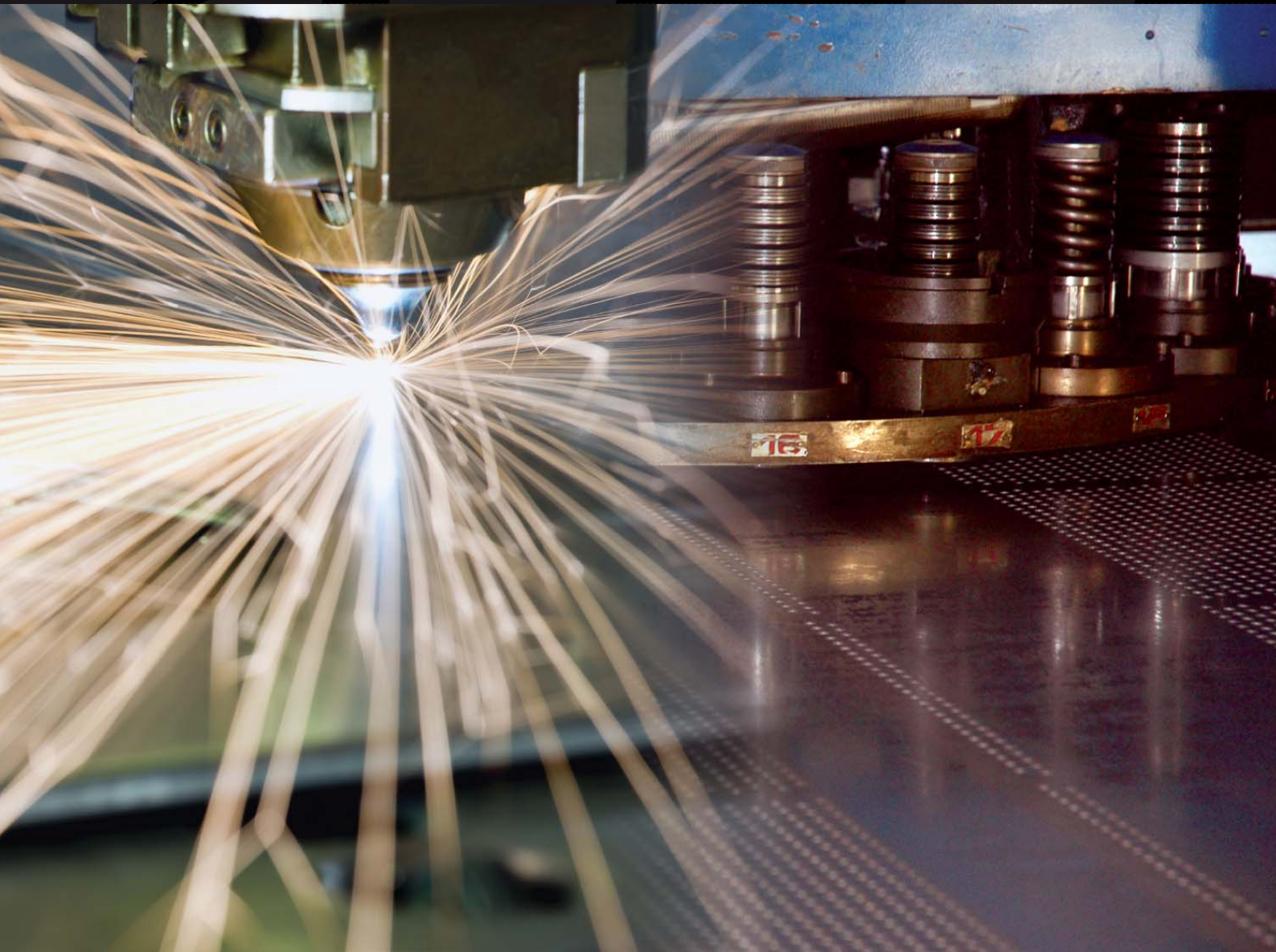




act/cut 2d product flyer

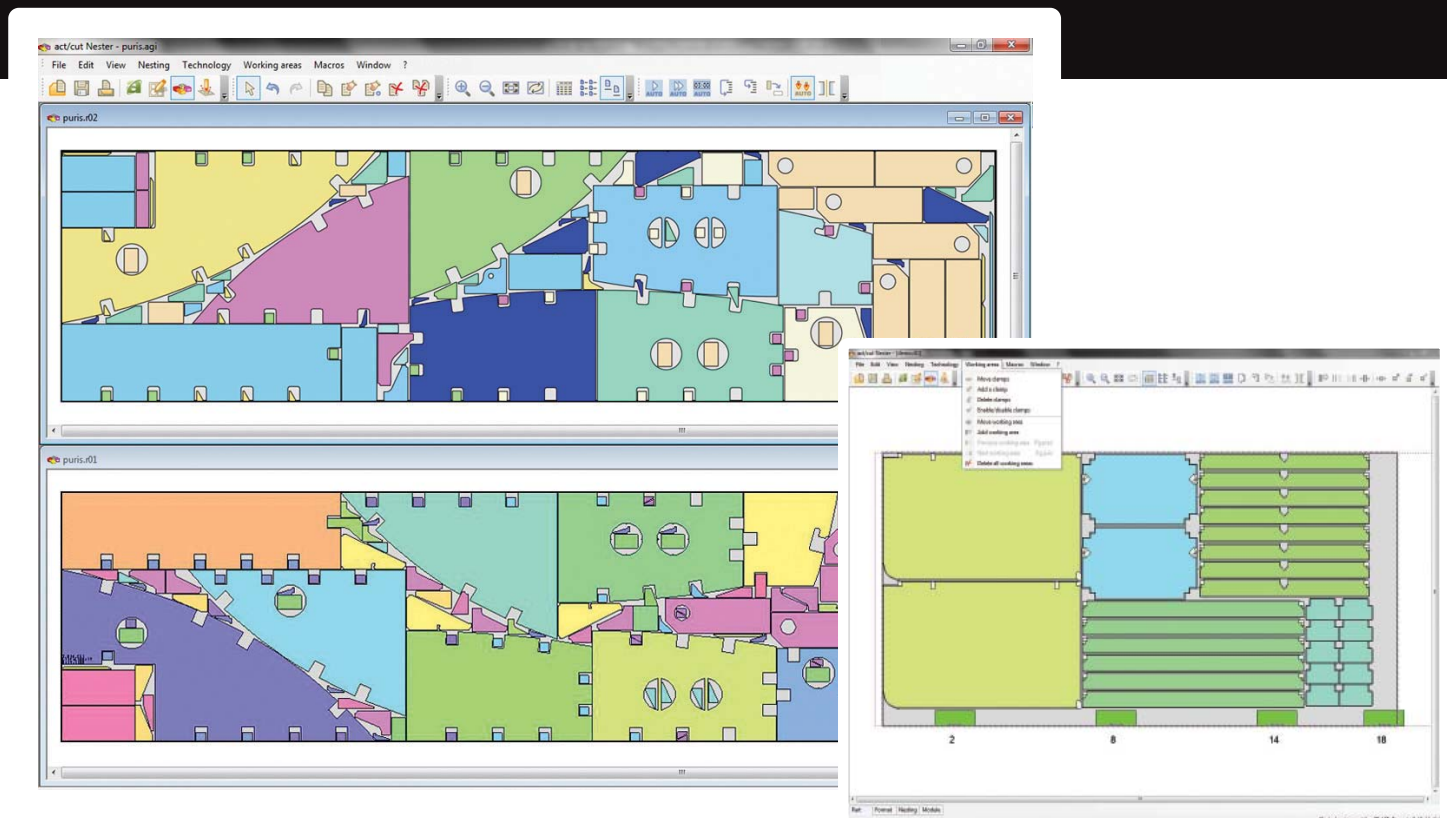
## CAD/CAM for cutting and punching



The nesting and programming reference solution  
for 2D cutting and punching-nibbling

