between objects within the CustomBlock, setting elements that define grip points and custom properties, and adding activities that determine how a Block reference will move or change when manipulating grip points and modifying

custom properties. You can also create additional grip points on a subset of objects within a Block, giving you more flexibility when moving, stretching, rotating, scaling, patterning and mirroring elements and activities.



Give it a try

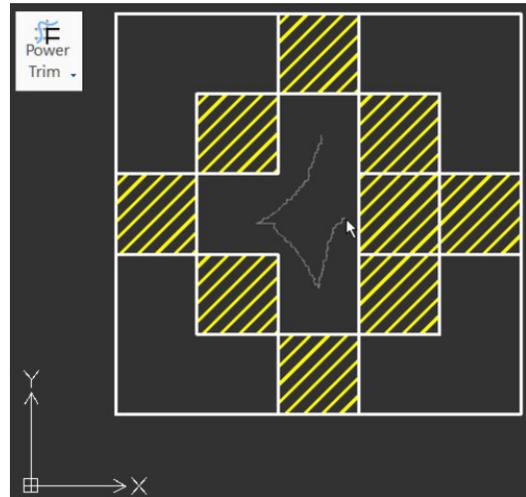
Working with CustomBlocks

- 1 Open the sample file **CustomBlock.dwg**.
- 2 Type **EditCustomBlock** in the command prompt window.
- 3 In the graphics area, click the block.
- 4 Apply geometric constraints to define the shape and position of the CustomBlock.
- 5 Add elements to the CustomBlock to specify what objects within the CustomBlock will be affected by the associated activity.
- 6 Now, add activities to the elements to define how the objects within the CustomBlock can change when its modified in the drawing.
- 7 Type **CBSave** at the command prompt to save the CustomBlock.

Block Attributes: You can use BlockAttribute definitions to attach variable or constant text to Blocks to provide information about it. BlockAttributeManager controls properties and settings of BlockAttributes in Block definitions. It also lets you change the order in which you are prompted for BlockAttribute values when you insert a Block, synchronize all instances of Blocks based on settings in the Block Attribute Manager, and delete BlockAttributes from Blocks. In addition, the RedefineBasePoint command sets a new insertion base point for all instances of a Block.

Other CoreCAD Block Attribute commands include EditXBlockAttribute, which lets you modify BlockAttribute values and properties of inserted Blocks within any drawing to display relevant information about a particular piece or component. You can also format the attribute text so it will be visibly different and separate from other attributes in the drawing. And when you're typing a multiline BlockAttribute definition or a multiline BlockAttribute, you can display the Multiline Block Attribute Formatting pop-up toolbar to simplify editing

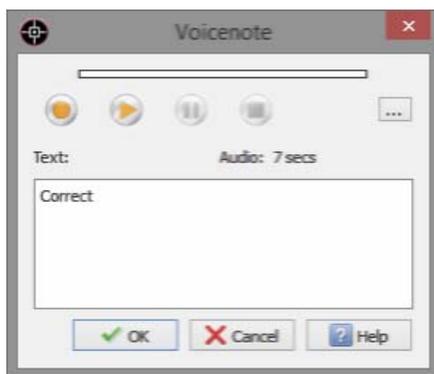
Trimming options: CoreCAD 2019 makes it easy to edit shapes, including filled objects such as hatches and gradients. You can use the Trim command to edit hatches and single color or multicolor gradients. You can also use the PowerTrim tool to precisely and interactively trim them onscreen. After the divisions are made with either trimming method, the resulting hatch and color fills maintain their association to subsequent boundary objects and remain as one object.



Polyline editing: Because polylines are the basis of so many designs, polyline editing is a focus CoreCAD. You can taper the width of a polyline from the starting point to the ending point, reverse its direction, and add a vertex to its midpoint. You can also convert a linear polyline to an arc or a curved polyline to a line.

Unique collaboration tools: Most CAD projects demand the input and feedback of an entire team, so effective collaboration and annotation tools are critical. With the VoiceNotes feature, CorelCAD 2019 lets you add recorded messages, reminders, or instructions directly in your drawing. Great for a quick onsite or in-meeting review, VoiceNotes allow you to quickly document your ideas so they can be incorporated later.

