



GstarCAD 2020 Content

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GstarCAD 2020 Completely Guide



The most desirable alternative CAD.

GstarCAD 2020 comes out with comprehensively 3D optimization, newer practical features and important enhancements, making your design smoother and efficient. With the best-ever performance, seamless compatibility and the full functionalities, GstarCAD 2020 becomes the most desirable alternative CAD.

1. Perfect Compatibility

GstarCAD improves its compatibility constantly. From the data format, interface, command structure, user operating habit to customization settings and applications/add-ons. Now, GstarCAD 2020 accomplishes the high compatibility with ACAD.

> Data Format

DWG file format is a native format used for storing 2D/3D design data and metadata. GstarCAD 2020 supports the native DWG/DXF file formats which are completely compatible with ACAD from version 2.5 to 2020. Any CAD drawings based on the DWG/DXF format can be easily handled by GstarCAD. Meanwhile, the drawing files created by GstarCAD also can be handled with other CAD software. GstarCAD 2020 fully realizes bidirectional compatibility with ACAD in data formats.

Furthermore, GstarCAD 2020 even supports various kinds of data file formats and secondary development interfaces. You could create or edit drawings with exactly original ways.

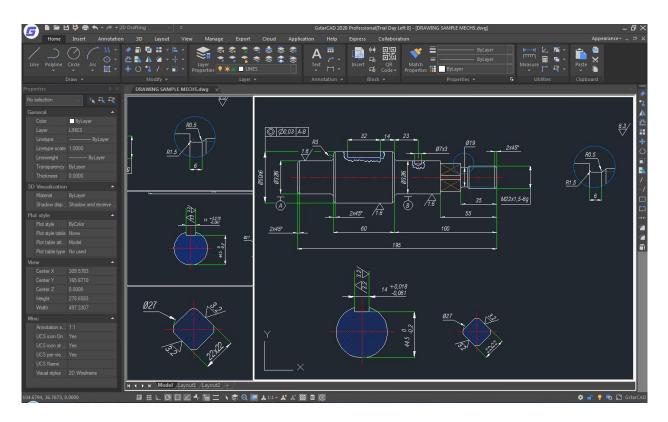
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The mainly file formats and development interfaces between GstarCAD and ACAD.

Items	GstarCAD	ACAD
2.5-2018 DWG/DXF Versions	√	√
Drawing Templete File (DWT)	\checkmark	\checkmark
Drawing standard File (DWS)	√	\checkmark
Customize User interface file (CUI/CUIX)	√	\checkmark
Old Menu File (MNU)	√	\checkmark
Drawing Sheetset File (DST)	√	\checkmark
Hatch Pattern File (PAT)	√	\checkmark
Font File (SHX)	√	\checkmark
Line Type File (LIN)	√	\checkmark
Print Style File (CTB/STB)	√	\checkmark
Import and Export WMF	√	\checkmark
Import and Export SAT	√	\checkmark
Import 3DS	√	\checkmark
Import DGN	√	\checkmark
Export DWF/DWFX	√	\checkmark
Export STL	√	\checkmark
Export EMF	√	\checkmark
DWF Underlay	\checkmark	\checkmark
PDF Underlay	\checkmark	\checkmark
DGN Underlay	√	\checkmark
Script File (SCR)	√	\checkmark
LISP Development Interface	√	\checkmark
LSP File Loading	√	\checkmark
FAS File Loading	√	\checkmark
VLX File Loading	\checkmark	\checkmark
VBA Development Interface	\checkmark	\checkmark
Class ARX Development Interface	\checkmark	\checkmark
.net Development Interface	√	\checkmark

➢ Concise User Interface

GstarCAD 2020 offers you a concise and familiar interface which you can easily customize. The new attractive dark color theme and icon designs will reduce your eyes strain. It's also available for you to display and rearrange elements like the toolbars, display the command bar, switch between workspaces, change the interface themes, customize your own interface and enable the status bar. The toolbars and command bar can also be floated anywhere on the screen or docked as well.



> Familar Command

With the familiar command structure and shortcut system that you have known, you can get start with GstarCAD immediately without any extra training. Whether you're a novice user or an experienced CAD professional, you'll soon be creating drawings using the productivity-enhancing features of GstarCAD.

GstarCAD Commands	ACAD Commands	GstarCAD Commands	ACAD Commands
Multiple	Multiple	Superhatch	Superhatch
Osnap	Osnap	Redraw	Redraw
qselect	qselect	Regen	Regen
Qleader	Qleader	SCALELISTEDIT	SCALELISTEDIT
Spell	Spell	bedit	bedit
Layerp	Layerp	Render	Render
Layoff	Layoff	Flatshot	Flatshot

Customized Settings

GstarCAD offers several ways to import your customized settings such as CUI, Lisp program, Shortcut settings, Blocks, DWT and Plotters from other CAD software. Just few minutes, you will find you are familiar with GstarCAD.

API and Add-ons

GstarCAD offers friendly development interface such as GRX, .NET, VBA, Lisp etc. Nowadays, hundreds of professional applications and industrial solutions are running on GstarCAD. For more information about applications/add-ons of GstarCAD, please refer to the link:

https://www.gstarcad.net/application/

2. Flexible Licensing

2.1. Licensing policy

GstarCAD licensing policy is flexible and simple. We provide both perpetual license and subscription. You are free to choose the license mode and you decide when to upgrade.

