MODI
VISION FOR IDENTIFICATION

TRACEABILITY 5.0

MATERIAL AND PRODUCTION MONITORING 5.0
100% TRACEABLE

www.moditrace.net

MODI MODULAR DIGITS GMBH

ADD ONS

COOPERATIONS

INCOMING GOODS PROCESSES INSPECTION SYSTEMS
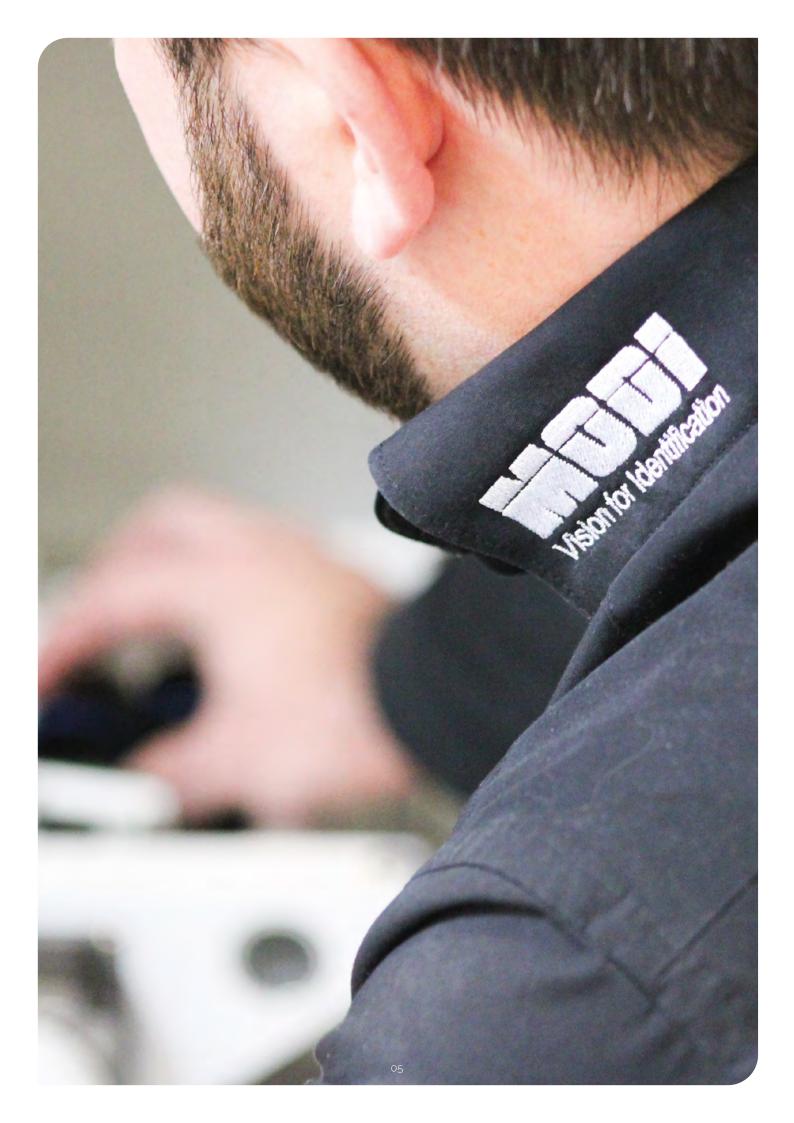
MODI MODULAR DIGITS GMBH

Inspection and ID Reading Systems

For many years, **MODI GmbH** has been an outstanding presence in the field of traceability within the electronics industry. With over three decades of experience, the company has established itself as a leading expert in this field and proves to be an unparalleled partner for top-notch solutions.

Through the implementation of technically innovative solutions, **MODI GmbH** enables comprehensive traceability of all production processes. The implementation of traceability begins right from the receipt of materials and seamlessly extends throughout the entire manufacturing process to the shipping of finished products. **MODI** stands out by providing tailored solutions for each stage of the process.

The complete hardware and software development is exclusively carried out in-house, ensuring a high level of flexibility and agility in terms of advancements and customer requirements.

In addition to its industrial business segment, MODI has also become a leading provider of biometric systems for commercial and governmental applications worldwide in recent years.

LONG-TERM PARTNERS OF MODI GMBH

Specialist for Identification Solutions & Process Optimization

For over 30 years, MODI GmbH has been a strong partner in the field of industrial image processing. Through international projects and diverse customer requirements, valuable business relationships have been established.

Ever-changing customer demands have prompted us to design all of our products modularly and individually.

Tailored inspection solutions and customer-specific processes in the areas of incoming goods and traceability make our products universally applicable.

MODI GmbH can also be your strong partner.

Through targeted consultation and workshops, we strive to integrate our products sensibly into your processes.

Increasing efficiency and security within individual process steps is our shared goal.

Benefit from years of experience.
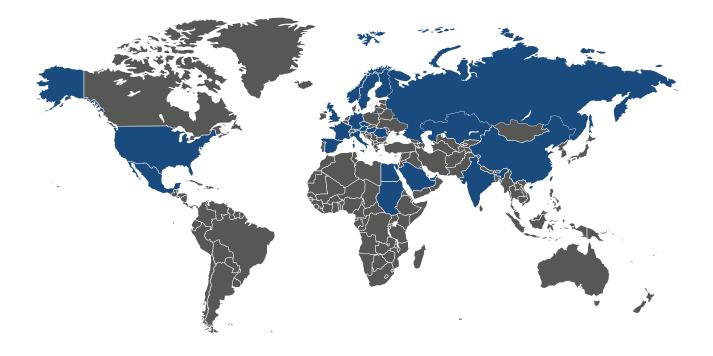**Start with 100% traceability today!**

MADE IN GERMANY

All **MODI products** are manufactured here in Germany and thus adhere to high-quality standards. Hardware and software development take place in-house. Speed without compromising quality is guaranteed.

