USER MANUAL

Software Transmorpher

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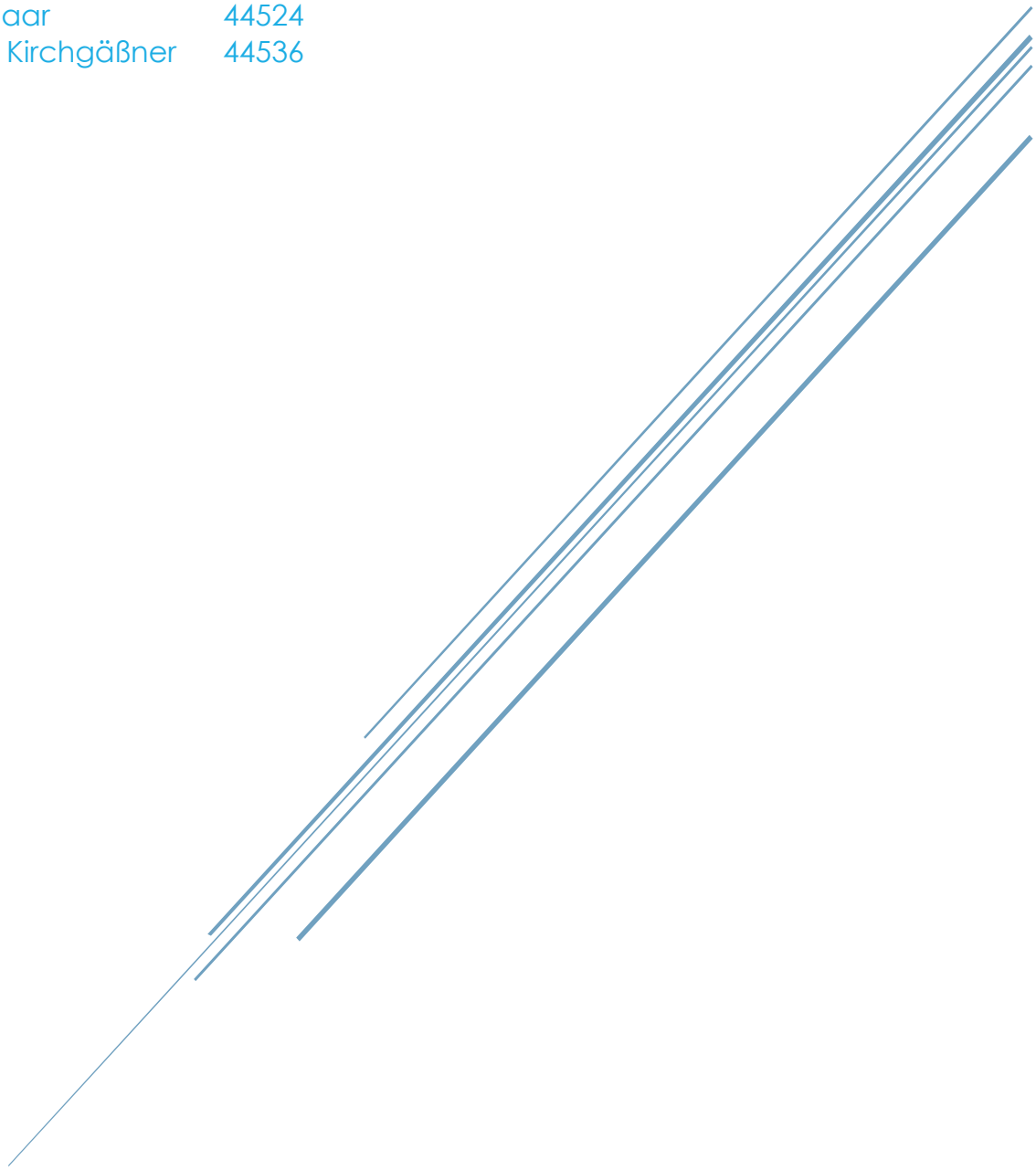

Distance Group 04
IBSYS II, SoSe2017

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About Transmorpher

1 About the Software

The software Transmorpher was developed by Transmorpher corp. and offers production planning capabilities for operational enterprises.

Transmorpher enables you to support your production plan, optimize your order planning and supervise your capacities to reduce costs and increase your competitiveness.

This software was specifically tailored to your requirements for planning a production of bicycles.

Requirements:

- ☑ Bilingual software version in English and German
- ☑ Core features of program, bulk, and capacity planning
- ☑ Prioritization of product manufacturing
- ☑ External interfaces for XML data import and export
- ☑ User manual in German language

Specifically for you:

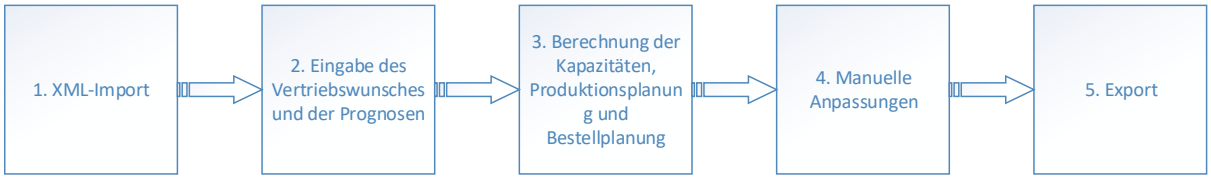
- ☑ Manual or automated XML import or via drag and drop
- ☑ Automated totaling of inputs and warnings for exceeded capacities
- ☑ Overview of purchase parts, products and stock
- ☑ Bilingual user manual in English and German

The following types of bicycles were concidered:

- Children's bicycles K
- Ladies' bicycles D
- Men's bicycles H

Additionally interfaces for XML import and XML export were used to ensure compatibility with the *Supply Chain Simulator*.