Perpetual License

When you choose to buy GstarCAD Perpetual License, you have the right to use it perpetually. You buy it once and it's forever yours. You are not forced to buy the subscription nor upgrades.

Perpetual License and Subscription Plans

You can buy GstarCAD Perpetual License together with Subscription Plans. Gstarsoft releases a new GstarCAD major version every year, with Subscription Plans you can upgrade to the latest version of GstarCAD.

Yearly Subscription

GstarCAD Yearly Subscription is similar as ACAD Subscription, you can just pay a smaller amount for using GstarCAD 1-year-license.

GstarCAD Upgrades

Gstarsoft releases a new GstarCAD major version every year, you can upgrade your GstarCAD Perpetual License to any newer version, still the Perpetual License!

2.2. Licensing Options

GstarCAD not only provides the flexible licensing policy, but also provides you flexible licensing Options. GstarCAD offers Stand-alone and Network licenses, both are available with Soft key (Serial number) and Dongle(USB-key).

Stand-alone license

The software is constrained to a certain host. A license is needed for each computer on which the software will be installed.

Network license

A pool of licenses is available on the server, for use in any computer on the network. You only need to have licenses for the maximum number of simultaneous users expected, not for each computer where the software will be installed.

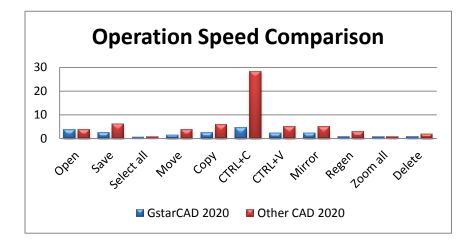
	Stand-alone	Stand-alone	Network	Network
	License-key Serial number	USB-key Dongle	License-key Serial number	USB-key Dongle
Perpetual license				v
Rental license				×
License borrowing			V	
Connection to license server			√	
Connection to license server	× *	×		~

3. Excellent Performance

Higher performance plays an important role in GstarCAD. The performance of common-use operations like "OPEN", "QSAVE", "PLOT", "CLIP", "TRIM", "PASTE", "MOVE", "DYNAMIC SELECTION", and more commands are significantly faster than other CAD software. Big drawings could be opened more quickly and save your work in only a fraction of a second.

The chart below provides an overview of the performance of GstaCAD 2020. We build an operation speed comparison between GstarCAD and another CAD. The drawing which uses to test the operation time is around 47 MB. To make sure the data validation, same operations will be tested twice and get the average value.

Operation speed from two software's (Unite: Second) Testing environment: WIN7 64bit; 8G storage; 64bit installation package; Drawing size: 47MB



It's obviously that GstarCAD 2020 is faster than the other CAD software when executing ZOOM, MOVE, SAVE, COPY command. And extremely good when executing COPY TO CLIPBOARD command. Besides the chart, GstarCAD also works excellently in ARRAY and EXPLODE command, while another CAD even couldn't array objects in the same drawing. Additionally, execute EXPLODE by the other CAD software won't get response for a long time. Compare with other CAD software, GstarCAD is far ahead in performance especially for large drawings.

4. Innovative Features

GstarCAD offers over 100 unique and innovation tools like "Collaboration", "Area Table", "Auto Layer", "Viewport to Layout", "Autoxlstable". They are adopted to significantly speed up your drafting speed.

GstarCAD Innovative Features	Description
Autolayer	Automatically switch the current layer while drawing the graph and draws the graphic
	to the set layer.
Area Table	Automatically dimension and count the area of an enclosed object and export the
Alea Table	result to a table in the current drawing area.
Break Object	Bleaks Objects by intersecting lines and allows to set the gap.
Block Break	Breaks or shelter the graphic under the block.
Graphic Compare	Compares graphic of two groups of objects or two files.
Line2pl	Converts one or multiple connected straight line(s), arc(s) to one polyline.
Sptpl	Spline created can be converted to a polyline according to the accuracy (number of segments of the arc).
GstarCAD Tools	A set of GstarCAD practical tools to enhance design efficiency, Including Drawing Scale, Rotate Cursor, Draw Axonometric Line, Extension, Normal Connect, etc.
Drawing Lock	Turns the drawing into a whole block to prevent be modified by others.
	Specifies attribute of blocks with incremental value, and to modify attribute value of
Attribute Increment	blocks according to the sort method.
Define Layout Viewport from ModelSpace (M2LVPORT)	Defines the range of drawing displayed in viewport from the model space, calculate the viewport size based on the set scale and position the viewport in the layout space.
Alian Taol	Aligns selected objects such as: rectangle, circle, line, spline, arc, pline, block and
Align Tool	even 3D model object along X or Y axis coordinates.
Arrange Tool	Adjusts the arrangement of multiple objects. It can align multiple objects at left, right top, bottom and center and also can arrange vertical or laterally.
MEASUREGEOM	Supports to measure distance, radius, angle, area, volume sum area and so on.
Symmetric Draw	Generates the symmetrical object automatically when drawing an object.
Outline Objects	Extracts the outline shape of selected closed objects in a window selection method.
Invert Fillet	The FILLET command now offers a new option called Invert. You can create a reverse fillet by this option.
Magnifier	Views a specific area of your drawing as a magnifier with the capability of snap points without performing zoom in/out.
Barcode & QR Code	Creates Barcode& QR Code by entering data or picking data from drawing.
Shortcut Customization(CUSTACC)	CUSTACC command allows you to customize, delete or modify existing command shortcuts.
Table Tools	A set of practical tools to draw and edit tables and can export CAD Table to Excel file.
AutoXLSTable	Opens Excel file to edit the data and insert it to GstarCAD. It also allows to update the table data after the drawing was modified.

	subtraction.
Batch Print	Batch print drawings with the same drawing frame attribute in a drawing.
Arrange Frame	Inserts frames of drawings, calculate according to the size of the frame and then arrange them to a big drawing.
GstarCAD Collaboration	Helps to improve project design efficiency and significantly reduce error and cost.

