What is new in CGS Labs

Civil Solutions 2022.1

Document date: 08 November 2021
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1. CGS Labs Civil Solutions 2022.1

We are introducing an updated software version of CGS Labs CAD solutions labeled 2022.1 which include infrastructure software design and maintenance 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 2022.1 can be used in a company environment where different CAD platforms/versions are in use, thus enabling clients to use the latest CGS Labs technology and enhancements without the hassle of mandatory updating CAD platforms as well.

As all data is stored directly in DWG (no external database needed), all projects can be accessibly any time on various CAD platforms making CGS Labs Civil Solutions a perfect choice for infrastructure projects spanning over multiple years, multiple stakeholders, and software tools used.

CGS Labs Civil Solutions 2022.1 is compatible with AutoCAD and AutoCAD Civil 3D versions:

|----------------------------|------------------------------------------|

![Autodesk Authorized Developer](image)

CGS Labs Civil Solutions 2022.1 is compatible with BricsCAD versions:

<table>
<thead>
<tr>
<th>BricsCAD</th>
<th>v21, v20, v19</th>
</tr>
</thead>
</table>

![Official BricsCAD® Solution Partner](image)
1.2. **CGS Labs Civil Solutions 2022.1 side-by-side installation**

Can the newest CGS Labs Civil Solution 2022.1 be installed alongside any other existing CGS Labs Civil Solution?

No!

CGS Labs Civil Solutions 2022.1 is a *minor* installation, part of 2022 release upgrades, and does not support side-by-side installation with the existing CGS Labs 2022 software version already installed. In this case, it will automatically update the 2022 version to the latest build 2022.1.

Yes.

The CGS Labs 2022.1 side-by-side installation still applies to any previous CGS Labs versions (2021 or older).

Clients with active subscription or maintenance plans can start using the newest versions seamlessly.

1.3. **Windows 11 support**

CGS Labs Civil Solution 2022.1 supports Windows 11 version. Installing, updating and using CGS Labs solutions is fully supported on the latest Windows 11 OS.
2. PLATEIA, FERROVIA and AQUATERRA


2.1. Customizable labels

Candles evolved slowly from whale fat to wax, which is still used today. But along the way a revolution happened and a light bulb replaced the candles. In a way, the same approach to CGS Labs labels was used where existing hardcoded localised labels definition changed to labels external references, where label styles, behaviour, and label content is now fully customizable. Giving clients the flexibility to customize labels to their needs with ease.

The 2022.1 version of CGS Labs Civil Solutions brings that revolutionary labels customisation options to Plateia, Ferrovia, and Aquaterra. Supporting the most important alignment labels for a start. See new labels in action here: LINK TO VIDEO

The new labels consist of two important parts:

1. **Dynamic blocks** DWG files where label geometry, font, style, position, behaviour, and other parameters are defined.

2. The XML file `CGSALabelsSettings.xml` in which labels content is defined and can be modified. The content consists of labels text displayed, with prefix and suffix text options separately set.
2.2. **Superelevation axis of rotation**

Road surfaces superelevation is essential for stormwater drainage where runoff behaviour is factored by pavement type, lateral and longitudinal slope, and rainfall intensity. Applying a superelevation pivot point to an existing curb, sidewalk, or any other existing build environment object alongside the road alignment brings multiple challenges. In such cases, not only superelevation axis pivot point set up possibility is essential, but also transition definition between various pivot points. To ensure correct drainage flow resulting in adequate road safety. The latest overhauled *Axis of superelevation* feature in Plateia brings broad geometrical superelevation axis of rotation setup possibilities on multiple lanes and more. The superelevation geometry applies to a 3D road (surface) directly.

![Superelevation axis of rotation](image)

2.3. **Ferrovia rail gauge**

<table>
<thead>
<tr>
<th>Broad gauge: 1524 – 1676 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard gauge:</strong> 1435 mm</td>
</tr>
<tr>
<td><strong>Narrow gauge:</strong> 597 – 1067 mm</td>
</tr>
</tbody>
</table>
3. BIM enhancements

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

3.1. Property Set Manager / Property Set Editor / Property Set Filter

CGS Labs 2022.1 version provides a major improvement in applying multiple Property Sets to DWG objects. Furthermore, significant UI and workflow changes have been introduced to facilitate Property Set parameters adding, editing, or removing on single or multiple objects. Property Set Editor works best in combination with improved Property Set Filter functionality where users can select, isolate or hide object(s) to manipulate the data.