**act** / *cut*

# The CAM software suite for cutting and punching



## Advantages and benefits

- Support of machines of any types and brands.
- Support of any cutting technology requirements.
- Powerful nesting algorithms and optimized tool path research
- Automatic user assistance at any stage of the programming and ability to work in full automatic mode.
- Easy-to use.
- Software openness (interaction with various 2D/3D CAD systems and Production Management Systems or ERP solutions).
- Available built-in customization tools.
- Availability of complementary and task-oriented modules: metal sheet part unfolding/folding, libraries of 3D and 2D shapes, letter and drawing cutting, stock and manufacturing order management.

Supporting a wide range of machine and technology requirements at every step of programming - from part preparation to the NC code generation, including nesting and tool path definition - act/cut can pilot any types of machines.

Providing unique nesting algorithms that fit any type of cutting needs, **act/cut** significantly decreases material loss rates and improves productivity. Whenever possible, the software operates in full automatic mode. However, in very touchy situations, **act/cut**, in order to ensure the most efficiency, operates in interactive mode, and the user makes the final decision. Open and customizable, **act/cut** imports part geometries from any CAD software and easily interacts with Production Management Systems or ERP solutions. Various complementary modules can be optionally integrated to **act/cut**.

“ *act/cut automatic nesting decreased preparation time by a factor of 2 and improved material use by 23%.*

Socata



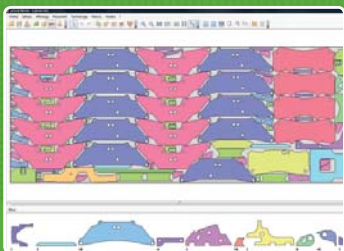
## Main functions

### Remote software operation

### CAD import and 2D geometry creation

### Technology

### Automatic and interactive nesting



#### 2D cutting

- Support of all technological parameters and machine configurations.

#### Punching

- Support of all technological parameters and machine configurations (including punching or combined machines).
- Tool library management.

- Launching order management: parts and formats are grouped according to material and thickness for nesting purposes.
- Manufacturing order and format stock management (act/manager optional module).
- Connection to production management and ERP systems (act/manager optional module).

- Import of sheet-metal parts from any CAD system, including neutral formats (DXF, IGES, DWG, DSTV and STEP) and native formats (Solid Edge®, SolidWorks®, Catia® V4/V5, ProEngineer®, etc.)
- 3D part import and unfolding (optional act/unfold module).
- Advanced function for 2D geometry creation.
- Part measuring and listing.

- Numerous functions linked to the cutting technology enabling an optimized planning of cutting operations.
- Allocation of cutting-technology specific features (bevel, lead-ins/outs, micro-junctions).
- Automatic configuration of cutting conditions according to user-defined strategies.

- Automatic or manual machining tool allocation (punching, notching, nibbling, etc.)
- Special and multi tools management.
- Possibility to work in micro-junction mode.
- Automatic or manual evacuation control (trapdoor, lift, pallets etc.)
- Part or part layout vertical and horizontal duplication.
- Possibility to save complex machining characteristics to apply them on identical parts.
- Turret management: mounting angles, possible mounting positions, clamps, accessibility zone and models (pre-configured turrets to be further completed).

- Numerous nesting strategies either in full-automatic mode or in full-interactive mode.
- Automatic anti-collision function.
- Automatic control of part positioning constraints (symmetry and rotation) and automatic management of nesting priorities.
- Nesting in multiple formats and sheets.
- Support of various technological requirements : multi-torch cutting (oxy-cutting) , common cut, positioning between (laser), etc.
- Nesting in remnants or off-cuts.

- Automatic anti-collision function taking tools into account.
- Common cut management using different tools.
- Part positioning by work areas and between clamps.

“ Streamlining the use of sheet formats, combined with act/cut nesting performances enabled us to decrease loss rate by 10 points.

