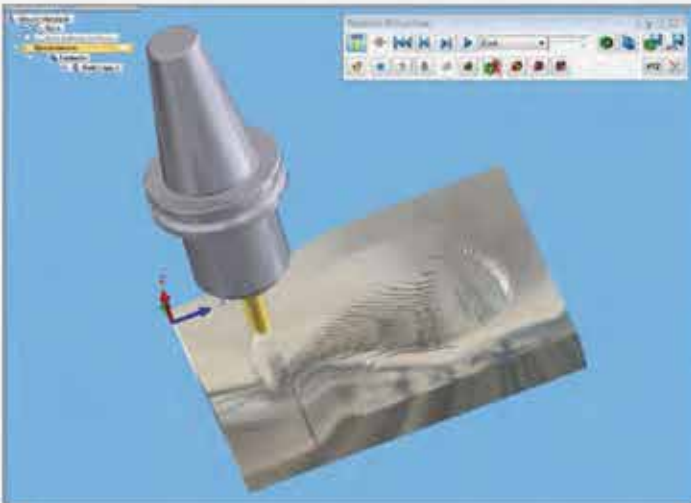## For 3D Toolpaths, Roughing, and Finishing

- **Multi-Surface Features** are easily defined using interactive feature recognition and the interface allows you to create complex multi-surface features, as well as contain and avoid areas, quickly and easily

- **Feature-Based Machining** reduces programming time by as much as 90% compared to traditional 3-axis CAM software because strategies for multi-surface features can be stored and reused automatically for multiple rough and finishing operations

- **Knowledge-Based Machining** allows you to capture and reuse your programmers' and machinists' best programming practices using the Technology Database, reducing programming time by as much as 80%

- **Full Model to Toolpath Associativity** automatically updates the CAM data with design changes to the model geometry

- **Seamless Integration Inside Solid Edge** means that the design model and CAM model are one-and-the-same, so users enjoy a similar interface with the same

intuitive menus, toolbars and view manipulation, making mastery of the software quick and easy

- Optional module **CAMWorks® VoluMill™** creates ultra-high performance toolpaths by using the latest advanced technology to rough mill multi-surface parts faster than any other software available today. Reduce machining time by as much as 85% and increase tool life by as much as 500%, even in the hardest materials.

- **Flat Area Machining** significantly reduces machining and programming planar faces and improves surface finish. A Flat Area operation uses a roughing pattern to remove material on flat faces. Planar faces are automatically located and machined with the appropriate flat tool.
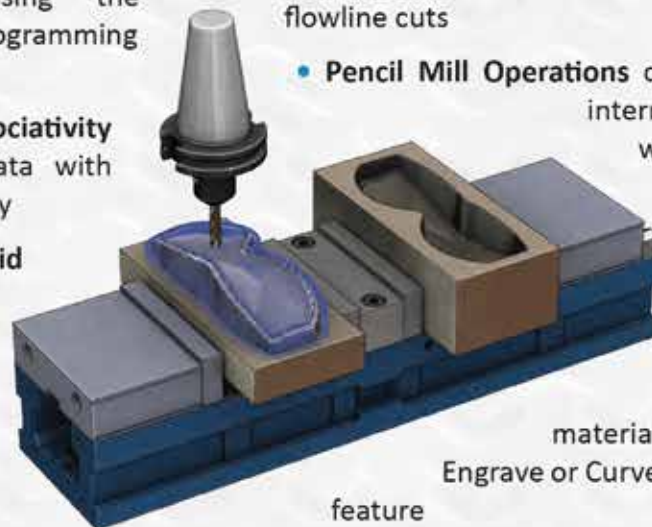
- **Constant Stepover** creates passes at a constant distance from one another by offsetting inwards along a surface

- **Z-Level Operation** generates Z-level passes from a set of surface contours. Optimal for semi-finishing and finishing of steep walls. Options are available for combination Z-Level/Constant Step strategy and helical milling.

- **Pattern Project Operations** have the following pattern options: parallel slice, radial, spiral and flowline cuts

- **Pencil Mill Operations** create toolpaths along internal corners and fillets with small radii. Ideally suited to cleaning up after other finishing strategies
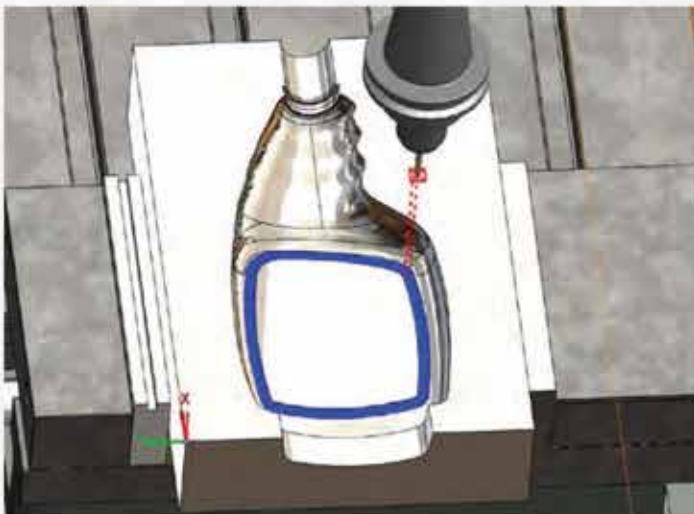
- **Curve Project Operations** remove material by projecting 2.5-Axis Engrave or Curve features on the 3-Axis feature

CAMWORKS 3-AXIS MILLING

CAMWorks®
An HCL Technologies Product

- **High-Speed 3-Axis Roughing** cycles can reduce machining time by up to 40% over conventional roughing with less tool wear

- **3-Axis Finishing Operations** include parallel slice cut, constant stepover, Z-level, curve project, and many more

- **4- and 5-Axis Indexing Included!** The CAMWorks 3-axis module also includes 4- and 5-axis indexing (pre-positioning) to reduce setups and facilitate the use of shorter, more rigid tools. Setups and indexing angles are created and posted automatically.

- **Rest Machining** automatically generates toolpaths in areas that weren't cut with larger tools. Available for both roughing and finishing strategies

- **Assembly Mode Machining** allows you to accurately model your fixtures and clamps to avoid costly crashes with tools, using Solid Edge assembly mode

- **Simulation and Verification** allows you to easily and accurately step through and simulate toolpaths with geometry comparison to accurately validate toolpaths to the design model. Step-through toolpath options include continuous play and speed control. Toolpath simulation gives you a realistic metallic texture.

- **Optimized, Out-of-the-Box Strategies** for mold core and cavity programming reduces programming time

CAMWorks Modules are available in a variety of bundles or combinations:

- 2.5-Axis Mill
- 3-Axis Mill
- Multi-Axis Machining
- Mill Turn
- 2- and 4-Axis Turning
- Wire EDM
- CAMWorks VoluMill™
- CAMWorks Virtual Machine