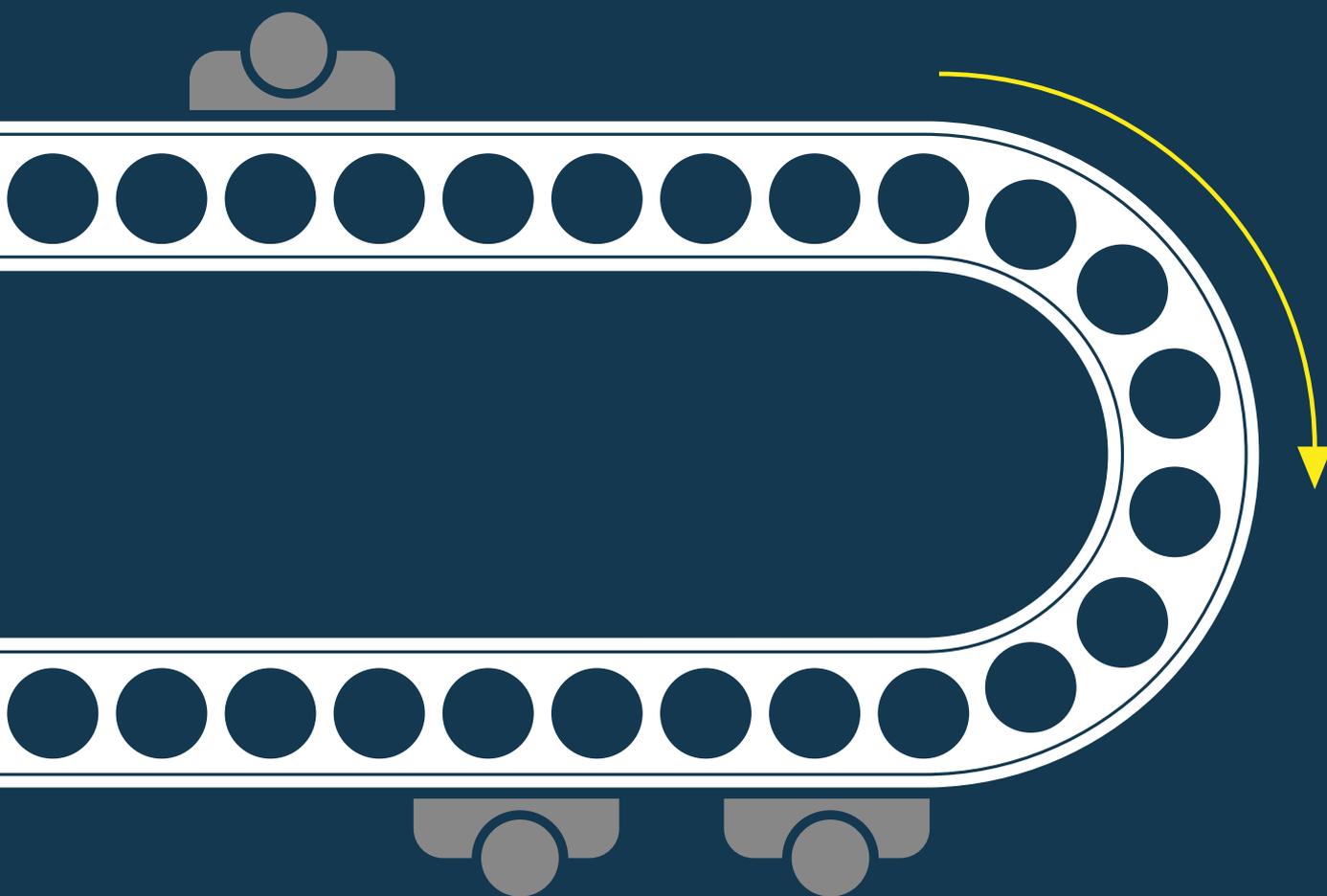


# ASSEMBLY LINES

PRODUCTIONS SYSTEMS



**PINTO BRASIL**

Pinto Brasil's **Assembly Lines** observe the highest performance, quality and excellence standards, gained over more than 25 years of experience in the market.

Pinto Brasil builds modular **Assembly Lines**, especially designed for the production of electrical cables and assembly of mechanical/electric components for the automobile industry.

Pinto Brasil's **Assembly Lines** may be designed according to each client's production requirements and specification for the required adaptability to each factory unit.

System flexibility enables line cycle and speed adjustment, rapid reference change or the adjustment of associated peripherals, being able to operate according with two functional modules (continuous or sequential).

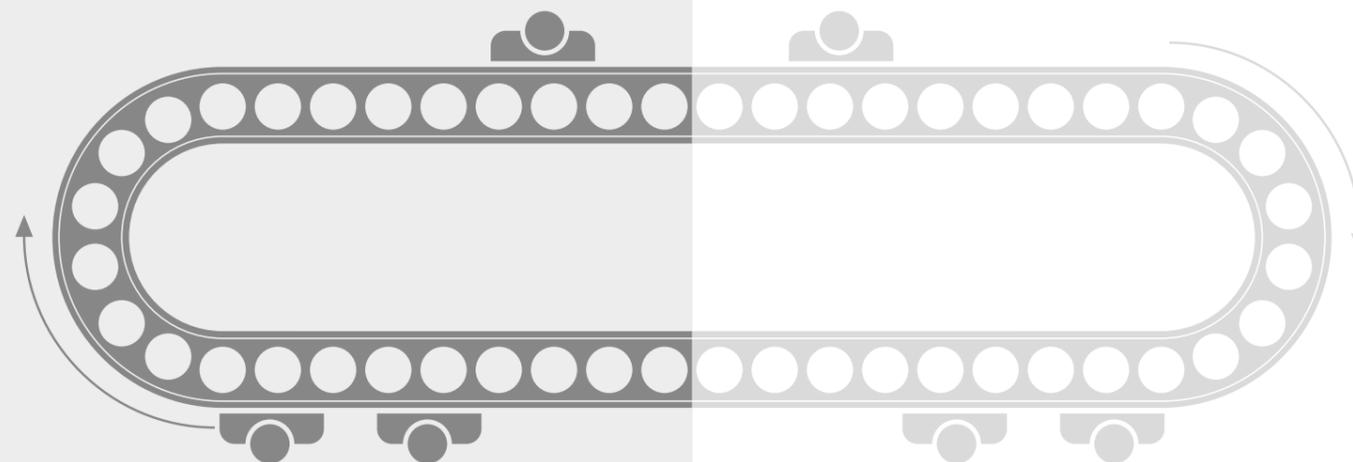
Safety is one of our main concerns and that is why we develop redundant systems that facilitate function reliability and commitment before the operators.

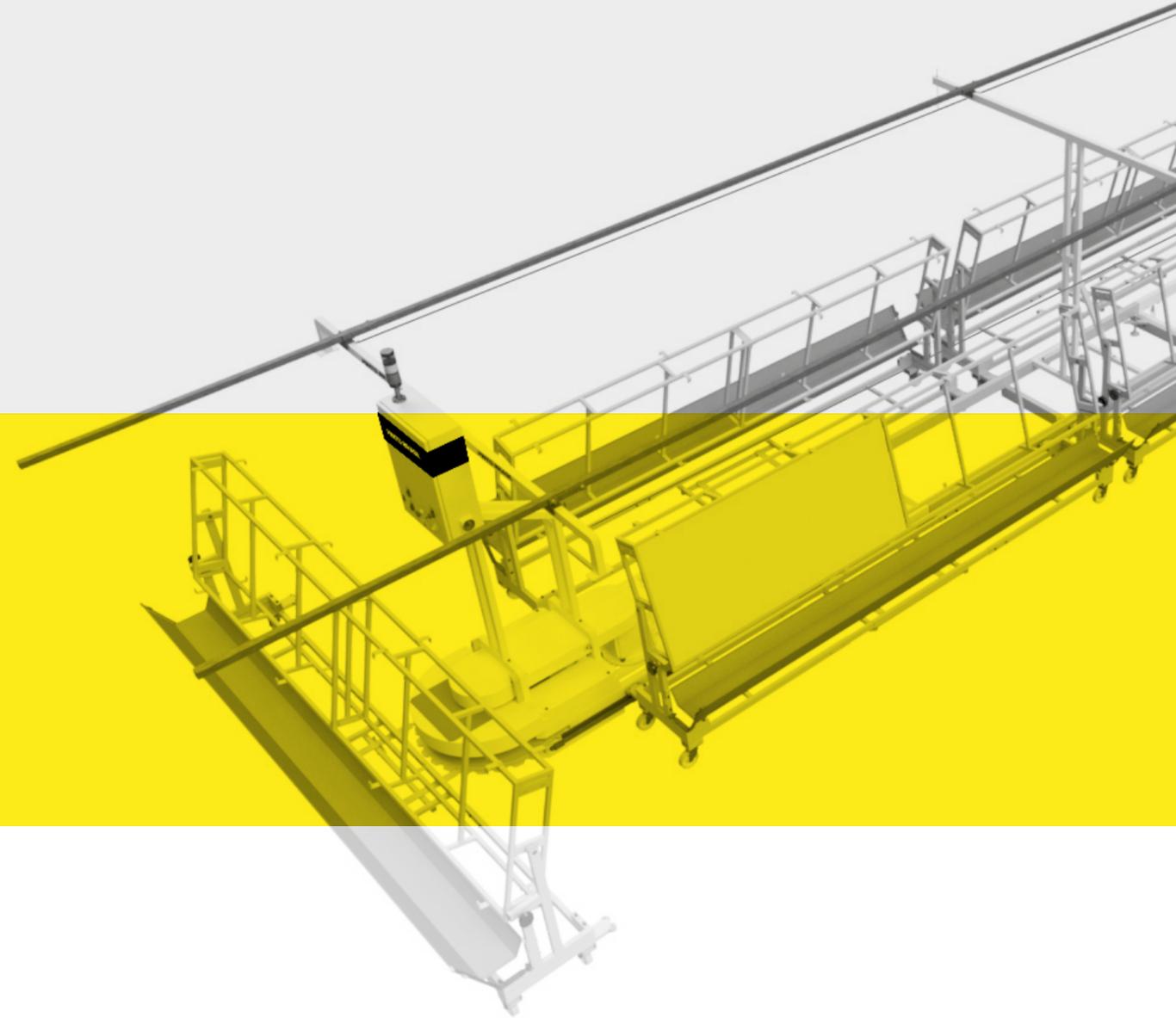
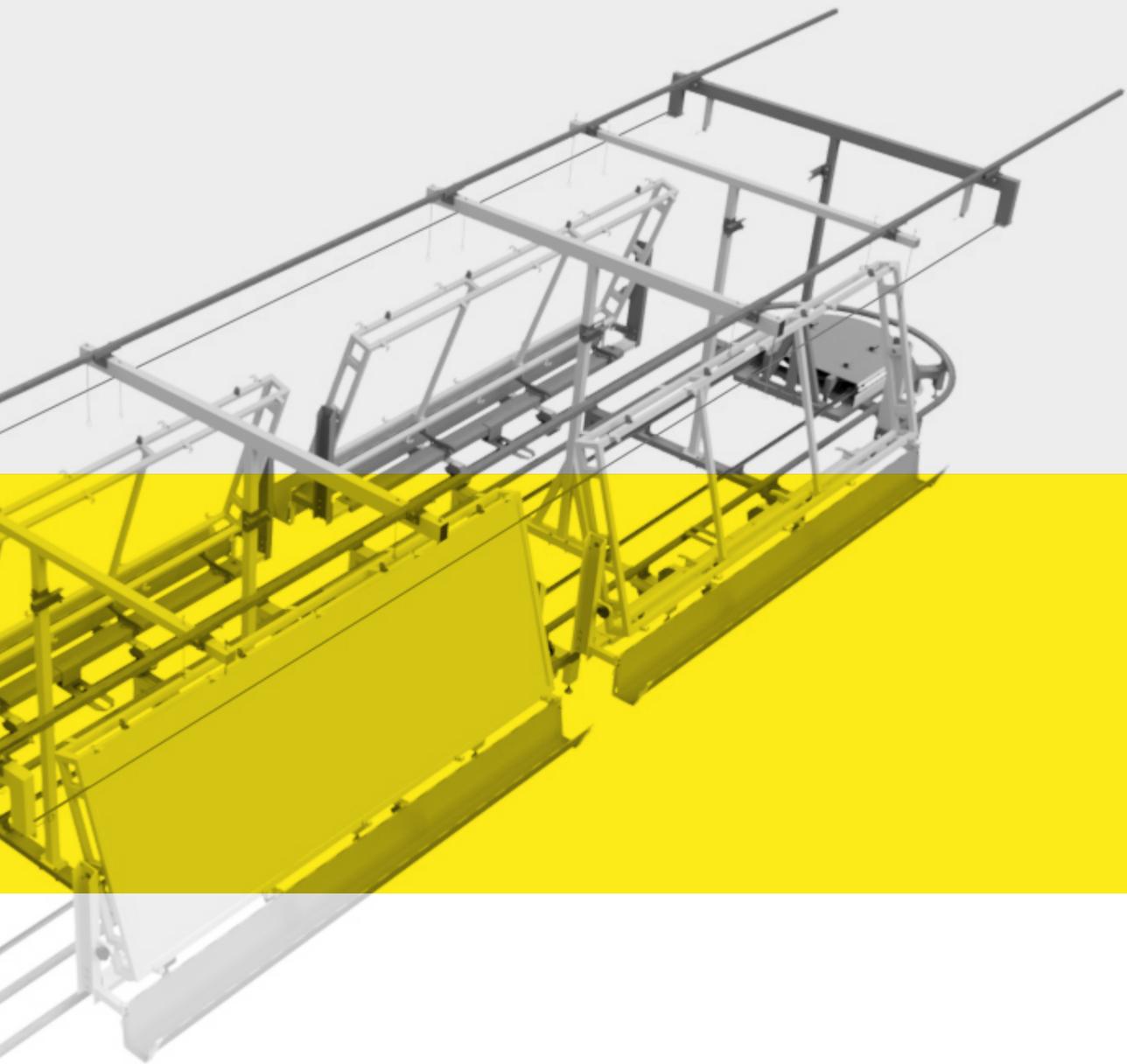
Rotary	6
E.Q.	14
Narrow	18
LAD	22
Overhang	26
Flat	30



