



Plateia
by **CGS Labs**

25
YEARS



BIM-READY ROADWAY DESIGN SOLUTION



BIM-READY ROADWAY DESIGN SOLUTION

Plateia is a professional, BIM-ready, 3D road design and reconstruction software solution. It provides the commands and tools to support the entire design process, from preliminary to detailed design, from the initial input of survey data to complex 3D road models with analysis tools, to documentation and publishing features.

Using its flexible, dynamic data model, Plateia supports BIM (Building Information Modeling) workflows and processes. Carefully designed UI and workflows are consistent with the road design engineering practice.

This makes Plateia fast-to-learn and easy-to-use.



TRUSTED MOST
BY DESIGN PROFESSIONALS

FIELDS OF USE

- 01 HIGHWAYS, LOCAL AND URBAN ROADS, FOREST ROADS, MOUNTAIN ROADS, ...
- 02 INTERSECTIONS AND ROUNDABOUTS
- 03 INTERCHANGES
- 04 BRIDGES, VIADUCTS, OVERPASSES, AND UNDERPASSES
- 05 DETOURS AND BYPASSES
- 06 TUNNEL DESIGN
- 07 URBAN ROADS AND AREAS
- 08 URBAN PLANNING
- 09 BICYCLE PATHS
- 10 SPECIAL ROADS: RACING TRACKS, DIRT TRACKS, ...
- 11 EARTHWORKS: QUARRIES, OPEN MINE PITS, DUMP AREAS, EARTH BARRIERS, ...
- 12 REHABILITATION OF LANDSLIDES
- 13 SKI-SLOPES DESIGN, ...

REFERENCES

ADT | ΩMEGA

Schroeder
& Associés

Elea | iC

PORR

pnz



FEATURES

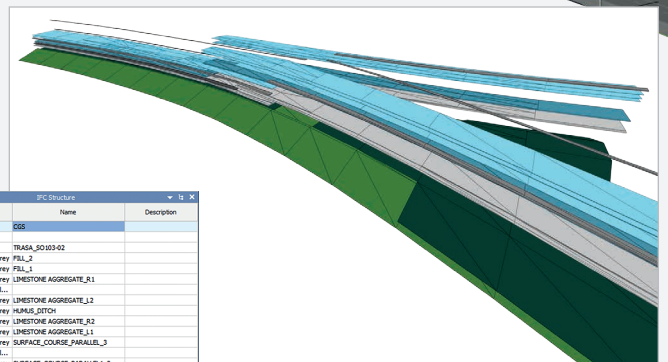
SUPPORT FOR BIM AND IFC

CGS Labs solutions provide extensive BIM data support not limited to CAD platforms in use. 3D roadway, railway or river channel models are generated as detailed 3D solid objects with extended BIM metadata attached to objects, or as multiple surfaces for use with computer guided machines etc..

Plateia offers capable Property Manager for adding and changing 3D solids property data, which enables COBie (Construction Operations Building Information Exchange) compatibility.

Plateia 3D models and attribute data can be exported to IFC files. IFC export format is regularly updated according to buildingSMART International specifications.

Clash detection tool enables designer to search for possible collisions among selected 3D solid objects within the drawing itself thus saving the time to export models and create clash analysis in third party applications outside CAD environment.



