



# OPERETTA

RIGHT-SIZE  
BOX ERECTOR



**PANOTEC®**

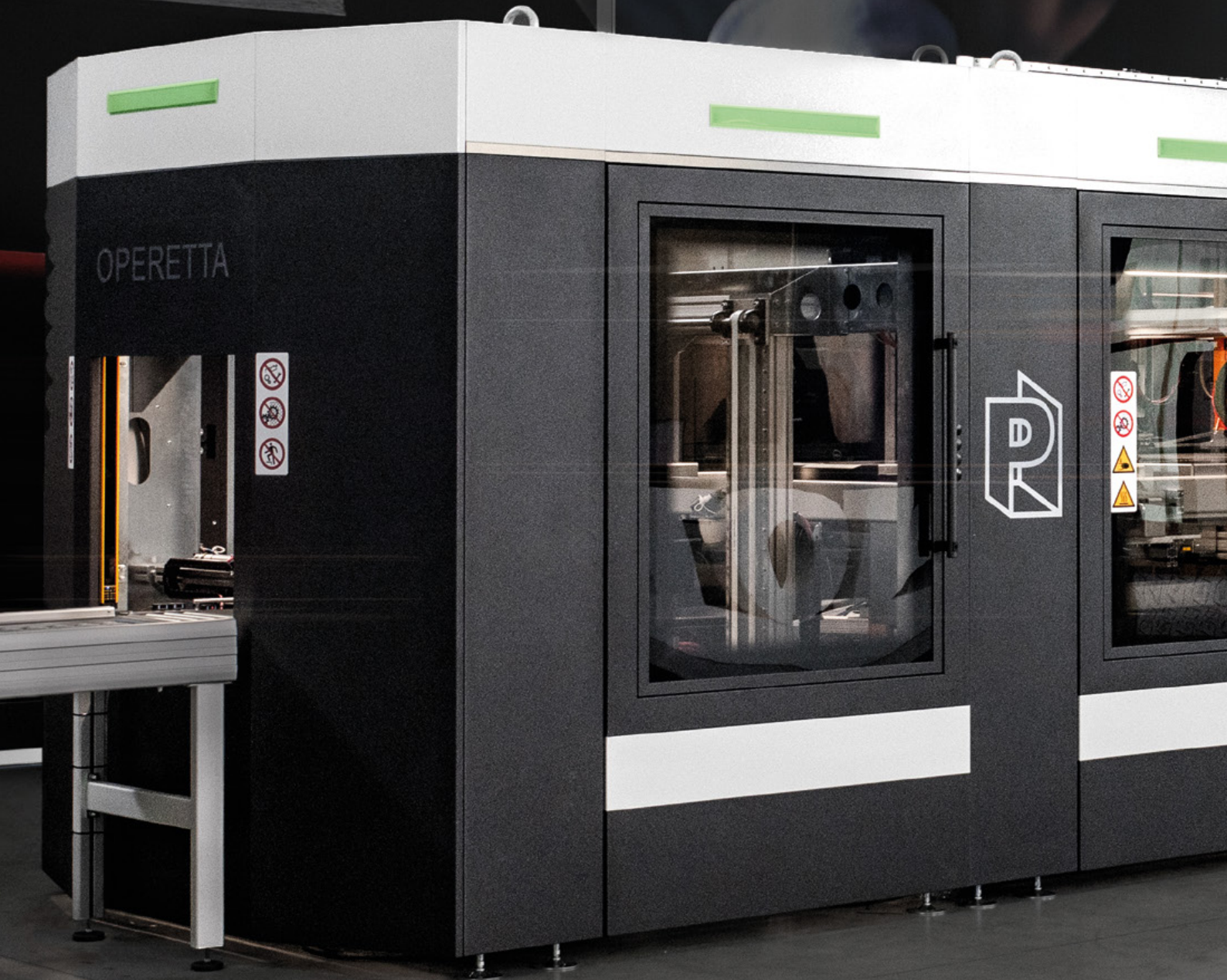


# CONTENTS

Advantages	6
Main Features	12
Box Type	14
How the Line Works	16
Data Exchange	20
Optional Features	22
Software	30
Installation and Assistance	34



# OPERETTA



**HIGH-SPEED SYSTEM  
FOR THE PRODUCTION  
OF ERECTED AND  
CUSTOM-MADE BOXES**





Designed to meet the needs of the e-commerce sector, logistics services, and companies handling high volumes of daily shipments, OPERETTA integrates seamlessly with existing production processes.

This “box-first” machine produces custom-made open and already assembled boxes, with complete flexibility in all three dimensions, not just height reduction.

In summary, OPERETTA optimizes the packaging process by offering a tailor-made solution that not only reduces operational inefficiencies but also contributes to cost savings and customer satisfaction.



# OPERETTA ADVANTAGES





### **Elimination of Filling Material**

The custom-made boxes fit perfectly to the products, allowing the elimination of filler material.



### **Reduced Packaging Time**

OPERETTA's automated technology reduces handling and box supply times, speeding up manual filling.



### **Warehouse Optimization**

No need to store boxes of various sizes, freeing up valuable space and reducing management costs.



### **Greater Box Strength**

The OPERETTA boxes, with reinforced sides, reduce damage during transport and returns due to damaged goods.



