ENGLISH

OPTICAM

CAD/CAM SYSTEM

Camtek

Camtek.de

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www.OPTICAM.de

PREPROGRAMMED CUSTOMER SATISFACTION – BY MEANS OF OPTIMAL INTEGRATION INTO CAD SYSTEMS

With OPTICAM we have created a system which automates the creation of the NC program to almost 100%. However, users still have the complete flexibility to intervene in detail. More than 20 years of practical experience in the programming of wire EDM machines have made the new CAD/CAM-system OPTICAM to the most modern solution available.

OPTICAM is a fully integrated plug-in for CAD systems. The programming is based directly on the designed or imported 3D parts. Because of the automatic Feature Recognition and the assignment of integrated technology data and strategies, OPTICAM offers a very high automation level and reduces the programming time to just a few seconds. After a very short training period, the user will be able to create a correct NC program with little effort. The high flexibility of OPTICAM makes it possible to influence every detail at a later time.

Integration:
With the OPTICAM-Manager the user can work easily and clearly in his familiar environment.

- Full integration into CAD systems
- User friendly interface
- Intuitive user guidance
- Quick access to all relevant information

CAD PARTNERS

Thanks to our partnerships with well-known CAD manufacturers, we have access to very extensive CAD know-how. Therefore we can continue developing OPTICAM with the highest productivity according to our customer's wishes.

CERTIFIED Gold Product SOLIDWORKS

OPEN MIND THE CAM FORCE hyperCAD S

SIEMENS NX

ANALYSIS AND IMPLEMENTATION

FEATURE RECOGNITION

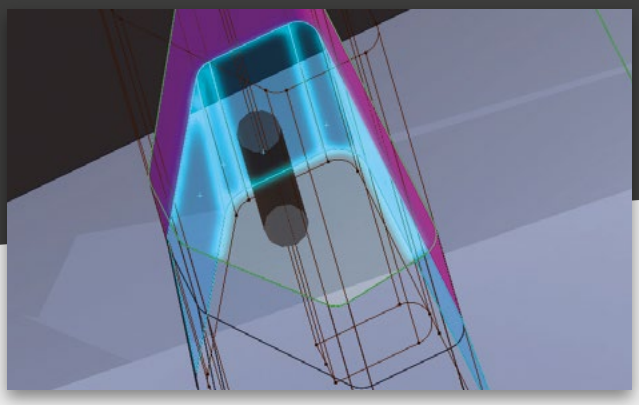
- DIRECT, PARAMETRIC MACHINING ON 3D FACES AND SOLID DATA
- GRAPHICAL OFFSET DISPLAY BY DIRECT MODEL LINKING
- MANUAL FEATURE CREATION
- USING FEATURE INFORMATION
- UNDERCUT CONTROL
- MAXIMUM CONICITY CONTROL

OPTICAM analyzes the parts, recognizes wireable geometries and creates their machining features simultaneously. The tool paths are shown graphically and follow subsequent changes of the model immediately or can be manipulated afterwards. By the input of a tolerance, the automatic geometry recognition can be influenced if the data are erroneous. Faces or edges can also be chosen manually for the wire EDM of only specific areas or for the creation of user-defined features. Furthermore, integrated technologies and machining strategies can be assigned directly to the created machining features.

