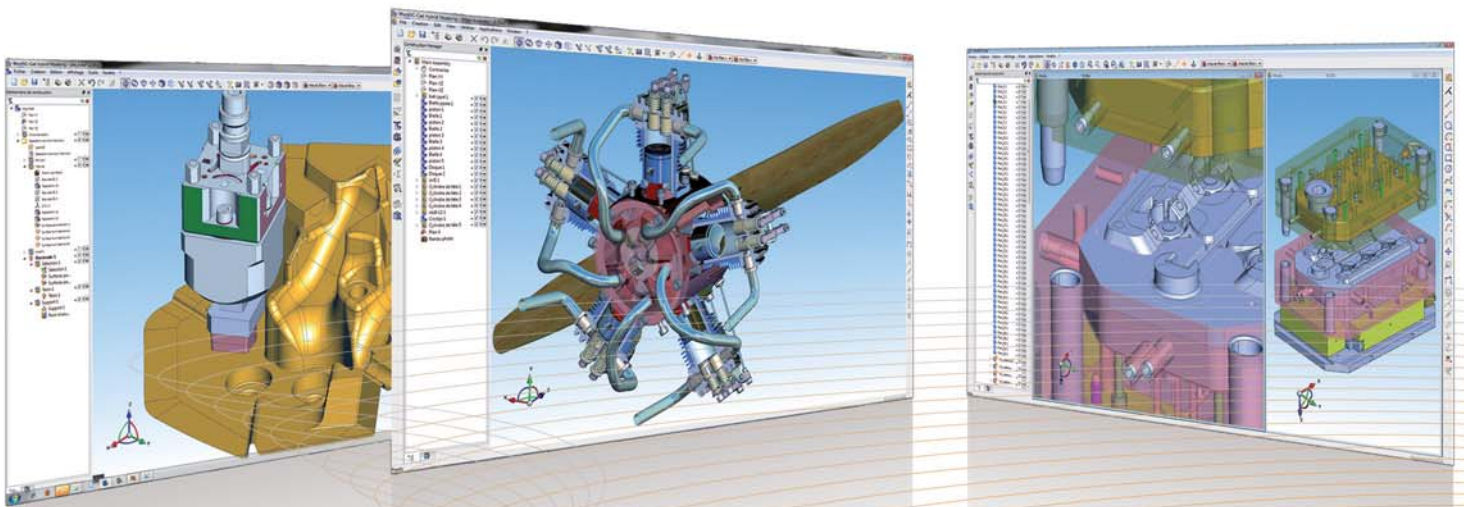




WorkNC[®] CAD



WorkNC-CAD Hybrid Modeling
A specialist 3D CAD solution
from Sescoi

WorkNC-CAD Hybrid Modeling

A powerful, full-featured 3D CAD solution

WorkNC-CAD Hybrid Modeling pushes back the limits of 3D model design, repair and machining preparation. This powerful 3D surface and solid modeler allows users to work on open solids as well as editing and repairing complex 3D models.

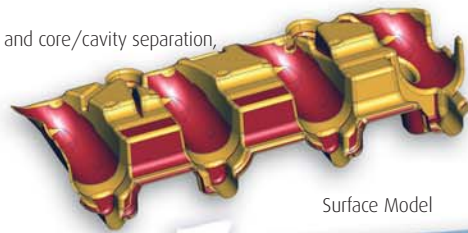
As with all Sescoi's software, WorkNC-CAD Hybrid Modeling is designed for ease of use, with Sescoi's industry experience applied exactly where needed to automate complex tasks.

Along with a variety of CAD translators, the software includes a range of modules for electrode creation, core/cavity separation and wire EDM, making it one of the most powerful, full-featured 3D CAD solutions available on the market today.

