

EVER SINCE 1985

# ALL-IN-ONE AFFORDABLE CAD/CAM

## Overview

ZW3D, an integrated CAD/CAM solution designed for the whole process of product development, features the fastest kernel for Solid-Surface Hybrid Modeling, non-solid mold parting and smart CNC machining tactics from 2 axis to 5 axis. It brings customers multiple benefits such as reduced costs, optimized design workflow and improved efficiency.

## ZW3D's Unique Values

### 1 Truly All-in-one 3D CAD/CAM Solution

ZW3D can complete the CAD/CAM work that previously required standalone CAD and standalone CAM software. The integrated system makes it easier to manage 3D data and its transition.

### 2 Unique Solid-Surface Hybrid Modeling

Unique Solid-Surface Hybrid Modeling technology can unleash your 3D design ideas by breaking down the boundaries between solid and surface features. It provides designers with more creativeness and opportunities.

### 3 Cutting-edge Non-solid Mold Parting Technology

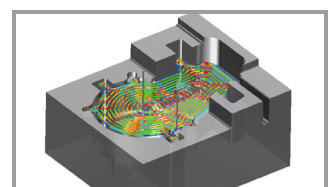
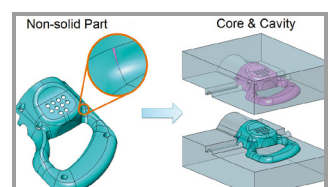
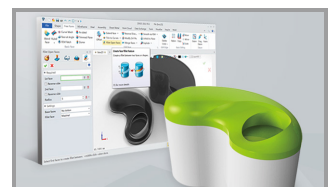
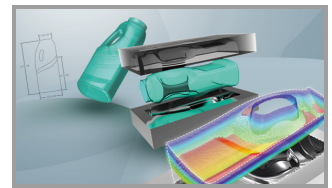
You can design molds based on non-perfect solid features and create core and cavity faster than ever. Skipping the model healing will shorten the whole process of mold production from cost evaluation to manufacturing.

### 4 Smart QuickMill™ Technology

Patented QuickMill™ Technology makes roughing tool paths with uniform cutting loads. It automatically adjusts feed rate using the Advanced Feed Rate Control function to lengthen tool life, reduce tool cost and raise machining efficiency.

### 5 Easy to Learn & Use

ZW3D ensures fast software implementation and shortens the learning curve with MS Office style, clear and intuitive UI, Show-n-Tell™, tutorial videos, knowledge base and a professional support team.



## How ZW3D Can Help You

### Intuitive 3D Visualization & Parametric Design

ZW3D speeds up your product development and helps you grasp marketing opportunities through 3D visualization and parameterization of the concept design, product design and mold design.

### Conveniently Unify 3D Data with One Integrated System

With CAD, Mold and CAM modules integrated in one system, customers can unify all 3D data and avoid data loss during the transition. Meanwhile, it can ease coordination among the Product R&D, Engineering and Manufacturing Departments.

### Flexible and Powerful Modeling Capabilities

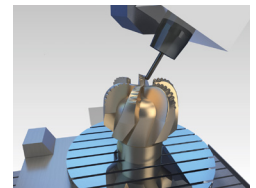
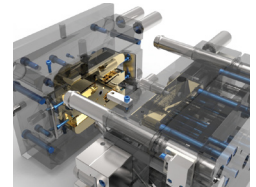
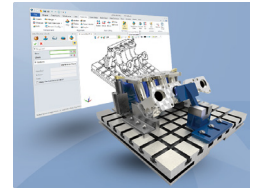
With flexible modeling technologies, like unique Solid-Surface Hybrid Modeling, morphing, wrap and embossing, based on ZW3D's patented kernel, it can optimize product R&D workflow, improve design efficiency and deliver more creative and personalized product designs to customers.

### Fast and Efficient Mold Design

With the whole-process 3D mold design module and the non-solid mold parting technology, ZW3D helps you shorten the time of cost evaluation, quotation and mold design, get orders faster and improve mass production efficiency.

### Greatly Shorten Machining Time & Extend Cutting Tool Life

ZW3D helps customers shorten machining time and extend cutting tool life with the clear and easy-to-use CAM workflow, intuitive UI, automatic feature identification, tactic machining capability and QuickMill™ technology.



