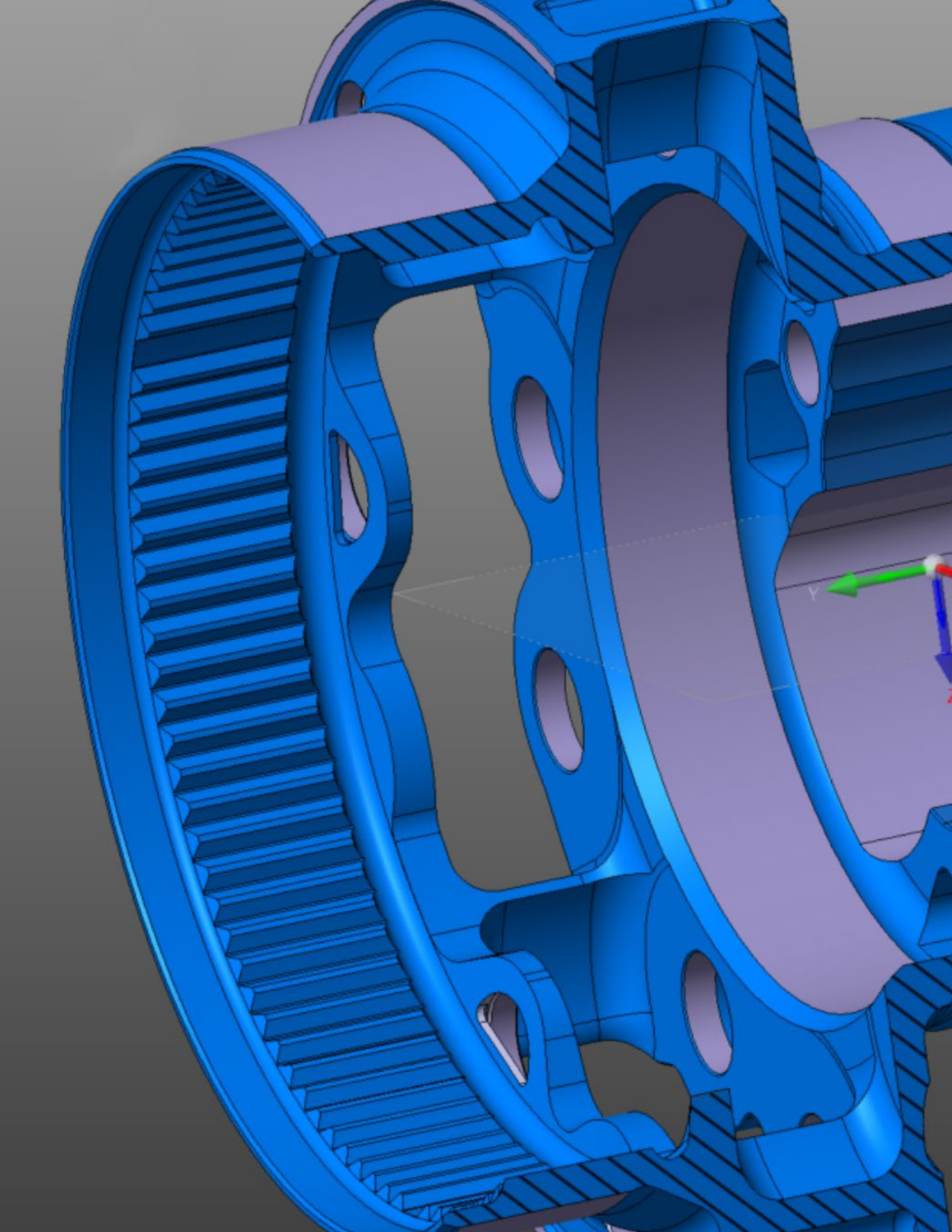
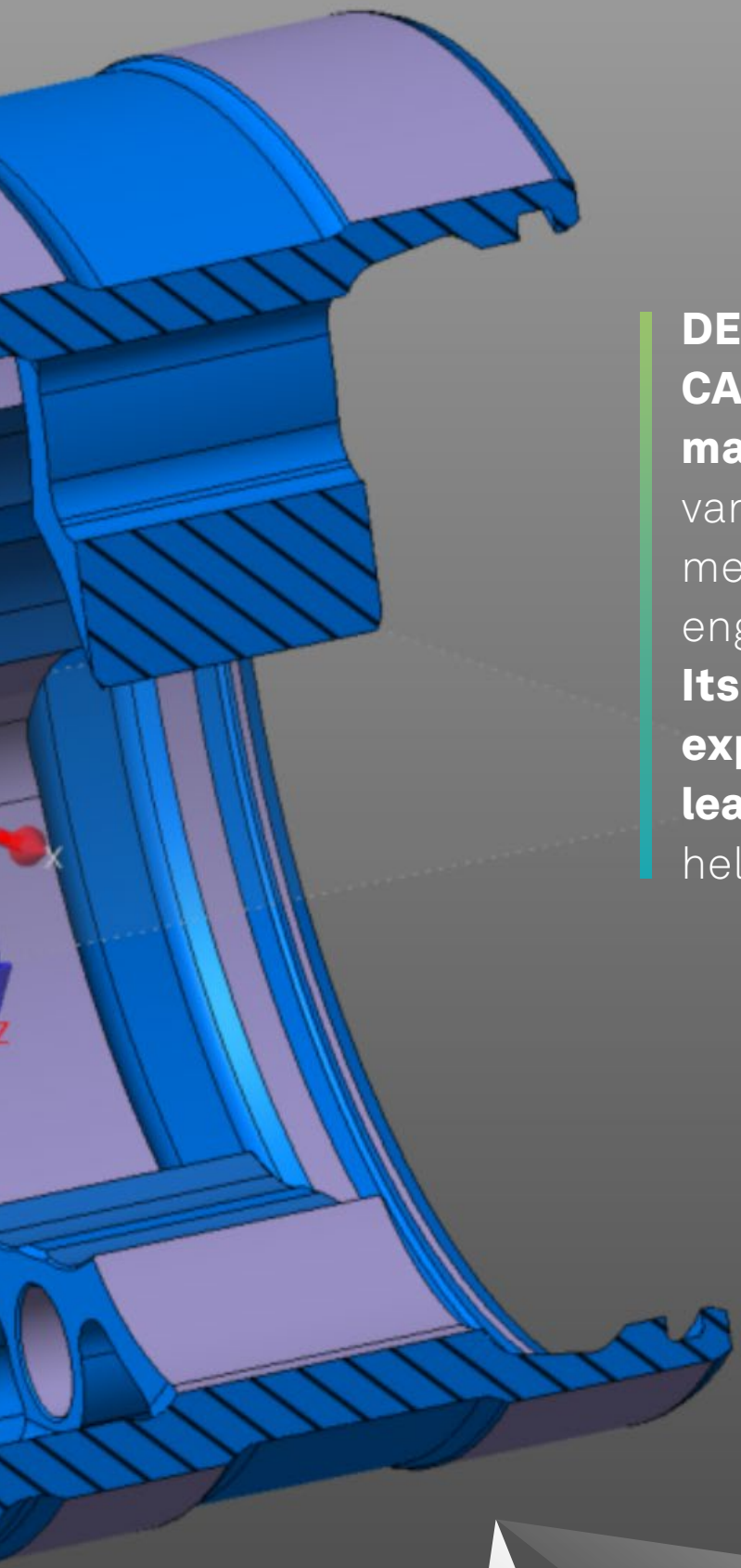
HEXAGON

