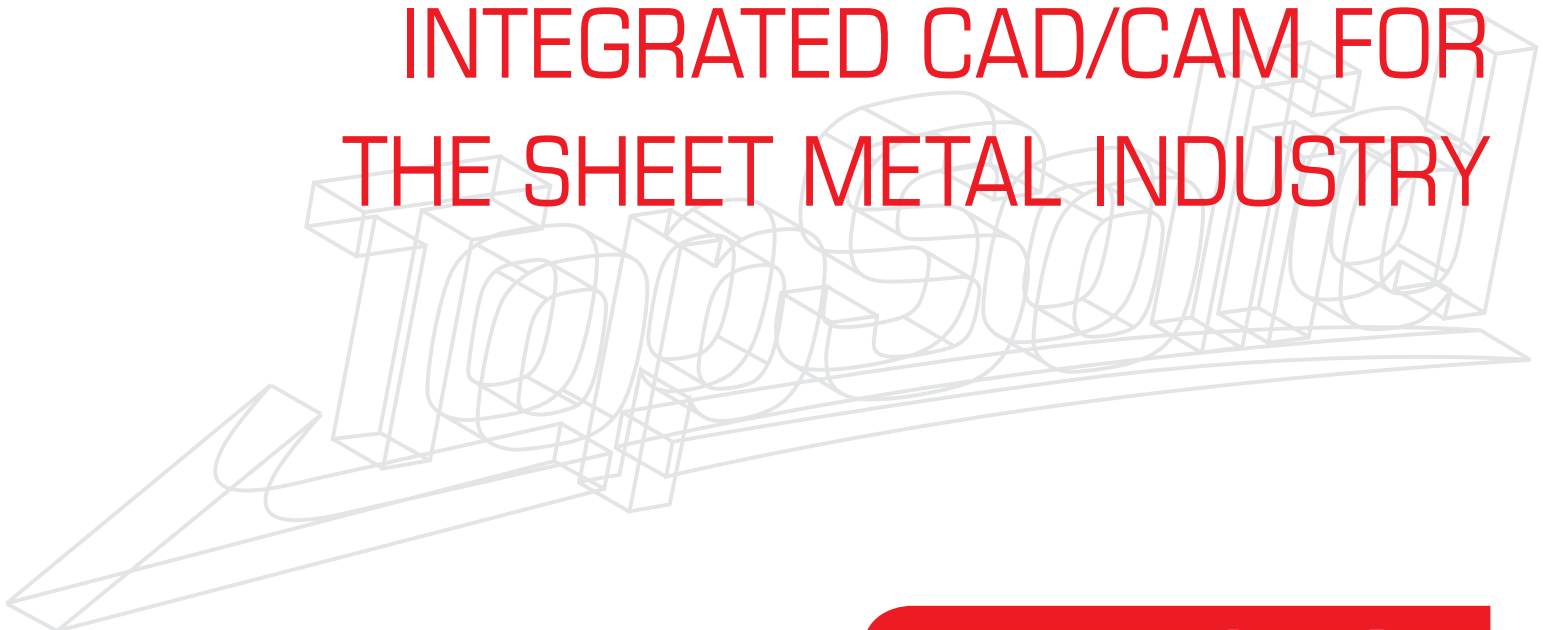




# INTEGRATED CAD/CAM FOR THE SHEET METAL INDUSTRY



MASTER YOUR  
MANUFACTURING PROCESS

# INDUSTRY-SPECIFIC CAD/CAM: SHEET METAL

In an ever-changing world, the needs of sheet metal industry professionals have significantly changed. Faced with increasingly high industrial requirements (costs, lead times, etc.), businesses are forced to increase their productivity.

**There are two performance drivers available:**

- > Invest in highly automated production facilities in order to produce more and faster, with your primary concern being the centralization of the multiple sources of information within the company.
- > Establish a design, manufacturing and management solution within the company.

