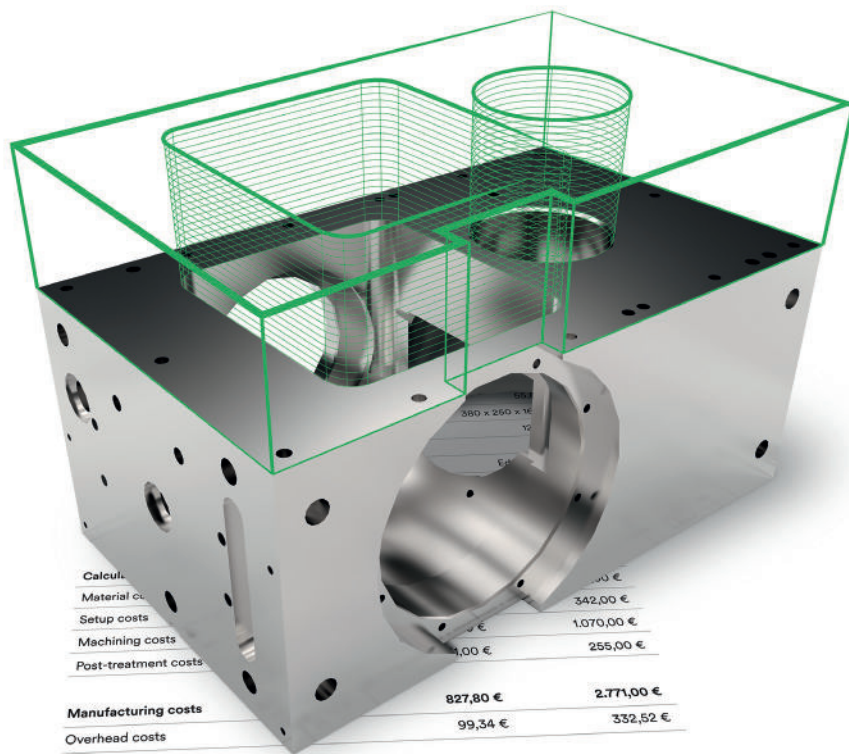


spanflug

MAKE

**You focus on manufacturing.
We automate the rest.**



Calculations		
Material costs		342,00 €
Setup costs		1.070,00 €
Machining costs		255,00 €
Post-treatment costs		
Manufacturing costs	827,80 €	2.771,00 €
Overhead costs	99,34 €	332,52 €
Prime costs	927,14 €	3.103,52 €
Margin	92,71 €	310,35 €
Sale price	1.019,85 €	3.413,87 €

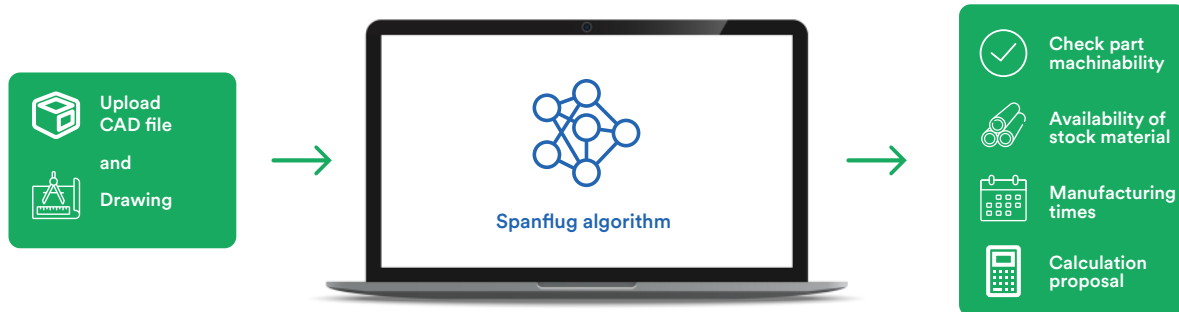
Why Spanflug Make

At Spanflug, it is our mission to advance the digitalization of the manufacturing industry by making time-consuming processes for the procurement of custom machined parts as fast and easy as possible for both customers and suppliers.

