B Technosystem ®

Developing PCB manufacturing automation solutions since 1990

B Technosystem ®

AUTOMATION SYSTEM FOR PCB

techno-system.es

Automation System for PCB Manufacturing

With more than 30 years of experience in PCB automation and integration with external processes, we offer our customers complete solutions that provide maximum flexibility, productivity and economic efficiency. Our services include:

Service & Co-design

Project Management

Full Integration Projects

Customized Integration Software

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Service & Co-Design

Always looking for production time optimization, we adapt our designs to the needs of our customers, their available space, software and hardware.

All production lines are different and have completely different needs and our goal is to deliver solutions that adapt 100% to your factory's requirements.

We design both for standard production lines and for advanced forms of integration, with robotic arms and software that seamlessly connects to peripheral systems.
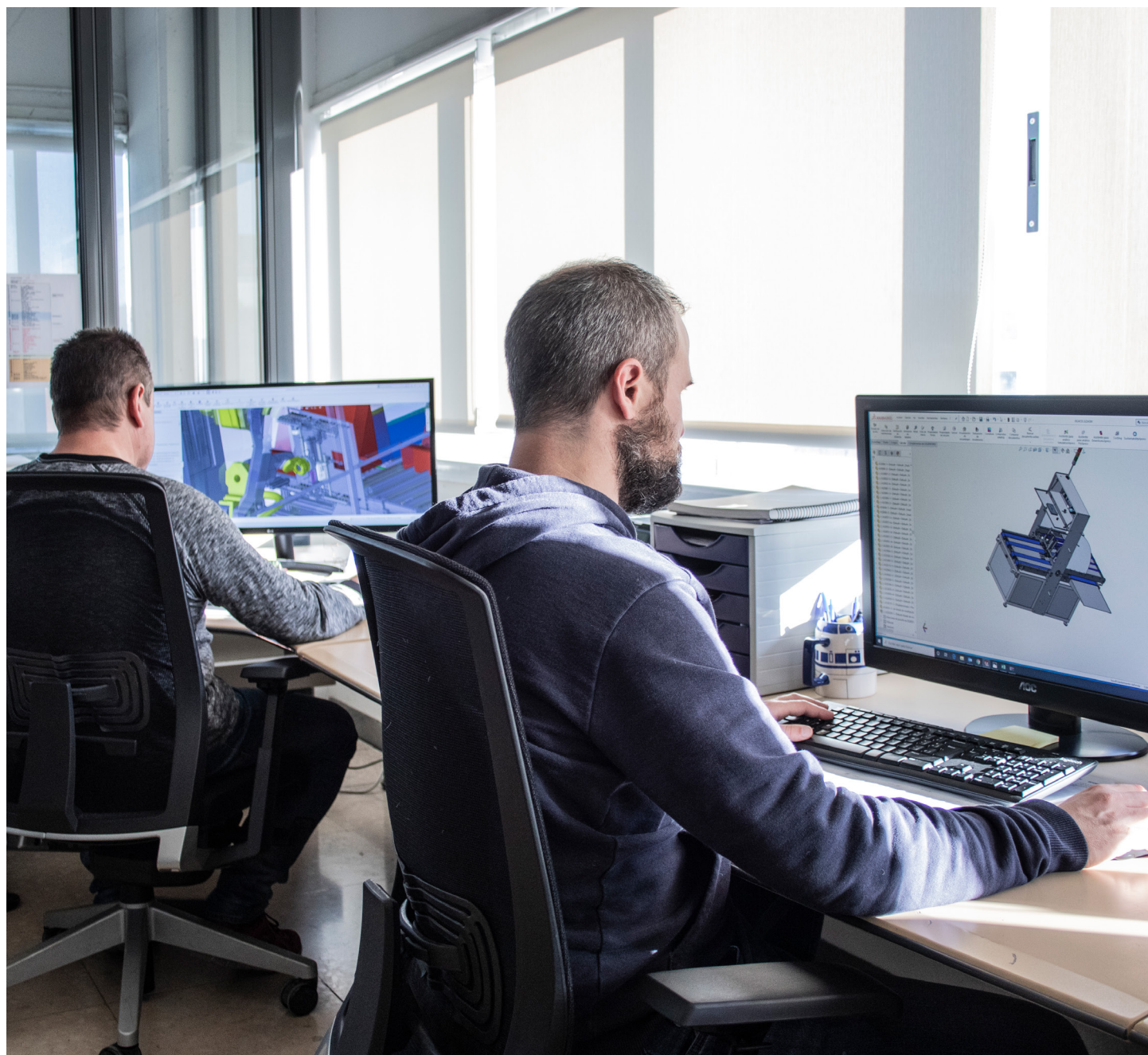
Project Management

We conduct plant concept and design, mechanical, electrical & electronic development, as well as the integration of software.

Installation & Set Up: Our team is ready to travel to your production plant and insure full integration of our solutions.

After Sales Service & Updates: We offer our Technical Assistance Service, adjusting to the constantly required changes and updates.


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Full Integration Projects

We handle tailor made automation, with machinery and projects designed to integrate perfectly into any environment and ecosystem.

We adapt to your needs, space requirements, process speed, hardware and software.

Optimizing the throughput time in the circuit board production is one of our main goals.

We are ready to work together with machinery from other companies, customising our services to achieve full integration with them.
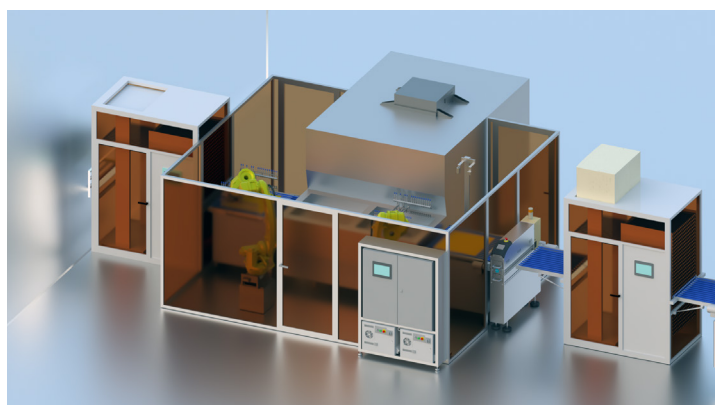
Customized Integration Software

We specialize in the development of various automation solutions utilizing software protocols for seamless integration with a wide range of machinery, including Direct Imagine (DI or LDI), Legend printers, Digital Solder Mask Printers, AOI systems, SES, and DES lines, among others.

Capture the bar code or data matrix of the panel located in the header and transfer the recipe to all the peripherals.

Integrate conveyor belts, angle deviations and unloaders and transfer all the parameters to the lines that are being fed.

Fully Integrate with AOI, DI, LDI or Legend Printer using a High-end Panel PCs.

Remotely access all automation functions.

Manage the Job Queue Controller with automatic data matrix or bar code lectors.

Use Ethernet Communication with other automation units or external devices.
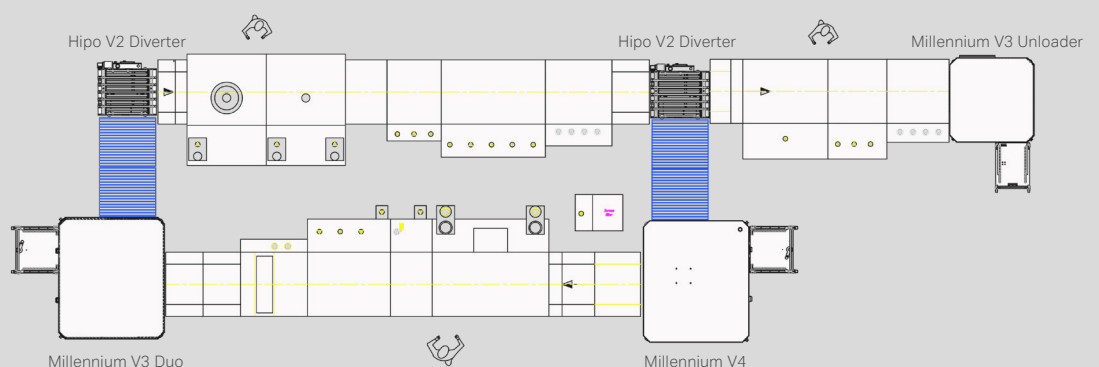
Use Web Service with ERP and MES systems.

V2 LDI with Sprint

V3 LDI with Ledia

SES/DES Full Automation Line

Hipo V2 Diverter

Hipo V2 Diverter

Millennium V3 Unloader

Millennium V3 Duo

Millennium V4

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Our Innovative Product Range

As every factory is unique, we develop our machines to be different and to fit in perfectly, ensuring maximum performance. Explore our series and discover the particularities of each solution.
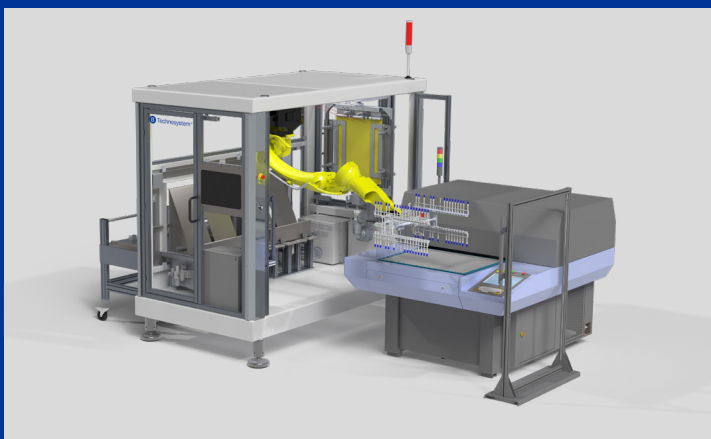

Entry Level Automation

- ERIZO 30/60/100 Loader & Unloader
- JIRAFO Loader & Unloader
- JIRAFO Slotted Rack
- PATO Loader & Unloader
- HIPO V1/V2 Diverter

High-end Automation

- Millennium V3 Loader & Unloader
- Millennium V4 SINGLE Loader & Unloader
- Millennium V4 DUAL Loader & Unloader
- Millennium V4 TRIO
- Millennium V4 Diverter Loader & Unloader
- Millennium V4 - With Laser Engraving + Copper Thickness
- ROBOPATO Loader & Unloader
- Auto Mylar Peeler TS-A25

Automation for DI & LDI

- V1- LDI Loader & Unloader
- V2-LDI Loader & Unloader (For Legend Printers)
- V3-LDI Automation
- V3-AOI SINGLE
- V3-AOI DUO (Double Rack)
- V4-LDI Loader & Unloader
- Buffer-FIFO 20/30/40 Panels

ENTRY LEVEL AUTOMATION SERIES

We have a rich history spanning over 30 years in the field of PCB automation. Our journey began with the inception of straightforward PCB pile Loaders and Unloaders.

As we progressed, we reached a pivotal moment in the mid-90s when Technosystem introduced the industry to the Jirafo Loader & Unloader. The name resonated throughout the PCB market and found a home in numerous PCB shops over the course of decades.

Today, our Automation entry-level solutions encompass a wide range of capabilities, effectively addressing the diverse demands of PCB handling. These solutions meet the industry's stringent requirements and are economically compelling, making them a highly attractive option for mid-sized PCB shops.