**PRODUSI®** is the right solution to ensure a high performance and efficiency level in Pinto Brasil's Assembly Line management, by means of its several functional modules.

(for more information, please refer to the **PRODUSI®** SOFTWARE catalogue)



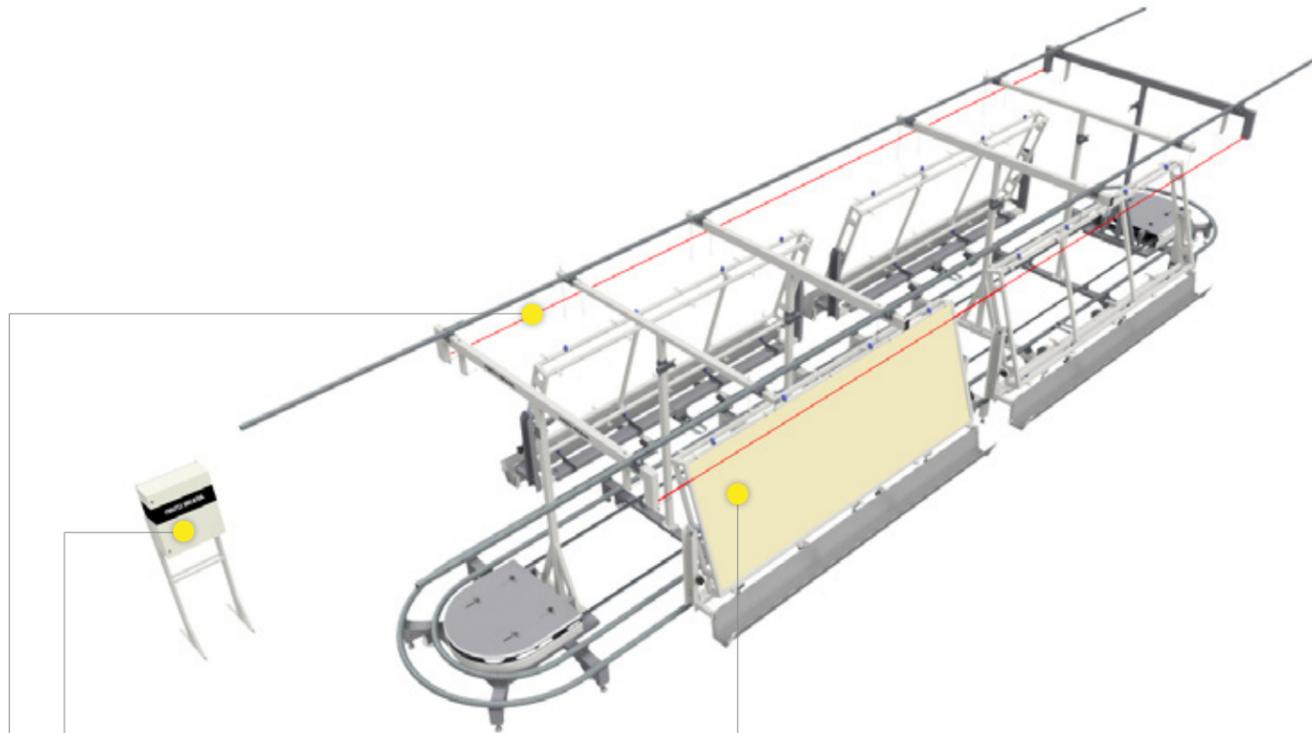


**ROTARY**  
**LINES**



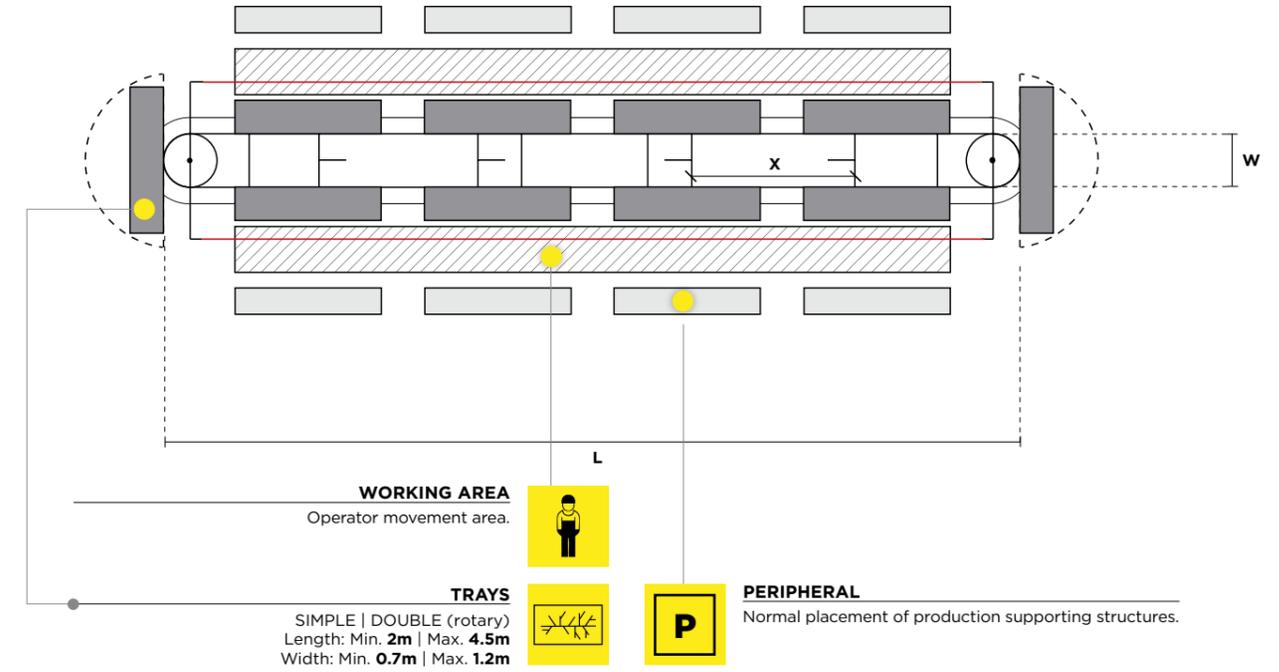
# ROTARY 7

**Rotary 7** is a line formed by a dynamic carousel-like structure. Trays move in a controlled way throughout the line. They slide on tubular rails, above ground, under regulable speed. Support and sliding structure, and trays are flexible and modular allowing prompt setup adjustments.



- TRAYS**  
SIMPLE | DOUBLE (rotary)  
Length: Min. **2m** | Max. **4.5m**  
Width: Min. **0.7m** | Max. **1.2m**
- CONTROL SYSTEM**  
PRODUSI® Software.  
(for more information, please refer to the PRODUSI® catalogue).
- EMERGENCY SYSTEM**  
EC DIRECTIVES.  
For the entire line.
- STRUCTURE**  
Modular: from interlinked modules of **3 to 5m**
- SPEED**  
Between **1m/min** and **4m/min**, variable speed  
drive-controlled.
- PROTECTION**  
Wire protection canvas.
- MOVEMENT**  
Line movement according to the start-stop principle.
- INCLINATION**  
Working area with regulable inclination.
- ROTARY TRAYS**  
Tray rotation for different products.
- TRAY CONVEYANCE**  
Conveyance on tubular rails, above ground.