Spanflug Make offers machining companies the possibility to radically simplify their administrative processes, from quoting to purchasing, so they can focus on their core competence in machining.

With **Spanflug Make**, you can start with the digitalization of your administrative processes easily and free of charge. We offer you solutions that can be implemented quickly and effortlessly, and that can generate real added value for your company from day one.

Intelligent algorithms and connected technology as a key



On the Spanflug platform, we provide the technological infrastructure to match supply and demand across multiple stages of the supply chain. Thanks to our cutting-edge CAD analysis, our leading algorithm for manufacturing planning and our connected technology, we are able to effectively automate the administrative processes for the manufacturing of just about any part: from pricing and quote preparation, through material procurement, and all the way to selecting the perfect machine for the job and verifying its availability.

Our streamlined, digital processes enable you to swiftly improve your efficiency and save costs. **Spanflug Make** allows you to reduce the effort associated with the preparation of customer quotes by up to 90%.

As a cloud-based solution, **Spanflug Make** is available around the clock and anywhere in the world. Our professional infrastructure ensures a high degree of availability as well as the highest standard of data protection. You do not have to buy any dedicated hardware and there are no installation efforts or maintenance costs.

Our solution package for machine shops

Automated quoting

Spanflug Make is an end-to-end quoting solution for CNC contract manufacturers. It not only allows you to automatically calculate prices, but also to generate quotes that are ready to be sent out to your customers with just a few clicks. With these and numerous other features, we support machining companies to boost efficiency, prepare their business for today's and future challenges, and to provide their employees with a modern, attractive working environment.

Since **Spanflug Make** is available as a Software-as-a-Service application, it can be used straight away without the need for any training data or configuration. You can adapt the software to your operations quickly and easily to get your own customized cost calculation results.



Become a manufacturing partner

Once you have signed up for **Spanflug Make**, you can optionally submit your application as a manufacturing partner in the Spanflug network. As a manufacturing partner, you receive orders that match your expertise via the Spanflug platform – entirely without the need to prepare any quotes. In this way, you minimize the effort involved in sales and order processing and you optimize the utilization of your manufacturing capacities, which also helps you to increase your revenue.

Efficient procurement

Spanflug Make offers manufacturing companies a solution for the fast, efficient procurement of materials and consumables. The stocks and tools required for manufacturing any given part are determined automatically during part analysis. For stocks, you have the option to procure these quickly and easily via Spanflug.

In addition, you can use our procurement solution – **Spanflug Buy** – to outsource turning and milling parts quickly and without any hassle. We provide you with all the necessary data for informed make-or-buy decisions and are happy to support you if your own machines are at full capacity, or if you receive requests that fall outside your focus area.

Quoting made effortless

Calculate manufacturing times and prices for turning and milling parts automatically and generate ready-to-send quotes quickly and easily. **Spanflug Make** allows you to reduce your quoting effort by up to 90%.

Preparing price quotes for turning and milling parts is a complex and time-consuming task. As an end-to-end digital solution, **Spanflug Make** supports you throughout the entire quoting process:

- You can calculate manufacturing times and prices automatically on the basis of CAD models and drawings.
- All parameters relevant to machining are determined automatically without the need for manual input. You get a detailed calculation proposal in a matter of seconds.
- After that, you can generate a ready-to-send quote in PDF format or conveniently export the results to your ERP system for further processing.
- You can manage quotes and your customer master data directly within **Spanflug Make**. We also enable team collaboration for the quoting process in your organization and support you with production planning.

Spanflug Make is a cloud-based software-as-a-service solution that can be used from any location and any device. All you need is an internet connection and a web browser.

Registered users of **Spanflug Make** can calculate five parts per month free of charge. For unlimited uploads and price calculations, you can sign up for our monthly or yearly subscriptions.