Our commitment to innovation and extensive experience position TechnoSystem as a reliable partner for all your PCB automation needs. We continue to evolve, ensuring that we remain at the forefront of the industry and deliver cutting-edge solutions tailored to your specific requirements.

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ERIZO 30/60/100 Loader & Unloader

The ERIZO is a universal Loader & Unloader that can be used as a Loader in front of any horizontal line or as an Unloader at the end of the line.

ERIZO 60 has a capacity of 60 panels, and ERIZO 100 has 100 panels.

They can be equipped with 1 or 2 conveyors.

Designed for any kind of horizontal line where panels can be inner or outer layers.
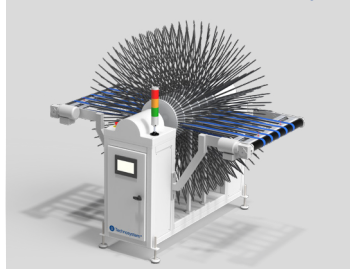
Equipped with a touch screen with a friendly interface together with a PLC offering connectivity.

All the ERIZO 60 & 100 can be equipped with Metallic Rods for Inner Layer handling.

ERIZO 30 with Conveyor
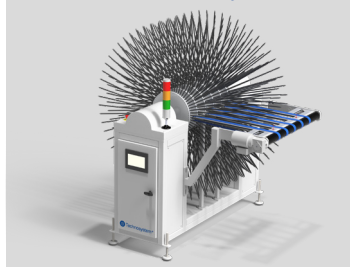
ERIZO 30 with Double Conveyor

ERIZO 60 with Double Conveyor

ERIZO 100 with Double Conveyor

JIRAFO Loader & Unloader

JIRAFO is the perfect system to load or unload any horizontal line where the panels need to be stored in semi-vertical position and is the ideal solution for small and medium-sized PCB shops.

The combination of the JIRAFO tilted conveyor and trolleys at the same height makes it an excellent solution for transporting PCBs on trolleys without the need for manual handling.

Unique adjustable conveyor system to set different heights. All the trolleys are the same and are always at the needed height.
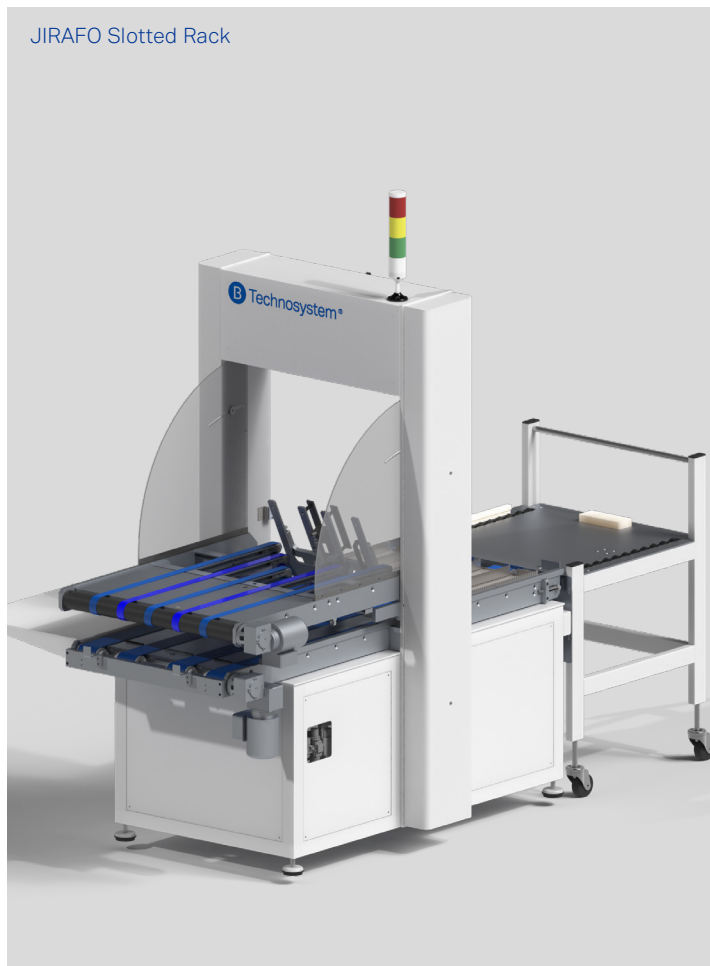
It can be delivered as a Loading device, Unloading device or Buffer (Loader + Unloader).

The JIRAFO Loader Heavy Duty can load heavy drilled panels as it's equipped with extra vacuum power.

JIRAFO Loader & Unloader

JIRAFO Slotted Rack

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PATO Loader & Unloader

PATO can load or unload all kinds of horizontal lines where contact is permitted, and panels are stored horizontally.

LOADER

Using rows of adjustable suction cups, the gripper picks up a panel from the stack and displaces it to the conveyor, minimizing the friction between panels.

It can be used for individual PCBs in final cleaning lines and different panel sizes.

Pile capacity up to 300 mm stack.

UNLOADER

Automatically adapts to different panel thicknesses without the need for manual adjustment.

PCBs pass through a pair of rubber rollers, which raise the leading edge of the panel to a positive angle to minimize scratches.

Speed can be adjusted from 0,5m/min up to 10 m/min.

It can accumulate a stack of 500 mm of panel height.

PATO Loader

PATO Unloader

HIPO V1/ V2 Diverter

The HIPO Diverter was designed to divert PCB panels in all directions.

Divert panels keep the Leading Edge direction without any rotation.

It can be installed in the middle of a horizontal line or at the end.

It can operate individually or be driven by the machine it is linked to.

Running speed from 0.5m/min up to 5m/min, maximum number of 4 panels per minute

Equipped with two sets of flat belt conveyors to minimize the friction.

Integrates a PLC and a touch screen with an easy operator interface and can be custom-programmed to meet unique customer requirements.

Line Examples

HIPO V1

HIPO V1 with JIRAFO

HIPO V2

HIPO V2 with JIRAFO

HIPO Diverter V1
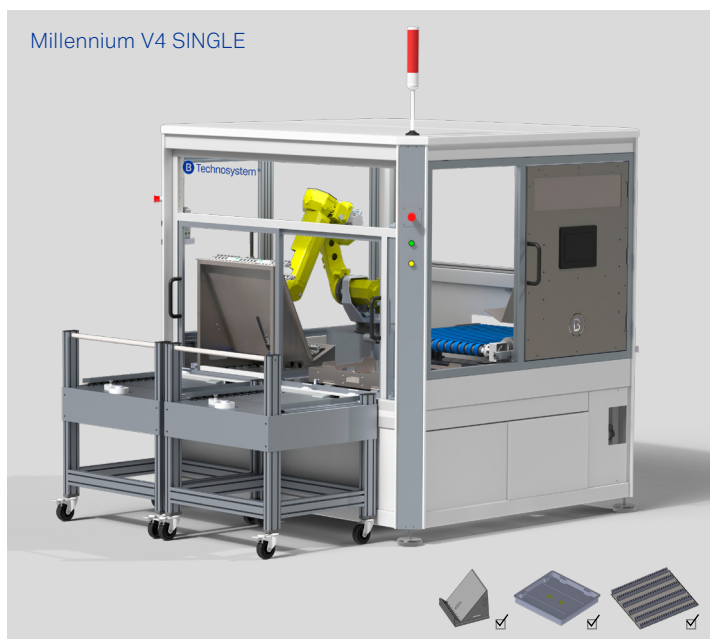

HIPO Diverter V2
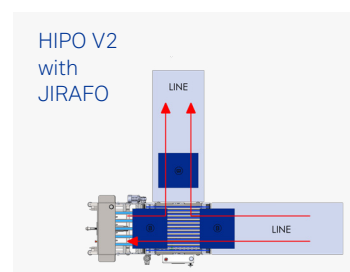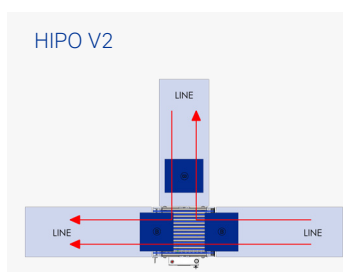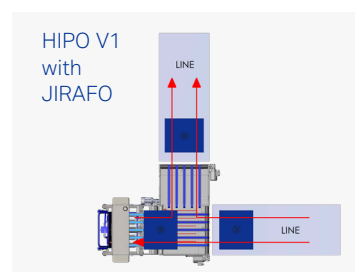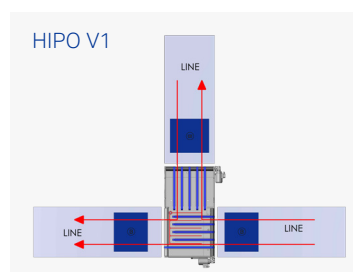
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Our Millennium V4 Unloader with SES Line

Millennium V3 Loader

Millennium V4 SINGLE

MILLENNIUM SERIES

In the year 2000, Technosystem introduced a line of high-end automation solutions to meet the growing demands of PCB factories. These facilities required a range of new features that the existing Technosystem Entry Level Automation couldn't adequately provide

All models in the Millennium Series are equipped with renowned 6-axis robots known for their precision and speed. They excel at tasks such as contactless alignment, centring, rotation, or decentering

Moreover, these robots seamlessly integrate with other production lines and fully comply with Industry 4.0 standards.

The Millennium Series offers a diverse range of automation solutions. It includes compact systems like the Millennium V1, which is perfect for high-end PCB manufacturers with diverse production requirements and extends to the robust Millennium V3 TRIO. The latter is capable of handling panels weighing up to 6 kilograms, achieving a rate of 6 panels per minute (including plastic interleave), and even features QR code readers for job identification and traceability. It also features hot swapping of 5 horizontal boxes and 2 L-racks to optimize production output.

In addition to these capabilities, the Millennium Series provides a wealth of optional features, including automatic panel size measurement, suction cup gripper automatic adjustment, online measurement, CCD-based on-the-fly panel alignment, copper thickness control, and laser engraving for data or QR code marking.

Millennium V4 DUAL

Millennium V4 TRIO

Technosystem
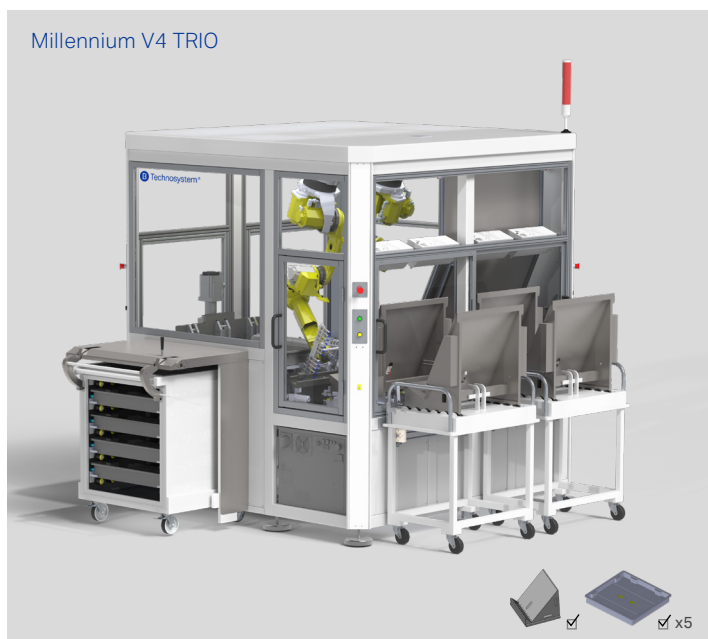
Millennium V3 Loader & Unloader

The Millennium V3 Loader & Unloader is specifically designed for mid-size PCB factories with a high mix and a substantial layer count, where delicate handling is paramount.