# ROTARY 7

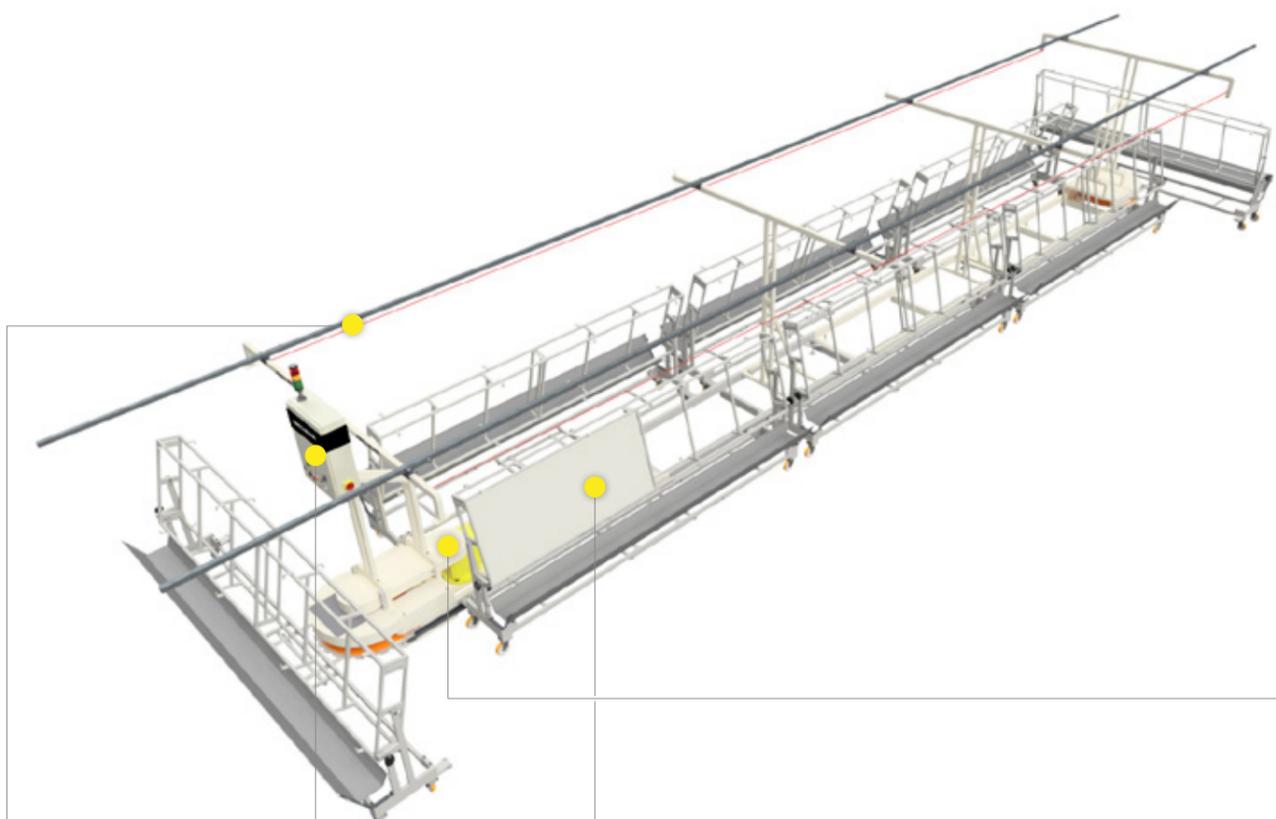


LEVEL	DIMENSIONS
H	2.250 m
L	Variable
W	0.9 m
X	Modules 3 to 5 m



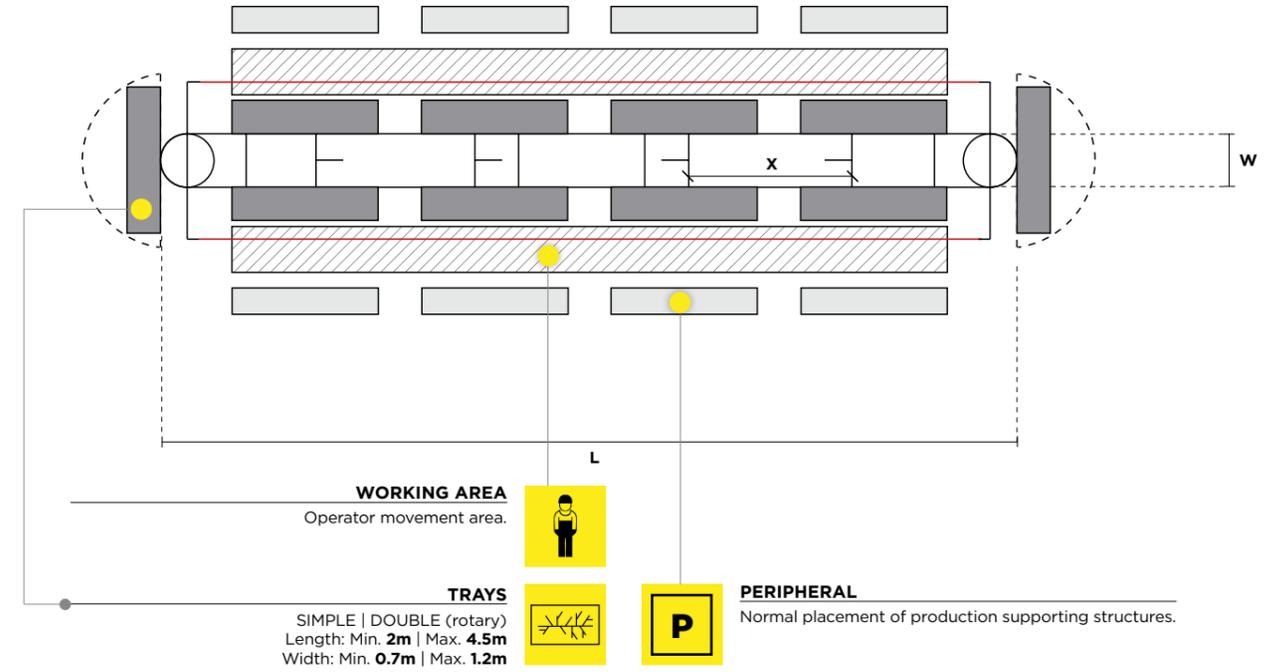
# ROTARY 8

**Rotary 8** is a line formed by a dynamic carousel-like structure. Trays move in a controlled way throughout the line, and are fixed in carts which move on the floor (guided by the line's central structure). All elements are modular allowing prompt setup adjustments.



- TRAYS**  
SIMPLE | DOUBLE (rotary)  
Length: Min. **2m** | Max. **4.5m**  
Width: Min. **0.7m** | Max. **1.2m**
- CONTROL SYSTEMS**  
PRODUSI® Software.  
(for more information, please refer to the PRODUSI® catalogue).
- EMERGENCY SYSTEM**  
EC DIRECTIVES.  
For the entire line.
- STRUCTURE**  
Modular: from **6m** with multiples of **3m**
- SPEED**  
Between **1m/min** and **4m/min**, variable speed  
drive-controlled.
- PROTECTION**  
Wire protection canvas.
- MOVEMENT**  
Line movement according to the start-stop principle.
- INCLINATION**  
Working area regulable inclination.
- ROTARY TRAYS**  
Tray rotation for different products.
- TRAY CONVEYANCE**  
Tray conveyance via cart coupled to line (easily replaceable).

