



**2** Solutions TruConnect

## What is TruConnect?

#### Your ticket to connected production



Shorter delivery times, even for small lot sizes, compounded by manufacturing even trickier products and assemblies all add to the complexity of today's manufacturing environment. Such complexity demands comprehensive solutions if our customers are to successfully overcome this new breed of challenge. Our answer is TruConnect. TruConnect provides holistic solutions comprising hardware, software and services. Based on the modular principle, varying components of the TruConnect product portfolio are combined in individualized solutions to generate the best possible added-value for our customers. Recognizing that each customer will find himself at a different stage on his path to his Smart Factory, TRUMPF offers Smart Factory solutions in three consecutive steps:

**Getting started**, **Improving gradually** and **Entirely connected**. Every customer will be able to find the right solution for his needs in one of these three steps.



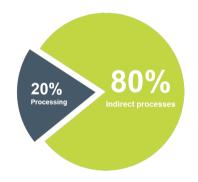
TruConnect Processes 3

## Big or small, make every job pay off

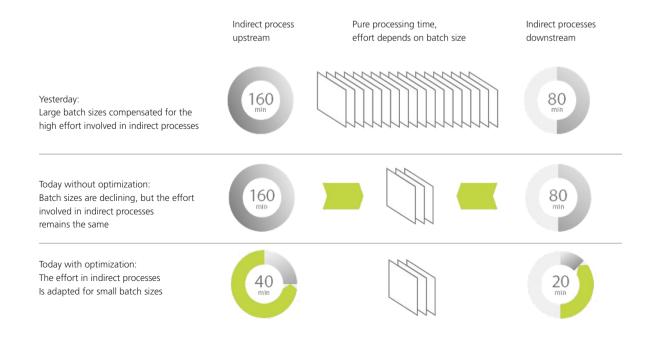
You can optimize your production most in indirect processes – which account for around 80 % of all operations. If you can manage to match the time and expenses incurred by these indirect processes to reflect decreasing batch sizes, you will be able to make even the smallest job profitable.

What are indirect processes? On top of just one hour processing time, there are around an additional four hours for supporting activities such as planning and administration.

These processes account for around 80 % of your production time and offer the most potential for optimization in your manufacturing operation.



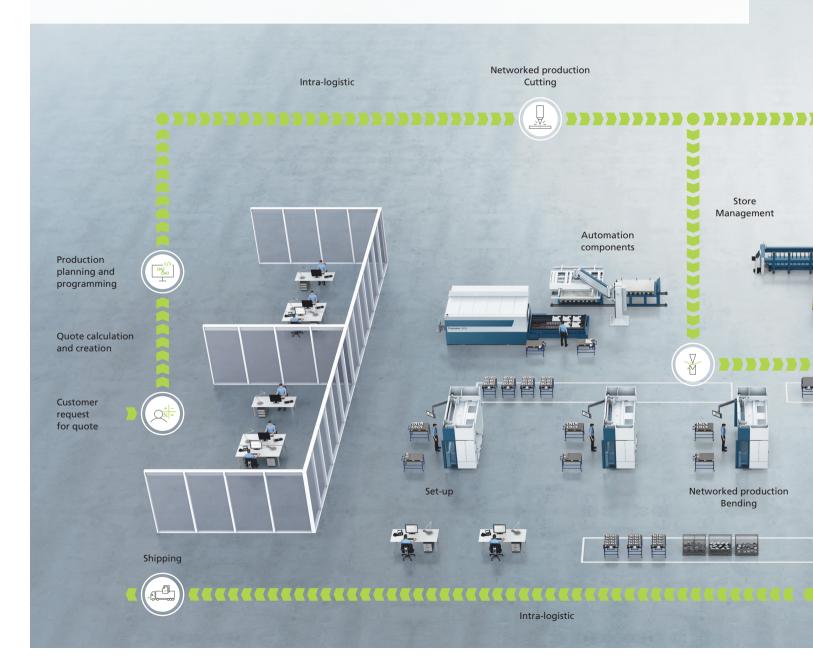
#### Whether large or small, every job is worth it



Processes TruConnect

## Continuous flow

Industrial manufacturing is undergoing a revolution: machines and components communicate with one another with the help of sensors and codes. Software solutions collect the information, analyze it and use it to control the manufacturing process. This leads to transparency, shorter processing times and continuous processes that allow for a continual flow in manufacturing. Use them to gain a competitive advantage along the entire value chain.



TruConnect Processes



#### **Quote Preparation**

The system automatically calculates your quotes. You save time, money and effort.



#### **Production Planning and Programming**

Your jobs are perfectly coordinated, nested and factored into your machine production plan. Changes can easily be accommodated.



#### **Production Cutting – Forming – Joining**

Machines and components communicate via sensors and codes. Software solutions collect this data and optimize your processes. As a result you gain transparency of your production.