You can also easily mark up drawing items with freehand sketches or attach other drawings and images as references, which can be clipped to show only the relevant portions. To accelerate and simplify reviews, you can mask portions of a drawing to exempt them from annotations. And using the PictureNote feature in CorelCAD Mobile, you can take a picture from the camera of your mobile device, pin it in a drawing, and access it in CorelCAD 2019.



Revision Cloud tool: With CorelCAD 2019, you can create Revision Clouds to highlight areas that require or contain revisions, making the review and revision processes simpler and more efficient. Drawing areas can be accentuated with specific shapes, such as rectangular, elliptical, and freehand clouds. In addition, you can set the specific layer for a cloud, line color, style, and weight, as well as adjust the radius of the cloud's sequential arc.

Centerline command: This command creates centerlines between pairs of lines, arcs, and polyline segments and even set the extension for centerlines to exceed the shapes that define the contour. Best of all, the specific LineStyle for centerlines is assigned automatically.

Hassle-free file sharing: CorelCAD 2019 facilitates collaboration with colleagues and clients by providing support for a variety of leading industry-standard formats, including SLT, SVG, ACIS SAT, and DWF. Plus, the ability to save to PDF ensures that non-CAD users can always view your drawings.

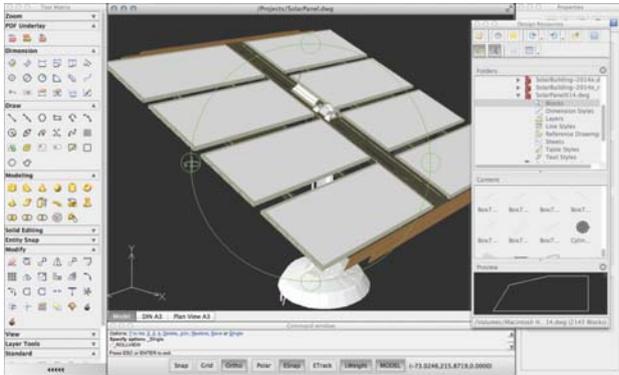
Access drafts and sketches from CorelDRAW®*: Many designers prefer to use a creative graphics application for making first sketches, prior to getting down to the precise CAD drafting and 2D/3D modeling work. With CorelCAD 2019 for Windows, you can import CorelDRAW (CDR) and Corel DESIGNER (DES) files as model space objects with a representation in a layout sheet. You can also work seamlessly with multi-page CDR files (from version 8 to 2018) and DES files (from version 10 to 2018).

Publish to CorelDRAW® and Corel DESIGNER®*: CAD files aren't used only in Engineering departments; however, integrating CAD files into other corporate workflows has always been a challenge. Graphics professionals working in other areas of a company regularly have to deal with CAD files because they often contain content ideal for presentations, technical documentation, or marketing materials. CorelCAD 2019 for Windows simplifies the repurposing of CAD files by offering export to CorelDRAW and Corel DESIGNER formats*, so you can quickly access and easily reuse that information.

(Import and export of CorelDRAW (.CDR) and Corel DESIGNER (.DES) file formats is only available in CorelCAD 2019 for Windows.)*

Work with GIS files: CorelCAD 2019 provides support for GIS files in ESRI Shape (.SHP) file format. This lets you visualize maps and geospatial models that were created by geographic information systems (GIS) applications.

Repurpose 3D CAD files: With support for the popular 3D exchange file format ACIS SAT, CorelCAD 2019 ensures that you can open and work with 3D models.



Flexible licensing options: You can match your working environment to your design needs with the flexibility of CorelCAD. As a hybrid product (Windows and macOS), this application can be used in a variety of ways and one license can be used on both your desktop and laptop.

Operating system freedom: CAD programs have traditionally been designed to run almost exclusively on Windows operating systems, but CorelCAD changes that. Whichever OS you prefer, macOS or Windows, CorelCAD lets you work quickly and efficiently on your platform of choice. And while some macOS CAD tools aren't nearly as feature-rich as their Windows equivalent, CorelCAD is designed to give Windows and macOS users almost the same level of functionality (*all features apply to both operating systems unless noted*). And in the interest of user choice, CorelCAD 2019 is available as either a perpetual license or subscription. Subscription licenses are available for purchase directly through platform-specific app stores, providing users with the latest upgrade while the subscription is valid.