Innovative system construction combined with the latest software developments represents one of the core competencies of **MODI**.

As a specialist in traceability, from incoming goods to outgoing goods, we offer technologically mature products and solutions.

A friendly and competent team in sales and support provides long-term assistance with all questions and issues.

SIEMENS
Ingenuity for life

HELLA

NOKIA

FUJITSU

Huf

Continental

BOSCH

HEIDELBERG

DELPHI

FREQUENTIS

Bundespolizei

BUNDESDRUCKEREI

Miele

Danfoss

BHTC
COMFORT IN MOTION

VIESSMANN

GUNNEBO

DIEHL

peiker

Endress+Hauser
People for Process Automation

melecs

Atos

ArjoWiggins

brose
Technik für Automobile

LUK

E·G·O
High-tech since 1931.

TechniSat

ZF

MATERNA ips
integrated passenger services

Mubea

TATA STEEL

SANOFI

ASTEELFLASH
YOUR EMS PARTNER

LACROIX

ASYS
GROUP

HARMAN
A SAMSUNG COMPANY

BMK

Celestica

COBO

Leuze electronic

NOVOMATIC
GROUP OF COMPANIES

Valeo

MODI INCOMING GOODS SYSTEMS

Absolute Security and Efficiency as the Beginning of 100% Traceability

The **MODI Incoming Goods Table WES V5** combines intelligent information processing from captured images and data administration into a fundamental building block of Industry 5.0.
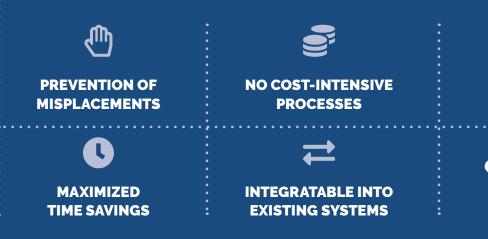
Incoming goods is the most popular scenario for the MODI system.

Reliably and swiftly capture all electronic components. Ensure that subsequent processes are supplied with the necessary data to fully utilize their functionality.

With our incoming goods system, you elevate your processes to a new level.

Impress with seamless traceability through technological innovation.

WES V5 **COMPACT**

WES V5 **STANDARD**

PREVENTION OF MISPLACEMENTS

NO COST-INTENSIVE PROCESSES

CLEARLY TRACEABLE

MAXIMIZED TIME SAVINGS

INTEGRATABLE INTO EXISTING SYSTEMS

COMBINED WITH OUR TOPSCAN
on page 25

PERSUADE WITH CONVICTION!

SEAMLESS TRACEABILITY DURING CUSTOMER AND QUALITY AUDITS!

In the modern industry, components must be traceable throughout the entire production process. This ensures that you can ascertain which product contains which batch/lot number/date codes of components, and when and where they were integrated.

ENSURE THAT EACH ITEM MEETS YOUR SPECIFICATIONS!

During the initial reading process, manufacturer product information is read and compared with a customer's article master database or the ERP system. Only when data identity is confirmed, the system grants clearance for the item.

ELIMINATE MISPLACEMENT COSTS DUE TO INCORRECTLY LABELED COMPONENTS!

Item clearance triggers the printing of a customer-specific label (format, layout, and barcode types are fully editable).
In a verification process, it's ensured that the printed label is readable and consistent with the manufacturer's label.

EFFORTLESSLY ERGONOMIC AND FLEXIBLE HANDLING!

The system relieves operators of any inspection activities and shines through process reliability.
With continuous height adjustment, the system can be tailored to fit any operator.

UNBEATABLE PERFORMANCE!

Reading and comparing label information in 1 - 2 seconds.

ALL-IN-ONE SOLUTION!

Hardware and software development under one roof. We are capable of flexibly responding to customer requirements and harmonizing solutions.

REDUCE DEFECT COSTS!
ELIMINATE MISPLACEMENTS!
EASE THE LOAD ON YOUR EMPLOYEES!
SPEED UP YOUR PROCESS!
GAIN CERTAINTY!

HOW DO YOU ENSURE THAT...

- **... THE ITEMS IN THE DELIVERY ARE COMPLETE?**

- **... EACH ITEM IS CORRECTLY LABELED?**

- **... THE ITEM MATCHES THE SPECIFICATION?**

- **... TRACEABILITY IS MAINTAINED WITHIN A BATCH?**

- **... LABELING CHANGES ARE DETECTED WITHOUT PRIOR NOTICE FROM THE MANUFACTURER?**

- **... A COMPONENT MANUFACTURER'S ERROR HAS CAUSED YOUR PRODUCTION TO HALT OR EVEN LED TO CUSTOMER COMPLAINTS?**

- **... SUSPICIOUS OR ERP-BLOCKED GOODS ARE PREVENTED FROM ENTERING PRODUCTION**

Every company customizes their incoming goods processes, making it of the utmost importance to analyze workflows and extract potential improvements.

