



SheetMetal Inventor

EXPAND THE SHEET METAL FUNCTIONALITY OF AUTODESK INVENTOR



CERTIFIED

**AUTODESK®
INVENTOR®
2022**



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ABOUT SPI



The North German software company SPI GmbH has been developing **software solutions for the sheet metal industry** since 1980.

The goal of SPI SheetMetal Solutions is to assist sheet metal fabricators and sheet metal service providers in achieving **a streamlined process chain from the idea to the finished product.**

The experienced CAD software developers at SPI provide solutions that optimally support their customers' processes.

SPI software is used on around **5000 workplaces worldwide.**

SPI's development partners include the TRUMPF Group.

In SPI we have found a partner who understands our processes and turns their expertise into powerful software solutions.

Tobias Höhnlein, CEO
Bader Babenhausen GmbH

SHEET METAL FOR INVENTOR

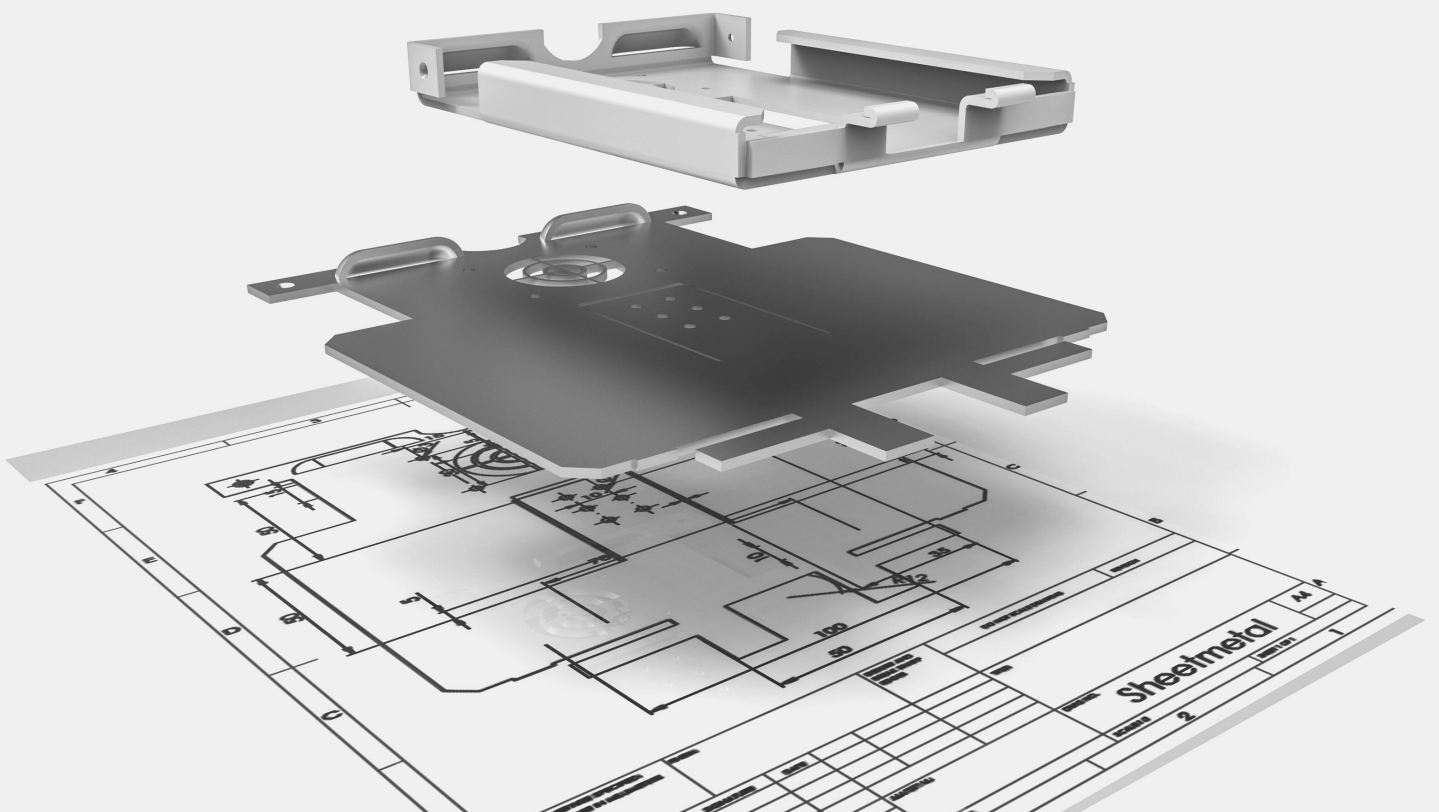
SPI SheetMetal Inventor is an add-in for sheet metal fabricators who use Autodesk Inventor to design sheet metal for bending.