Program flow is as follows:



1. Import your XML results from the *Supply Chain Simulator* into the Software

2. Enter your preferred distribution, projection of the three periods, preferred safety stock and if applicable direct sales in the tool.

3. The production plan, necessary capacities and order planning is calculated based on your inputs.

4. Choose prioritization of product manufacturing or change the production plan manually.

5. Export your data as XML file and load it in the *Supply Chain Simulator* or stay at the overviews of the tool and the associated charts to adjust your planning further.

2 Package contents

With the purchase of the production planning tool, you receive a CD, which contains the Software *Transmorpher*, as well as the associated source code. Additionaly a copy of the manual, which you got on paper is stored on the CD. A product key is not necessary for installation or use of this software.

If you have any questions, problems or feedback, please contact our support. You can find contact information in the last chapter „Support“.

3 About the manual

This user manual is for professionals who are experienced in the domain of production planning as well as basic use of PCs with window-based programs and operating systems.

The manual offers easy introduction in the use of the software *Transmorpher*.

Additionally you can access the manual in digital form through the help menu of the software. You can reach it by clicking the tab *Program – Help*.

The manual is only meant for working with the software *Transmorfer*. Introduction into using the *Supply Chain Simulator* is not included. You can find information about *Supply Chain Simulation* on the homepage of Logsim (http://logsim.de).

The user manual offers instructions for installation and use. Features of the software are listed and you can find information about assistance that exceeds the capabilities of the manual in the chapter „Support“.

Installation and use

1 Installation instructions

1.1 Quick-Start

Installation and startup for the impatient:

1. Insert your *Transmorpher* DVD in the DVD drive of your Windows-PC or Laptop.

2. Start the installation of the Tool by executing *transmorpher.exe*

3. Confirm the installation by clicking *OK*.

In case the installation fails, please read the following system requirements and refer to the extended installation instructions further down.

1.2 System requirements

The following operating systems are supported:

- Windows 7
- Windows 8
- Windows 8.1
- Windows 10
- newer Windows operating systems

Both 32-bit as well as 64-bit operating systems are supported.

The software was successfully tested extensively unter Windows 10. Thorough testing did not take place on other systems. This is why unconstrained functionality cannot be guaranteed on any other system than Windows 10.

In case you want to use the software with a newer operating system, please refer to our homepage http://transmorphers.de/compatibility about compatibility.

1.3 Installation and startup

Insert the *Transmorpher* DVD in the DVD drive of the PC where you want to install *Transmorpher*. The program should start automatically after a short amount of time. If not, please execute the file *transmorfer.exe* located in the root directory of the DVD. In most cases this drive is called "*D:*\"

In both cases you should be asked to confirm the start of the installation. This is a Windows feature to protect you from accidentally installing unwanted third-party software.

Confirm the dialog by clicking *Yes*. The installation menu will pop up.

Approve the installation by clicking *Continue/Start*. Adjust the *installation path* if you want the software installed in a different directory. After that the installation will begin. This can take a couple of minutes.

The tool can now be used. Navigate to the installation directory of the program, which you chose during the installation and excecute the software by double-clicking the Transmorpher symbol.

A product key to unlock the software is not necessary.

Now you can start by entering your data for planning the production process. For a detailed explanation and introduction to the product, please read chapter "*Features*".

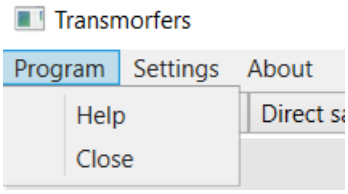
2 Features

2.1 Menu bar

The menu bar offers the following options. They are explained further in this chapter:

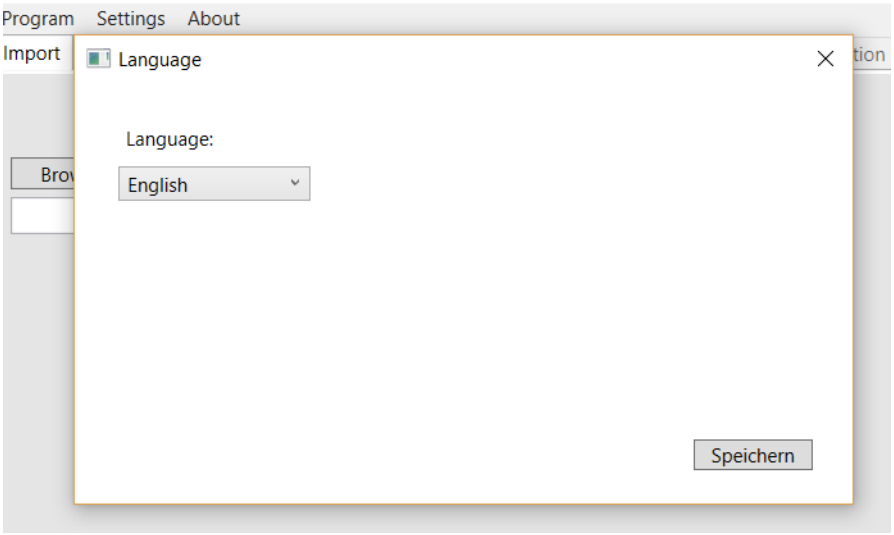
- Program
- Properties
- About

Under section *Program* you can find *Help* and *Quit*.

