

ZOLLER

Flexible, Modular Automation for Machine Tools

Automation

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It is high time to modernize the commissioning of tools in manufacturing processes. While CNC machines with partial automation produce in an automated manner, many upstream and downstream processes involving work-intensive tasks are still carried out manually.

Therefore, ZOLLER developed a modular automation concept to provide tools. It opens up the pathway for every production facility to become a smart factory: ZOLLER Automation Solutions.

Get ready for more productivity. With tool automation from ZOLLER.

ALEXANDER ZOLLER Managing Director



Contents

06

More Efficient by Principle

08

Use New Potential

10

Overview: The Automation Area

12

Part of the ZOLLER System with Every Solution

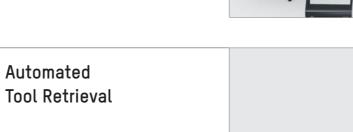
14

Three Steps to ZOLLER Automation Solutions



»coraLogistic« - Make Moves for More Efficiency





»loadBox« - Commissions Every Tool for the Next Job Order





Automated Tool Assembly and Measurement

»roboBox« - Productivity Made Easy



The ZOLLER Mission Statement

Here for You Worldwide





We have changed the game – the result is more efficiency

Tool availability is a limiting factor for part manufacturing on every CNC machine. ZOLLER has developed a completely new solution principle that is more flexible, better performing, and less expensive than previous approaches: ZOLLER Automation Solutions.

In order to improve tool availability on a CNC machine, companies used to have to invest in external tool storage. Depending on the manufacturer, this results in high costs per tool for storage space. The system also takes up space and increases energy costs, as well as additional tool stock in circulation for each machine. This results in higher expenses for the basic machine application. In addition, tool storage systems which are attached to the machine do not guarantee that the required tools will always be available for manufacturing jobs 24/7. ZOLLER Automation Solutions ensure reliable tool availability on all CNC machines in your manufacturing. Improve the efficiency of your manufacturing with a flexible, modular system, and keep the productivity of your machines high. Declare your independence from high investments in separate, stationary tool storage systems for every CNC machine. ZOLLER Automation Solutions, with their mobile tool logistics features, lowers tool quantities, tool circulation, and the required space infrastructure needed.

A new, efficient automation principle. ZOLLER Automation Solutions. Smart Automation.

Flexible, modular automation for machine tools.



Turn Deficits into New Opportunities

Previous solutions for automating machine tools have some shortcomings. This results in challenges that can only be resolved with a new innovate approach. ZOLLER Automation Solutions are not attached to the machine, but rather to the tool. This creates opportunities for more efficiency and flexibility.

You can bypass these disadvantages with ZOLLER Automation Solutions. We automate tool handling in tool logistics, tool retrieval, and tool assembly and tool measurement using a modular approach. We are convinced: High tool availability starts not at the CNC machine, but rather much earlier in the process.

The challenges and shortcomings of current tool automation:





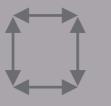
Covering high tool requirements of CNC machines 24/7





High investments on every CNC machine for external tool storage





Space needed for each separate tool storage





High tool costs due to a stock level for every machine





Energy required for each tool storage system





Standstill of the complete CNC machine including tool storage and component automation system if a tool is not available in the tool storage

Design Your **Automation Area**

ZOLLER Automation Solutions for machine tools offers automation solutions for every area of the shop floor. From retrieval to assembly and tool preparation to logistics. Make your tools mobile. For more productivity on the shop floor.

»coraLogistic«

The logistics modules of »coraLogistic« know where they need to bring each tool, and when it needs to be there. They work independently and save time by eliminating the need for manual transport.

»loadBox«

Retrieval with »loadBox« combines the required tool deliveries from the central tool storage through a fully automatic process. The tools leave the store on time and are delivered to their destination on the shop floor.

Control center

Production planning for automation and interface between the software and your manufacturing team. It provides an overview and control over all processes.



Scan OR Code and experience the ZOLLER Automation Solutions in the video!

»roboBox«

»roboBox« automates processes like tool assembly, measurement, setting, and heat-shrinking. Then it transfers the tools directly to »coraLogistic«.



