

# NIKO

## Overhead Conveyor Systems

FOR PAINTING LINES

Case study evaluation





**Light Cranes**  
**Painting Lines**

**Conveyor systems**

**Monorails**

**Suspension Tool System**



We have over 45 years experience in producing high quality sliding door fittings and overhead conveyor systems at the right price, with close contact to suppliers and customers and continuous product development.

NIKO Overhead Conveyor System will provide you with the advantage you need for your painting line.

Our guiding principle is **NIKO QUALITY IN MOTION.**

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# Global LOCATIONS & HEAD OFFICE

**Power Chain Conveyors**

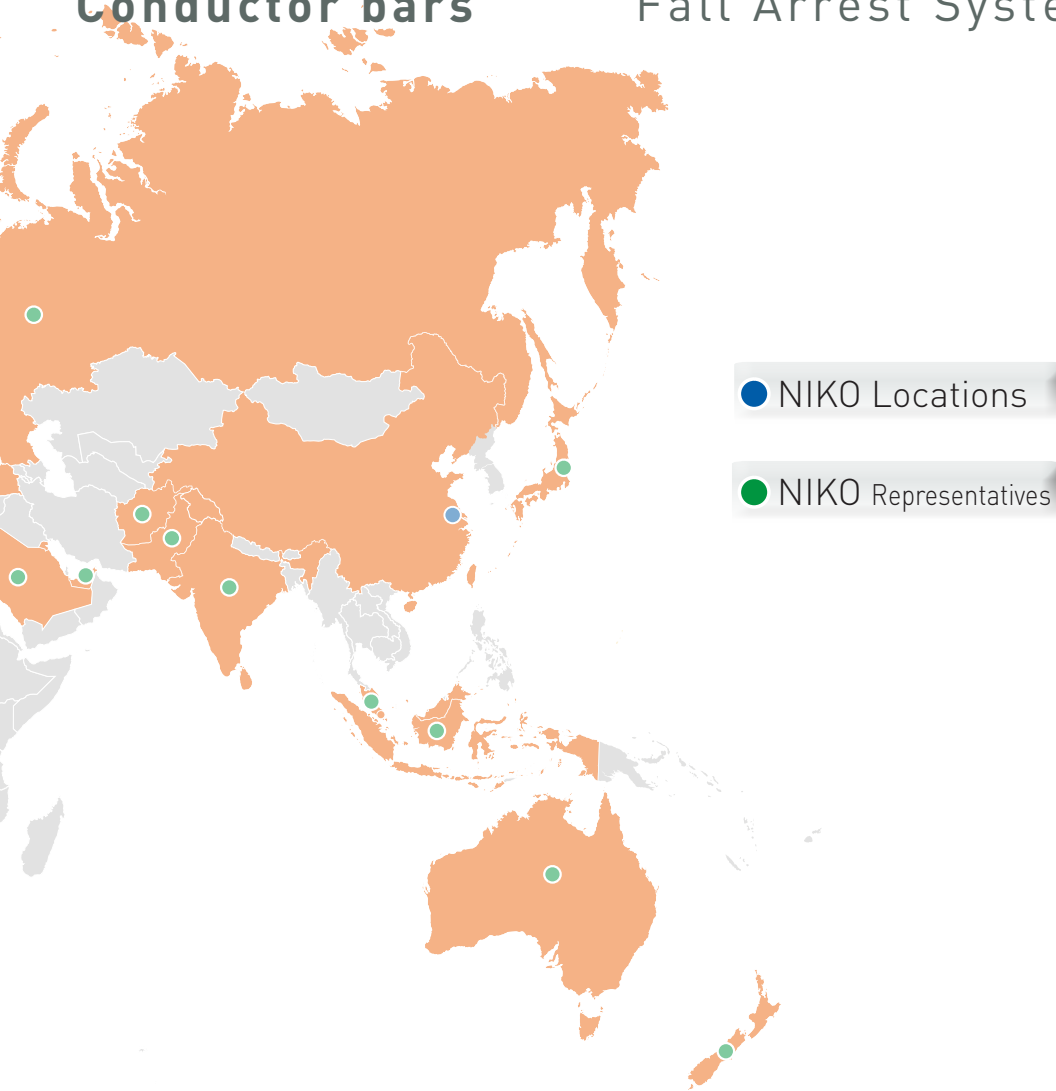
**Manual Conveyor Systems**

**Jib Cranes**

**Festoon Systems & Cable trolleys**

**Conductor bars**

**Fall Arrest Systems**



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## **UNITED KINGDOM**

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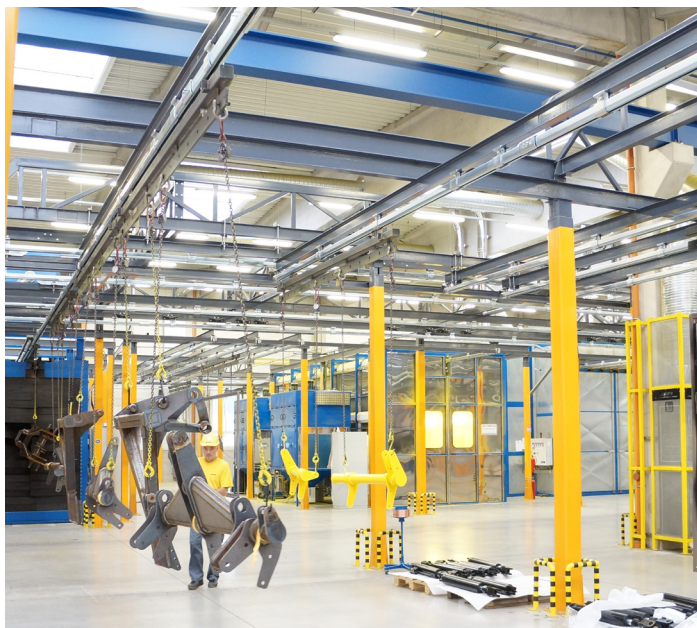
Units 15-21, Insight Park  
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# Evaluation of NIKO conveyor systems: 3 case studies

The purpose of this case study is the evaluation of the power paint coating installations provided by the Greek company NIKO.

NIKO company systems will be analysed and compared with systems commonly used in the industry, by highlighting the main parameters making the customer investment advantageous. The evaluation will be based on the following criteria:

## A. System Productivity

The number of products painted by the painting line per operation day.

## B. Human resources costs

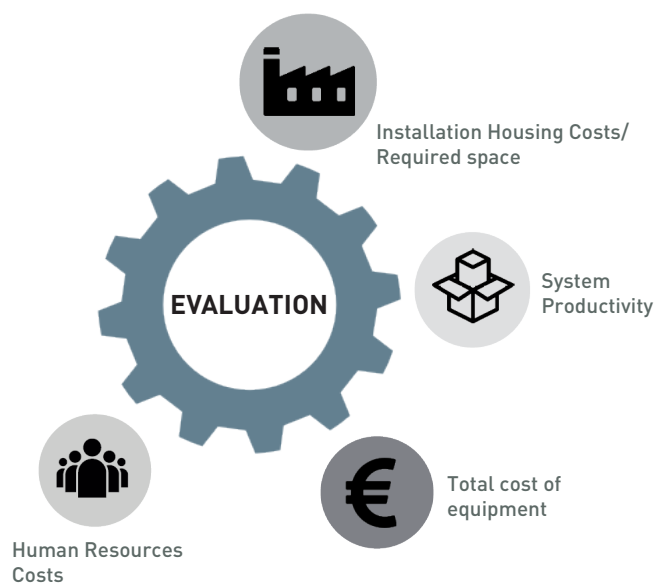
A minimum number of employees is required for the correct operation of the system. The average cost per operation day (2 shifts) and per operator, has been evaluated at 140 €.