This automation system can be installed in factories with limited floor space thanks to its compact footprint of 1.4m x 1.4m.

Notably, the system features a sleep sheet insertion function that the operator can easily activate or deactivate. Furthermore, all Millennium Unloaders come equipped with a CCD camera to align panels without mechanical alignment, thus preventing scratches on the bottom side of the PCB.

Customizable options, such as a double sheet panel detector and automatic suction cup gripper adjustments, can be integrated to suit customers' specific needs.

Additionally, the Millennium V3 Unloader is equipped with a Buffer station that activates each time the L-rack is removed from the automation. This prevents production line stoppages, making it an ideal feature for high-mix PCB factories.

Millennium V3 Loader

610 x 460 mm
(18 x 24 inch)
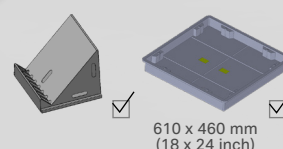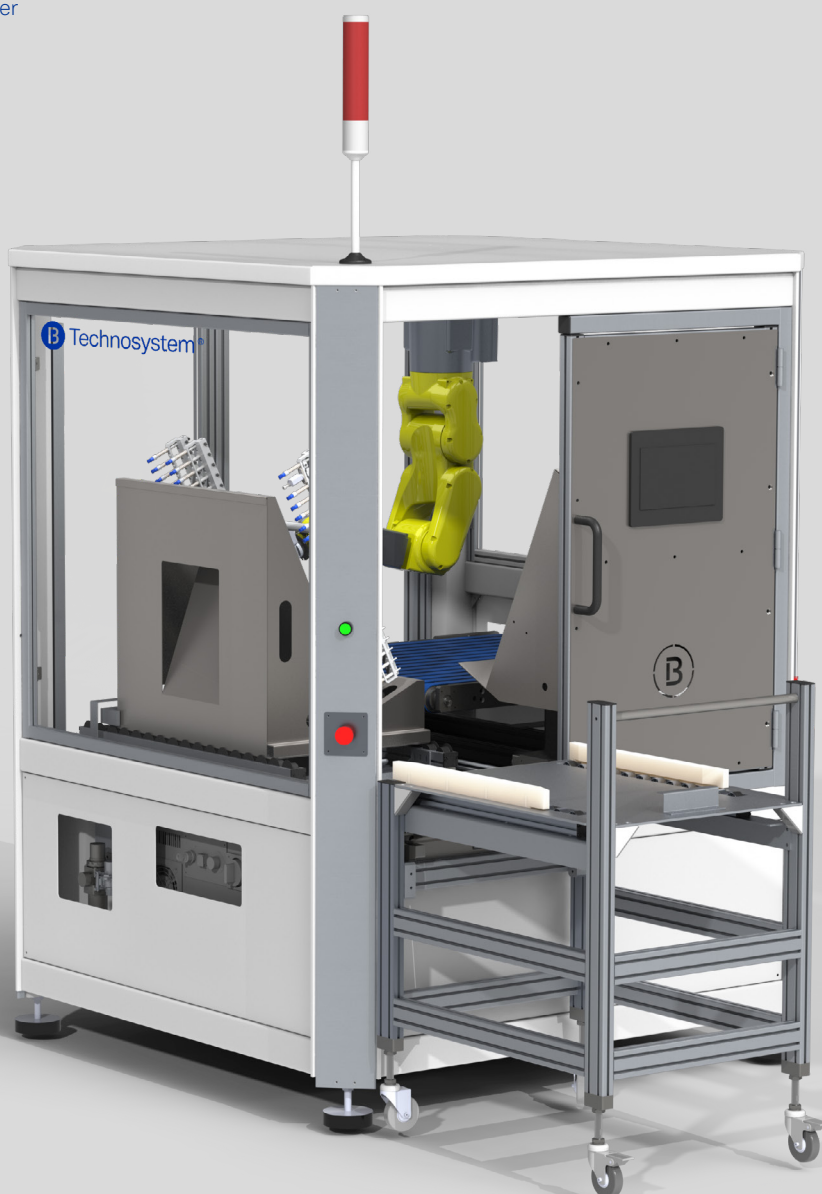
Millennium V4 SINGLE Loader & Unloader

An advancement in automation technology, the V4 has been developed for PCB factories with heavier production loads, capable of handling panels weighing up to 6 kg with great speed and security.

The system features a station for sleep sheet insertion or removal. It offers the flexibility to add a second L-rack station or a horizontal box, making it adaptable to various requirements.

The Millennium V4 SINGLE can be equipped with slotted racks for specialised applications like dry film developing lines.

Once again, the range of options that can be integrated into this automation is extensive. These options include panel measuring, on-the-fly double sheet detection, copper measurement, overall core measurement, barcode or QR code reading, and laser engraving for job identification.

All Millennium V4 Unloaders come equipped with automatic panel measurement and on-the-fly CCD camera alignment to reduce the risk of copper scratching on the bottom side of the panels.

Millennium V4 SINGLE

B Technosystem
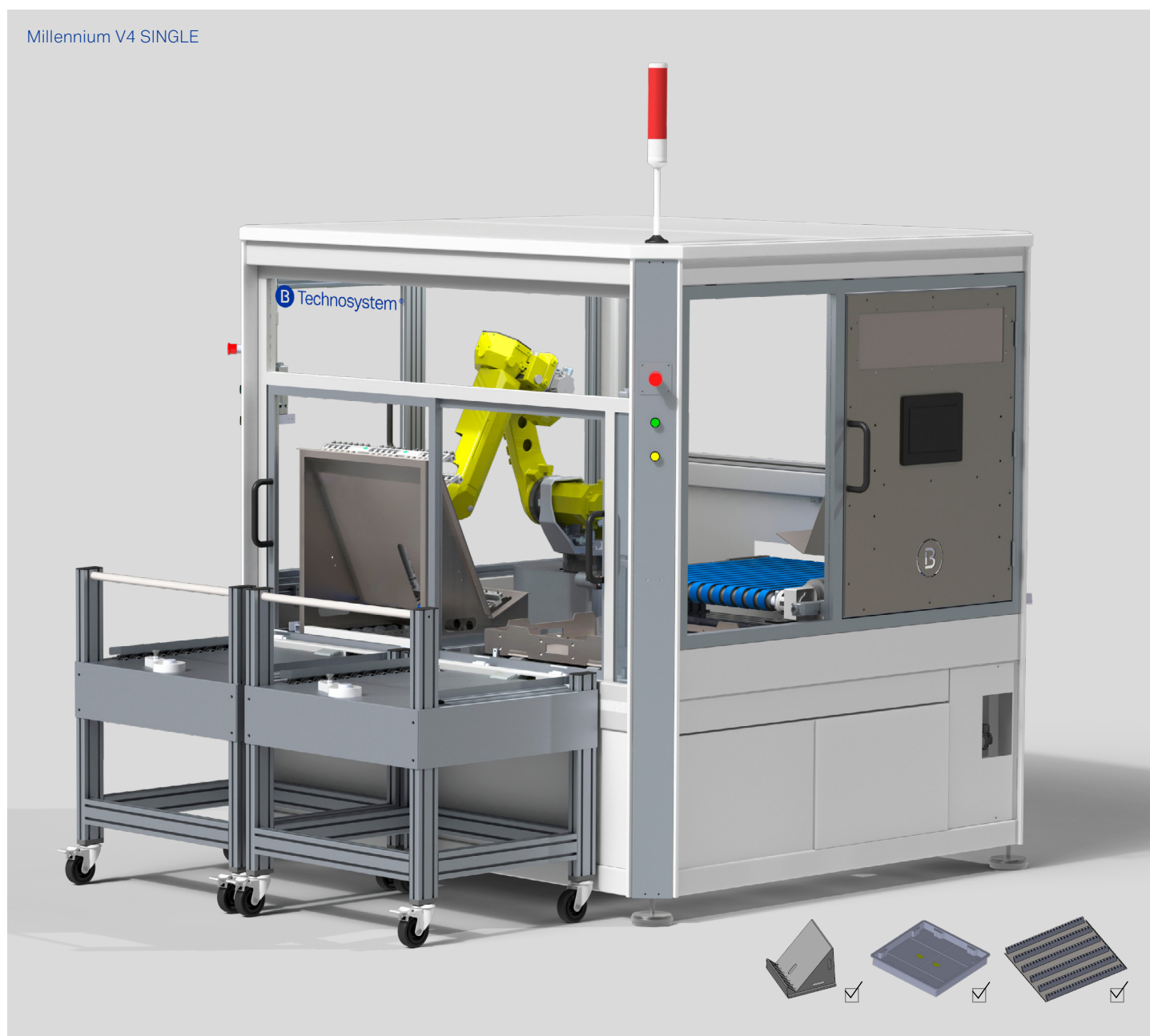
Millennium V4 DUAL Loader & Unloader

The Millennium V3 Loader & Unloader is designed explicitly for mid-size PCB factories with a high mix and a substantial layer count, where delicate handling is paramount.

The Millennium V4 DUAL combines the features of the Millennium V4 SINGLE while introducing the highly sought-after HOT SWAP function.

This innovation was specifically developed to cater to PCB factories engaged in massive production. The HOT SWAP function empowers operators to seamlessly exchange L racks or horizontal boxes without interrupting the automation process. This feature ensures operator comfort and security, with a set of safety barriers within the automation to prevent entry into the robot's moving area.

Once again, the Millennium V4 DUAL offers a wide array of options. These options encompass a copper thickness detector, automatic suction cup grippers, mechanical grippers for heavy panels, and on-the-fly double sheet detectors, which are particularly useful for thin-core loading.

Every Millennium V4 DUAL Unloader is equipped with automatic panel measurement and on-the-fly CCD camera alignment to minimize the risk of copper scratching on the bottom side of the panels.

Millennium V3 Dual
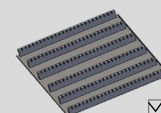
Millennium V4 TRIO

Building upon the V4 DUAL's foundation, the Millennium V4 TRIO incorporates two remarkable features demanded by customers: enhanced production speed and uninterrupted operation.

This automation system includes a trolley with five horizontal boxes and two L Rack stations equipped with hot swap functionality. With all these features, the Millennium V4 TRIO can operate at a remarkable rate of 6 panels per minute, encompassing sleep sheet insertion or removal. This impressive speed is made possible by simultaneously operating two high-speed robotic arms.

The Millennium V4 TRIO offers many options, including automatic box exchange, panel measurement for height

identification during the loading operation, complete EDS Automation, automatic suction cup gripper adjustment, copper thickness control, overall core thickness measurement, or on-the-fly double sheet detection.

Each Millennium V4 TRIO Unloader is equipped with automatic panel measurement and on-the-fly CCD camera alignment to minimize the risk of copper scratching on the bottom side of the panels.