Get Started with Your Solution

In many manufacturing facilities, the preconditions for automation with ZOLLER Automation Solutions are already fulfilled. In this case, only a few solutions are needed to get started.

ZOLLER Automation Solutions are based on digitally managed tool data and a structured tool storage system. Get started now with ZOLLER Solutions for TMS Tool Management Solutions software and hardware, with connection to ZOLLER presetting and measuring machines, and get prepared step by step to introduce the automated provision of machine tools. Do not waste the valuable expertise of your engineers on default procedures, but instead take advantage of their knowledge and experience where it is needed to add value. Offer your engineers career opportunities and challenges for the future with automated system solutions from ZOLLER.

Take Advantage of a Large System

ZOLLER Automation Solutions are part of the ZOLLER system, which can be used to continuously improve manufacturing facility quality and efficiency. The system components are interlocked with the ZOLLER software.

The software ZOLLER webTMS is the central and modular coordinator that manages tool data in manufacturing, making it available for ZOLLER Automation Solutions applications. Geometric data for tools, measured values from a ZOLLER presetting and measuring machine, and tool usage data such as technology data and tool life is managed centrally in webTMS - data from the overall ZOLLER system is collected in webTMS. You can also use module expansions to plan and control processes in ZOLLER Automation Solutions from the »coraLogistic«, »loadBox« to the »roboBox«.



Three Steps to ZOLLER Automation Solutions

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Tool organization: Data and stock management

To automate your machine tools, you need a reliable base of tool data and to keep your tools in order. If you are already using a ZOLLER presetting and measuring machine, a smart cabinet like the »tool Organizer« or »keeper«, or the software TMS Tool Management Solutions or webTMS from ZOLLER, you are already well-prepared. This provides you with the database and tool organization you need to set up ZOLLER Automation Solutions.



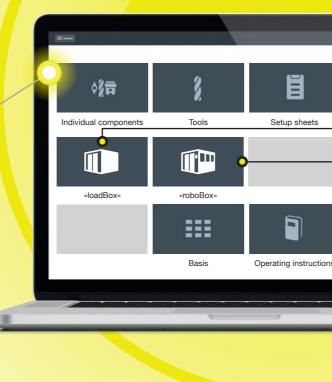
webTMS: System expansion for automation

The webTMS software takes over your existing tool data and controls ZOLLER Automation Solutions with additional functional modules. You can use the software on any device via a web browser. webTMS reliably manages automatic tool handling with 3D tool data, like that provided from ZOLLER Tooling Solutions. The software is simple and intuitive to operate in this application, thanks to specialized and continuous development of its functions.

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Network and z.One database





Select your specific modular extensions

Each automation option in ZOLLER Automation Solutions is represented on the software-side by a webTMS module. You only use the modules you need for your automation. You can easily expand your webTMS online via the MYZOLLER digital service platform.



The »coraLogistic« module has all functions needed for automated tool logistics. These include management of the mobile cobot »coraExpress«, planning driving jobs, and assigning stations.

»coraLogistic«



The »loadBox« module offers everything you need to set up and manage the central tool store and activate tools for specific orders. You always have access to information such as tool inventory and tool circulation, and know which orders are currently in preparation.

»loadBox«



You can use the »roboBox« module to plan and monitor fully automatic tool assembly and measurement. You can equip the »roboBox« hardware, in turn, with up to six automation modules – for instance for automatic measurement, shrinking, torquing and balancing of tools. Each function can be operated separately in the »roboBox« software module.

»roboBox«

Automate with the Advantages of a System

- All automation modules are compatible to one another and to presetting and measuring machines and high-precision inspection machines from ZOLLER
- You can expand your automation solution at any time based on the same system
- Perfectly prepared tool handling:
 3D data for exact handling is available online for the more than 2000 tool holders in ZOLLER Tooling Solutions
- Tool data from the ZOLLER TMS Tool Management Solutions BRONZE, SILVER and GOLD packages is transferred reliably to webTMS
- Our interface to tool management solutions from other providers facilitates data transmission to webTMS

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simple. direct. online.

The MYZOLLER digital service platform makes lots of things easier. You can manage your ZOLLER devices in the "MY Products" area, purchase additional licenses and modules for software products like webTMS, book maintenance appointments, or conclude maintenance contracts. In addition, you have access to the ZOLLER Events, the Academy, and the online shop.