As specialists in the field of incoming goods, we offer hardware and software-based solutions for customer-specific processes.

This way, the incoming goods scanner can be deeply integrated into workflows, providing the best combination of cost-effectiveness and security.
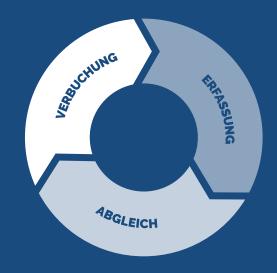
THE USAGE IN INCOMING GOODS PROCESSES

Error-free Data Capture – 100% Traceability

ERROR-FREE CAPTURE

DATA MATCHING MASTER DATA
PRODUCT NUMBER | LED | DATE CODE | MSL | BLOCKED BATCH

MODi
VISION FOR IDENTIFICATION

BOOKING
TRACEABILITY | ERP | STORAGE | ASSEMBLER

PRINT UNIQUE ID LABEL

THE OPTIMAL INCOMING GOODS PROCESS

(Reading and Data Matching)

VERBUCHUNG — ERFASSUNG — ABGLEICH

STEP 1:

The process starts with the recording of incoming goods before they are posted in the ERP software.

For a delivery, there is a delivery note and/or ASN (Advanced Shipping Notification) information available. These constitute the expected material scope.

Optionally, the delivery note can be archived as a PDF.

The required document scanner can be directly accessed from the MODI software for this purpose.

STEP 2:

Now the operator begins processing the delivered items in any order.

For example, when a component roll is placed on the reading surface, the manufacturer's label is read and registered within seconds.

All captured content is immediately compared with the article master database. If all information matches and the item is approved, a customer-specific label with a unique identification number is generated.

The label is placed on the component roll and verified in a verification process. This confirms whether it contains the correct content on the correct material.
After this step, the process is completed for the operator.

STEP 3:

Once the expected quantity from the ASN and delivery note is reached, the booking is triggered in the ERP software. In the background, all mechanisms that ensure traceability are running.

Comprehensive information is stored in the traceability database.
All read information, as well as image documents, booking and clearance information, are uniquely associated with a customer label.

MODI feeds your assembly and storage systems with all necessary data to optimize all subsequent processes here as well.

The generated unique ID guarantees traceability throughout the entire process chain.

PART: RK73H2BTTD1502F
QTY: 5000
SPEC: 1220   1%
LOT: 710ST646   F 1%
RK2B 15K   DATE CODE:1560

3216 A 10uF
CL31A106KAHNNNE

TEXAS INSTRUMENTS
LBL: 6A (L)TO:1808

0603 C
ECUV1H011TPA
Panasonic

SM06B-NSHSS-TB (LF)(SN)
1,500
TYPE H SERIES-NSH
462782 P ,102   18.02

02-1294-1   13.12.2018   RoHS
CAPE 220µF 20% 50V 2000n@105°C   MSL1
SMD-G SMT lowImp 3R 10x10mm
NIPPON CHEMI CON(fel) EMVE500ADA221MJA0G

949536-5770
muRata   ROHS-Y<B>   MADE IN JAPAN

949528-5950   4000   PCS.
BLM21P0220SH1D
BLM21P0220SPTM00-954
muRata   ROHS-Y<C>   MADE IN JAPAN

CRA 0805 220R -20% 100ppm/K NP
5000 Stück   BA 245565   50/2016

KSZ8041NL1-TR
MPC TKDA1TPFAB01

EXAMPLE PROCESS DIAGRAM
WITH ERP INTEGRATION VIA WEB SERVICE

MODI, with its extensive experience, offers a diverse range of standardized incoming goods processes and interfaces for ERP, EMS, LVS, or placement machines.

However, as seen with deployed ERP solutions, many processes in customer use are individually structured. Therefore, for complex processes, a collaborative workshop beforehand is often recommended to define a customer-specific workflow in detail.

This defined workflow can then be directly implemented by MODI in terms of software and integrated into the existing operating software, LABELS. This approach ensures that each customer aligns optimally with their process expectations, allowing the entire incoming goods registration process to be executed with utmost efficiency and accuracy at a single workstation

NEW DELIVERY NOTE
Delivery Schedule Number / Individual Order
Delivery Note Number to ERP System

DATA EXCHANGE VIA WEB SERVICE DELIVERY SCHEDULE INFORMATION

Implementation of MODI Relabeling Station for Customers. Incoming Goods Process with ERP Communication via Web Service.

SCAN DELIVERY NOTE OR ENTER DELIVERY SCHEDULE AND DELIVERY NOTE NUMBER MANUALLY

DATA RECORDS FOR EACH DELIVERY SCHEDULE COMPLETED

DATA RECORD COMPLETED

ERP BOOKING

REPRINT OPTION FOR DAMAGED BARCODE LABELS FROM PRODUCTION AVAILABLE IN THE TRACEABILITY DATABASE

FEHLMENGE DOKUMENTIEREN UND BUCHUNG VORHANDENEN MENGE BESTÄTIGEN
Lieferplan bleibt offen, bis Gesamtmenge erreicht ist oder Gesamtmenge wird manuell abgeschlossen / korrigiert

PLACE COMPONENT ROLL OF ANY ITEM FROM THE DELIVERY NOTE ONTO THE READING SURFACE

READING PROCESS

STATED QUANTITY OF INDIVIDUAL ITEMS REACHED

SECOND SCREEN WITH STATUS DISPLAY OF PROCESSED QUANTITY OF DELIVERY SCHEDULE INFORMATION

Error message as a dialog for manual completion

WERE ALL THE RELEVANT INFORMATION SUCCESSFULLY READ?
Example required:
Product Number / Description, Quantity, Lot Number / Batch Number / Date Code, Customer Article Number

ARE ALL INFORMATION CONSISTENT?