And when you need to keep working when you're away from your desk, there's CorelCAD Mobile. As iOS or Android subscription, it lets you work anywhere, anytime by delivering full 2D drawing, editing, annotation functionality to your iOS or Android device. And if you only need to view and add simple notes to a .DWG file when you're on the go, there's a free mode of the CorelCAD Mobile companion app available.

Windows 10 and macOS support: CorelCAD 2019 is fully accessible for Windows 10 users through the desktop. Mac users can take full advantage of new macOS Mojave features. Plus, CorelCAD 2019 is optimized for high DPI resolutions, ensuring that UI elements appear crisp and legible when displayed on high resolution monitors.

For both Windows and macOS workflows, CorelCAD 2019 provides 64-bit CAD environments that can seamlessly process large CAD files. Plus, a 32-bit version is included for Windows users who may need to work with less powerful hardware configurations.

With its native 64-bit architecture, CorelCAD 2019 offers remarkable application speed for both Windows and macOS. The application also provides significantly improved and accelerated display regeneration, which results in smoother zooming and panning operations in large and complex CAD drawings.

Automation support: You can extend your productivity by taking advantage of the LISP and Microsoft Visual Studio Tools for Applications (VSTA)* programming interfaces to automate repetitive tasks and create your own functions, routines, and plug-ins. You can also access the plug-in store for CorelCAD Add-Ons and third-party enhancements that can help you add new functionality to the application (**Windows version only*).

Microsoft Visual Studio Tools for Applications (VSTA) support: For Windows users with a Microsoft Visual Studio licence, CorelCAD 2019 offers built-in VSTA features, which make it easy for anyone to automate repetitive tasks and command sequences. With the VSTA Manager toolbar, you can easily record and run VSTA macros. In addition, integration with the VSTA development environment offers extended functionality to help users create advanced macros. Users without a Microsoft Visual Studio licence can run VSTA macros.

LISP support: If you're migrating from AutoCAD, there's no need to rewrite time-saving macros that automate common tasks and extend the feature set. CorelCAD 2019 supports LISP routines created for AutoCAD. There's also

support for Visual Lisp and ARX. CorelCAD 2019 also provides Icon menu support when working with LISP routines. This means that you can build custom dialog boxes that display preview thumbnails (SLD) of CAD components, which is especially useful for building custom libraries. In addition, CorelCAD 2019 adheres to a common structure for LISP programming, making it easy to reuse any existing automations without need to recompile.

CorelCAD Mobile: You can extend the power of CorelCAD 2019 beyond your PC or Mac to your

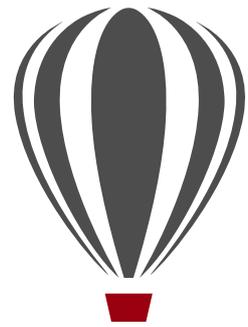
iPad, iPhone, or Android device. CorelCAD Mobile lets you design and annotate on the go without compromising on speed or performance.

You have a choice of two CorelCAD Mobile options. First, there's a subscription version that delivers full 2D drawing and editing, as well as advanced annotation capabilities, such as PictureNote and VoiceNote. There's also a free version that allows you to view .DWG files, add basic annotation, and share files.