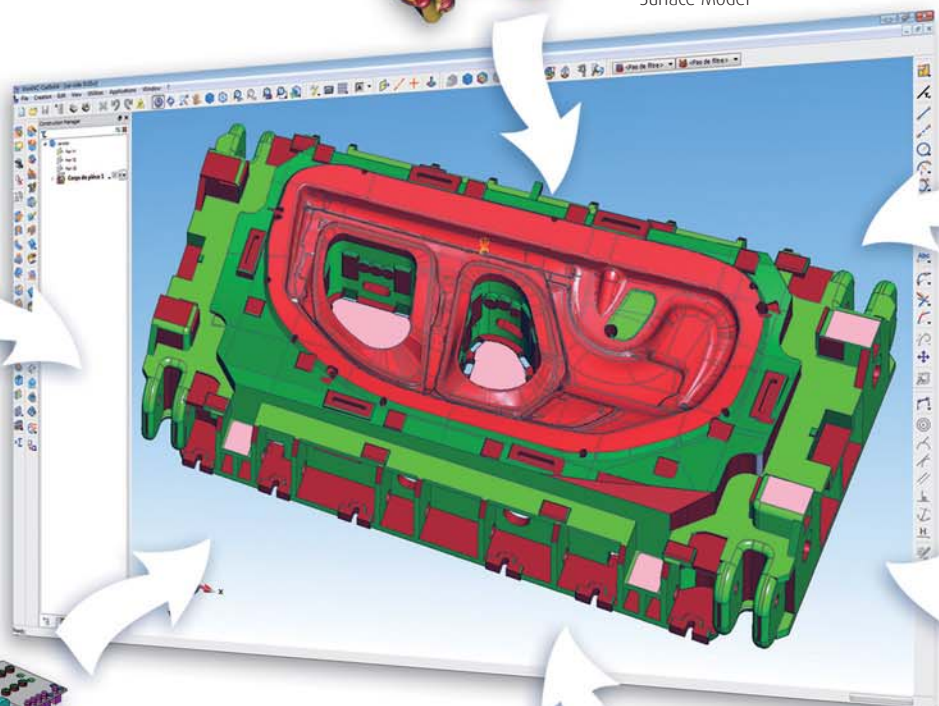
- > A wide variety of standard and native CAD translators available,
- > Hybrid solid / surface modeler,
- > Multi-element part management,
- > Model analysis and repair,
- > Specific application modules including electrode creation and core/cavity separation,
- > Wire EDM module (detailed in a separate flyer)
- > Parametric modeling of parts and 3D assemblies,
- > Associative parts and assembly drafting.



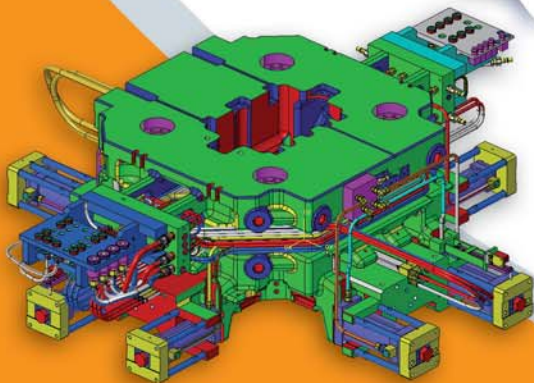
Solid Model



Surface Model



UG® / Catia V5® Import



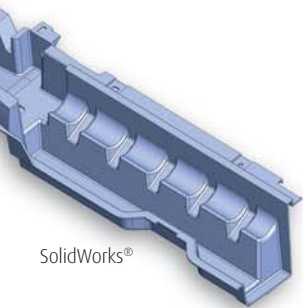
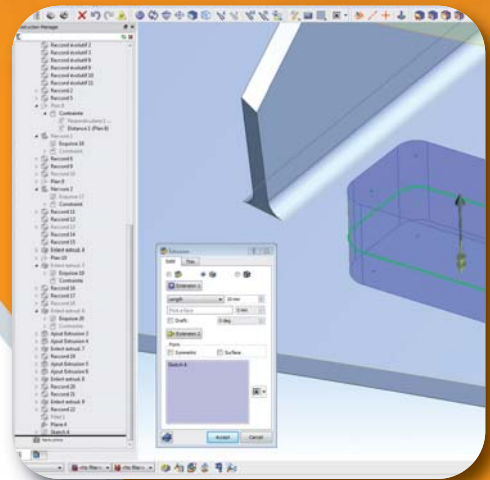
Step®, IGES®
Import/Export