## C. Installation Housing Costs

The industrial space required for the installation of the system. The cost per square meter of the system is evaluated at 3€ and the operation days of the system at 22 per month.

## D. Total cost of equipment

The total cost of equipment is referred to the following costs: curing oven, painting booth, drying oven, washing room and the cost of the conveyor system.



## Loading Procedure:

The components are loaded onto the conveyor system of the painting line.

## Cleaning Procedure - Preparation:

The components are chemically cleaned for the removal of possible corrosion, lubricants and any residues of previous processing. The cleaning procedure is essential prior to the powder paint coating.

**Drying Procedure:** Following the chemical cleaning and the surface activation of the material, the painting line continues with the drying of the components. The duration of the drying procedure is 7 minutes at an oven temperature of 80°C.

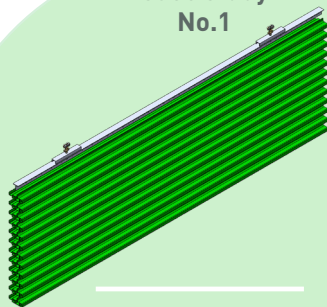
**Powder Paint Coating Procedure:** The powder paint is applied to metal parts (aluminium profiles, metal frames, casting parts etc.) using special spray guns. The spray gun positively charges the powder particles, causing repulsion between them, resulting in the even spreading of paint using compressed air. The parts are earthed, attracting the powder particles and ensuring an more even coat of paint, in comparison to wet paint methods.

**Curing Procedure:** The painting line continues with the hardening of the powder paint coat. The components are exposed to an oven temperature of 180°-200°C, for approximately 20 minutes, allowing the powder paint to develop into an even dry protective film.

**Unloading Procedure:** The components are removed from the curing oven, are unloaded from the conveyor system and are made available for quality control and packaging.



# Case study No.1



**Product:** Aluminium Profiles  
**Load per flight bar:** 160kg  
**Envelope dimension of product:**  
 L 6000mm H2000mm W300mm