Millennium V4 TRIO

x5   EDS
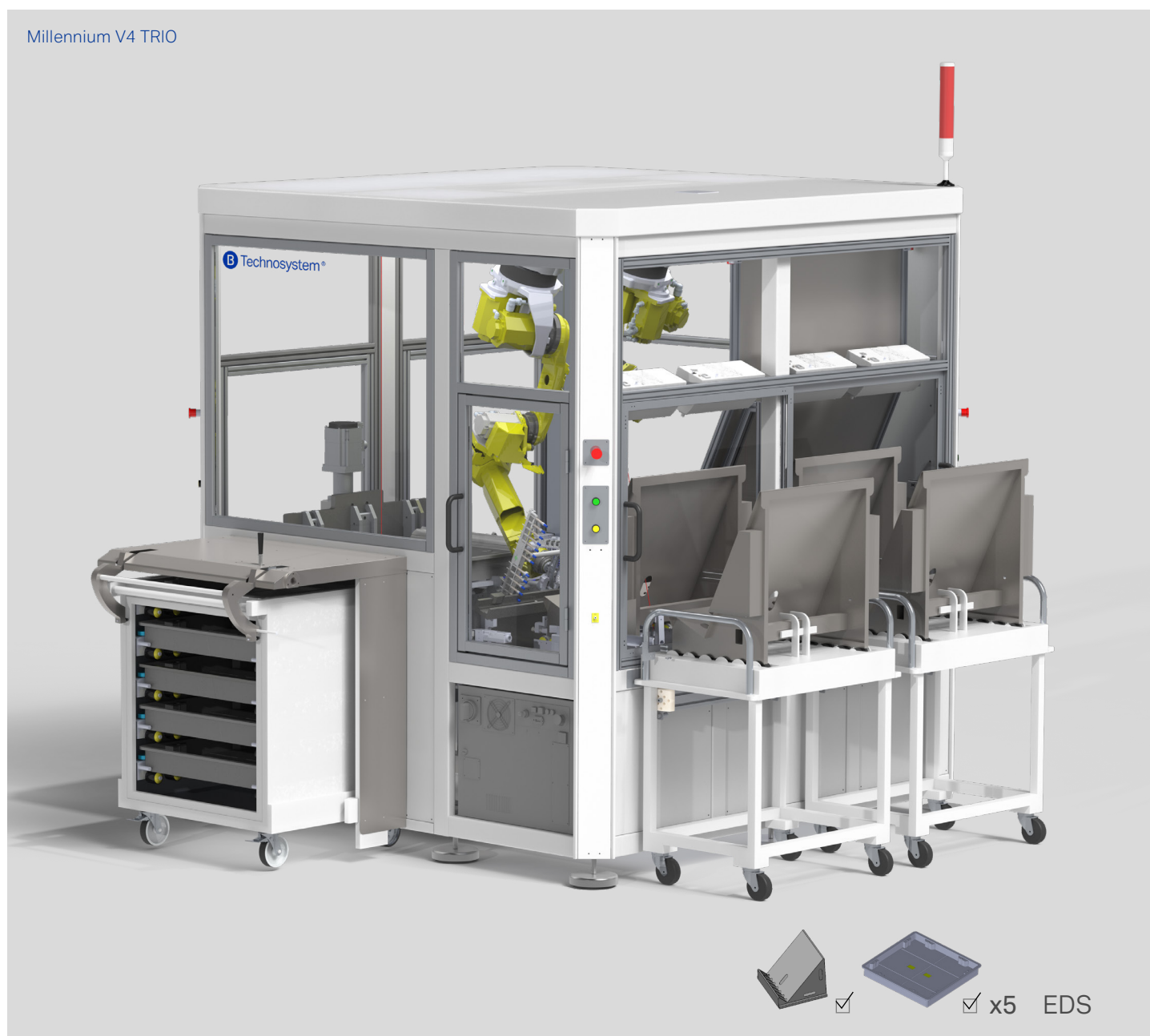
Technosystem

Millennium V4 Diverter Loader & Unloader

The Millennium V4 Diverter – Loader & Unloader is designed to be installed at the intersection of two production lines set at a 90-degree angle.

The Techno System Automation seamlessly picks up panels from the entry line and can either unload them into the L-rack, divert them to the exit conveyor, or reload them back into the line.

Additionally, it offers the option to rotate and align panels before placement on the exit conveyor. This three-in-one functionality makes the machine highly flexible and efficient.

The unit features CCD alignment for panels entering from the first line, eliminating mechanical friction and preventing scratches on the bottom copper layer.

Its automatic gripper dynamically adjusts the suction cups to the panel's edges, measuring each panel upon entry for precise handling.

Millennium V4 Diverter Loader & Unloader
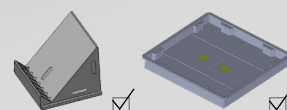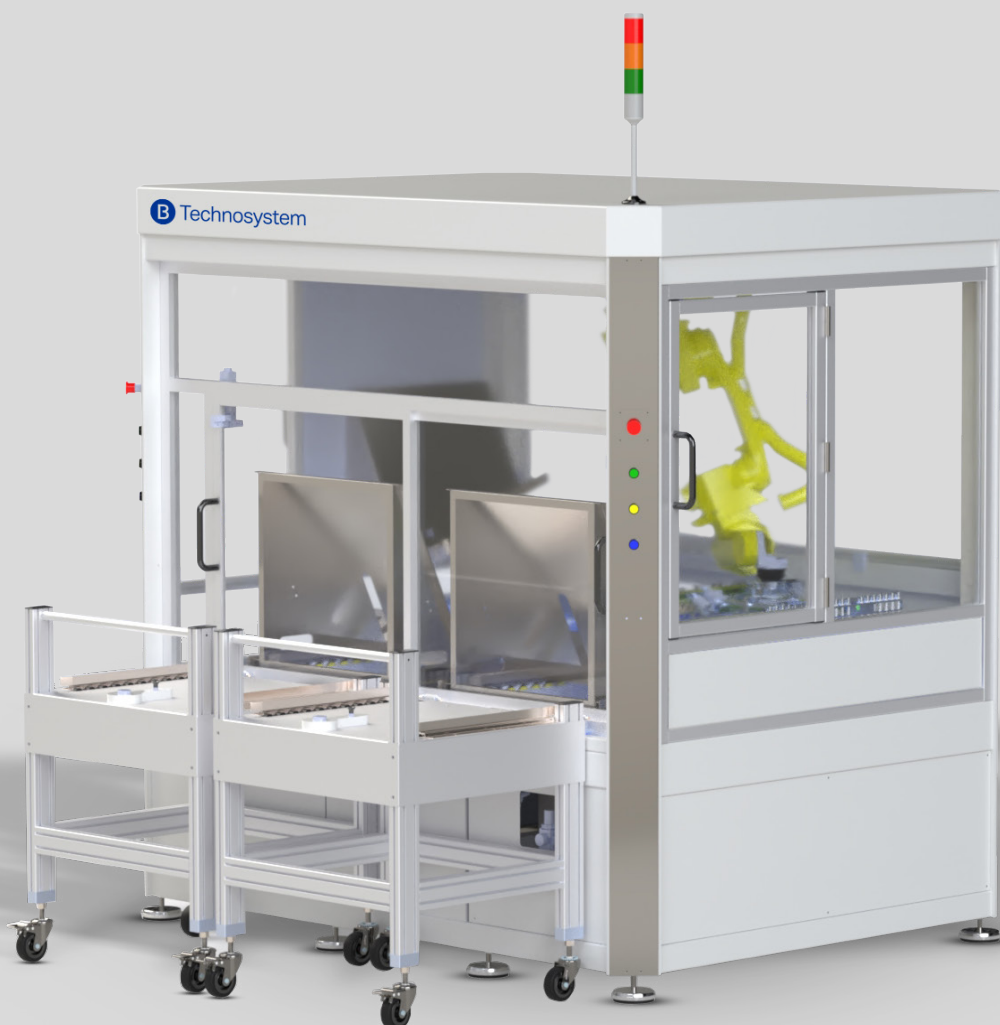
When used as a diverter, operators can choose to rotate the panel while maintaining its leading edge, align it to the conveyor's center, and set a consistent gap between panels ensuring optimal line performance.

The Millennium V4 also includes plastic interleaving insertion and removal based on the selected operation mode.

Furthermore, the unit can function as a FILO (First In, Last Out) buffer, temporarily storing panels from the previous line when the next line reports a failure, preventing workflow disruptions.
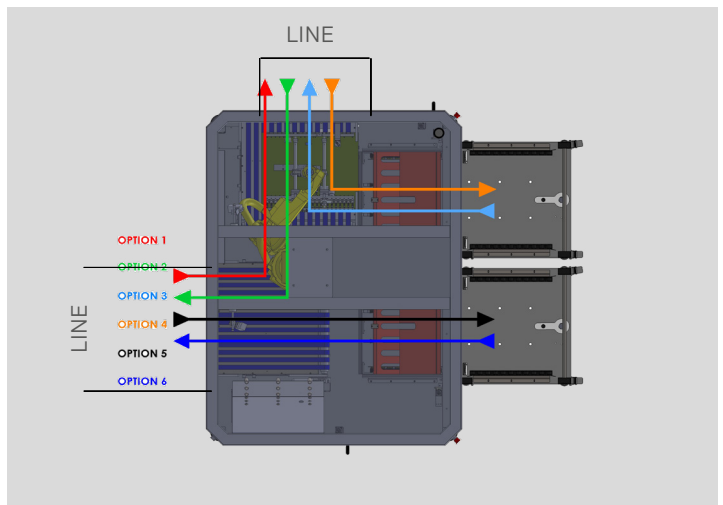
Millennium V4 Diverter Loader & Unloader
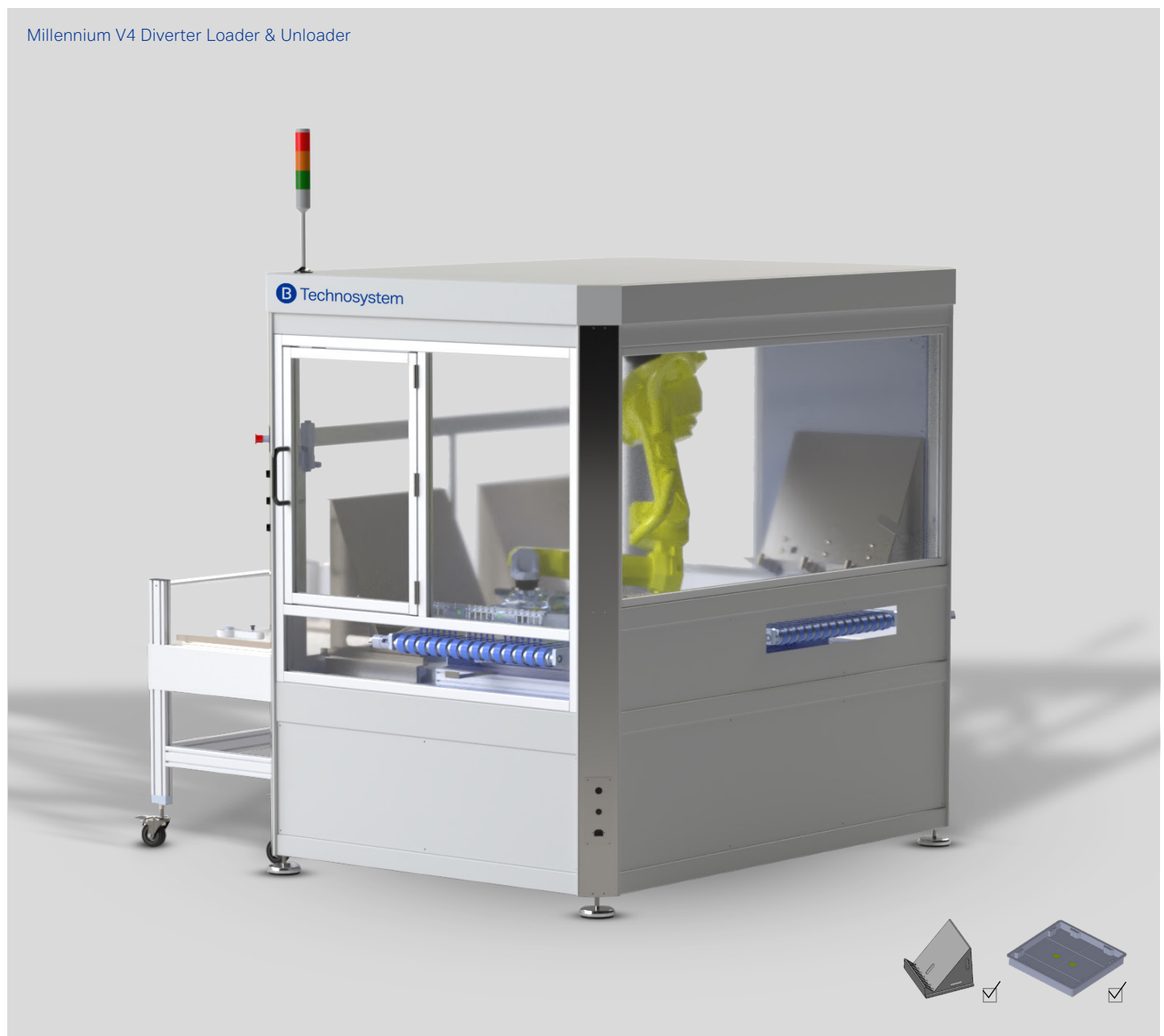
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Millennium V4 Loader & Unloader
With Laser Engraving + Copper thickness

