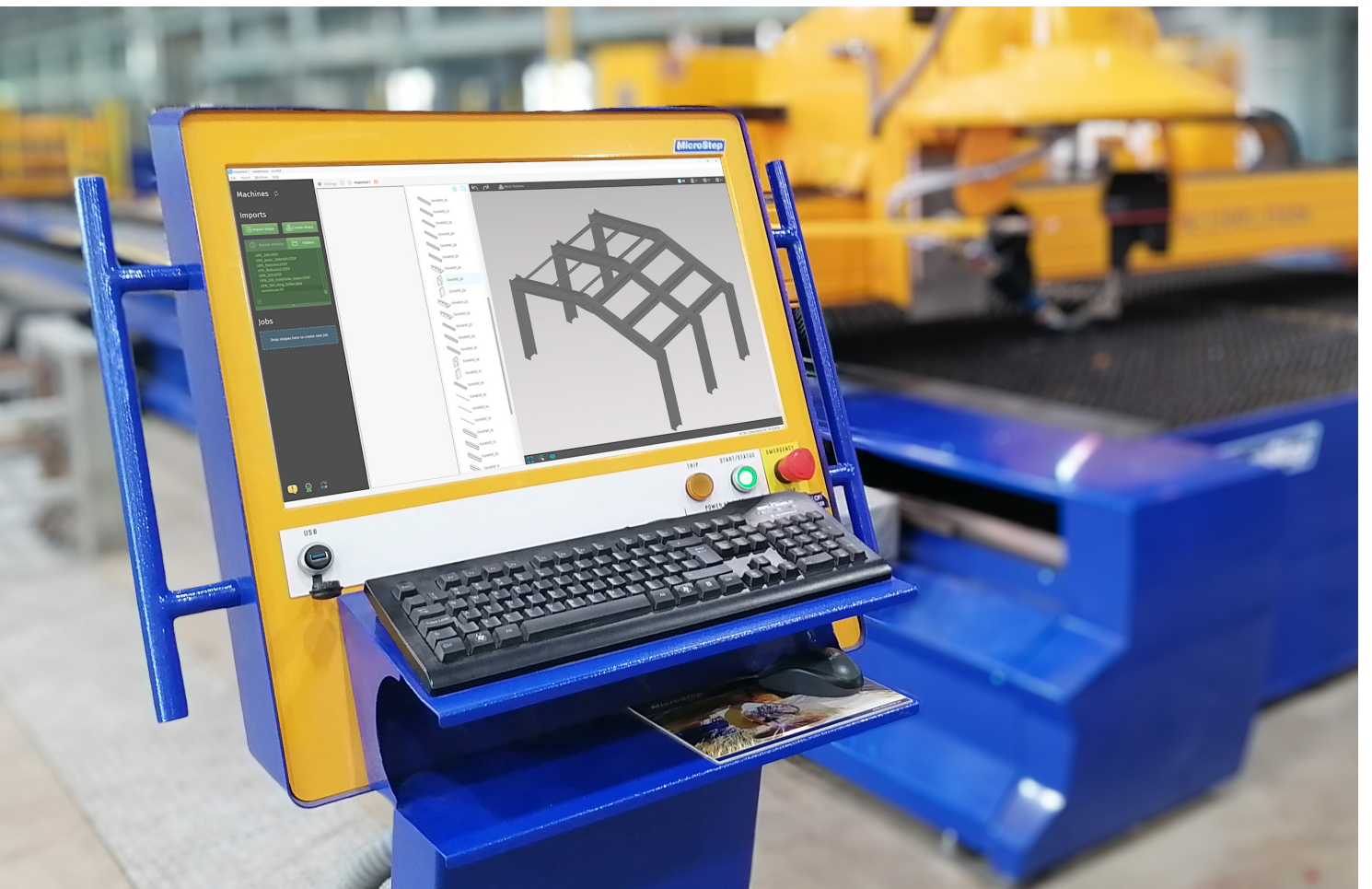


From 3D CAD to CNC:
Seamlessly, precisely
and reliably

WWW.CYBERFAB.COM



POWERING





From 3D CAD to CNC

Meet **mCAM**, the cutting-edge **3D programming tool** designed for automated 3D cutting of pipes, beams, profiles, domes and plates. mCAM provides a **seamless bridge between your CAD designs and CNC machinery**, ensuring that every intricate detail in your designs is precisely translated to your CNC operations.