Brochure

DESIGNER

CAD application for smarter manufacturing





DESIGNER is Hexagon's CAD application for smarter manufacturing providing a variety of solid, surface, sheet metal modelling and reverse engineering functionalities. **Its modern and intuitive user experience shortens the learning curve** for new users and helps to improve productivity.


DESIGNER
Quick search
Surfaces
Sheet metal
Annotations
Analysis
Electrode
Reverse
Lines
Circles
Rectangle
Profile
Extract edges
Curve
Offset
Fillet
Chamfer
Wireframe
Cuboid
Blends
Cut bodies
Edit radius
Holes
Offset
Draft
Extrude
Move
Remove face
Boolean
Dissolve body
Solids
Sew sheets
Fill holes
Workplane
Dynamic
Z
X
Y
Toggle
Absolute XY Top

Direct modelling

Direct modelling frees the user from the constraints of a traditional history-based modelling system. Rather than modifying a lengthy series of parameters to make a design change, direct modelling allows the user to push, pull and drag the geometry to obtain the desired shape. These changes can be completely freeform or driven by numeric increments and measurements taken from existing geometry. Knowledge of how the original model was constructed is no longer a necessity and design changes are not restricted to the original methods of creation. Direct modelling gives the user complete freedom of construction, whether creating a new component from scratch or modifying an existing design created in any of the numerous of CAD formats that DESIGNER supports.

