What is new in CGS Labs Civil Solutions 2022

Document date: 11 June 2021

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1. CGS Labs Civil Solutions 2022

We are introducing a new software version of CGS Labs Civil Solutions: Plateia (road design), Ferrovia (railway design), and Aquaterra (river/canal engineering design), as well as Autosign (specialized solutions for traffic signs and road marking design), Autopath (solution for vehicle swept path analysis) and Electra (power line design solution).

1.1. CAD platforms support

CGS Labs Civil Solutions 2022 version is compatible with the latest Autodesk Civil 3D 2022 and AutoCAD 2022!

Source: https://www.autodesk.com/

CGS Labs Civil Solutions 2022 is also compatible with other versions of AutoCAD and BricsCAD platforms:

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<thead>
<tr>
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<tbody>
<tr>
<td>BricsCAD</td>
<td>v21, v20, v19</td>
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1.2. CGS Labs Civil Solutions 2022 side-by-side installation

CGS Labs Civil Solutions 2022 is a major installation and is supporting side-by-side installation with any older CGS Labs software version. Clients with active subscription or maintenance plans can start using the newest versions seamlessly. A new installation of CGS Labs Civil Solutions 2022 or an upgrade from a previous version on the client’s computer will require you to activate the new license obtained from CGS Labs.
1.3. Productivity enhancements

Updated interfaces in ribbons and menus deliver an *Improved user experience*. New subtle commands layout changes were made and new icons have been introduced. To further improve usability, optimize workflows and increase productivity two new ribbon tabs have been added.

CGS Labs Civil Solutions 2022 feature a new look and interface. Main product icons have been redesigned to match the icons in the ribbons and to offer a better distinction.

### New Traffic ribbon

Intersections & Roundabout dedicated functions have been moved to a dedicated, newly designed **Traffic** ribbon tab, allowing Layout ribbon to offer more clear interaction with available commands, but also to group intersections and roundabout related icons together. Furthermore, when working with intersection only (or in combination with Autosign and Autopath), the Traffic tab offers faster access to the required tools.

### New Site design ribbon

On the new **Site design ribbon**, we transparently offer all tools for surface modeling and working with spatial data in one place. Read the “Site design productivity tools” section for more information.

### Knowledge base | CGS Labs Software

The online **Knowledge base** is now accessible directly from all CGS Labs software solutions. Containing new FAQs, tutorials, and video content, the knowledge base will help users make the most of their software.

The knowledge base is accessible also online on this direct link: [https://cgs-labs.com/knowledgebase/](https://cgs-labs.com/knowledgebase/)
2. Site design productivity tools

Available in Plateia Ultimate, Ferrovia Ultimate, Aquaterra Ultimate

All CGS Labs Ultimate packages include a new Site design ribbon. With it, Civil designers have access to fast site modeling features, earthwork calculation, utility design, and productivity tools in one place. Raster Imagery, Terrain models, Reality meshes as well as access to Google Street View bring the ability to quickly create 3D surface models for design and analysis purposes.

The new Surface tool creates ‘ultralight’ surface models in an instant. Support for several field data formats (from point clouds, survey data, to spatial elevation points) makes the creation of the surface model faster.

The Surface volume tool delivers earthwork calculation values based on reference surfaces. The volume calculation is a coherent analysis tool that can be used on various CAD platforms and surface types. The surface can be either a Civil 3D digital terrain model, BricsCAD digital terrain model, 3D face surface, or CGS Labs surface from current or any older software versions.

The Polyline editor tool raises the capability for manipulating 3D polylines to support surface, grading, and other terrain-related design tasks, fast utility designs with slope, elevation, and surface projection tools making this feature a great productivity tool for any site project.

Polyline from points tool features the creation of specialized civil-oriented linear objects in no time. It is capable of analyzing huge amounts of survey points and delivering 3D polyline over a selected set of points for fast digitalization of side road or rail linear objects (ditches, retention walls, cables, property – the right of way borders, road edges, existing rail tracks ...). It can generate any linear object from a set of given surveys, or input points in drawings.
3. BIM enhancements

Available in Plateia Ultimate, Ferrovia Ultimate, Aquaterra Ultimate, Autosign Ultimate

Open BIM data support is forming a crucial part of CGS Labs software solutions with multiple exchange data formats included. Among them, a special focus was given to enhance the support for civil objects within the current IFC 4.X format.

