

Extending Performance

Service Concept



**SERVING
THE INDUSTRY
FOR 40 YEARS**

TRESU Extending Performance

With 40 years of accumulated industry experience, in-depth knowledge of printing machines and our strong engineering capabilities we can make sure that you stay ahead of the game.

We offer a lifecycle management program called **TRESU Customer Care**, which allows customers worldwide to gain maximum value from TRESU high performance printing machines and equipment.

Driven by engineered answers and proven solutions we secure uptime and optimized production to safeguard your peace of mind – and this does not come in a box. We call it **TRESU Customer Care**.

Your goal is our goal – uninterrupted uptime.



TRESU Service Concept

The power of tailored service

With a tailored service agreement of scheduled services at fixed rates, you are ensured a well maintained plant with equipment in optimal condition, performing at its best.

We offer flexible service agreements based on more than 40 years of industry experience working with leading brands in global printing industries.

In collaboration with you, we identify, allocate, and properly manage risks, and ensure peak performance from your equipment.

Extending lifetime performance of your equipment, we offer solutions for every step of the journey and with global reach and local presence we respond quickly to any issue.

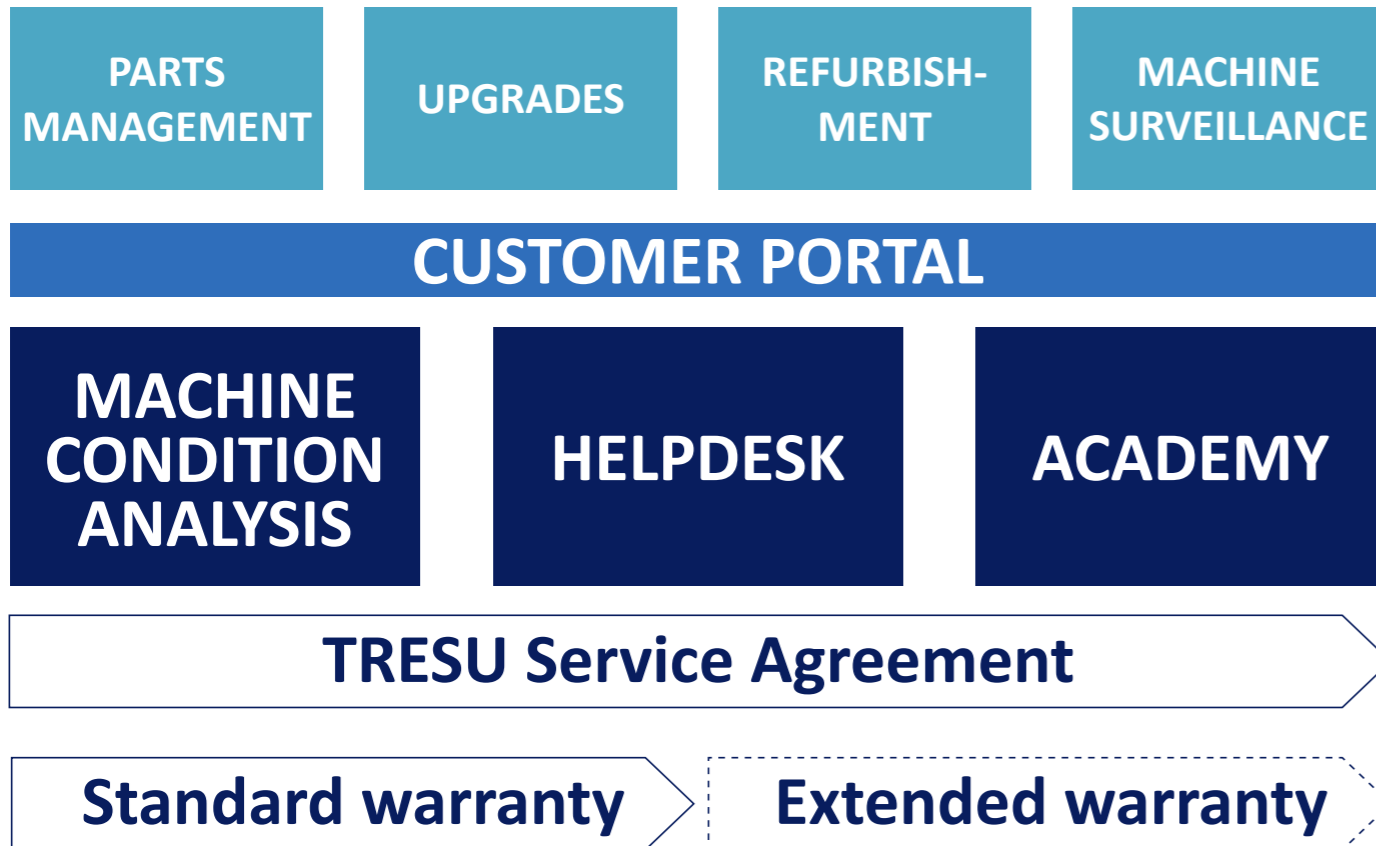
Based on your requirements we put together a unique service agreement optimizing Overall Equipment Effectiveness- OEE -throughout the entire product lifecycle.