# ROTARY 8

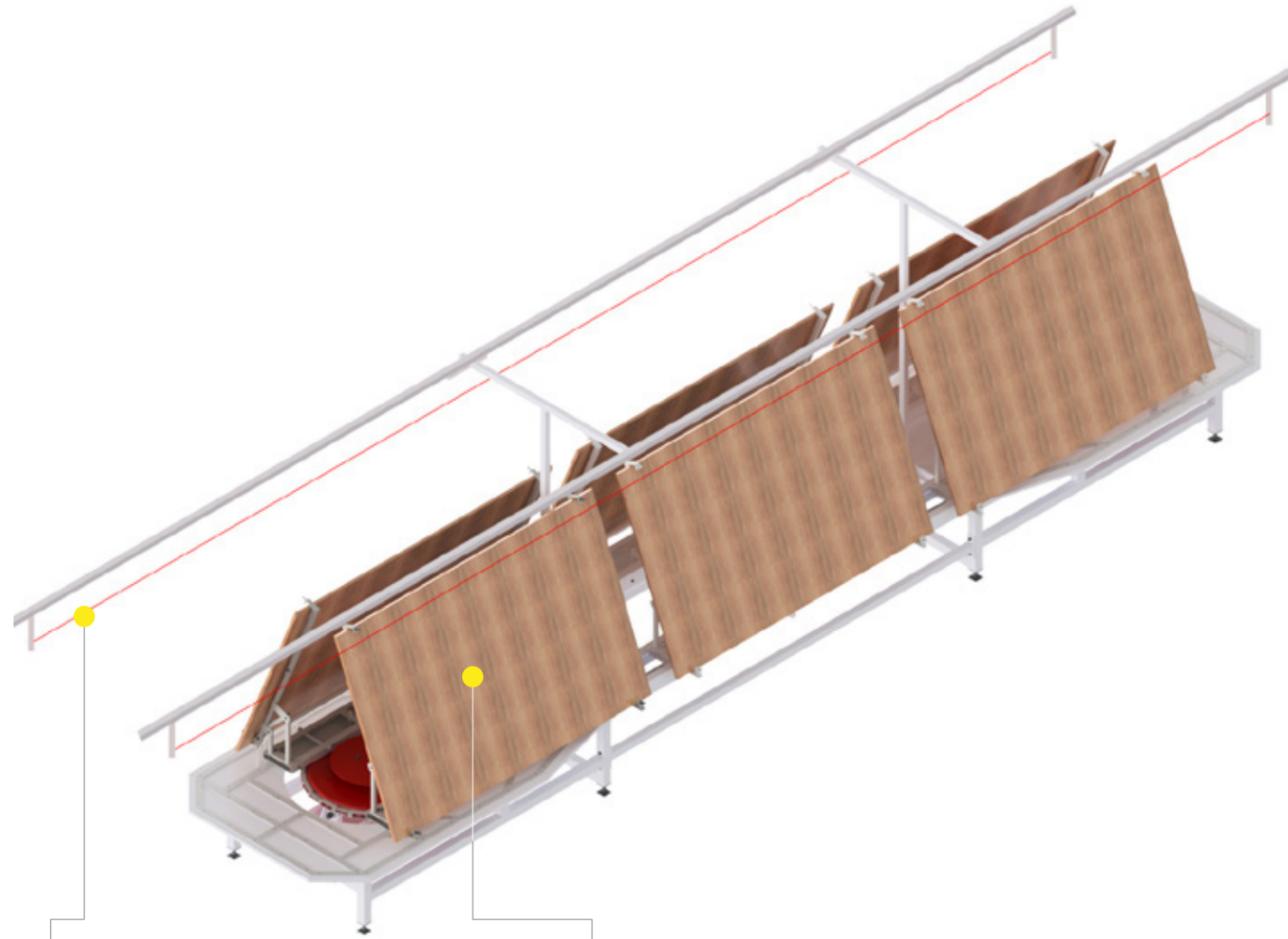


LEVEL	DIMENSIONS
H	2.250 m
W	0.8 m
L	Variable
X	Modules 3 to 5 m

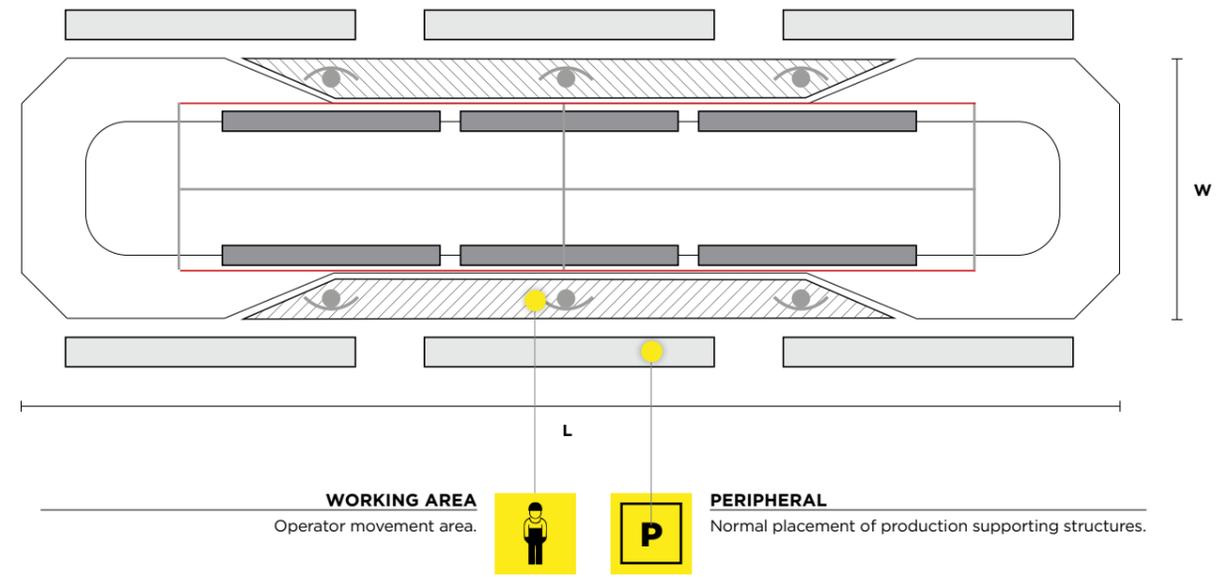


# ROTARY 11

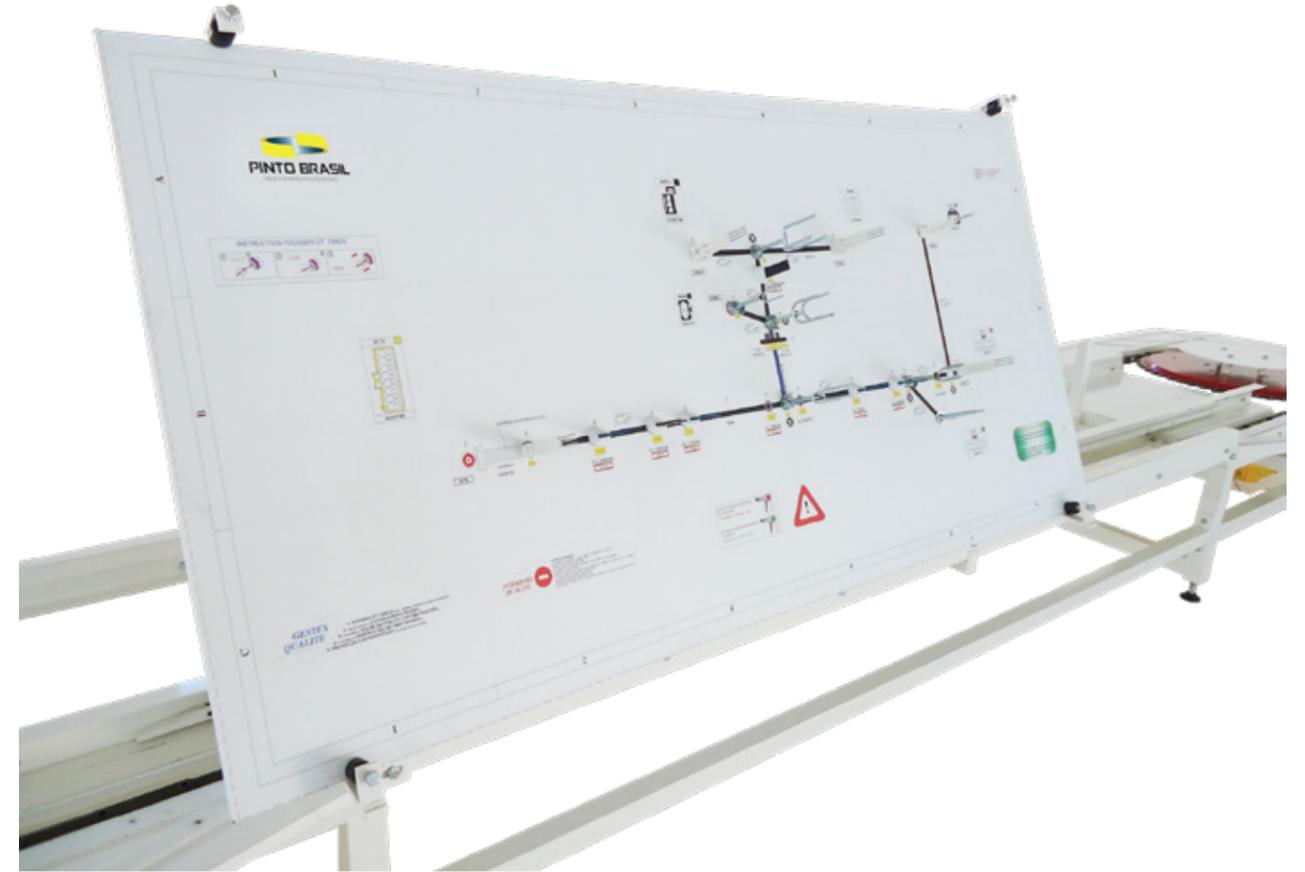
**Rotary 11** is a line formed by a dynamic carousel-like structure. Trays move in a controlled over the defined working areas, by sliding on low-speed rails. Support and sliding structure is flexible and modular allowing prompt setup adjustments.



# ROTARY 11



LEVEL	DIMENSIONS
H	1.5 m
W	0.7 a 1.2 m
L	2 to 4.5 m
X	Modules 3 to 5 m



**TRAYS**

SIMPLES | DOUBLE | TRIPLE (rotary) Quick Setup.  
Length: Min. **2m** | Max. **4.5m**  
Width: Min. **0.7m** | Max. **1.2m**



**CONTROL SYSTEM**

PRODUSI® Software.  
(for more information, please refer to the PRODUSI® catalogue).



**EMERGENCY SYSTEM**

EC DIRECTIVES.  
For the entire line.



**STRUCTURE**

From **5m** with multiples of **3m**



**SPEED**

Between **1m/min** and **4m/min**, variable speed drive-controlled.



**PROTECTION**

Wire protection canvas.



**MOVEMENT**

Line movement according to the start-stop principle.



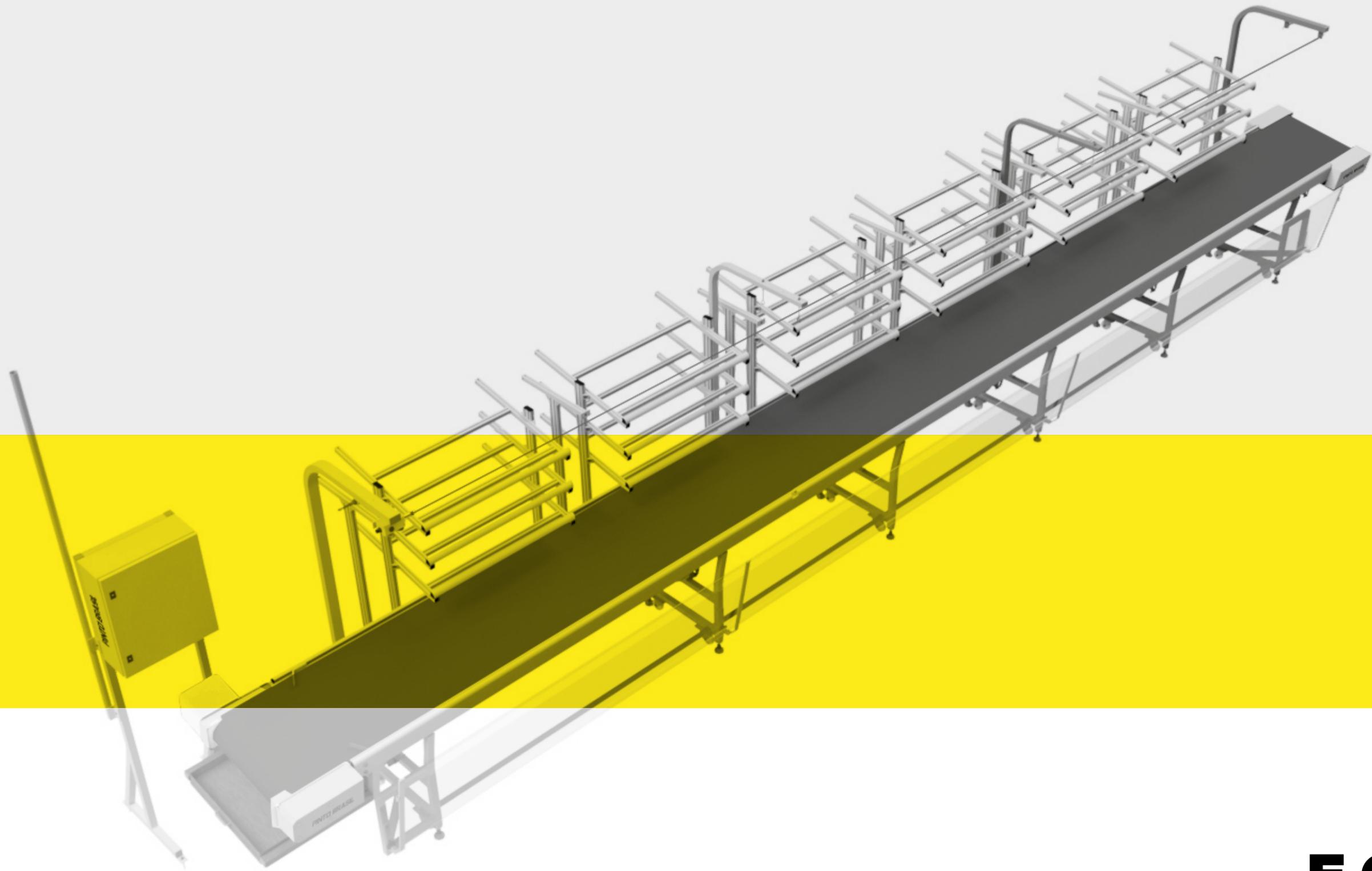
**INCLINATION**

Working area regulable inclination.



**TRAY CONVEYANCE**

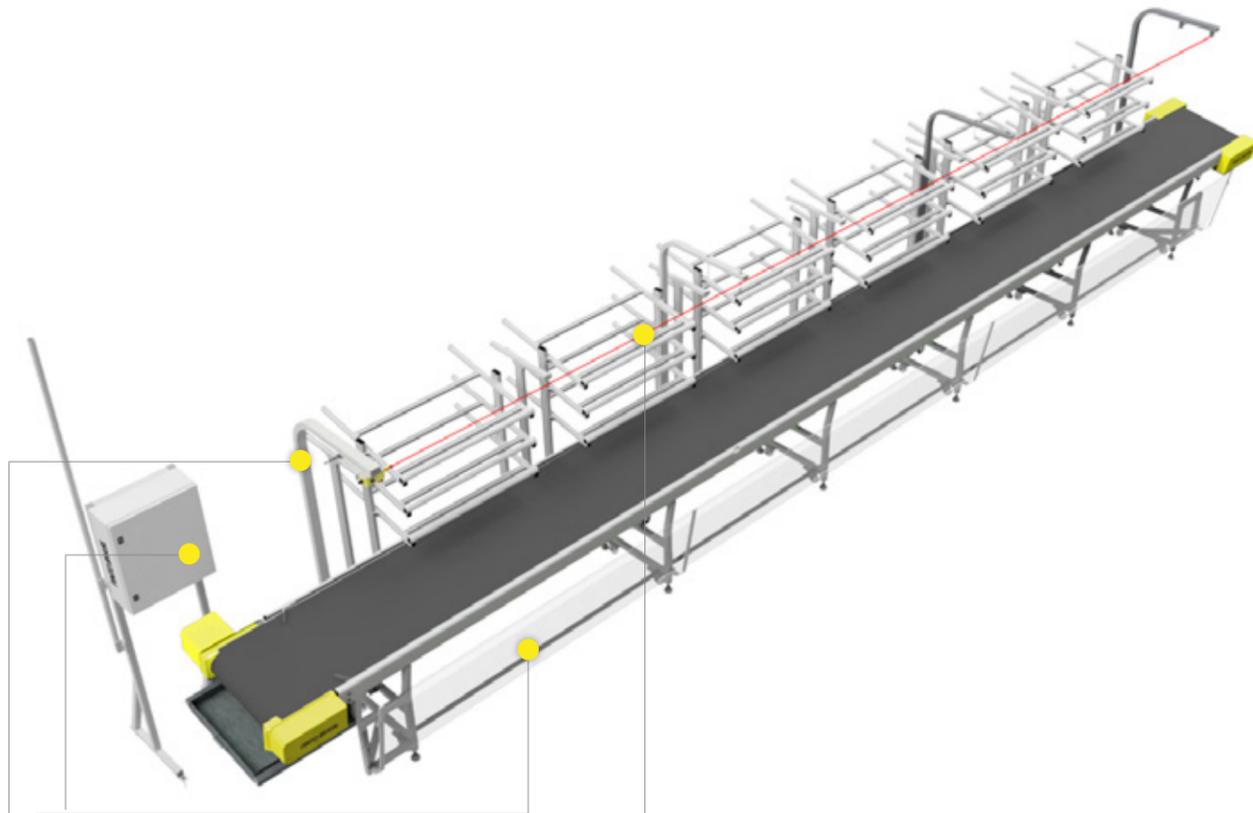
Tray conveyance on low-speed rails.



**E.Q.**  
**LINE**

## E.Q. (EFFICIENCY AND QUALITY)

The **E.Q.** line was designed based on the start-stop principle. Product assembly is made by moving between working areas via a conveying canvas. This line offers great benefits from the ergonomic point of view as it allows the front loading of components by operators. In addition, and because area supply is made in line's posterior region, this equipment increases factory layout improvement.



### TRAYS

Trays of various sizes (depending on the size of the post).



### CONTROL SYSTEM

PRODUSI® Software. (for more information, please refer to the PRODUSI® catalogue).