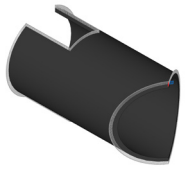
mCAM stands out in its ability to **directly import 3D models** created in programs such as SolidWorks or Inventor. Once imported, these models can be organized into individual libraries for streamlined processing.

The software examines your CAD model in detail and **automatically detects all cutting paths**. With integrated standard shapes library, you can also **easily design parts directly in mCAM**. Individual parts can be automatically nested onto semi-products, optimizing material usage and minimizing wastage.

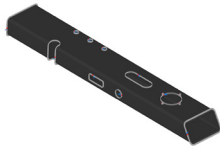
The **intuitive user interface** ensures that even those new to the world of CAM can quickly navigate through the software. With lots of **tutorials, detailed docs**, and **training materials** at your fingertips, mastering mCAM is as easy as can be. And if you ever face any challenges, our dedicated support team is always ready to assist, ensuring that mCAM meets your specific requirements.

Whether you're working with MicroStep's **laser, plasma, oxyfuel** or **waterjet** technologies, mCAM offers a well-optimized and comprehensive suite tailored to your cutting and design needs. Efficient, intuitive, and power-packed – that's mCAM for you.

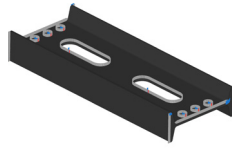
SUPPORTED SHAPES



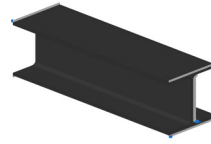
Circular Pipes



Rectangular Pipes



I Profiles



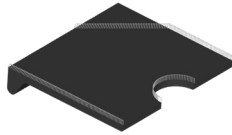
H Profiles



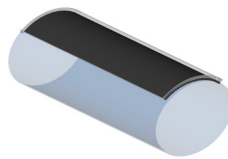
U & UPN Profiles



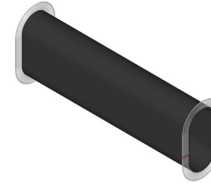
L & Bent L Profiles



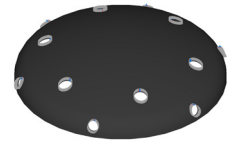
Bulb Profiles



Circular Pipe Sections



Oval Pipes



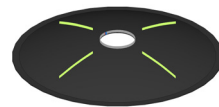
Torispherical Domes



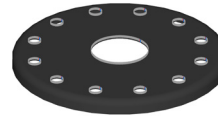
Spherical Domes



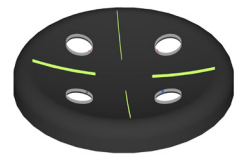
Conical Domes



Dished Bottoms



Flat Bottoms



Inverted Heads



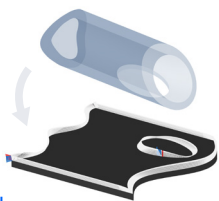
Torispherical Petals



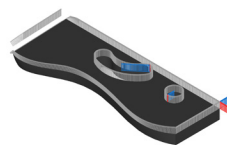
Spherical Petals



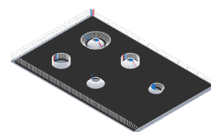
Conical Petals



Unwrapped Pipes



Plates



Sheets

SUPPORTED FORMATS

STEP

IGES

IFC

DXF

DSTV

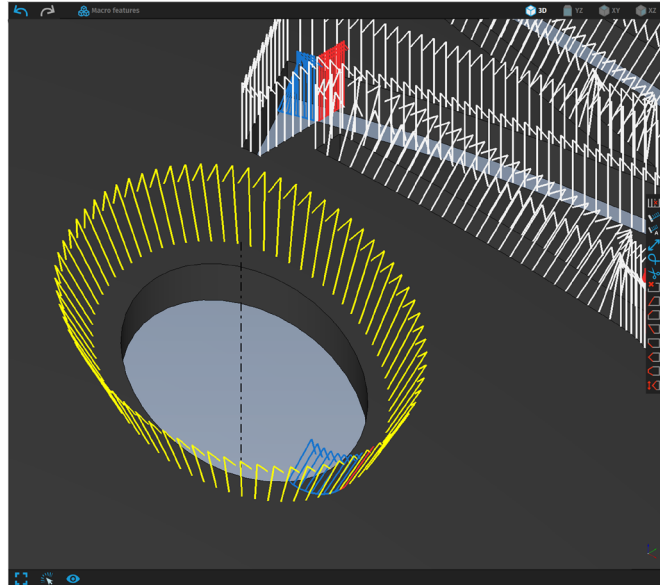
Key Features

EASY WORKFLOW

At its core, **mCAM champions efficiency**. Its streamlined workflow transitions users from the modeling phase to CNC execution with unparalleled speed and simplicity. **The intuitive design, paired with guided steps**, ensures that even complex tasks feel straightforward.

