# ZWCAD Mechanical 2023 Release Notes

# **Overview**

ZWCAD Mechanical 2023 has the following new features and improvements:

| New Features                                       | Description  |
|--|--|
| <u>Convert AM objects to ZWM</u><br><u>objects</u> | Convert frames, title blocks, balloons and BOM<br>created by AutoCAD Mechanical to ZWM entities,<br>and edit them with ZWCAD Mechanical. |
| SDK for PLM Integration                            | Provide ZWCAD Mechanical SDK for PLM<br>integration, which support the PLM system get<br>data from title block and BOM table.            |
| <u>Sheet Set Manager</u>                           | Powerful tool for drawings management and paper plotting.  |
| Grip editing of 3D entities                        | Use grips to change a 3D entity's shape.   |
| Optimization for table <u>module</u>               | New functions and improvements have been added in table module.  |
| Support for 3D mouse                               | Use a 3D mouse to edit and view 3D entities.   |
| Support for Adobe®<br>PostScript                   | Export EPS files by Adobe® PostScript plotter.   |

| Improvements     | Description  |
|------------------|--|
|                  | PDF: when print to PDF file, some extra lines generated                                  |
| <u>MECHO-207</u> | ZWMSCAREA: ZWMSCAREA take no effect to radius dimensions and diameter dimensions         |
| <u>MECHO-211</u> | The label position does not take effect after changing in standard setting               |
| <u>MECHO-203</u> | Hole Chart: It did not take the last saved label position setting as the default setting |

|   | -   |
|---|---|
| MECHO-55                                      | Schematic diagram has been added to tooltip.                                      |
| Optimization for calculator                   | 1. Support calculation in Imperial units.   |
| Optimization for calculator                   | 2. More functions and variables can be identified.                                |
| Quick menu for Object Snap                    | Right-click object snap button to open quick menu.                                |
| <u>Preview for font</u><br><u>replacement</u> | Preview window for you to check whether the big font can show the text correctly. |

# **New Features**

#### Convert AM objects to ZWM objects

With command ZWMACADMCONVERT in ZWCAD Mechanical, we could convert frames, title blocks, balloons and BOM created by AutoCAD Mechanical to ZWM entities, and edit them with ZWCAD Mechanical.

At the time being, ZWMACADMCONVERT can only convert drawings with ISO standard created by AutoCAD Mechanical. For other standards, please contact ZWSOFT technical team to configure the MechcadDwgConvert.xml file.

# SDK for PLM Integration

Provide ZWCAD Mechanical SDK for PLM integration, which support the PLM system get data from title block and BOM table.

# Sheet Set Manager

Sheet Set Manager is a powerful tool to manage and plot drawings, especially useful for projects with a large number of drawings. Note that Sheet Set Manager is only used for managing drawings in layout, so it requires you to arrange one drawing in one layout.

Below are the highlights of Sheet Set Manager:

1) Manage drawings with the tree structure. All drawings are listed on the panel clearly.



Figure 1. You can check each drawing from the structure tree clearly

2) View and edit drawings more conveniently. Right-click a drawing to trigger the menu for you to choose to edit or view the drawing.



Figure 2. Right-click menu helps user to open drawing quickly

3) Create a sheet list table in one click. It can automatically create a sheet list table based on the structure tree and insert it into the drawing. You can choose all drawings or some of the drawings to create the table.



Figure 3. One click to create a sheet list table

4) Modify fields of multiple drawings. You can modify these fields without opening the drawings. Moreover, you can customize your own fields based on different needs.

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|       | ZE - Section Plan B03                                      |   |
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|       | Z8 - Elecation Plan C02                                    | Project number 80.1   |
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Figure 4. Fields in Sheet Set Manager

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|                  |                        |                    |                    |
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|                  |                        | OK Ca              | ancel <u>H</u> elp |

Figure 5. Customize your own fields

5) Archive or plot your drawings in a few steps. From the structure tree, you can select plotting drawings directly, or set up a publish list and right-click the drawings to print. Sheet Set Manager supports physical printing and virtual printing like PDF, DWF, and DWFX.