Your benefits at a glance

- ✓ **Save valuable time**
With **Spanflug Make**, you can generate quotes quickly and easily. This reduces quote preparation efforts by up to 90% and enables you to respond to customer requests more quickly.
- ✓ **Win more orders to boost your profits**
Optimize the hit rate of your quotes through market-driven and reproducible prices.
- ✓ **Calculate accurate quote prices**
Thanks to our leading technology for part analysis and our daily updated stock prices, you can calculate accurate prices in line with the market.

- ✓ **Focus on manufacturing**
Relieve your employees of burdensome administrative tasks. Once set up, quote calculation can also be performed by staff without a technical background.
- ✓ **Benefit from day one**
Spanflug Make can be used immediately without the need for any training data or configuration. You can either start with the default machines or configure Spanflug Make according to your own machine park.

Features



Automated part analysis

All parameters relevant to manufacturing are determined automatically from the CAD model and the drawing and taken into account in the calculation. No manual input is required. You can check the retrieved information at any time and adjust it if necessary.



Customizable for your business

Spanflug Make performs its calculation using preset parameters and provides you with reproducible prices and manufacturing times in just a few seconds. In order to achieve an optimal calculation result for your operations, you can add your own machine tools in just a few steps and individually adjust set-up and programming times, margins or overheads as needed. We support you in both configuring and using the software via the starter package included in our subscriptions.



Process larger customer requests efficiently

Our batch upload function enables you to process large requests in a fast and efficient manner. You can also set up batch quantities individually and have them calculated at the click of a button.



Create ready-to-send quotes fast and easy

As an end-to-end solution, **Spanflug Make** makes quote generation easier than ever. If you are not using an ERP solution for generating your quotes, you can create a ready-to-send quote in PDF format directly from the calculated manufacturing times and prices. If you use an ERP system, you can export the calculation data quickly and easily via a corresponding interface.



Real-time data for stocks and procurement

Spanflug Make performs its calculation for nearly all material groups using the prices of connected stock suppliers. These are updated on a daily basis. You can easily source stocks directly via Spanflug. This helps you reduce the level of uncertainty within your supply chain and achieve calculated margins.



All your quotes are accessible at all times

With **Spanflug Make**, you can easily keep track of your requests and quotes. You can store them in the parts and quotes archives, and access them at any time. The calculation is also retrievable at a later date, and can be reused for repeat orders with a single click. With Spanflug, you can manage customer master data conveniently and have all important data at hand in just one solution.



Create offers together as a team

Our organization accounts make it easy for you to work together as a team. You can invite colleagues to sign up and assign them appropriate rights and roles. All users in an organization can access shared calculation settings and machine tools as well as quotes and customer data.



Support with production planning

As part of the calculation, our algorithm analyzes the manufacturing process and provides you with so much more than just a quote price. For example, it suggests suitable stocks for the order, assists with the selection of the most economical machine tool and summarizes the sequence of manufacturing operations in the operational plan.

Start now for free



Technical offering



The automated quote calculation from **Spanflug Make** covers a wide technical spectrum of capabilities in the field of turning and milling, as well as a number of post-treatments. This data is included in Spanflug Make and can be used immediately without the need for further configuration.

We update prices and availability for stocks in real time for almost all material groups via connected suppliers and offer you the option to order these directly via Spanflug Make.

Materials

Aluminum

AlCuMgPb, AlCuMg1, AlMg3, AlMg4.5Mn0.7, AlMgSi1, AlMgSi, AlZn5.5Mn1.5 and AlZnMgCu1.5

Steels

11SMn30, 11SMnPb37, S235, S355, C45, 16MnCrS5, C60E and 42CrMoS4

Stainless steels

1.4021, 1.4057, 1.4104, 1.4112, 1.4301, 1.4305, 1.4404, 1.4542, 1.4571 and 1.4841

Tool steels

1.1730, 1.2083, 1.2210, 1.2312, 1.2379, 1.2842 and 1.3505

Plastics

PA6, PE-HD, PP-H, POM, POM-C, POM-ESD, PEEK, PTFE, PA66-GF30, PMMA, PC, PE 1000/PE-UHMW, PVC-U and PVDF

Copper alloys

CuZn39Pb3 (brass), CW004A (copper), CuSn8 (bronze), CuSn12 (bronze) and CuSn7Zn4Pb7 (red brass)