5. What's new in GstarCAD 2020

5.1. Quick Properties New

Quick Properties is a set of objects properties displayed through the Properties Palette. GstarCAD 2020 is able to customize your own Quick Properties, you can decide to show your preferred object type with selected object properties to save the limited drawing space.

	Quick Properties
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5.1.1. Specify Quick Properties window displays

Right-click the icon of the quick properties, there are three options as below:

		<u>E</u> nabled	1
	•	<u>U</u> se Icon	
		Settings	
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Turn on: Control Quick Properties mode turns on or turn off.

Use Icons: Control the status bar items shown with icon or text.

Settings: Settings for Quick Properties. Click Settings option, the drafting settings dialog box will pops up. You can set the relative settings of quick properties in Quick Properties Tab.

Enable Quick Properti	es Palette(CTRL+	-SHIFT+P)			
Palette Display					h I
All objects					
Only objects with	specified propertie	s			
Palette Location					
Oursor-dependent					
Quadrant	TR		•		
Distance in pix	els 50				
Static					
Palette behavior					
🔽 Collapse palette a					
Minimum numb	er of rows	3			
		ОК	Cancel	Help	

5.1.2. Options in Quick Properties Tab

Enable the Quick Properties Palette: Displays the Quick Properties palette when you select objects.

Palette Display: Sets the display settings of the Quick Properties palette.

All Objects: Sets the Quick Properties palette to display properties for all the objects when they are selected, not only the object types specified in the Customize User Interface (CUI).

Only Objects with Specified Properties: Sets the Quick Properties palette to display for the only object types with specified properties in the Customize User Interface (CUI).

Palette Location: Sets the location of Quick Properties palette.

Cursor-Dependent: Displays Quick Properties palette location relative to the cursor.

Quadrant: Specifies which of four quadrants around cursor to display the Quick Properties palette relative to the cursor location. There are four quadrant options, top-right, top-left, bottom-right, bottom-left.

Distance in Pixels: Specifies the distance in pixels from the cursor to display the Quick Properties palette. The integer values should from 0 to 400.

Static: Displays the Quick Properties palette in a fixed location. You can specify a new location as fixed location by dragging the Quick Properties palette.

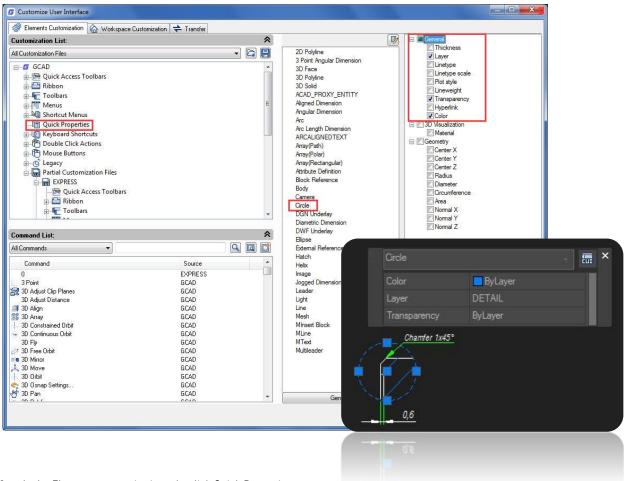
Palette Behavior: Sets the behavior of the Quick Properties palette.

Collapse Palette Automatically: Displays the specified number of properties in Quick Properties palette. The palette expands when the cursor rolls over it, collapse when the cursor moves out of it.

Minimum Number of Rows: Sets the number of properties displays when the Quick Properties palette is collapsed. The integer values should from 1 to 30.

5.1.3. Set the Object Types and Properties to display on the Quick Properties Palette

In Quick Properties menu, the properties displayed in the Quick Properties palette can be customized. You are allowed to enable and disable the properties of the objects as needed, check or uncheck the category check box such as General which includes the general properties of the objects. If you check the category check box, all the properties in this category will be shown in the quick properties palette, otherwise, none of the properties will be shown in the quick properties palette.



1. Execute CUI command to open the CUI dialog box.

- 2. In the Elements customization tab, click Quick Properties
- 3. In the Objects pane, click Edit Object Type List to choose the objects object types you want to display properties for on the Quick Properties palette.
- 4. In the properties pane, you can select the properties of the object type are displayed on the Quick Properties palette.
- 5. Click OK and Apply.

5.1.4. Override the General Properties for all Object Types

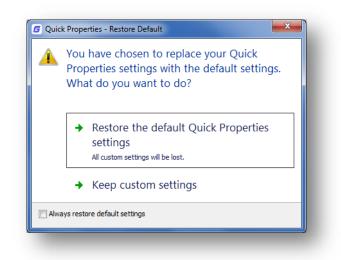
- 1. In the Element Customization tab, Customizations, click Quick Properties.
- 2. In the Properties pane, click the check boxes next to the general properties you want the Quick Properties palette to display for all object types.
- 3. Click Reset Overrides.
- 4. Click Apply.