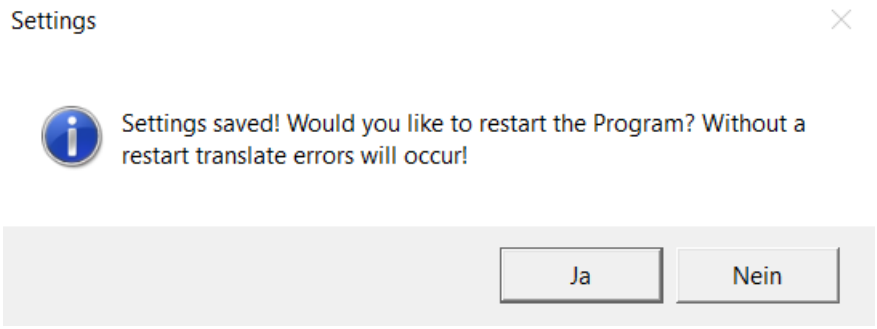


By clicking on *Help* you will gain access to the user manual. Clicking on *Quit* closes the program, which is also achievable by clicking on the red X in the top right corner of the window.

Clicking on *Properties* will open a window where you can select your preferred language.

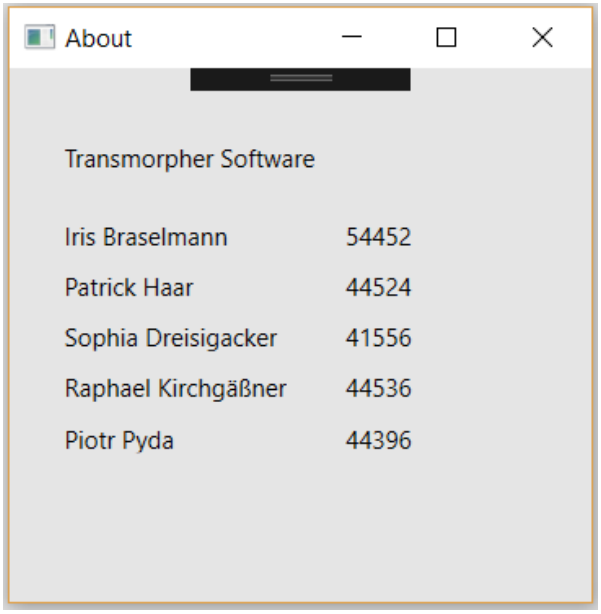


English and German are the available languages to choose from. Click *Save* to confirm the selected language. You will be asked to restart the program for the changed language setting to take effect.



The new language setting will be applied after you restarted the program.

You can find information about our company and relevant contact information by selecting *About*.

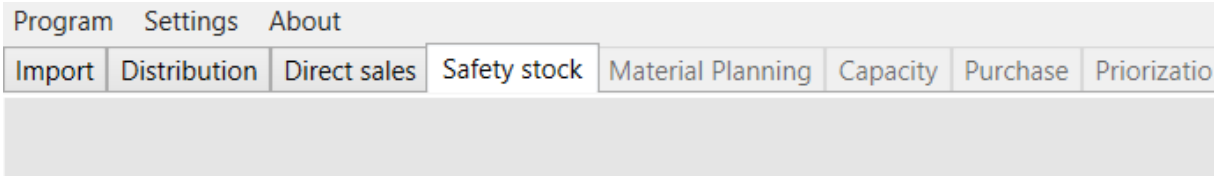


2.2 Input

The following input modalities are offered by the tool. They are needed for calculation of optimal order and production amounts:

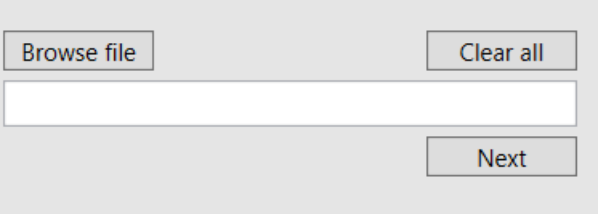
- Import
- Distribution
- Safety stock
- Direct sales

All of these apart from the direct sales are required information.



Import

You can import XML outputs of the Supply Chain Simulator in the Import tab. The XML output is needed to read historic data of the bicycle production.