### **Simplified Process**

By reducing operator involvement during the process, OPERETTA minimizes human errors and increases packaging efficiency and speed.



### **Reduced Environmental Impact of Transport**

Custom boxes take up less space in transport vehicles, optimizing trips and reducing CO2 emissions.

# FIELDS OF APPLICATION

## E-COMMERCE SPECIALIZED IN:

- Pharmaceutical products
- Beauty & Healthcare
- Spare parts
- Electronics

OP

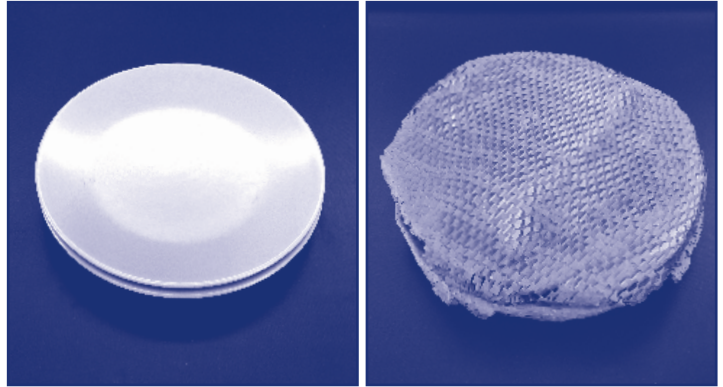


# ERETTA



## FRAGILE ITEMS

OPERETTA provides a reinforced and optimal packaging for delicate and fragile items. To ensure greater protection, it is possible to set an increased box size through the software, allowing for the insertion of internal protections.



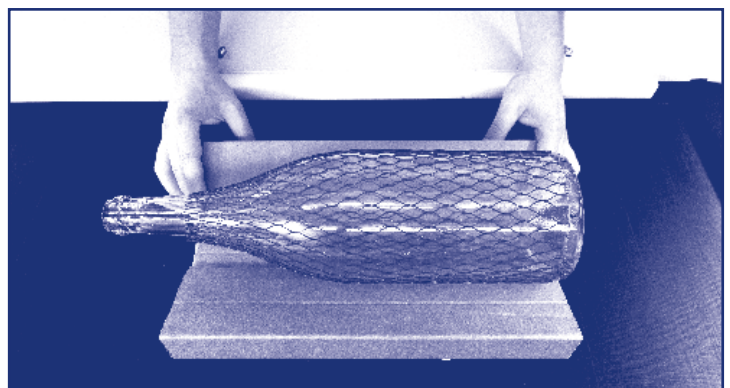
## MULTI ITEMS

OPERETTA has been designed specifically for packing orders of multiple products, especially those consisting of more than 10-15 items.



## UNSTABLE ITEMS

OPERETTA is perfect for packaging unstable items because the most delicate phases are manually handled by an operator. This workflow ensures that the items do not roll or suffer jolts inside a machine.











# MAIN FEATURES

- Box Type
- Cardboard
- How the Line Works
- Data Exchange



### PRODUCTIVITY

**up to 7 pcs / min**  
with the largest box size

**up to 15 pcs / min**  
with the smallest box size

The line can operate under the supervision of a single operator and can produce a box in less than 4 seconds.

\*Output may vary depending on the size of the boxes to be produced.

## BOX TYPE

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# A UNIQUE AND FUNCTIONAL PACKAGING DESIGN

The custom-made box produced by OPERETTA has a unique design, crafted to optimally protect the products inside.

## BOX CONFIGURATION

The upper part has four flaps, like a Fefco 201 box. The packaging can be manually closed by the operator using adhesive tape or automatically through a standard taping machine. The bottom part is fully closed and reinforced.



### SOLID STRUCTURE

Reinforced corners allow boxes to be perfectly stacked on top of each other.



### HIGH PROTECTION

The double top flaps and fully closed bottom ensure greater protection of the product inside during transport and handling operations.



**max.**  
**675x500x450mm**

**min.**  
**200x150x50mm**



# CARDBOARD CHARACTERISTICS

**Continuous fanfold cardboard module of 400mm and 800mm. Small sizes for a high dimensional range.**

An automatic selector chooses the optimal cardboard width to minimize raw material consumption.