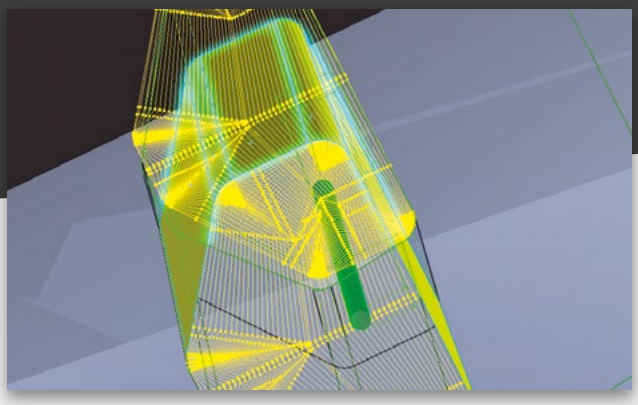
OPERATION STRATEGIES

CUT BY CUT TOWARDS THE OPTIMUM – FOR A SAFE AND EFFICIENT OPERATION

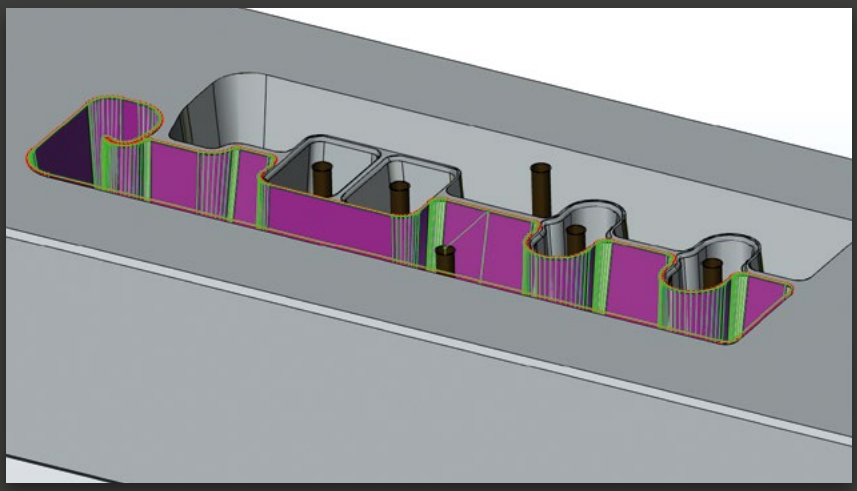
OPTICAM contains all the machining strategies which are required for the efficient and safe operation of wire EDM machines. All cuts are shown in the cuts dialog and can be changed afterwards.



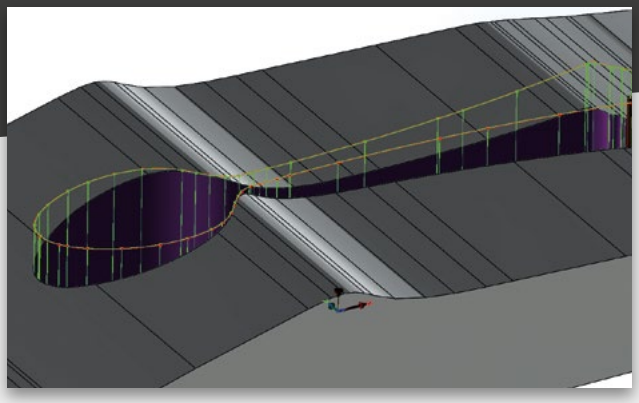
Collar machining



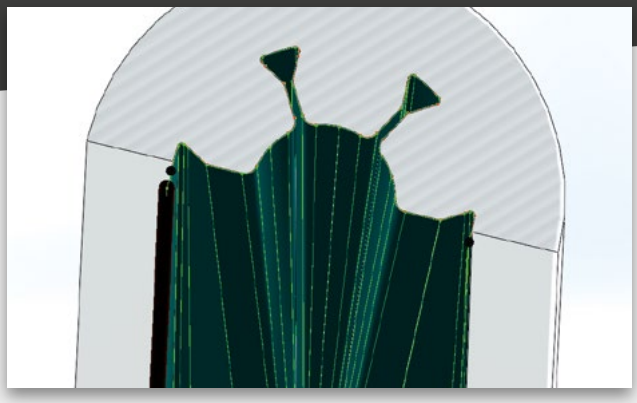
Pocketing



- STRATEGIES FOR ATTENDED AND UNATTENDED DAY AND NIGHT OPERATION
- PUNCH STRATEGIES
- REVERSE CUTTING
- AUTOMATIC CUTTING OFF OF SLUGS
- USER-DEFINED OPERATION STRATEGIES CAN BE SAVED AS TEMPLATE