5.1.5. Restore the Default Settings for Quick Properties

- 1. In the Element Customization tab, right-click Quick Properties.
- 2. Click Restore Default.

All Customization Files	Elements Customization	🕇 Workspace Customization 🛛 🜩 Trans	fer
G GCAD Quick Access Toolbars Quick Access Toolbars Toolbars Toolbars Menus Quick Properties Quick Properties Restore Default Double Click Acc Find	tomization List:		*
Quick Access Toolbars Quick Access Toolbars Toolbars	Customization Files		- 🕞 🖪
🕀 🛅 Double Click Act 🛛 🛛 Find	Quick Access Tooll Gradient Constraints Gradient Constraints Gradient Constraints Gradient Constraints Gradient Constraints		E
⊕-ੴ Mouse Buttons ⊕-ੴ Legacy	Double Click Act		

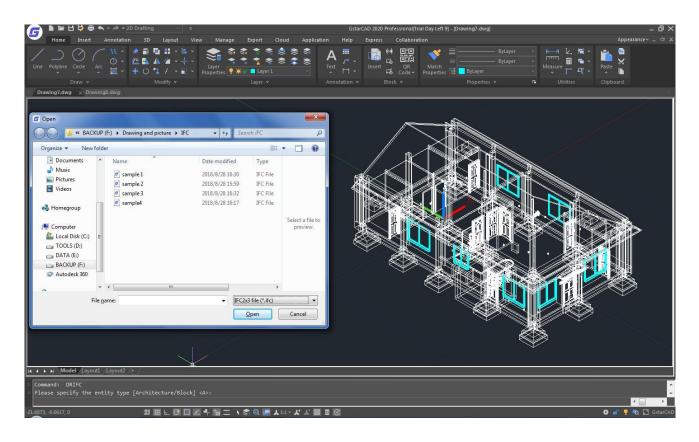
3. Click Restore the Default Quick Properties Settings.



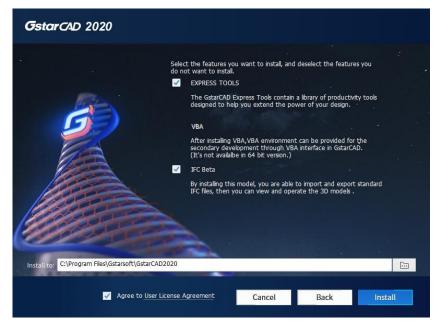
4. Click Apply.

5.2. IFC File Format Import and Export New

GstarCAD 2020 supports .IFC file format import and export. IFC (Industry Foundation Classes) is a standard format used in building and construction industry that provides interoperability between different software applications. Since IFC format supported in GstarCAD 2020, you can import and export standard IFC file format, as well as view 3D models by category and operate in GstarCAD conveniently.



When installing GstarCAD 2020, click "Options" and check "IFC Model", then continue to install. After the installation with the IFC model component, you can import and export standard IFC files, hide and show the 3D entities with attribute by category and easily operate the entities such as move, copy, rotate, delete in GstarCAD 2020.



Import IFC: DRIFC command allows to import the standard IFC format to GstarCAD 2019.

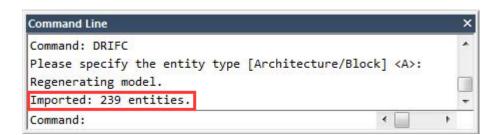
After inputting DRIFC command, GstarCAD prompts "Please specify the entity type Architecture /Block".

- "Architecture (A)", GstarCAD will convert construction entities (such as walls, pillars & columns) to GstarCAD-defined objects and import them to GstarCAD to do further modifications more flexible.
- > "Block (B)", GstarCAD will convert IFC data to block reference objects and import them to GstarCAD.

After input the keyword, browsers an IFC file to open.

G Open				×
Solve 🖟 « Backup (F:) F:) Trawing and picture IFC	▼ ⁴ → Searce	h IFC	Q
Organize 🔻 New folde	r			
🔺 🔆 Favorites	Name	Date modified	Туре	
🧮 Desktop	🖻 sample 1	2018/8/28 16:30	IFC File	
📜 Downloads	sample 2	2018/8/28 15:59	IFC File	
👯 Dropbox	🛋 sample 3	2018/8/28 16:32	IFC File	
🕮 Recent Places 🗮	🛋 sample4	2018/8/28 16:17	IFC File	
 ✓ Contraction ✓ Documents ✓ Music ✓ Pictures ✓ Videos 				No preview available.
🖻 輚 Homegroup	<		4	
File <u>n</u> a	me: sample 1		file (*.ifc) pen	Cancel

The number of imported entities of the IFC file will display in the command line, indicating the IFC file has been successful imported. All imported entities will display in southwest isometric view. You can check your 3D model in GstarCAD after importing.



Export IFC: DCIFC command allows to export the current DWG drawing to standard IFC format IFC2x3.

After inputting DCIFC command, Save as dialog box will pop up, you can specify a path to locate the IFC file.