**Thickness:** 3mm

**Wave:** B

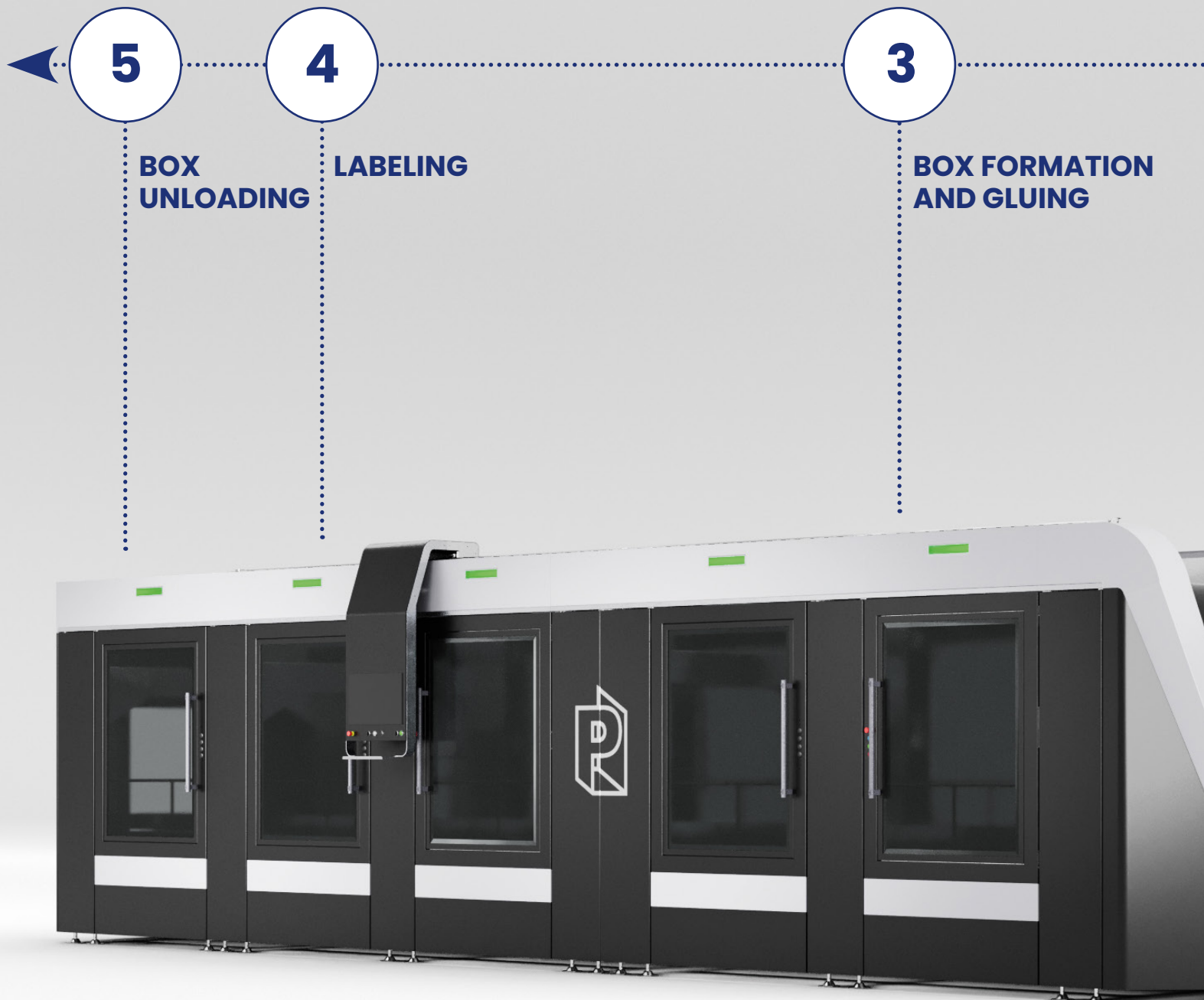
**Grammage\*:**  
from 370 to 520 g/m<sup>2</sup>

\*The provided information is indicative.  
For detailed information, please reach out to our team.



OPERETTA utilizes standard cardboard sizes (400 and 800 mm) common among fanfold manufacturers, resulting in significantly lower raw material costs compared to alternative formats.

# HOW THE LINE WORKS





**2**

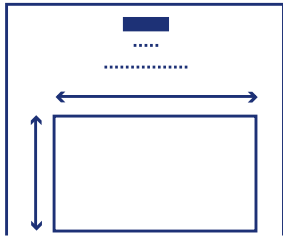
**PRODUCTION  
OF THE OPEN BOX**

**1**

**CARDBOARD  
FEEDING**

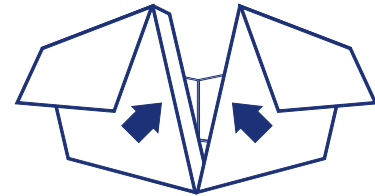


# STEP-BY-STEP PACKAGING



## DIMENSION DATA SENDING

The customer sends the dimensions of the items directly to the machine to produce the customized box.



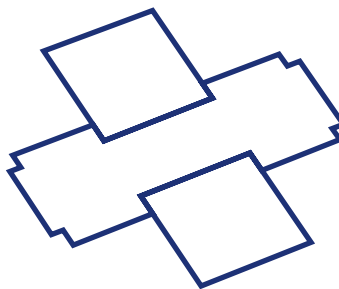
## BOX FORMATION AND GLUING

The box is formed on all four sides and sealed with hot melt glue.

1

2

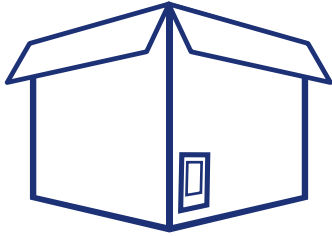
3



## CUSTOM BOX PRODUCTION

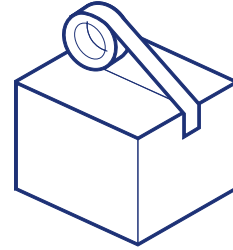
Once the data is sent, the packaging machine produces the box of the correct size.





### **LABELING**

The label is automatically applied to one side of the box.



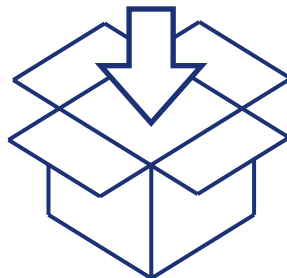
### **TOP CLOSURE WITH TAPE**

The top flaps can be closed manually by the operator or automatically with a standard taping machine for 201 boxes.