Variable Reference Plane Height

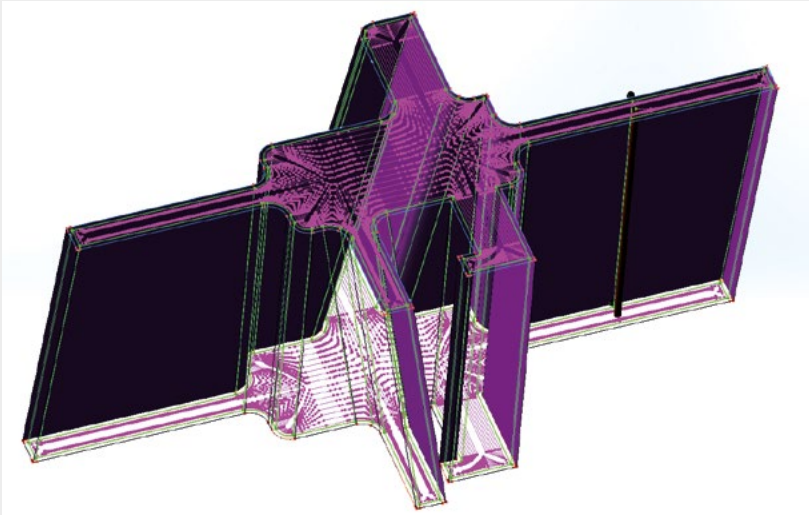


Ruled surface

RECOGNIZING AND ASSIGNING MACHINING FUNCTIONS

OPTICAM assigns the correct machining functions automatically to the recognized features.

- Cylindrical machining
- Constant and variable taper also on cylindrical parts
- Ruled surface machining with automatic synchronization
- Inclined machining
- Collar machining
- Subsequent positioning of a taper despite cylindrical construction (constant, variable or as collar machining)
- Pocketing
- Variable Reference Plane Height
- Automatic threading and cutting off of the wire
- Diagonal threading
- Automatic positioning
- Automatic clustering of identical geometries
- Multi part programming

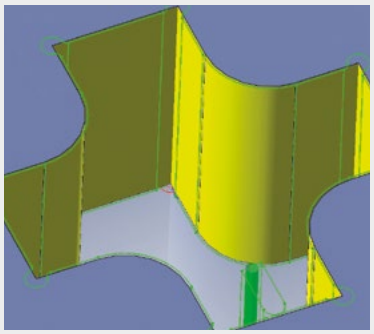


POCKETING

To avoid manual interventions and machine downtimes, an efficient pocketing of the geometries without the creation of slugs is often needed. OPTICAM offers special strategies for this purpose:

- Cylindrical and conical pocketing
- Ruled surface pocketing*
- Partial pocketing of geometry sections*

* These modules are optionally available

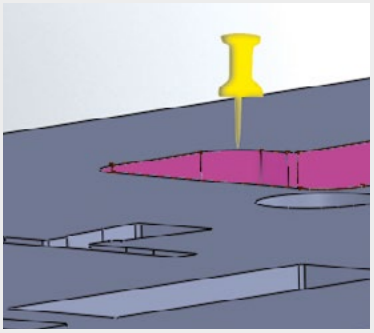


CORNER RELIEF

Five types of corner reliefs allow a specific control of the tool path in sharp corners without changing the model. This is especially important in cutting tool manufacturing.

GEAR MODULE

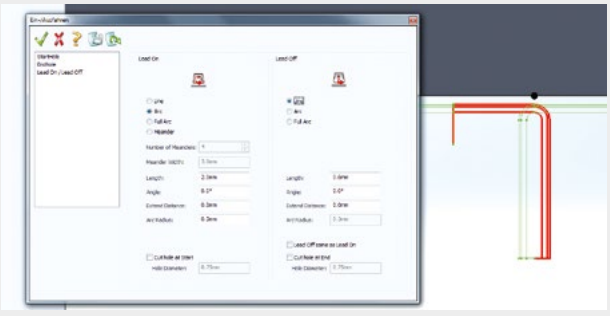
The gear module is used to calculate involute gears. The involute can be manipulated very easily by the input of a profile shift, the roller distance, testing mass across teeth, tip and root diameter as well as tip and root radii. Additionally, the gear module provides all the data and dimensions for machining and inspecting the gear.



EVENTS AND SEGMENTS

Events can be placed at any position of a feature. Comments or machine instructions, e.g. M-codes, G-codes or arbitrary nc-sets can be inserted at these points. Furthermore, individual features can be split up into several segments. For each segment the number of cuts, the offset values, the lead on and lead off technologies or a partial pocketing can be set separately.

LEAD ON / LEAD OFF



With just a few clicks the lead on and lead off strategies can be set or influenced.