## The Milestones of ZW3D

- 1986 One of the *1<sup>st</sup> commercial PC-based solid modelers*
- 1999 *The 1<sup>st</sup> version of Solid-Surface Hybrid Modeling* product combining "Variational" and "Parametric" solutions
- 2002 Created an *integrated CAD/CAM solution* which was named Golden Product by NASA
- 2009 Upgraded to Overdrive engine, which is still one of *the fastest CAD/CAM engines*
- 2011 *Direct editing technology* has been introduced to combine with the hybrid modeling technology
- 2014 Fast tool path generation was accelerated by the upgraded *tool path editor*
- 2016 *PMI(Product Manufacturing Information)* has been developed to get 3D annotations much more easily

## Valued Customers of ZW3D

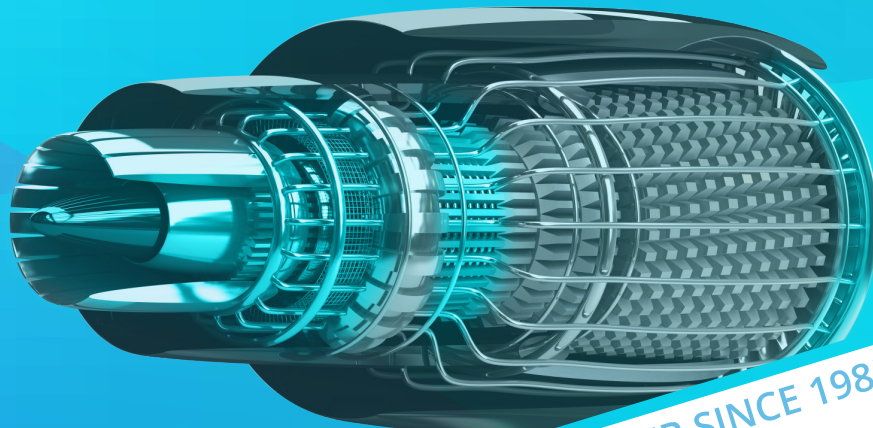


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# ZW3D CAD MODULE

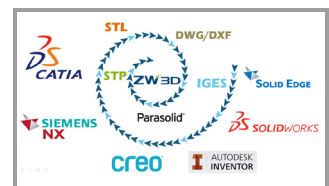
## Overview

The ZW3D CAD solution advances the capabilities of ZW3D CAD/CAM design with unique Solid-Surface Hybrid Modeling, multi-object file management, powerful data exchange and reliable product verification tools. Further to this, the solution features mold design, sheet metal and reverse engineering. Benefiting from the shortened learning curve and the flexibility of design, you can speed up the product design process and boost design productivity.

## Top 5 Reasons to Choose ZW3D CAD

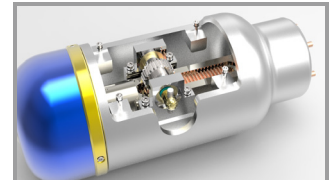
### 1 Excellent Data Translator

Eliminate the barriers between different 3D modeling systems and maximize data reuse. There is no need to worry about CAD data exchange with your suppliers.



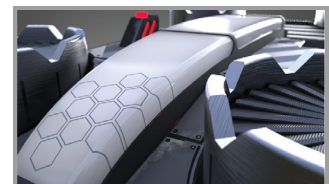
### 2 Easy to Learn & Use, 3D Visualization & Parameterization

The intuitive UI, clear 3D design workflow and the built-in Show-n-Tell™ tutorials help you to shorten your learning curve and reduce training costs, while rapidly visualizing in 3D and parameterize product design.



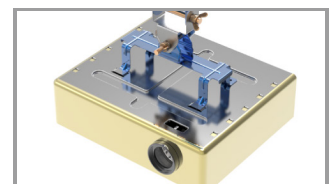
### 3 Flexible & Humanized Modeling Tool

Thanks to the unique Solid-Surface Hybrid Modeling, ZW3D can help to speed up modeling process and increase design flexibility with creative and personalized product designs delivered.



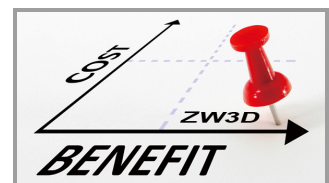
### 4 Versatile 3D CAD Platform

Various CAD functions, like 3D modeling, assembly, 3D annotations, 2D drawing, sheet metal, advanced FTI, reverse engineering and more, are provided in ZW3D, making it possible to meet the needs of different departments in your company.