Visit **>** myzoller.com



Automated Tool Logistics

»coraLogistic« – Make Moves for More Efficiency

»coraLogistic«, modular and automated shop floor logistics of ZOLLER Automation Solutions, keeps your tools moving and reduces your workload. You determine where shop floor logistics starts and stops. »coraExpress« serves as the centerpiece. This autonomous mobile cobot reliably finds its way through the shop floor. It moves the »coraTransporter« tool cart and the mobile »coraMove« cobot assistant exactly where they are needed. »coraExpress« is easy to integrate because it navigates independent of magnetic loops.

»coraLogistic« offers multiple concepts for independently running logistics on your shop floor – from single-point automation to a fully automatic logistics system.



Automated Tool Logistics

The End of Wasting Time

The following three logistics concepts from »coraLogistic« show how many different ways you can automate your tool logistics with ZOLLER, thereby increasing efficiency in tool commissioning.

Concept 1

forms the basis. It transports your tool independently from manual tool assembly and setting to the specified machine.

Concept 2

shows how the automated tool exchange is carried out at the CNC machine.

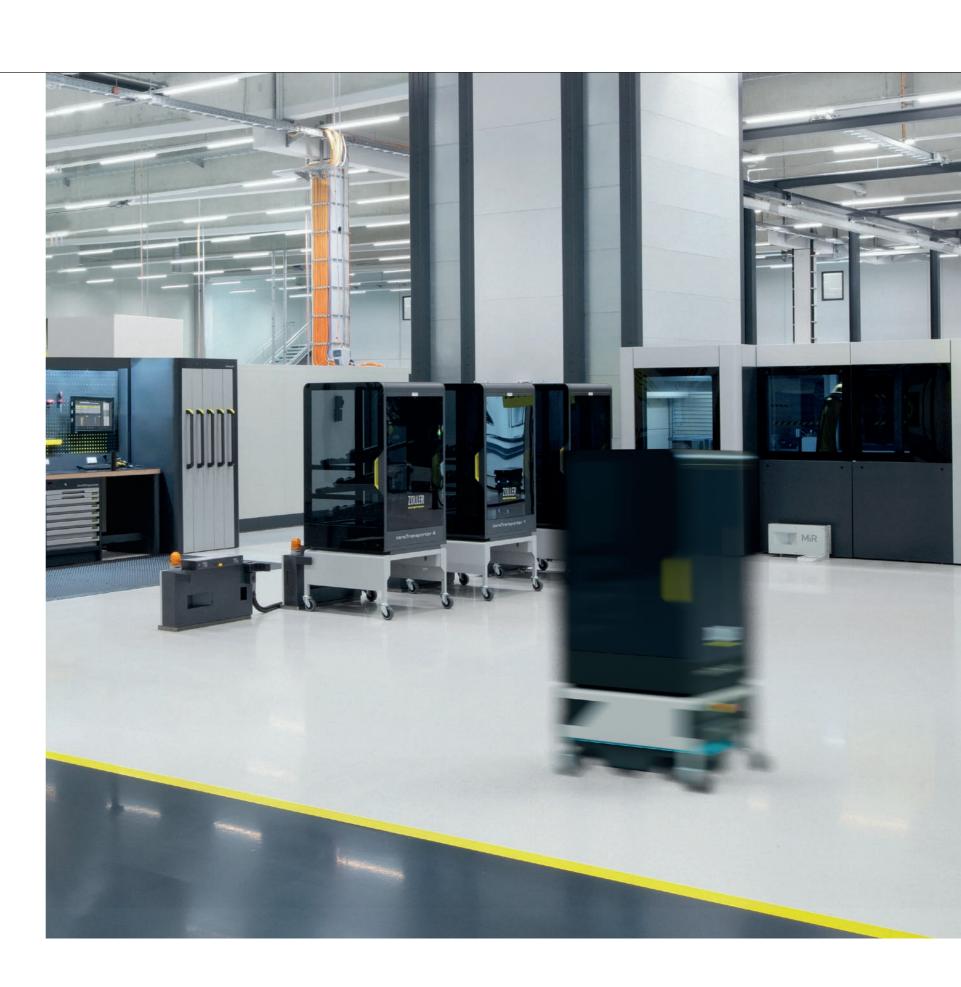
Concept 3

shows an example of how your ZOLLER presetting and measuring machine can be integrated into the automated logistics process.