Cast iron alloys

EN-GJL-250 (0.6025)

Titanium

3.7035 (titanium grade 2) and 3.7165 (titanium grade 5)

Turning

Turning parts up to a diameter of 1,000 mm and a length of 6,000 mm

Milling

Milling parts up to 6,000 mm x 2,000 mm x 350 mm

Grinding

External cylindrical and surface grinding

Laser, flame and water jet cutting

You can select contour cuts such as laser, flame or water jet cuts as a stock shape, and include these in the calculation.

Post-treatments

Heat treatments

Carbonitriding, gas nitriding, hardening, colsterizing, nitrocarburizing, plasma nitriding, stress relieving, tenifer treatment and tenifer treatment QPQ

Surface treatments

Black oxidation, chromate conversion coating, electropolishing, anodization, glass bead blasting, vibratory grinding, hard anodization, oxidation, passivation, phosphating, sand blasting

Cleaning, labelling & packaging

Mill labeling, laser labeling, ultrasonic cleaning, individual packaging

Coatings

Chemical nickel plating, galvanic nickel plating, bright chrome plating, hard chrome plating, powder coating, chrome plating, galvanic plating

We are constantly expanding our range. A current overview of all materials and post-treatments can be found at spanflug.de.

Designed to meet your operational needs

Integration with your existing processes

Spanflug Make integrates seamlessly with your existing systems and workflows. You can use the calculation results for your quote preparation and for subsequent order processing.

You can export all information relevant to further processing, such as prices and delivery times, to your ERP/PPS system via an interface. You receive reproducible data and save yourself the hassle of manual transfers into your ERP system. Contact us, we would be happy to advise you.

A high level of protection for sensitive data

Technical data such as CAD models and construction drawings often contain critical expertise and are subject to stringent data protection requirements.

In order to meet these requirements, we guarantee a particularly high standard of data protection and security.

Your technical data is processed exclusively on servers at our ISO 27001- certified hosting partner AWS in Germany. The data is stored in encrypted form and transmitted to our servers via a TLS-encrypted connection.

As a matter of principle, our employees only receive access to part data after your approval (e.g., for support requests).

Subscription plans and prices

Free plan

0 €

- ✓ Full version
- ✓ 1 floating license (unlimited users)
- ✓ Calculation of 5 parts per month free of charge
- ✓ Support: Online tutorials & FAQs

Pro | Monthly plan

EUR 399 / month

- ✓ Full version
- ✓ Monthly billing
- ✓ Cancellation monthly
- ✓ 1 floating license (unlimited users)
- ✓ Each additional license: EUR 79.80
- ✓ Unlimited calculations
- ✓ Support by phone and e-mail according to GTC
- ✓ Starter package: Onboarding with an expert

Pro | Yearly plan

EUR 3,990 / year

- ✓ Full version
- ✓ Yearly billing
- ✓ Cancellation yearly
- ✓ 1 floating license (unlimited users)
- ✓ Each additional license: EUR 798
- ✓ Unlimited calculations
- ✓ Support by phone and e-mail according to GTC
- ✓ Starter package: Onboarding with an expert

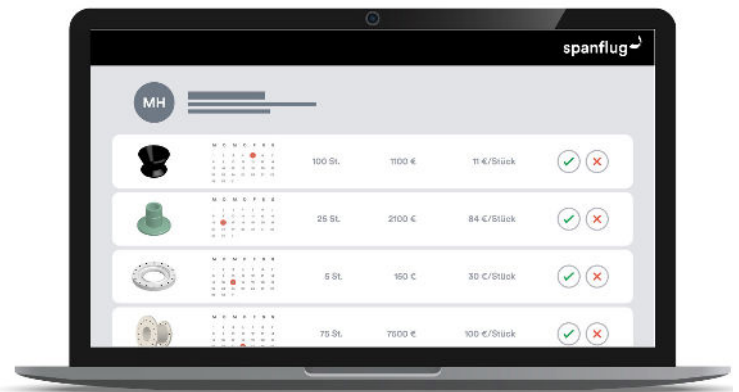
SAVE 2 MONTHS

Become a manufacturing partner

Real orders instead of just requests

As a manufacturing partner at **Spanflug Make**, you receive real orders without having to write any quotes. Our goal is to establish a long-term partnership on an equal footing. Once you have successfully gone through our admission process, you will regularly receive orders from us that match your profile and machine park.