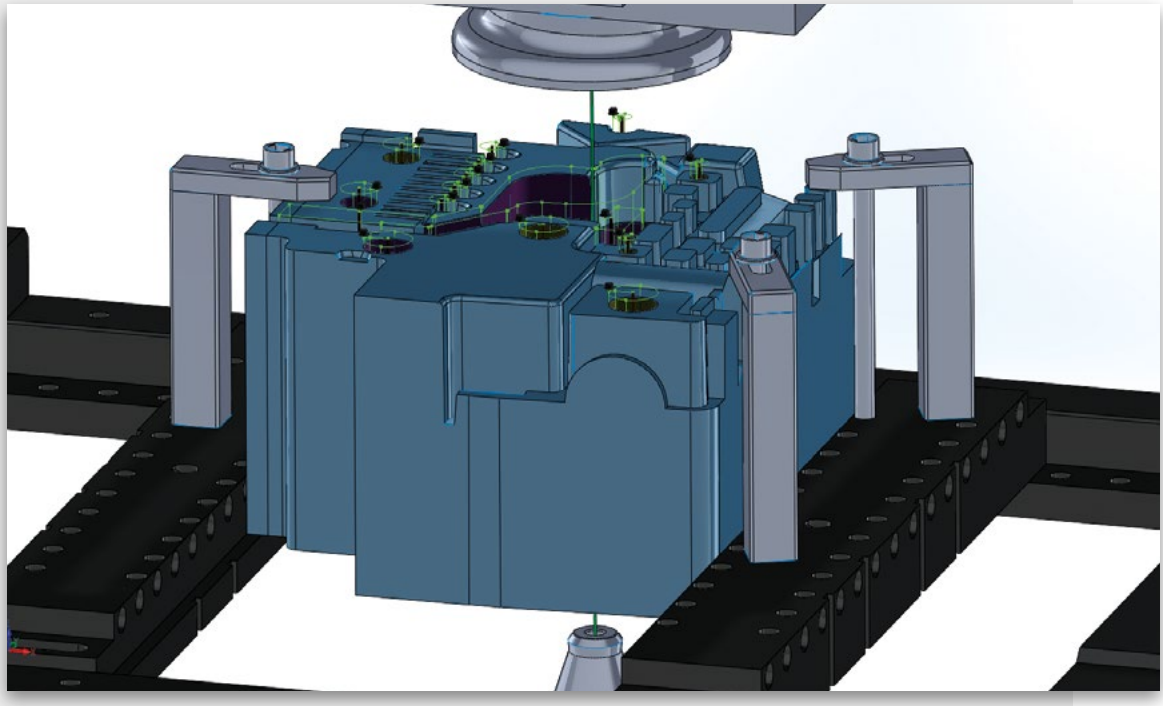
- Straight, at an angle / arch- and meander-shaped
- Possibility to overtravel the contour
- Lead on and lead off technologies programmable

START HOLES AND TAGS

The Feature Recognition places the start holes at the best possible position automatically; it is also possible to modify this position at a later time. If there are already predefined start hole geometries, the Feature Recognition takes them into account. Furthermore, type, position and number of tags can be defined automatically or manually. Thus it is also possible to create triangular and multiple tags with several start holes.

3D SIMULATION

DEVELOPING TOOL PATHS IS GOOD – CONTROL IS BETTER



A 3D simulation with material removal was inserted to ensure a safe tool path check. Besides the offsetting, fixture plates and the machine heads are also displayed.

