progeCAD Feature Details

PDF to DWG conversion

progeCAD helps you convert your PDF files to editable DWG files quickly and easily. The tool generates and optimizes vector entities such as lines, polylines, splines, hatches, circles, arcs and text strings; offers intelligent TrueType texts and line width recognition; retains colors in the DWG/DXF file. It is compatible with Layered PDF and preserves the same Layers scheme existing in the PDF when converting PDF to DWG. The PDF to CAD feature allows to save time by easily transferring projects, drawings, parts of existing in vectorial PDFs catalogues and manuals to CAD drawings to use them as native DWG files. It supports all versions of Adobe PDF file.

With progeCAD, you can easily Import/Export into your drawings a large number of file formats:

IMPORT

STEP, IGES Import (and Export) STEP geometries and transform them into easily editable DWG entities.

ESRI-SHAPE SHP Import SHAPE (ESRI) files with geometry and its attributes into DWG drawings. Specific commands allow geometry insertion, colors and layers management, data dynamic control.

3DS, DGN(Microstation), **LWO, OBJ(Wavefront), STL, RGT, KMZ, DXF, DWF, DWFx**

IFC IFC is a global standard for data exchange in the building

industries. IFC is both a common data model and an open file format. Building industry professionals can use IFC to share data regardless of what software application they use to get their job done. progeCAD allows **inserting BIM models into your DWG** as an underlay or as part of the DWG.

POINT CLOUDS Import .pcg, .isd, .xyz, .ply, **.las, .laz**

EXPORT

STEP, IGES

PDF, DWF, 3DS, DAE (Collada), LWO, POV, MA(Maya), OBJ(Wavefront), BMP, JPG, WMF, EMF, SVG

3D PRINT STL Export for 3D Printer output

ICADLIB MODULE AND BLOCKS LIBRARIES

The advanced iCADLib module for blocks management ensures the best organization and management of your Symbol Libraries. More t h a n **22.000 ready-to-use 2D/3D Blocks**: Construction, Architectural, ANSI-ISO and DIN-ISO Mechanics, ANSI and IEC Electrical, Electronic, Steel Profiles, Furniture, Kitchen.

Traceparts and Cadenas for progeCAD

iCADLib integrates Traceparts web portal and progeCAD's Cadenas web portal for easy guided usage of more than **100 million of blocks**. Directly guided block insertion from the web into your drawings just in a snap. TraceParts and Cadenas are leading digital engineering 3D content companies offering cutting-edge business solutions through powerful web based products and services. The Traceparts web portal and progeCAD's Cadenas web portal are freely available to progeCAD users worldwide with hundreds of

supplier catalogs and 100 million CAD models and product datasheets suitable for design, purchasing, manufacturing or maintenance processes.

SURVEYING, GIS E CIVIL FEATURES

Image Georeferencing

Georeferencing is the process of scaling, rotating, translating and deskewing the image to match a particular size and position. Special for GIS!

ECW support

ECW is an open standard wavelet compression image format developed by Earth Resource Mapping. The file format is optimized for aerial and satellite imagery, and efficiently compresses very large images with fine, alternating contrast. This is a lossy compression format.

MrSID support

MrSID (.sid), which is an acronym of Multiresolution Seamless Image, is a file format developed and patented by LizardTech for encoding of georeferenced raster graphics such as orthophotos. The MrSID (.sid) format is supported in major GIS applications such as Autodesk, Bentley Systems, CARIS, ENVI, ERDAS, ESRI, Intergraph, MapInfo and QGIS.

Jpeg 2000 support

Jpeg 2000 is a wavelet-based image compression standard. It was created by the Joint Photographic Experts Group committee in the year 2000 with the intention of superseding their original discrete cosine transform-based JPEG standard.

ESRI-SHAPE Import

Import SHAPE (ESRI) files with geometry and its attributes into DWG drawings. Specific commands allow geometry insertion, colors and layers management, data dynamic control.

3D and 2D Civil Features

Fast triangulation of point clouds Creation of TIN surfaces from points within point cloud scan files or land survey collected points. AUTOSEZ command can be applied to these surfaces.

AUTOSEZ The tool for the automatic creation of surface profiles to show surface elevations along a horizontal alignment to represent, for example, road edges or ditches (Topographic Sections)

SLOPE The tool for an easy creation of terrain slope lines (ticks) between two edges or for a conversion of polylines into slope-style polylines.