AUTOMATIC TOOL PATH DETECTION

Central to mCAM's design is its **ability to automatically generate cutting paths** using MicroStep's advanced and time-proven internal algorithms. By optimizing machine's movement and minimizing manual input, **mCAM ensures that tasks are completed faster** and with higher degree of accuracy leading to **enhanced production rates**.



SYNCHRONIZATION

mCAM provides **on-demand synchronization** with the cutting machine, ensuring that all parameters, tools, and other essential settings are **accurately aligned for efficient production**. This feature is invaluable in maintaining uniformity across production cycles, **ensuring repeatability and reducing the risk of machine errors** due to mismatched settings.

3D KERF COMPENSATION

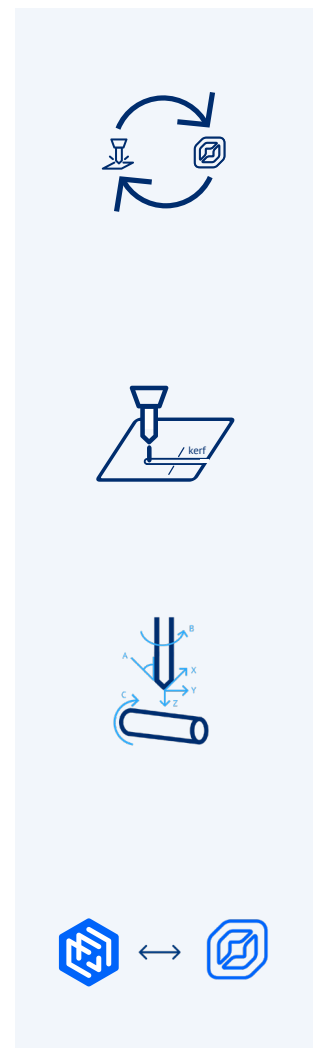
mCAM provides **state-of-the-art 3D kerf compensation**, a critical feature for precision manufacturing. By accounting for the width of the cut and connected settings, this feature ensures that the **final product** is of the **required dimensions**.

MULTI-AXIS CNC GENERATION RANGE

mCAM boasts a sophisticated **6-axis CNC generation capability**, supporting **XYZABC movements**. This multi-axis support allows for intricate machining tasks, accommodating complex part designs and **ensuring precision**.

PRODUCTION PLANNING

Integration is at the heart of modern manufacturing. mCAM's capability to **seamlessly integrate with CyberFab Manager and Machine Manager** applications ensures a smooth flow of data across all platforms. This streamlines the manufacturing process, **enhances operational efficiency** and ensures consistent information sharing which is vital for accurate production and resource planning.

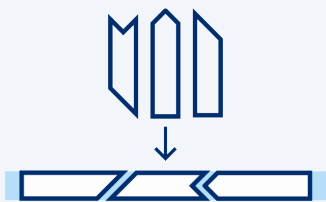




COMPREHENSIVE TECHNOLOGY RANGE

mCAM's **comprehensive machining capabilities** make all the difference. Whether it's cutting – straight or bevel, with laser, plasma, oxyfuel or waterjet, or marking – including text, plasma punch marking, or drilling, tapping and boring, the software ensures that each task is executed with **unparalleled precision**.

Such a wide array of functionalities in a single platform means manufacturers can rely on **mCAM** for a **multitude of tasks**, reducing the need for multiple software solutions.