Type	Name	Description
Project	CGS	
Site	TRASA_50103-02	
Building Storey	FILL_3	
Building Storey	FILL_1	
Building Storey	LIMESTONE AGGREGATE_R11	
Building Storey	LIMESTONE AGGREGATE_R12	
Building Storey	HUMUS_PATCH	
Building Storey	LIMESTONE AGGREGATE_R12	
Building Storey	LIMESTONE AGGREGATE_R11	
Building Storey	SURFACE_COURSE_PARALLEL_3	
Building Storey	SURFACE_COURSE_PARALLEL_3	
Building Storey	BASE_COURSE_PARALLEL_1	
Building Storey	BASE_COURSE_PARALLEL_1	
Building Storey	SURFACE_COURSE_PARALLEL_2	
Building Storey	SURFACE_COURSE_PARALLEL_1_2	
Building Storey	SURFACE_COURSE_PARALLEL_1	
Building Storey	SURFACE_COURSE_PARALLEL_1	
Building Storey	FINCHER_COURSE_PARALLEL_1	
Building Storey	SURFACE_COURSE_2	
Building Storey	SURFACE_COURSE_2	
Building Storey	LIMESTONE AGGREGATE_R1	
Building Storey	LIMESTONE AGGREGATE_R1	
Building Storey	HUMUS_1	
Building Storey	FILL	
Building Storey	FINCHER_COURSE	
Building Storey	BASE_COURSE	
Building Storey	AGGREGATE_R1	
Building Storey	AGGREGATE_L1	

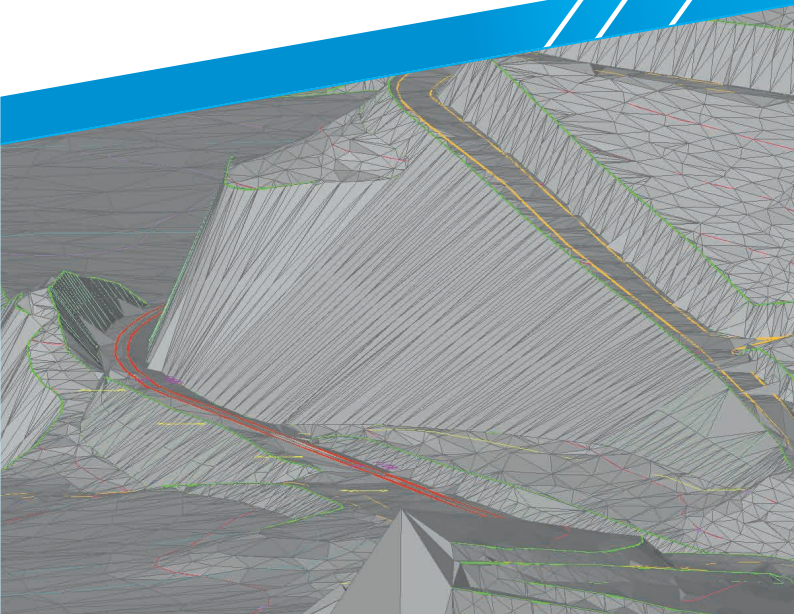
Name	Value	UNIT
File Name	3D Solid model.IFC	
Element Specific		
Description	ViewDefinition [CoordinateSystem]	
Implementation Level	2.1	
Originating System	MicroStation 0.5.0-dev	
Preprocessor Version	MicroStation 0.5.0-dev	
Schema Identifiers	IFC2X3	
Time Stamp	2018-06-08T14:16:56	