All services are planned in advance and we make sure they are carried out on schedule.

Service intervals are optimized by performing service at the right time, based on the actual condition of the equipment rather than based on a fixed time interval. This often means optimized service intervals.

TRESU service agreements provide

- Extended life-time of equipment
- Maximized operation efficiency
- Fixed rates- no unpleasant surprises
- Yield improvements
- System reliability



Lifecycle Management

- What does it mean?

Maintenance of printing presses requires practical experience, in-depth knowledge and technical innovation.

The majority of TRESU's service partnerships are long-term mutual commitments – key to delivering a high Overall Equipment Effectiveness - throughout the lifetime of the press.

Often a TRESU service agreement includes:

- Dedicated Aftersales Account Manager
- Parts availability throughout the lifetime of the press
- Lifetime performance support
- Extended warranty

• OEE - Improved performance

Our goal is to continuously improve your processes throughout the lifetime of the equipment.

We help you increase capacity, reduce waste, raise quality, lower energy consumption and much more by upgrading your equipment, or adjusting it to new operating conditions

• OEE - Maximum uptime

Regular maintenance and remote monitoring ensures maximum uptime. With a TRESU Service Agreement you know your equipment receives the regular care it needs to perform at its best

• OEE - Budget service costs

With a TRESU service agreement, the cost of doing service right is far lower than the cost of doing service wrong

• Shorter payback time

A TRESU service agreement minimizes your total equipment lifecycle costs. You benefit from improved process efficiency, less downtime and increased equipment lifespan



Source: www.oe.com

Machine Condition Analysis - Condition based maintenance

A thorough machine condition analysis - MCA - is a precondition for a well-maintained plant and always part of TRESU's service agreements and here we perform a thorough check of the state of the printing performance and document this in a comprehensive report.

Going through your printing line, key functions in the press are examined, measured, and tested to secure proper functionality.

The TRESU MCA includes a checklist with more than 100 inspection points – multiplying with the number of printing units – and a methodological review of the press from infeed to outfeed is performed to pinpoint where service, repair or upgrade is needed or applicable – as well as if there is a need to take action with lubrication, cleaning or adjustments.

Consider conducting an MCA if you change process conditions often, if equipment is critical in your process, if you have older installations or if you lack trained maintenance personnel.

We analyze any possible measure to optimize performance in terms of a maintenance plan, spare parts, cleaning services or upgrades. The entire analysis is summarized and documented in a report, enabling customers to plan and prioritize long term- extending the performance of the printing press.