- COLLISION- AND DEMOLDABILITY CHECK
- MAXIMUM TAPER ANGLE AND UV DEFLECTION CHECK
- CALCULATION OF THE CUTTING TIME

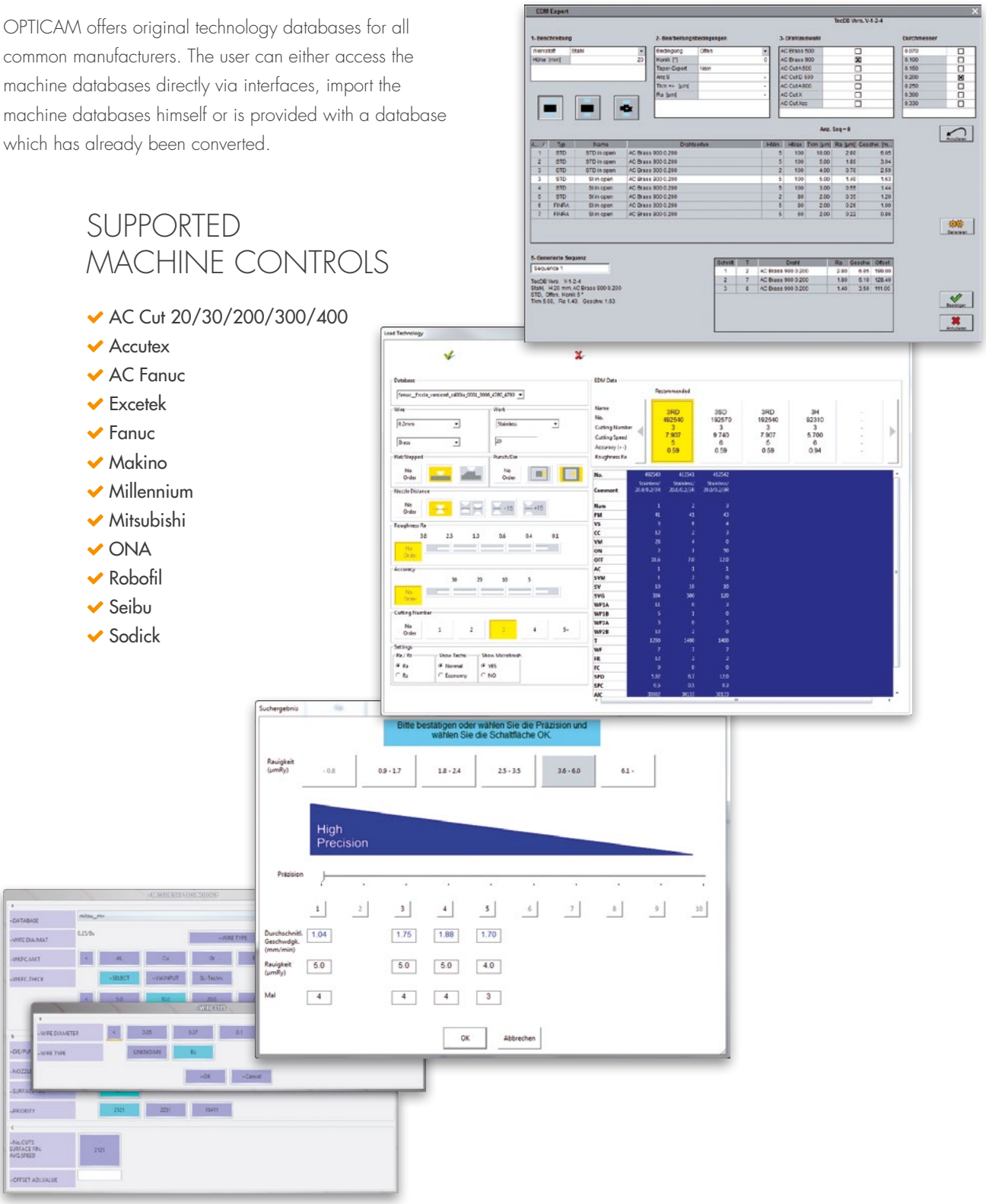
ORIGINAL MANUFACTURERS

TECHNOLOGY DATABASES

OPTICAM offers original technology databases for all common manufacturers. The user can either access the machine databases directly via interfaces, import the machine databases himself or is provided with a database which has already been converted.