AUTOMATIC AND INTERACTIVE NESTING

Material optimization is crucial to efficient manufacturing, and mCAM's **automated and interactive nesting** features contribute greatly to that effort. By **smart positioning** of parts to maximize material usage, the software helps to greatly **reduce waste**.

The dual mode, automatic and interactive, offers both a hands-free operation for speedy results, as well as hands-on control for those intricate jobs requiring a personal touch.



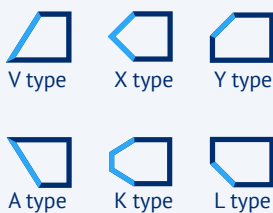
COLLISION AVOIDANCE

Manufacturing is as much about precision as it is about safety. By preemptively **identifying potential collision points** and adjusting machine paths, **mCAM ensures the safety** of machinery, workpieces, and, most importantly, the operator.



SIMULATION

Visualization before execution is a powerful tool in ensuring error-free production. mCAM's **CNC code simulation** allows operators to preview the machine's movements in a controlled environment. This **predictive capability** lets users identify potential issues, refine machine paths, and validate processes before actual production begins.



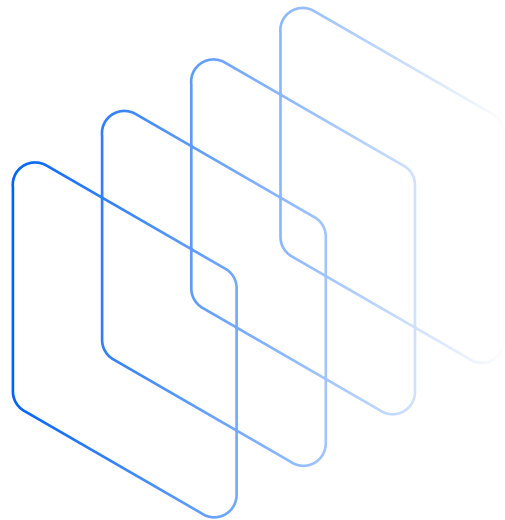
WELD PREPARATIONS

Streamline your welding process with **mCAM's intuitive "Weld Preparations"** feature.

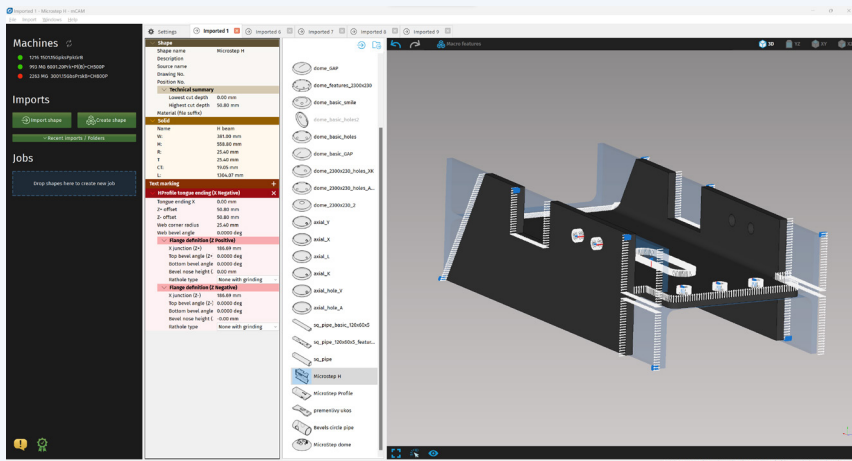
Eliminate the complexities of traditional CAD-based weld preparation design – mCAM lets you incorporate **V, A, X, K, Y,** and **variable bevels** directly into your cut paths with ease. Both **constant angle** or **constant volume** weld preparations options are available.