TopSolid'Sheetmetal is the integrated solution for the sheet metal industry offering CAD/CAM solutions ranging from the unfolding of sheet metal parts to the piloting of CNC punching machines, 2- and 3-axis laser cutting machines and combined machines.

A single programming system for all of these technologies guarantees optimal flexibility for the company by securing and increasing the reliability of all data transfers between design, manufacturing and technical data management.

TopSolid, the only software dedicated to the sheet metal industry, offering full integration from the design to the manufacturing of your parts, for typical productivity gains of over 30%.

#### Utilization of external projects

TopSolid'Sheetmetal is not only capable of retrieving external projects, but also offers you the possibility of converting them for use:

- > Retrieval functions through the provision of standard and native interfaces
- > Project reconstruction industry tools
- > Thickness recognition
- > Management of folds and deformations
- > Analysis and conversion with verification of the consistency and quality of the result

#### Reliable design process

Producing a quality part depends not only on its design but also on the performance of the software to calculate its developed length.

All the CAD functions of TopSolid'Sheetmetal enable design for manufacturing to ensure the reliability of the project in all stages of the process:

- > Creation of sheets from simple or complex surfaces
- > Advanced features for grooves, joggling and crunching
- > Solid flattening
- > Multiple unfolding
- > Associative flattening for manufacturing

#### Specialized metalworking functions

TopSolid'Sheetmetal offers a rich library of predefined and configured models for easy designing of cylindrical parts to quickly obtain the developed length of hoppers, elbows, branches, picking operations, etc.

#### Integration – associativity

It is often necessary to machine parts that differ only in terms of dimensions or with additional items. These modification operations are often time-consuming and always risky. With TopSolid'Sheetmetal, thanks to the total associativity between the geometry and the toolpaths (and/or the cutting head), the operation sheet is automatically recalculated for geometry modifications.



Tipper designed and produced with TopSolid'Sheetmetal.



Tanks designed and manufactured with TopSolid'Sheetmetal.

# EXPERT PUNCHING CAM

In the sheet metal industry, for both subcontracting companies and manufacturers, the CAM tool must provide not only automatic features for the preparation of repeat parts destined for series production runs, but must also allow users to handle the system when processing complex parts. TopSolid'Sheetmetal gives users the flexibility needed to meet production requirements.

## **Make the most of your know-how**

TopSolid'Sheetmetal gives you the opportunity to build on your methods by providing you with numerous functions for creating and customizing your production tools but also for centralizing your company's expertise.

Data (tools, formats, parts, nestings, etc.) are centralized so that they can be utilized very quickly without wasting time. You will be able to nest parts efficiently by optimizing the loss ratio.

The punch software manages all automated machine options and provides expert post-processors.

# Optimized management of punching is the guarantee of rapid and expert machining preparation

## Advanced automation

TopSolid'Sheetmetal not only includes an automatic mode but also useful manual features to provide flexibility in the programming process.

Subcontractors are faced with the problem of using external files on a daily basis.

To save time not only in retrieving but also processing files, TopSolid'Sheetmetal retrieves, reconstructs and automatically converts a list of DXF files into machining documents.

## Powerful automatic machining assignment

The automatic assignment of tools for machining is an important operation in sheet metal production and guarantees the quality of the finished part.

TopSolid'Sheetmetal offers effective automatic machining assignment, even in the most complex cases.