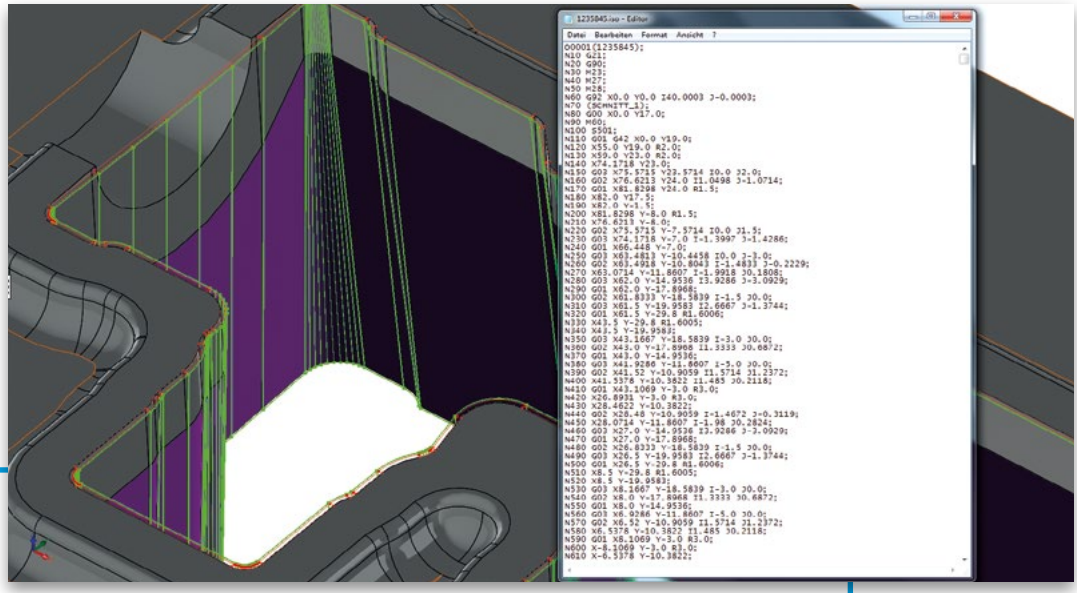
SUPPORTED MACHINE CONTROLS

- AC Cut 20/30/200/300/400
- Accutex
- AC Fanuc
- Excetek
- Fanuc
- Makino
- Millennium
- Mitsubishi
- ONA
- Robofil
- Seibu
- Sodick



CONTINUOUS DEVELOPMENT

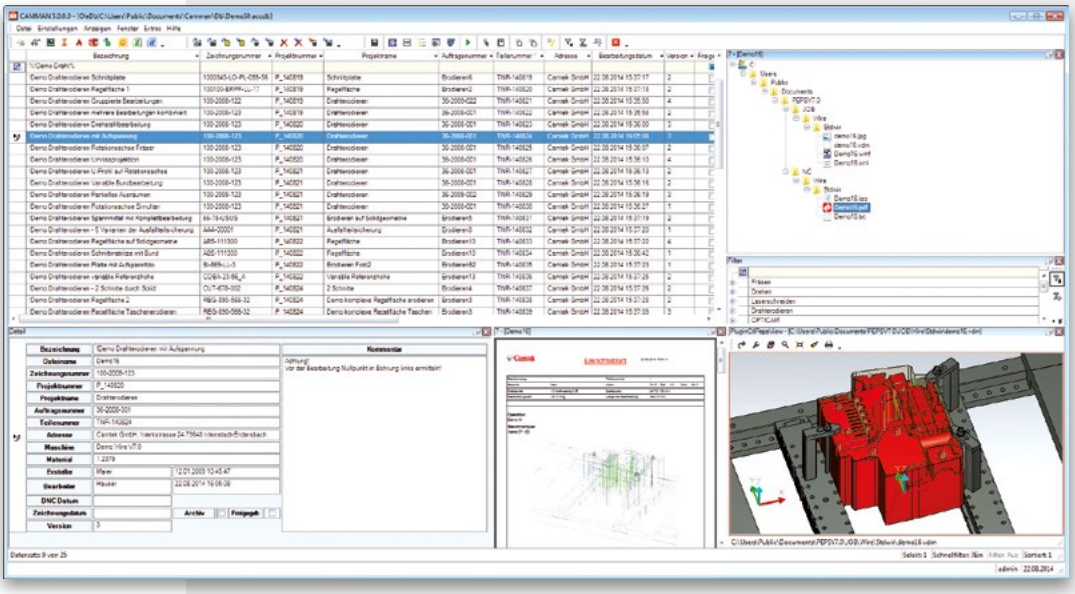
POSTPROCESSORS / NC-OUTPUT



ALWAYS UP-TO-DATE – FOR THE SAKE OF YOUR SUCCESS.

OPTICAM has been developed in cooperation with leading machine manufacturers and is being continuously adjusted to the latest functions of the wire EDM machines.

High-quality postprocessors and integrated technology databases are available for all products and types of machines.



NC PROGRAM AND DRAWING MANAGEMENT

CAMMAN 5.0

CAMMAN is a powerful data management system for the administration of NC programs, fixture plates and CAD data including SAP and ERP-interfaces. CAMMAN gives you easy access to existing data files and allows the input of additional information, e.g. drawing number, order number, project number, version number, customer, comment, date, programmer, machine as well as security confirmations for DNC Systems.

The file selection is supported by an integrated 3D graphic viewer. By using the CAMMAN data management system, the designer, the programmer and the machine operator share the same database, thus avoiding confusion and mistakes. Individual adaptations and the connection to already existing databases are also possible with CAMMAN.

SYSTEM INTRODUCTION & TRAINING

Our committed and experienced instructors impart basic and advanced knowledge of OPTICAM at our training centers or at the customer's site.