The Millennium V4 SINGLE Loader with Copper & Core thickness station has been meticulously crafted for high-end PCB shops, where the delicate nature of PCBs demands the utmost care during handling.

The Millennium V4 Loader features a robust 6-axis robotic arm capable of handling a wide range of materials, from very thin cores to thick and heavy panels. Its versatile design allows operation with or without plastic interleaf, providing flexibility to meet diverse requirements.

A dedicated station for placing plastic interleaves further enhances usability and adaptability. Equipped with advanced copper thickness control, the system measures both top and bottom copper thickness simultaneously, along with the overall core thickness, using a precision measuring scale integrated into the clamping system. The system calculates the dielectric thickness with high accuracy by subtracting the copper thickness from the total core thickness.

The Millennium V4 Loader also includes a tolerance table to ensure the core and copper thicknesses remain within predefined acceptable ranges.
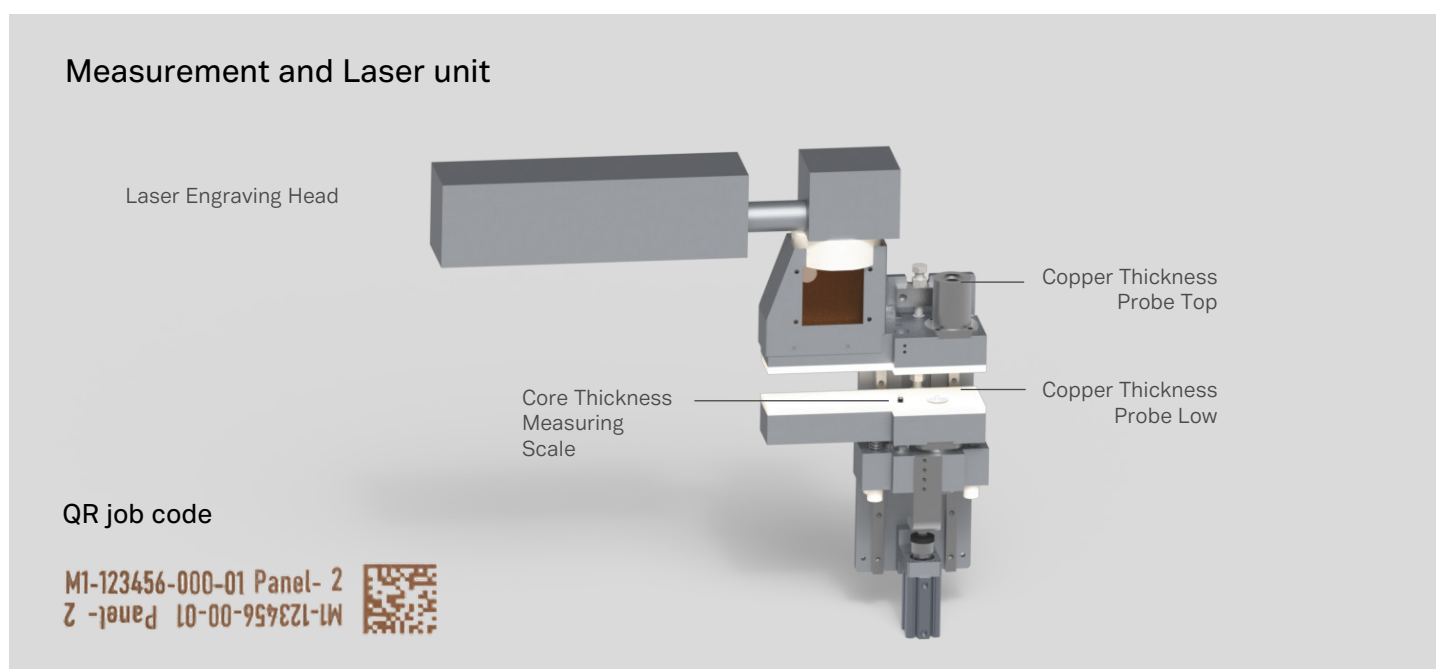
Millennium V4 Loader & Unloader
With Laser Engraving + Copper thickness

Advanced measurement control technology

- Minimize human errors in mixing cores and jobs.

- Facilitate easy identification of core thickness and copper thickness by operators without the need for additional measuring instruments.

- Gather statistical data on thickness measurements for 100% of the cores processed in the factory.

- Automatically insert the QR job code for use in DI or LDI automation.

Measurement and Laser unit

Laser Engraving Head

Copper Thickness Probe Top

Core Thickness Measuring Scale

Copper Thickness Probe Low

QR job code

M1-123456-000-01 Panel- 2

M1-123456-00-01 Panel- 2

How it works?

The operator enters thin core details via a barcode reader and the number of thin cores typically provided by the traveller document.

The scanned code may include maximum and minimum tolerances for the top and bottom copper and dielectric tolerances. The tolerance copper and dielectric table can also be entered into the Millennium. The operator can place various types of cores separated by plastic sheets.

The Millennium starts by picking up the first core from the L-rack, measuring its height, and introducing the core into the measuring clamping device. When the measuring station closes, it measures the overall core and top and bottom copper thickness.

The Millennium calculates the dielectric thickness by subtracting the copper thickness from the overall core thickness.

The laser is activated if the measurements for both top and bottom copper and the dielectric thickness are within the specified tolerances.

Without moving the core, the laser marking engraves the core thickness in legible writing for operator identification and/or the job description in QR or Data matrix. This QR code will be used in DI automation. The laser engraving can be customized as per customer requirements.

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RoboPATO Loader

The ROBOPATO is an automatic loader specifically designed to feed printed circuit boards after the final routing stage.

It is an ideal solution for high-pressure cleaning lines and final finishing lines such as OSP, Silver, or tin.

The ROBOPATO has a 4-axis SCARA robot capable of performing up to 10 manoeuvres per minute, ensuring efficient production by following the necessary line speed. Additionally, the ROBOPATO can optionally be equipped with a second loading station to ensure an uninterrupted flow of PCB loading.

The vacuum gripper has been specially designed to handle routed and drilled PCBs using a high vacuum flow and low depression, ensuring precise and secure handling.

RoboPATO Loader
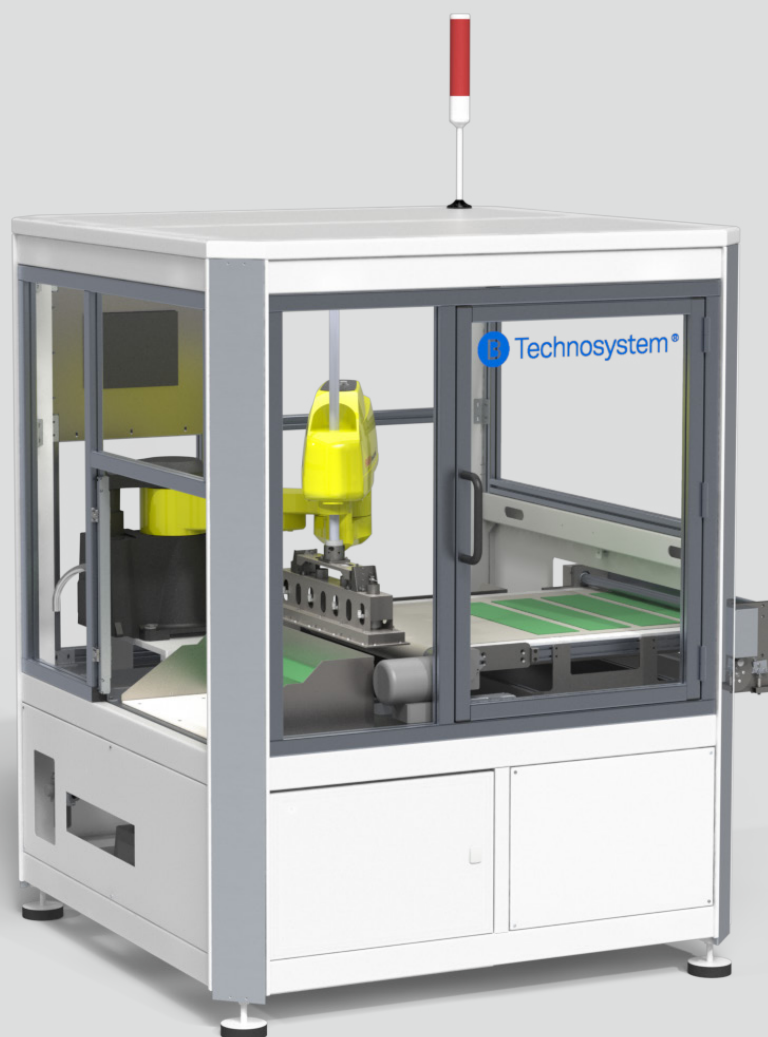
RoboPATO Unloader

The ROBOPATO Unloader is an advanced automation solution designed specifically for stacking and unloading finished PCBs from various high-precision lines.

Ideal for high-pressure cleaning lines and final finishing processes such as OSP, Silver, Tin, or other lines where PCBs are already routed, the ROBOPATO Unloader offers exceptional efficiency and meticulous care.