### 5 Cost-effective 3D CAD software

Supported by a powerful and embedded file translator, leading to reduced communication costs, and an easy-to-learn UI, minimizing re-learning costs, ZW3D provides an effective CAD/CAM solution with low, long term replacement costs.



## Highlights of ZW3D CAD

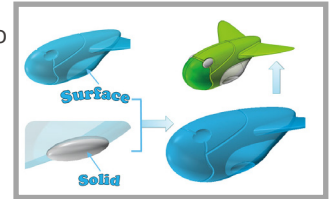
### 1. Multi-object File Management

- Users can store all objects, like part, assembly, 2D sheet, CAM plan etc., of an entire project in one file to improve the efficiency of data management.
- The traditional single-object file method is also provided to meet different requirements.



### 2. Unique Solid-Surface Hybrid Modeling Technology

- Designers do not have to worry if the object is a solid or a surface in ZW3D. It is possible to make Boolean operations for surface parts directly with solid geometries.
- Solid-Surface Hybrid Modeling technology eliminates the barriers between solid modeling and surface modeling to speed up the modeling design.



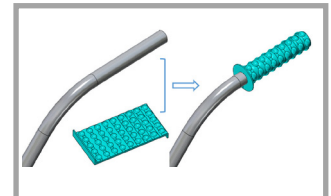
### 3. Better Design Cooperation

- Quickly generate different standard 2D sheet with views, dimensions and BOM table from parts or assemblies.
- Directly read 3D models from Catia, NX, Creo, SolidWorks, Solid Edge, Inventor, JT, STEP, IGES, DWG, Parasolid, DXF, STL, SAT etc.
- Export models to STEP, IGES, STL, Parasolid, SAT, 3D PDF & Catia files.



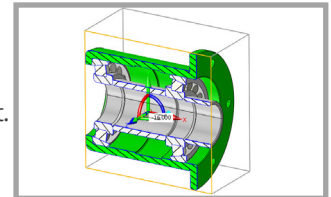
### 4. Flexible Embossing, Morphing & Wrapping

- Quickly emboss a high precision surface from a raster image.
- Support solid, surface and STL data to do flexible morphing and wrapping.
- Designers can be more flexible and creative, leading to optimal designs.



### 5. Product Verification Tools

- Visual analysis tools, like contour stripe, gaussian curvature, draft angle and thickness analysis, can be used to check surface quality and product structure.
- Dynamic section view & interference check help users verify if the parts and assembly will fit or not.
- Use vivid animations to demonstrate the product to anyone.



## ZW3D CAD Features

- |  |
|--|
| • Translator for Catia, NX, Creo, SolidWorks, Solid Edge, Inventor, IGES, STEP, Parasolid, DXG/DWF, STL and more |
| • 2D Sketching with Ready-sketch Library   |
| • 3D Wire Frame Tools & 3D Sketch  |
| • Parametric Modeling & Direct Edit  |
| • Solid-Surface Hybrid Modeling  |
| • Shape Morphing, Wrapping & Flex Tools  |
| • Assembly Design, Interference Check & Animation  |
| • Geometry Healing   |
| • Sheet Metal Design, Weldment & FTI   |
| • Reverse Engineering  |
| • 2D Views, BOM/Hole Tables  |
| • PMI (Product Manufacturing Information)  |

## Valued Customer



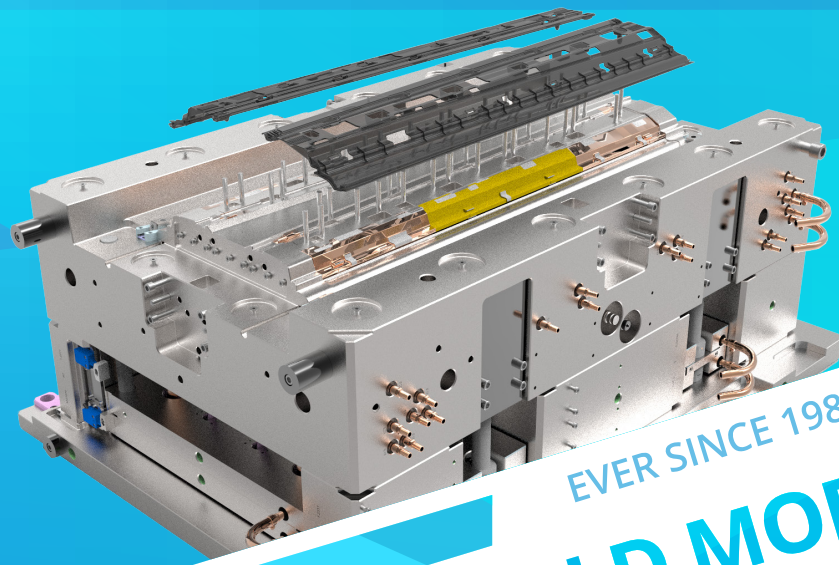
With 125 years of experience, BESSEY is one of the world's leading manufacturers of professional hand tools, providing more than 1,600 kinds of clamping & cutting tools to the automotive industry in over 100 countries.