Figure 6. Choose drawings to plot or archive



Figure 7. Set up a publish list to print

# Optimization for table module

The table function has been further optimized. The following functions have been added in this version:

1) New context menu: When you click a table cell, the context menu will appear on the ribbon, helping users set up content in the cell more easily.

| 2. 🖷 🖿 🖷                                | 🛢 🐂 🖶 🖘 - A                               | 🔹 📀 2D Drafting &              | Annotati 🝷 🕴 ZWCAD 2023 Tr            | ial version (Remained 10 Days) - | [C:\Users\Administrator\Desktop\ZWCAE | 2023 dem [able.dwg]                          |
|---|---|--------------------------------|---------------------------------------|----------------------------------|---------------------------------------|--|
| Home Soli                               | d Annotate Insert                         | Views Tools                    | Manage Export Express                 | Online ArcGIS APP+               | Table Cell                            |  |
| Insert Insert Delete<br>Above Below Row | Insert Insert Delete<br>Left Right Column | Merge Unmerge<br>Cells • Cells | Match Top<br>Cell Right + Edit Border | Cell Dat<br>Locking • Form       | a. Block Field Formula Manage         | e Cell Link Download<br>ent Cell from Source |
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|   |   | Dimensio                       | on of reinforcement                   | convrete                         |                                       |  |
| 2                                       | Footing                                   | L                              | В                                     | h                                | V                                     |  |
| 3                                       | rooung                                    |                                |                                       |                                  | m <sup>3</sup>                        |  |
| 4                                       | F1  | 1.760                          | 5.4000                                | 0.5000                           | 8.8000                                |  |
| 5                                       | F2  | 2.650                          | 3.4000                                | 0.4000                           | 4.8000                                |  |
| 6                                       | F3  | 3.400                          | 1.4000                                | 0.4000                           | 5.8000                                |  |
| 7                                       | F4  | 1.680                          | 4.2000                                | 0.3000                           |                                       |  |
|   |   |                                |                                       |                                  |                                       |  |

Figure 8. Context menu on ribbon

2) New function "Match Cell" is like a format painter. You can copy a cell format to other cells. It now supports formats like background color, frame style and text alignment method.

|   | A       | В                               | C                 | D          |                |
|---|---------|---------------------------------|-------------------|------------|----------------|
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| 4 | F1      | 1.7600                          | 5.4000            | 0.5000     | 8.8000         |
| 5 | F2      |                                 | 3.4000            | 0.4000     | 4.8000         |
| 6 | F3      | Select destination cell: , 318. | 458.9954 1.4000   | 0.4000     | 5.8000         |
| 7 | F4      | 1.6800                          | 4.2000            | 0.3000     |                |

Figure 9. A format painter icon appears when you use "Match Cell"

3) Support block insertion in the table. You can insert multiple blocks in one cell.

| nt convrete                            |   |  |  |  |  |
|--|---|--|--|--|--|
| Insert Block in Table Cell             | V                                       |  |  |  |  |
| Name: Buzzer V Browse Path:            | m <sup>3</sup>                          |  |  |  |  |
| C Scale: 1 DOO                         | 8.8000                                  |  |  |  |  |
| C Rotation angle:                      | 4.8000                                  |  |  |  |  |
| C Qverall cell alignment: Top Left OOO | 5.8000                                  |  |  |  |  |
| 0 Cancel Help 0.3000                   | ′⊜ਁ <sub>Ĺ</sub> ≞ <mark>₽ART ──</mark> |  |  |  |  |

Figure 10. Blocks can be inserted in table

4) Borders properties can be adjusted.

| , m    | Cell Border Properties X   |
|--------|--|
| 0.5000 | First specify Border Properties. Then press the Border Type buttons<br>or dick on the preview to apply selected border properties to the<br>appropriate borders. |
| 0.4000 | Border properties Lineweight:  |
| 0.4000 | Color:   |
| 0.3000 | Spacing: 0.045   |
|        |  |
|        | Text   |
|        |  |
|        | OK Cancel Help   |

*Figure 11. Cell Border Properties Panel* 

# Grips editing of 3D entities

3D solids (primitive and solid entities) can be changed in shape and size by dragging the grips. With this function, our 3D capabilities have improved dramatically.