Built to preserve the pristine quality of each PCB, the ROBOPATO Unloader employs a scratch-prevention design that ensures smooth and secure handling. Equipped with a high-performance 4-axis SCARA robot, the system performs up to 12 precise manoeuvres per minute, aligning seamlessly with the line speed to maintain optimal production flow.

The ROBOPATO Unloader efficiently collects and stacks multiple PCBs from the input conveyor, arranges them to operator-defined heights on a secondary conveyor, and automatically spaces each stack. Stacks are then easily transferred onto a movable conveyor or picked up for further handling.

Its precision vacuum gripper securely handles routed and drilled PCBs without damaging surfaces. The Unloader integrates seamlessly with the ROBOPATO Loader for full operational synchronization and enhanced traceability.

RoboPATO Unloader

B Technosystem
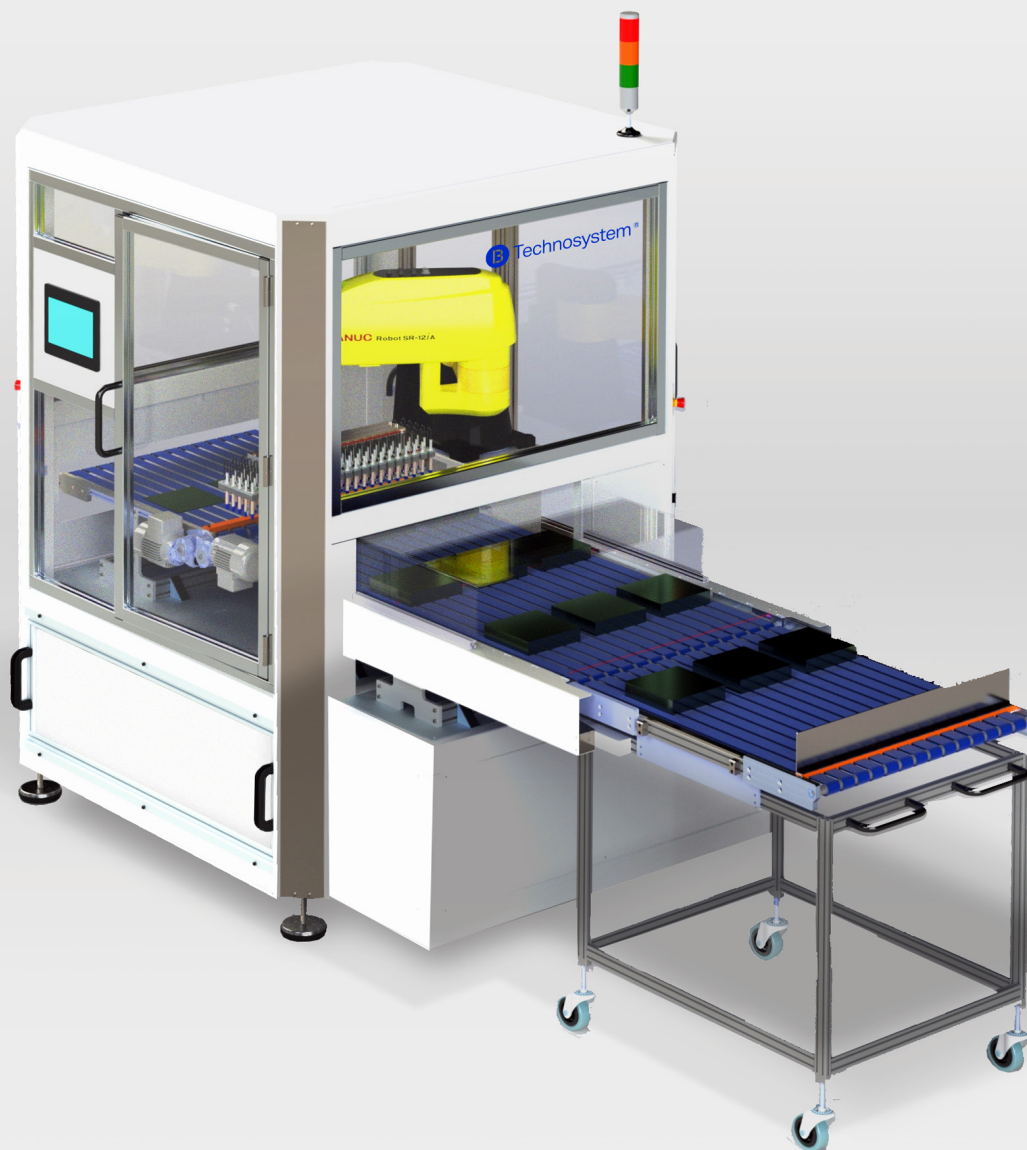
Auto Mylar Peeler TS-A25

Designed with precision, the TS-A25 minimizes potential damage to PCBs or dry films while delivering exceptional peeling performance through an advanced knurling mechanism.

Equipped with a hot melt welding device, this model seamlessly collects Mylar into compact rolls, saving valuable workspace. Its low-power welding system ensures rapid temperature ramp-up and ramp-down for safe, reliable, high-quality welding.

The TS-A25 features an air shaft mechanism for quick Mylar roll removal and a pull-down output section, providing ample easy maintenance access.

Automated error detection ensures uninterrupted operation. Panels with peeling errors are stored in a buffer system, enabling continuous machine performance without disruption.

Auto Mylar Peeler TS-A25

Exit Buffer for 4 Panels: gets activated if mylar is not removed.

Non-Destructive Knurling Device
Efficient Mylar Welding
Easy waste-Mylar unloading
User-Friendly Design
Error Buffer Mechanism

Top roll view for removed Mylar
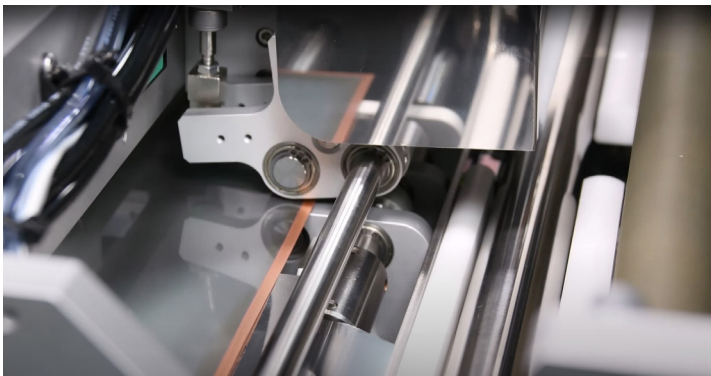
Panel aligner before knurling

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V-LDI Series

Product range designed to serve medium and prototype PCB shops with a big mix of jobs, optimizing automation systems for all types of direct imaging, AOI or Legend Printing processes.

The V-LDI Loader & Unloader Series has been designed to drastically reduce human intervention in the loading and unloading of stand-alone machinery.

V3-LDI with CIMS Galaxy

V-LDI Loader & Unloader

The V1-LDI Loader & Unloader is a standalone peripheral automation system designed to complement PCB machines that typically require operator presence for continuous operation. The operator must be fully engaged to ensure efficient production from the machine.

The V1-LDI eliminates the need for human intervention by seamlessly handling the loading, cleaning, flipping, and unloading of panels.

This automation system includes a six-axis robot, a double suction cup gripper for fast panel exchange, an entry L-rack, a buffer station, a roller cleaner, and a flipping device to operate automatically. The V1-LDI is compatible with a wide range of LDI or DI machines, including Paragon, Nuvogo, Express, Schmoll MDI, Miva, and others.

Thanks to its compact footprint, the V1-LDI can be easily installed beside the DI machine, requiring only 1.2 meters of space on the right-hand side for loading. The sequence time per side is under 19 seconds, making it particularly appealing for mid-production LDI or DI applications.

Across the V-LDI series, support for multiple job lists is given, ensuring that the number of panels per job does not impede production throughput. Job exchanges are seamlessly managed through communication protocols with the connected peripheral machines, simplifying the workflow for operators.

V1-LDI Loader/ Unloader with Schmoll MDI

B Technosystem
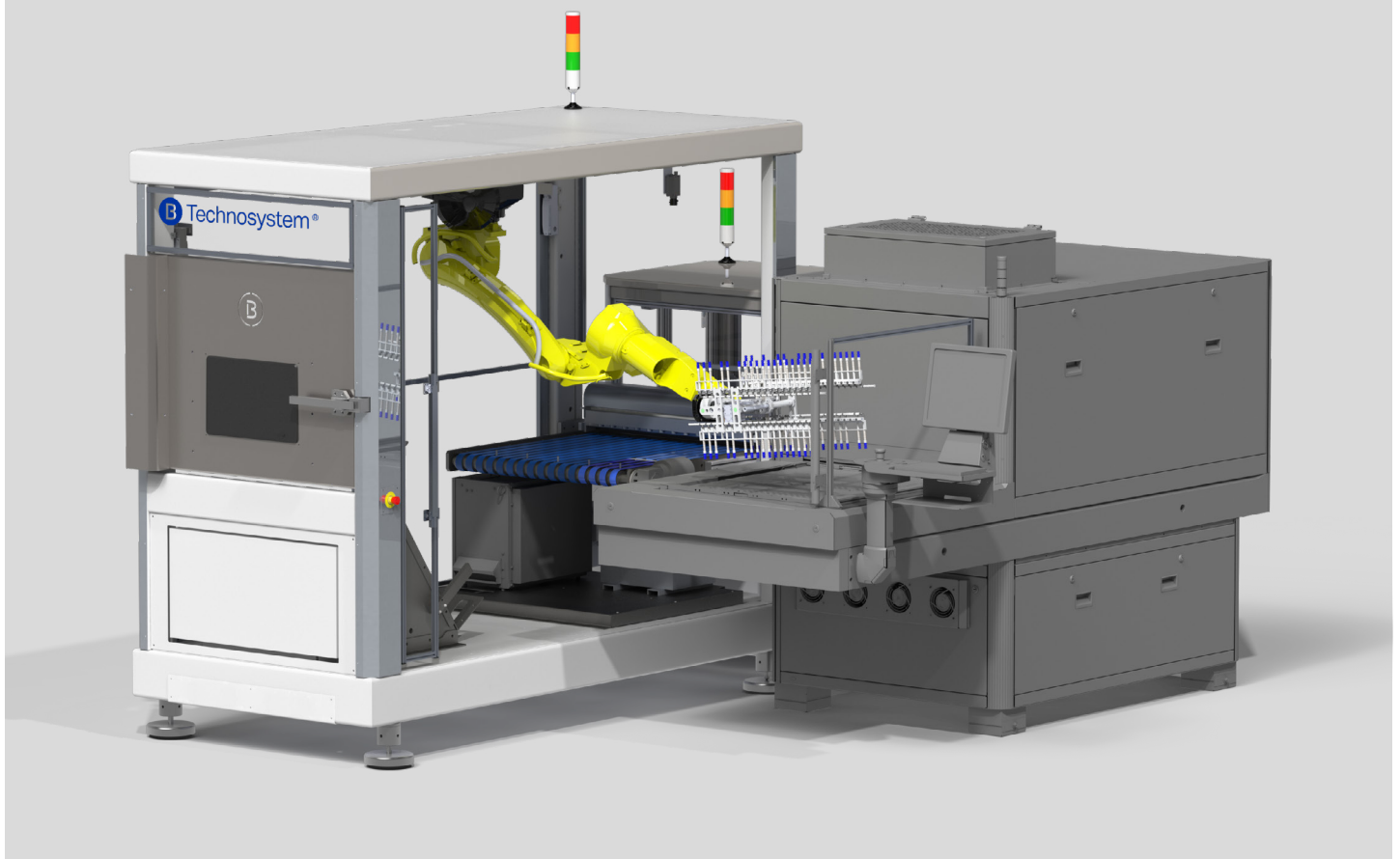
V2-LDI Loader & Unloader

The V2-LDI Loader & Unloader is a cutting-edge peripheral automation system specifically designed to cater to Legend Printers and DI machines used exclusively for solder mask production, where panels are in contact with a plastic sleep sheet.