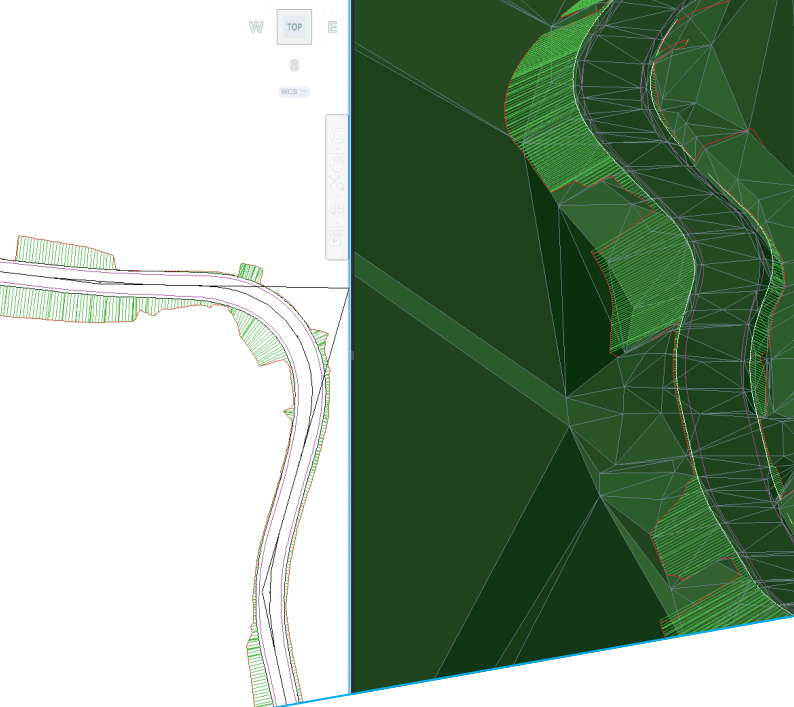


URBAN & SITE DESIGN

DIGITAL TERRAIN MODELING

The Surface creation tool is included in CGS Labs software to produce detailed Digital Terrain Model (DTM) based on various surveys or other input data: total station data files, points, break lines, blocks, etc. This offers the possibility to use Plateia on plain AutoCAD or BricsCAD. Civil 3D surfaces are automatically supported by Plateia.





GRADING

Creation of complex slopes with multiple conditions in cut or fill gives users the capability to cover various design scenarios and geometry requirements for all kind of road projects, from simple forest road design to complex intersection geometry design. Furthermore, creating ponds, parking areas, platforms, road, rail tracks, river channels, and other features is easier and faster with CGS Labs grading functionality.

GEOSPATIAL DATA

Plateia provides unique Raster Imagery and Elevation data* (Earth Surface data) insertion options within the CAD drawing to help visualize areas where the projects are located. Combining geospatial data with BIM infrastructural or architectural models offers attractive visualization and analysis capabilities.

Worldwide geospatial data* for roads, railways and buildings availability is another added value, which enables users to re-create existing built environments in areas of interest. You can Export your 3D designs to Google Earth directly and create fast and accurate visualisations in projects location.

* Google maps and OpenStreetMap data is supported!



ROADWAY DESIGN

POWERFUL GEOMETRY DESIGN TOOLS

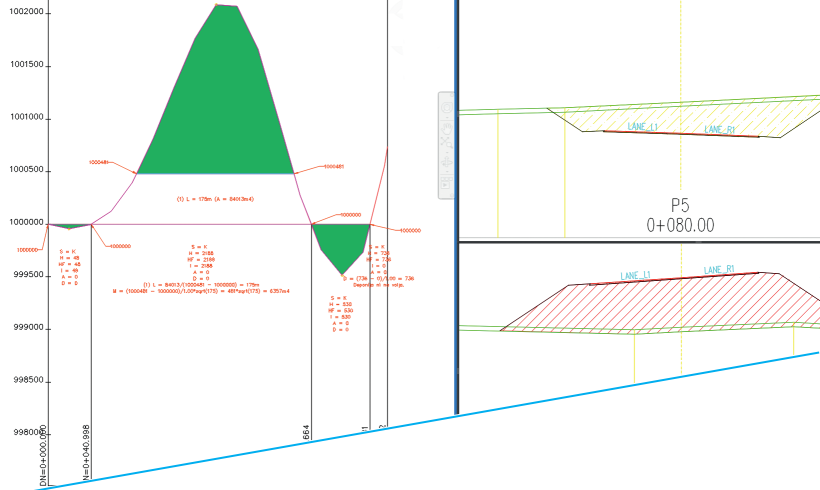
Plateia provides a wide range of advanced alignment, profile geometry design, and editing tools. They include P(V)I design, floating and fixed elements design and alignment design created from the existing entities. Ultimately creating a best-fit alignment based on existing road centerline or road edge survey data. Superelevation calculation features a comprehensive definition and editing tool.

Plateia supports several superelevations definitions and pivot point options according to various European and AASHTO roadway design standards. A number of alignment labels according to different country standards, reports, and data export options offer the flexibility to cover a wide range of user requirements.