## A TYPICAL SOLUTION Continuous running conveyor



Total cost of conveyor:  
75.000€



Total cost of equipment:  
190.000€



Required space:  
1.100m<sup>2</sup>

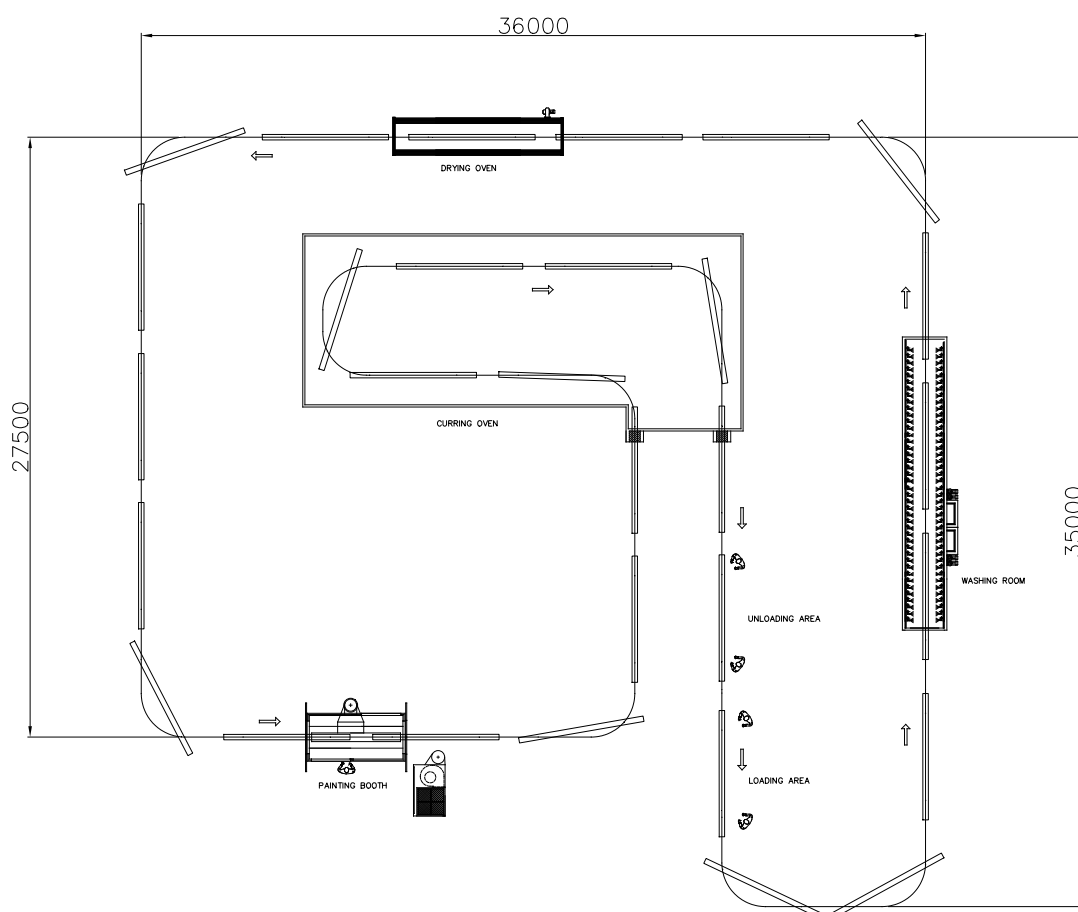


Operators: 5



Painting parts / day:  
650 pieces

ALUMINIUM PROFILES



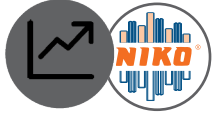


# NIKO conveyor systems with crane wagons and power chain conveyor



NIKO SOLUTION 1

Track  
Profile  
24.000



Total cost of conveyor:  
26.000€



Total cost of equipment:  
105.000€



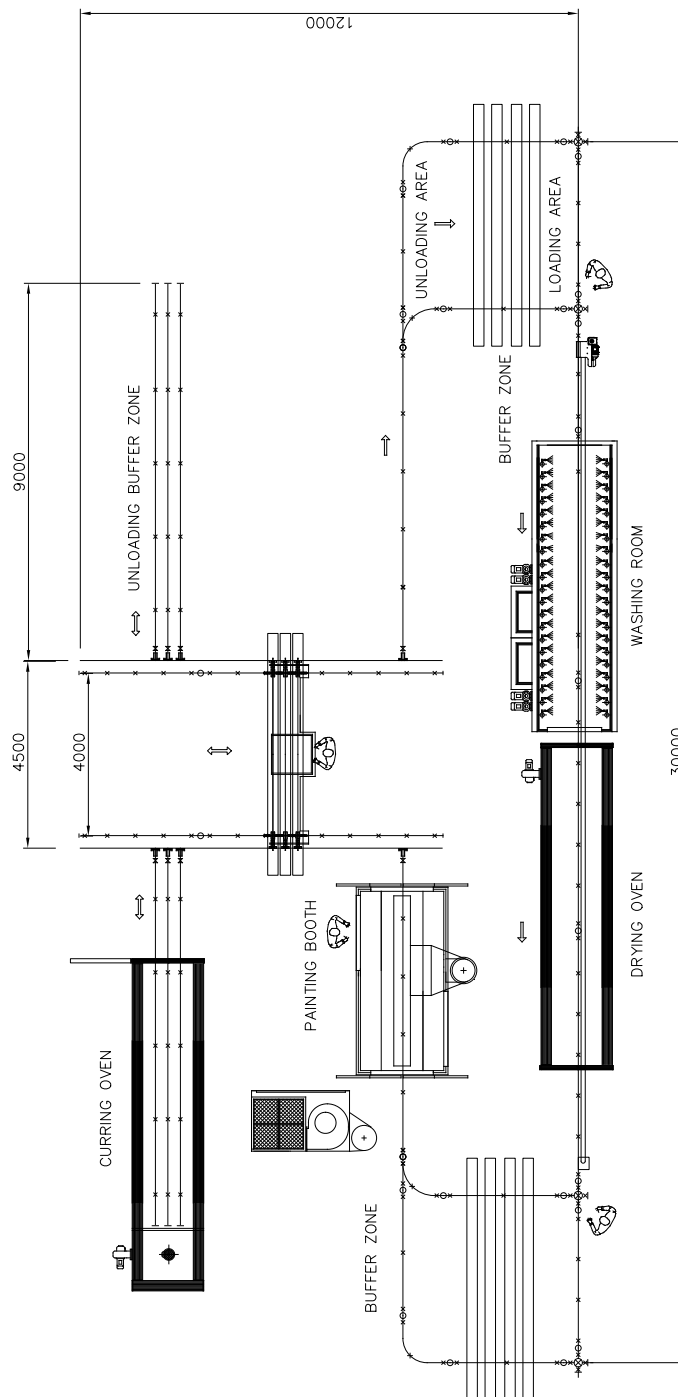
Required space:  
360m<sup>2</sup>



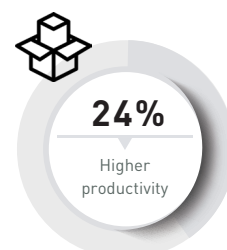
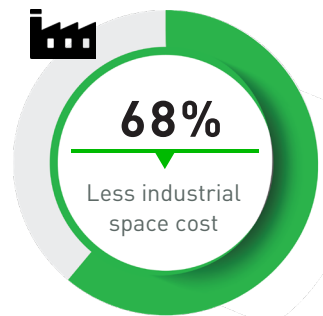
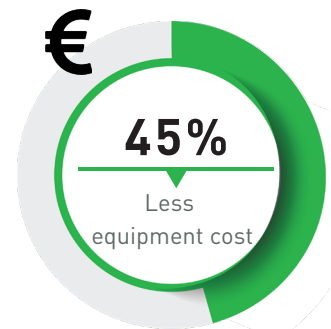
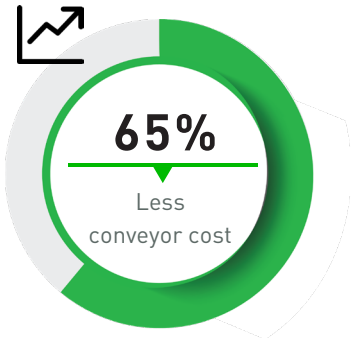
Operators: 4



Painting parts / day:  
860 pieces



The NIKO Conveyor is considerably more profitable providing:



ALUMINIUM PROFILES





## NIKO SOLUTION 2

# NIKO conveyor systems with crane wagons and power chain conveyor

Track  
Profile  
24.000

The NIKO Conveyor is considerably more profitable providing:



**58%**

Less  
conveyor cost



**55%**

Less  
equipment cost



**70%**

Less industrial  
space cost



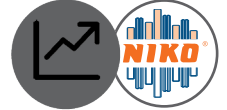
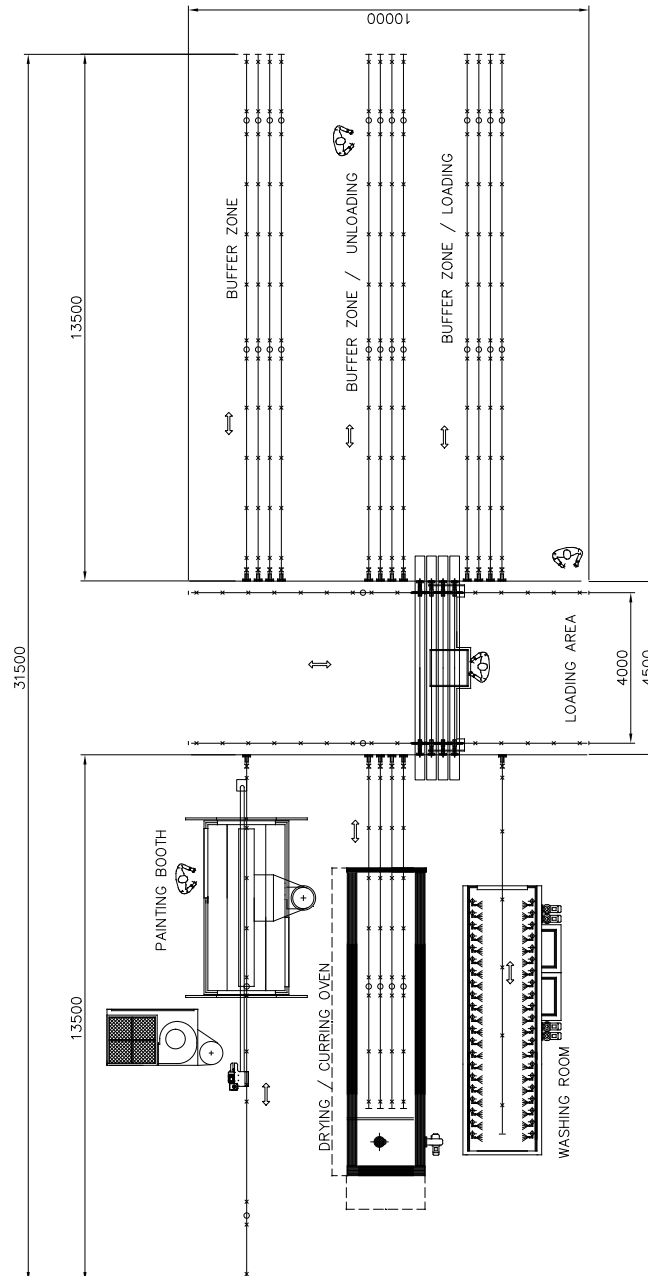
**20%**

Less  
labor cost



**25%**

Higher  
productivity



Total cost of conveyor:  
31.800€



Total cost of equipment:  
85.000€



Required space:  
315m<sup>2</sup>



Operators: 4



Painting parts / day:  
880 pieces



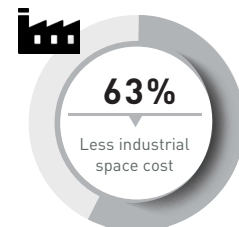
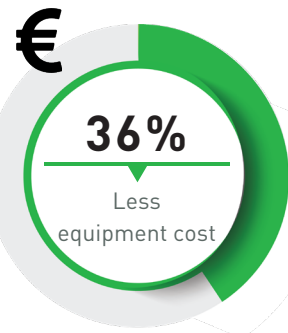
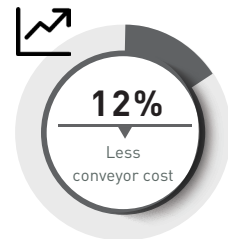
# NIKO SOLUTION 3