### EMERGENCY SYSTEM

EC DIRECTIVES. For the entire line.



### STRUCTURE

Modular: from 6m with multiples of 3m. Supporting structure optional for component rack fixation.



### SPEED

Between 1m/min and 4m/min, variable speed drive-controlled.



### PROTECTION

Wire protection canvas.



### MOVEMENT

Line movement according to the start-stop principle.



### INCLINATION

Working area regulable inclination.



### TRAY CONVEYANCE

Fixed trays in the stations.



### CONVEYING CANVAS

Width: 0.2 to 0.4m

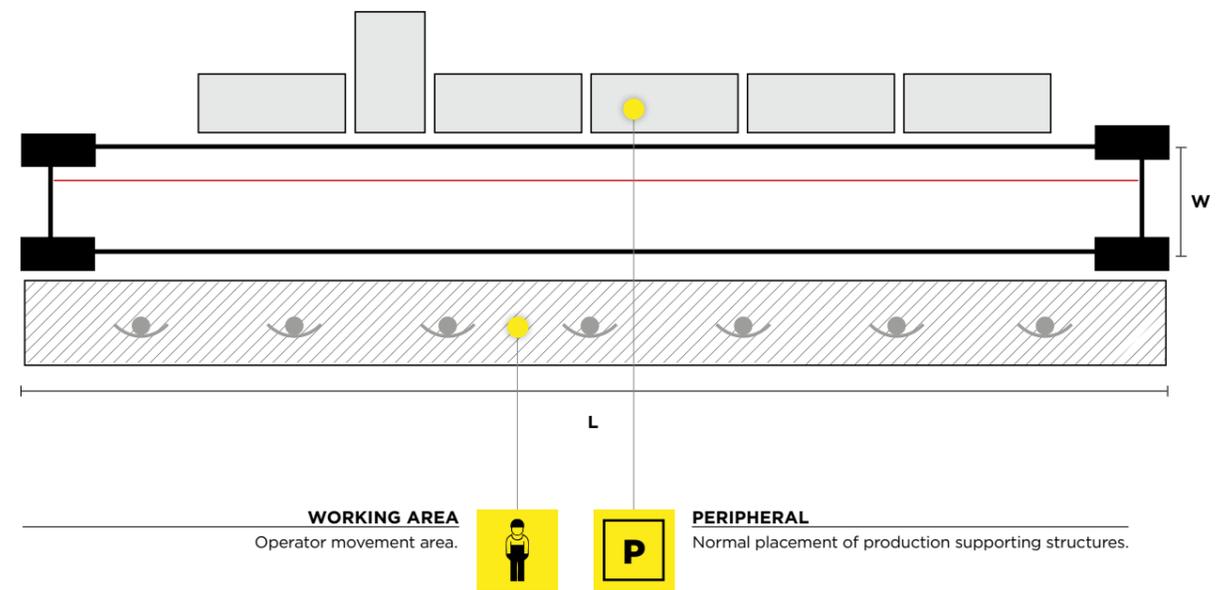


### ALIGNED SPRINGS

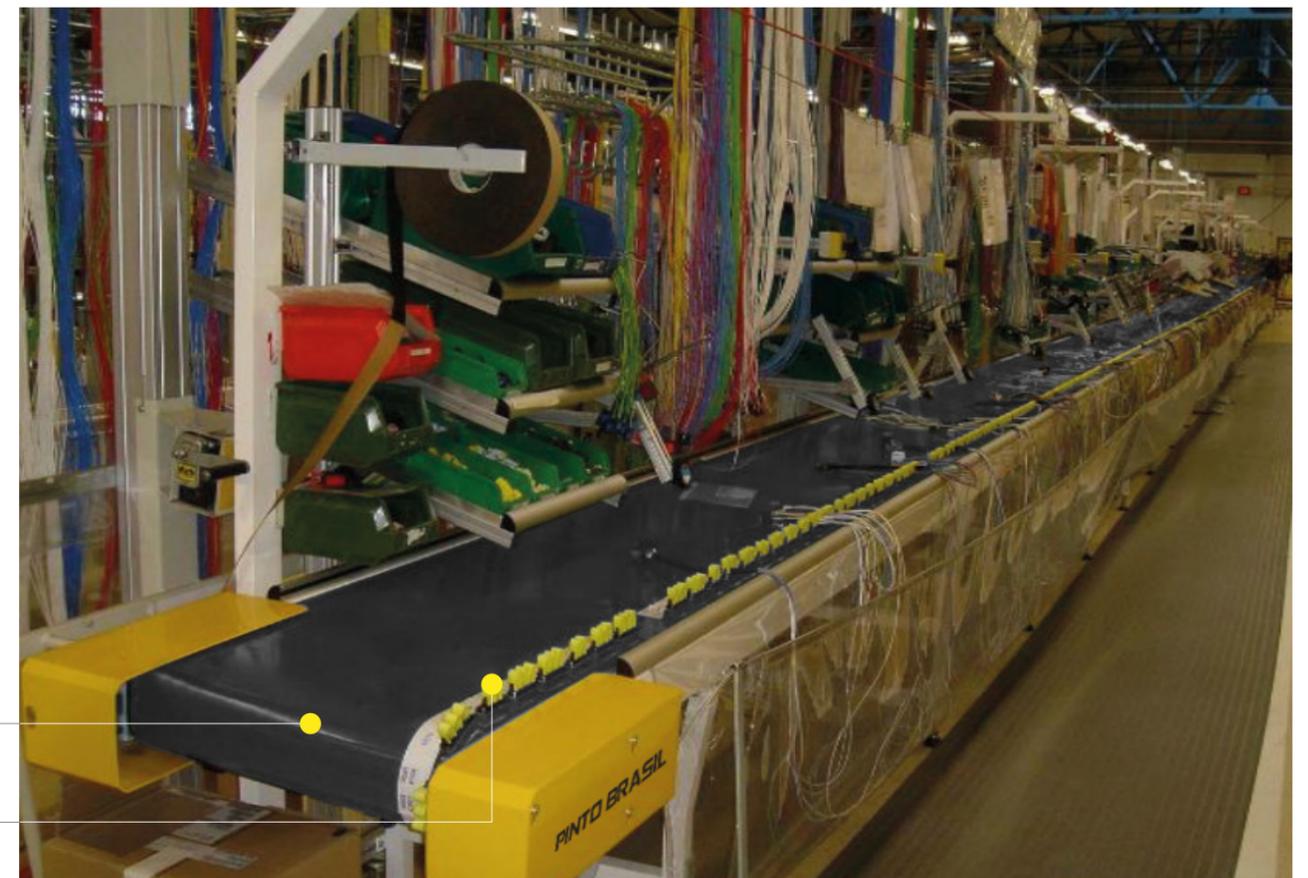
Possibility of placing aligned springs for wire/cable fixation.

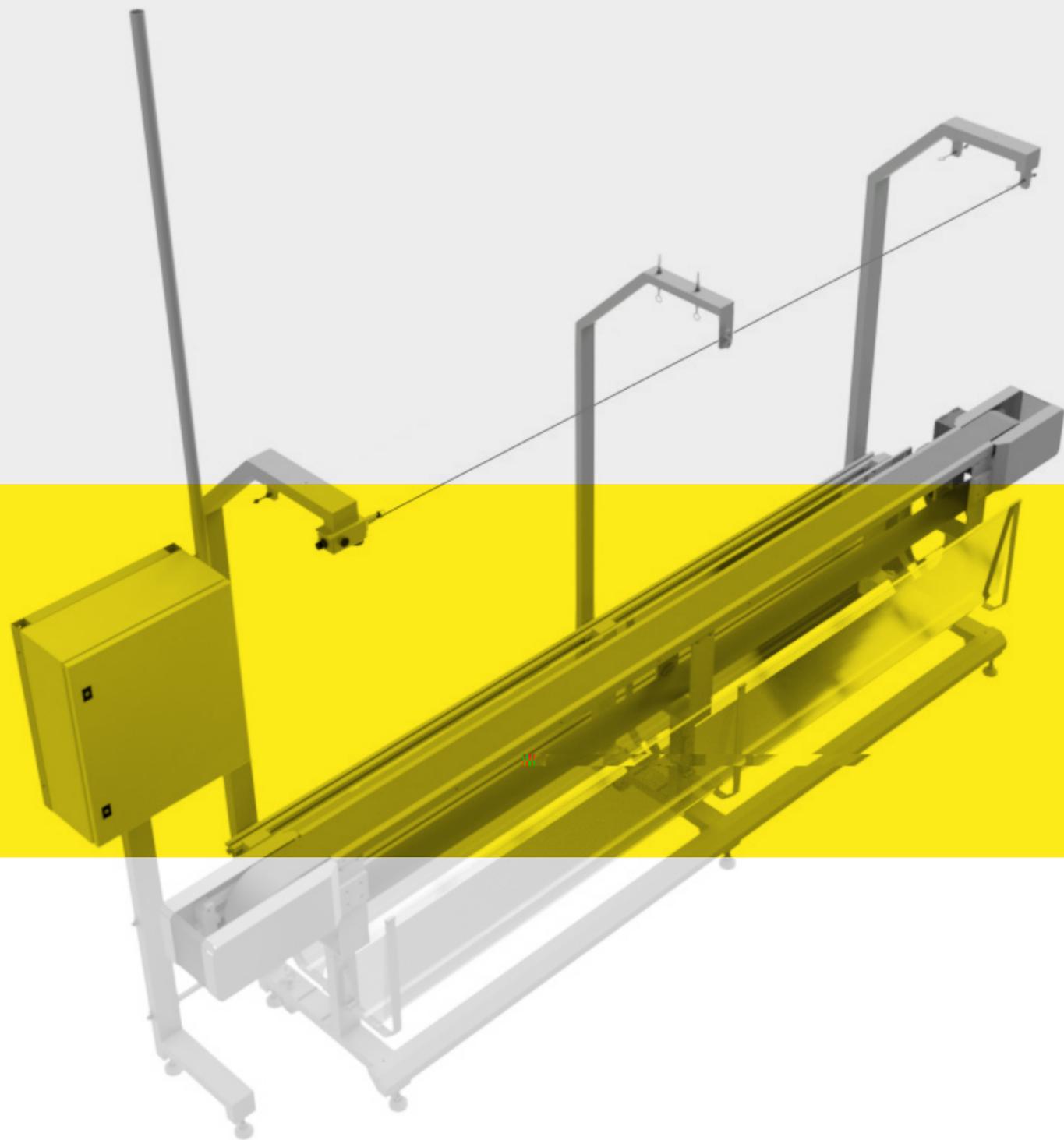


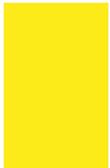
## E.Q. (EFFICIENCY AND QUALITY)