QUANTITY TAKE-OFF (QTO)

Plateia calculates material quantity take-off and features a QTO data export tool with custom defined Pay Item (Bill of materials) options. It gives users the possibility to link material defined in the drawing with a material database in cost estimate software, thus supporting digital data transfer and fast cost recalculation when project changes arise.

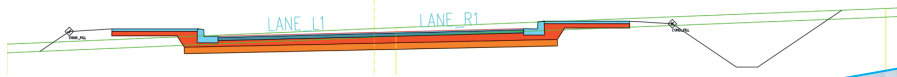


MASS HAUL DIAGRAM

Mass haul diagram presents a graphical view of the material moved in the proposed design site. Mass haul diagrams help designers and contractors understand where gross material movements occur and compare the economies of alternative designs.

Name	Type	Hatch	Color	Code	Property set
Sub_base	Area (2)	SOLID	Color 30	31113	
Base	Area (2)	SOLID	Color 9	31132	
Blinder_course	Area (2)	SOLID	Color 20	31133	
Blinder_course	Area (2)	SOLID	Color 143	31134	
Surface_course	Area (2)	SOLID	Color 141	31574	
Humus_cut	Length x thickness	SOLID	Red	21112	
Geotextile	Length (3)	SOLID	Cyan	25115	
Humus_fill	Length x thickness	SOLID	Yellow	25112	
Fill	Area (2)	SOLID	Color 127	26114	
Cut	Area (2)	SOLID	Color 157	21114	
Asphalt	Area (2)	SOLID	Magenta	31209	
Crushed_stone	Area (2)	SOLID	Color 40	31133	

Hatch scale: 0.10



VISIBILITY AND STOP SIGHT DISTANCE

The Visibility and Stop sight distance road geometry tool provides graphical visibility distance analysis required to safely stop a vehicle traveling at design speed. This facilitates planning to avoid collisions with any other immobile objects obstructing the driving path.

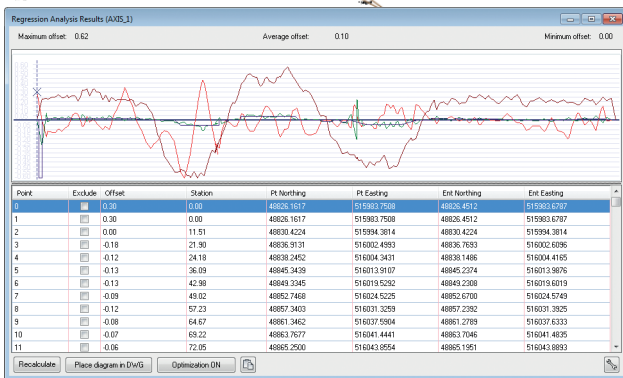


ROAD RECONSTRUCTION / REHABILITATION

The road reconstruction / rehabilitation function offers powerful regression analysis tools for best-fit alignment and profile creation based on existing road centerline or road edge surveyed data.

Existing road superelevation comparison with new superelevation calculation and editing enhancements provide designers the needed tools to tackle demanding geometrical restrictions.

Integrated road reconstruction & rehabilitation tools for calculation of material removal and / or resurfacing material quantities result in new 3D road geometry data linked with QTO information.