**4**

**5**

**OK**



### **MANUAL INSERTION OF ITEMS**

Operators manually insert the items. To optimize the filling phase, our QBOX software suggests the ideal placement of items inside the box.

# HOW TO SEND DATA TO OPERETTA?

Several methods are available for transmitting data to the machine:

The data transmission protocol utilizes REST API calls.

OPERETTA seamlessly integrates with a variety of systems in a flexible manner to meet diverse customer needs, offering the ability to make software modifications and implementations to accommodate customer requests.

## OPTION 1

It is possible to send the dimensions of the boxes to be produced directly to the machine if it does not have the dimensions of the products to be packed.



### OPTION 2

The WMS sends the list of items to be packed along with dimensions to QBOX software, which then instructs the machine on the box sizes to be produced.

### OPTION 3

Direct measurement of product dimensions via SCANPACK or 3EVOSCAN, sending dimensions to QBOX software for optimized box calculation, then processed by OPERETTA.



# CONFIGURATIONS

## OPTIONAL FEATURES

- QBOX software
- Output line with packaging bays
- Automatic product dimension detection systems



### LABEL PRINTING

OPERETTA prints an identifying label for the box and automatically applies it to one side.

Standard label size: 80x40mm\*



### TRIM MANAGEMENT

The box design minimizes the amount of trimmed cardboard.

The small excess cardboard is automatically evacuated laterally from the OPERETTA line via a motorized belt.



\*Other label formats can be arranged with Panotec.



# OUTPUT LINES

- Output lines: box filling bays and related barcode readers
- Box sorting belts



# PRODUCT MEASUREMENT SYSTEMS

## 3EVOSCAN

Connected via an Ethernet network to OPERETTA, 3EVOSCAN reads the product dimensions and sends the correct packaging production data to the machine. The system can also create an archive containing the dimensions of all the customer's items.



# PICK TO TOTE

At Panotec, we don't just provide machines, but we develop customized solutions perfectly integrated with existing systems.

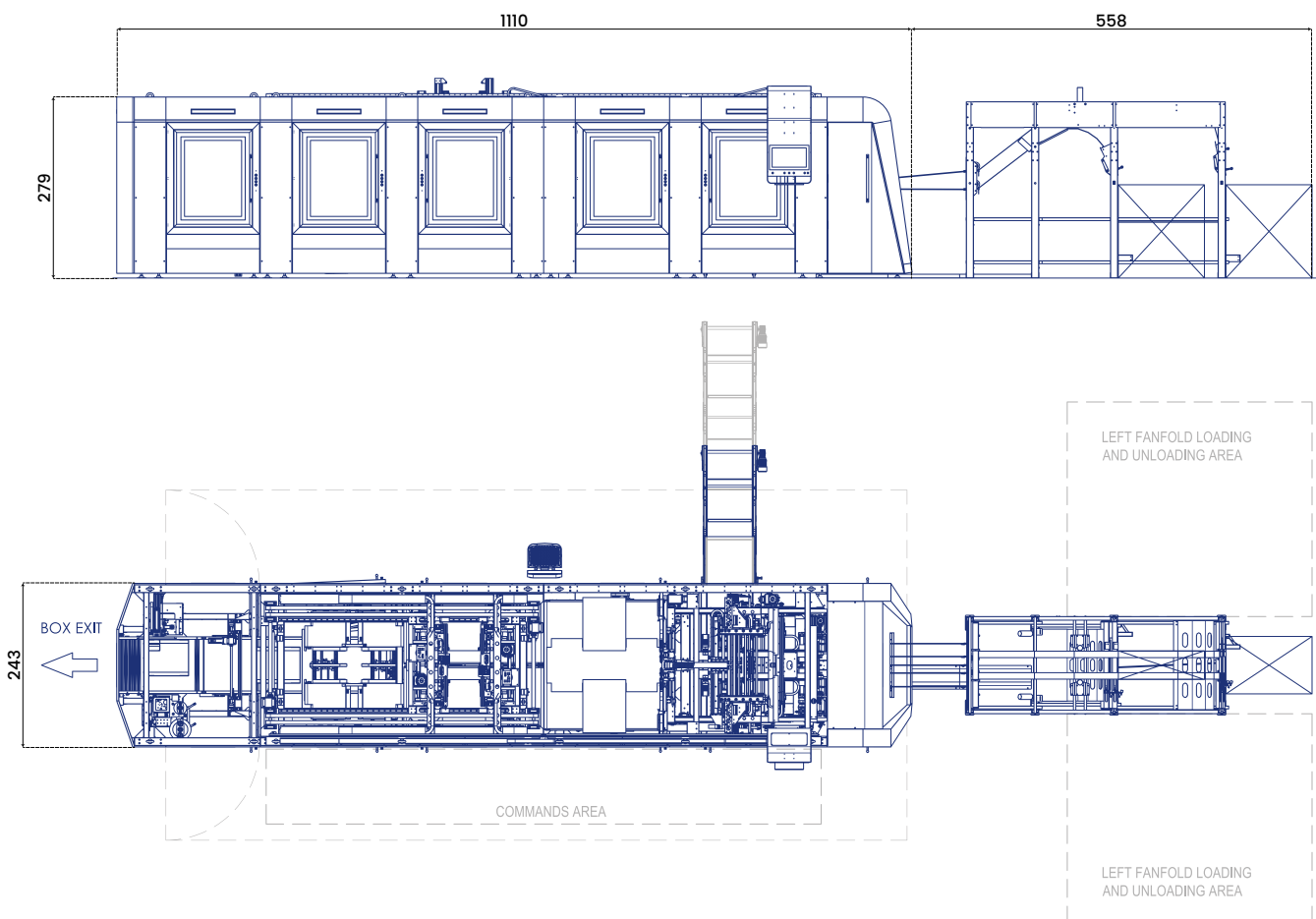
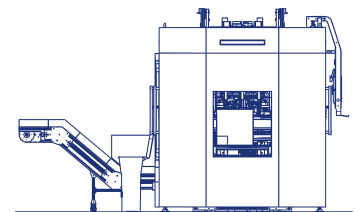