VERIFICATION PROCESS FAILED
Offering reprint of a unique customer label

INFORMATION COULD BE FULLY ENTERED

PRINT CUSTOMER LABEL FROM DATA RECORD/ ARTICLE NUMBER
An unique label ID is generated

ARBEITSSCHRITTE WIEDERHOLEN, BIS LIEFERUNG ABGEARBEITET IST

(VERIFICATION INACTIVE)

COMPARE CUSTOMER LABEL / MANUFACTURER LABEL TO LABEL ID

VERIFICATION

(VERIFICATION ACTIVE)

THE MODI PROCESS
(Reading and Data Matching)

Read information is compared with the article master database or expected ERP data through an interface. The query includes all information necessary for the unique identification of the item. If all data is consistent and the item is approved, the verification process is successfully completed.

LESEPROZESS — ARTIKELSTAMM-DATEN aus MODI DB oder Abgleich mit ERP — **GEGENLESEN**

THE TECHNOLOGY

MODI's primary strength lies in high-quality image capture combined with intelligent software algorithms to automatically and accurately capture labels from component rolls. Additionally, MODI offers AI-based supplementary functions that provide dimensions and specific features of the component roll.

DATA CAPTURE

Once a label is captured by the camera, it undergoes a filtering process. This process identifies around 80% of label structures. Automatic recognition is achieved through identifiers that precede the actual barcode content, uniquely identifying it. If these identifiers are absent, there's the option to train the system with manufacturer labels. This is a one-time process per manufacturer label type.

For individual barcodes, freely definable information fields can be assigned.
Furthermore, composite code contents in string format can be broken down into individual pieces of information. This way, all contents can be reliably assigned and recognized, even without identifiers.

EXAMPLE PDF CODE

without Prefix / Identifier

EXAMPLE 2D CODE

with Prefix / Identifier

Each identifier corresponds to a specific content (e.g., 1P for Manufacturer Product Number, 1T for Trace Code / Lot Number). The identifiers can be added freely and associated with specific contents.

TRACEABILITY

All operations are archived in a traceability database. Alongside required data like product number and quantity (customer-specific), all other read contents are stored. Furthermore, each operation is documented in an image. Certain important traceability information might be present as pictograms or in plain text on the material (e.g., MSL or lead-free markings).

ADD ONS | OCR
OPTICAL CHARACTER RECOGNITION
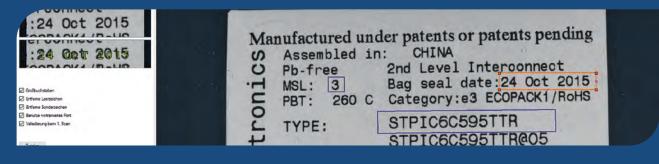
OCR is the acronym for Optical Character Recognition and refers to automated text recognition within printed materials.

It's the technology that captures printed text from an image file and makes it digitally editable.

This enables scanned paper documents or digital images with printed text to be easily transferred to a computer for usability.

The MODI software utilizes this technology to compare codes with human-readable text, ensuring that delivered components match their labeling.

The OCR function allows non-encoded information to be read accurately and securely.
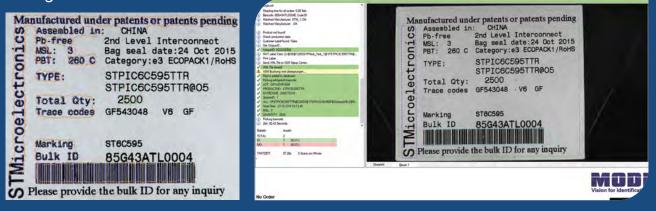This means that >99% of labels on the market can be captured.

Through automatic quality recognition, well-printed content is read without manual inspection and passed on to subsequent systems. In cases of poorly printed information, the operator is given the option to verify, modify, or confirm that information.

A classic example is labels with essential identification information printed in human-readable text without a barcode. Often, manual input by an employee is needed for registration and processing of incoming goods.

With the MODI OCR solution, human-readable text information is automatically processed, read, and transferred to subsequent systems and the traceability database. Labels that used to require significant effort in terms of additional handling and security are now easily managed.

ADD ONS | SOFTWARE FEATURES

REJECTED BATCHES

If a faulty component batch is delivered, it's crucial to prevent this batch from entering production again.
With a new database, MODI enables the blocking of these batches, preventing their storage.

LED CLASSES 100% TRACEABILITY

Binning information for LEDs is often provided in various codes.

A new feature in MODI allows consolidating and transmitting this information to subsequent systems. For instance, an Osram label with up to five different binning classes on a package can be read and compared with ERP article master data.

Moreover, LED information can be appended to the read product number. This offers the convenience of not needing to modify existing article master data, as the software can process the data accordingly.