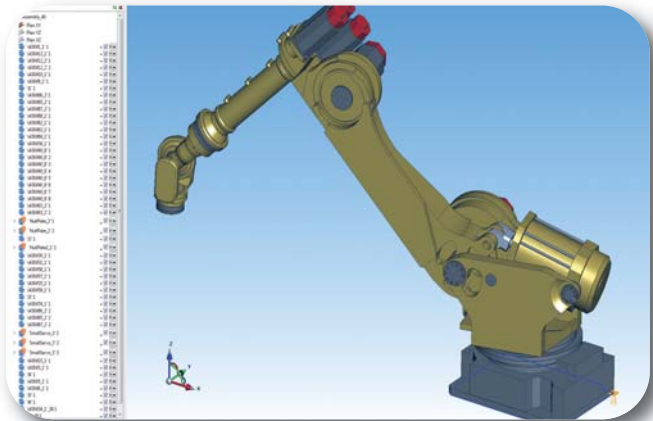
User friendly 3D CAD software

The up-to-the-minute, user-friendly graphic interface, with a look, feel and logic similar to those of the most well known 3D CAD solutions, ensures that even novice users quickly find themselves at home with the software.

- > Large graphic visualization area,
- > Construction tree which enables simplified CAD/CAM entity management,
- > Context menus accessible in the construction tree panel as well as in the graphic window,
- > Access to functions according to context,
- > **Realtime preview** of surface and solid modeling functions,
- > Fully configurable interface (keyboard shortcuts, position of adjustable tool bars).



SolidWorks®

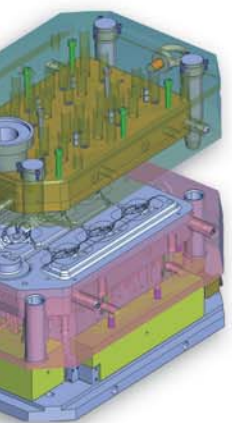


Interoperability you can rely on

With a wide variety of well-known standard and native CAD translators available, WorkNC-CAD Hybrid Modeling reduces or eliminates any potential data management and interoperability issues. These translators enable fast, accurate retrieval of parts, assemblies or 2D drafts.

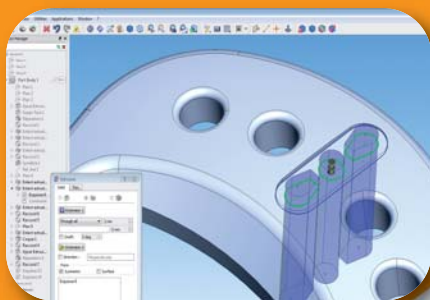
- > DXF / DWG (Native AutoCAD®),
- > STL, VRML, BMP, PNG, JPEG,
- > IGES, STEP,
- > CATIA® V4, CATIA® V5, Unigraphics®, SolidWorks®, Solid Edge®, CADD5®, ProE®

Assembly



WorkNC-CAD Hybrid Modeling

Design and repair of simple or complex parts



Parametric surface and solid modeling

WorkNC-CAD Hybrid Modeling works like the majority of today's 3D solid based CAD systems, enabling users to perform 3D part modeling functions such as extrusion, revolution, sweeping, smoothing to a 2D geometric plane (sketch), etc.



Users can work directly on solids with modeling options, or 'functions' such as draft angles, fillets, chamfers, drilling and shells. These are combined and managed in the construction tree to create the model required.