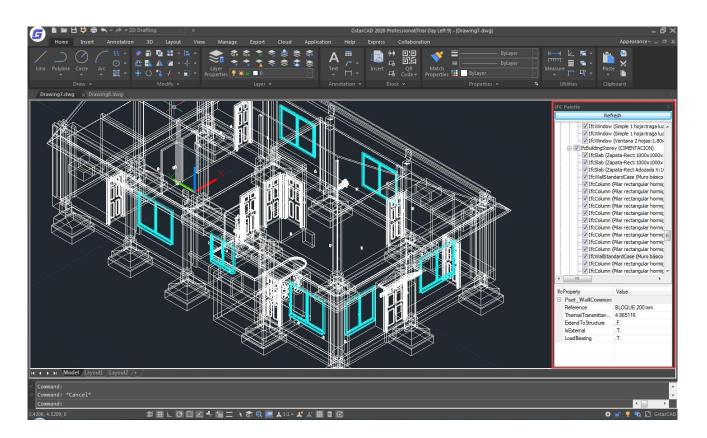
Organize 🔻 New	folde				•	0
J Music	*	Name	Date modified	Туре		Size
Pictures		sample 1	2018/8/28 16:30	IFC File		
Videos		sample 2	2018/8/28 15:59	IFC File		
		sample 3	2018/8/28 16:32	IFC File		
🜏 Homegroup		sample4	2018/8/28 16:17	IFC File		
P Computer Local Disk (C:) TOOLS (D:) DATA (E:)	ш					
BACKUP (F:)						
Autodesk 360	-	< [m			
File <u>n</u> ame: Save as <u>t</u> ype:	-C2v3	file (* ifc)				3

After exporting, the number of exported entities and the path of exported files will be displayed in the command line, as shown in the following picture.



View IFC: IFCPANE command allows you to view the imported IFC file by category.

After inputting IFCPANE command, the IFC palette will show up on the right side of the workspace by default.



IFC palette is a dockable window that you can close it by clicking close button or to resume it by entering "IFCPANE". When opening multiple drawings with GstarCAD, click on the refresh button in the IFC panel to make sure that the IFC palette displays information of the current drawing.

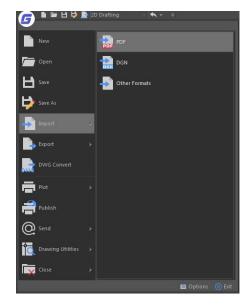
5.3. PDF Import and Export New and Improvement

More and more designers require to edit the PDF file vector based directly in GstarCAD rather than just import a pdf as reference. GstarCAD 2020 can not only insert the PDF file as underlay, but also has the ability to eidt the imported PDF objects and export the PDF with a high quality.

5.3.1 PDF Import New

GstaCAD allows you to import the objects from a PDF file as editable objects.

You can access the Import PDF from File-Import-PDF, you can input PDFIMPORT command or click Insert Tab- Import Panel-PDF Import.



Select a PDF file, after clicking open button, the Import PDF dialog box will pop up:

Look in	: 🌗 PDF Files						Preview
	Name	*	Date modified	Туре	Size		
<u>ا</u>	B DRAWING S	SAMPLE MECH5	2019/10/21 15:52	Adobe Acrobat D	47 KB		
story Doc E vorites	Drawing1 SURVEY 1		2019/10/15 16:35 2019/10/17 16:28	Adobe Acrobat D	2 KB 501 KB		
sktop	File name: Files of type:	DRAWING SAMPLE MECH5 PDF files(*.pdf) PDF files(*.pdf)				· (Open Cance

e name: DRAWING SAMPLE MECH5.pdf Page to import Page: 1 Total: 1	Browse Location Specify insertion point Scale: 1	nt on-screen Rotation: 0 🗸	
	PDF data to import PDF data to import Vector geometry Solid fills TrueType text Raster images	Layers Use PDF layers Create object layer Current layer	
	Import options Import as block Join line and arc segr Convert solid fills to b Apply lineweight prop	natches	
Page size: 279 X 215 mm PDF scale: 1:1	Infer linetypes from	collinear dashes	

Options in Import PDF Dialog Box:

- **Browse:** Click to display the Browse dialog box in which you can select a different PDF file to import.
- **Page to Import:** Select the page by entering the page number or by clicking the thumbnail image when importing the PDF file. You can toggle between a full-size view and thumbnail views as needed.
- Page size: Displays a standard page size, imperial or metric. If the page is non-standard, the dimensions are displayed in inches or in millimeters depending on the setting of the MEASUREMENT system variable.
- **PDF scale:** Displays the scale of the PDF file. Metric units are assumed to be in millimeters; imperial units are assumed to be in inches.
- Location: Specifies the location of the imported PDF file.
- Specify insertion point on-screen: When this option is checked, you can specify the location by clicking on the worksapce or by entering coordinates relative to the current UCS after the dialog box closes. When this option is unchecked, the PDF file is imported at the UCS origin (0,0).
- Scale: Specifies a scale factor for the imported PDF file.