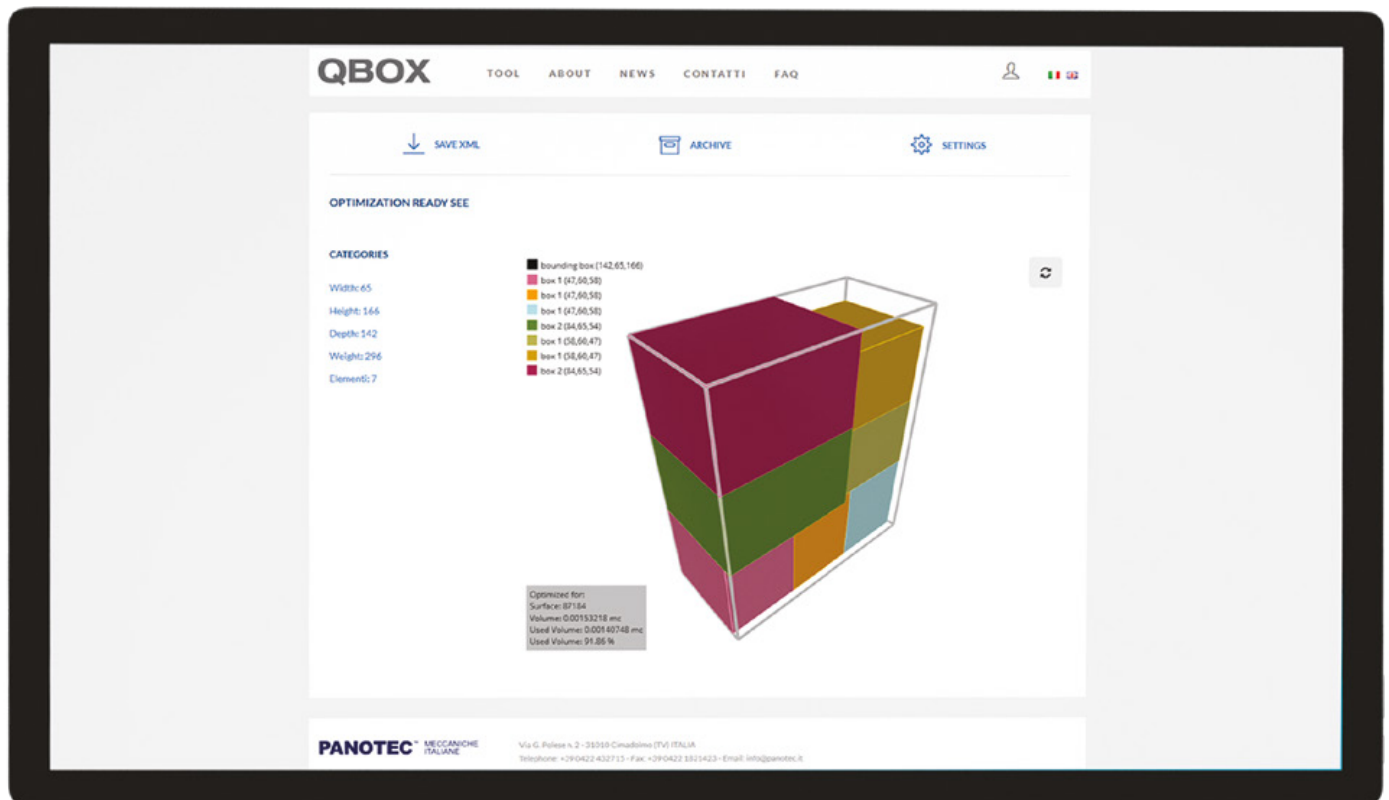


Thanks to a 360° consulting approach, we analyze the specific needs of the customer to design a tailor-made process, ensuring maximum operational efficiency.

In addition to the machine, we implement subsequent phases, including output lines with box filling bays, barcode reading systems, and sorting belts, ensuring an optimized and fully integrated workflow.

## STANDARD OPERETTA LAYOUT





**Volume Optimization Software.**  
**Calculates the best item placement in one or more boxes, starting from a list of elements that need to be packed together.**

QBOX, developed in collaboration with the University of Padua, uses an algorithm to analyze and visualize the best combinations within the optimal box.

The software directly sends the packaging data to the machine for the production of the optimized box.