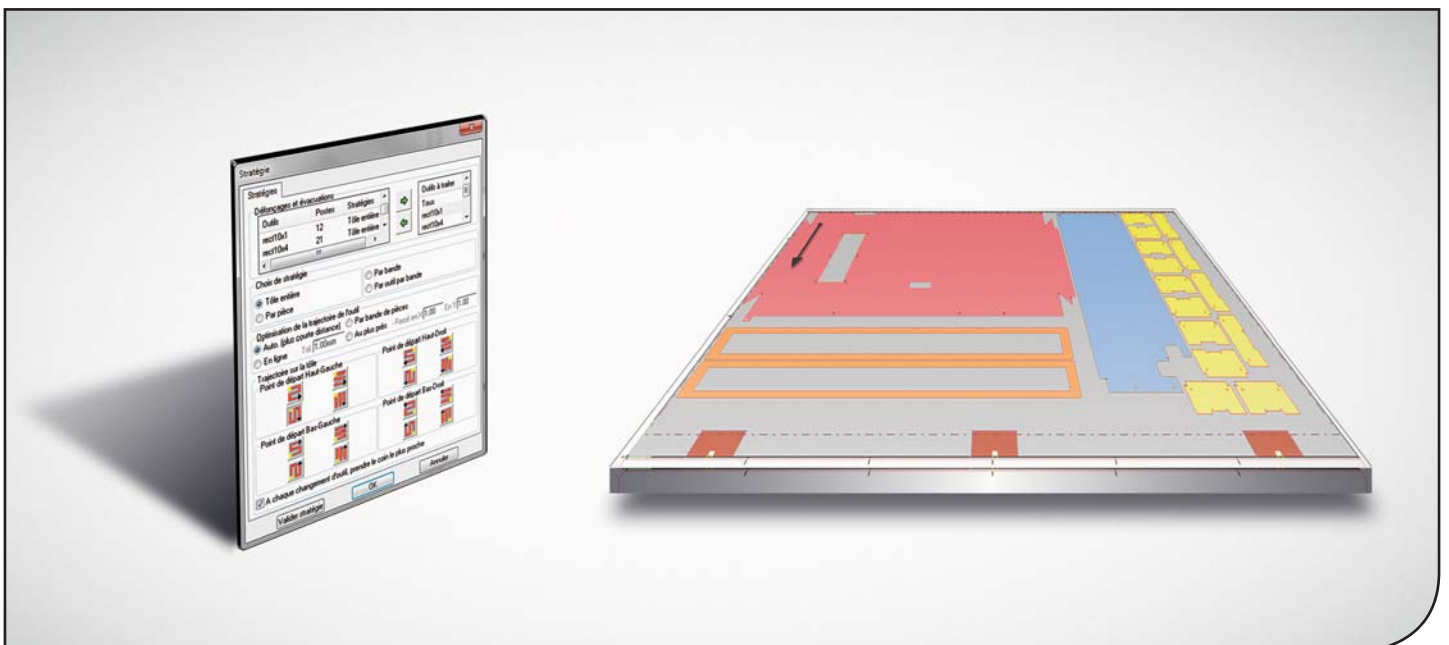
## Advanced machining strategies

When punching, the optimization of toolpaths on the sheet is a crucial step in the industrialization phase.

TopSolid'Sheetmetal offers a wide range of strategies for optimizing toolpaths according to the parts to be produced and machine technologies. These strategies can be saved and recalled at will.



TopSolid'Sheetmetal offers machining strategies for each tool to optimize the path of the punching head on the sheet



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# POWERFUL CUTTING CAM

Cutting machine technology allows parts to be machined very quickly. It is therefore important to combine this with a very flexible and powerful programming solution!

TopSolid'Sheetmetal controls all types of cutting machines: laser, flame, plasma, and water jet.

## **Total associativity between design and manufacturing**

TopSolid'Sheetmetal automatically calculates trajectories and provides a range of manual features for maximum optimization.

Cutting parameters, which are essential in ensuring quality cutting, are managed by machine, by thickness and by taking into account the different cutting gases used.

The application's integrated task manager allows data to be centralized and nestings optimized by grouping parts by various criteria.

TopSolid'Sheetmetal communicates perfectly with the production management solution established within the company. This saves a lot of time. Gone are the days of having to enter and re-enter information, TopSolid'Sheetmetal guarantees total traceability and reliability of your data.

TopSolid'Sheetmetal offers a very powerful nesting module as standard. The software also allows you to manage offcuts in order to reduce material waste. The software's communication with an ERP system secures and improves the reliability of your data. Your industry expertise is perpetuated and your loss ratio decreased

#### Efficient nesting

TopSolid'Sheetmetal offers users various nesting strategies according to the parts to be produced and machine technology. Whether for complex parts or rectangular parts, the nesting strategy proposed minimizes the loss ratio to reduce material waste.