Trane

## Main functions

### Tool path optimization

#### 2D cutting

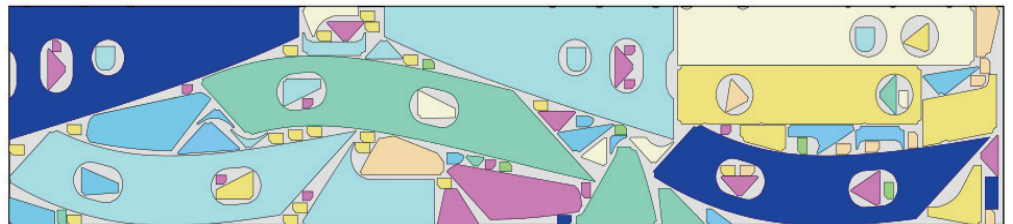
- Automatic calculation of tool paths respecting technological constraints (for example to avoid warping).
- Interactive modification (lead-ins, cutting sequence, trajectory, etc.)
- Simulation of tool path.
- Automatic calculation of off-sets in straight and beveled cut.
- Specific cutting functions: continuous cutting (to minimize lead-ins), common cut, skeleton cutting, programmable bevel management, control of marking etching and boring systems, speed control in water-jet cutting (accelerations or decelerations), loop support, collision avoidance with parts already cut, etc.

#### Punching

- Automatic calculation of tool paths respecting the part evacuation and tool use order.
- Interactive modification of tool or sequence, etc.
- Simulation of tool path.
- Common cut ensuring the evacuation of a single part at once.

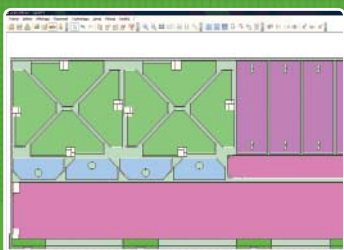
### ISO code generation

- Advanced post-processor generator.
- Programming with or without sub-programs.
- Cycle time calculation.
- Printing of customizable workshop documents (PDF).



## All round benefits with act/cut

### Reduced preparation and programming time



- Full automation available for every step of the programming process (CAD-CAM interfaces, nesting, tool assignment and tool path definition ...) and operation possible in «batch» mode.
- «Intelligent» features: selection of optimization strategies according to specific situations; re-use of recorded scenarii in similar contexts.
- Smooth-integration to the client's Information System: direct and automatic links with CAD solutions, ERPs and other CAM modules (bending, unfolding, etc.)

- Control of all your machines using the same software.
- Complementary task-oriented modules (folding/unfolding, letter and drawing cutting, tube cutting, 3D cutting, etc.)
- Simplified programming (user friendly, software standardization, flexible switch between automation and interactivity).
- Easy to learn (short learning curve).

“ Using the same programming software for all our cutting machines, and on all of our production sites enabled us to share our resources. ”

Marchesini Group

# All round benefits with act/cut

## Material savings

## Reduced cycle times resulting in increased machine productivity

## Improved quality of manufactured parts

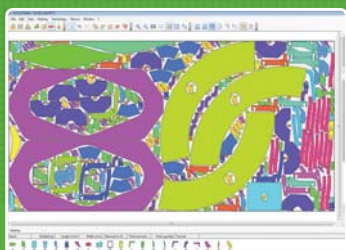
## Savings on consumables and tools

## Reduced handling in the workshop

## Increased safety around the machines

## Improved workshop organization and production response time

## Improved data organization and process quality



- Decreased material loss rate thanks to optimized nesting.

- Nesting in remnant sheets.

- Tool path optimization.
- Support of cutting technology requirements (multi-torch cutting in oxy-cutting, common cut, laser head up/head down, etc.)

- Management of peripheral loading/unloading units .

- Optimized cutting quality resulting from the support of technological constraints for cutting condition allocation, lead-in or tool definition, tool path research, speed and acceleration description, etc.

- Repeatability of both programs and situations.

- Reduced number of piercings (bridges, chain cutting and common cut) and tool path optimization.

- Optimized management of cutting conditions.
- Reduction of the number of punch strikes (common cut, optimized notching, etc.)