Ease of use

The intuitive user interface and searchable functions make it quick and easy to start using DESIGNER. The context sensitive embedded help documentation makes it easy to get to grips with even the most complex of commands. Dynamic rotation, zoom and pan, together with programmable function keys and mouse buttons help speed up the operation of the software. Unlimited undo and redo operations with user definable bookmarks enable the designer to move backwards and forwards throughout the design process. Multi-layer and multi-origin control with user definable color palettes and line-styles makes it easy to review, create and work with very complex designs. Lightning fast rendering, transparency control and dynamic sectioning make it easy to visualize CAD files and large assemblies.

Model repair

Gaps in imported models are automatically healed, preventing manual time-consuming healing processes. Where surfaces are corrupt or missing, DESIGNER will automatically create the boundaries, making it easy to identify and rebuild new faces using the comprehensive surfacing suite. Repairing corrupt bodies, and closing surface models to produce a solid model eliminate construction problems later in the design process and immediately brings the benefits of solid modelling to the user. The ability to seamlessly switch between solid and surface technology provides unlimited freedom, ensuring the user can work with difficult CAD data.

Feature suppression

Incoming CAD data often includes features and geometry that are not required for traditional machining. Post-machining processes such as laser engraving, electrode marking, and other techniques will be represented on the original CAD model, and while this is important for the CAD design and will ultimately reside in the final component, markings often impede the job of the CAM programmer. With DESIGNER, supressing these unrequired features or separating them for subsequent operations is just a mouse click away.

Model simplification

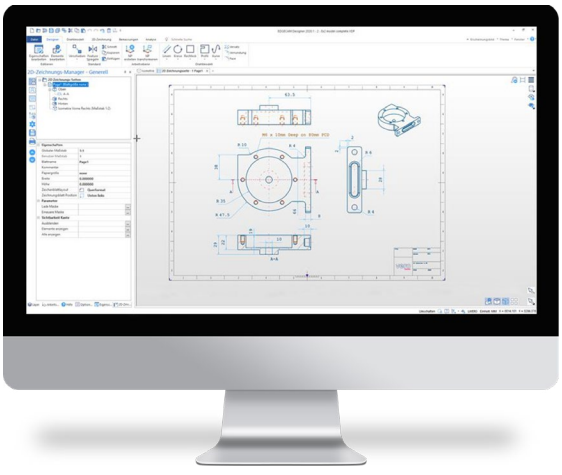
Alongside feature suppression, the user may wish to simplify geometry during various stages of the machining process. Removing regions of the model, such as intersecting features, improves the machining process. The power of direct modelling makes this very easy, without being held to the constraints of a previous construction method or feature tree. Creating model variations for each stage of the process becomes simple and the machining results become both fast and of higher quality.

Geometry for manufacturing

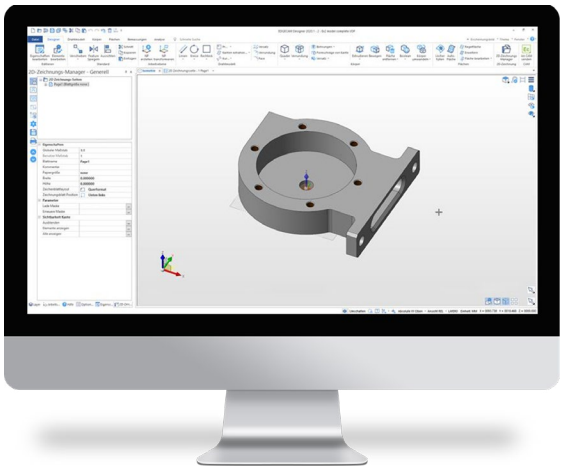
DESIGNER provides a host of geometry creation techniques that are critical to the programmer for model preparation. Hole capping is a great example of a simple and easy to use feature of DESIGNER that helps to ensure that surface machining provides the best possible results. This feature can be used to cap anything from a simple drilled hole to a complex open cavity with just a few clicks of the mouse. An extensive range of curve creation routines vastly improves boundary creation, and simple but powerful surface creation techniques provide the programmer with more power than ever before.

2D to 3D

DESIGNER supports the import of 2D data such as DXF and DWG files. These can be quickly and efficiently converted into manufacturable 3D models. The imported 2D data automatically creates sketch profile regions making the transformation from 2D to 3D easier than ever.



2D drawing creation



Powerful solid functions

Powerful sketching

DESIGNER's sketching abilities allow the creation of two-dimensional shapes using freeform input. While the user can rely upon the traditional methods of coordinate-based input, freeform sketching intelligently interacts with surrounding geometry. This ability to intuitively create implied constraints with other geometry expedites the sketch creation process while maintaining the maximum flexibility for future changes.