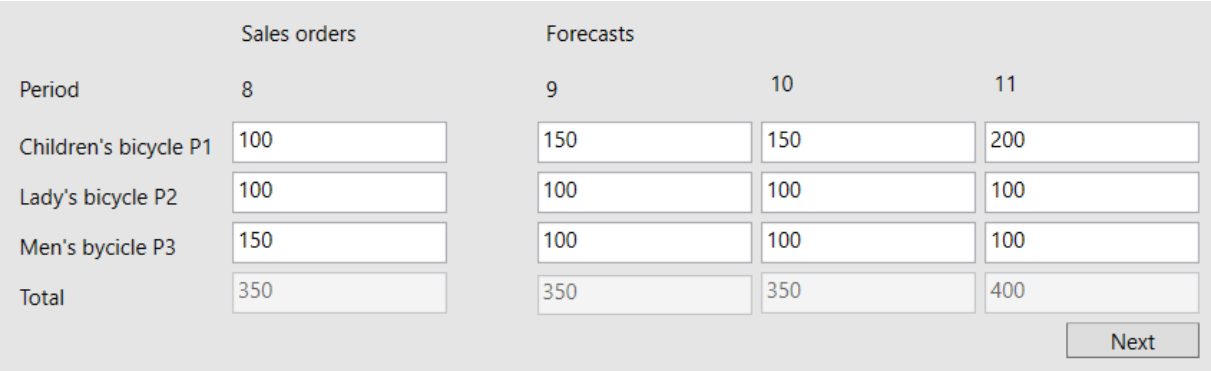
Via *Browse* you can locate a downloaded XML file using the Windows file explorer. Alternatively you can open an XML file by using *drag and drop*.

Clear all discards the selected XML file so you can choose a different file using *Browse*.

Click *Next* after importing a file to get to the input data of production planning.

Distribution

The preferred distribution for the current period as well as distribution projections for the next three periods for childrens', ladies', and men's bicycles are defined in the *Projections* section.

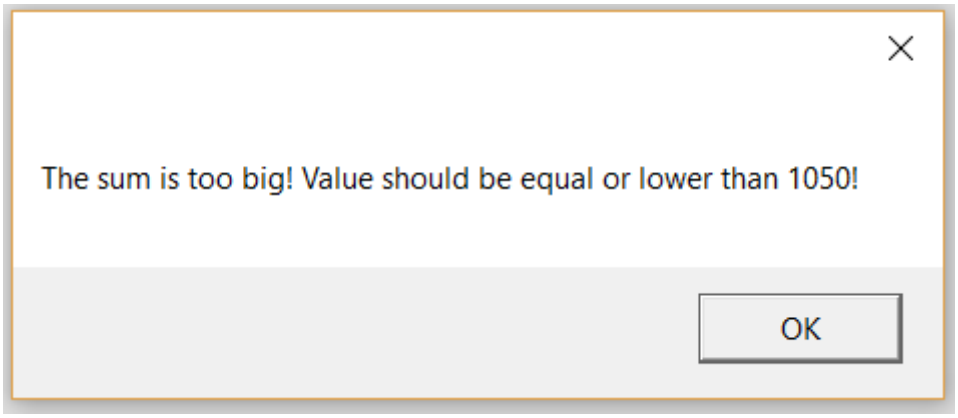


In the bar *Period* you can see the currently selected planning period.

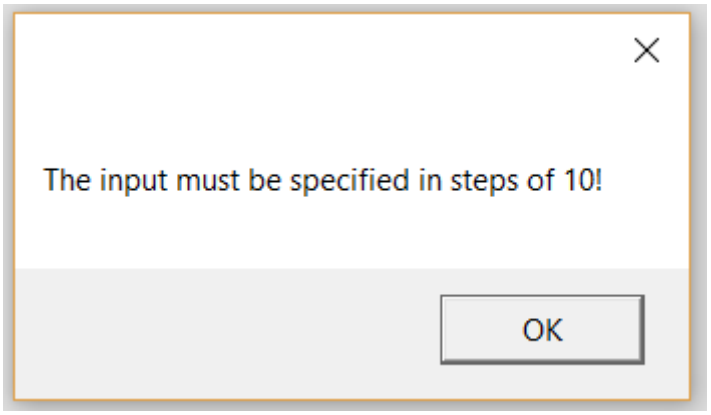
Distribution of 100 bicycles in each bicycle category is selected by default. These values can be changes, but should not exceed a total of 1050 bicycles per period. This is because a maximum of 350 bicycles can be produced per shift which results in 1050 bicycles in 3 shifts.

$$350\ bicycles \cdot 3\ shifts = 1050\ bicycles$$

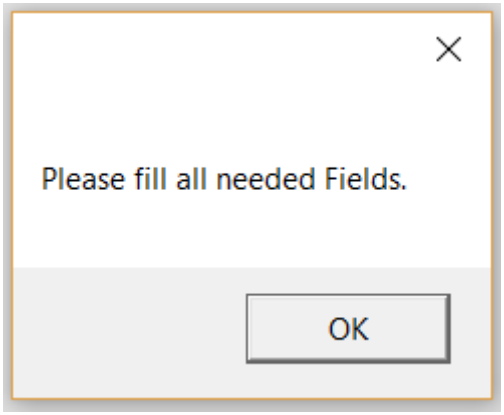
In case this value is exceeded you will be presented with a warning.



Bicycles are managed in batches of ten. In case you enter values outside these batch-sizes you will be presented with a warning.



If some fields are not filled you will be presented with the following warning. Fill all needed files. Null is a allowable value.