LEVEL	DIMENSIONS
H	0.9 m
W	0.4 a 0.6 m
L	From 6 m
X	Modular, 3 to 5 m

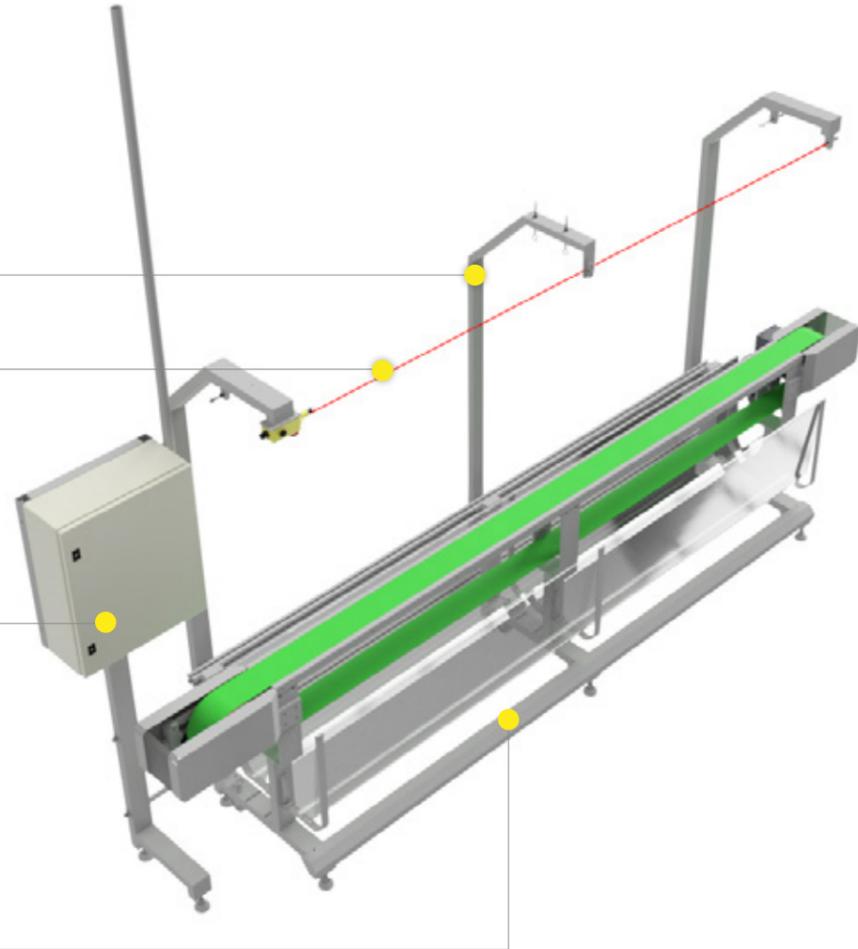




**NARROW**  
**LINE** 

# NARROW

**Narrow** is a line developed for the movement of products for assembly between working areas, via a conveying canvas. This is the ideal solution for the assembly of small components, ensuring high productivity rates. All components used by the operators are laid out frontally, making this equipment really comfortable from the ergonomic point of view.



### TRAYS

Trays of various sizes (depending on the size of the post).



### CONTROL SYSTEM

PRODUSI® Software. (for more information, please refer to the PRODUSI® catalogue).



### MOVEMENT

Line movement according to the start-stop principle.

### EMERGENCY SYSTEM

EC DIRECTIVE. For the entire line.



### INCLINATION

Working area regulable inclination.

### STRUCTURE

Modular: from 5m with multiples of 3m Supporting structure optional for component rack fixation.



### TRAY CONVEYANCE

Fixed trays in the stations.

### SPEED

Between 1m/min and 4m/min, variable speed drive-controlled.



### CONVEYING CANVAS

Width: 0.2 to 0.4m

### PROTECTION

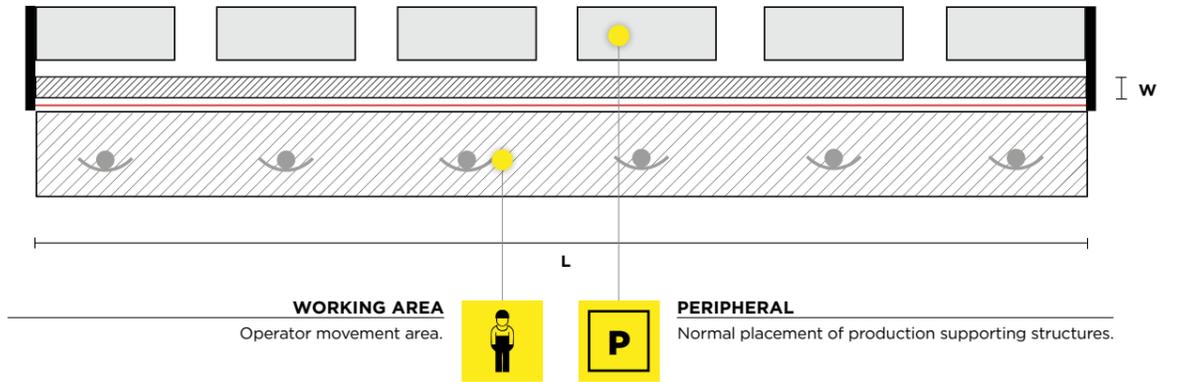
Wire protection canvas.



### ALIGNED SPRINGS

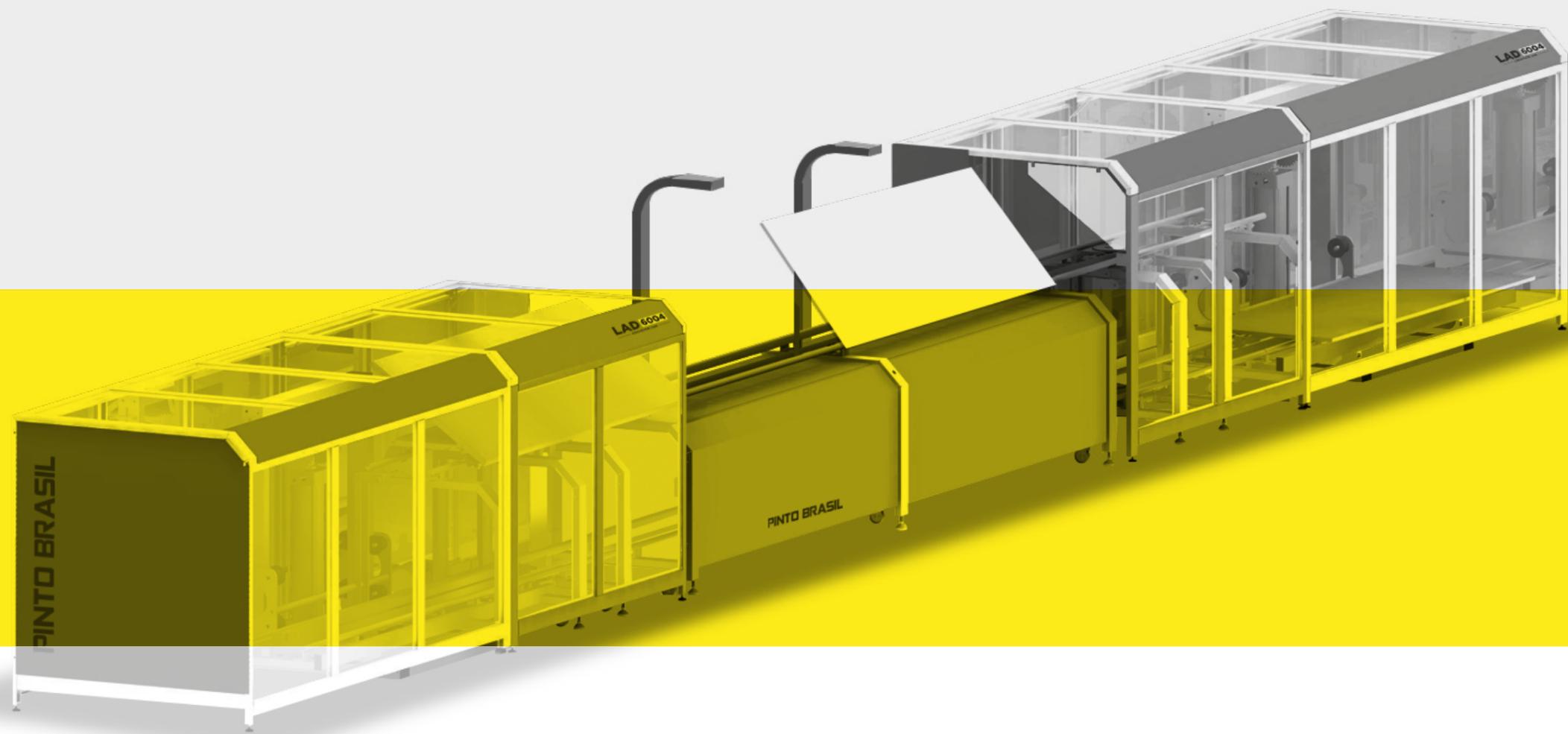
Possibility of placing aligned springs for wire/cable fixation.

# NARROW



LEVEL	DIMENSIONS
H	0.9 m
W	0.2 to 0.4 m
L	Variable



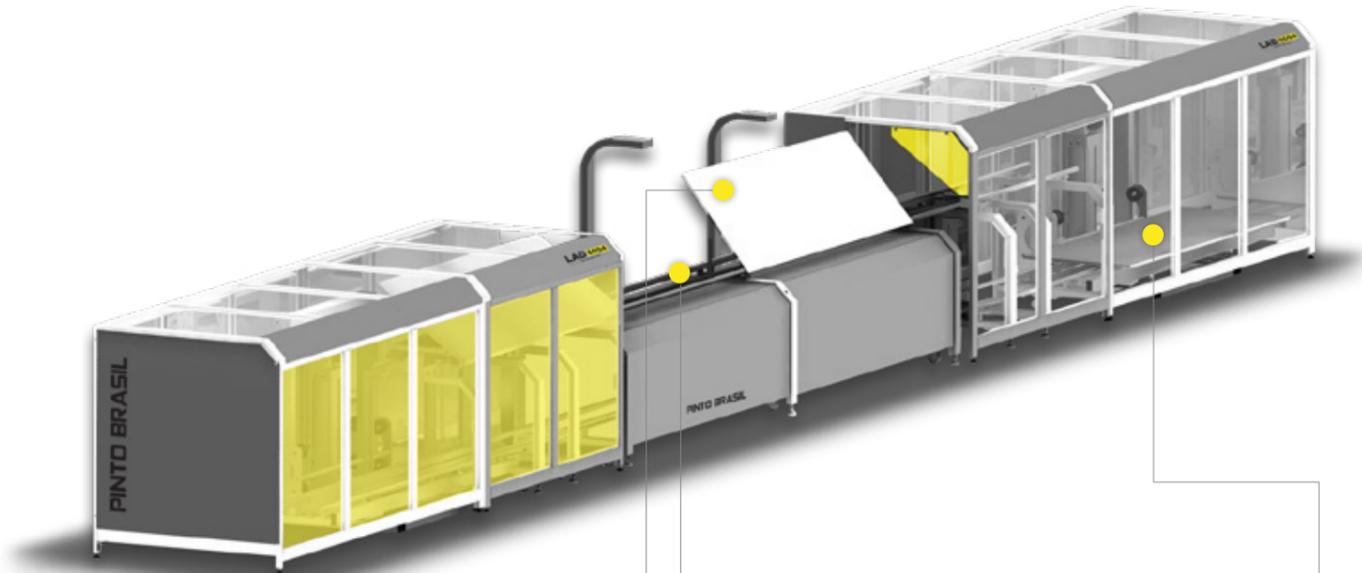


**LAD**  
**LINE**



# LAD

**LAD** is a line developed according to the start-stop principle for the assembly trays throughout the several working areas. Trays slide on tubular rails in two movement platforms: the higher working platform and the lower tray return platform. Line configuration ensures that components to use for assembly are provided frontally therefore assuring optimal ergonomics for operators.



- TRAYS**  
STANDARD | 2.2m x 0.8m or 1.8m x 0.6m  
(please refer to the manufacturer for other dimensions).


- CONTROL SYSTEM**  
PRODUSI® Software.  
(for more information, please refer to the PRODUSI® catalogue).


- EMERGENCY SYSTEM**  
EC DIRECTIVES.  
For the entire line.


- STRUCTURE**  
Modular: from 5m with multiples of 3m


- SPEED**  
Between 1m/min and 4m/min, variable speed  
drive-controlled.


- PROTECTION**  
Protection against edges and tray movement.


- MOVEMENT**  
Line movement according to the start-stop principle.