**COST REDUCTION:** Optimizing the box reduces cardboard use and shipment volume.

**REDUCTION/ELIMINATION** of fillers

**LOWER TRANSPORT DAMAGE RATES** due to safer positioning of the most fragile items

**EFFICIENCY:** Defines the optimal box for shipping with immediate data transmission to the machine

**USER-FRIENDLY INTERFACE** with 3D animation of the box forming pattern

**IMPLEMENTATION** with customer order management system

**RECOMMENDED** for companies shipping multiple items in the same package

Thanks to OPERETTA's automated technology, box management and supply times are minimized, allowing operators to focus exclusively on the order filling phase.

The interface with our volume optimization software, QBOX, optimizes the workflow thanks to the automatic calculation of the optimal box dimensions for multi-item orders and simplifies the operator's task in subsequent phases by providing precise instructions for product insertion.





A close-up photograph of a Panotec industrial control panel. The panel is mounted on a machine and features a large, square touchscreen display at the top. The screen is white and displays the word "PANOTEC" in a bold, blue, sans-serif font, with a registered trademark symbol (®) to the upper right of the text. Below the screen, there is a row of seven control elements: a red emergency stop button, a yellow stop button, a brown button labeled "PAUSE", a white button labeled "START", a blue button labeled "STOP", a blue button labeled "EMERGENCY RESET", and a green button labeled "POWER ON/OFF". To the right of these buttons is a green emergency stop button with a key inserted into its top. Below the control panel, a black keyboard is mounted on a white, curved tray. The background is a blurred industrial setting with various metal structures and lights.

**PANOTEC<sup>®</sup>**

# NEW HMI SOFTWARE

A management and production control software included in OPERETTA.

**Greater usability of the control panel significantly reduces initial learning time, makes the operator's tasks more efficient and decreases the risk of errors.**

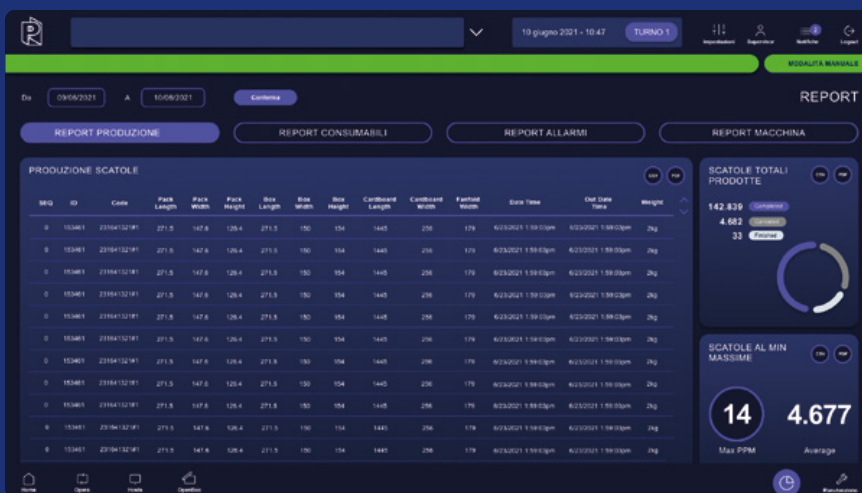






## DASHBOARD SHOWING PRODUCTION DATA AND CONSUMABLES LEVELS

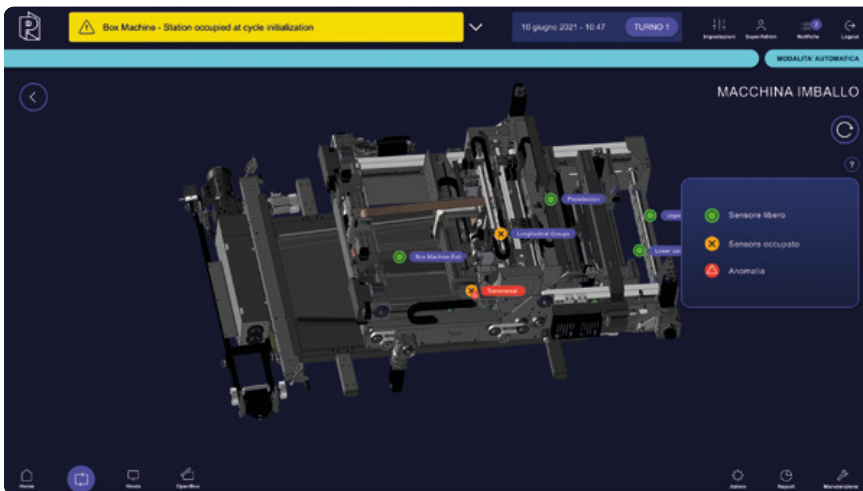
The data is always available on the main page and gives an immediate overview of the line's performance.



## MACHINE STATUS AND PRODUCTION REPORTS

A reporting section to monitor the production progress and all data related to the automatic packaging line OPERETTA, with adjustable machine parameters.