## NIKO power chain conveyors

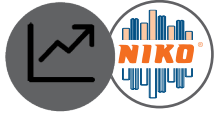
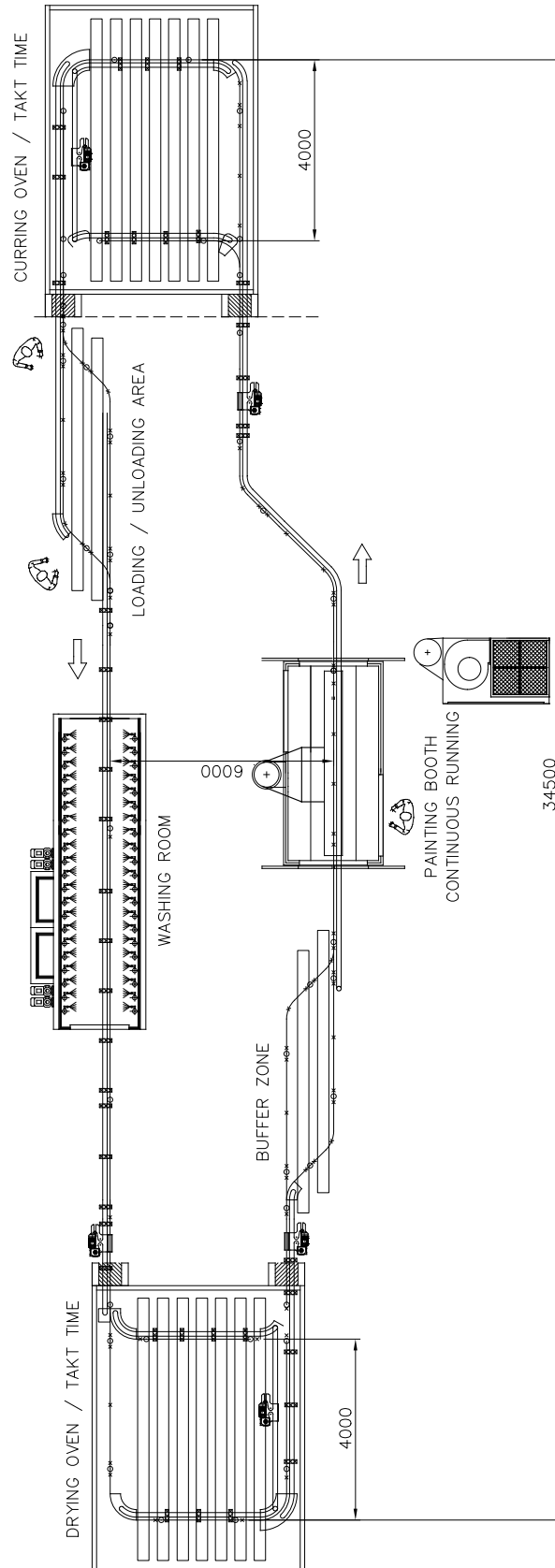


Track  
Profile  
24.000

The NIKO Conveyor is considerably more profitable providing:



ALUMINIUM PROFILES



Total cost of conveyor:  
66.000€



Total cost of equipment:  
120.000€



Required space:  
400m<sup>2</sup>

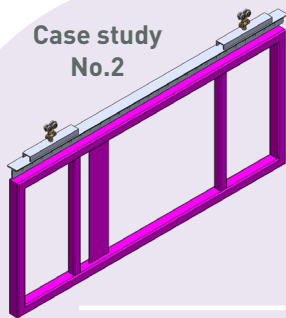


Operators: 3



Painting parts / day:  
1.200 pieces

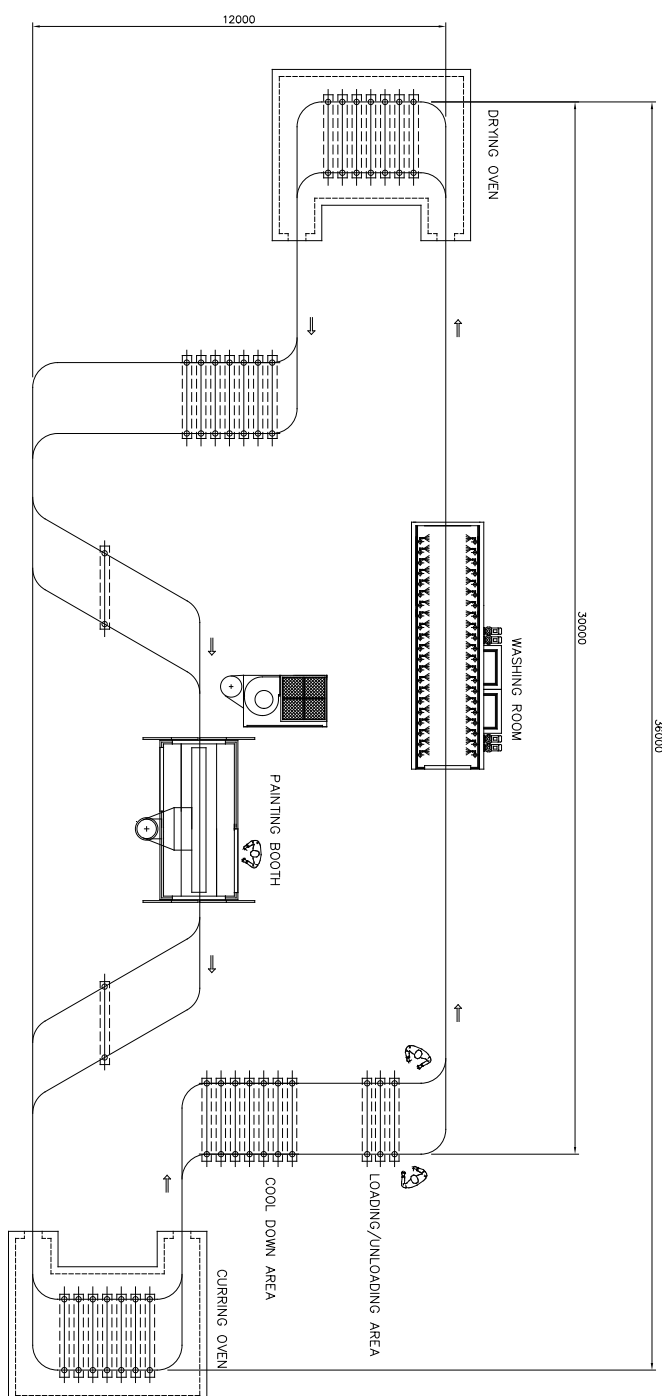
## Case study No.2



**Product:** Door frames  
**Load per flight bar:** 400kg  
**Envelope dimension of product:**  
L 3000mm H1300mm W150mm

## A TYPICAL SOLUTION P & F conveyor system

DOOR FRAMES



Total cost of conveyor:  
120.000€



Total cost of equipment:  
175.000€



Required space:  
510m<sup>2</sup>



Operators: 3



Painting parts / day:  
185 pieces





Track  
Profile  
25.000



Total cost of conveyor:  
65.000€



Total cost of equipment:  
125.000€



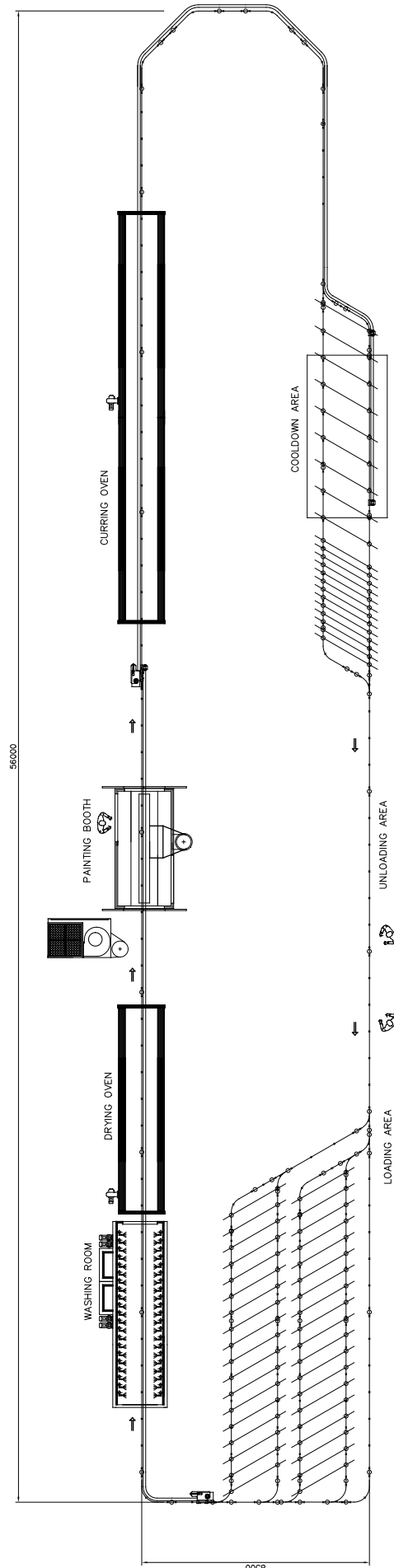
Required space:  
580m<sup>2</sup>



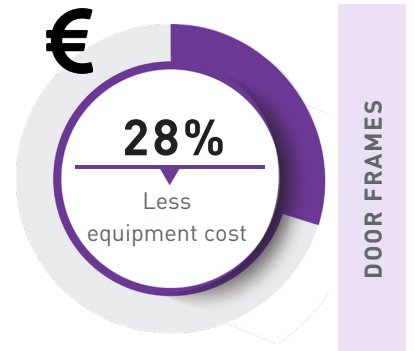
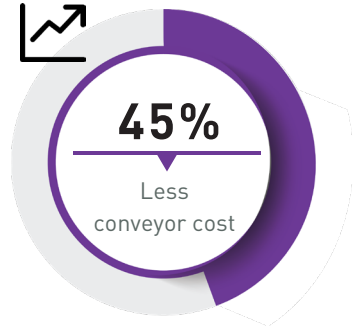
Operators: 3



Painting parts / day:  
160 pieces



The NIKO Conveyor is considerably more profitable providing:



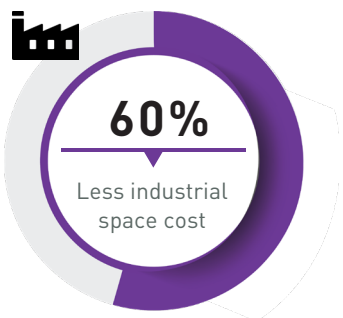
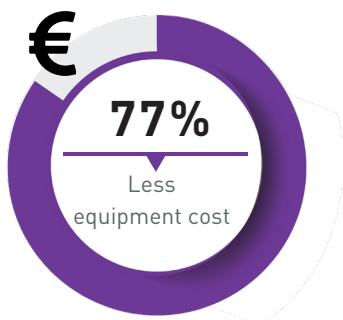
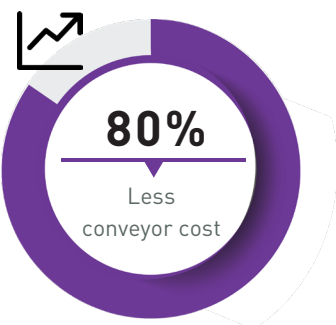


NIKO SOLUTION 2

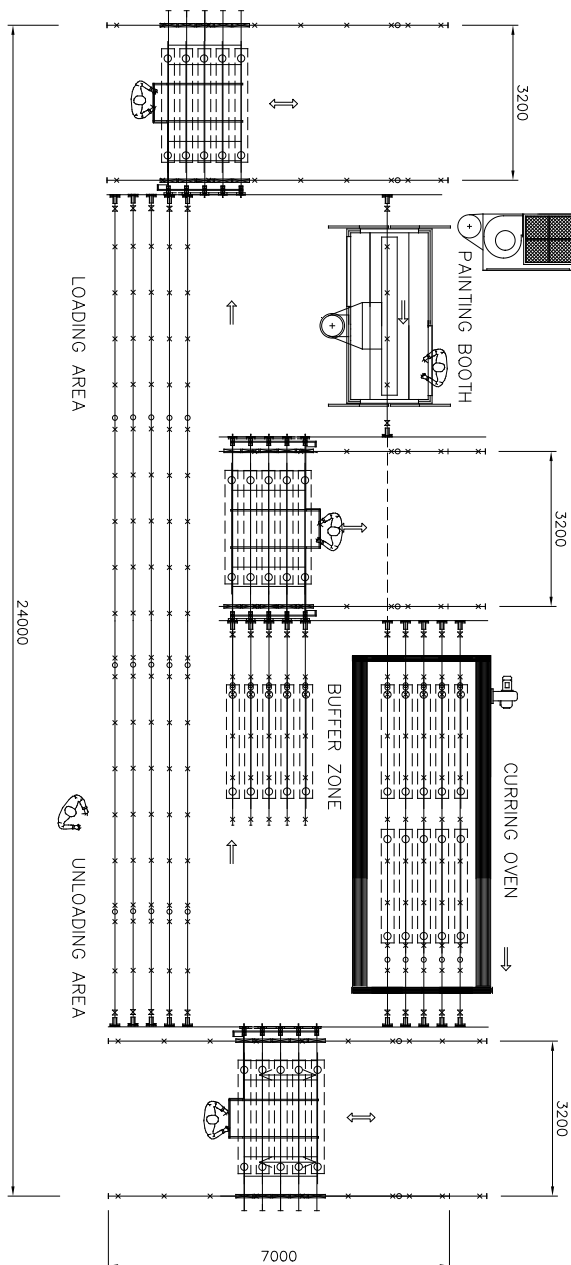
# NIKO conveyor systems with crane wagons

Track  
Profile  
25.000

The NIKO Conveyor is considerably more profitable providing:



DOOR FRAMES



Total cost of conveyor:  
22.000€



Total cost of equipment:  
40.000€



Required space:  
200m<sup>2</sup>



Operators: 5



Painting parts / day:  
90 pieces



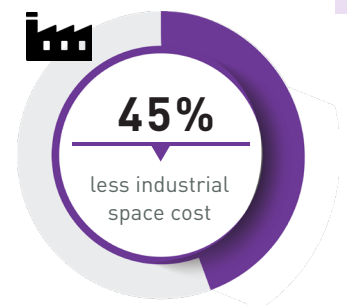
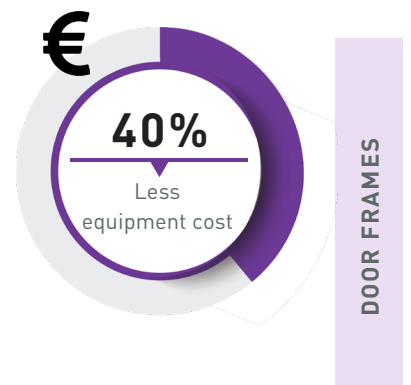
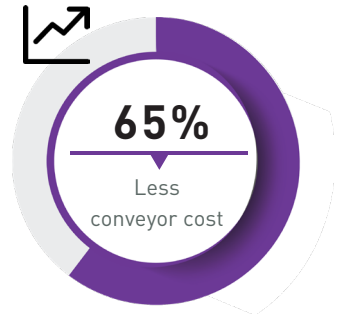
# NIKO conveyor systems with crane wagons and power chain conveyor