### ZWSOFT

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# ZW3D MOLD MODULE

## Overview

The ZW3D Mold design solution covers your needs throughout the whole-process of mold design, providing high-quality data import, smart model healing, unique non-solid mold parting, extendable mold base and standard parts, and practical electrode design & 2D document. It helps you to accelerate the cost evaluation and maximize your productivity by shortening the mold design cycle.

## Top 5 Reasons to Choose ZW3D Mold

### 1 Whole-Process 3D Mold Design

Improved efficiency is achieved through a streamlined workflow. In a single system, users can complete all mold design work with 3D visual and parametric design, reducing costs and facilitating collaboration.

### 2 Powerful Design Verification Tools

The intuitive UI, clear 3D design workflow and the built-in Show-n-Tell™ tutorials help you to shorten your learning curve and reduce training costs, while rapidly visualizing in 3D and parameterize product design.

### 3 Excellent Time Saver for Quotation

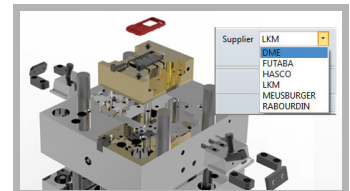
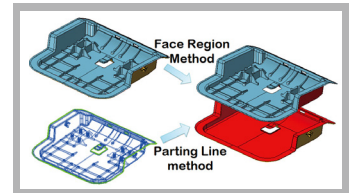
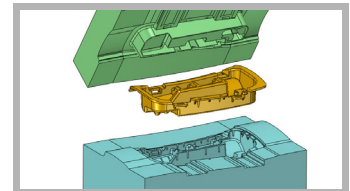
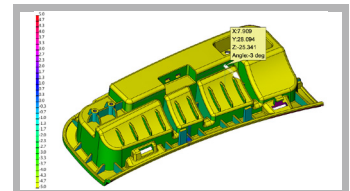
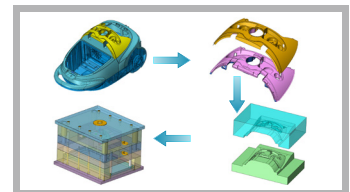
ZW3D's non-solid mold parting without healing makes itself stand out from the competition, which greatly shortens the time of cost evaluation and quotation, speeding up the cycle of mold design.

### 4 Faster Core & Cavity Splitting

Quick splitting of the most complex parts with parting lines or the core-cavity region definition method helps users improve work efficiency, reduce delivering time and win more business opportunities.

### 5 Extendable MoldBase & Standard Parts

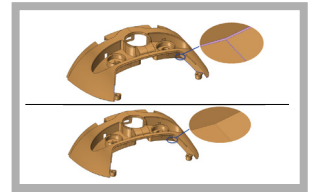
Work with an extensive library of mold bases and standard parts that can be modified and personalized, meeting the requirements of different countries and companies.



## Highlights of ZW3D Mold

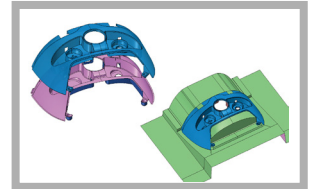
### 1. Mold Preparation

- Directly read many standard formats and 3D models from Catia, NX, Creo, SolidWorks, Solid Edge, Inventor and more.
- Draft analysis tool helps to check undercuts and vertical walls with rainbow color effect.
- Thickness analysis verifies the manufacturability of product structure.