COMPREHENSIVE TRACE DATABASE

Quantity	Product Number	Lot Number	Reel ID	All Codes
1000	LRTBG6TG	7130KU99	0000000256	06@12S0001@X1104
1000	LRTBG6TG	7130KU99	0000000256	06@12S0001@X1104
2000	CLM1CWKWXAWI		0000000256	1PCLM1CWKWXAWF2
2000	CLM1CWKWXAWI		0000000256	1PCLM1CWKWXAWF2
2000	CLM1CWKWXAWI		0000000256	1PCLM1CWKWXAWF2
2000	CLM1CWKWXAWI		0000000256	1PCLM1CWKWXAWF2
2000	CLM1CWKWXAWI		0000000256	1PCLM1CWKWXAWF2
2000	CLM1CWKWXAWI		0000000256	1PCLM1CWKWXAWF2

All scan operations are stored in a traceability database. It contains scanned information along with associated process images.

Extensive filtering, searching, and exporting capabilities are available. This powerful tool saves time and money.

DATE CODE CONVERSION

CODE 9D3522

→ 26.08.2022 } expires in: 360 DAYS

Manufacturers encode the production date on component rolls. To use this date, for instance, to calculate component shelf life, conversion to an actual date is necessary. The label software provides this functionality.

By defining the Date Code format for each article, the read date can be automatically converted. This converted date can then be used in subsequent systems to ensure optimal use of components.

The same applies to other code types in date format.

ENHANCED USER MANAGEMENT

Scan processes can now be performed on a user-specific basis. Comprehensive rights management allows critical processes to be executed only by authorized personnel. Up to six freely definable rights can be individually adapted and added.

All operations can be logged. This associates scan operations and other operational activities with individual operators.

PLACEMENT MACHINE INTERFACES

MODI provides interfaces to common component placement machines.
This allows material, along with all crucial traceability information, to be directly forwarded to processing machines.
By assigning a Unique ID to each scanned material, only this number is required for capturing in subsequent processes.
All information such as HTN, quantity, lot, date code, etc. is thus known to subsequent systems.

NEW WES V5 FEATURES

System improvements should always be a significant part of hardware and software. New features like AI roll measurement or optimized document evaluations are part of these enhancements (more on page 23).

CUSTOM INTEGRATION (ERP)

The Labels Software can be integrated with various ERP, traceability, and warehouse systems.
Through custom processes, the incoming goods scanner can be deeply integrated into workflows, offering the best combination of cost-effectiveness and security.

INDIVIDUAL SPLITTING OPTIONS
(REGULAR EXPRESSIONS)

With the new splitting option, nested code contents can now be even more easily broken down.
· Removing unwanted characters
· Normalizing contents
· Filtering based on regular expressions
· Merging information
The possibilities are limitless!

PICTOGRAM RECOGNITION

Capture data present only as image information!
Pictogram recognition converts images or logos into machine-readable texts. Individual adjustment options yield secure results.
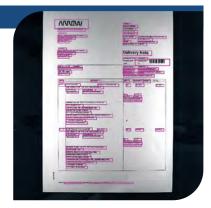
IMPROVED LABEL RECOGNITION

Optimized calculation methods allow labels
to be detected without the need for training.

ENHANCED DOCUMENT EVALUATION

Complete delivery notes can now be captured using
text recognition. Targeted learning and automatic
data capture are now possible.

Scanned product numbers can be directly matched
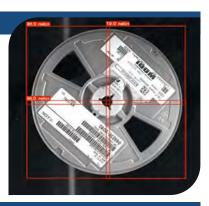with the delivery note.
However, MODI still recommends comparing them
with the order data from your ERP system.

AI-BASED ROLL MEASUREMENT

The diameter of rolls is determined during the
scanning process. This enables optimized storage.
Prevent the storage of rolls that your assembler
cannot process.

All of this is done right at the incoming goods area!

CAPTURE OF ALL LABELS WITH A SINGLE IMAGE

The improved camera technology in WES V5 captures all labels at once.
High-resolution images ensure 100% traceability.
Reading quality and processing times are significantly optimized, making work easier!

AESTHETICS MATTER

Improved user interfaces make working with MODI WES
even easier. The clean interface displays key data at a glance.
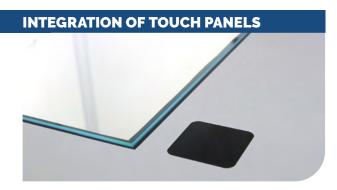The newly implemented Dark Mode is easy on the eyes.

ADD ONS | HARDWARE FEATURES

TOPSCAN DEVICE

The MODI incoming goods scanner can be expanded with a top unit, as some components need to be scanned from two sides due to packaging.

The component roll no longer needs to be flipped. Additionally, applying or reading printed labels becomes significantly easier!

INTEGRATION OF TOUCH PANELS

By optionally integrating touchpads into the workstation surface, the trigger elements are placed within the operator's natural movement.

Whether the touchpad is mounted to the left or right of the scanning area is decided by the customer. MODI recommends two touchpads for multiple operators so that the incoming goods scanner can be operated by both left- and right-handed individuals.

LABELSMOBILE

LabelsMobile represents mobile label capture at the incoming goods area or on the production line using a tablet.

Handling bulky and heavy materials with the incoming goods scanner can be challenging. Therefore, MODI offers the option of capturing product labeling using a mobile solution.
The mobile device sends the captured image directly to the incoming goods scanner, and feedback is provided directly on the tablet's display. Connecting a mobile printer is also possible.

INDIVIDUAL RETROFIT OPTIONS

MODI offers individually tailored solutions. Apart from standard products, MODI is capable of providing custom solutions on both the software and hardware fronts.