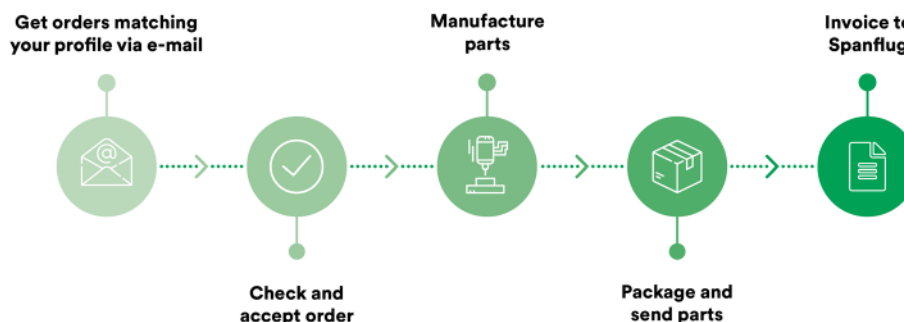
You can accept and process the orders quickly and conveniently at a fixed price via Spanflug. You decide which and how many orders you would like to manufacture for us. Our algorithm takes care of the price calculation. The manufacturing partnership is free of charge.



Your benefits at a glance

- ⊕ Minimize your sales efforts from customer contact to calculation and preparation of quotes.
- ⊕ Our lean, digital processes relieve the workload of your company associated with order processing and support you with the procurement of stock parts.
- ⊕ Utilize your manufacturing capacity more efficiently and evenly, thereby increasing productivity and generating predictable sales.
- ⊕ Create an additional, attractive source of revenue and create the basis for long-term growth.
- ⊕ Receive orders that match your expertise and with well-prepared technical data.
- ⊕ With Spanflug, you have a partner for all orders. A technical contact with a professional background in machining is at your side to support and answer your questions.
- ⊕ You effectively only have to deal with one customer and can minimize the risk of payment defaults.

How it works



Join our manufacturing network

Our requirements

- ✓ You have your manufacturing site in Germany or Austria*.
- ✓ You specialize in CNC turning or CNC milling.
- ✓ Your company is certified according to ISO 9001:2015.
- ✓ You are open to digital processes and want to make your company future-proof.

* Your manufacturing site is in the EU? We plan to expand our network in the near future. To be among the first international partners to join our network, sign up now for **Spanflug Make** and we will let you know as soon as we are ready for expansion. Please feel free to contact us if you have any questions.

How to become a partner

- Sign up for **Spanflug Make**
- Apply as manufacturing partner
- Fill out supplier onboarding form
- Onboarding session via phone/online
- Consent to relevant documents (such as GTC and confidentiality agreements)
- Supplier access & test order
- On-site audit
- Receive, accept and manufacture orders



Sign up and apply as partner



Streamlined procurement processes

Procure stocks quickly and based on demand

With **Spanflug Make**, you can procure the stocks you need quickly and according to your demand. This helps you to reduce uncertainties in the supply chain and to achieve the margins you calculated in your quotes, despite fluctuating material prices.