- Reduced number of remnants to manage.
- Skeleton cut with management of various evacuation modes.

- Management of loading/unloading and part sorting (palletization) systems.

- Implementation of collision risk avoidance (collision between cutting head and an actual cut part).
- Simulation features showing which defined operations can be performed.

- Programming methods forbidding release of off-cuts (punching, routing) guaranteeing that released parts or off-cuts, are held by the machine.

- Consistent programming methods for different machines.
- Programs created on a single machine can easily be reused on another
- Manufacturing order management with automatic pooling of parts to produce

- Management of remnant sheets and off-cuts.
- Streamlining of the necessary sheet formats, and reduction of the number of cut sheets (intelligent automatic nesting).

- Numerical data archiving and document traceability.
- Know-how formalizing.
- Program standardization.
- Significant reduction of potential errors.
- Integrated task-oriented modules simplifying data exchanges.

- Data integrity control at each step of the programming process (for example: validation of nesting after a geometrical part modification).
- Better streaming of data between services (Design departments, Methods, Production, Quality, etc.)

“ The various shortcuts found within all levels of the software, and its full integration in the Windows operating system resulted in fast programming.

Nichrominox

# The software for all your machines

## Laser cutting

Providing efficient and automated nesting capabilities combined with the ability to support all laser cutting functions as well as to manage a wide range of technological parameters, **act/cut** is the most productive and effective solution for programming your laser cutting machines.



## Plasma cutting and oxy-cutting

Thanks to its ability to meet specific machine requirements, including heat constraints, involved in oxy-cutting and plasma cutting, **act/cut** is a powerful and flexible solution which efficiently combines automation and user interaction, when required.



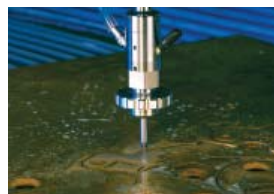
## Punching-nibbling

**act/cut**'s added value in punching-nibbling technology lies mainly in the software's powerful automation (tool allocation, machining sequence, nesting, part evacuation, etc.). This makes **act/cut** a highly productive solution for on-demand production of numerous and varied parts. The software can manage all loading/unloading peripheral systems and is perfectly adapted to combined machines.



## Waterjet cutting

Particularly suitable for continuous cutting whether you manage large-scale nesting or unit cutting projects, **act/cut** can meet any types of waterjet-cutting requirements in terms of tool trajectory, cutting speed or lead-ins/outs control. With its ability to easily adjust parameter setting to any kind of material that can be waterjet-cut, **act/cut** is the programming solution for your waterjet cutting machines.



The same software pilots all your machines, using any type of technology.

**act/cut**'s architecture and customization possibilities, makes the integration of technologies and machines very easy. It creates a single environment to control all of your machines, taking advantage of the various machine features.

Thanks to its easy learning, streamlined programming method, easy collaboration between users, and its technological excellence, **act/cut** is an unequalled productivity booster.

## Aluminium sheet routing

Aluminum sheet routing technology is specific to the needs of the aeronautics industry. Today, numerous aircraft manufacturers and subcontractors use **act/cut** on a daily basis to pilot their NC routing machines. With high nesting performance and the ability to meet all the technological requirements and constraints of the routing process, **act/cut** is the ideal solution for the programming of your aluminum routing machines.



## Wood panel routing

Alma has developed a unique expertise in the field of wood panel machining on 2.5 axis machines. **act/cut** is a high added-value software solution for all manufacturers who have significant needs in terms of part nesting. Furthermore, a dedicated module that combines geometry recognition functions and automatic machining functions, enables any CAD-designed 3D part to be imported, prepared and programmed.



## Optional act/cut modules

- **act/unfold**: 3D import and unfolding of sheet metal parts.
- **act/shapes**: library of developed shapes for boiler making.
- **act/sign**: transformation of pictures and fonts into CAM ready files for cutting.
- **act/manager**: cutting process management (manufacturing orders, stock, launching orders) and data import from/export to production management and ERP systems.