For individual inquiries, please feel free to contact us directly at:
info@moditrace.net

ADD ONS | TOPSCAN

With a TopScan extension, the highest performance of your goods receiving table can be achieved.

Key Features:

- **Simultaneous capture of both sides of a component roll.**

- **No need to rotate the component roll during the counter scan (checking of the printed label).**

- **Height adjustment through an electronic lifting column.**

- **Laser-assisted height adjustment.**

In case of a technical defect in a scanning unit, the TopScan can be used as a full replacement.

No downtime!
Therefore, spare parts storage is not necessary.

In today's world, our customers place a strong emphasis on automation. It is of paramount importance to optimize processes to run as efficiently as possible.

At MODI, our solutions are precisely tailored to meet this demand. We offer systems that prioritize automated workflows.

Through a recent partnership with the Swiss company Phoenix Mecano, we bring together the strengths of both companies. We combine our expertise in the fields of vision and traceability with advanced collaborative robotics.

ACHIEVE GREATER EFFICIENCY AND SAFETY THROUGH AUTOMATION!

HUMAN AND ROBOT AS A TEAM

GOODS RECEIPT | ROBO WES

Our collaborative robot solutions stand out for their adaptability.
We offer the opportunity to plan and implement the following aspects according to individual requirements in close collaboration with us:

Material Handling:
You have the choice between integrating into existing transport systems or implementing new flexible solutions.

Labeling:
The question of whether labeling should be done at the robot system itself or in advance can be clarified through individual discussions with us.

Customized Booking Processes:
We customize the robot solution to seamlessly integrate tailor-made booking processes into your specific systems.

Our developed systems are by no means designed to replace human workstations, but rather to support employees in their tasks. Especially for high-volume materials referred to as „High-Runners," valuable employees do not need to handle them.

At this point, we rely on automation to efficiently handle these tasks.

By integrating our technologies, we can strategically utilize employees' workforce and their skills for complex tasks.

This allows for an optimal distribution of tasks, with automated processes taking care of routine tasks while human resources focus on demanding and diverse activities.

Drawing from our extensive experience, we can assist you in optimizing your existing workflows. We understand the importance of designing efficient processes to achieve your goals.

We would like to offer you the opportunity to elevate your processes to the next level. Our experienced team invites you to an individual and free workshop to identify potentials and develop tailored solutions together.

We look forward to collaborating with you and taking your processes to new heights!

In today's era characterized by Just-in-Time production, customized manufacturing orders, and increasingly complex material planning requirements, efficient yet uncomplicated inventory management has gained tremendous significance.
MODI provides tailored interfaces for various warehouse systems.

Inovaxe - A Special Partner:
For many years, MODI has maintained a collaborative partnership with Inovaxe.
Since 2003, Inovaxe has been offering pioneering solutions in the field of material handling and has long been an integral part of our cooperative philosophy.
Inovaxe's award-winning products are designed to optimize our customers' material flow.
This is achieved with the aim of reducing unnecessary labor, increasing machine uptime, and optimizing the entire supply chain.

WHERE IS MY REEL OF COMPONENTS???

OPTIMIZATION AT ITS FINEST

Inovaxe specializes in providing advanced, lean, and innovative material handling solutions for the electronics industry. The extensive experience of both companies in various areas comes together to create an unbeatable solution for comprehensive electronic component inventory management.

Maximize the potential of your inventory management software by utilizing our goods receipt scanner, which directly provides all necessary information:

• **Batch number**
• **Shelf life data**
• **Moisture sensitivity level (MSL)**
• **LED classes**
• **Manufacturing date**
• **Quantity details**
• **Dimensions**

This enhances the efficiency and accuracy of managing your inventory.

Integrate your inventory directly into the production process.
With Inovaxe's adaptable and mobile storage racks, individual setups can be outsourced directly to the production line.

Thanks to comprehensive data capture during goods receipt, it ensures that the appropriate reel of components is always used for assembly.

This way, traceability is intelligently implemented!

GOODS RECEIPT | XRAY
The X-ray Counting System

The increasing demand to conduct component quantity inspections on a packaging unit prompted MODI to expand its product portfolio.

Whether it's returns from production or the complex situation in the component procurement market: wherever the goal is to reduce component loss and detect shortages, counting components becomes an essential tool.

An X-ray counting system in combination with MODI's identification and traceability expertise offers the appropriate solution.

With the X-ray scanner, it's possible to count components on packages without mechanical intervention.
However, the counted quantity itself is meaningless without the reference to material information.

The added value is generated only when counted quantities can be compared in real-time with information from the manufacturer's or customer's own label. This can also take place with all trace-relevant interfaces. An example is the direct posting of potential shortages in the ERP software, allowing for early process regulation.

Another use case would be the disassembly and return of a component reel from the pick-and-place machine.
The goal here is to detect losses from setup through production and disassembly.
After disassembly, the reel is scanned and counted again. Another label with the actual quantity is printed, or the quantity is digitally recorded in the systems based on the Unique ID. This way, the relevant process metrics can be refined based on the captured data.

The product solution available on the market is the Visiconsult XRH Count connected with the Top Scan unit of the MODI WES V4 system. The XRH Count X-ray tower features an automatically opening and closing drawer. Above this drawer, the MODI WES Top Scan performs its core competency.