SheetMetal Inventor was **launched in 1998**. Ever since new features and improvements have been added with every yearly release. The ongoing compatibility with Autodesk Inventor, as well as the integrated and interoperable functionality, has earned SheetMetal Inventor the **Autodesk Certified App** status.

SheetMetal Inventor **seamlessly connects design and fabrication**, saving sheet metal fabricators not only time and money but also various resources. This is achieved with the help of specialized commands, multiple calculation methods, automated manufacturability checks, numerous import and export formats, as well as other features described on the following pages.

Every installation of SheetMetal Inventor includes an extensive library of standard components and a powerful material and tool manager.

The functionality of SheetMetal Inventor can be further expanded with **CAM interface add-ons** as well as with a highly accurate **cost-calculation add-on**.



FEATURE HIGHLIGHTS

Expand the sheet metal functionality of Autodesk Inventor with tried-and-tested features that save time, reduce errors, and optimally connect design and fabrication.



Import of Non-Native Data

Easily diagnose visible and invisible design problems, apply the correct settings, and receive a manufacturing-ready unfolding without modifying the model. Multiple import formats available.



Learning Tool Recognition

Ensure the transfer of production-relevant information to CAM with a function that automatically detects geometries of the sheet metal part and assigns them the correct tool & manufacturing data.



Automatic Bend Reliefs

Obtain accurate and automatic bend reliefs even if the CAD software cannot model the reliefs that are required in manufacturing. Choose from 12 different corner relief types.



Unfolding of Assemblies

Simultaneously assign the required material data to all sheet metal parts of an assembly and receive the flat patterns in the data format(s) of your choice at the press of a button.



Manufacturing Information

Easily add manufacturing data to your model and pass it on to production together with your flat patterns to reduce errors and save time for everyone involved.

SIMPLIFIED DESIGN

SheetMetal Inventor expands the functionality of Inventor with **commands specially adapted for sheet metal design**. In particular, the software ensures that material, tool, and machine data are taken into account already during the design phase.

Functions like learning tool recognition, automatic bend reliefs, and others, not only save time for the design department but also cut down the necessary amount of pre-production work.

An **editable material and tool database** works behind the scenes to ensure that the part is manufacturable with the chosen material and on the selected machines. When these settings are changed, the software adapts the design automatically. This is particularly beneficial if your company has a heterogeneous machine setup.

Furthermore, SheetMetal Inventor comes with an extensive **component library** that supports you in the design of standard parts. You can expand the library with your own parts to further speed up the design process.

We can design almost square, without reliefs and fillets. The SPI software adds the bend radii independently, on the basis of data from the material database.