- Rotation: Specifies the rotation angle. It Provides a list of standard rotation angles. You can also enter a custom rotation as needed.
- PDF Data to Import: You can include or exclude data by type.
- Vector geometry: PDF geometric data types include linear paths, Bézier curves, and solid-filled areas, which are imported as polylines, and 2D solids or solid-filled hatches. Within a tolerance, curves that resemble arcs, circles, and ellipses are interpolated as such. Patterned hatches are imported as separate objects.
- Solid fills: Includes all solid-filled areas when importing PDF file. If these filled areas were originally exported into PDF format from GstarCAD, the solid areas would include solid-filled hatches, 2D solids, wipeout objects, wide polylines, and triangular arrowheads.
- **TrueType text** :Imports text objects that use TrueType fonts. PDF files recognize only TrueType text objects; text objects that use SHX fonts are treated as geometric objects. TrueType fonts are either matched or substituted with similar fonts available on your system.
- Raster Images: Imports raster images to the current drawing.
- Layers: Choose the method for assigning imported objects to layers.
- Use PDF layers: Imports objects using the layer defined in the PDF file. If no layers are present in the PDF file, object layers are created instead.
- Create object layers: Imports objects on separate layers for geometry, text and solid files.
- Current layer: Imports all specified PDF objects to the current layer.
- Import Options: The options are used to control how PDF objects are processed after being imported.
- Import as block: Imports the PDF file as a block instead of as separate objects.
- Join line and arc segments: Joins continuous segments into a polyline where possible.
- Convert solid fills to hatches: Converts adjacent 2D solid objects into non-associative solid-filled hatches.
- Apply lineweight properties: Retains or ignores the lineweight properties of the imported objects.
- Infer linetypes from collinear dashes: Combines sets of short collinear segments into single polyline segments. These polylines are assigned a dashed linetype named PDF_Import and assigned linetype scale.

5.3.2. Export PDF Improvement

As you kown, GstarCAD has the ablity to export to various of file formats, such as DWF, DWFX, WMF, EMF,SAT,STL, EPS, DXX, BMP, DWG file formats. GstarCAD is focusing on the user experience, develops and publishes features that users highly request constantly. GstarCAD 2020 supports to export to PDF file format. You can access this feature from File button - Export - PDF or input EXPORTPDF from the command line.

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Drawing Utilities				
Close				
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Options in Export PDF Dialog Box:

Save in:	DF Files				
-	Name	Date modified	Туре	Current Settings Type: Multi-sheet file	
History History Docume Favorites	SURVEY 1 Drawing1 Transformed SAMPLE MECH5	2019/10/17 16:28 2019/10/15 16:35 2019/10/21 15:52	Adobe Ac Adobe Ac Adobe Ac	Override Precision: None Layer Information: Don't include Merge Control: Lines overwrite Password Protection: Disabled Block Information: Don't include Options Don't include Output Controls Open in viewer when done Image: Include plot stamp Image: Include plot stamp Export: Window Image:	
sktop	× [•	Page Setup: Override 🔻	
twork	File name: Drawing1 Save as type: PDF Files(*.pdf)		Save Cancel	Page Setup Override	

- **Current Settings:** Display the current setting for the PDF file.You can change the current settings in Export to PDF Options dialog box by clicking Option button.
- **Output Controls:** Provides options to control PDF file output.
- **Open in Viewer when Done:** When this option is checked, the PDF file will open in the default viewer after the export completes.
- Include Plot Stamp: When this option is check, the PDF file should contain user-defined information such as drawing name, date and time, device name, plot scale and so on. To edit the plot stamp, click the Plot Stamp button to open the Plot Stamp dialog box.
- Export: Specifies the part of the drawing to be exported. If you are in model space, you can select the objects currently displayed, the drawing extents, or a selected area. If you are in paper space, you can select the current layout or all layouts.
- Window Selection button: Specifies a window area to export from model space by defining a rectangular area with two diagonal points. The button is available only after you select Export by Window.
- Page Setup: Specifies whether use the settings in the Page Setup Manager or uses your override settings. Some settings in Page Setup Manager are repeated in the Export to PDF Options dialog box, which is displayed by the Options button. The settings in the Export to PDF Options dialog box take precedence over the settings in the Page Setup Manager.
- Page Setup Override: Overrides page settings such as the paper size, plot style table(pen assignment), drawing orientation, and plot scale. This button is available only after you select Override in the Page Setup box.

5.4. 3D Improvement

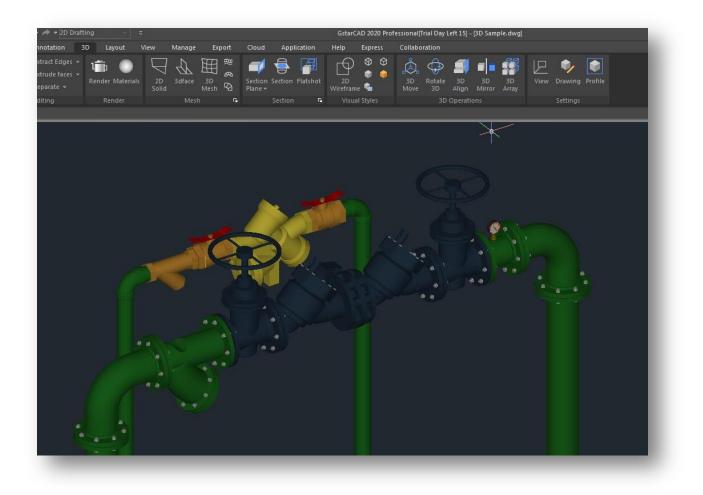
GstarCAD 2020 improved 3D performance, 3D functionalities, 3D display effect and accuracy. View and edit 3D model will be more accuracy and fluency in GstarCAD 2020.

5.4.1. 3D Performance Improvement

GstarCAD 2020 made a comprehensive optimization for the performance of 3D component in GstarCAD 2020. Executes RENDER and HIDDEN command in GstarCAD 2020, the memory usage will be reduced over 30% comparing with GstarCAD previous version. The speed of ZOOM and PAN enhances more than two times, especially handling large drawings. It is quite smooth to ZOOM, PAN and constrained ORBIT under shaded and hidden states.