NIKO SOLUTION 3

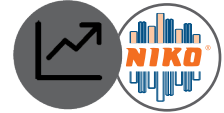
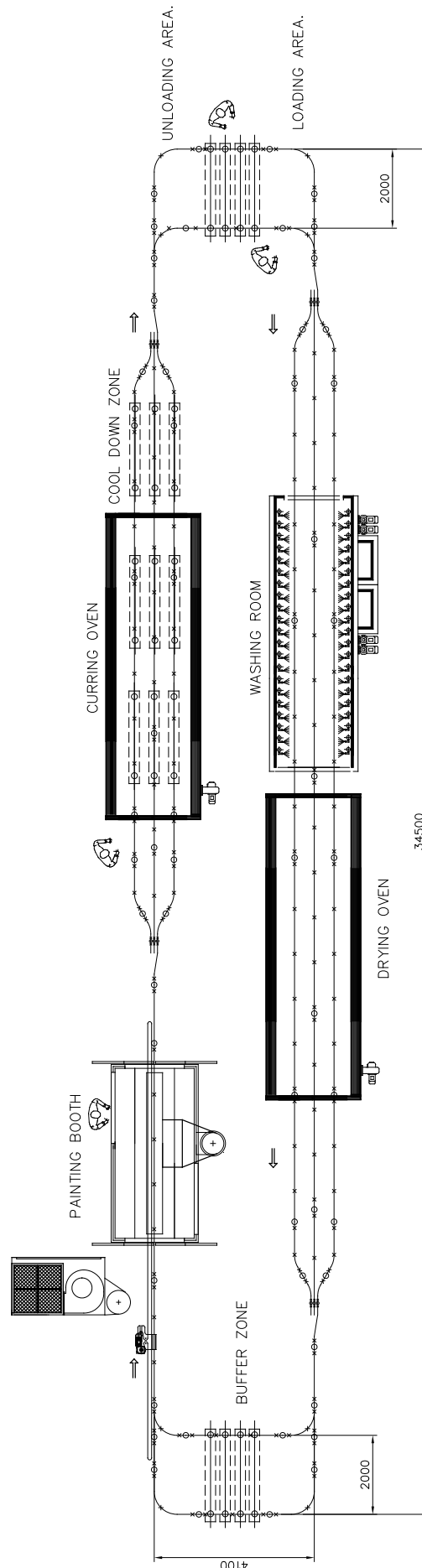


Track  
Profile  
25.000

The NIKO Conveyor is considerably more profitable providing:



DOOR FRAMES



Total cost of conveyor:  
41.000€



Total cost of equipment:  
105.000€



Required space:  
280m<sup>2</sup>

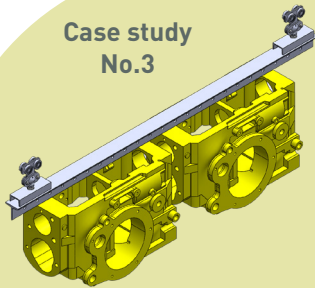


Operators: 4



Painting parts / day:  
110 pieces

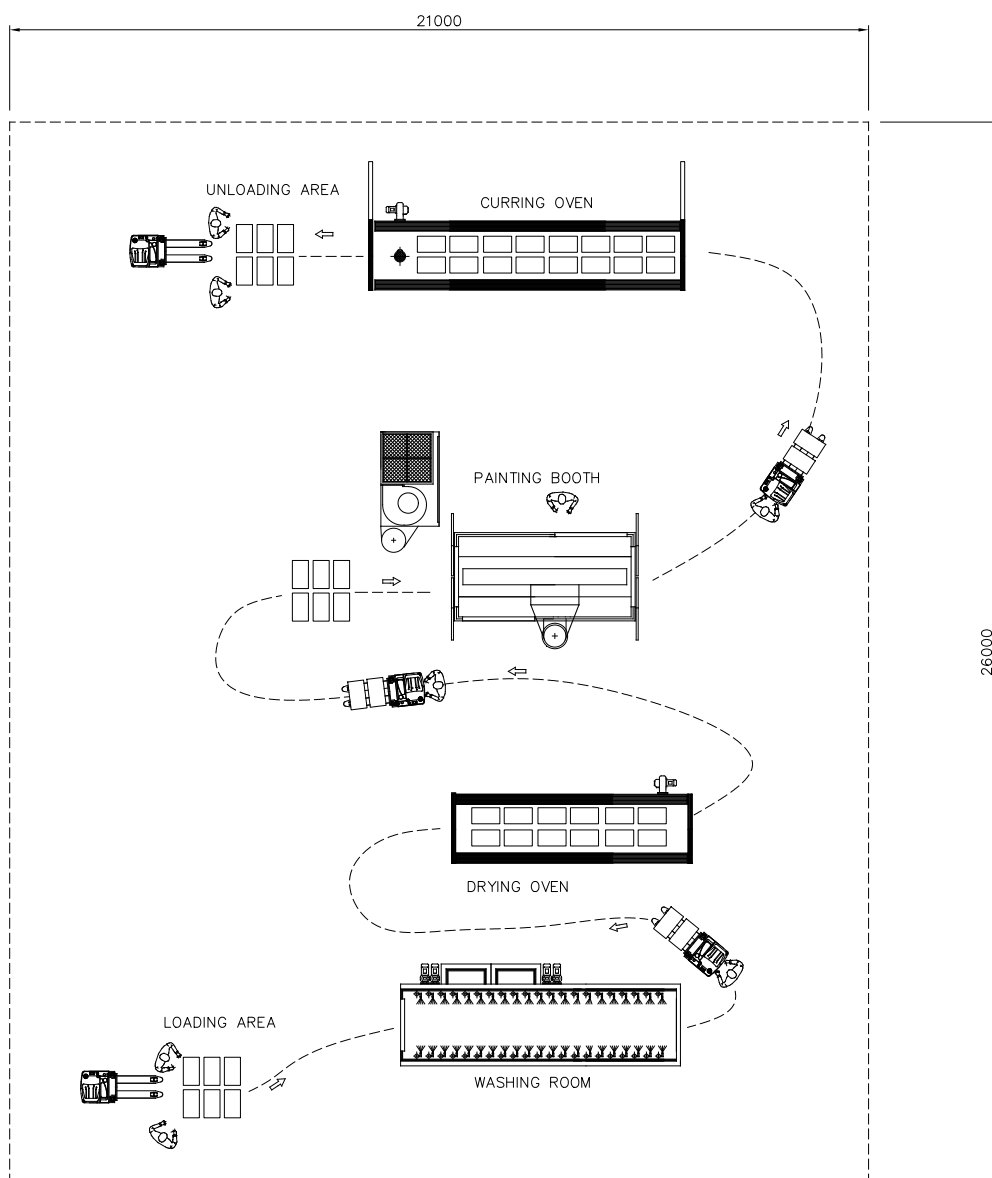
### Case study No.3



**Product:** Casting parts  
**Load per flight bar:** 800kg  
**Envelope dimension of product:**  
L 3000mm H 900mm W 600mm

