

# : visi mould

mould tool design made simple

VISI Mould provides the complete mould tool design solution based on industry specific automation that guides the user through the mould development process. Dynamic operation previews provide the designer with a 'real time' view of how component changes will affect the tool design.

## Extensive range of CAD interfaces

VISI can work directly with Parasolid, IGES, CATIA v4 & v5, Pro-E, UG, STEP, Solid Works, Solid Edge, ACIS, DXF, DWG, STL and VDA files. The extensive range of translators ensures that users can work with data from almost any supplier. The ability to skip corrupt records during the import process provides a platform from where the most inconsistent data can be managed. Very large files can be handled with ease and companies working with complex designs will benefit from the simplicity with which their customer's CAD data can be manipulated.

## True hybrid modelling

VISI provides a dynamic structure from where it is possible to work with either solid, surface, wireframe or a combination of all three without any restrictions. Solid modelling has become a fundamental cornerstone of design but is often limited to prismatic or basic geometry. Solid modelling commands include boolean technology such as unite, subtract, extrude, revolve, sweep, cavity, intersect and hollow. Surfacing technology however provides a different set of tools and techniques for more organic, free-form geometry creation. Surface modelling

functions include ruled, lofted, drive, sweep, n-sided patch, drape, tangent, draft, revolved and piped surfaces. These modelling commands combined with advanced surface editing make it easy to heal imported geometry or construct the most complex 3D data.

## Model validation & preparation

Essential model preparation tools are available to automatically inspect model data for moulding feasibility, redundant geometry, sliver faces and geometry inconsistency. The draft analysis provides the ability to quickly interrogate a model using user-defined colour draft zones to easily identify undercut and non drafted faces. Duplicate geometry can be highlighted, extracted and automatically isolated into warning layers. Sliver face detection and automatic removal provides the ability to delete potentially problematic faces whilst maintaining solid topology. Finding potential design issues at this early stage will generate huge time savings further along the design process.

automatic recognition  
of design changes

draft angle  
visualisation

multiple split  
line calculations

solid, surface, wireframe &  
mesh geometry deformation

core & cavity  
model separation

dynamic 3D  
tool design

customisable supplier  
catalogues

intelligent component  
editing

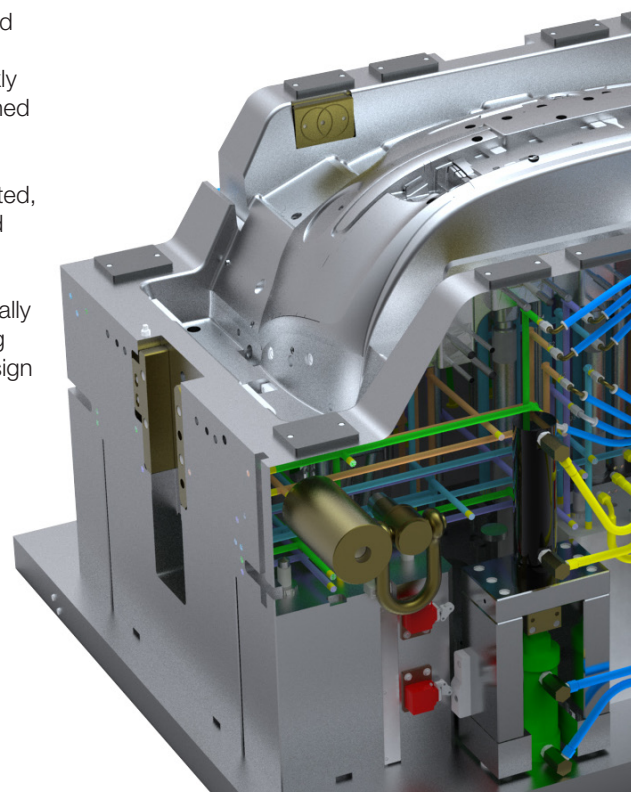
slides, lifters and  
flexible up & away units