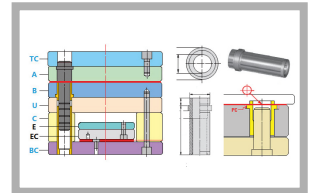
### 2. Flexible and Fast Parting

- Solid model is not a requirement for splitting. Open geometry can be directly split without healing to shorten the quotation period.
- Split quickly with two flexible methods: parting lines and face region definition.
- Various tools help users to quickly establish parting lines & faces to increase efficiency.



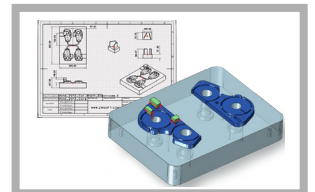
### 3. MoldBase & Standard Parts

- Easily load an entire mold base from many major suppliers: DME, Hasco, LKM, Futaba, Meusburger and more.
- Numerous standard parts are provided and trimming is performed automatically.
- Customizable mold bases and standard parts can satisfy different requirements.



### 4. Electrode Design & 2D Document

- Easy-to-use electrode extract tools allow you to deal with complex electrodes quickly.
- Automatically create a batch of electrodes and 2D sheets to dramatically shorten development time and reduce errors.
- Customized CAM templates help you to machine electrodes efficiently and get good G code with just several mouse clicks.



## ZW3D MOLD Features

- Built-in CAD Features
- Mold Design Wizard
- Parting Lines & Faces, Core-Cavity Splitting
- MoldBase & Standard Parts Library
- Cooling, Runner, Gate, Slider
- Electrode Design

### ZWSOFT

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## Valued Customer

**Kamal<sup>®</sup>**  
**MOULDS**

Kamal Moulds is a reputed manufacturer and supplier of Dies and Moulds. ZW3D was chosen to assist them to create multi-cavity mould design and develop easy and fast implementation due to its various product verification tools and healing features.

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# ZW3D CAM MODULE

## Overview

ZW3D CAM is a comprehensive CNC machining solution, offering 2-5 axis milling, turning, high-speed machining and drill strategies. Powered by the unique QuickMill™ technology, with automatic feature/region identification and a flexible tool path editor, engineers can generate highly reliable and easy-to-program cutter paths efficiently, bringing unmatched productivity and reliability.

## Top 5 Reasons to Choose ZW3D CAM

### 1 Easy to Learn & Use

ZW3D provides an intuitive and customizable interface to assist with and optimize your workflow. Whether you are an experienced engineer or a complete novice, ZW3D CAM can be mastered with a pretty short learning curve.

### 2 A Reliable CAM Suite

Lots of options in ZW3D, like accurate calculation of minimum tool overhang length, safe ramp, gouge detection and collision check between holders and parts, table, clamps etc., ensure feasible and reliable machining environment.

### 3 Powerful Built-in CAD Capability

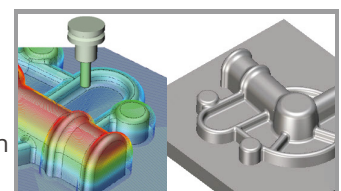
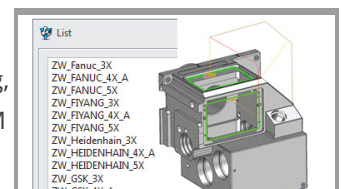
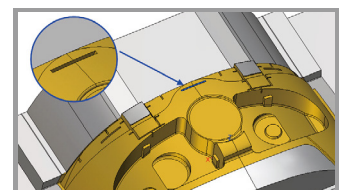
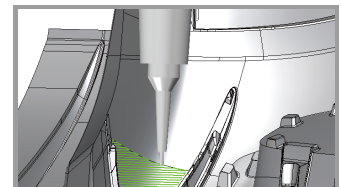
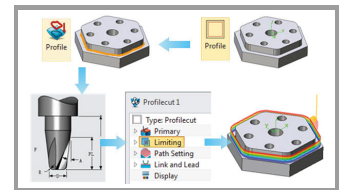
The built-in translator can read mainstream file formats in the industry. Plus, any modifications of model geometry in the integrated 3D CAD module can be synchronized with changes of tool paths in ZW3D CAM module.

### 4 A Versatile CAM Platform Suite

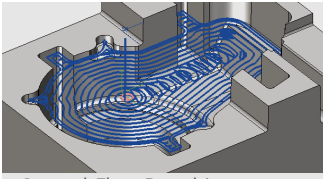
ZW3D offers designers sufficient capabilities to deal with various types of machining, including 2-5X Milling, High Speed Machining, Turning, Drilling etc. Supplied with the CAM suite, a rich library of easy-to-customized post-processors are provided to drive your machines.