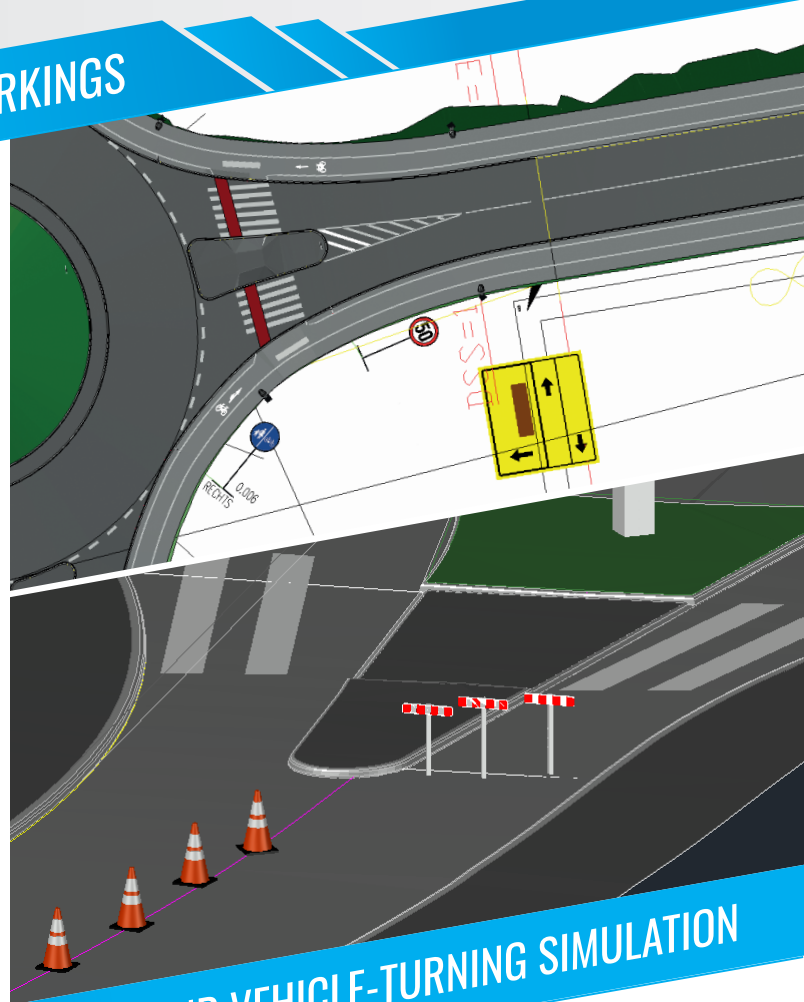
PLANNING TRAFFIC SIGNS AND ROAD MARKINGS

Plateia includes Autosign - professional CGS Labs software for planning 3D traffic signs and road markings in CAD environment.

Autosign brings extensive collections of country-specific traffic sign libraries, road markings, traffic lights, and other street furniture elements.

It generates detailed layouts, reports, 3D (BIM) objects, and realistic visualizations to assist engineers and design professionals.

Created 3D solid objects can be easily exchanged with Navisworks or InfraWorks or exported to IFC standard exchange format.