3D cooling with  
collision check

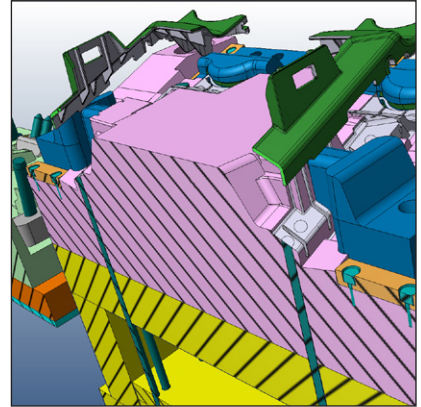
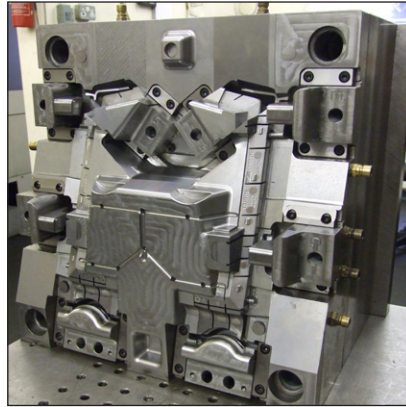
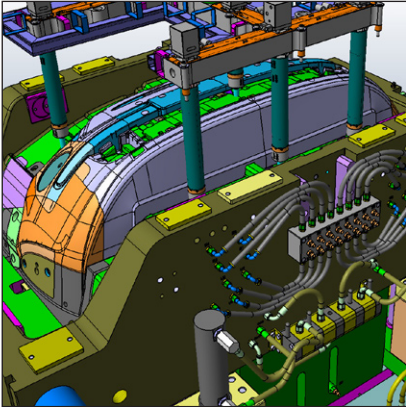
associative tool  
detailing

automatic B.O.M.  
creation

seamless link to  
plastic flow analysis  
and manufacturing



The parametric structure of the tool assembly allows the designer to quickly construct a mould layout using libraries from leading suppliers including Hasco, DME, DMS, Strack, Cabe, Ceni, Danly, FCL, Futaba, LKM, Meusburger, Pedrotti, Rabourdin, Siam, Sideco, Siderurgica, Siscat, TVMP, UMC, VAP and Victoria.



#### Split line / Plane creation.

A number of methods are available to automatically generate the optimum split line around a component. Interaction with the computer generated result through a highly graphical interface allows the user to adjust the split line to suit individual design requirements. Once complete, it is possible to extract the split line result as either curve geometry or to automatically split the model into the relevant core, cavity or side moving zones. A comprehensive suite of surfacing tools and a split plane manager combine to create a powerful tool for the generation and management of the most complex parting and shut off faces.

#### Automated tool assembly

Access to the global parameters of the tool and individual plate parameters ensure that modification of the tool layout is quick and efficient. Any change to the plate dimensions will automatically adapt any connecting standard component. Part list information is automatically created and can be exported as an external spreadsheet for downstream processes such as detailing and stock ordering.

#### Undercut release features

Dedicated tools for the creation of undercut release mechanisms such as side actions, lifters and flexible up & away units are all available. The proprietary parametric component library enables the designer to dynamically construct around the moulding undercut feature and instantly view the impact on the tool design.

#### Intelligent components

The repetitive tasks of the designer are greatly reduced by the use of intelligent standard components from over 35 different suppliers. The length of screws and other components will automatically adjust to suit differing plate thicknesses and rule based parameters. Ejector pins are automatically trimmed to length to match the required 3D cavity form. To prevent rotation, pins can also be locked from turning with the choice of multiple locking methods.

#### Cooling system integration

Cooling channels can be easily inserted using the dedicated cooling wizards. Simply sketch the path of the cooling channel and the wizard gives the designer full control over position and sizes, providing automatic proximity checks to ensure cooling lines do not

interfere with other tooling elements.

Standard cooling line fittings can be easily inserted from leading supplier libraries. Any cooling circuit can be exported as a design template and re-used on a different tool design. If the bolster sizes are different, the cooling circuit can be automatically adapted to coincide with the new plate sizes.

#### Tool detailing

A complete set of 2D detailed drawings can be generated directly from the solid tool assembly. This includes fully editable 2D and isometric sections views, automatic plate dimensioning and hole type and position tables. Individual details can be created from any component in the assembly and displayed as a mixture of 3D rendered and 2D drawings. Any standard catalogue component will also have the correct detail representation within a section view. A change in the solid model will result in a modification to the 2D view along with any fully associative dimensions. Parts list table items and their respective balloon references can be added to the drawing using dedicated assembly management tools.

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