Alen Ljuhar
Head of the Technical Office
Ronge Profil

80%

Customer-reported design time savings by using SheetMetal Inventor

FABRICATION-READY FLAT PATTERNS

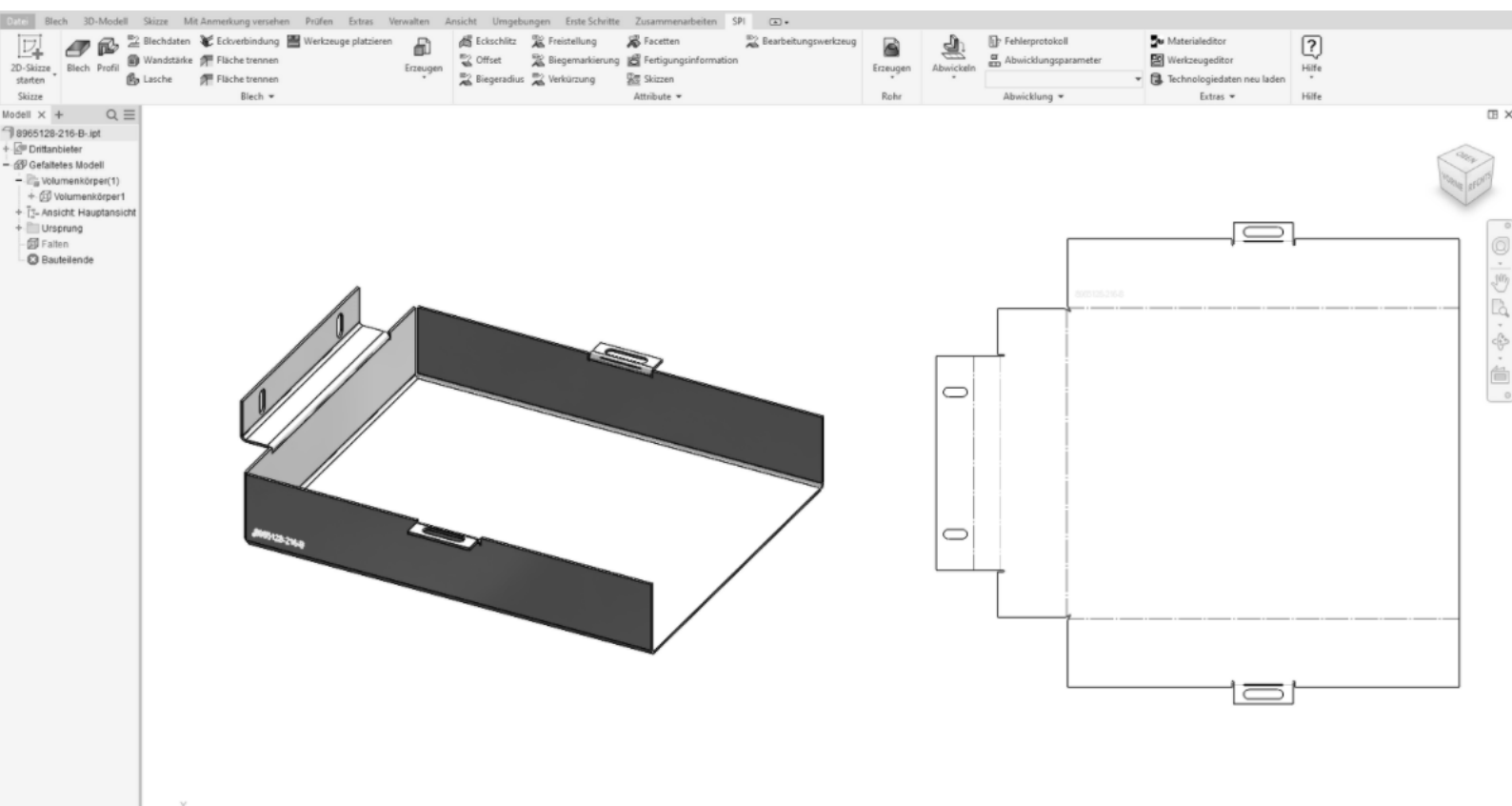
The **SPI unfolding algorithm** takes into account not only the material and sheet thickness but also the laser, punching, and bending machines that will be used to manufacture the sheet metal part.

These factors flow into calculations, e.g., for **bend deductions** and **bend radii**. This ensures that even highly complex designs can be easily unfolded and that the flat pattern is ready for manufacturing with minimal pre-production work.

Various **calculation methods** are available for determining the technology data. Depending on the application, you can choose between DIN formula, K-factor formula, define your own formula, or use empirically determined values.

Measurements can be assigned to both machines and tools. You can define tables for each machine and each sheet metal type that contain **shortening attributes** for bend radii, **deduction values** for offsets, and **manufacturing radii** for opening angles. Furthermore, shortening values can be defined individually for each bend.

SPI SheetMetal Inventor accurately unfolds also freeform surfaces, transitions, curved surfaces, and other complex parts.