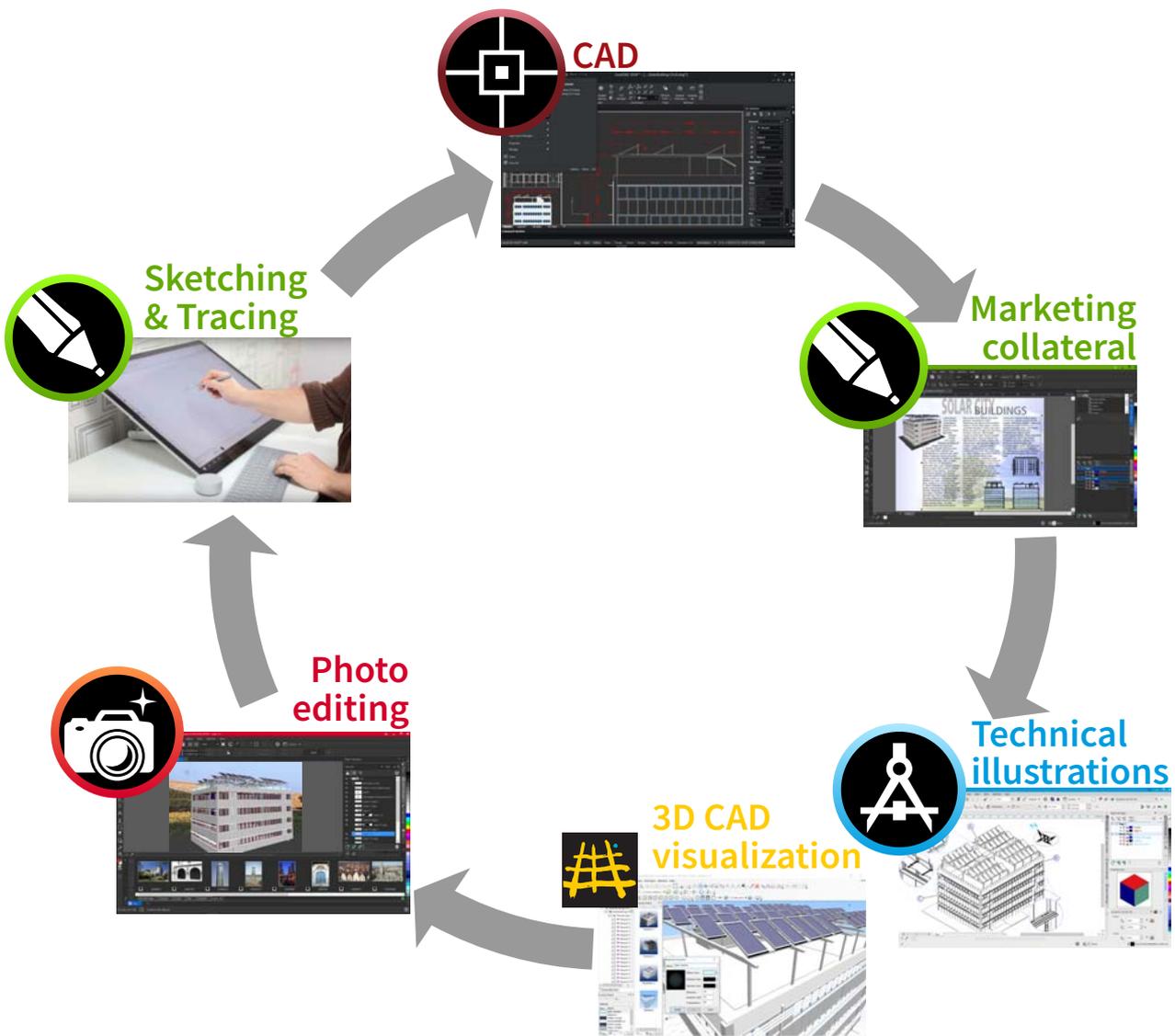
You can annotate and design on the go with CorelCAD Mobile for iOS and Android devices.

4



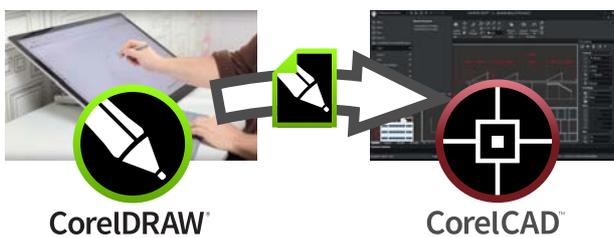
Integrating CorelCAD™ 2019 into other graphics workflows

CorelCAD 2019 bridges the gap between CAD and other graphics workflows by offering import from and export to CDR and DES formats.

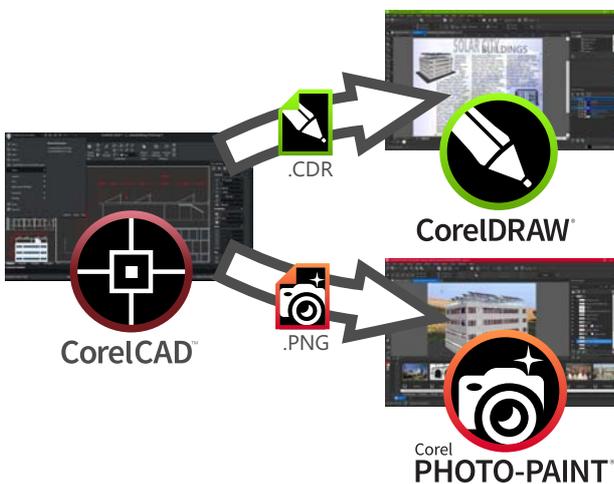


CAD applications usually provide very little file support for exporting drawings, creating a disconnect when you're trying to repurpose CAD for technical illustration or marketing design.