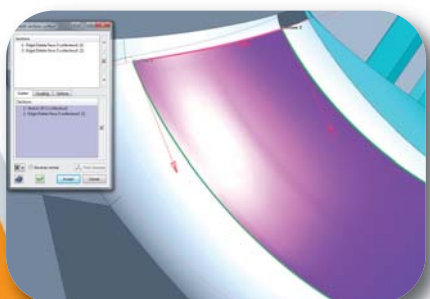
The powerful surface and solid modeler allows users to work on open solids as well as editing and repairing complex 3D models.

Part preparation and repair ready for machining

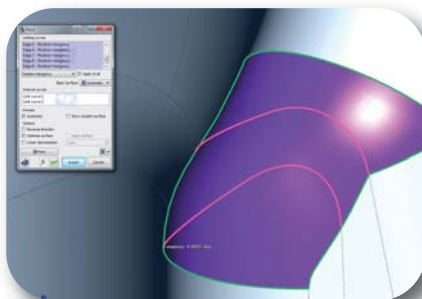
WorkNC-CAD Hybrid Modeling allows users to create and manage multi-element parts and carry out Boolean operations such as add, subtract and common zones.

As well as standard solid functions, a complete range of high performance curve creation, modification and surface creation functions have been specifically developed to meet users' requirements.

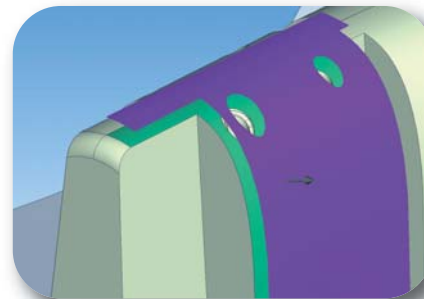
- > Multi-element part management and Boolean operations: simplified reading of the construction tree, easily executed modifications, fast model reconstruction and creation of highly complex parts,
- > Surface and solid functions: extrusion, revolution, sweeping, smoothing, helix...
- > High performance surface creation functions: repaired surfaces, offset surfaces, extended surfaces (by tangency, normal, draft...), multi-section surfaces (sections and guides), stripped surfaces, fillets and surface joints...
- > Surface modification functions: surface trimming, surface stitching and surface cutting...
- > Full range of curve creation functions: link curves, intersection curves, projected curves, parametric ISO curves, silhouette curves, curve extensions...
- > Part analysis functions (sections, curvature, draft angles, bounding box...),



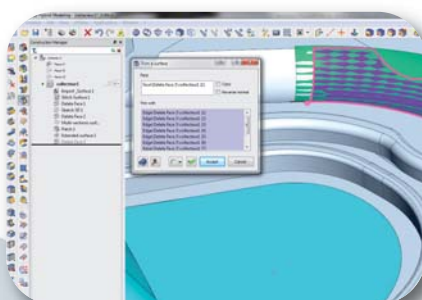
Multisection patch



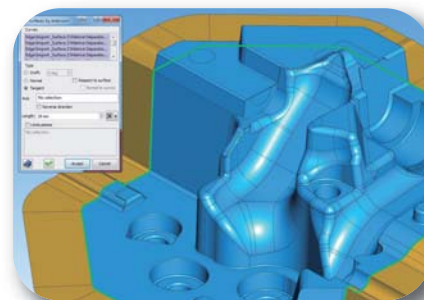
Automatic patch



Surface offset



Automatic restriction

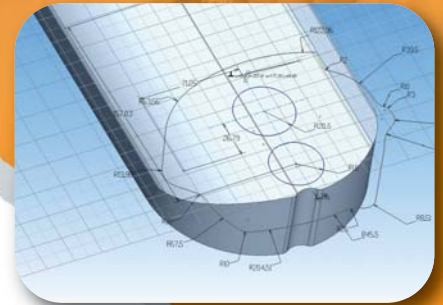


Surface extension

Integrated 2D parametric sketcher

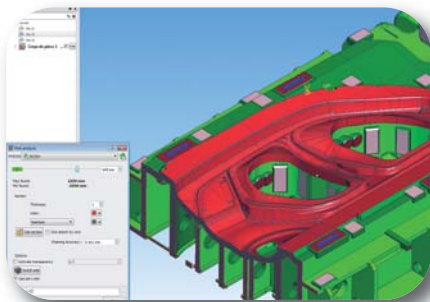
The sketcher, with its intuitive and intelligent in-built help tools, gives the user real flexibility when creating 2D entities. Automatic inclusion of dimensional and geometric constraints (parallelism, tangency ...) allows dynamic real time modification of dimensions, geometries and sketches, respecting and maintaining construction logic.

- > 2D entity modeling functions,
- > Intelligent help when creating 2D sketches (dimensions, extremities ...),
- > Geometric constraints (parallel, perpendicular, coincident, concentric, tangent, fixed ...),
- > Automatic insertion of parametric constraints,
- > Dynamic 2D entity 'Drag & Drop' function for all sketch modifications (construction constraints are automatically taken into account).

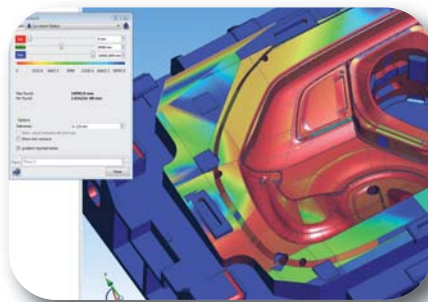


Mold Analysis Functions

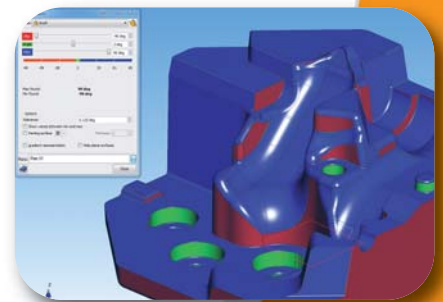
WorkNC-CAD Hybrid Modeling includes a complete range of special application analysis tools for preparing 3D models for manufacturing. See illustrations below.



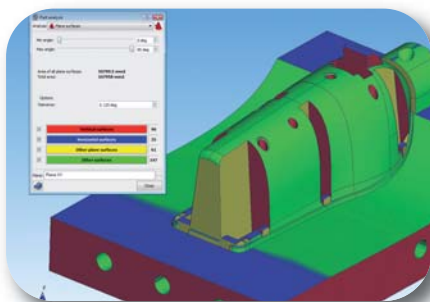
Sectional view



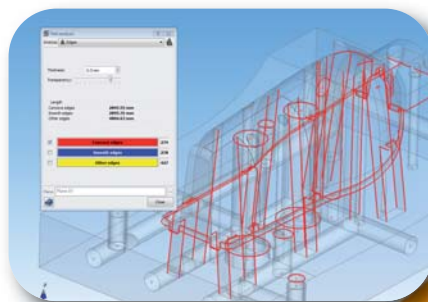
Curvature radius



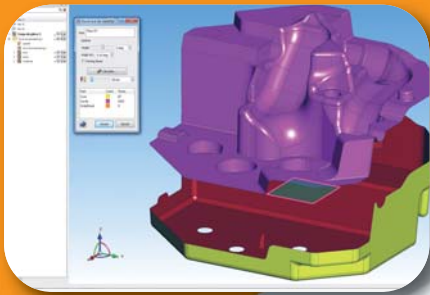
Drafts



Surface analysis



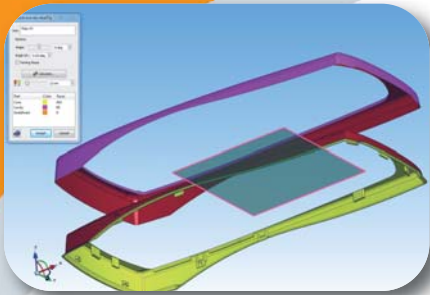
Concave edges



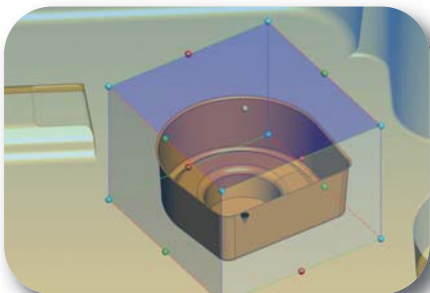
Core/Cavity separation module

The WorkNC-CAD Hybrid Modeling Core/Cavity Separation module is both intuitive and interactive. Whether working on open or closed models, users can easily drag & drop to re-attribute surfaces from one group to another after separation calculations.

- > Draft angle and undercut analysis functions,
- > Simple and intuitive separation,
- > Separation movement simulation...



WorkNC-CAD Hybrid Modeling includes a wide range of parting line and surface creation tools and internal surface creation functions (by extension, reparation, etc).

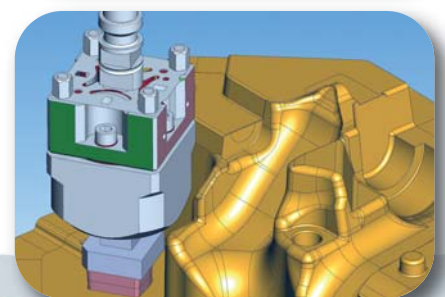
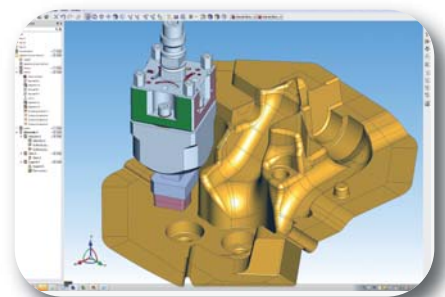
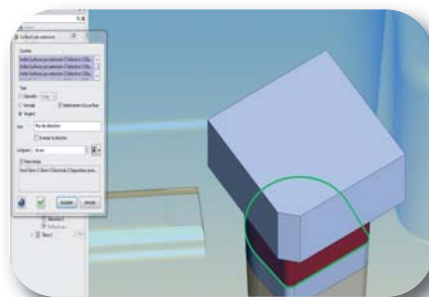
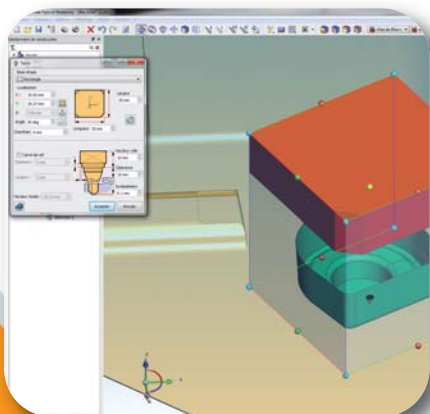


Electrode creation module

The creation of electrodes is an important stage in the complex mold-making process. With the WorkNC-CAD Hybrid Modeling electrode module, users achieve impressive productivity gains in a short space of time.

With this module, electrodes can be manufactured more easily, quickly and reliably as the software automates a large number of repetitive and error prone operations, yet still allows the interactivity required for certain processes, better handled manually.

- > Automatic extraction of active surfaces by stock model positioning (rectangular or cylindrical),
- > Manual modification of extracted surfaces is also possible
- > Automatic tangency extension according to a given direction or surface draft,
- > Tool holder selection from integrated library,
- > Collision verification between the part and the tool holder,
- > Generation of associated documentation.