Advanced surfacing

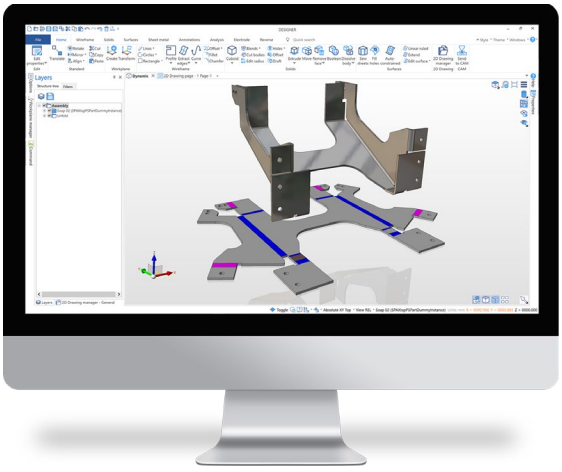
DESIGNER's Surfaces module enables the creation and manipulation of complex, freeform surfaces such as lofted, helical, swept and tangential surfaces. Included are more specialized surface creation tools including splitting parts into cavity and core, parting and split plane, bend relief for reducing and modifying complex bends, and the creation of large offsets from complex parts. To complement the advanced surface creation functionality are advanced trimming techniques. This enables the user to have complete control and capability when working with complex geometry.

Sheet metal

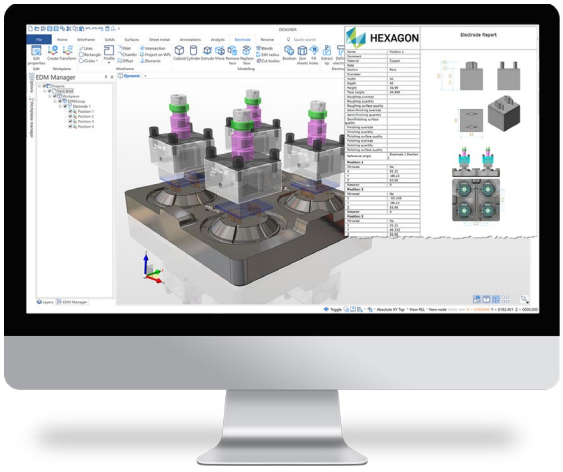
DESIGNER's dedicated Sheet Metal module brings powerful sheet metal expertise. It enables parts to be redesigned from solid or surface models to sheet metal parts, ready for manufacturing. It takes into account manufacturing parameters and provides dedicated tools to calculate all the required sheet metal operations. The combination of direct modelling and the targeted sheet metal functionality makes light work of changing bend locations and modifying corner conditions. Easily identify and fix collisions by expanding or reducing a flange to avoid overlaps when unfolding and optimize unfolded parts for nesting. These are just some of the powerful capabilities of the DESIGNER Sheet Metal module.