### 5 Efficient and High Quality Machining

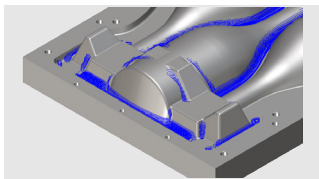
The unique QuickMill™ technology automatically determines uniform cutting loads and feed rates, providing practicable machining more efficiently. Finishing operations can be well-performed to get high quality surface.



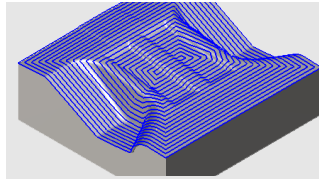
## Highlights of ZW3D CAM



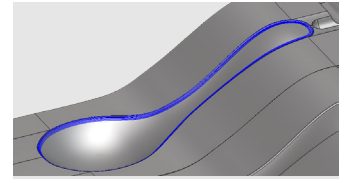
SmoothFlow Roughing



Lace Roughing



3D Offset Finishing



Corner Finishing

### 1. Smooth 2X-3X Milling

- More than 40 types of machining operations, including High Speed Machining, allow programmers to deal with all kinds of work easily.
- 3X QuickMill™ generates a smooth roughing tool path with a uniform cutting load and adjusts the feed rate automatically to lengthen tool life.
- Easy to get the desired toolpath on not only Nurbs but also STL geometry, even undercut toolpath on both of them.

### 2. Intelligent Machining Feature Recognition

- Hole Tactic—automatically recognizes features and generates manufacturable tool paths, reducing programming time by 70%.
- With the Reference Tool or Reference Operation, ZW3D can identify previously-machined areas automatically and create tool paths correspondingly.

### 3. Flexible & Efficient Tool Path Editor

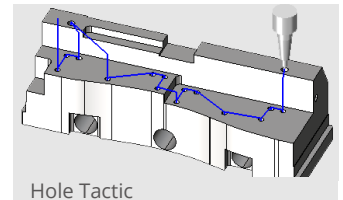
- Edit entire or partial tool paths with tools like Trim, Re-order, Re-link, Extend & Transform.
- With tool path editor, you can get better tool paths and machining efficiency without tedious adjustments of parameter settings and continuous re-calculation of tool paths.

### 4. Turning & 5X Milling

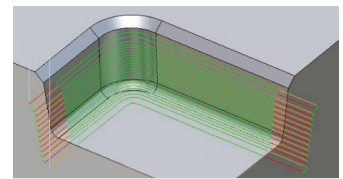
- Turning provides outside and inside Roughing, Finishing, Grooving, Threading, Facing and Drilling to deal with most types of turned parts.
- 5X Milling provides a complete solution for multi-axis machining. Multi-side of work piece can be machined in one set-up to achieve highly accurate cutting with greatly reduced machining time.

### 5. Verification & Simulation

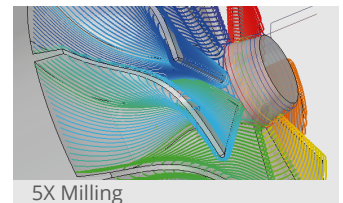
- The solid verify tool simulates the actual machining process and analyses the excess materials, providing safer, more reliable and more efficient machining.
- The analysis function helps programmers to detect collisions and gouges between tools and stock, table, clamps etc.



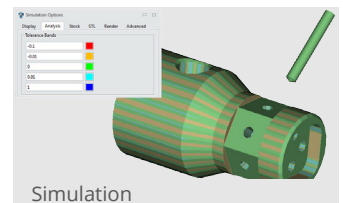
Hole Tactic



Tool-Path Extend



5X Milling



Simulation

## ZW3D CAM Features

• Built-in Basic CAD tools
• Turning
• Hole Making
• 2-5Axis Milling
• Auto-Feature Tactics
• Tool-Path Editor
• Collision Detection & Solid Verification
• Operation List
• Post Processor

## Valued Customer

**Newamstar**  
Global Packaging Machinery Supplier

Newamstar is a leader of China's high-end liquid packaging machinery, serving international beverage brands, like Coca Cola, Pepsi Cola, Danone etc. They introduced over 100 sets of ZW3D, in a bid to produce packaging machines and blow molding machines.

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