TRESU MCA is key to protect your investment on the Long-term:

- Long-term planning of upgrades, repairs or maintenance costs
- Extended life-time of equipment
- Optimal performance and condition of equipment



+100 inspection points per unit – from infeed to outfeed:

- Safety | units and enclosures | rollers
- | dryers | air system · electrical components | water systems | ink deck
- | anilox | plate | impressions | chambers
- | ink pumps | scales and more...

Technical condition based deep dive

Apart from the machine condition analysis we offer in-depth troubleshooting of unexpected behavior.

The recommendation after conducting an MCA could be to make a technological deep dive - a root cause analysis. This analysis can be used in order to brainstorm, problem-solve, or engage in idea creation.

When we perform a deep dive on a certain technical issue, we conduct an extensive and thorough root cause investigation.

The investigation will explore how a problem originated, which impact the problem is having on its environment, possible solutions for the problem, and how the possible solutions will further affect the problem's environment.



Helpdesk – only a call away

TRESU service engineers provide troubleshooting support and are only a phone call away in case of unexpected downtime or breakdowns.

Contact us if you notice a performance decrease, if unexplainable deviations from operation requirements occur, if you see process disturbances, or if energy consumption is unusually high.

Experienced and skilled TRESU service engineers can access the TRESU equipment remotely in troubleshooting scenarios enabling operators to solve issues fast and efficiently. In most cases issues are solved without the need for an on-site visit. For information on requirements for remote troubleshooting we refer to the machine surveillance package.

To be able to provide efficient and qualified support, it is mandatory to have trained personnel when contacting the TRESU helpdesk. If necessary, we can train or retrain your personnel onsite when required. For information on training, we refer to our Academy training courses.

When contacting helpdesk please always remember to have all relevant serial numbers ready

Our services are also available for customers with no helpdesk agreement, but you will need to have a PO ready, and we will issue an invoice for time spent.

The TRESU helpdesk provides

- Fast access to high level troubleshooting
- Maintained uptime and performance
- Fixed rates



HELPDESK
Fixed opening hours:
Europe 8 – 16 (CET)
Americas 8 - 4 (CST)

HELPDESK 24/7
Individual conditions

TRESU REMOTE EYE
For 1:1 instant support we can connect with tablets, smart devices or smart glasses.

Academy – train for excellence

Competence development is invaluable in today's printing operations. With TRESU flexo technology you buy peace of mind, but you must also rely on your operators to get the job done.

You need to be sure that your staff is equipped with the right know-how. Effective training will give you a broad understanding of how to use and maintain TRESU printing equipment.

We train operators in basic flexo training and advanced training including recipe management, waste reduction, safety, recalibration and overall best practice.

We can manage your operators' training development and issue certification to different levels of expertise.

Preventive maintenance
We provide training courses to your maintenance staff, where we teach and show how to perform planned maintenance including all mandatory service requirements necessary to keep the warranty of your equipment and the performance on the long run.

TRESU training academy provides:

- Motivated and educated staff ready to perform
- Production reliability
- Opportunity for increased profit

Corrective maintenance
We train your staff to be able to handle maintenance issues themselves either onsite or remote with our helpdesk agreements – depending on the agreement for each individual customer.

Troubleshooting
To perform corrective maintenance we provide a training course in trouble shooting making sure that root causes can be identified by your operators.

Predictive maintenance
Based on a TRESU machine condition analysis (MCA) we also guide your maintenance staff how to perform predictive maintenance minimizing downtime and avoiding unexpected breakdowns on the long run.

PREVENTIVE MAINTENANCE
Training courses for customers' maintenance staff.

CORRECTIVE MAINTENANCE
Handling issues onsite or through our helpdesk.

TROUBLESHOOT
Corrective maintenance & identification of root causes.

PREDICTIVE MAINTENANCE
Guidance to predictive maintenance.



Parts Management

Often the value of having genuine spare parts and consumables available when needed is underestimated. To avoid the tiniest spare part ends up being the most expensive one and to have a high level of service and maintenance with an efficient production, we advise you to stock a recommended spare part package covering critical parts for your equipment.