Unique to CorelCAD, this level of file support creates a complete, compatible graphics workflow from Corel, covering everything from concept design (CorelDRAW or Corel Painter), to CAD (CorelCAD), technical illustration (Corel DESIGNER) and marketing deliverables (CorelDRAW and Corel PHOTO-PAINT).



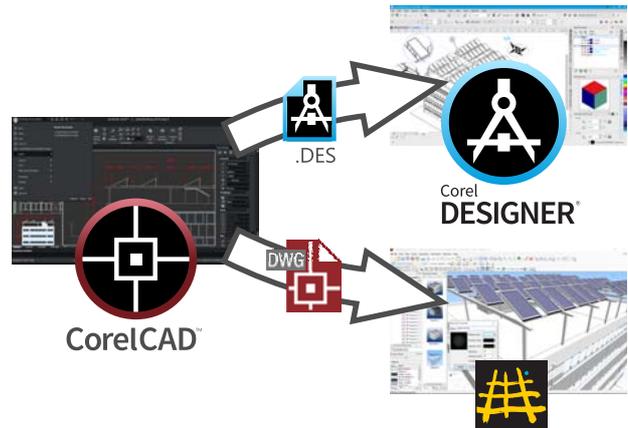
This simplifies the process of getting CAD models into downstream graphics workflows. CAD drawings are unreadable to most people. Exporting 3D CAD to a vector-based format, such as CorelDRAW or Corel DESIGNER, allows you to repurpose that content.



The vector files can be used in Corel DESIGNER to create technical illustrations destined for a wide variety of documentation, such as assembly instructions, parts catalogs, and training materials.

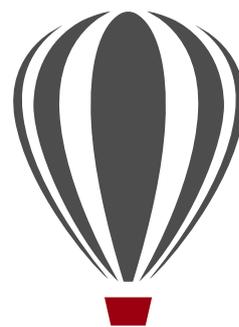
You can then leverage those technical illustrations in a creative way using CorelDRAW and Corel PHOTO-PAINT to create a range of

marketing materials, such as flyers, web pages, presentations, and more.



* Please note, import and export of CorelDRAW (.CDR) and Corel DESIGNER (.DES) file formats is only available in CorelCAD 2019 for Windows.

5



Comparing CorelCAD™ 2019 for Windows and macOS to Light CAD applications

This table compares the features included in CorelCAD 2019 to features offered in other Light CAD applications.

| | CorelCAD 2019 | Light CAD apps |
|--|------------------|----------------|
| File support | | |
| AutoCAD 2018 .DWG file format (latest version) support | Enhanced! | ✓ |
| Save .DWG file format natively | Enhanced! | ✓ |
| Legacy CAD file (AutoCAD R12 .DWG) support | ✓ | – |
| DXF (Drawing Exchange File) support | ✓ | ✓ |
| STL file import | New! | – |
| Drawing web format (DWF) support | ✓ | – |
| Recovery of corrupted drawings | Enhanced! | ✓ |
| Import CorelDRAW® (CDR) and Corel DESIGNER® (DES) | ✓* | – |
| Number of supported file formats - Import | 12*/10 | ~5 |
| User interface | | |
| Quick Input | ✓ | ✓ |
| Layer palette | New! | ✓ |
| Head-up toolbar | ✓ | ✓ |
| Ribbon user interface (UI) | ✓* | ✓* |
| Command auto-completion | ✓ | ✓ |
| Classic menu and toolbars | ✓ | ✓ |
| Tool matrix | ✓ | – |
| Properties palette (New 3D solid properties) | ✓ | (✓) |
| Design Resources docker | Enhanced! | ✓ |
| Right-click context menus | Enhanced! | ✓* |
| Industry-standard command sequences and aliases | ✓ | ✓ |
| Search in Options dialog box | ✓ | – |