Figure 12. Drag the grip to change 3D solid's shape

Dimensions of a 3D solid are associated. The dimensions will change automatically as the 3D solid's shape is changed. Moreover, if your dynamic input is activated, when you hover your cursor over the grip, the relevant geometric information will appear.



Figure 13. Dimension will change when you change 3D solid's shape using grips



*Figure 14. When cursor hovers over the grip, geometric information will appear* A new column is added to properties panel; you can modify data on it.



Figure 15. Modify 3D solid through properties panel

#### Support for 3D mouse

3D mouse models from 3Dconnexion<sup>®</sup> are compatible with ZWCAD Mechanical 2023. For now, we support 3 models: SpaceMouse Enterprise, SpaceMouse Pro, and Space Pro. Users can bind ZWCAD Mechanical's commands to mouse buttons to carry on frequently used commands.

# Support for Adobe® PostScript

Models including Adobe<sup>®</sup> PostScript Level 1, PostScript Level 1 Plus, and PostScript Level 2 can be added to the plotter list. You can add these plotters through the "Add-A-Plotter Wizard".

| 🚧 Plot - Model   |   |  |   |  | ×   |
|--|---|--|---|--|---|
| Page Setup   |   |  |   | Plot style table   |   |
| N <u>a</u> me:   | <none></none>   | `  | ∕ <u>N</u> ew   | None   | ~   |
| Printer/plotter<br>Name:<br>Paper:<br>Copies:<br>Paper size:<br>Plotter:                             | Add-A-Plotter Wizard<br>Letter (8.50 x 11.00 Inches)<br>1 216 x 279 MM<br>None                  | · · · · · · · · · · · · · · · · · · ·                                    | Properties  | New         Mode           Shaded viewport options         Shade plot         As displayed           Plot options         Plot options         Plot in Background  | y<br>   |
| Where:<br>Description:<br>Plot to file<br>Plot area<br>What to plot:<br>Display                      | Not applicable<br>The layout will not be plotted unless a<br>Save in the folder as drawing file | new plotte<br>Plot scale<br>∑ Fit to<br>System Print<br>∑ Cale:<br>Ports | er - Plotter Mode<br>ter<br>er Land                     | Select your plotter manufacturer and mod   | <ul> <li>el. If your plotter isn't listed, consult your titer.</li> </ul> |
| Plot offset (origin a           X:         0.000000           Y:         93.641333           Preview | et to printable area)<br>Milimeter<br>Center on paper<br>Milimeter                              | Plotter Name<br>Finish   | Manufa<br>HP<br>Raste<br>PDF F<br>DWF<br>SVG f<br>Adobe | scturers Models<br>r File Formats<br>ile Formats | t Level 1<br>t Level 1 Plus<br>t Level 2                                  |
|  |   |  |   | < <u>B</u> ack <u>N</u> ext >  | Cancel Help   |

Figure 16. Adobe® manufacturer is added in the list

After adding, you can see the plotter model in plotter list.

| Page Setup                  |   |                   | Plot style table          |
|-----------------------------|---|-------------------|---------------------------|
| Name                        | (None)  | ~ New             | None                      |
| Ngine.                      |   |                   |                           |
| <sup>p</sup> rinter/plotter |   |                   | <u>N</u> ew Modify        |
| Na <u>m</u> e:              | None  | ✓ Properties      | Shaded viewport options   |
| Paper:                      | None<br>ZWCAD Virtual Eps Plotter 1.0                                     |                   | Charles also              |
| Copies:                     | OneNote for Windows 10<br>RICOH IM C2500(22楼技术部区彩打)                       | 216 MM            | Shade plot As displayed V |
| Paper size:                 | progeCAD PDF Virtual Printer 2022<br>progeCAD Image Virtual Printer 2022  |                   | Plot options              |
| Plotter:                    | pdfFactory Pro  |                   | Plot in Background        |
| Where:                      | PDF-XChange 3.0<br>OneNote (Desktop)                                      |                   | Plot object lineweights   |
| Description:                | NPI7ACFOC (HP Color LaserJet M254dw)                                      | -                 | Plot transparency         |
| Plot to file                | Microsoft XPS Document Writer<br>Microsoft Print to PDF                   |                   | Plot with plot styles     |
| Plot area                   | HP LaserJet Professional P1606dn  |                   | Plot paperspace last      |
| What to plate               | Adobe PDF   |                   | Hide paperspace objects   |
| what to plot.               | Default Windows System Printer  |                   | Save changes to layout    |
| Display                     | DWFx ePlot (XPS Compatible).pc5   | $\sim$            |                           |
|                             | DWG to PDF.pc5<br>PostScript Level 2.pc5                                  | Alling the second | De la camp on             |
| Plot offset (origi          | n SVG.pc5   | Millimeter V =    | Drawing orientation       |
| X: 0.00000                  | ZWCAD PDF(General Documentation).pc5<br>ZWCAD PDF(High Quality Print).pc5 | units             | Portrait                  |
|                             | ZWCAD PDF(Smallest File).pc5  |                   | O Landscape A             |
| Y: 93.6413                  | ZWCAD FDF(Web and Mobile).pc5<br>ZWCAD Virtual JPEG Plotter.pc5           |                   | Plot upside <u>-</u> down |
|                             | ZWCAD Virtual PNG Plotter.pc5   |                   |                           |