EASYARCH 3D - THE ARCHITECTURAL 2D/3D PLUGIN

The automated building tool for architects designed to **increase productivity in house and interior design** and remodeling.
EasyArch allows to:
Create walls
Edit walls (delete, rotate, MOVE, copy, make/cap holes etc.)
Insert, copy, move, edit doors and windows automatically
Manage layers (quick turning on/off, freeze/unfreeze, isolate etc.)
Manage and insert parametric blocks from the additional menus
Create stairs
Create roofs
Create and edit tables of elements, rooms, spaces

Assisted dimensioning
Metric and Imperial support

PUBLISH (BATCH PLOT)

Layouts taken from one or more drawings can be printed or exported to PDF or DWF using the print settings of individual layouts. Speed up the print process when necessary to print or export several different drawings or drawings with several different layouts.

PERSPECTIVE IMAGE CORRECTION

Thanks to this plugin, photos insertion is easy and intuitive, with the ability to correct their perspective through the multi-point system.

ADVANCED RENDER - ARTISAN

This is an ideal product for architects, engineers and for all those designers who need to view their own drawings in a photorealistic visualization.

progeCAD professional includes for free the **advanced Artisan Renderer Engine** based on the ray-tracing algorithm. It allows you to **quickly create a photorealistic image** of your model using a wide range of pre-set materials and lighting setups combined with the ability to create custom lights and realistic materials. It has the following characteristics:

Photorealistic rendering with light and shade, reflection and
     transparency effects

Materials like wood with grain, stone, plastic, metal, bricks
     (customizable, different shades)

The finishing can be personalized with effects of reflection or

transparency

Complete control over illumination thanks to multiple light points

Library of pre-set materials

Smooth shadows

Sun position control

Save images with a custom resolution

Pre-defined lighting schemes

Library of pre-set backgrounds, 2D and 3D (hemispherical image)

Manage SnapShots, for storing all the data from your work in scenes

Archives of own libraries of materials, lights and backgrounds.

GRADIENT HATCH SUPPORT

Fleshing out a drawing on progeCAD can give it additional impact during presentations, and the addition of color gradients to surfaces to produce a more **"realistic" appearance** is a great way to do so. Gradients can be displayed and created through a user-friendly interface. Improved Hatch Form.

ANNOTATIVE OBJECTS

The feature automates the sizing of annotations such as text, hatch and dimensions in multiple viewports with varying scales.

The annotative objects are scaled based on the current annotation scale setting and are automatically displayed at the correct size. The following objects can be annotative, meaning that they can size automatically:

Text (single-line text)

Mtext (multi-line text)

Dimensions

Tolerances
Hatches
Blocks
Block attributes

POINT CLOUDS

A point cloud is a collection of points acquired using 3D laser scanners or other special technologies to create 3D representations of existing structures.

Point cloud files help the design process by providing real-world context where you can recreate the referenced objects. Once a point cloud is inserted to a drawing, you can use it as a guideline for the drawing, change its visualization, or apply a color to distinguish different features.

Along with the standard file formats, with progeCAD you can import Point Cloud formats such as **XYZ, PLY and LAS**

3D PDF EXPORT

Create the ADOBE PDF standard with your dynamic 3D content inside.

3D PDF allows to communicate to all the globe and share your data with anyone in an easy and innovative way. Smart collaboration with your draftsmen and designers as well as users who do not deal with CAD software.

3D PDF can be visualized with the free Adobe® Reader®/Acrobat Reader DC software.

SUPERHATCH COMMAND

Create hatch patterns from images, blocks, external references (xrefs

) and wipeouts.

Superhatch is an express tools function that lets you **quickly hatch with your own pattern**, no programming or creation of pat files needed. progeCAD's hatch with image capability is a part of the Superhatch function.

PROGECAD CLOUD

Cloud services will reshape the consumer digital lifestyle experience, with progeCAD save and open drawings on Cloud! progeCAD Cloud makes it easy for you to **reach any of your drawings wherever you are**. What is more, it is an optimal way of sharing drawings with your team and customers. progeCAD Cloud supports the major cloud services for file sharing and syncing like **DropBox, Google Drive, and Microsoft One Drive**.

ACIS SOLIDS

Reads and writes 3D solid objects with ACIS libraries (the same as AutoCAD®). ACIS solids are available thanks to an agreement signed with Spatial, the supplier of technology for solid modeling to the most important CAD software in the world. progeCAD Professional has implemented a complete management of ACIS solids, which can now be viewed, printed, created and edited. **Any exchange of projects with CAD, which include ACIS Solids, is therefore much easier!** Creation of complex three-dimensional shapes using solid models becomes a way simpler procedure.

DYNAMIC INPUT

Dynamic Input is an alternative way of entering commands through a command line interface at your Crosshair. You can input data like the

length of a line or the radius of a circle with dynamic visualization of changes relative to mouse movements. When dynamic input is turned on, a tooltip displays dynamically updated information next to the cursor. When a command is in progress, you can specify options and values in the tooltip text box. You can also **configure dynamic input to meet your personal or company standards**. The feature is to further boost your productivity by making drafting and editing processes way more efficient.

BETTER SUPPORT FOR WMF

BetterWMF solves problems related to copying and pasting drawings into other software packages like Microsoft Word.
If you have ever tried to insert a CAD picture into for example a Microsoft Office document you may have noticed several problems: To start with, you will get unwanted borders. The resulting size of a picture is the same as the graphics area of the CAD window at the time of creation, rather than matching the selected objects. This usually means that pictures copied from progeCAD to other Windows applications will have a large blank area to the top or right. Also when you print the document with the picture you will notice that all lines will become equally (very) thin. Finally, you will have discovered that it is very difficult to size your picture to an accurate scale. For each of these problems individually, clumsy workarounds are possible, with varying degrees of success. **The unique real solution is BetterWMF.**

EXPRESS TOOLS

progeCAD **Express Tools** is a set of tools mainly grouped under

the Express Tools menu which extend progeCAD functionality enabling the user to increase productivity through easy, fast and efficient performance of complex multistep CAD operations.

AND MORE

RASTER MANIPULATION

Insert and manipulate Raster images with only one click of the mouse! With the powerful raster editing and raster-to-vector conversion tools, progeCAD helps you to easily clean up, edit, enhance, and maintain scanned drawings and plans. Use a wide range of image data, embed images, insert and export images and use a polygonal mask boundary to display image subsets. Image transformation functionality and georeferenced image display.

RASTER TO VECTOR CONVERTER

progeCAD Professional includes a free version of WinTopo, the raster to vector tool, which main functions are:

Loads BMP Bitmap images (raster)

Refines bitmap lines and detects the edges

Creates monochromatic vectors from refined lines

Views vectors on top of the bitmap

Load vectors to progeCAD, IntelliCAD, AutoCAD

DYNAMIC UCS

The dynamic UCS feature automatically creates a temporary XY plane to draw on. The dynamic UCS feature dramatically speeds up drawing in3D environment.

MULTILINE

The multiline command allows to draw multiple parallel lines with a single command. This feature creates simultaneously perfectly parallel lines and the lines are treated as one entity allowing easier editing.

The Multiline support greatly speeds up and simplifies drawing and improves the AutoCAD® compatibility. Multilnes Styles supported.

MULTILEADERS

The MLEADER command can create leaders with a variety of arrows, segments and content, including text and blocks with attributes.

NUMBERED MARKERS (Bubbles-

Automatically creates bubbles with sequence numbers or letters

Baloons)

SPLINE EDITING

You can delete fit points of a spline, add fit points for greater accuracy, or move fit points to alter the shape of a spline. You can open or close a spline and edit the spline start and end tangents. The spline direction is reversible. You can also change the tolerance of a spline. Tolerance refers to how closely the spline fits the set of fit points you specify. The lower the tolerance, the more closely the spline fits the points.

MULTIGRIP EDITING and ADVANCED SOLID GRIPS

Modify, move, rotate, scale, stretch or mirror using multiple Grips
By dragging grips you can change the shape and size of primitive solids. For example, the change of the height of a cone will maintain the overall cone shape and automatically update the base radius. The Solid Grips feature is introduced to enrich 3D editing operations.

LOFT COMMAND

The loft command is similar to the extrude command but much more versatile. Instead of extruding a single shape, the loft command allows you to extrude several shapes and make one continuous object.

FLATSHOT COMMAND

Creates a 2D representation of a 3D solid object based on the current view of the solid object. An entire drawing can be flattened with a

single operation.

HELIX COMMAND

Draws a 3D Polyline in the form of a helix