With TRESU Parts Management you optimize your spare- and wear part supply situation.

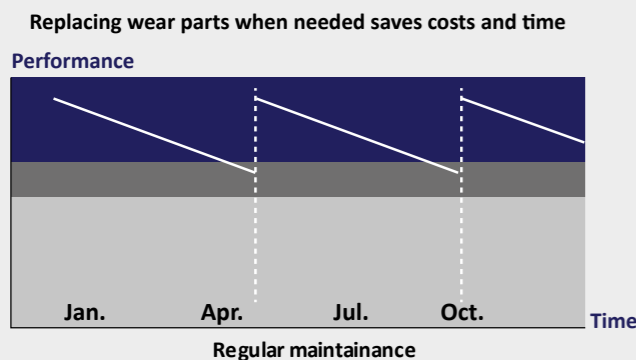
- Always having critical parts available
- Having a recommended supply of spare parts
- Genuine parts supplied on time at your door step



- Critical spare parts – without being able to replace these your production stands still
- Recommended spare parts – without being able to replace these parts of your production stands still or output or speed is reduced
- Audit of your spare parts – we perform an audit of your spares, investigate any long lead times and offer our advice in case of obsolescent parts
- Supply agreements based on your individual needs secure that genuine spare parts and consumables arrive to your doorstep in time.

When you use TRESU genuine spare parts, you can be sure to get the right part at the right time. TRESU genuine spare parts keep your equipment running at peak performance throughout its lifetime. Our high-quality, durable parts put productivity first and extend your equipment's lifecycle, lowering your total ownership costs.

<p>CRITICAL SPARE PARTS: Avoid production standstill if you carry no stock.</p>	<p>RECOMMENDED SPARE PARTS: Avoid production standstill or reduced speed & volume.</p>	<p>SPARE PART AUDIT: We audit your parts, plan for long lead times and obsolescent parts.</p>	<p>SUPPLY AGREEMENT: Based on your needs we deliver all parts in time.</p>
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Replacing wear parts when needed will save you from unnecessary downtime and service based on costly and time-consuming assumptions. TRESU can help you optimize your spare- and wear part supply situation.

Upgrades - Performance and Rebuilds

To ensure the newest technology and functionalities, TRESU offers a wide range of upgrades and rebuilds related to different parts of your printing equipment – whether you are looking to reduce waste, increase speed, and volume, secure safety or improve print quality.