[* — Windows version only; (✓) — limited availability/support]; ** — separate purchase on App Store

| | CorelCAD 2019 | Light CAD apps |
|---|-------------------|----------------|
| Viewing and Selection tools | | |
| Real-time Pan and Zoom | ✓ | ✓ |
| 3D Mouse navigation | Enhanced!* | ✓* |
| Object Snap (ESnap) | ✓ | ✓ |
| Object Tracking (ETTrack) / dynamic guides | ✓ | ✓ |
| Selection highlighting | New! | (✓) |
| Select matching entities command | ✓ | - |
| Drafting and Editing | | |
| Layer Preview tool | ✓ | - |
| MergeLayer feature | New! | - |
| Line weights (display and print) | ✓ | ✓ |
| Exploding Splines and Ellipses (to polylines) | ✓ | - |
| Exploding blocks instances while maintaining attributes (ExplodeBlockX) | ✓ | - |
| Helix tool | ✓ | - |
| Center mark and Centerline tools | ✓ | ✓ |
| Formulas in table cells | ✓ | - |
| Drawing constraints (Parametric drawing tools) | ✓ | ✓ |
| QuickModify command (move, rotate, copy in one tool) | ✓ | - |
| PowerTrim | ✓ | - |
| Hatch, solid-color and gradient-fill editing | ✓ | ✓ |
| True Colors support | ✓ | ✓ |
| Multi-language character set | ✓ | ✓ |
| TrueType Fonts support | ✓ | ✓ |
| In-Place multiline text editing | ✓ | - |
| CustomBlocks | New! | - |
| Dynamic blocks support (inserting and manipulating) | ✓ | ✓ |
| CAD drawing standards verification | ✓ | - |
| Annotation | | |
| Annotative scaling | ✓ | ✓ |
| Smart Dimensioning tool | ✓ | (✓) |
| Dimension palette (dynamic onscreen properties bar) | ✓ | - |
| Split and Join Dimensions | ✓ | - |
| Multi-Leaders (callouts combining multiple leader lines into one callout) | ✓ | - |
| PDF Underlay | ✓ | ✓ |
| DGN (Microstation CAD file format) Underlay | ✓ | ✓* |
| VoiceNotes | ✓ | - |
| Revision clouds | ✓ | ✓ |

[* — Windows version only; (✓) — limited availability/support]; ** — separate purchase on App Store

| | CorelCAD 2019 | Light CAD apps |
|---|------------------|----------------|
| 3D viewing and design | | |
| 3D model viewing | Enhanced! | ✓ |
| Projected (Isometric) views | ✓ | – |
| Dynamic Custom Coordinate system | ✓ | – |
| 3D surface commands | ✓ | – |
| PolySolid drawing | New! | – |
| 3D solid modeling | ✓ | – |
| PushPull 3D Object Modifier | New! | – |
| FilletEdges Rounding Option | Enhanced! | – |
| 3D solid editing using on-screen EntityGrips and Properties palette | ✓ | – |
| ChamferEdges | New! | – |
| Layout tools | | |
| Tables | ✓ | ✓ |
| Images / References / Underlay rectangular and polygonal clipping | ✓ | ✓ |
| Masking Entities (Wipe out) | ✓ | ✓ |
| Non-rectangular viewports | ✓ | ✓ |
| Printing, plotting, layout sheets | | |
| Multiple Layout Sheet Tabs (Multiple Paper Spaces) | ✓ | ✓ |
| Color table (CTB), Style table (STB) support | ✓ | ✓ |
| Print Configuration Manager | ✓ | ✓ |
| Batch Print | ✓ | ✓ |
| Publishing/Output | | |
| Export to CorelDRAW (.CDR) and Corel DESIGNER (.DES) | ✓* | – |
| Export to PDF | ✓ | ✓ |
| Export to SVG (Scalable Vector Graphics) | ✓ | – |
| STL Export for 3D printing | ✓ | – |
| Number of support file formats - Export | 18*/16 | 5-10 |
| Collaboration | | |
| GIS file format support (ESRI Shape *.shp files) | ✓ | – |
| 3D Solid geometry exchange file format (*.sat) support | ✓ | – |
| Export tables (CSV) | ✓ | ✓ |
| Customization | | |
| Visual Menu and Toolbar Customization | ✓ | ✓ |
| User profiles management | ✓ | – |
| CUI Menu, CUIX (AutoCAD Ribbon UI workspaces) files support | ✓* | ✓* |