This system features two L-rack stations: one for panel entry before exposure and the other as a buffer station. What sets this automation apart is the innovative Technosystem vertical flipping mechanism, which enhances its compactness and versatility.

Notably, the V2-LDI can be seamlessly integrated with any Legend Printer available in the market. By utilizing the Technosystem front end, operators can efficiently queue and manage print jobs in seconds.

The system is equipped with a six-axis robotic arm complete with a double suction cup gripper that is adjustable in size. This facilitates rapid panel exchange and ensures a cycle time of under 18 seconds per side.

Across the V-LDI series, support for multiple job lists is given, ensuring that the number of panels per job does not impede production throughput. Job exchanges are seamlessly managed through communication protocols with the connected peripheral machines, simplifying the workflow for operators.

V2-LDI for Legend Printer
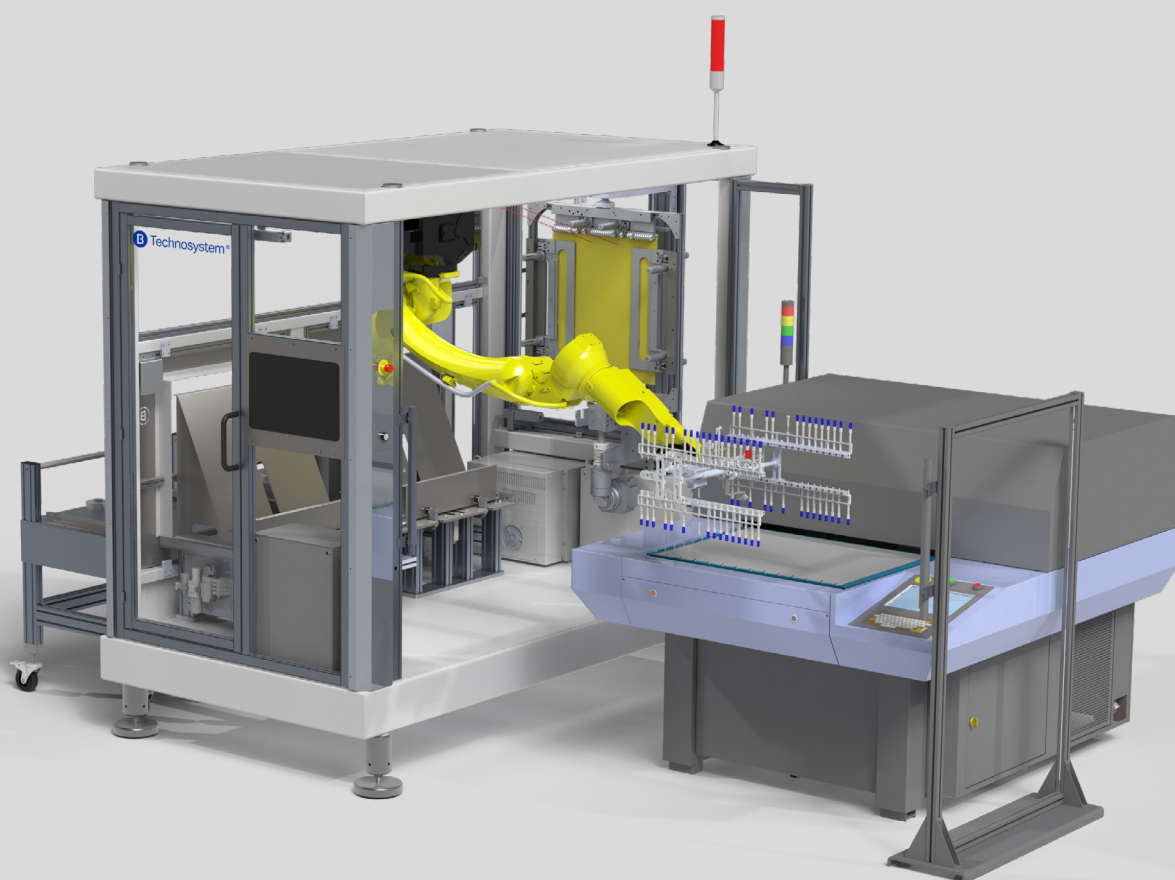
V3-LDI Automation

The V3-LDI is the pinnacle of the V-LDI Series, developed by Technosystem. This peripheral automation system has been meticulously engineered to load and unload high-end LDI and DI machines.

The V3-LDI addresses the growing demand for reduced dry film exposure times by delivering exceptional efficiency. It operates at a cycle time of under 10 seconds (excluding panel exchange) while performing critical tasks like cleaning and CCD panel alignment.

This advanced automation system features two six-axis robots working simultaneously to ensure high-speed throughput. Its innovative double and single-cup grippers automatically adjust to handle panels of varying sizes. Additional capabilities include a horizontal table cleaner for extremely thin cores and a CCD camera for precise on-the-fly alignment.

A key differentiator of the V3-LDI is its versatility. It handles dry film panel exposure on L racks and solder mask panels on slotted racks. Its patented L rack/slotted rack automatic exchange system eliminates downtime in exposure machines, making it ideal for high-production environments.

The user-friendly Technosystem front-end streamlines operations, allowing operators to efficiently generate and manage job queues across multiple L racks or slotted racks. With built-in support for multiple job lists and seamless communication with connected peripherals, the V3-LDI ensures uninterrupted production and maximized throughput.

V3-LDI with Ledia 6
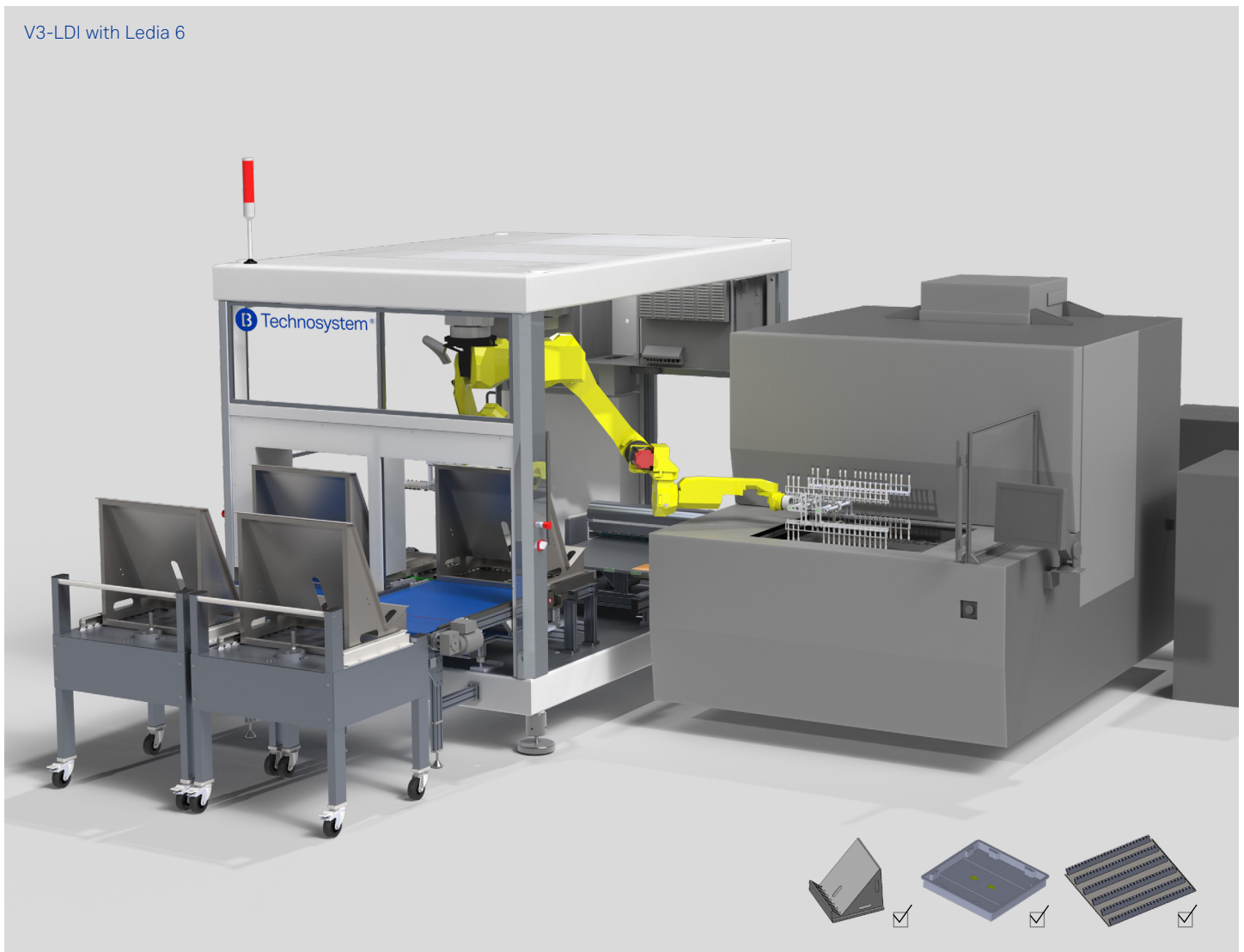
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V3-AOI SINGLE

The Technosystem V3-AOI Series are versatile, high-efficiency peripherals designed for seamless loading and unloading with any AOI system on the market.

Equipped with two advanced 6-axis robots, it completes each cycle in under 10 seconds (excluding panel exchange), maximizing productivity and throughput.

The on-the-fly CCD camera recognition ensures precise panel alignment on the AOI table, reducing alignment issues.

The system includes a horizontal vacuum table with an integrated roller cleaner to minimize false alarms during AOI inspections. Its seamless integration protocol allows real-time defect information from the AOI to displace defective panels 1 cm to the right, making them easily identifiable by operators.

The V3-AOI provides complete traceability for inspected panels on both sides, including the number of defects on each side.

Capable of handling both inner and outer layers with a variety of different jobs loaded in the same L rack. Operators can simply place a separator sheet between different jobs, and the automation will recognize the plastic sheet and automatically remove it and transition to the next job in the queue.

Additionally, the V3-AOI can optionally be equipped with a CCD camera for QR code identification, eliminating the need for manual job list generation. This automated process scans every panel, applies it to both core sides, and requires consistent QR code or Data Matrix placement on inner layers.

V3-AOI SINGLE

V3-AOI DUO

The V3-AOI SINGLE integrates one L Rack/Box, while the V3-AOI DUO accommodates two, optimizing specific process cycles for enhanced efficiency.

With the same features as the V3-AOI SINGLE, the V3-AOI DUO incorporates two L Racks/Boxes to optimize the production process.

After completing the optical inspection, panels are sorted into two different L racks or boxes based on inspection results:

- L Rack/Box 1: Holds panels with no defects, ready for the next production stage.