MORE FEATURES AT A GLANCE

- **Expert tables** of empirically tested parameters, such as cutting speed, kerf width, bevel compensation angle
- Tables of empirically tested **bevel corrections** to account for technological imprecisions
- Consideration of **technological limitations**
- **Automatic cut ordering** for the fastest process possible
- **Dynamic cutting speed adaptation** according to effective material thickness
- Cutting with **even heat distribution**
- Automatic generation of **measurement points for initial height sensing**
- **Customizable** operations, ordering, welding preparations, cut path divisions, lead-ins and lead-outs, loops, quality and more
- **Common cuts** with **adjustable tolerance** to save processing time and material
- **Micro-joints** for long cuts can be inserted manually or automatically based on customizable parameters
- **Transformations:** generation of other, non-cutting technological instructions where appropriate, e.g. drilling or tapping
- **TrueHole/ContourCut** support
- Support of **ABP** (Additional Beveling Process)
- **mScan** integration: cutting plan adjustment based on scanning results to account for workpiece imprecision
- Support for **pipe positioner with limited rotation:** rotation limits are taken into account in the cutting program
- **Cutting tool pre-tilting** when cutting rectangular pipes in a rotary positioner for a cleaner cut
- **Supports and lunettes' positions** are generated in the cutting program
- **In-built library** of customizable standard parts
- Internal **user-created library** of parts
- **Built-in part designer**, quick and easy to use
- Whole **assemblies can be imported** in mCAM, which will then recognize and process all individual parts
- Customizable **reports**
- Imperial and metric **units**

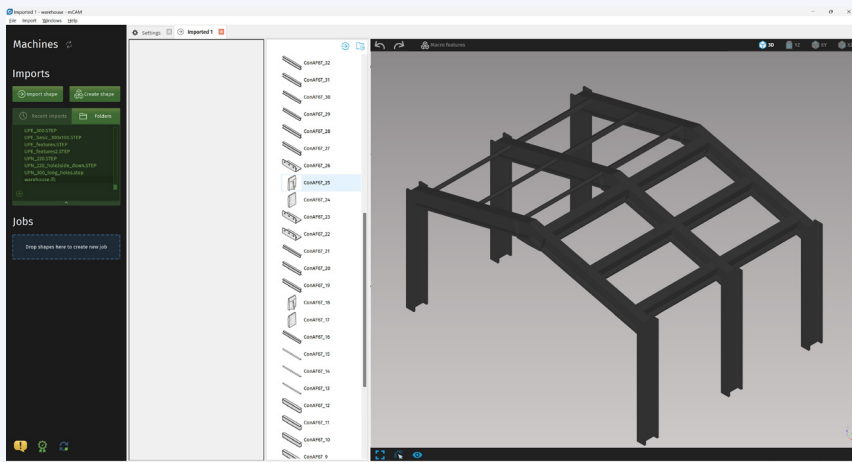


*Feature accessibility may vary depending on the mCAM edition.



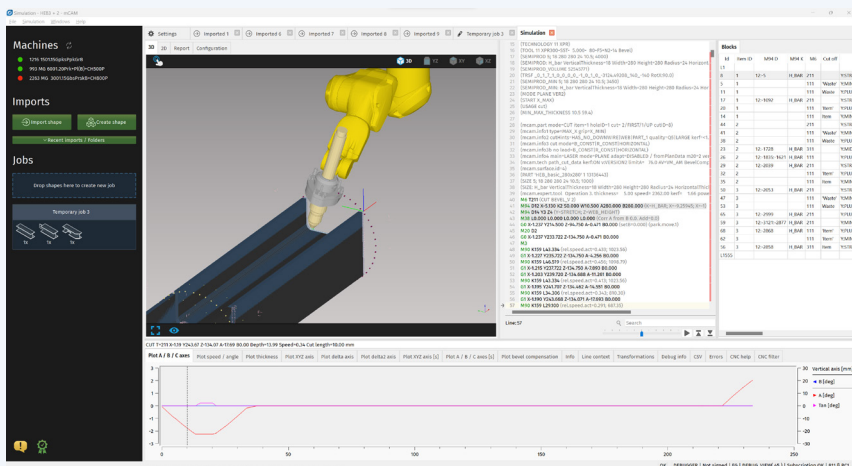
WIDE RANGE OF 3D SHAPES

Support for beams, domes, pipe, profiles – including macros for trimming of H-beam flanges.