3.2. IFC Export

IFC Export 4.X now supports multiple properties set data applied to DWG objects. It also supports additional object types to be included in exported IFC files, block reference objects among them. Thus enabling accurate BIM post-processing capabilities.
4. Autopath 2022.1

Available in: Autopath Professional

Autopath vehicle swept path analysis software solution continues to bring new content and enhancements to support swept path analysis for a variety of industries, clients, and usage purposes. With the current 2022.1 release, Autopath delivers a dedicated group of airport vehicles, a convenient vehicle search option, and visual critical points feedbacks while making horizontal swept path analysis.

- Vehicle Search option added
- Graphical representation of exceeded turning angle on horizontal analysis (polyline based)
- Bicycle vehicle library UI support

Vehicle library UI now includes a vehicle *Search* option which enables users to quickly list and access libraries that contain the searched keyword.
Graphical representation of exceeded turning angle on horizontal swept path analysis is now available and set as a default option to quickly visualize critical areas along the path.

The horizontal analysis option is generated for a selected vehicle over any polyline path in the drawing. It creates a swept path analysis over the polyline’s entire path and in places where parameters (wheels turning angle or minimal radius values) are exceeded, it gives a graphical/visual feedback on the path directly. Until now, the exceeded values were only available in the corresponding turning wheels diagram. With the new graphical feedback, the critical points on the path are more conveniently detected.

Vehicle name: REISE/LINIENBUS 15m
Calculated max. wheel turning angle in left direction [Degrees]: 64.326
Minimal radius for the left curve [m]: 7.711
Calculated max. wheel turning angle in right direction [Degrees]: 0.000
Minimal radius for the right curve [m]: 0.000
Maximal allowed turning angle [Degrees]: 53.115
Minimal allowed curve-radius [m]: 8.689
Vehicle library parameters are now adapted for bicycle setup and modification. Autopath provides a generic bicycle library that enables bike trailers to be added to the bicycles and various parameters settings for bicycle customisation purposes.

A new vehicle group ‘Airport’ has been added to Autopath which now includes the following groups:

- All
- Unclassified
- National
- Special
- Airport

The following vehicle libraries were added or updated:

- Airstairs vehicles
- Apron Bus
- Baggage transfer
- Auckland transport
5. Autosign 2022.1

Available in: Autosign Professional, and Autosign Ultimate

5.1. Enhancements

- 3D signs as blocks (uniform objects)
- Aligned road markings
- Tooltip available in Traffic sign insertion UI
- Parking Lot line tips
- Reports updated

3D signs as blocks is a new enhancement for 3D road signs and other 3D objects in Autosign. The seamless representation of the sign content as one object enables users to easily assign Property Set data to signs, manipulate object properties, export objects, and more.

The new Autosign 2022.1 brings aligned road markings that follow polyline curvature to which the road markings are assigned, to provide accurate representation in 3D/BIM models, but also for further visualization purposes.
Sings name **tooltip** is now available in signs insertion palette. The tooltip provides instant sign name information before insertion.

The **parking lot line tips** have been added to the parking lot design possibilities, rounding up the parking lines options.

**Reports** now list disaggregated rows of signs which are placed on the same sign pole. The same applies to generated Excel reports, making road signs and marking QTO more convenient.

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

- Supplemented Czech traffic signs and road markings library
- Supplemented Estonian traffic signs and road markings library
- Swedish traffic signs and road markings library

With new localized libraries being added continuously and available in Autosign online. Check [https://cgs-labs.com/autosign/](https://cgs-labs.com/autosign/) for a comprehensive traffic library availability list.
5.3. Other road symbol libraries updated

Traffic signs, road markings, and other pavement symbols are all part of localised libraries provided in Autosign. The latest 2022.1 version brings an updated set of symbols for several specific markets to fully comply with the latest guidelines.

Markets with updated symbol libraries in Autosign 2022.1:

- Slovenia
- Czech republic
- Croatia
- Serbia