5.4.2. 3D Accuracy Improvement

GstarCAD 2020 optimized accuracy for 3D component. It will significantly reduce the problem like missing elements, line dislocated, incorrect color, etc. in GstarCAD 2020.

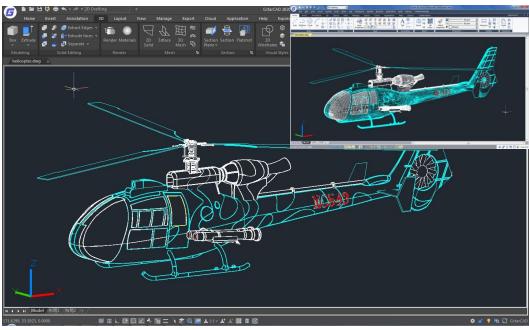


5.4.3. 3D Visual Effect Improvement

GstarCAD 2020 offers better visual effect for 3D objects than previous version.

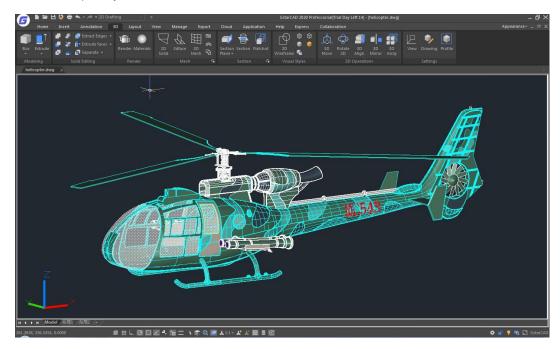
> Improved the boundary display style and remove the redundant boundary.

Hidden Style



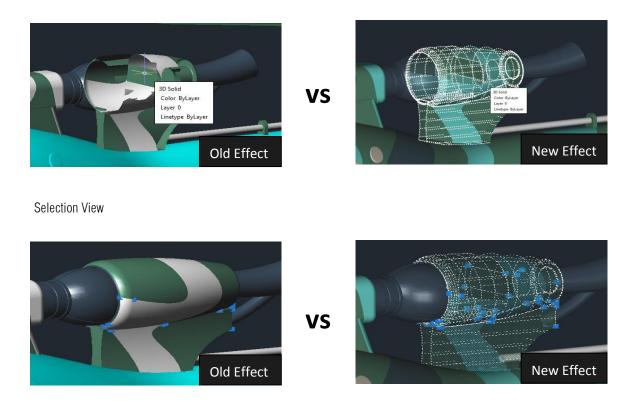
Shaded with Edges

> Improved 3D solid transparency and material effect.



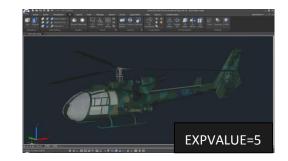
- Improved and added more 3D visual styles. Included 2Dwireframe, 3Dwireframe, Hidden, Realistic, Shaded, Shaded with edges, Shades of Gray and Other styles.
- > Improved the visual effect of lighting and support double lights model.
- > Improved the 3D preview visual effect (selection preview and selection view)

Selection Preview



Support Shaded Brightness (EXPVALUE variable)

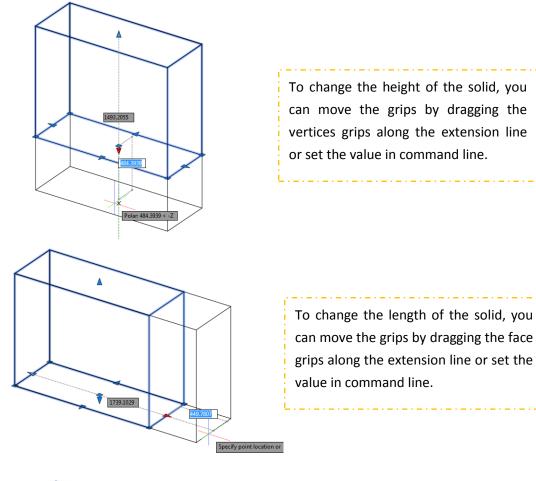


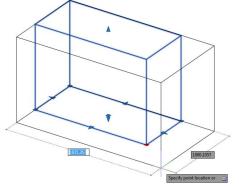


5.4.4. 3D Edition Improvement

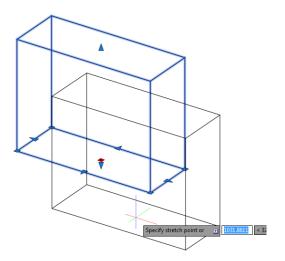
In GstarCAD 2020, with the parameterized 3D entities, you can easily edit 3D entity directly. The grips will be shown on the faces, edges, and vertices after selecting the entity. You can change the length, width and height by moving the grips or simplified other editing operations by the grips as well.

For example:





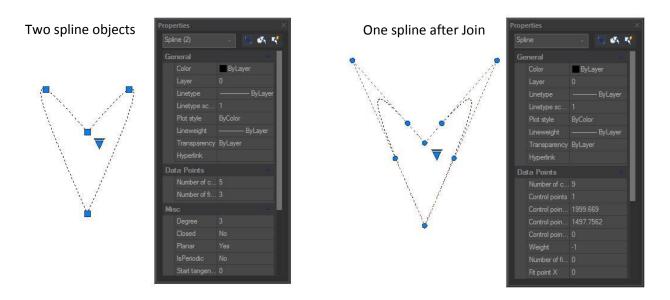
To change the width and length of the solid simultaneously, you can move the grips by dragging the face grips along the extension line or set the value in command line.