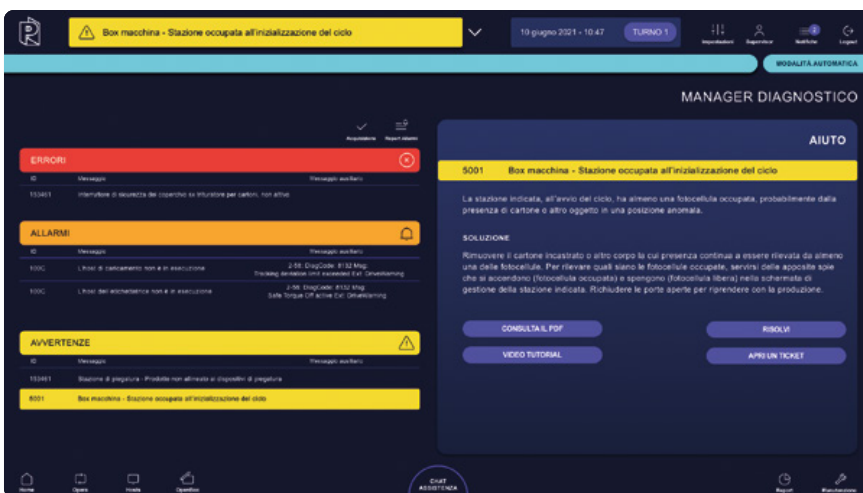
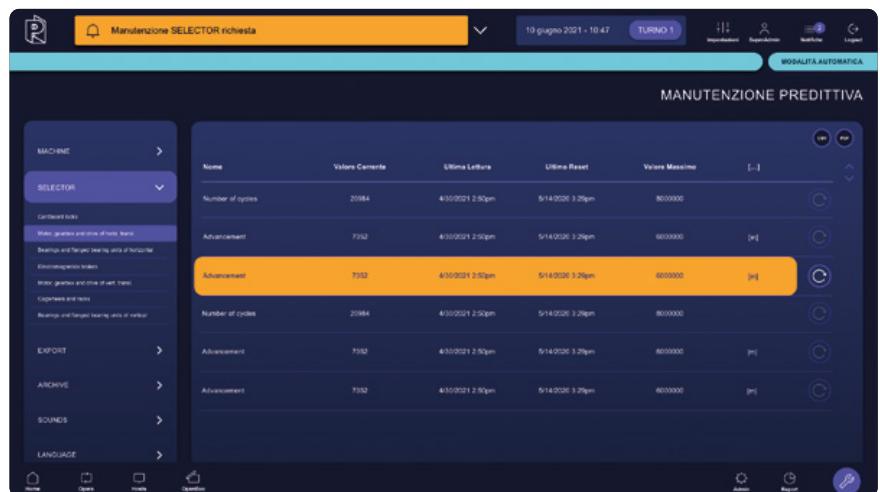


## HIGHLY ACCURATE SENSORS

Highly efficient production sensors that identify and help resolve issues.

## PREDICTIVE MAINTENANCE

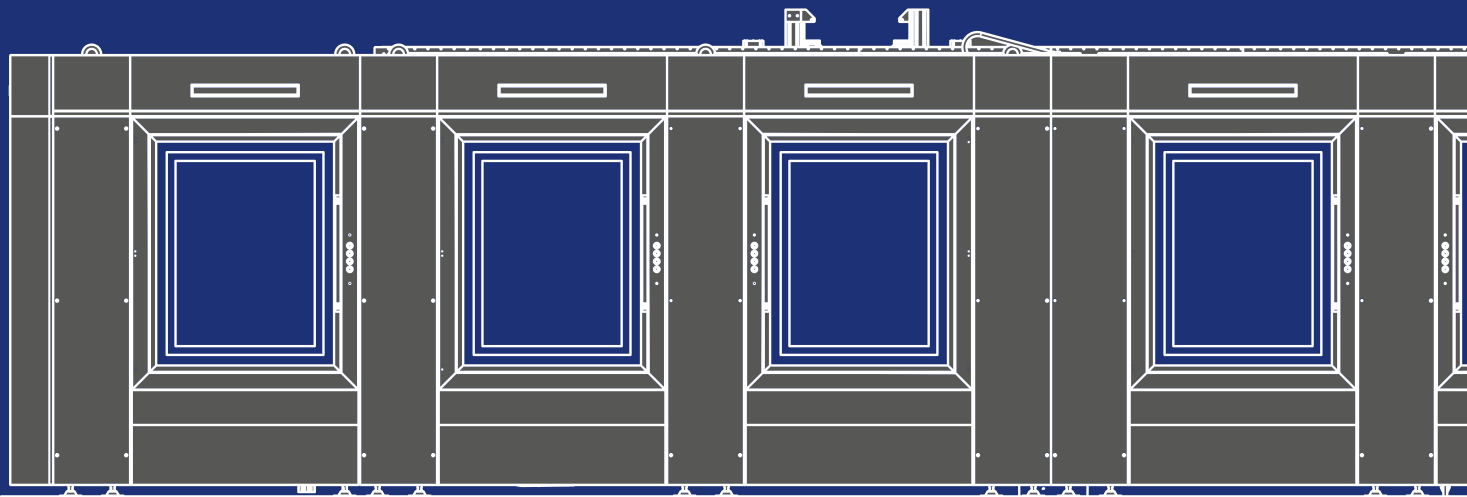
The maintenance of the various components can be managed more effectively.



## ALERTS CAN BE RESOLVED VIA PDF OR VIDEO TUTORIALS

Alerts and issues can be resolved with new pdfs, video tutorials or by opening a service ticket.