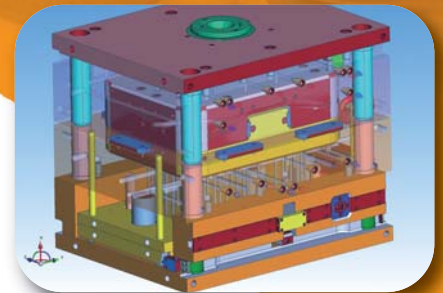
Work in assembly mode for even greater productivity

In the WorkNC-CAD Hybrid Modeling assembly mode, models can be directly or interactively inserted, created or modified. With the software's 3D assembly constraints, components can be made to interact and simulate machine operation.

The user can view a full simulation by directly moving parts of the mechanism.

By using external references when designing a 3D part in assembly mode, the user can create new parts based on existing geometry. In this way when a modification is applied, the related part or parts are automatically modified guaranteeing model coherence.

- > Wizards for inserting assembly constraints (plate faces, align faces, tangencies, parallelism, perpendicularity, fixed, etc),
- > Component creation in the assembly mode,
- > Parametric linking between components geometries of the assembly (external references),
- > 3D function creation directly in the assembly mode (simple or complex drilling, extrusion, revolution),
- > Easy to use library management (direct dragging of components into an assembly).
- > Simulation of assembly operation (mechanism kinematics),
- > Assembly configuration (creation of assembly variants).

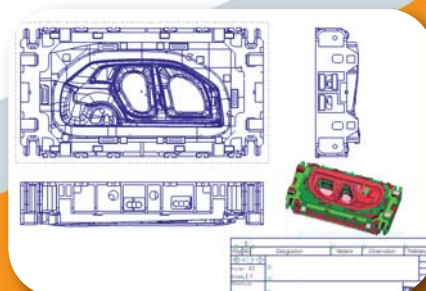
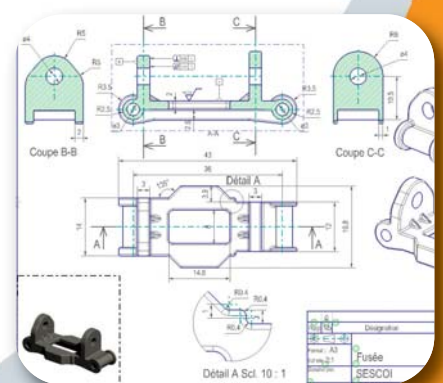


Associative 2D drafting

With WorkNC-CAD Hybrid Modeling, the user can automatically generate precise 2D part or 3D assembly drawings fast. Bi-directional associativity between the 2D drawing and 3D model ensure that the 2D drawing is updated via a dynamic link to the 3D model and vice-versa when any changes are made.

A number of user friendly, efficient functions are also available that allow the user to add notes and details to drawings. The software's associative database ensures that drawings and annotations are up-to-date at all times (associativity between parts - assemblies - drawings) guaranteeing total reliability of technical data.

- > Automatic or manual creation of drawing views,
- > Wizard and pre-visualization when adding standard 3D views,
- > Associative complementary information functions (dimensioning, geometric measurements, roughness, tolerance, axes, marking, hatching ...),
- > Total and bi-directional associativity between 2D and 3D entities,
- > Cross-sectional and detailed views can be directly added when making a draft,
- > BOM: Automatic generation of bills of materials.



Sescoi® has the solution

Since 1987, manufacturers around the world have put their trust in the high quality, reliability and ease of use of SESCOI's software solutions. WorkNC, one of the world's most widely used CAM/CAD system, WorkPLAN Enterprise a new generation custom manufacturing ERP solution, the MyWorkPLAN job management system and WorkXPlore 3D, an award-winning, high-speed 3D viewer, are just some of the solutions developed by SESCOI.

We constantly invest in quality, customer service, research and development to provide customers with cutting edge software technology.

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