CAD TO CAM

SheetMetal Inventor supports several output formats that can be processed by leading controllers and NC programs. By default, the software provides output in **DXF** and **Inventor drawing** formats.

This functionality can be further expanded with specialized CAM interfaces that guarantee the transfer of all manufacturing data that each system can process.

TRUMPF



The SPI TruTops Interface ensures the inclusion of **TruTops** Bend information and generates output data in the TruTops **GEO** format, the extended **DXF** format, as well as in the **STEP** format.

Bystronic



The SPI Bystronic Interface generates the extended **DXF** format that transfers all relevant manufacturing data to the **BySoft 7** System. Additional process information can be transferred with the **STEP** format.

LVD



The SPI LVD Interface provides the relevant manufacturing data in the **GEO** format for programming with the **CADMAN-B** software. For additional process information, a **STEP** output is available as well.

SCHRÖDER
GROUP

The SPI Schröder Interface outputs the necessary manufacturing data in a **DXF** format for the **POS 3000** software to control pivoting bending machines from Hans Schröder Maschinenbau.

AND MORE...

Are you operating machines not listed here or require different output formats? Do not hesitate to contact us about developing a **custom CAD interface** that is tailored to support your processes.

KNOW YOUR COSTS

In an increasingly digitized sheet metal industry **reliable real-time estimates of production costs** are vital for both manufacturers and contract manufacturers. The ability to evaluate the use of materials, machines, and labor per order helps to minimize costs and remain competitive in a dynamic market.

The **SheetMetal Calculator add-on** for SPI SheetMetal Inventor expands the software with **a rule-based calculation functionality**. It enables you to evaluate the cost impact of design decisions, as well as to explore alternatives, for example, the cost difference of using a different material or a different machine.

The calculation specifications and rule sets are individually definable for your company and your process chain. They include manufacturing facilities, material information, labor expenditures, fixed costs, surcharges, and more.

You will receive the cost calculation data alongside the unfolding data. Calculation output in the XML file format also makes it possible to transfer this information to the **ERP system**, for example TruTops Fab, for the planning of production steps, machine capacity utilization, material management, logistics, and more.

SPI SheetMetal Calculator is available in three configurations:

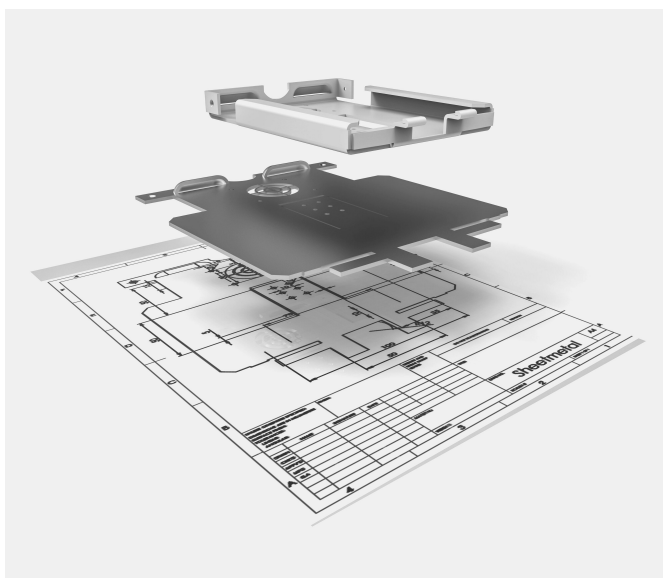
Version	Output options
Classic	Output of geometry, time, and costs in PDF format
Professional	Additional output of an XML file for data transfer to ERP
Enterprise	Optional implementation of the solution as a web service

TRAINING AND SUPPORT

When you purchase our software, we provide installation help and offer **online or in-person training** that is custom-tailored to your needs. We will show you how to make the most out of SheetMetal Inventor in your sheet metal process chain. In addition, we offer update trainings that demonstrate the new functions and features of each yearly release.

You can add a **software support package** to your license and receive prompt email and phone support in English or German. Our support team can also carry out remote maintenance via TeamViewer.

*Digitise your sheet metal process chain
with the help of SPI SheetMetal Inventor!*



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