The component reel is placed with the label to be read facing upwards into the drawer. The MODI scanning process begins at this point. Once all readable data is captured and the material is identified, the drawer closes, and the counting process starts. The process is completed by opening the drawer.

Optionally, a Unique ID label with the actual quantity can be printed.
The product solution is compatible with all software-side add-ons. It's also worth noting that existing MODI customers can utilize all existing interfaces

INSPECTION SYSTEMS | IBOX VON MODI

Traceability Inline

The MODI IBox serves as the link between a simple code scanner and the traceability system.

Turn any conveyor belt into an intelligent processing system.
With the integrated SMEMA interfaces, the IBox is integrated between two machines.
No adjustment of the respective system control is necessary.
Board transfer serves as a trigger for the code reading process.
Any scanner can be easily connected via RS232.
The read code contents are sent to traceability via TCP/IP.

Here's how the verification process works:
Is the current board allowed to proceed to the next processing step?

If approval is given by the traceability system, the SMEMA interfaces are opened by the IBox, and the board can enter the next machine.
In case of a negative response, an appropriate error message can be displayed directly on the IBox's display.

INSPECTION SYSTEMS | IBOX VON MODI

Traceability Inline

IBOX SERVER SOFTWARE

The IBox Server Software is installed on the line control computer and can control any number of IBoxes. These are connected to the software via the network.

A graphical interface provides the operator with the ability to monitor all processes at any time. Through individual scripts, each device can go through a process-specific workflow.

IBOX STATE CHART NETWORK COMMUNICATION

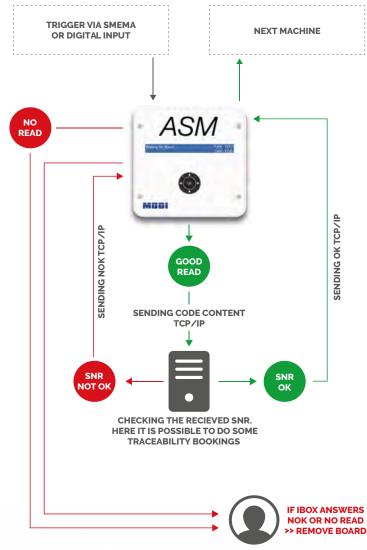## INTEGRATION WITH SUBSEQUENT SYSTEMS

The Ibox can directly transmit the read code contents to downstream machines. Therefore, installing a code scanner into the respective processing system is not strictly necessary.

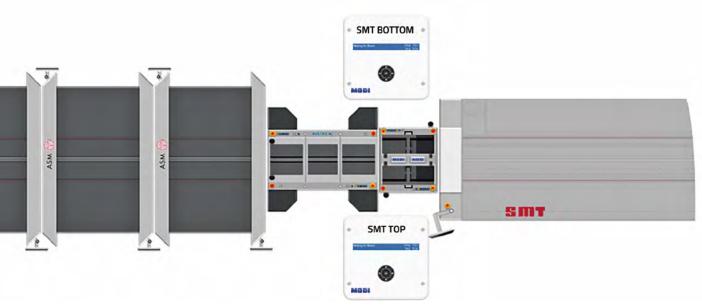Integration can be achieved through RS232 or network connections.

TRACEABILITY WORKSHOPS

Every production process has its unique characteristics, and every traceability system has specific interfaces.

In personalized workshops, we provide consultation to help you seamlessly integrate the Ibox into your existing processes.

Get in touch with us to schedule an appointment.

TRIGGER VIA SMEMA OR DIGITAL INPUT

NEXT MACHINE

NO READ

ASM

GOOD READ

SENDING NOK TCP/IP

SENDING OK TCP/IP

SENDING CODE CONTENT TCP/IP

SNR NOT OK

SNR OK

CHECKING THE RECIEVED SNR. HERE IT IS POSSIBLE TO DO SOME TRACEABILITY BOOKINGS

IF IBOX ANSWERS NOK OR NO READ >> REMOVE BOARD

SMT BOTTOM

SMT TOP

SMT

MODI INLINE CODE READING AND INSPECTION SYSTEMS

MODI provides optical reading and inspection systems to ensure the traceability of your production processes.

Using patented camera technology, the field of view of a camera can be precisely directed to various positions using just one camera.
Customized to the specific needs of each customer, MODI delivers either a complete process system including board conveyors or standalone camera systems with SMEMA interfaces for easy integration with existing board handling equipment.

SCANSTATION ADODAT 4000

The comprehensive inspection cell from MODI impresses with cutting-edge camera technology, tested board handling, and modern design.
It is built on a Nutek Transport Conveyor.
A partnership that has grown over the years allowed for a seamless integration of both systems. Benefit from the extensive experience of these companies in their core competencies of camera surveillance and board handling.

MODI TOPSCAN UNIT

Apart from the actual board handling equipment, MODI developed a camera system for optical inspection and code reading tasks.
Equipped with integrated digital inputs and outputs, as well as its own SMEMA interface, the TopScan Unit can be installed over any conveyor belt

Transform your simple transport conveyor into a fully-fledged optical inspection system. Thanks to standardized interfaces, there's no need to interfere with existing controls.

FLEXIBLE CONFIGURATION

Through modular technology, the system is tailored to each specific project. Camera resolution, lighting and the entire inspection cell setup are determined based on a feasibility study.