Successively delegate tool logistics to your ZOLLER Automation Solutions.

CONCEPT	1	2	3
Tool measurement	m	m	а
Transportation to the machine	а	а	а
Loading the machine	m	а	а

m = manual a = automatic





Tool measurement Transportation to the machine

Loading the machine

The Shuttle Service for the Shop Floor

Concept 1 saves you a lot of time by eliminating the need to walk between the tool room and CNC machine. You can concentrate fully on setting up, measuring, and adjusting tools.

Simply place the prepared tools into the »coraTransporter« tool cart. Once all tools for an order are ready, »coraExpress« moves the tool cart to the respective machine tool. »coraExpress« brings tools that have been removed from the magazine of the machine tool back to the tool room or anywhere else in your production.

You control and manage all transportation orders simply via software in a module specially developed for »coraLogistic« - even using a mobile device.

Let your tools gain momentum, automatically.

BENEFITS

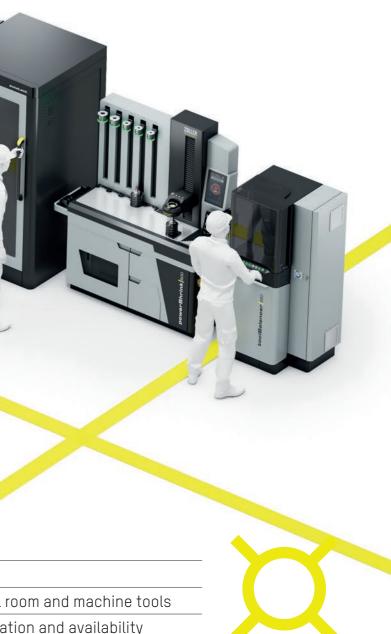
ZOLLER

More efficiency in tool preparation Fully automatic transportation between tool room and machine tools

Complete transparency regarding tool circulation and availability

1	2	3
m	m	а
а	а	а
m	а	а

m = manu	al
a = autor	natic





»coraLogistic«

ZOLLER

Tool measurement

Transportation to the machine

Loading the machine

Automatically into the Machine

Once tools are assembled in the tool room, this concept offers logistics all the way to tool exchange on the tool magazine of the CNC machine.

This fully automatic process step at the CNC machine significantly improves the productivity of your part automation. In addition, costs for purchasing a CNC machine are reduced, because you only need a standard tool magazine, and no external tool storage. In addition, you reduce your tool inventory since there are fewer tools in circulation for production on the machines.

Preset and measured tools are stored on the »coraTransporter« according to the TMS Tool Management Solutions order list. Then, ZOLLER Automation Solutions go into action. The perfectly controlled team of the mobile »coraMove« cobot assistant and »coraExpress« transportation module manages tool handling and transportation, as well as loading of the CNC machine. This concept reduces manual processes to a minimum in tool logistics.

BENEFITS

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	Mobile automation for multiple machines
	Automatic tool exchange in shift operations
	Highly ergonomic thanks to automation
	Reduced tools in circulation in production

1	2	3
m	m	а
а	а	а
m	а	а

m = manual a = automatic





Tool measurement Transportation to the machine Loading the machine

Automatic Measurement with Logistics Option

The »venturion« presetting and measuring machine from ZOLLER stands for high precision, a robust design and simple operation. Once you get »venturion« up and running with the »coraMove« cobot assistant and a »coraTransporter«, its outstanding properties make it a sure-fire success.

Add a high-tech automation trio to your production that is always prepared for the highest level of precision. Easily place your pre-assembled tools on the »coraTransporter« for specific orders. »coraMove« reliably manages tool presetting on the »venturion«. Once »venturion« has ended its precision task, »coraMove« places the tool back on the »coraTransporter« tool cart.