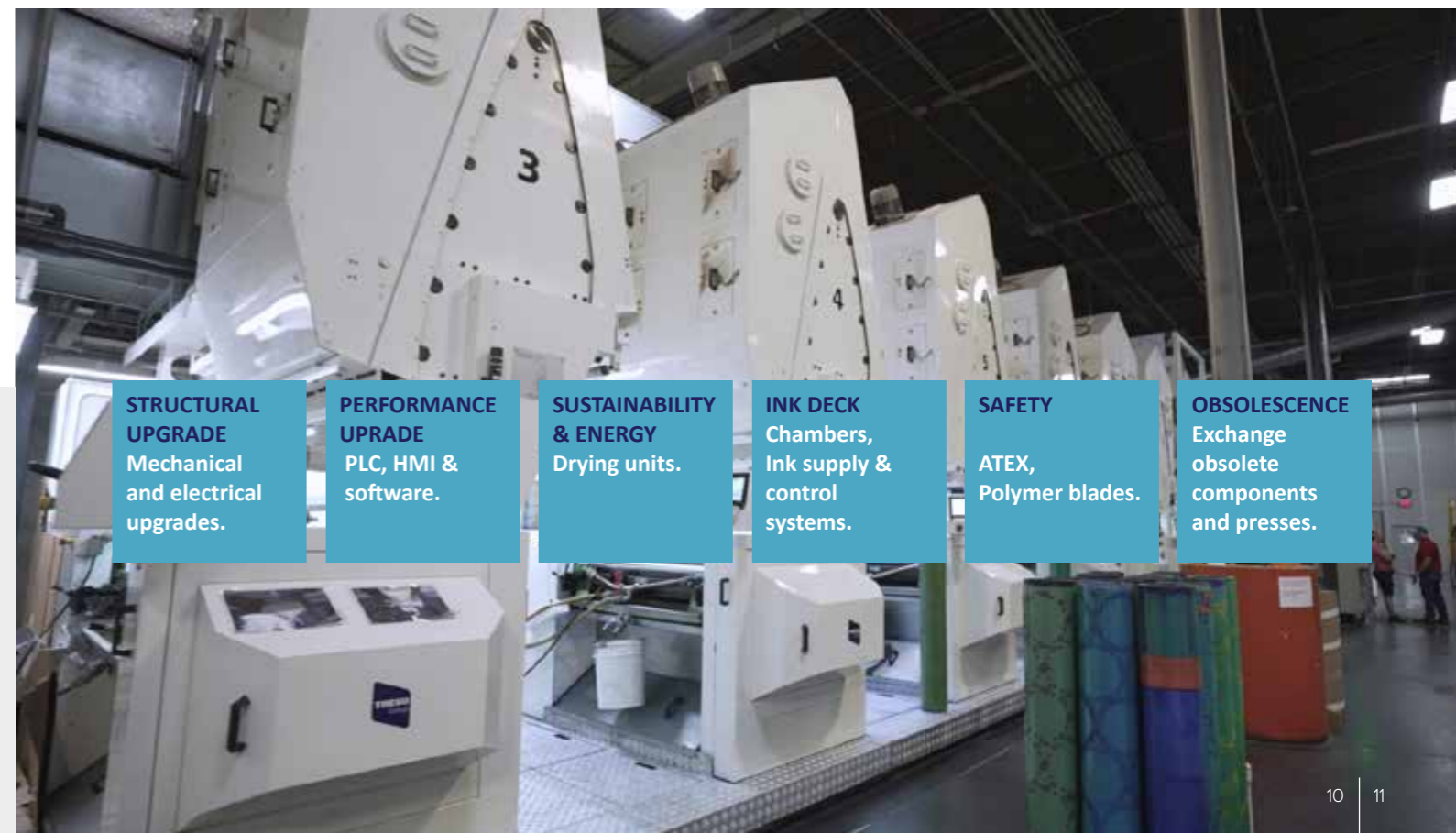


A TRESU upgrade is an efficient means of upgrading your TRESU equipment to optimize- and in many instances even improve – the performance of your equipment.

Unlock the full potential of your assets

TRESU Upgrades provides

- Improve performance
- Opportunity to increase run speed and volume
- Control the quality of your prints efficiently and reduce waste
- Extended lifetime of your equipment



- STRUCTURAL UPGRADE**
Mechanical and electrical upgrades.
- PERFORMANCE UPGRADE**
PLC, HMI & software.
- SUSTAINABILITY & ENERGY**
Drying units.
- INK DECK**
Chambers, Ink supply & control systems.
- SAFETY**
ATEX, Polymer blades.
- OBSOLESCENCE**
Exchange obsolete components and presses.

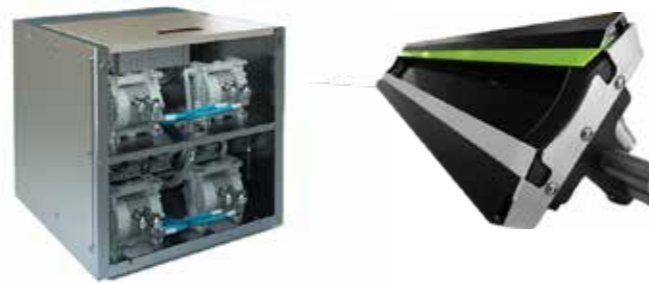
Refurbishment

TRESU refurbishment programs proves the vision of our lifecycle approach of extending and optimizing performance and creating added value to customers.