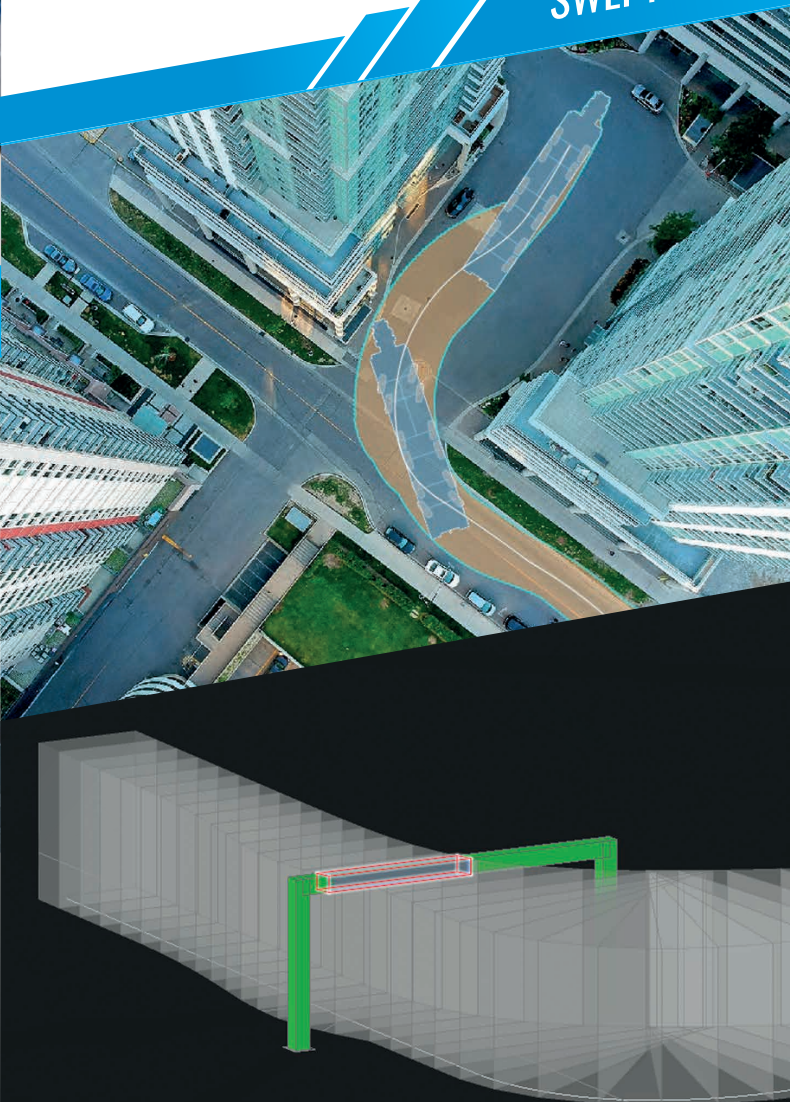
SWEPT PATH ANALYSIS AND VEHICLE-TURNING SIMULATION

Plateia includes Autopath - professional CGS Labs software for 3D/BIM swept path analysis and vehicle turning simulations.

Using Autopath you can easily and quickly simulate vehicle maneuvers and check transportability of all types of road design projects: on roads, intersections, roundabouts, hairpin turns, underpasses, overpasses...

With advanced tools for swept path analysis and animation, it not only accelerates the engineering design process but also enables you to quickly check for possible conflicts and inconsistencies of the vehicle path with other vehicles or with built objects, explore alternative design options, and check safety and compliance with standards.

Autopath comes with a number of country-specific reference vehicle libraries defined by national guidelines and an extended collection of real vehicles covering aircraft, bus, cranes, emergency (intervention) vehicles, trucks, agricultural machinery and more.



GENERAL FEATURES

LANGUAGES AND COUNTRIFICATION - DESIGN STANDARDS

Plateia is available in several languages and supports country specific road design guidelines, drawing layouts, traffic signs and other symbols, vehicles, etc.

Supported country/language versions:

- ✓ English (Int. and USA)
- ✓ Austria
- ✓ Bulgaria
- ✓ Croatia
- ✓ Czech Republic
- ✓ Germany
- ✓ Hungary
- ✓ Macedonia
- ✓ Poland
- ✓ Romania
- ✓ Serbia
- ✓ Slovenia

DYNAMIC DATA MODEL

Plateia stores all design data inside .dwg data file for quick geometry updates and data exchange within CGS Labs software solutions and Autodesk software. IFC, LandXML, OKSTRA, REB and AutoCAD Civil 3D data exchange interfaces are available. Dynamic updates to all geometry changes or design parameters are supported within single or multiple drawings with separated layout/profile and cross sections data.

PLATEIA SUPPORTS LARGE PROJECTS

Plateia easily handles large projects with very long alignments and thousands of cross-sections within seconds. Projects are neither limited in size nor is the performance critically affected while working on large-scale projects, including extra-long and multiple alignments, profiles, and cross section views. Cross sections can provide a high level of details with on-demand synchronization options, great processing speed, and consistent data.

COLLABORATION CAPABILITIES

Large roadway projects can be efficiently divided among multiple team members, who can then work simultaneously on the project. Projects can be stored in a single drawing or split into several drawings, separating layout, profile, and cross sections.

TESTIMONIALS

"The ease of use and intuitive interface of Plateia software provided us with additional fully functional road designers in less than 2 weeks of training. That helped us present a complete project decision with highway lanes and redesigned interchanges, without delays in design schedule."