# FAST SET-UP & START-UP



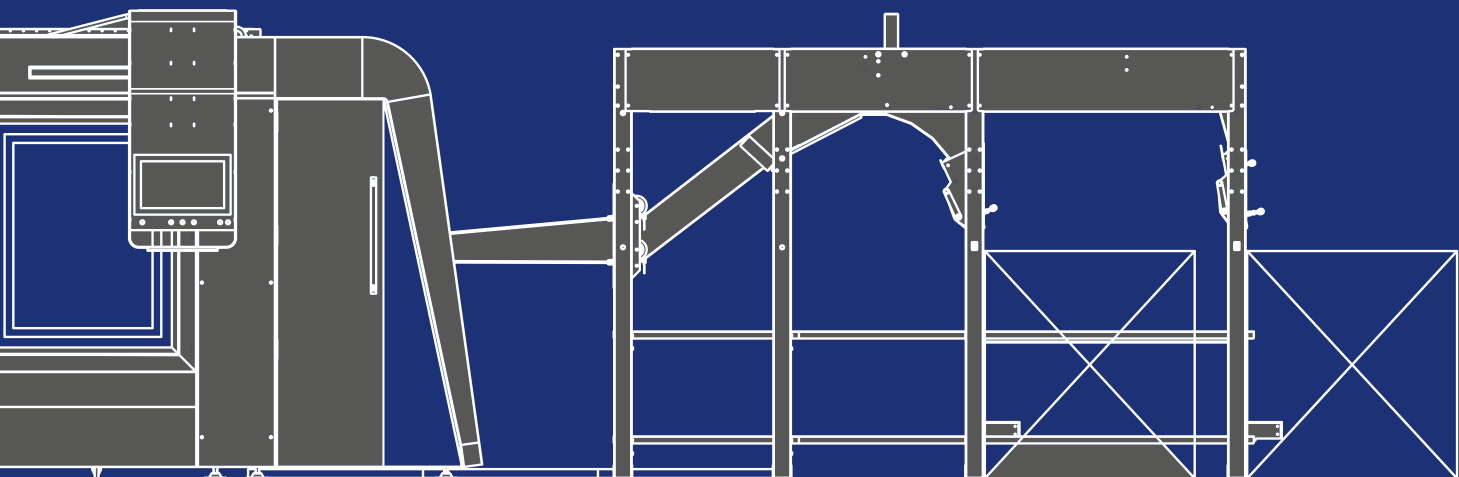
The line is designed to be set up and started up within a very short time.

OPERETTA is divided into four main blocks, transported using two full truckloads.

Once at the installation site, the four blocks are reassembled and wired within four days, after which the line is operational.

The start-up and training process is completed within the next three weeks.

**4 DAYS  
ONLY**





# SERVICE OPERETTA

Panotec's high-reliability service ensures long-term performance and operational excellence. Our support team, consisting of highly specialized engineers and technicians, is available for both remote and on-site assistance, offering 24/7 hotline support. Our dedicated online portal allows real-time monitoring of support requests and spare parts orders.

## GLOBAL SERVICE NETWORK

Panotec boasts a global network of Local Service, strategically distributed to cover all areas and provide timely and comprehensive support. Thanks to this network, customers can rely on high-level assistance wherever needed.

## CUSTOMIZABLE SERVICE PACKAGES

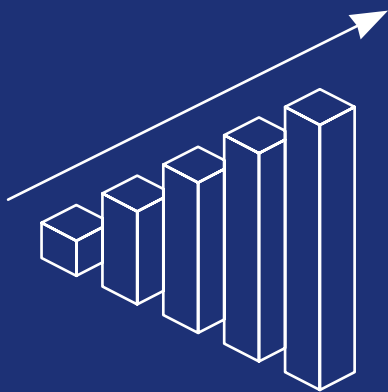
Panotec provides fully modular service packages, tailored to product specifics and customer needs, ensuring maximum operational continuity and top performance.



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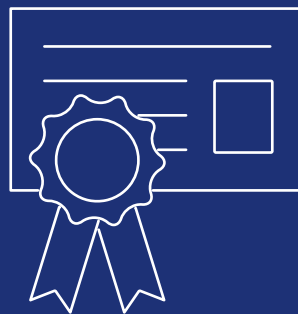


# OPERETTA TRAINING



## FUNCTIONAL TRAINING

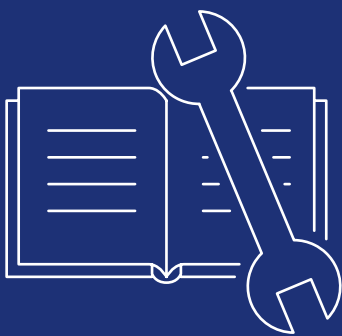
Training is provided at different levels based on the roles involved in operating the machine, including machine operators, maintenance personnel, and line supervisors.



## CONTINUOUS TRAINING

This guarantees that each role receives the appropriate training, followed by a final assessment to confirm the knowledge gained. This allows us to determine if additional training is needed to ensure the customer can operate the machine correctly and independently.





#### TAILORED PREPARATION

Panotec's team of technicians and engineers offers tailored training sessions to ensure the proper use of the OPERETTA line for the customer.



#### LOCAL SERVICE

Our Local Service Partners also participate in ongoing maintenance and support training for the OPERETTA line to stay up to date with the latest technical and software improvements. This service is essential to ensure the final customer has qualified and certified operators who can work independently, efficiently, and safely on the machine.