To move the 3D solid, you can move the solid by dragging the move grip to the suitable area or set the location in the command line.

5.5. JOIN Improvement

More objects supported by JOIN command in GstarCAD 2020. Including line, pline, arc and spline.

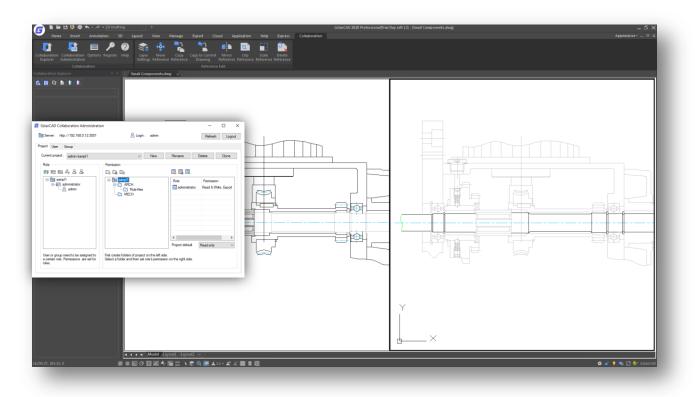


5.6. Display Improvement for 4K Monitor

Support for high resolution monitors continues to be improved in GstarCAD 2020 to ensure the best possible viewing experience even on 4K displays and higher. Commonly used user interface elements, such as the Start tab, Command line, palettes, dialog boxes, toolbars and grips are appropriately scaled and displayed as per the Windows setting.

6. Collaboration Features

GstarCAD Collaboration enables cross-department and cross-team design collaboration based on DWG drawings, allowing designers/draftsmen easily to trace and return back to any previous version and locate design changes by one click, ensuring design quality and overall accuracy. To further improve team efficiency, GstarCAD 2020 adds more new features in Coloration such as Milestone, Project Branches, Export Logs, View Drawing Changes, and Reference File Relocation.



> Milestone and Project Branches (Tag and Branches)

You can set a specific time point as a milestone version for the project (such as expansion design, sketch design, construction drawing, etc.), and you can extract the whole specified files from the project by time based on the milestone. Project Branches can be established, and multiple projects can be designed for one project.

➤ Export Logs:

Export the log submitted during the design to EXCEL files to understand the condition of project progress and modifications made for the design.

> Check Drawing Changes:

There are three more ways to check the changes between two specific drawings. Check drawing changes from local and server, check drawing changes between selected and latest version, check drawing changes between two specific versions. You can chose to check the changes in the reference file or in the original drawing.

➢ Reference File Relocation:

After the reference drawing is moved or modified, the position of the reference drawing can be repositioned.

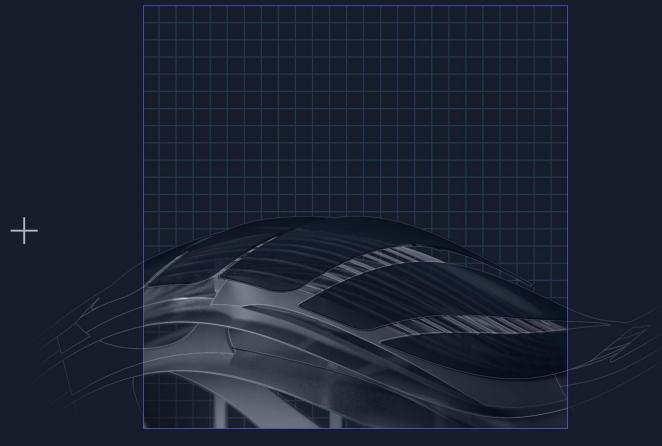
- Reference Drawing Layer Settings:
 You can set the layer toggle, color, line width, line type, and whether to print for reference drawing layer separately.
- Reference Drawing Editing Mode adjustment: Now you can not only edit the reference drawing in the project manager, but also edit the reference drawing through commands, command panel and right-click menu.
- Clip Reference Drawing: You can directly select the reference drawing to clip.
- Copy Parts of Reference to Current Drawing: You can copy some of the objects from the reference and paste to the current drawing.
- Export File improvements:
 When you export a file and a folder, you can set merge method of the referenced layer and related data.
- Users and Department Data Input and Output: You can import users and department data from EXCEL. You can export the set users and department data to EXCEL, which simplifies the setup and editing in project.
- Backup and Recovery of Server Data:

You can set the period and time to back up the server data. If the server is abnormal or the collaborative drawing data is accidentally deleted, the related data can be restored to minimize the losses.

Gstarsoft Co., Ltd

Gstarsoft is a recognized leading provider of 2D/3D CAD software and solutions for industries involving AEC, Mechanical and Manufacturing, Electrical and Electronics, GIS, Survey and Mapping, Civil Engineering, etc. With 27-year proud history of technology innovation and practice, Gstarsoft provides fast, powerful and DWG-compatible CAD software and solutions for worldwide customers and partners. Today there are 600,000 + installations of GstarCAD products and 30,000,000 + users of DWG FastView in more than 100 countries around the world.





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