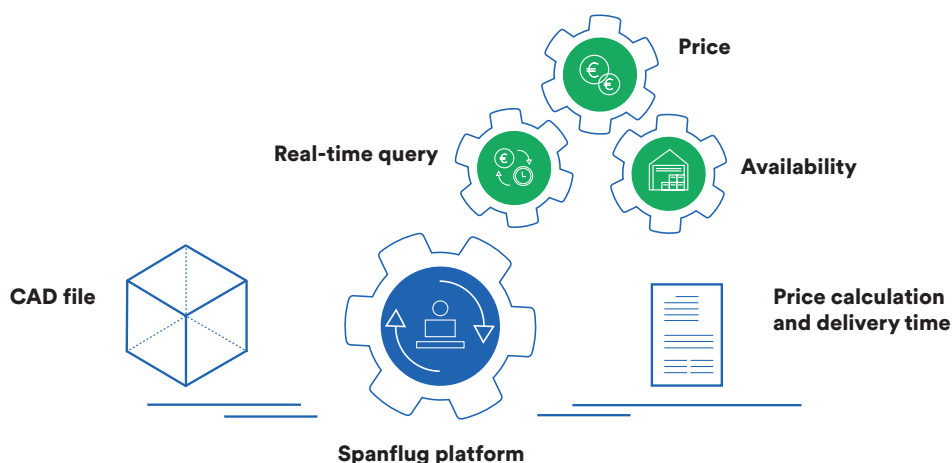


Real-time material prices and availabilities

The stocks and tools required for manufacturing the parts calculated with Spanflug Make are analyzed automatically during part analysis. Thanks to the cooperation with stock suppliers, our algorithm can access daily updated prices and availabilities for almost all material groups from the connected partners.

More efficient and more digital purchasing processes

Spanflug Make shows you, for each calculation, which stock part was used for the calculation of the material costs. For the majority of our nearly 60 materials, we calculate with material prices from our connected stock partners, which are updated in real time via an interface to the Spanflug platform. This means that you can order virtually any stock part in our database at the calculated price via Spanflug with just a few clicks. This saves you time for price inquiries with stock suppliers and the waiting for a response. As a result, you can respond to your customer requests more quickly and reduce the effort for material purchasing.



Efficient parts sourcing

Efficient outsourcing of turning and milling parts

Your production is already working at capacity, or you are receiving requests outside your area of competence? With **Spanflug Buy**, it just takes a few clicks to source turning and milling parts from a selection of around 60 materials and 30 post-treatments. We manufacture these through our network of more than 200 partners in Germany and Austria and deliver them reliably with lead times starting from 6 working days.

How to order parts with Spanflug Buy

1. You upload the CAD model and the drawing of the part, select the quantity and the desired delivery date.
2. We determine all data relevant to manufacturing automatically and our algorithm calculates a price in line with the market within a few seconds.

Make or buy?

In-house manufacturing is not always the most cost-effective way, and certainly not for every part. With Spanflug, you make your make-or-buy decisions with minimal effort.

With one click, you can switch between **Spanflug Make** and **Spanflug Buy** and compare the time and costs for in-house manufacturing against offers for third-party manufacturing via Spanflug Buy.



3. You can then either place your order directly online or export a quote in PDF format and order by e-mail.

With just a few clicks, you have all the data you need to make a qualified make-or-buy decision in your day-to-day operations. If you opt to manufacture via a third party, you can place your order in the Spanflug network with the push of a button.

Source parts online via Spanflug Buy



About Spanflug

Spanflug Technologies GmbH is a Munich-based technology company and operator of a manufacturing platform for CNC turning and milling parts. The mission of Spanflug is to advance the digitalization of the manufacturing industry by making time-consuming processes for the procurement of custom machined parts as fast and easy as possible for both customers and suppliers.

The digital procurement solution **Spanflug Buy** offers customers an efficient, automated purchasing process – from instant quote to delivery on the desired date. The parts are manufactured via a network of over 5,000 CNC machines at qualified suppliers in Germany and Austria.

Spanflug Make enables manufacturing companies in the machining sector to boost the efficiency of their administrative processes from quoting to purchasing, so they can focus on their core competence in machining.

The company is a spin-off from the Institute for Machine Tools and Industrial Management (iwb) at the Technical University of Munich (TUM). Spanflug is supported by the Initiative for Industrial Innovators. Since 2020 the VDW (German Machine Tool Builders' Association) is a shareholder of Spanflug.

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