Figure 17. PostScript can be chosen from the plotter list.

Properties of the plotter can be modified as well, you can set PostScript special settings in the panel.

| Plotter Configuration Editor - PostScript Level 2.pc5 General Posts Device and Document Settings PostScript Level 2.pc5 Configuration PostScript Level 2.pc5 C | ×<br>PostScript Driver: Custom Properties   | ×  |
|---|---|--|
| Cution Properties     Cution Paper Sizes     Cution Paper Sizes     Cution Paper Sizes     Paper Size   | Printer Control<br>Send ^Q at end of plot<br>Send ^Q at end of plot<br>Send PostScript error handler to the printer | Raster Image Compression                         |
| Access Custom Dialog<br>Press the following button to access the<br>device driver-specific user-interface.<br>Custom Properties   | Default plot to file extension and format   | Custom EostScript error handler Browse OK Cancel |
| Save As Defaults<br>OK Cancel Help  |   |  |

Figure 18. PostScript special settings

# Improvements

# Tooltip upgrade

When you hover the cursor on the icon in ribbon, a dialog, which is tooltip, will pop up. Now a diagram will appear in tooltip, along with the text description, helping users understand how to use the function more easily.

| Hectangular<br>Array - → · @ ≪<br>□ · □ ∞ = ∞<br>• ∞ □ · □ · □ ∞                  | se Multiline<br>Text - III - Pr                | Layer<br>roperties |
|---|--|--------------------|
| Modify  | Annotation                                     |                    |
| Rectangular Array   |  |                    |
| Arranges object copies into any<br>columns and levels: ARRAYRECT                  | combination of rows,                           |                    |
| Creates a rectangular array by d<br>selected objects at the specified<br>columns. | uplicating and arranging<br>number of rows and |                    |
|   |  |                    |
| F1 for more help  |  |                    |

Figure 19. Upgrade Tooltip

# **Optimization for calculator**

- 1. The calculator now supports Imperial units. Users can directly enter the Imperial units to calculate.
- 2. It supports new formulas, like "ill", "ilp", "plt", and "ang". Developers could invoke new functions to develop programs.



Figure 20. Calculation of imperial

# Quick menu for Object Snap

The quick menu will pop up when users right-click the object snap button, helping them choose the object snap type more easily.



Figure 21. quick menu of Object Snap

# Preview for font replacement

There might be lack of fonts for some drawings, which can lead to wrong display for certain text. Normally we would use a big font to replace the lost font. With this preview window, you can check whether the big font can show the text correctly before you apply it, reducing the possibility of replacing fonts again and again. Currently it can identify languages of Chinese simplified, Chinese traditional, Japanese, Korean.

| Specify Font for Style: GDA-G   |  | ? ×   | Specify Font for Style: GDA-G  |  | ? ×  |
|---|--|---|--|--|--|
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| Font not found: gda-g-hz.shx  | Browse   | OK Cancel   | Font not found: gda-g-hz.shx   | Browse   | OK Cancel  |

Figure 22. From preview window you can check whether the text show correctly