Nesting performed for a given machine can be transferred to another machine, or another technology.

TopSolid'Sheetmetal is the only CAD/CAM solution on the market to automatically transfer 3D geometric modifications made to the model to all parts in the nesting.

#### Centralized data

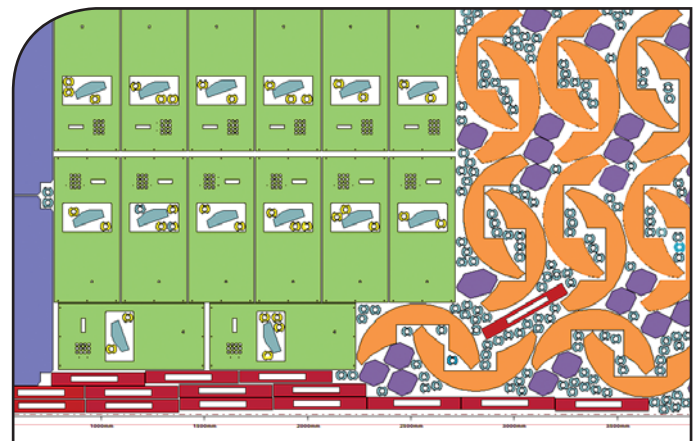
The centralization and management of multiple sets of data within the company are the keys to improved profitability and productivity.

TopSolid'Sheetmetal meets this requirement by providing a task manager that can centralize production orders and launch manufacturing tasks.

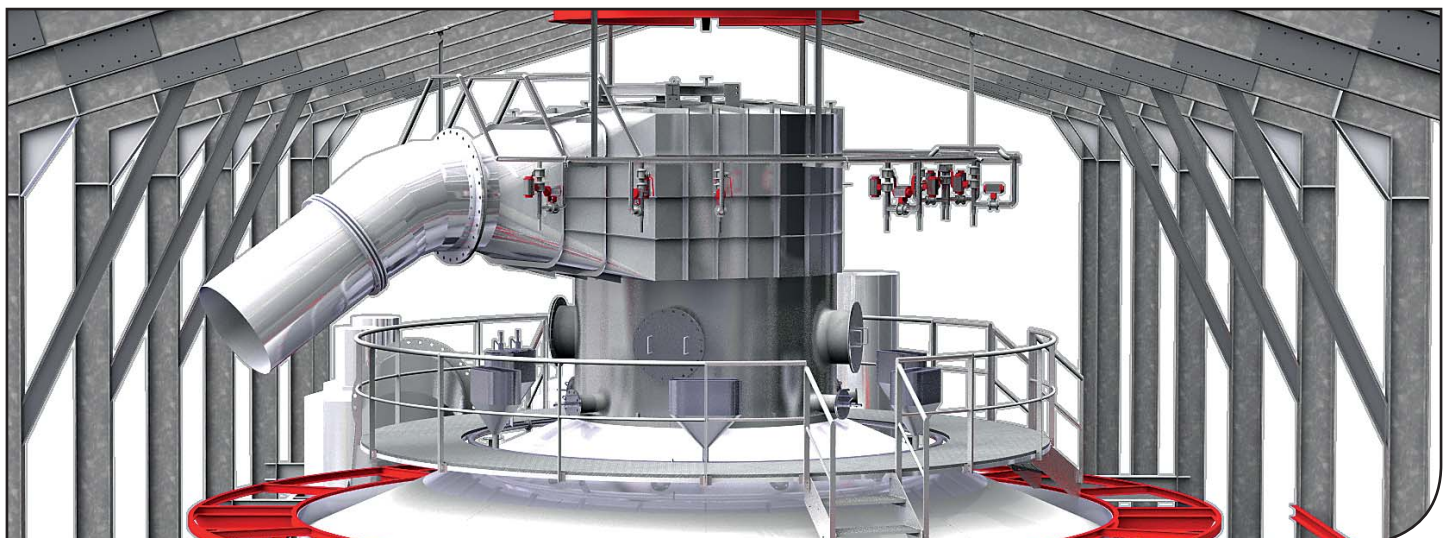
This manager, which can be interfaced with TopSolid'Erp or the management solution established within the company, automatically retrieves data, avoiding the need for the user to re-enter data.