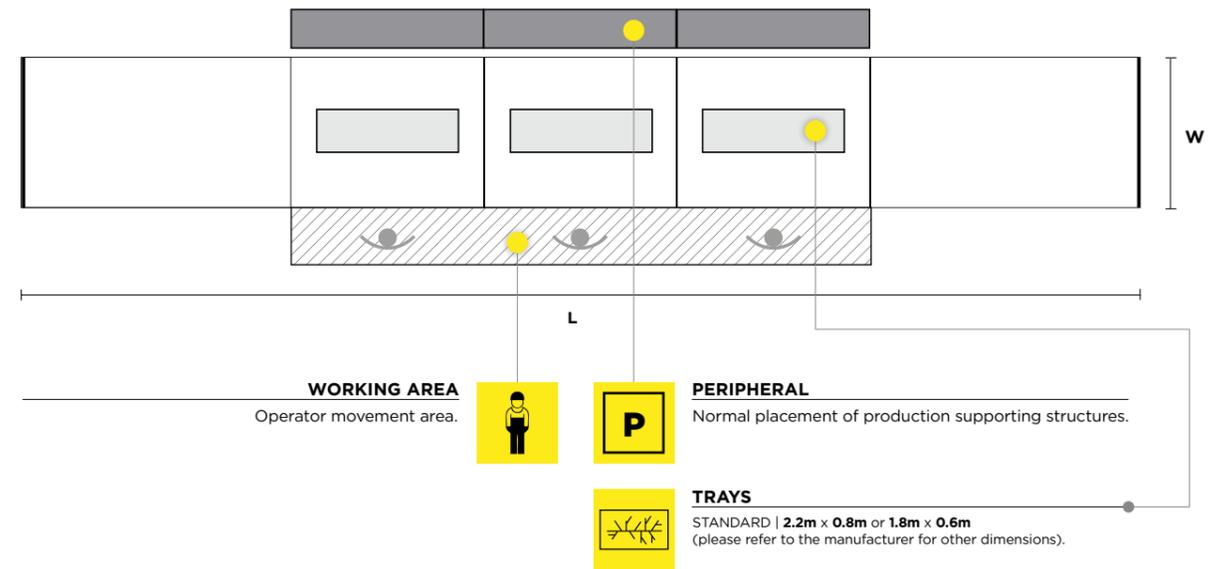

- INCLINATION**  
Working area regulable inclination.


- TRAY CONVEYANCE**  
Transport in line with central traction.

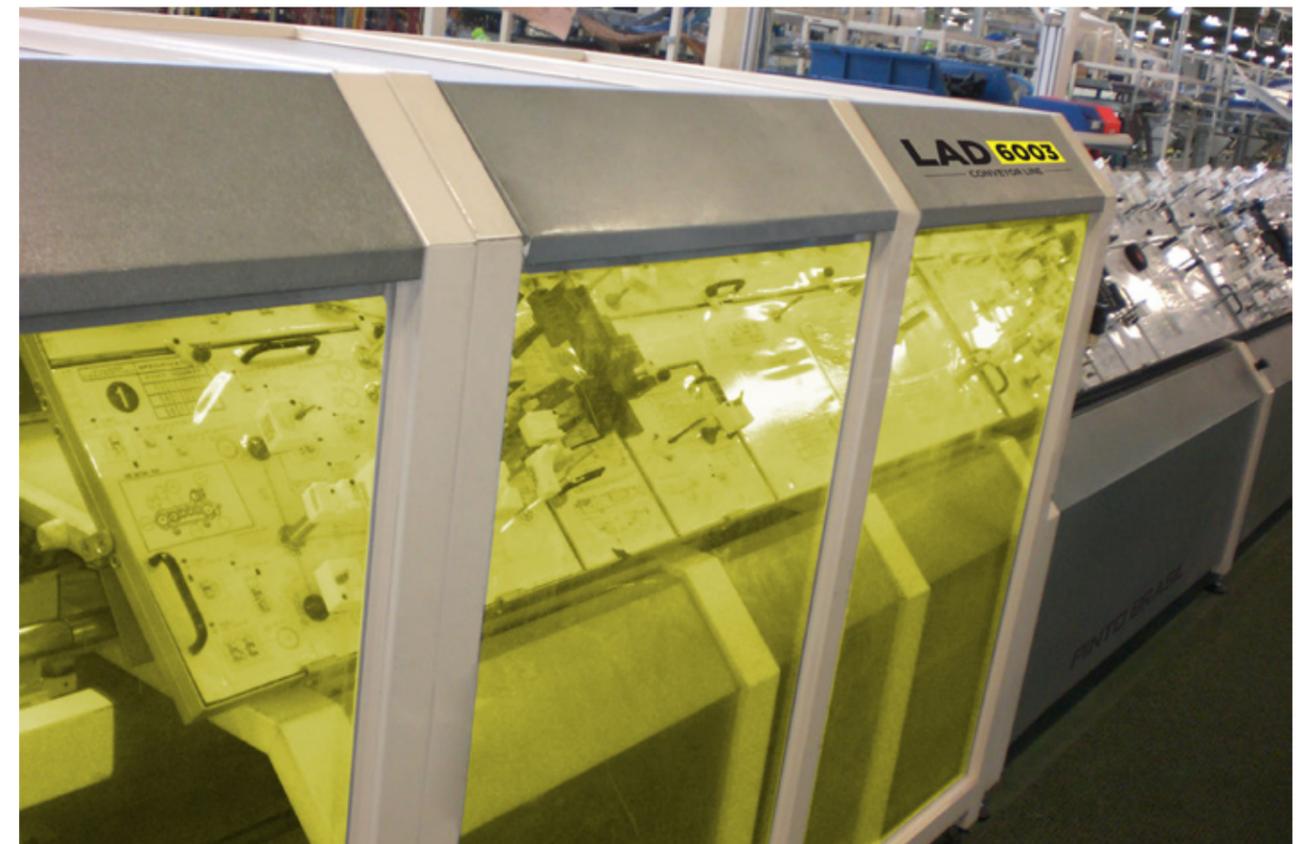

- LIFT**  
Tray lifting and transition area.



# LAD



LEVEL	DIMENSIONS
H	Variable
W	Variable
L	Variable





**OVERHANG**  
**LINE**



# OVERHANG

**Overhang** is a line created according to the start-stop movement of the assembly trays throughout the several working areas. The tray is suspended in and slides along an electrified rail (**EMS - Electrified Monorail System**). Several platforms may be placed along this line, in different levels, allowing perfect working area ergonomics. Its high flexibility enables the creation of working areas outside the central line for miscellaneous works like: rework; tray replacement and tray changes or modifications.

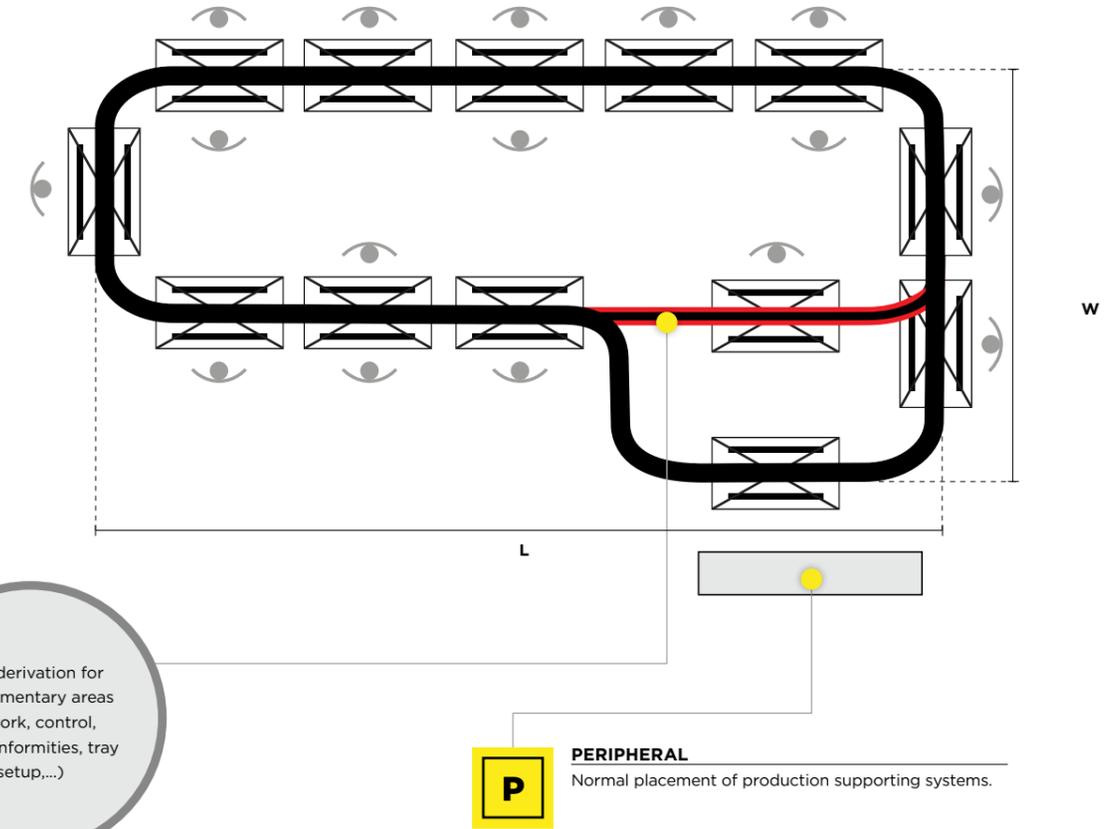
Tray placement and positioning allows working on both sides, therefore ensuring higher assembly process flexibility and a higher line reference diversity.

This line is laid out to ensure the frontal availability of components to be used during an assembly, assuring optimal ergonomics levels for the operators.



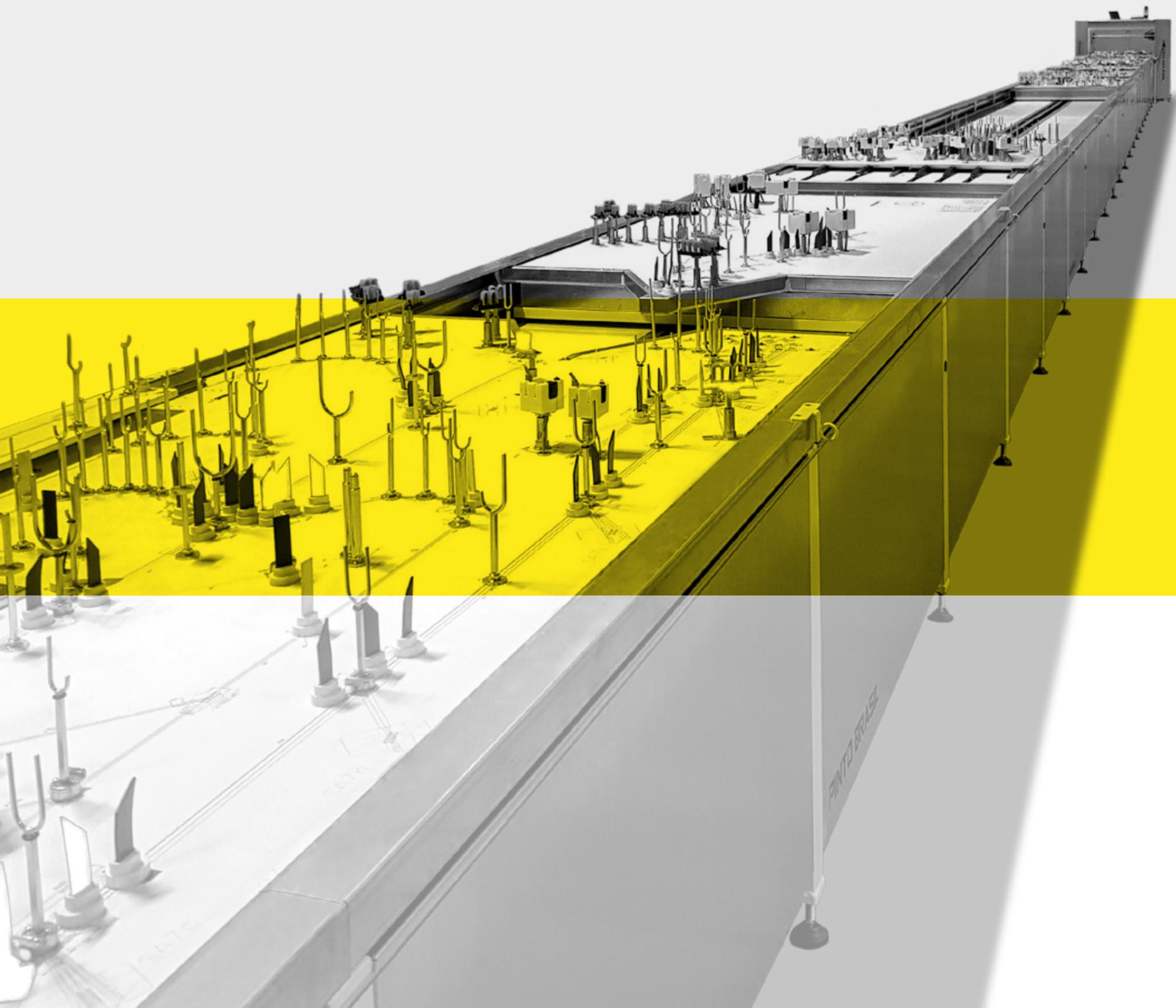
- TRAYS**  
STANDARD | 4m x 1m or 6m x 1m (please refer to the manufacturer for other dimensions). Working tray inclination to be defined. Movement pursuant to the start-stop principle.
- CONTROL SYSTEM**  
PRODUSI® Software. (for more information, please refer to the PRODUSI® catalogue).
- EMERGENCY SYSTEM**  
EC DIRECTIVES. For the entire line.
- STRUCTURE**  
According to the set of specifications or client's specifications.
- SPEED**  
Between 1m/min and 4m/min, variable speed drive-controlled.
- PROTECTION**  
Wire protection canvas.
- MOVEMENT**  
Line movement according to the start-stop principle.
- INCLINATION**  
Working area regulable inclination.
- CAPACITY**  
300kg.
- QUICK SETUP**  
Rework; tray replacement and tray changes or modifications.