SOFTWARE VCSP (VISION CONTROL SERVER PACKAGE)

Our in-house developed inspection software, VCSP, controls our inspection and code reading systems. The modular design of the software allows for the programming of custom inspection tasks. An integrated graphical workflow editor makes it easy to edit system processes quickly. With personalized training focused on your inspection tasks, you'll swiftly become an expert in machine vision.

HARDWARE-BASED INTERFACES

SMEMA | Digital Inputs and Outputs | RS232 | TCP/IP

SOFTWARE-BASED INTERFACES

Socket Communication to Subsystems | Web Services Databases | File Transfer | OPC UA

PRODUCT-SPECIFIC FEASIBILITIES

• Do you have an inspection task, but you're unsure

• about which camera system would be suitable?

• Which lighting should be chosen?

• What else should I consider?

We are happy to answer all these questions!

With sample parts, we offer free feasibility studies. This ensures that all necessary parameters are fixed right from the start of the project.
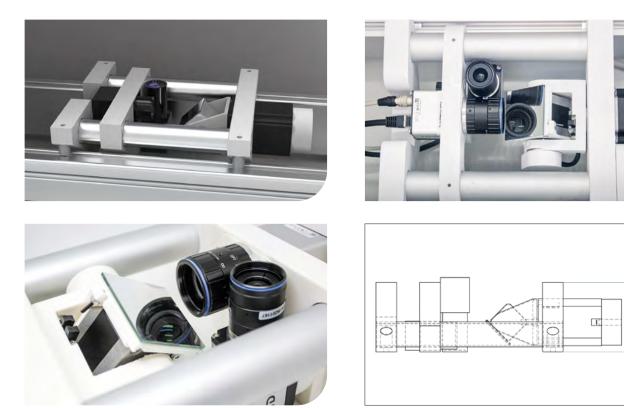
CONTACT US!

TECHNIC | ADOMO®

(ADVANCED OPTICAL MODULATION TECHNOLOGY)

THE CORE OF MODI TECHNOLOGY

The ADOMO® technology is a core component of MODI systems. It consists of a high-resolution camera. Using a motorized deflecting mirror, the camera captures the object to be recognized directly and immediately.

The rapid movement of the mirror occurs both on the horizontal and vertical axis. This allows the camera's field of view to be changed quickly and precisely in all directions.

UNIQUE CAMERA ARRAY

The patented ADOMO® technology provides the industry with seamless and detailed code and label recognition.

In addition to the high-resolution detail camera, the additional overview camera serves to determine the exact position of all labels within the 380 x 380 mm reading area. The coordinates are sent directly to the mirror movement control, and the deflecting mirrors adjust accordingly, enabling the detail camera to quickly and precisely capture the label.
This way, the camera resolution is fully concentrated only on the label being read. The entire hardware performance is efficiently directed towards this area, resulting in shorter cycle times and higher reading accuracy.

SPEED THROUGH MIRROR TECHNOLOGY

With MODI's maintenance-free high-speed mirror deflection system, mirror positions can be changed within 20 ms.
This guarantees high operational speed and shorter cycle times.

In contrast, other providers rely on aligning the camera itself to the corresponding object using a deflection unit. However, this technology requires a more vulnerable construction. Consequently, it leads to high wear and tear of individual components and a slowed alignment speed.

For years, the ADOMO® technology has been the fastest and most precise system in the relabeling market.
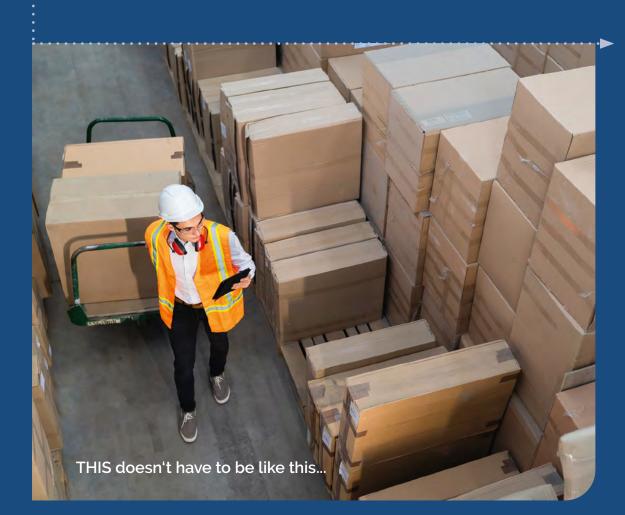
MODI
VISION FOR IDENTIFICATION

CHANGING THE WORLD
OF TOMORROW TODAY!

MODI | COMBINATIONS

INDIVIDUALLY CUSTOMIZABLE

MODI | PALLET SCANNER

Optimizing Outbound Goods Process

THIS doesn't have to be like this...

In the past, it was necessary to use multiple cameras for automated code recognition on large surfaces. Thanks to MODI's patented mirror technology (ADOMO), it is now possible to capture entire pallets using a single camera. This enables efficient and cost-effective information capture on large surfaces.

Each capture system comes with a sturdy tripod and suitable lighting.
The specific requirements regarding the capture area, the type of codes to be read, and the integration into your logistics software can be discussed in a conversation with us.

Advantages:

• **Large capture area with just one camera**

• **Individual distances thanks to auto focus**

• **Direct integration with ERP and logistics software**

• **Easy setup thanks to intuitive user interface**

We are ready to address your needs and offer tailored solutions

ERP- and
Logistic-Software

EFFICIENCY
STARTS HERE

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