The »coraTransporter« is moved automatically by »coraExpress« to the CNC machine. Tools are then exchanged automatically at the CNC machine by the cobot assistant »coraMove«. Corresponding docking stations at the stopping points precisely define the working positions for »coraMove«. Your introduction to professional automated tool logistics.

BENEFITS

Automate routine processesPresetting and measuring machine is used in parallel to main employee timeAutomatic tool exchange in shift operationsQuick handling and high throughput

3	2	1
а	m	m
а	а	а
а	а	m

m = manual a = automatic





»coraLogistic«

Software That Makes Logistics Simple

Tool logistics in a production facility can be complex, therefore the software needs to be as easy as possible to operate.



You can manage process planning, controlling, and management of logistics immediately with the userfriendly software module for »coraLogistic« – no matter which logistics concept you want to set up. Since the module is part of the software webTMS from ZOLLER, you can control logistics from anywhere and on any device via a browser.

Plan your tool logistics here.

In addition, you can call up data at any time – for instance to find out where a tool or a »coraTransporter« is located.



»coraLogistic«

Team »coraLogistic«

Design your logistics concept. »coraLogistic« provides all of the components you need for the flexible setup and expansion of your individual tool logistics.





»coraExpress«

This autonomous mobile robot (AMR) automates time-consuming tool transfers and optimizes intralogistics in manufacturing.

»coraExpress« knows the job of the individual tool cart or mobile robotic base unit. This ensures the AMR can be utilized perfectly.

»coraTransporter«

Tool cart available in three sizes for manual tool transport on the shop floor, either manually or via an automated process using the »coraExpress« equipped with RFID chip for precise location detection. Logistics capacity for any size of production. »coraTransporter« transports a variety of tool holder types and individual tools. This innovative system significantly minimizes conversion times.

»coraDock« base

The docking station for the »coraTransporter«. It guarantees that every delivered tool cart is positioned and identified correctly at its destination by means of an RFID chip.

This ensures that the tool delivery is checked and perfectly prepared for optional automated handling.



»coraArm«

The »coraArm« cooperative robotic unit automates tool handling on a presetting and measuring machine, as well as at a CNC machine. This relieves your personnel from the need to complete time-consuming routine tasks.

Handling tasks can be prepared easily using 3D data from ZOLLER Tooling Solutions.

»coraMove«

The mobile cobot assistant for tool handling between multiple machines. Thanks to its interface to »coraExpress«, »coraMove« is available everywhere its capabilities are required.

This system provides you with the best possible flexibility for tool handling. 30 | 31



»coraControl«

This laser-supported, automatic control system for the working ranges of the »coraArm« and »coraMove« cobots ensures that the cobots are only active if no personnel are present in their radius of action.

To do so, »coraControl« monitors surfaces around the cobots for a long distance, ensuring all occupational safety requirements are fulfilled.

»coraDock« Professional

Docking station for the mobile cobot assistant »coraMove«. For exact positioning and identification of the mobile cobot assistant at the destination.

Includes interfaces to the power supply and for a data connection to the CNC machine. Also closes safety circuits to the CNC machine.



Automated Tool Retrieval

»loadBox« – Commissions Every Tool for the Next Job Order

On-time tool commissioning to CNC machines is a key part of determining the productive potential of a production facility. Therefore, it should be possible to mobilize tools quickly and automatically once orders are placed. The ZOLLER »loadBox« is the central tool storage with fully automatic retrieval, and provides assembled tools for all upcoming production jobs. In addition, it handles ad hoc picking of tools that are urgently needed in production – for example if a tool breaks or reaches the end of its tool life. »loadBox« serves as a direct interface to »coraLogistic« and automatically provides tools from the central tool storage for production 24/7.

Make productivity ready for automatic access.



Put tool into central warehouse Deploy tool for individual order Load the »coraTransporter« Handover to »coraLogistic«

The Intelligent Tool Center

The ZOLLER »loadBox« is where your tools wait for their next use. When it is time, the »loadBox« picks the tools for the specific order fully automatically and places them in the »coraTransporter«. The »loadbox« is the automated link between the central tool storage and tool logistics in production, and is automated and ready for use 24/7.