TRESU offers different refurbishment solutions related to entire presses or different types of printing equipment.

TRESU refurbishments are an efficient means of regaining, extending and sometimes even improving performance of existing equipment and investments – at an attractive price point and with a reduced carbon footprint. With this new initiative TRESU once again proves the vision of supporting customers with a lifecycle approach extending the performance of genuine TRESU products and at the same time creating added value to customers.

- TRESU refurbishment programs provide:**
- Extension of the lifetime of the product
 - Sustainable refurbishments
 - Cost efficient solutions



REFURBISHMENT OF CHAMBER DOCTOR BLADE SYSTEMS

REFURBISHMENT OF INK AND COATING CIRCULATIONS

RTBC - RETURN TO BASIC CONDITION

Machine surveillance

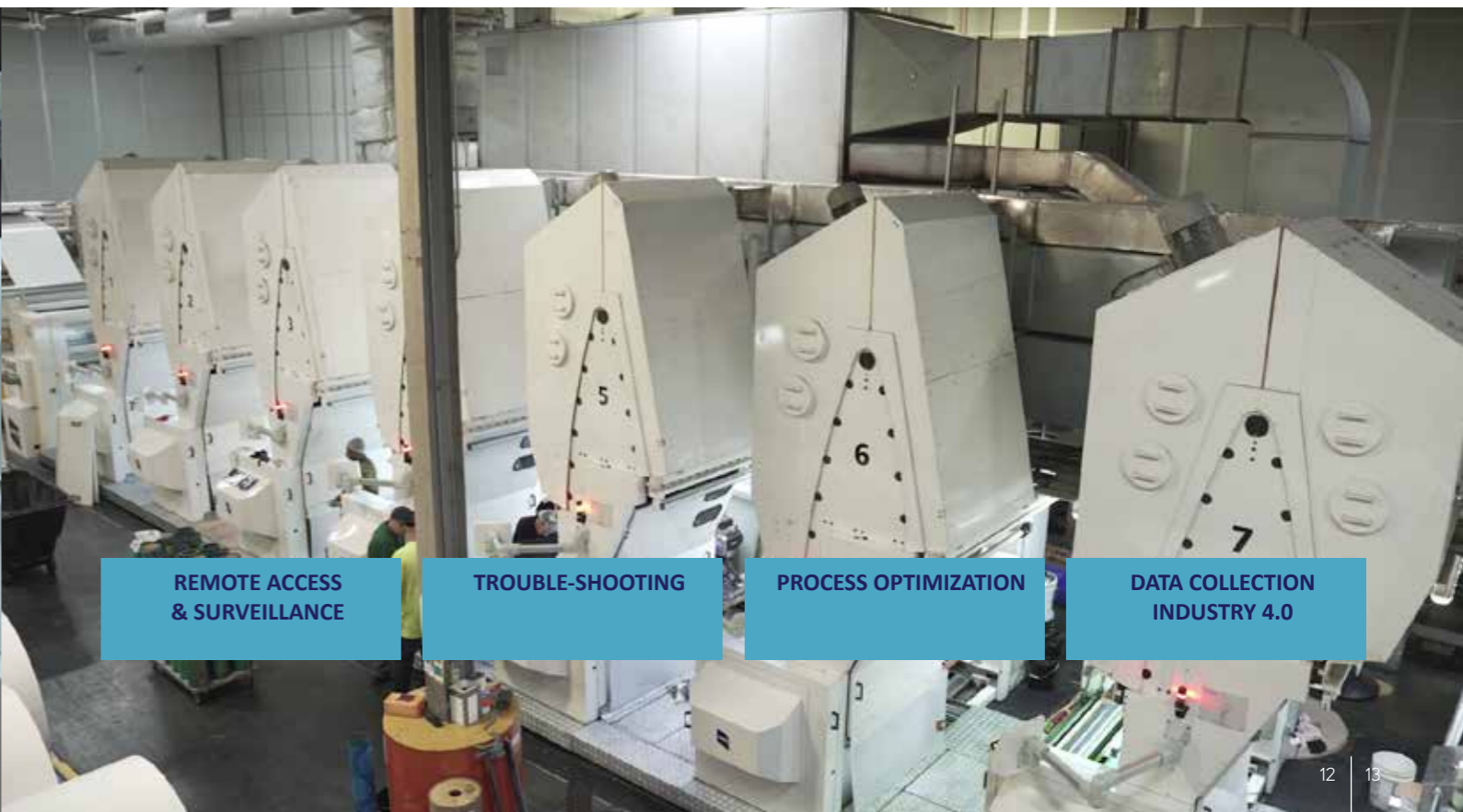
Experienced and skilled TRESU service engineers can access the TRESU equipment remotely in troubleshooting scenarios enabling operators to solve issues fast and efficiently. In most cases issues are solved without the need for an on-site visit. Remote troubleshooting requires an open network connection to the TRESU equipment.