- L Rack/Box 2: Stores panels with detected defects, flagged for the repair station.

This intuitive sorting streamlines workflows, helping operators quickly distinguish which panels require further attention.

V3-AOI DUO

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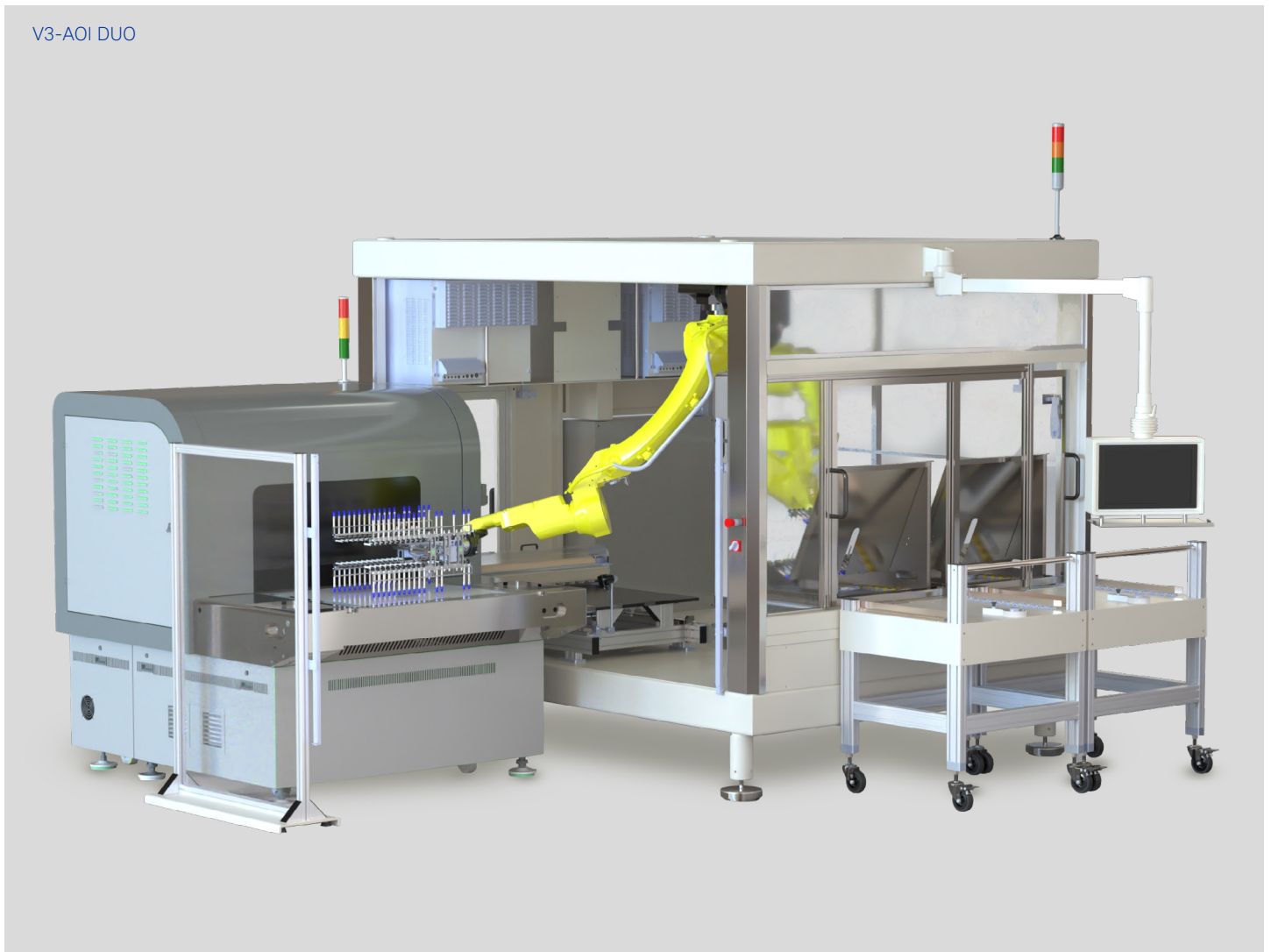
V4-LDI Loader & Unloader

The V4-LDI Loader & Unloader is an advanced online automation system designed for DI or LDI machines equipped with a double-exposing table.

This versatile system can operate either fully inline or with the inclusion of a loader to input panels and an unloader to collect them after processing

Communication protocols with the connected peripheral machines streamline the workflow for operators.

V4-LDI Loader & Unloader

The typical configuration for the V4-LDI is an online system where panels are fed directly from the cut-sheet dry film laminator. They are then seamlessly introduced into the DI for side A and B exposure before proceeding to the mylar remover and subsequent entry into the developing line.

The system features an entry conveyor equipped with CCD alignment and CCD QR code recognition, an inline cleaning station, two six-axis robotic arms fitted with double-panel size adjustable suction cup grippers, and an exit conveyor. A handshaking mechanism between the two robotic arms manages the panel flipping process.

Remarkably, the V4-LDI can complete a cycle in under 8 seconds, ensuring it meets the stringent demands of line speed rates. Safety is a top priority, and the system is fully enclosed to comply with all security regulations.

The user-friendly Technosystem front-end proves invaluable to operators, allowing for the efficient generation of job queues on multiple L racks or slotted racks. Across the V-LDI series, support for multiple job lists ensures that the number of panels per job does not hinder production throughput. Job exchanges are seamlessly managed through communication protocols with the connected peripheral machines, streamlining the workflow for operators.
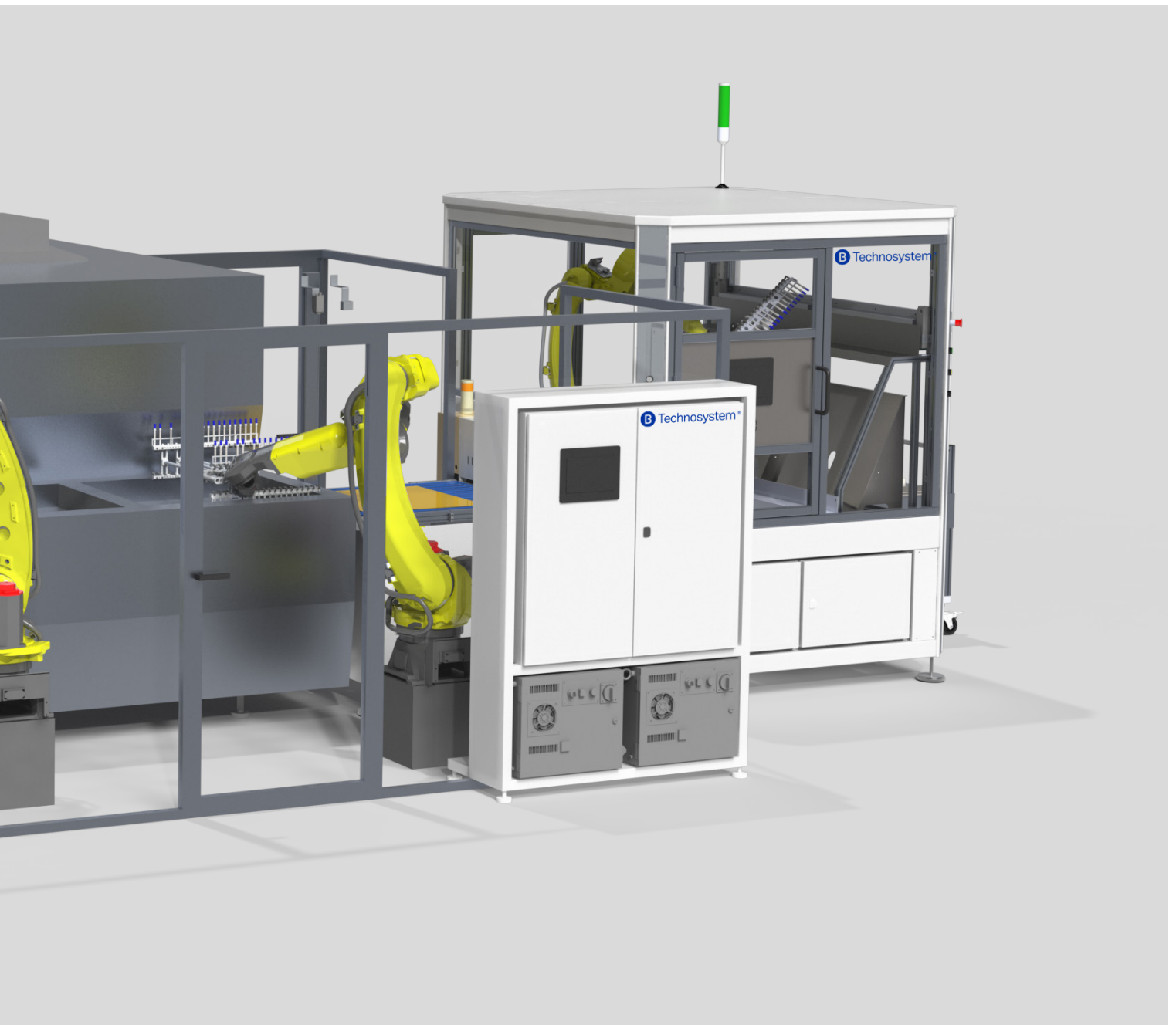
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Buffer-FIFO 20/30/40 Pannels

The Technosystem Buffer-FIFO is a fully automated FIFO storage system designed to be installed in the middle of a production line.

Equipped with a high-speed lifting mechanism, the Techno System FIFO Buffer can handle up to 4 panels per minute.

This equipment temporarily stores panels in the event of a line stoppage, ensuring smooth workflow continuity.

When a stoppage occurs, the Technosystem Buffer carefully accumulates and secures the panels to prevent damage.

Panels are stored on multiple levels, one above the other, using an advanced lifting mechanism that precisely places them into designated slots.

Buffer-FIFO

Depending on customer needs, it can store 20, 30, or 40 panels. It can also be equipped with entry and exit conveyors.

Once the system receives a signal indicating the resumption of operations, the buffer releases the panels in the exact order they were received, following the FIFO (First-In, First-Out) principle.

The Technosystem Buffer-FIFO offers controlled holding times within the buffer. This feature allows panels to remain stored for a specific period to facilitate temperature reduction or ensure the proper curing of the photographic film before advancing to the next process.

Efficiency and precision for specialized processes

- **After Dry Film Lamination:** Panels are stored to allow sufficient cooling time before proceeding to the following process.

- **After Direct Imaging:** Panels remain stored to ensure the dry film fully cures after exposure before entering the DES (Developing, Etching, Stripping) line.

- **Handling Heavy Panels:** The buffer is ideal for production lines requiring extra care when managing heavy or delicate panels.

- Additionally, the Technosystem Buffer can function as a **loader or unloader,** efficiently positioned at the beginning or end of production lines to streamline workflow.

Key-features

Minimum panel size	450 x 350 mm
Maximum Panel size	610 x 720 mm
Production capabilities	4 panels per minute (*)
Minium thickness	0,05 mm
Maximum panel thickness	5 mm
Nº of Cycles per minute	4
Multiple Jobs	Yes
FIFO an FILO (Up on selected demand)	Yes

(*) Operating with panels with a maximum weight of 3kg

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Check out our Youtube channel: