



## What is cfMeshPRO?

**cfMeshPRO-1.4.2** is the latest version of CFD meshing offering developed by Creative Fields.

It is composed of advanced version of cfMesh library, a GPL licensed tool for automatic mesh generation that supports meshes of arbitrary cell types; and an easy-to-use front-end solution (GUI; commercial licensing) that allows for efficient meshing workflows and superior user interaction.

The implemented methodology generates meshes with millions of cells within minutes for geometries of industrial interest.

## Who is it for?

It is designed for engineers and other experts using CFD in their product development who need an efficient and easy-to-use meshing tool able to resolve complex domains faced in industrial settings.

FOR MORE INFO VISIT US AT:  
<http://cfmesh.com/cfmeshpro/>

## cfMeshPRO-1.4.2

*Getting the edge*

cfMeshPRO-1.4.2 software aggregate brings you a powerful set of tools and functionalities for generation of quality CFD meshes in arbitrary complex geometries encountered within the industry. The software features a degree of robustness that will help you enhance your productivity and get the competitive advantage in your simulation efforts.

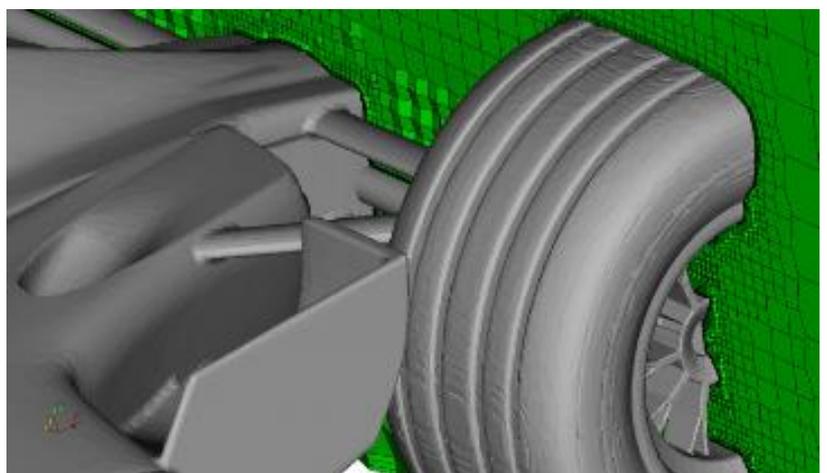
### Key Benefits

**Resolving complexity.** The implemented meshing methodology is designed to provide quality meshes on arbitrarily complex geometries. The available workflows are robust and sensitivity to input data is minimized.

**Simple setup.** Minimum user input is needed to initiate the meshing procedure.

**Speed.** The meshing workflow is fully automated and meshes are obtained in a single run. Implemented algorithms are parallelized and computational resources are used efficiently.

**Access to expert support.** Our core strategy is helping our customers being successful in their simulation efforts. While the software is being regularly upgraded with new features that facilitate this process, we also provide expert support and customize the solution when the situation so demands.



## CONTACT US

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## Key Product Features

**Input:** The software requires little user input. Geometry is given as a surface triangulation, and the settings are provided in a dictionary.

**Robust:** Tolerant to poor surface quality. Performs surface wrapping and volume meshing at the same time.

**Volume types:** The same code base allows for implementation of various meshing workflows. Currently: Cartesian 2D and 3D, tetrahedral and arbitrary polyhedra.

**Refinement:** Simple creation of refinement regions in order to reduce the number of iterations required to generate the desired mesh. Enhanced automatic cell sizing. Advanced automatic refinement controls (curvature, proximity, ray casting, distinct parts).

**Boundary layers:** Advanced boundary layer settings.

**Feature edges:** Allows simple selection of feature edges that need to be captured in the mesh.

**Anisotropic meshing:** Object-based anisotropic settings. Anisotropic grading.

**Gaps and thin features:** Global and local options to preserve or remove cells in thin gaps. Used when the low number of cells is required.

**Modularity:** New features can be implemented by adding new modifiers.

**Parallelisation:** SMP and MPI instructions present within modifiers. Multi-threading is implemented by using OpenMP, which is supported by most modern C++ compilers.

**Graphical user interface:** Modern ribbon-based front-end with minimalistic set of buttons. Easy usage further enhanced via built-in help system, intuitive workflow and input validation.

**Cost competitive:** The best value-for-money proposition on the market.

## Technical Specifications

A library of meshing algorithms and meshing workflows generating various types of cells. It relies on mesh modifiers used for common meshing tasks (add cells, remove cells, decompose cells, etc.).

Inside-out meshing. Robust and tolerant to bad-quality input. Meshing processes started as batch jobs.

The software runs on major versions of both, Linux and Windows.

Triangulated surface input (FMS, FTR, STL, GTS, OBJ, OFF, TRJ, AC, NAS, VTK).

SMP parallelization designed to use all available cores. MPI jobs shall be started from a console.

Possible linkage to 3rd party software via plugins.

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