Our machine surveillance solution secures remote access and data collection in one solution – whether it is based on LAN global, 4G, wifi connection methods

Machine surveillance enables TRESU and the customer to program and troubleshoot equipment and perform predictive maintenance- as if you were onsite.

Use your phone or PC to operate your web-based equipment directly from a web browser- with no need for IT assistance.

- TRESU Machine surveillance provides:**
- Big data collection and process optimization with TRESU experts
 - Internal efficiency comparisons
 - High level back up from TRESU



REMOTE ACCESS & SURVEILLANCE

TROUBLE-SHOOTING

PROCESS OPTIMIZATION

DATA COLLECTION INDUSTRY 4.0

Customer portal – at your fingertips

The TRESU customer portal is your digital gateway to your TRESU printing equipment and here we can share data from your machine with you.

We can also offer instant digital access to relevant documentation and manuals for your individual TRESU printing equipment.

This dynamic platform will enable you to monitor configurations, production and service agreements for your printing equipment and you will be able to find relevant news from TRESU.

The customer portal is a comprehensive solution with built-in security features to ensure transparency while maintaining full confidentiality.

We protect this information to make sure that only our customers have access to their own information and information assigned specifically to them.

Ask your personal TRESU service responsible for a personal key to unlock a new world of opportunities.

TRESU customer portal provides an accurate real-time view of the operational status of your assets with the benefit of offering quick access to accurate production reports.

SHOP 24/7/365

Establish an account and shop by credit card – we ship around the clock.

SHOP BY PART

Doctor blades, spare parts, end-seals, cleaning liquids.

SHOP BY PRESS

TRESU, Heidelberg, KBA, Göpfert, HP, Komori, Manroland, Mitsubishi, Nilpeter or Xerox*

TRESU Webshop

Search for products, type in item no., name or category

PLASTIC DOCTOR BLADE SELECTION GUIDE - CLICK HERE

TRESU SPECIAL DEALS

SPECIAL DEALS

TRESU SPECIAL DEALS gives you the best deals on bulk sales, obsolete parts or special discounted campaign items.

END SEALS

The TRESU Seal ensures the highest sealing quality and longest life time.

SPARE PARTS

TRESU Anilox meets these demands with high-performance solutions that surpass the performance in flexo, offset and digital printing.

SPARE PARTS & CONSUMABLES

Order your Spare Parts, Cleaning products, Consumables or Tools in the TRESU Webshop.

*Registered trademarks

READY FOR ANOTHER 40



TRESU is a highly specialized company offering flexoprinting machines and ancillary products and concepts for flexo, digital and offset printing as well as customer service and technical support.

TRESU has 40 years of experience and expertise in the development, production and maintenance of engineered solutions and supplies directly to end-customers, OEMs and partners worldwide.

TRESU has production facilities in Denmark and sales companies in USA, Germany, Italy, Japan and China as well as an international agency network providing local support and know-how.

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