A relaxed atmosphere, small groups and practice-oriented examples make sure that OPTICAM can be used efficiently within a short period of time.

The dates of the training courses can be found online at Camtek.de

SUPPORT & SERVICE

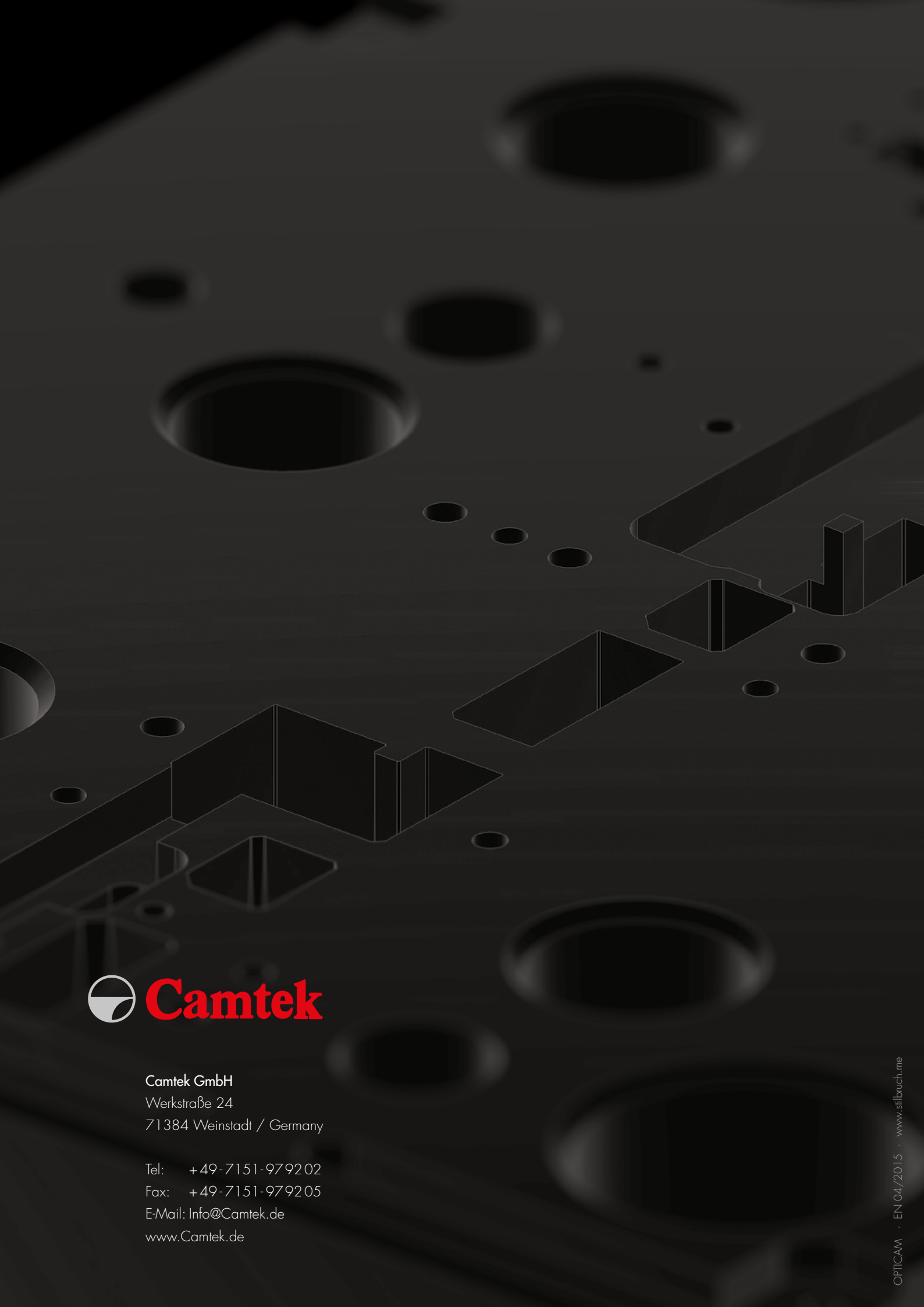
We offer our customers a free telephone and internet support, free trial installations and a free software download.

Support Hotline: +497151-979202

E-Mail: support@Camtek.de

Trail installation: www.Camtek.de

OPTICAM



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