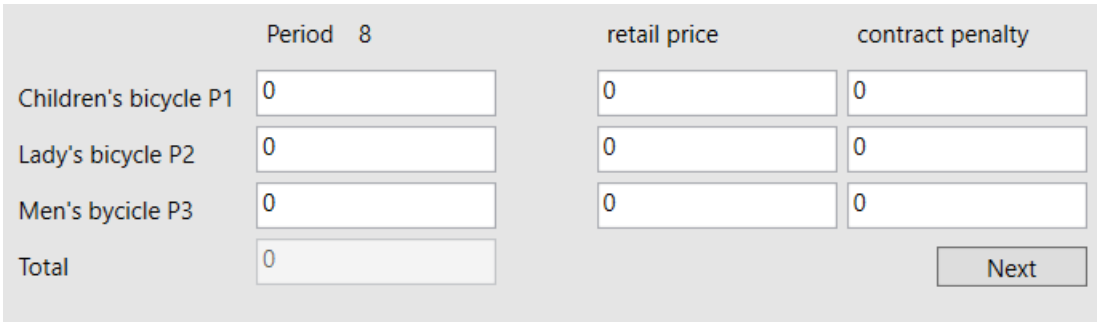


You can proceed to the input fields for safety stock by clicking *Next* or by using the menu bar.

Direct sales

If you get direct orders you can enter them separately in the direct sales section.

Additional sales of the current period which are done with different prices can be entered in the direct sales tab. Not achieving the appointed distribution amounts will lead to contractual penalties. These are calculated on a per-bicycle base.

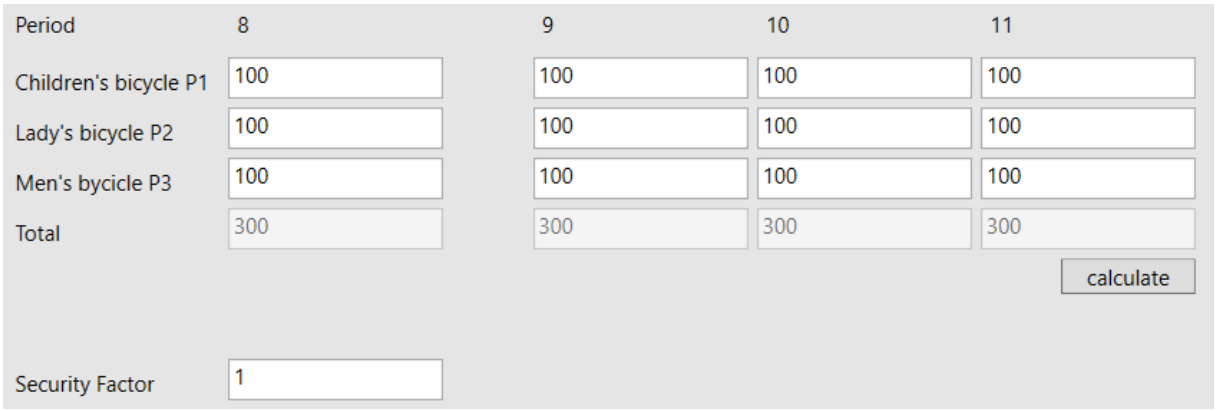


No direct sales are done by default, which is why the default value is zero. This value can be changed using the input fields.

You can confirm the direct sales amounts and proceed to the safety stock tab by clicking on *Next*.

Safety stock

You can set the amount of stock that is available in your inventory each period in the safety stock tab.



The amount of safety stock is applied to the whole product range of a product.

Example:

If you determine a safety stock of 100 bicycles for the product childrens' bicycle P1, this will lead to a safety stock amount of 100 parts for the parts Erzeugnisse E26, E51, E16, E17, E50, E4, E10, E49, E7, E13, E18.

Setting a different safety stock amount for parts and product is not supported.

You can start the calculation of the planning process by clicking *Calculate*. The total of direct sales and preferred distribution of the current period must not exceed a total of 1050 bicycles. This is because a maximum of 350 bicycles can be produced per shift which results in 1050 bicycles in 3 shifts.

$$350\ bicycles \cdot 3\ shifts = 1050\ bicycles$$

In case the input values change you don't need to close or restart the program. Simply change the data under *Import, Distribution, Direct sales, and Safety stock* anytime and confirm by clicking *Calculate* in the safety stock tab.

The security factor is per default 1. You can change the factor by inserting an other number in the security factor field. The safety factor is a factor which is multiplied by the deviation of the delivery time and determines the safety stock.

The safety stock also covers the demand uncertainty and delivery uncertainty.