The ZOLLER »loadBox« handles all loading and unloading tasks for the «coraTransporter« tool cart. It manages retrieving of upcoming orders and receives tools again after the production job, to return them to the central tool storage with information on their remaining tool life. Share what you want to manufacture next with ZOLLER Automation Solutions, and your tools get moving right away.





BENEFITS

Fully automatic, order-specific retrieval Central tool storage with high capacity and a small footprint Managed and controlled by ZOLLER webTMS software Direct connection to »coraLogistic«

a a a a

a = automatic





»loadBox«

Switch Tools to START Centrally

The ZOLLER »loadBox« picks all tools for CNC machines corresponding to the upcoming job orders.



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Since the »loadBox« is also controlled by the ZOLLER webTMS software, automation and tool management work together in a single system. Stock location commissioning, stock level overview, set up sheets, prompt provision of tools – everything is coordinated via an intelligent link to the ZOLLER webTMS software, up to prompt purchases of new tools.

Provide tools, divide them into transport units, or book them in or out: The webTMS software module for »loadBox« makes tool picking simple and efficient.



Automated Tool Assembly and Measurement

»roboBox« – Productivity Made Easy

Assembly, measurement and tool delivery to production are standard procedures in tool preparation. With ZOLLER Automation Solutions, you can automate these and other processes. The modular ZOLLER »roboBox« has shrinking, torquing, horizontal and vertical pressing, balancing and measuring functions to offer completely automated tool preparation for shank tools. This lets you take advantage of every option in automated tool assembly and measurement.

Alternatively, you can expand the installation of your existing ZOLLER presetting and measuring machine with a well-designed automation system.

Add a »coraArm« collaborative robot to your ZOLLER presetting and measuring machine. By doing so, you can automate tool measurement as well as the handover to tool logistics if desired. This concept is described in the »coraLogistic« section.



Makes Tools Ready for Use

Increase the degree of automation in your tool assembly. The modular »roboBox« system from ZOLLER brings your tool preparation for shank tools to a new level. You can set and measure your shank tools fully automatically and in just a few minutes.

The ZOLLER »roboBox« gives you an advantage in productivity right from the start. The pace of work, precision and reliability of a »roboBox« are simply impressive. If a fully automatic manufacturing process doesn't start at the CNC machine for you but in the tool preparation then »roboBox« ist the right choice.

Get a perfect start. Achieve your productivity targets faster.





BENEFITS
Fully automatic tool assembly
Significantly higher throughput in comparisor
Perfect for 24/7 assembly and dismantling of
Direct connection to automated »coraLogistic

a a a a

a = automatic

on to a manual process

ftools







»roboBox«

Data Exchange and Full Transparency in the Workflow

The software module for controlling »roboBox« is also networked with production via the mobile webTMS software.



All of the tool data »roboBox« requires is available at all times. Depending on the modules with which your »roboBox« is equipped, tool assembly, measurement, adjusting, shrinking and other processes are always carried out in digital dialog with production. Your tools will be ready for use. Fully automatically.

Just like all webTMS modules, the software module for »roboBox« offers a user-friendly interface. You can view the ongoing processes in your »roboBox« at all times.

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With ZOLLER Automation Solutions, we have begun a new chapter in ZOLLER's technological history.

It is shaped by decades of experience, a high level of software expertise, and a profound understanding of the challenges of modern manufacturing.

ZOLLER Automation Solutions are the logical next step to our work. They follow our mission to improve the productivity and efficiency of our customers with innovation, quality, and precision.

CHRISTOPH ZOLLER, ALEXANDER ZOLLER Management





In Germany at Home – Around the World for You

ZOLLER quality is "made in Germany" – and there for you, anywhere in the world.

Our company has its own locations and branches at 85 sites in 62 countries, guaranteeing we are close to customers and can provide first-class, personal customer service in local markets.

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ZOLLER Solutions

More speed, higher quality, safe processes – with ZOLLER, you increase the efficiency of your production. ZOLLER offers you outstandingly precise devices for adjusting, measuring and testing cutting tools, software, interfaces, cloud services and solutions for the automation of tool processes. You can combine all of this to create your individual system solution – on your way to the smart factory.

Presetting & Measuring Tool Management Inspection & Measuring Automation Everything from a Single Source. Everything for your Success. Everything with ZOLLER Solutions.



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