Thanks to the TopSolid'SheetMetal task manager, the user can manage formats and offcuts, thus optimizing the stock of raw material.

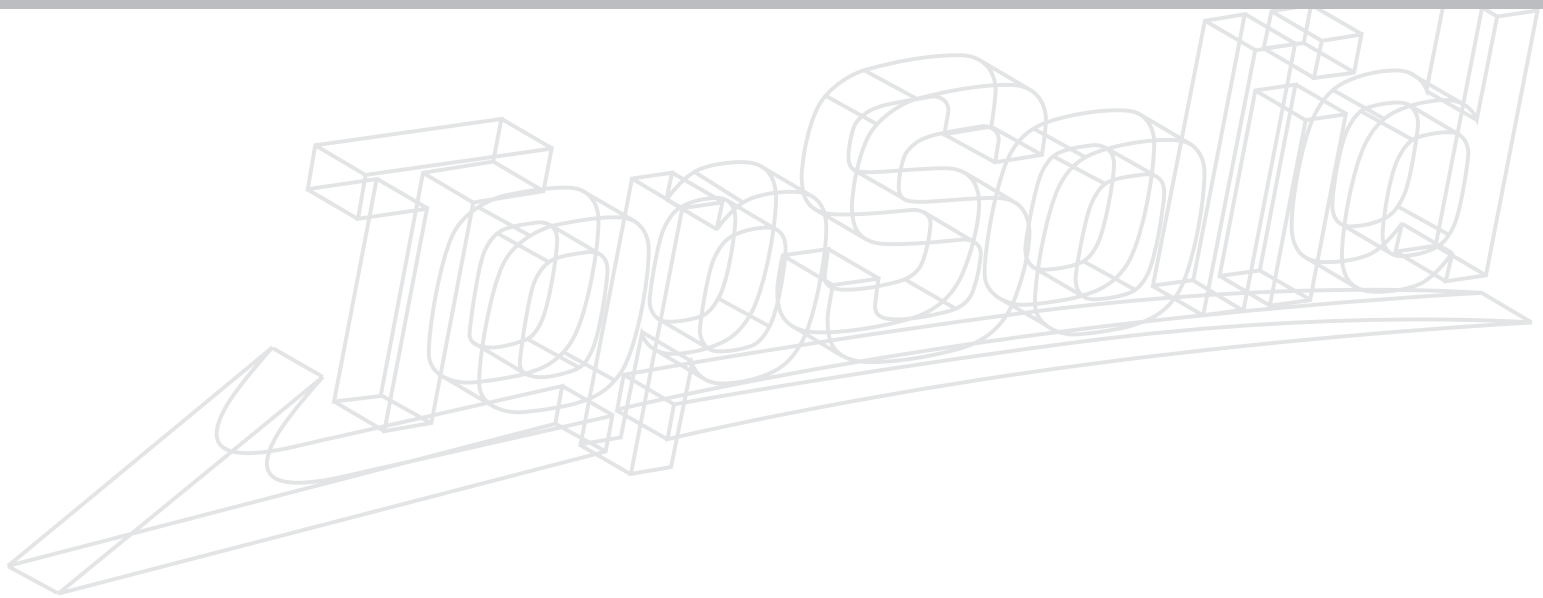
Nestings are created automatically, as well as machine codes and workshop documents.



A powerful and fully integrated nesting solution.



Plan of a building structure and ventilation, entirely designed with TopSolid'Sheetmetal.



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