# OVERHANG



LEVEL	DIMENSIONS
H	Variable
W	Variable
L	Variable



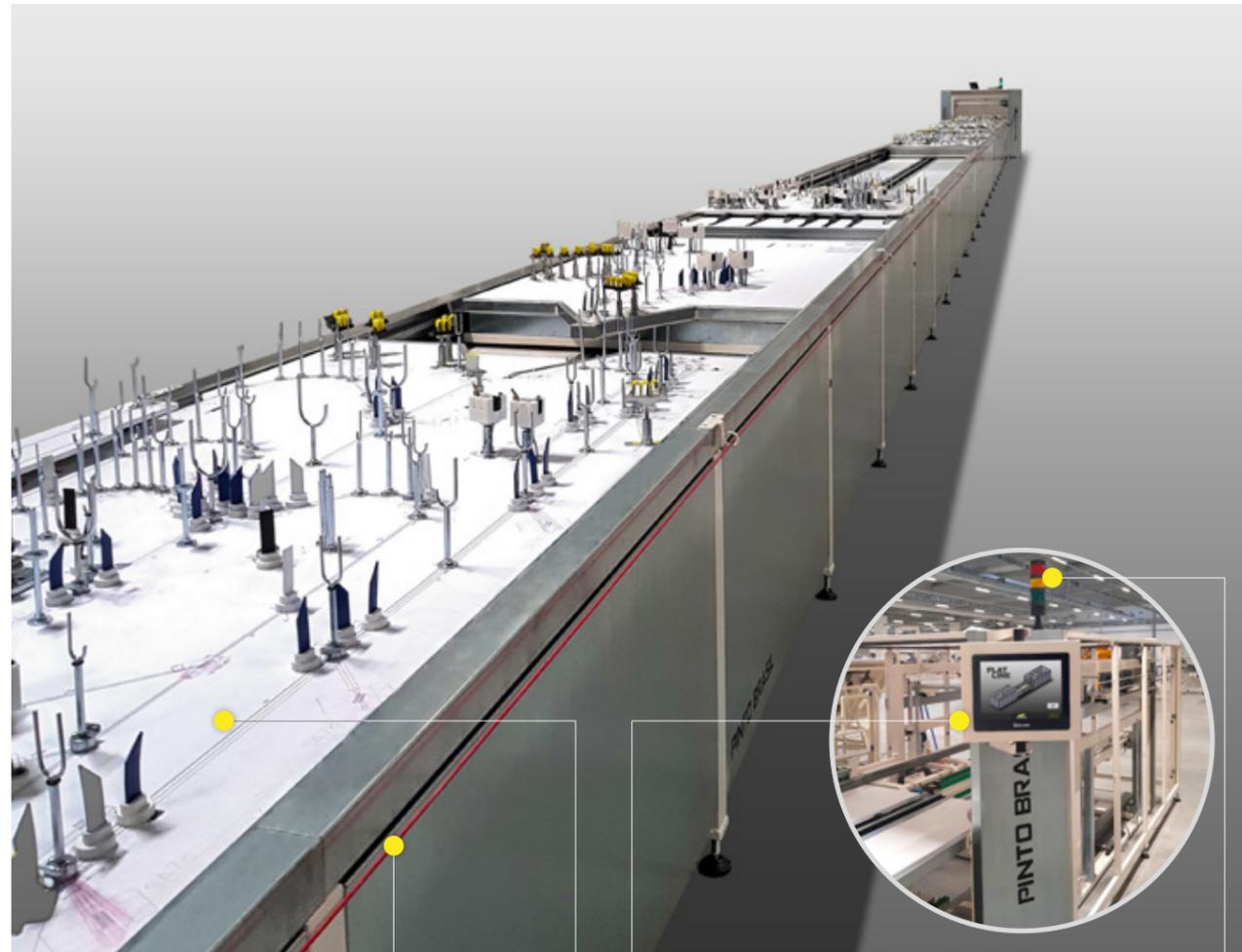


**FLAT**  
**LINE**



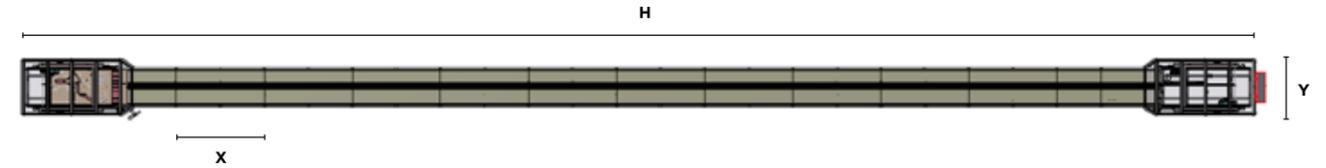
# FLAT

The **Flat Line** is constructed in accordance to the start-stop movement of the assembly trays throughout the several working areas. The sliding movement of the trays is made by lateral guides and the upper work platform and the lower trailing platform. This line is preferably used for large wiring, where there is a need for several trays for a single cabling. The identification of the different functions, through the use of LEDs and adjustments trays, gives a great flexibility of assembly. The **Flat Line** also has a web platform for monitoring and production management.



<p><b>TRAYS</b> STANDARD   3m x 1.2m. (Please refer to the manufacturer for other dimensions).</p>		<p><b>MOVEMENT</b> Line movement according to the start-stop principle.</p>	
<p><b>CONTROL SYSTEM</b> Software Flat Line. Integration with production management system.</p>		<p><b>SIGNALING</b> Signaling and Navigation system configured to the product to be produced.</p>	
<p><b>EMERGENCY SYSTEM</b> EC DIRECTIVES. For the entire line.</p>		<p><b>POSITIONING OF TRAYS</b> Positioning between automatic trays by product.</p>	
<p><b>STRUCTURE</b> Modular: from 6m with multiples of 3m.</p>		<p><b>TRAY CONVEYANCE</b> Transport in line with central traction.</p>	
<p><b>SPEED</b> Between 0 to 2m, controlled by inverter.</p>		<p><b>LIFT</b> Tray lifting and transition area.</p>	

# FLAT



COTA	DIMENSÕES
H	Variable
X	3 m
Y	Variable

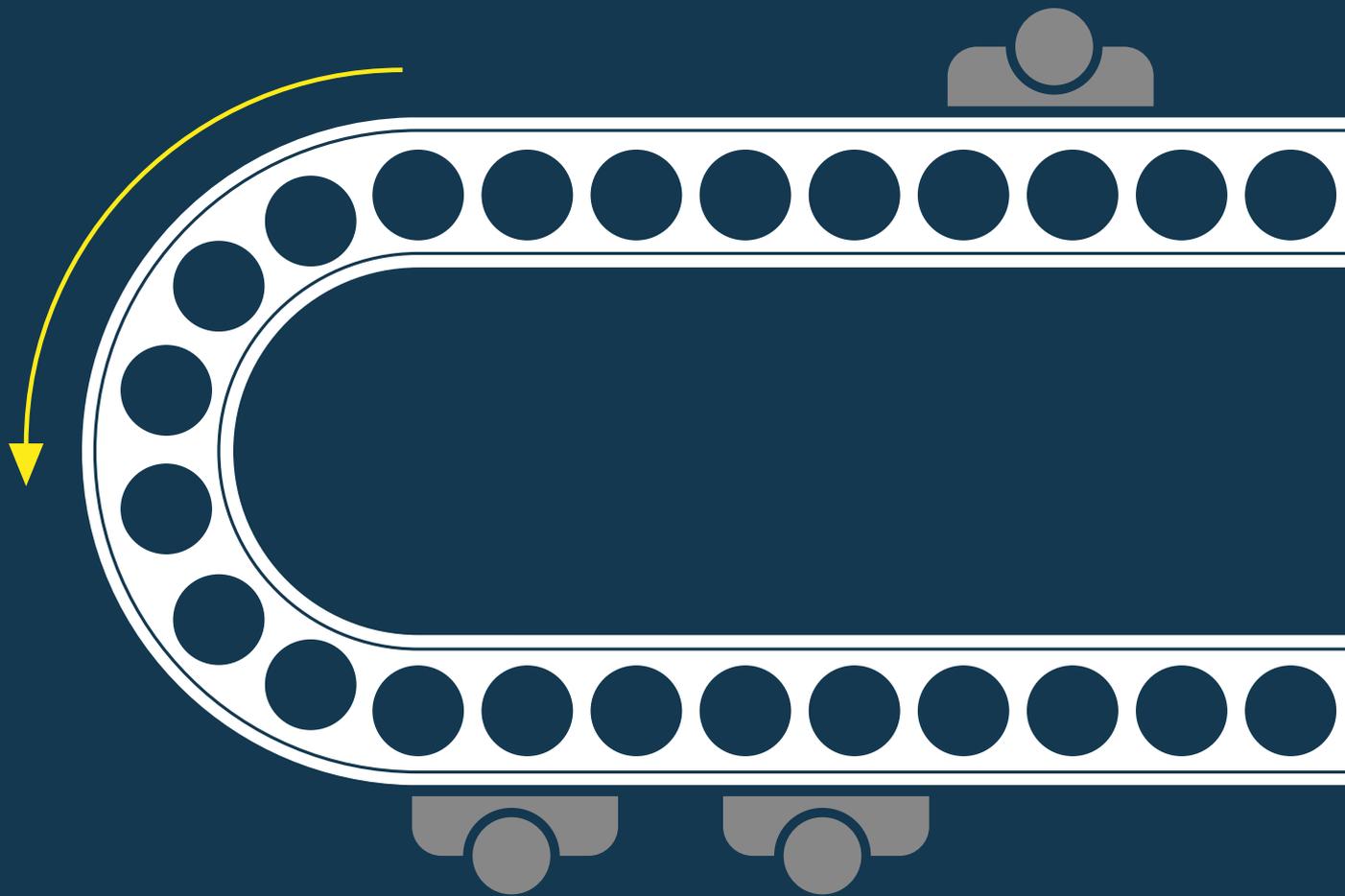


Positioning and interconnection between trays. (Barcode scanning). Association of pre-assembly to the line, with same type of led identification associated with the product. connector in use. Positioning Led of components.



Tray elevation zone. Lower return zone of trays. Routing identification. Position of equipments according to the reference to be produced





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