## A TYPICAL SOLUTION Painting line with forklift

CASTING PARTS



Total cost of conveyor:  
25.000€



Total cost of equipment:  
120.000€



Required space:  
540m<sup>2</sup>



Operators: 8



Painting parts / day:  
85 pieces



# NIKO conveyor systems with power chain conveyor



NIKO SOLUTION 1

Track  
Profile  
26.000



Total cost of conveyor:  
32.500€



Total cost of equipment:  
105.000€



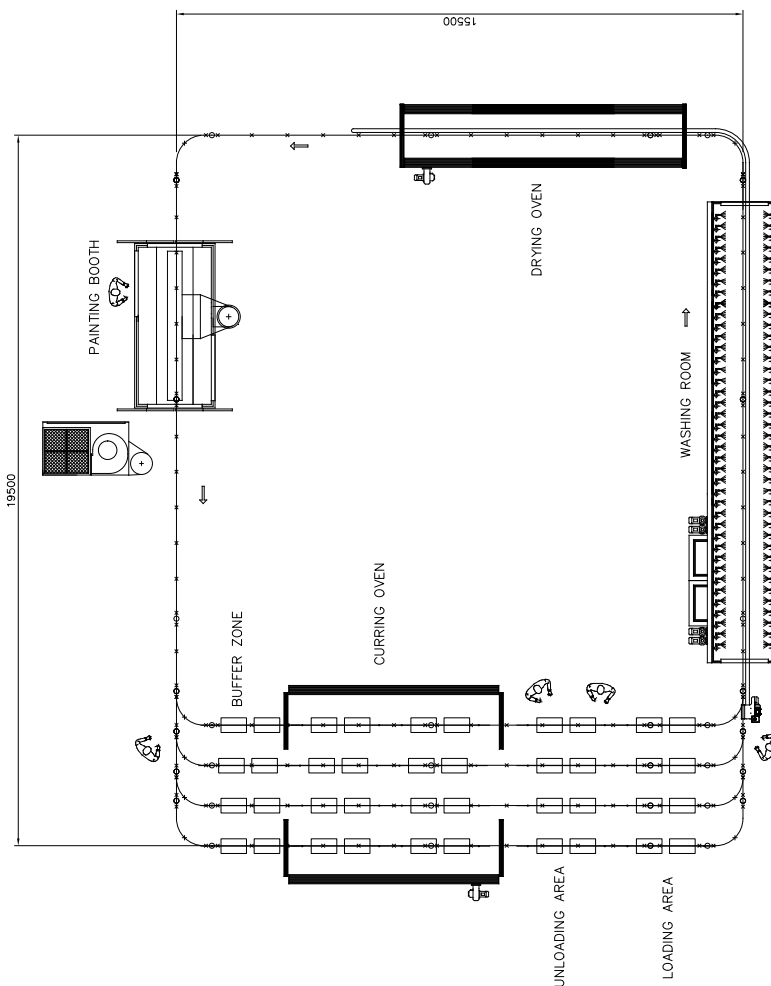
Required space:  
310m<sup>2</sup>



Operators: 5



Painting parts / day:  
170 pieces



The NIKO Conveyor is considerably more profitable providing:



12%

less  
equipment cost



40%

less industrial  
space cost



37%

Less  
labor cost



50%

higher  
productivity

CASTING PARTS



## NIKO SOLUTION 2

# NIKO conveyor systems with crane wagons and power chain conveyor

Track  
Profile  
26.000

The NIKO Conveyor is considerably more profitable providing:



**25%**

Less industrial  
space cost



**50%**

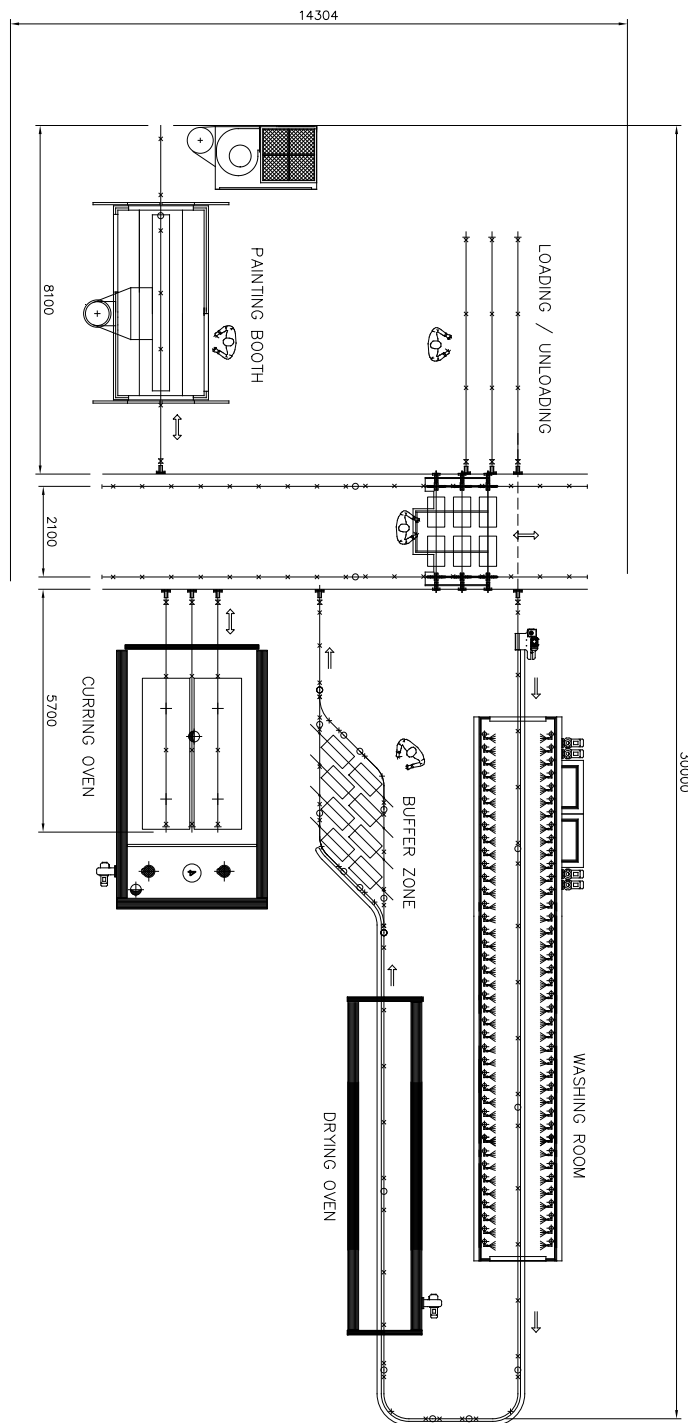
Less  
labor cost



**60%**

Higher  
productivity

CASTING PARTS



Total cost of conveyor:  
42.000€



Total cost of equipment:  
125.000€



Required space:  
400m<sup>2</sup>



Operators: 4



Painting parts / day:  
210 pieces

# NIKO power chain conveyors

Track  
Profile  
26.000



Total cost of conveyor:  
103.000€



Total cost of equipment:  
125.000€



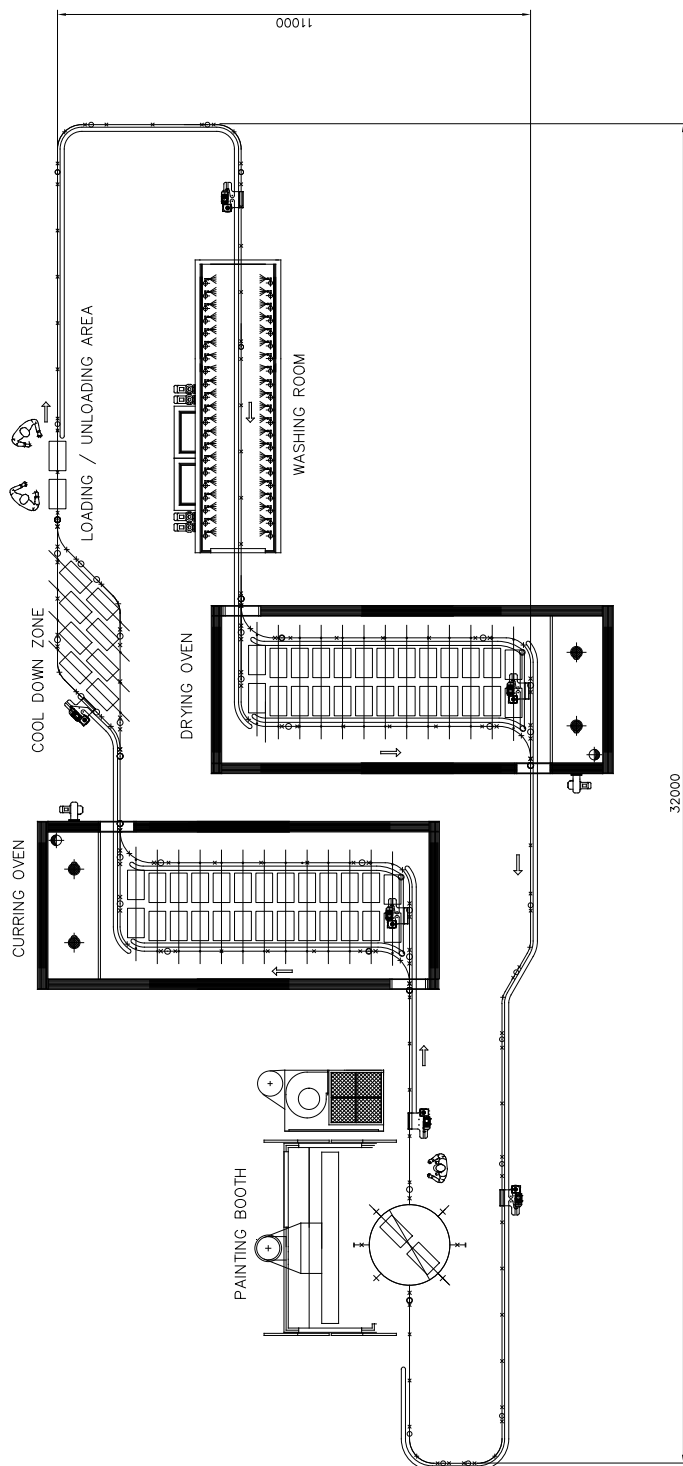
Required space:  
370m<sup>2</sup>



Operators: 3



Painting parts / day:  
620 pieces



The NIKO Conveyor is considerably more profitable providing:



30%

Less industrial  
space cost



60%

Less  
labor cost



86%

Higher  
productivity

CASTING PARTS





# So why buy a NIKO conveyor system?

## BENEFITS OF NIKO overhead conveyor systems for painting lines over other type of Conveyors

### NIKO Conveyor system

#### Less floor space required

Niko Overhead Conveyor requires some floor-based support structures but this can be strategically placed at facility edges and corners to minimize their footprint.

Monorails run on tracks installed directly into the ceiling and, therefore leave no footprint on the floor at all.

#### Avoid any re-paint procedure

Easy handling loadbars moved by hand, no contact with the painted product. Employee transfers the load hanged on loadbars and drives them throught the conveyor line. The worker touch the product in the loading zone and again after the whole process is finished.

**Easier manipulation of products even after exit of products from drying/curing process.**

**Varied of products (in size, type and weight) and bigger amount of products to be suspended on loadbar(s) at the same time, thus increase productivity.**

**Options of overhead parking zones for products storage before proceeding to any other process.**

**Multi directional options without having to occupy additional workers.**

**Applicable in limited spaces.**

**Less safety hazards for workers and equipment.** Niko Overhead Conveyor reduce physical labor, provide easy moving solution for increased efficiency and reduce injuries caused by improper lifting and falling materials

**Less workers needed to operate an overhead conveyor system compared to forklift systems thus increased productivity and reduce cost compared to Cart system.**



### Painting line with forklifts

Systems with forklifts create many facility limitations. Bulky ride-on movers generate clutter and restrict floor space because they require wide pathways and intersections to maneuver. Even when they are not in operation, forklifts and pallets with product (near to each process) and ride-on movers take up a large amount of space on the floor and get in the way of the production.

On the contrary, on systems with forklifts, products after painting must be transferred and most of the time are touching each other and paint gets scratched. When employee moves parts from powder paint to oven, most of the time the product get in touch with his body. Products get in contact and might need to be repainted meaning additional cost

**Floor-movers can impose safety hazards for workers and equipment.**

Forklift operators must be trained and certified to operate the forklifts.

## Niko power chain conveyor

## Continuous running automatic power chain conveyor

**Niko Systems occupy less space.**

**Ovens can be build smaller thus save money on equipment, on energy fuels and no big heat lose.**



In Continuous Running Automatic Power Chain Conveyors the doors remain always open and that results to serious heat lose and cost increase.

**Easier handling of loading and unloading zones since they are free of chain.**

With Niko System the customer has the option to create parking zones in different areas like masking or inspection areas.



In Continuous Running Automatic Power Chain Conveyors it is difficult to load/unload products since the system is in continuous movement. Theremore, it is not possible to make parking zones to load/unload products or buffer zones to mask the technological holes on products before painting and after painting.

**Niko System costs less.**

**Easily modified when a customer needs to make an extension.**

**Safe.**

When the system is running you can touch the track without danger.

**NIKO enclosed track profile ensures that the bearings are not exposed to the environment therefore cause damage to trolley.**



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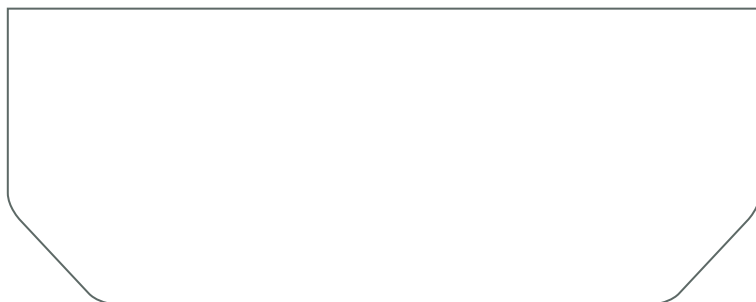
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**[www.niko.eu.com](http://www.niko.eu.com)   [www.niko.co.uk](http://www.niko.co.uk)   [www.nikotrack.com](http://www.nikotrack.com)   [www.niko.world](http://www.niko.world)**

Your **NIKO** agent will be happy to advise you:



Complete **NIKO** product range:

- LIGHT DUTY SLIDING DOOR HARDWARE
- HEAVY DUTY SLIDING DOOR HARDWARE
- CONVEYOR SYSTEMS
- LIGHT CRANES
- CABLE TROLLEYS, FESTOON SYSTEMS & CONDUCTOR BARS
- PERSONAL FALL ARREST SYSTEMS (EN 795)
- ACCESSORIES FOR GATES AND DOORS