Security factor = (deviation * safety stock) * Average consumption

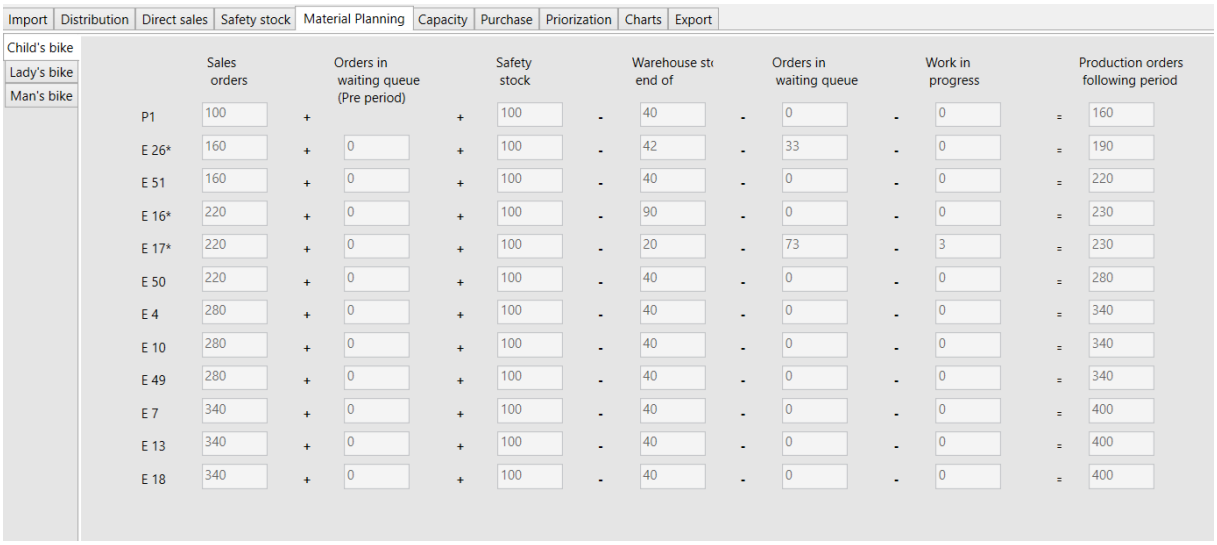
The safety stock also covers the demand uncertainty and delivery uncertainty.

The safety factor can be used to define and determine the safety stock individually and at its own discretion.

2.3 Material planning

Material planning contains planning of the parts for children's, ladies', and men's bicycles.

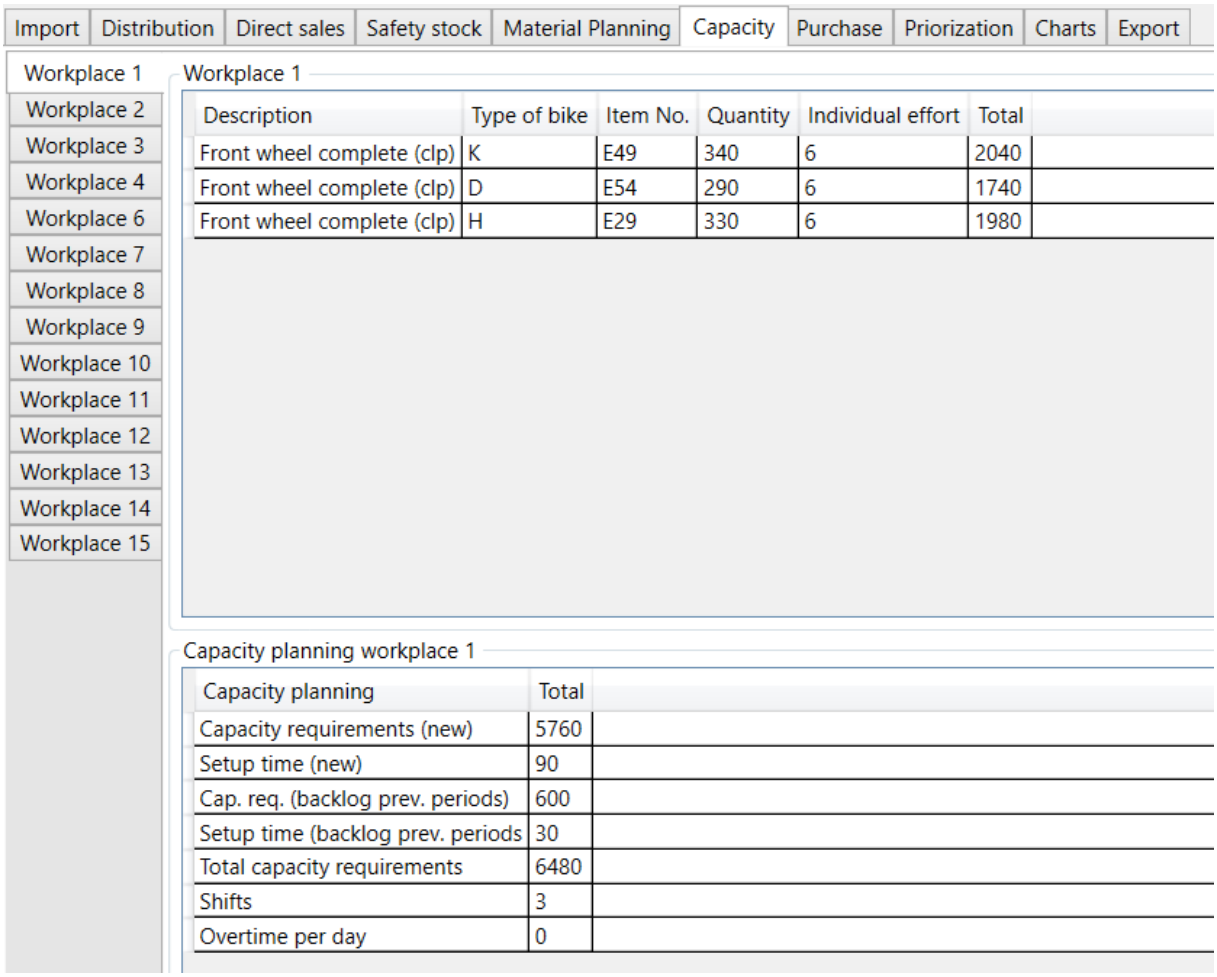
Apart from the total amount of needed parts you are presented a detailed calculation.