Electrode design

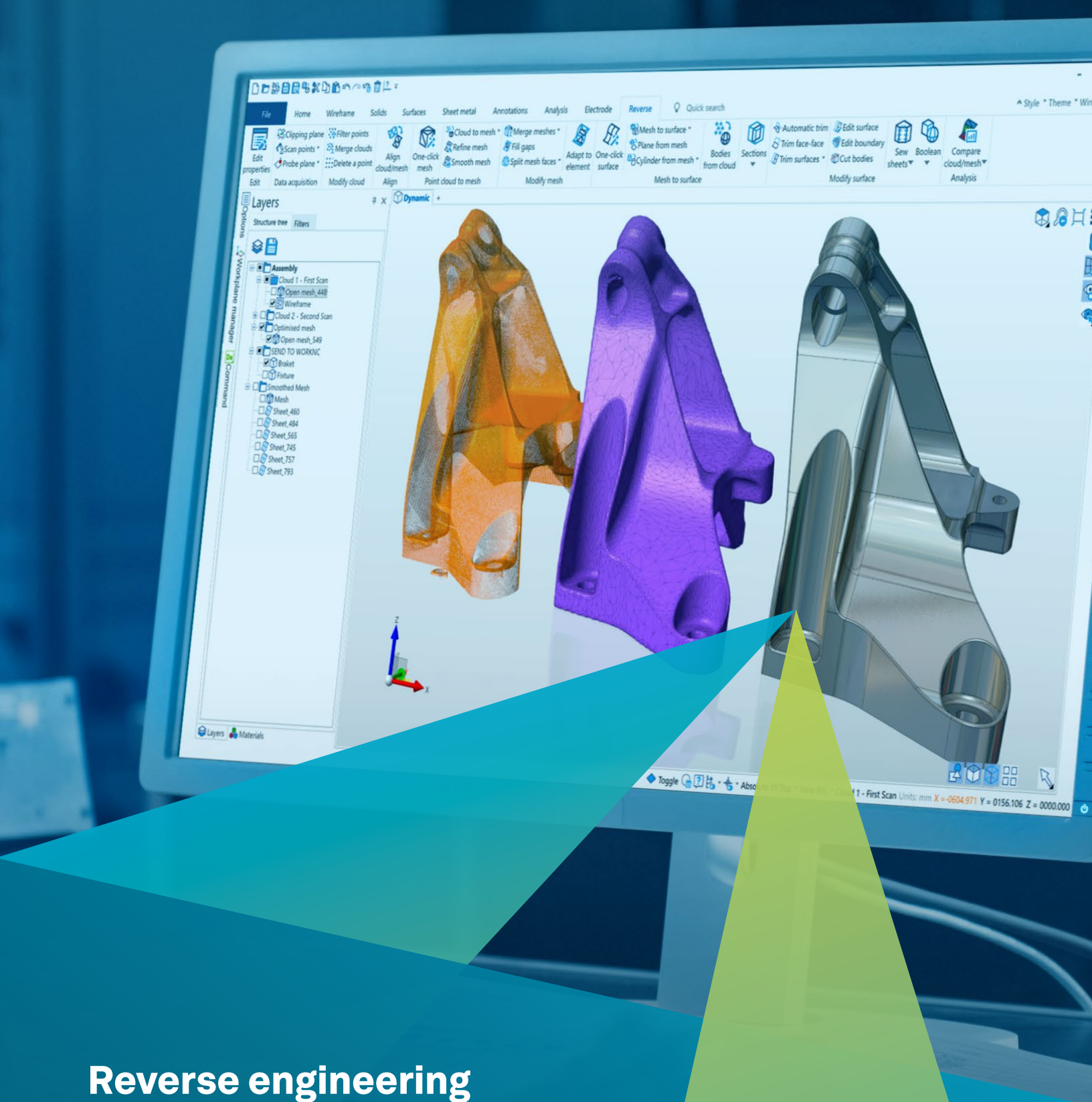
DESIGNER has an optional Electrode Design module. It provides dedicated and intuitive functions designed by engineers with experience in the mold and die industry. The combination of the streamlined electrode functionality, easy to use direct modelling commands and powerful surfacing and healing tools means electrodes can be extracted quickly from imported models, to create finer details on parts which can't be machined using traditional milling techniques.



Sheet Metal



Electrode Design



Reverse engineering

DESIGNER offers an optional reverse engineering solution, REcreate. It provides a suite of dedicated functionality aimed at creating a full CAD model from a physical part. The solution can easily fit into an existing manufacturing workflow – either scan directly into the application, or import scan data in any format. The assisted tools to help clean a cloud or a mesh make it the perfect tool even if you only require a high-quality mesh model. But if required, you can go all the way to creating a full manufacturable CAD model.

Macros and scripting

DESIGNER can be automated in the form of macro recording and playback. Macros capture the user inputs and save them as JavaScript. These macros can then be replayed to reproduce what was recorded. Macros can be concatenated to create an automated workflow. Several commands can be recorded and replayed repeatedly. Using this functionality, the user can create a series of part models of the same shape but different sizes. The scripts can then be edited by the user to introduce flow control, parametric variables, or complex functions. The full power of modern JavaScript can be used to build a highly customized automation environment.

Link to Hexagon CAM software

DESIGNER provides an enhanced link to Hexagon CAM software products i.e. EDGECAM, WORKNC, SURFCAM, ALPHACAM, RADAN and MACHINING STRATEGIST. The workflow has been streamlined, making sure the process is as simple, automated and straightforward as possible.

Extensive range of CAD interfaces

DESIGNER imports data from a wide variety of exchange formats including Parasolid, IGES, STEP, ACIS, DXF, DWG, STL, TXT and VDA files as well as native data from the following CAD systems:

- CATIA V4/V5/V6
- Creo
- Inventor
- JT Open
- NX
- SOLIDWORKS
- Solid Edge

The extensive range of translators ensures that users can work with data from almost any supplier. 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.

HEXAGON

Hexagon is a global leader in sensor, software and autonomous solutions. We are putting data to work to boost efficiency, productivity, and quality across industrial, manufacturing, infrastructure, safety, and mobility applications.

Our technologies are shaping urban and production ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

Hexagon's Manufacturing Intelligence division provides solutions that utilize data from design and engineering, production and metrology to make manufacturing smarter. For more information, visit hexagonmi.com.

Learn more about Hexagon (Nasdaq Stockholm: HEXA B) at hexagon.com and follow us @HexagonAB.

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