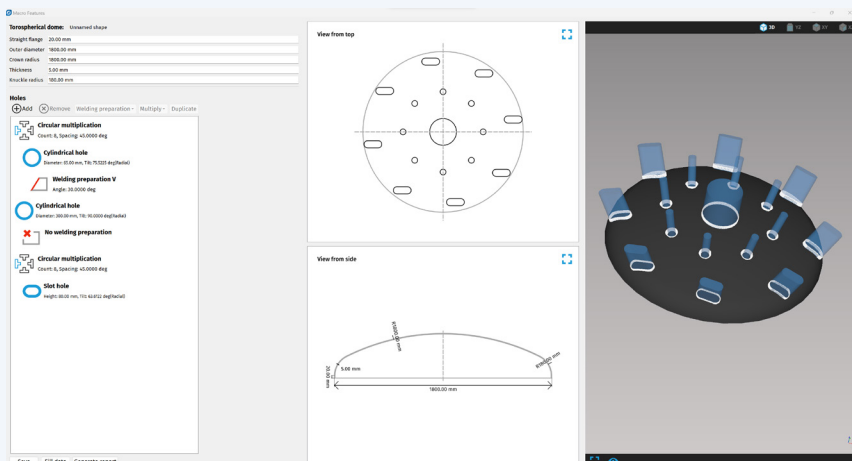
IMPORT OF ASSEMBLIES

All assembly components are automatically identified for nesting and cutting plan generation.



SUPPORT FOR ROBOTS

Real-time simulation verifies the optimal tool motions across different multi-axis systems.



CAD/CAM AND MACRO DESIGNER

Design parts such as tank end nozzles directly from available shapes and macros.

Robotic pipe cutting resulted in considerable time savings

A robotic arm on a gantry-type CNC plasma and oxyfuel cutting machine capable of cutting both flat plates and pipes with the same gantry? With this **exceptional and highly innovative combination** of cutting technology, the Belgian dredging expert JDN can process pipes up to Ø 2 m and wall thickness 80 mm, while **programming the robot conveniently in mCAM**.



CUSTOMER STORIES

“First of all, the plasma/oxyfuel cutting machine with the integrated robot has resulted in considerable time savings because all the weld preparation is now done automatically and in one step, which also increases quality. As to the pipe cutting, not only has our reach been increased, but we can also cut any shape. In terms of flexibility, we have improved significantly.”

JOSÉ PYCKE
Workshops Manager



BELGIUM

Bosch goes with MicroStep: “A leap in quality, a different world”

For over 150 years, **Bosch Thermotechnology** has been a leader in customized heating and process heat solutions with over 120,000 installations worldwide. With a focus on innovation and sustainability, the company opted for **two 3D plate and dome cutting machines** for their German site, convinced by MicroStep's ability **to meet the required tight tolerances**.



“This was a profitable investment. It's clear that this is not a cordless screwdriver that you get ready out of the box, but a highly complex technology. We have always found a good solution and cooperated in a constructive manner. The service has always worked great, we've always had someone on site quickly who has helped us competently.”

CHRISTIAN LOSCHMIDT
Head of Technical Planning



GERMANY

New plate and dome cutting center replaced two machines

“We were looking for a machine for dome cutting, we wanted to cut radial holes. With our existing machine, we could not cut what we had envisioned. That’s when we noticed MicroStep, which we did not even know before. We have seen that it worked. For the first time in our ten-year search we had a feeling that there is someone who wants to sell something they have actually mastered.”

ALEXANDER FRIES

Head of Production
Planning



GERMANY

Slawinski & Co. GmbH has been providing tailor-made tank ends and pressure vessel parts for a wide variety of customers for more than 100 years. The products of the family-owned enterprise are supplied to customers across Europe and beyond – from small companies right up to global players, serving industries such as power plant construction and chemical liquids storage. Their **MicroStep plasma cutting machine** with a **unique mScan and mCAM solution** can **process both plates and domes** in 3D.



Multiplying the productivity

“On the pressure vessels nozzle cuts we managed to reduce the actual layout/cutting/weld preparation time by at least 70%. Similar results are seen in cutting I beams for manufacturing of base skids and sub skids (compressor/driver modules). The CAD/CAM software interface between our 3D design department and the cutting center eliminates potential mistakes.”