	Sales orders		Orders in waiting queue (Pre period)		Safety stock		Warehouse st end of		Orders in waiting queue		Work in progress		Production orders following period
P1	100	+		+	100	-	40	-	0	-	0	=	160
E 26*	160	+	0	+	100	-	42	-	33	-	0	=	190
E 51	160	+	0	+	100	-	40	-	0	-	0	=	220
E 16*	220	+	0	+	100	-	90	-	0	-	0	=	230
E 17*	220	+	0	+	100	-	20	-	73	-	3	=	230
E 50	220	+	0	+	100	-	40	-	0	-	0	=	280
E 4	280	+	0	+	100	-	40	-	0	-	0	=	340
E 10	280	+	0	+	100	-	40	-	0	-	0	=	340
E 49	280	+	0	+	100	-	40	-	0	-	0	=	340
E 7	340	+	0	+	100	-	40	-	0	-	0	=	400
E 13	340	+	0	+	100	-	40	-	0	-	0	=	400
E 18	340	+	0	+	100	-	40	-	0	-	0	=	400

2.4 Capacity planning

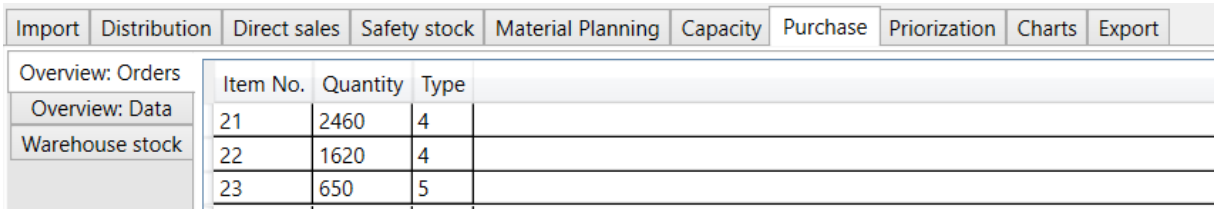
Capacity planning comprises workplaces 1-4 and 5-15. Each workplace contains two tables. For each bicycle type the needed parts with their respective part number as well as the necessary amount for each workplace are listed in the upper table. The estimated production time per bicycle as well as the total production time is calculated on this basis.



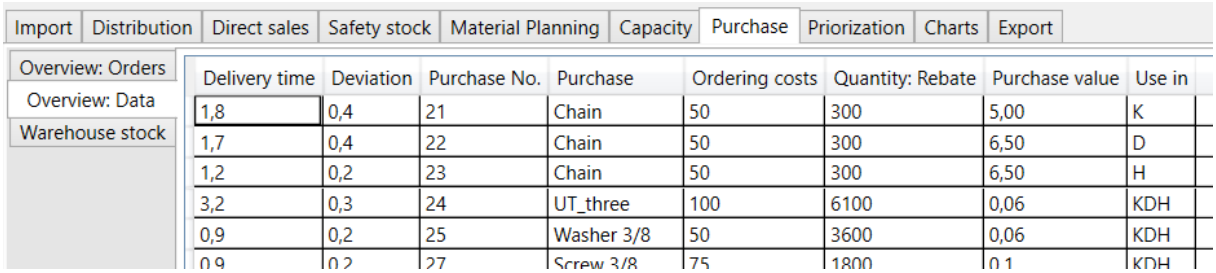
Needed capacities are listed in the lower table.

2.5 Purchase

Three tables are presented in the purchase tab. Rush orders and normal orders are listed with their ordered amounts in the *Overview: Orders* table.

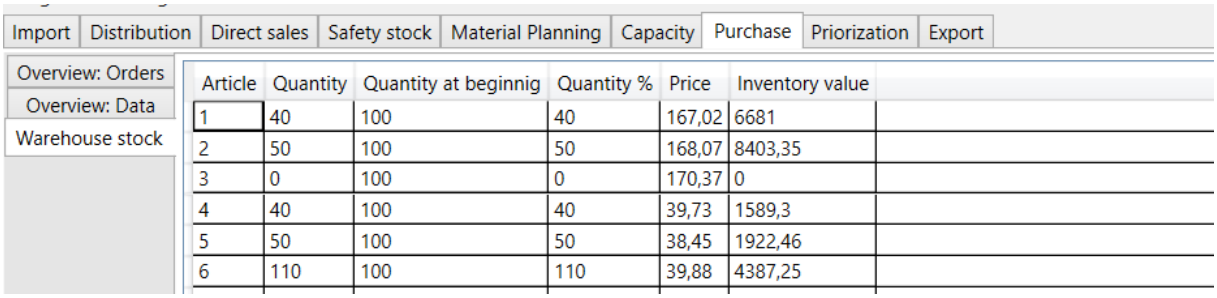


The *Overview: Data table* gives an overview of the different purchased parts, in which bicycle type they are used, how much they cost and the specific discount amount. Additionally the purchased parts are listed with part value, delivery time and deviation from delivery time.



Delivery time	Deviation	Purchase No.	Purchase	Ordering costs	Quantity: Rebate	Purchase value	Use in
1,8	0,4	21	Chain	50	300	5,00	K
1,7	0,4	22	Chain	50	300	6,50	D
1,2	0,2	23	Chain	50	300	6,50	H
3,2	0,3	24	UT_three	100	6100	0,06	KDH
0,9	0,2	25	Washer 3/8	50	3600	0,06	KDH
0,9	0,2	27	Screw 3/8	75	1800	0,1	KDH

The third table Warehouse stock stores information about the actual warehouse stock.