The IFC 4.2 Import & Export functionality within CGS Labs Civil Solutions has been given additional work focusing on supporting complex element geometries, various object formats (solids, blocks, standard CAD entities), object properties, and data assigned, all with productivity in mind to support BIM data and workflows across various disciplines and software solutions.
4. Autopath 2022

Autopath 2022 continues to bring new content and enhancements to support swept path analysis for a variety of industries, clients, and usage purposes.

4.1. New functionality:

- Draw vehicle turning templates
- Tracking points functionality added

The new vehicle Turning templates tool lets you create a standard vehicle template for any given vehicle in the Autopath library including vehicles with (multiple) trailers, but also any custom created or edited vehicles. With interactive positioning, side, and rotation capabilities it optimizes time and process to produce required swept path data.

The Tracking point feature allows the user to analyze a single or multiple points on the vehicle side, top, or under-vehicle areas. It automatically tracks the selected point(s) position(s) along the vehicle, over its entire path while updating dynamically, allowing unlimited usage and vehicle perimeter analysis possibilities.

4.2. Autopath enhancements:
• Remember the last vehicle used in UI selection
• Total length data added to vehicle profile report
• The vehicle library list is organized into groups

Autopath features several productivity enhancements to ease interaction and deliver additional required data. For better transparency, vehicle libraries are now organized in groups. Autopath also remembers the last vehicle that was used to create the analysis.

The total vehicle length data was added to the vehicle profile report to double-check the maximal vehicle total length permitted on the dedicated path. This value is extremely important when creating custom vehicles with trailers or when editing existing vehicle parameters of which the total length already nears or exceeds the maximal permitted vehicle length.

4.3. New vehicle libraries

New vehicle libraries are being constantly added to the already extensive list of national libraries and libraries of manufacturers and special vehicles.

• Deutschland RBSV_2020
• Refuse Vehicles
• EU ambulance vehicle
• Cement transportation trailers
• Mining trucks
5. Autosign 2022

Available in Autosign Professional, and Autosign Ultimate

5.1. Enhancements

- Parking Lot grouping
- Drape to surfaces with surface selector

The parking Lot grouping option allows users to add selected parking lots to a group and have parking lot group properties listed in reports. Additional UI enhancements have been made to accommodate a faster and more intuitive parking lot design process.

Drape to surfaces with surface selector has been added to 3D Signs and Markings design options. When selected, the surface is highlighted in the drawing giving users accurate feedback when working with multiple surfaces.

5.2. New traffic signs and road marking libraries

New localized country-specific traffic signs and road markings libraries are now available for download in Autosign. Among them are:

- Polish traffic signs and road markings library
- Latvian traffic signs and road markings library
- Estonian traffic signs and road markings library

Check https://cgs-labs.com/autosign/ for a comprehensive localized traffic library list.
6. Plateia 2022

Available in Plateia Standard, Plateia Professional, and Plateia Ultimate

6.1. Points report table

The new Survey point reports feature allows users to create survey points data reports as tables inserted in drawing or export them directly to Excel sheets. Various predefined survey points report tables can be used and customized. A great tool to group and (p)review survey data, stakeout points, newly created points along infrastructure elements, and more.

6.2. Cross Sections Elements Wizard

New Typical Cross-Sections Elements Wizard road templates (automatic subassembly creation template or MACRO) are included in the 2022 installation. Wizard provides multiple ways to automatically define a subassembly from geometry only, geometry with QTO material definition, or from top/bottom pavement layer intersection lines, which projected to Layout can form top (fill) or bottom (cut) surface layer of the designed road.
7. Ferrovia 2022

Available in Ferrovia Standard, Ferrovia Professional, and Ferrovia Ultimate

7.1. Extended spiral types support

New Sine Half-Wavelength nonlinear spiral has been added to the already comprehensive list of rail track spiral types available in Ferrovia. This type of spiral is commonly used for railway design in Japan.

7.2. Support for High-speed rail track design

The list of rail track speeds has been updated. Supported speed now ranges from 5 km/h to 350 km/h. Although the predefined highest value is set to 350 km/h in practice you can design rail tracks for higher (up to unlimited) speed.

Category speed is defined by values in an external XML file which can be customized to address any localized or particular-use speed, and speed/curve/applied-cant related values. (LRA_CantTable.XML)

7.3. Narrow gauges

Narrow gauges added to the English version of Ferrovia now support the design of amusement parks rail tracks, tourist & visitor’s train tracks, underground train tracks, and many more.