- Kolyo Chervenkov, EngConsultProject Ltd. (Bulgaria)

VERSIONS

	ULTIMATE	PRO	STANDARD
Survey data import	✓	✓	✓
Digital terrain modeling tool (DTM)	✓	✓	✓
3D Grading	✓	✓	✓
Alignment design	✓	✓	✓
Profile design	✓	✓	✓
Cross sections design	✓	✓	✓
Road super elevations	✓	✓	✓
3D Road modeling	✓	✓	✓
Points/Lines projection to profile/cross sections	✓	✓	✓
Labeling and dimensioning tools	✓	✓	✓
Visibility analysis & Stop sight distance	✓	✓	✓
Quantity Take-off & Mass Haul diagrams	✓	✓	✓
Intersections design 2D/3D	✓	✓	✓
Roundabout design	✓	✓	✓
Intersections islands design	✓	✓	✓
Curb return fillets	✓	✓	✓
Interface for Civil 3D objects <-> Plateia	✓	✓	✓
Regression alignment and profile design (Best-Fit)	✓	✓	✓
Regression alignment and profile analysis and editing	✓	✓	✗
Side road objects distance calculation (Off-Set calculation)	✓	✓	✗
Import of Google Maps geospatial data in CAD drawing	✓	✓	✗
2D Traffic signs and road markings design (Autosign Professional)	✓	✓	✗
3D/BIM traffic signs and road markings desing, visualization and export capabilities (Autosign Ultimate)	✓	✗	✗
3D/BIM vehicle swept path analysis and turning simulation (Autopath Ultimate)	✓	✗	✗
Support for 3D Solid objects	✓	✗	✗
BIM object property manager	✓	✗	✗
BIM object property editor	✓	✗	✗
BIM object property filter	✓	✗	✗
3D/BIM object clash detection in CAD drawing	✓	✗	✗
Import OpenStreetMap Geospatial infrastructure data in CAD drawing	✓	✗	✗
Import/Export LandXML data	✓	✗	✗
Export 3D/BIM model to IFC data format	✓	✗	✗
Export 3D road model to Google Earth	✓	✗	✗

Plateia runs on top of 2013–2020 versions of Autodesk AutoCAD and Civil 3D as well as BricsCAD Pro and Platinum V17 - V19. Only 64-bit versions are supported!

DEVELOPED FOR



DEVELOPED FOR



DEVELOPED FOR



ABOUT CGS LABS

CGS Labs is innovative software company with 30 years of experience developing solutions for the design, construction and maintenance of transportation infrastructure.

We closely follow BIM trends and incorporate local design regulations and standards in our software. Our applications promote Open BIM approach and standardized IFC data exchange.

01 SOLUTIONS FOR INFRASTRUCTURE DESIGN

CGS labs develops specialized software solutions for the desing of roads (Plateia, Autopath, Autosign), railways (Ferrovia), channel and river engineering works (Aquaterra) and power lines design (Electra)

03 TECHNICAL SUPPORT

Complete customer satisfaction is very important to us. If any problems should arise while using CGS Labs software, our team of experts is there to assist you, so your design process runs without any interferences or delays. Besides that we also provide services for some more challenging engineering tasks e.g. complex custom vehicle definition for Autopah.

02 SOFTWARE DEVELOPMENT SERVICES

CGS Labs offers software development services that address specific problems in civil engineering design. Our resume includes development of functionalities for big international software vendors like Autodesk and Symetri.

04 BIM CONSULTING

CGS Labs provides consulting services to companies that are implementing BIM technologies into processes of planning, construction and maintenance of architectural and infrastructural facilities.



CONTACT US

SLOVENIA

Brnčičeva ulica 13
SI-1000 Ljubljana
www.cgs-labs.si

GERMANY

Egerstrasse 2
65205 Wiesbaden
www.cgs-labs.de

SERBIA

Danila Kiša 8
21000 Novi Sad
www.cgs-labs.rs

USA

11700 SW 67th Ave.
Portland OR, 97223
www.cgs-labs.com