[* — Windows version only; (✓) — limited availability/support; ** — separate purchase on App Store]

| | CorelCAD 2019 | Light CAD apps |
|--|-------------------|----------------|
| Programming/Automation | | |
| LISP (including support for LISP commands from other CAD applications) | ✓ | – |
| COM API | ✓* | – |
| Microsoft Visual Studio Tools for Applications (VSTA) support | Enhanced!* | – |
| Plug-in Store (corelcadmarket.com) | ✓ | – |
| OS support | | |
| Windows 10 | ✓ | ✓ |
| Windows 8.1, Windows 7 | ✓ | ✓ |
| Native 64-bit application | ✓ | ✓ |
| macOS (including macOS Mojave (10.14)) | ✓ | ✓ |
| 2D drafting on iOS mobile devices | ✓** | – |
| 2D drafting on Android mobile devices | ✓** | – |

[* — Windows version only; (✓) — limited availability/support]; ** — separate purchase on App Store

Minimum system requirements

Windows

- Microsoft Windows 10*, Windows 8, or Windows 7 (32-bit or 64-bit versions) all with latest updates and service packs
- Intel Core 2 Duo, or AMD Athlon x2 Dual-Core processor
- 2 GB RAM (8 GB or more recommended)
- 500 MB free hard disk space
- 3D Graphics accelerator card with OpenGL version 1.4 (OpenGL version 3.2 or better recommended)
- 1280 × 768 screen resolution (1920 × 1080 (Full HD) recommended)
- Mouse or tablet
- DVD drive optional (for box installation)
- Internet connection for product activation and access to the plug-in store

**CorelCAD 2019 supports Windows 10, version 1803, 1809 and later versions being released during the lifecycle of CorelCAD 2019.*

macOS

- macOS Sierra (10.12) or higher (including macOS Mojave (10.14))
- Intel Core 2 Duo processor (or better)
- 2 GB RAM (8 GB recommended)
- 500 MB hard-disk space
- 3D Graphics accelerator card with OpenGL version 1.4 (OpenGL version 3.2 or better recommended)
- 1280 × 768 screen resolution (1920 × 1080 (Full HD) recommended)
- Mouse or tablet
- DVD drive optional (for box installation)
- Internet connection for product activation and access to the plug-in store

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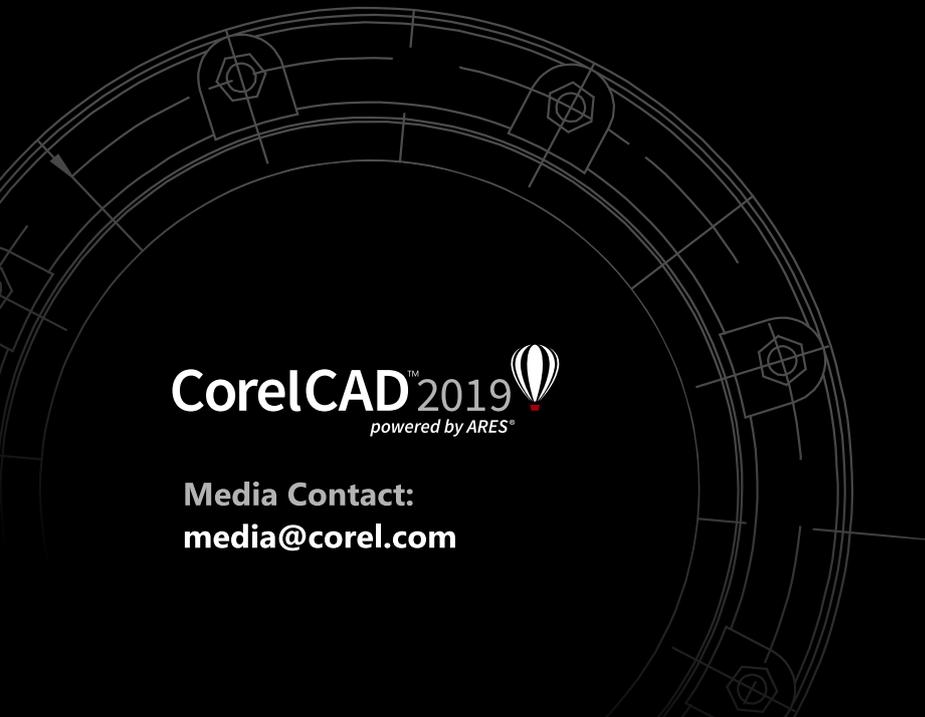
CorelCAD™ 2019 Reviewer's Guide

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