ROGER WACHTER

General Manager



ROMANIA

Euro Gas Systems, a modern European manufacturer of gas compression packages, invested in a multi-functional DRM machine for cutting sheets, pipes, beams and domes. The powerful solution includes mScan and **mCAM with custom macros**. Thanks to the intelligent preparation of cutting plans, scanning and comprehensive control of the movement of the cutting head, it is possible to **achieve high accuracy of cuts** with minimal need for further surface processing before welding.



Training and Support

At the heart of our commitment to customer satisfaction is ensuring that every **mCAM user** is empowered with **comprehensive knowledge** and **ongoing support to utilize the software** to its fullest potential.

With mCAM, our vision extends beyond providing a stellar software solution; it encompasses fostering a community of well-informed and well-supported users, driving excellence in metal cutting operations across the board.



EXTENSIVE DOCUMENTATION

Our users receive an in-depth, over **350-page manual** that details every feature and function of mCAM. The manual is regularly updated to ensure it always aligns with the software's evolving capabilities.



STAY INFORMED WITH NEWSLETTERS

To keep our valued users in the loop, we send out **regular newsletters** that spotlight mCAM's latest features and enhancements.



VIDEO TUTORIALS FOR VISUAL LEARNING

mCAM's documentation is complemented with a suite of **video tutorials** that provide a **visual guide**, walking users through various features and applications of mCAM.



STAY UP TO DATE WITH SUBSCRIPTION

mCAM offers a convenient subscription renewal option, allowing you to remain at the forefront of technology beyond the complimentary period. Should our subscribed users encounter any hiccups or challenges, our **dedicated support team** is just an email away. Queries and issues of subscribed customers skip the queue to be addressed promptly and ensure a smooth user experience.

In our quest to consistently enhance mCAM, we release **new versions of the software** at regular intervals. Our subscribed users can always access these updates, benefiting from the latest features, optimizations, and improvements.



TAILORED TRAINING SESSIONS

Beyond our standard resources, we offer bespoke training sessions upon request. These sessions are **tailored to cater to the customers' specific needs**, ensuring that users gain hands-on experience and in-depth insights into the functionalities they require the most.

Licensing Options



EDITIONS

mCAM is designed to serve a diverse range of manufacturing needs and is offered in three distinct editions:

mCAM: The full, comprehensive version, packed with all the features to deliver unparalleled performance across various cutting requirements.

mCAM Lite: Tailored for those who need the core functionality, mCAM Lite focuses primarily on straight cutting tasks, offering a streamlined experience without the complexity of beveling features.

mCAM Pipe+: Limited for operations involving only round pipes and plates, including additional beveling, this edition ensures precision and efficiency in these specific domains.

LICENSE TYPES

All mCAM licenses are sold as one-time purchase, perpetual licenses, regardless of your subscription status. Depending on operational needs, customers can choose from:

Standalone License: Ideal for individual users. This license permits the use of mCAM on a single workstation by one user.

Floating License: Crafted for businesses with diverse operational needs, the floating license provides the flexibility for multiple users to access mCAM from different computers, ensuring seamless workflow irrespective of user location or specific workstation.

CONNECTIVITY OPTIONS

With the varying connectivity setups of its users in mind, mCAM includes:

Online License: Requires an active internet connection. It's suitable for users with consistent internet access, and ensures they get instant updates and can leverage all of mCAM's online features.

Offline License: Crafted for scenarios where internet connectivity might be inconsistent or not available, this license type offers the full mCAM experience without the need for an internet connection.

By providing a range of licensing options, mCAM ensures its robust capabilities are accessible to everyone, from individual users to large corporations, guaranteeing precision and efficiency in metal cutting tasks.

SYSTEM REQUIREMENTS

Operating System	Windows 10 or newer
Storage	500 MB of available disk space
Processor	Powerful CPU on par with Intel i7/i9
Graphics	Any GPU with OpenGL support



Digital Heart of MicroStep Production Systems

CyberFab developed by **MicroStep** is a suite of **digital tools and apps** that enable efficient operation, planning and management of MicroStep based production systems through **automation** and **digitalization**.

CyberFab software includes **control systems** for CNC machines, **CAM** software, and **CAPP** applications, seamlessly integrating MicroStep machinery into **smart factory** environments.



mCAM video
3D CAM for parts
and assemblies



mCAM website

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