

Offline Programming Solution for 3D Trimming Applications

CENIT AG Systemhaus

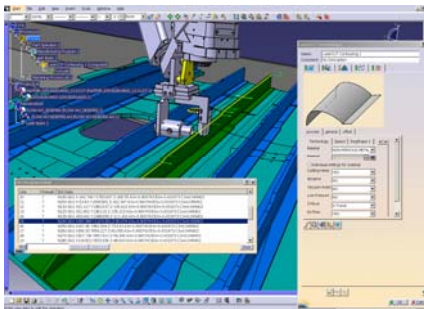
CENIT is one of the premier service providers for Dassault PLM-Solutions with wide experience in CATIA and DELMIA manufacturing applications in all kinds of industries. Various CENIT manufacturing solutions, tailored for a dedicated application and based on V5 are receiving wide acclaim for their intelligence and ease of use. The newest accomplishment, FasTRIM, uses the DELMIA Manufacturing and Simulation Infrastructure for a smooth integration into the V5 PPR hub.

Years of experience in development and implementation of 3D offline-programming systems for different niche applications and the the close cooperation with leading machine manufacturers for niche applications such as laser-cutting or water-jet cutting and the prototyping industry paved the way for a customer-driven tool that covers the entire CAD/CAM process chain for all 3D trimming applications, thus bringing added value to our customers due to its flexibility and functionality.

FasTRIM is a modular build application which easily can be customized and made available as tailored solution for different trimming technologies, such as laser cutting, water-jet cutting, routing, ultrasonic cutting and others.

FasTRIM does support all different trimming systems, whether they are based on 5-axis gantry-type of machines, with additional axis, such as rotary axis for tube cutting or on robots.

FasTRIM includes all necessary CAD/CAM and Simulation components to cover all trimming process requirements.



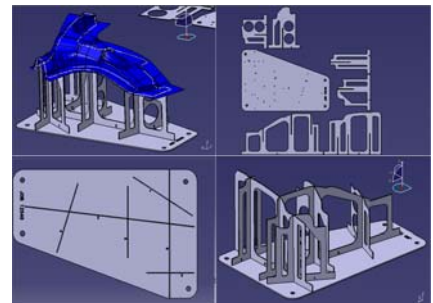
- Full associativity between 3D fixture and nested plates
- supports the methods "Egg-Grate" and "Cross Stanchion".



A "3 point transformation" and multiple points "Best-Fit" function is available to align CAD model to a given part position on the laser table for shops using jury-rigged fixtures.

CAD Features and automated Math data clean up

- 3D Solid and Surface based Design, Assembly Design
- Simple flat blank development using powerful sketching tools
- Gaps and overlapping in geometry are eliminated automatically
- Automatic true arc interpolation regardless of math data quality.



Cutting fixture design and programming (Option)

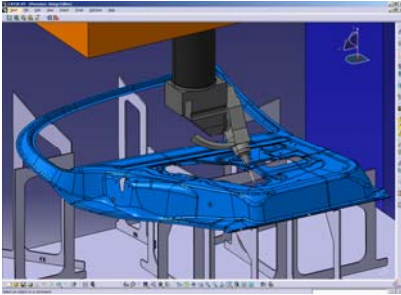
- Automatic creation of stanchions, base plate, tabs and interlocking according to pre-defined fixture templates.
- Automatic labeling, weight relief patterns, pin-hole support
- Automatic unfolding and nesting of base plate and stanchions into a given sheet size and automatic programming

Programming and Simulation

FasTRIM includes:

- Powerful algorithms to generate a smooth and collision-free tool path
- Collision check with exact machine tool kinematics and dimensions, clamps and fixtures
- Powerful Jogging / Teach / Optimize function to keep complete control over machine motions





- Supports very quick programming of any type of macro geometry (Holes, Rectangles, Key-Holes, Slots) with support of sub programs

More Features

- Macro geometry editor (relocating, transforming, rotating, changing dimensions)
- Offline teach functions (local offsets to native trim line, transformations,...)
- Automatic or manual rewind operations according to machine tool travel limits
- Automatic Lead-in, lead-out, clearance operations; cutting conditions can be set automatically
- True Mirror function keeping all changes in the mirrored program

Reverse Engineering (Option)

- G-Codes (or RML) can be uploaded and modified, no matter if the origin was FasTRIM or another programming system or even a digitized NC-file
- Simple G-Code editing
- Conversion into different G-Codes (e.g. NTC → Prima)

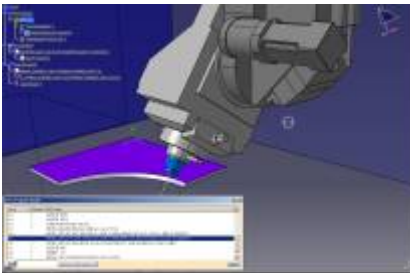
Knowledge based machining can be accomplished through CENIT's macro language. Laser technology data, machining operations and methods can be defined and stored for reuse. Special applications like 5-axis tube cutting, bevel cutting and others are also supported.

Machines Supported

An extensive set of implementation kits for all common trimming machines, is available, or can easily be added and implemented.



Machine specific control panels allow further customization of shop floor proven post processors.



Infrastructure

Intuitive and easy-to-use Interface based on Windows 2000 or Windows XP.

Customizable Input panels

Import and export native CATIA, DXF and IGES (native UG and STEP are available as an option)

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