#### **Automation**

Automated processes make the operator's life easier and eliminate waiting time.



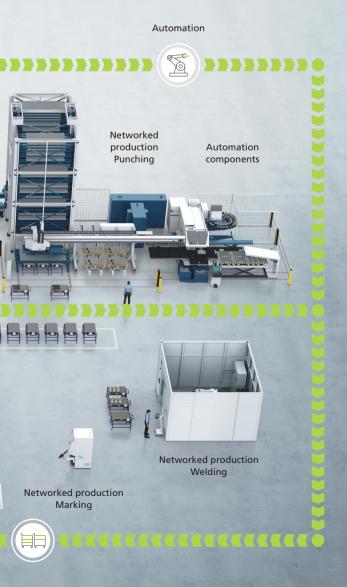
#### **Intra-Logistic and Set-Up**

The operator becomes the process manager. He has an overview and controls the material flow.



#### **Shipping and Job Completion**

When networked, your production automatically allocates the part to the right job. Shipping documents and bills are created at the touch of a button.







Smart Factory TruConnect

## Experience the TRUMPF Smart Factory

The TRUMPF Smart Factory is the center of excellence for Industry 4.0. The 50,000-sq.-ft. center features our diverse products with a strong focus on integrating automation, material and information flow to show the entire process chain of sheet metal fabrication in the age of Industry 4.0.





TruConnect solutions TruConnect

## TruConnect solutions



#### Machines



TruLaser



TruMatic



TruBend

#### **Automated Cells**



TruLaser, LiftMaster Compact and TruStore



TruMatic, SheetMaster and TruStore



TruBend Cell

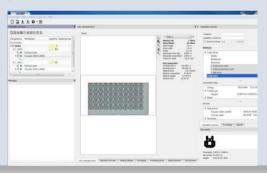


#### TruTops Calculate

bend, punch/laser and laser parts, as well as tubes and profiles and complete assemblies, taking into account machine-hour rates, consumption data and



Quick, precise calculation of time and costs for punch, personnel costs.



#### TruTops Boost

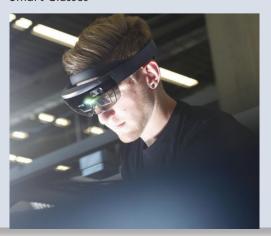
The industry standard for the programming of your TRUMPF Fabrication equipment.







#### **Smart Glasses**



Internet-connected smart glasses save time and money during service tasks. The Visual Online Support (VOS) app enables fast two-way communication with the customer service team in the form of images, audio and video files. Technical issues can be resolved remotely, quickly and easily.

TruConnect Solutions

#### **Fully connected Fabrication Systems**





#### TruTops Fab

This software for production control consists of several modules. With them, you can plan and steer your entire workflow.



#### TruTops Monitor

Monitor your machine utilization based on actual machine data. Use this data in your daily shop floor meetings.



#### **Dot Matrix Code**

A standardized industry code to mark your parts quickly and reliably.



#### **Condition Monitoring**



With Condition Monitoring, TRUMPF service experts and algorithms monitor your lasers for the purpose of anticipatory maintenance. This supports you in avoiding high costs due to production downtime, which can typically amount to several thousand dollars an hour. You are proactively provided with information regarding any identified developments that could result in idle time, in order to avoid this.

**10** Smart Factory TruConnect

# How do you turn your production into a Smart Factory?

TRUMPF offers a variety of individually tailored consulting packages to assist you in moving forward into the age of Industry 4.0 and interconnected production.

### Smart Factory **Experience**

Half-day event at the TRUMPF Smart Factory

Find out all about the potential of networking and experience networked manufacturing at the TRUMPF Smart Factory.



## Smart Factory Consulting

5-day consultation in your factory

After the analysis of all processes related to your sheet metal fabrication, you will receive a detailed concept for your Smart Factory - including solution proposals and an initial cost-benefit assessment.



## Smart Factory Implementation

Individual implementation support

So the plan is ready, and now we support you with releasing your potential. During the implementation to transform your production, we support you according to the level of need with our valuable know-how and proven experience.



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## How do you get started?

You are probably asking yourself "So how do I get started?" With simple entry-level solutions and machines that are equipped for networking as a standard, you gain transparency, recognize the optimization potential and improve your existing production processes.



#### Getting Started ...

... gain transparency and identify optimization potential.



Laser with TruStore

#### Improving Gradually ...

... with automated machines or autonomous production cells that are embedded in a production solution. This way you can increase the level of automation and increase your productivity.



Interlinked storage system

#### Entirely Connected ...

... with continuous production solutions from order to delivery. You always produce with great efficiency along the complete value chain.



#### Take the first step!

Contact our experts today.

smartfactory@us.trumpf.com

Schedule your visit!