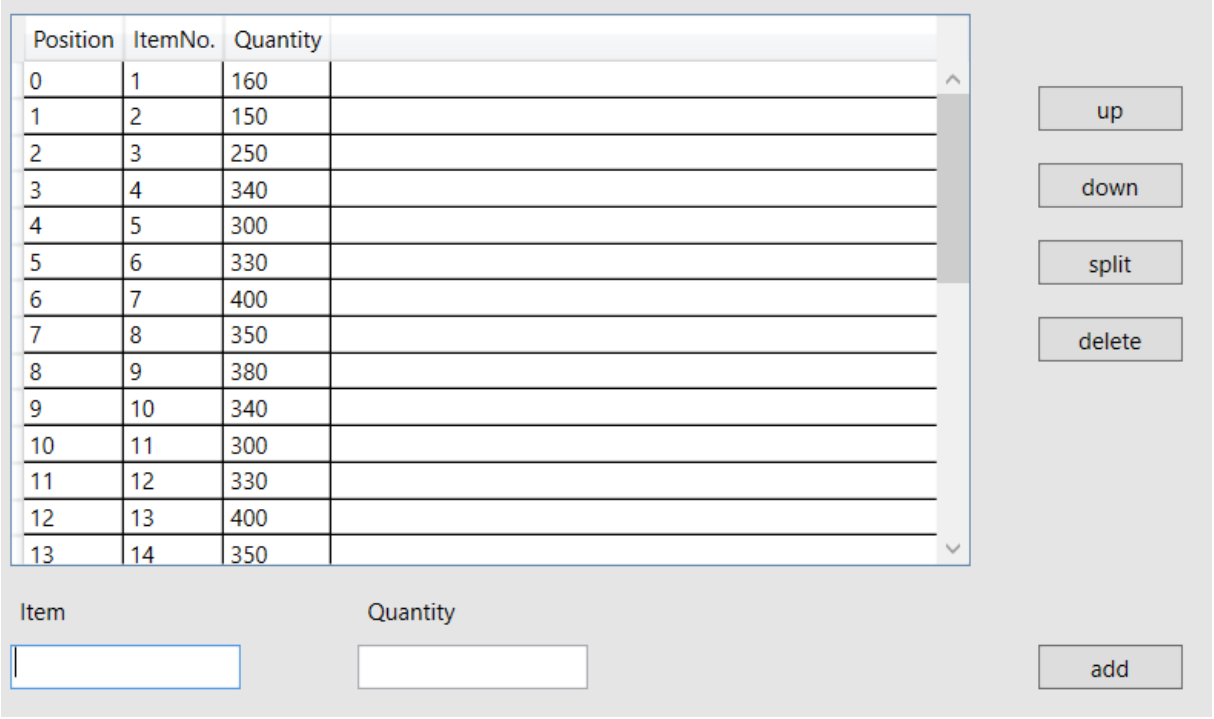


Article	Quantity	Quantity at beginnig	Quantity %	Price	Inventory value
1	40	100	40	167,02	6681
2	50	100	50	168,07	8403,35
3	0	100	0	170,37	0
4	40	100	40	39,73	1589,3
5	50	100	50	38,45	1922,46
6	110	100	110	39,88	4387,25

2.6 Priorization

Prioritization of part production is organized in the prioritization tab. Parts listed higher will be produced before parts that are listed lower.

The table shows part numbers as well as the amount of parts to produce and the position of the parts.



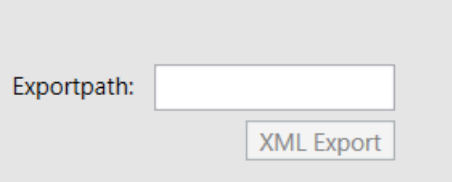
You can change the prioritization of a list entry using the buttons *up* and *down*.

If you select the button split the selected Item will split the quantity in two parts.
You can delete entries by using the button *delete*.

You can insert orders for parts by inserting the Item number and quantity and select *add*.

2.7 Export

The export tab provides the possibility to export any calculated and adjusted data into an XML file to save it on your hard drive.



To do so, simply navigate to the location where you want to save your file and click *XML Export*.

As a following step you can read this XML file with the *Supply Chain Simulator*.

Support

1 What kind of help is available?

1.1 Manuals/Online help

In the software you can find online help as well as a document overview regarding all available manuals in the menu under *Program – Help*. In case you don't have the manual on paper you can access it here as a PDF.

1.2 FAQs

As long as you have the necessary login information, you can access the German as well as the English FAQ section online (http://support.transmorpher.com/) to find answers about the most common questions.

1.3 Direct support

You can contact the Transmorpher support via

Email-Address: support@transmorpher.com
or
Phone number: +49 7275 300 700 0

2 Helpful support information

2.1 Screenshot in Windows

It might be helpful to attatch a screenshot of your current program view with your support enquiery.

To take a screenshot Windows provides for example the Snipping Tool or the *Print* button on your keyboard.

Instructions on how to use the Snipping Tool can be found here:

- https://support.microsoft.com/en-us/help/13776/windows-use-snipping-tool-to-capture-screenshots