NIKO
Overhead Conveyor Systems
FOR PAINTING LINES

Case study evaluation
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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NIKO power chain conveyor system with swivel switches

- High productivity achieved utilising mechanically automatic switches
- The best value for money solution
- Power side transfer through the painting booth
- Optimal space utilization inside the oven
- Spacious parking areas for the flight bars
NIKO power chain conveyor

- Less labor cost
- Automatic flight bar transportation in consecutive stages of production process
- Increased production in the curring oven (parallel movement of flight bars into oven)
- Power side transfer except loading/unloading area
PAINTING LINE - EXAMPLE 3

Completeley powered NIKO conveyor system

Completely powered system with power chain conveyor and wagon with power driven trolley

High productivity

Less labor cost

Automatic loading/unloading of flight bars in crane wagon

Automatic connection between crane wagon lines and conveyor system
PAINTING LINE-EXAMPLE 4
NIKO power chain conveyor with pneumatic turntables

- Minimum space requirements utilizing pneumatic turntables
- Power side transfer through the paint booth
- Value for money solution
- Optimal space utilization inside the oven
NIKO conveyor systems
with crane wagons and
power chain in the
painting booth

Low cost solution

Power side transfer through
the paint booth

Optimal space utilization
inside the oven

Easier operation in pushing/
pulling loads

Ergonomically designed crane wagons
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 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.
A TYPICAL SOLUTION
Continuous running conveyor

Product: Aluminium Profiles
Load per flight bar: 160kg
Envelope dimension of product:
L 6000mm  H 2000mm  W 300mm

Case study No.1

Required space: 1.100m²
Total cost of conveyor: 75.000€
Total cost of equipment: 190.000€
Operators: 5
Painting parts / day: 650 pieces
NIKO SOLUTION 1
NIKO conveyor systems with crane wagons and power chain conveyor

Total cost of conveyor: 26,000€

Total cost of equipment: 105,000€

Required space: 360m²

Operators: 4

Painting parts / day: 860 pieces

The NIKO Conveyor is considerably more profitable providing:

- 65% Less conveyor cost
- 45% Less equipment cost
- 68% Less industrial space cost
- 20% Less labor cost
- 24% Higher productivity
NIKO SOLUTION 2

NIKO conveyor systems with crane wagons and power chain conveyor

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

**Painting parts / day:** 880 pieces

**Required space:** 315m²

**Operators:** 4

**Total cost of conveyor:** 31.800€

**Total cost of equipment:** 85.000€

**55%** Less equipment cost

**25%** Higher productivity

**20%** Less labor cost

**70%** Less industrial space cost

**58%** Less conveyor cost

**85%** Less conveyor cost
The NIKO Conveyor is considerably more profitable providing:

- Painting parts / day: 1,200 pieces
- Required space: 400m²
- Total cost of conveyor: 66,000€
- Total cost of equipment: 120,000€
- Operators: 3
- Painting parts / day: 1,200 pieces

- 12% Less conveyor cost
- 36% Less equipment cost
- 63% Less industrial space cost
- 40% Less labor cost
- 45% Higher productivity

NIKO Overhead Conveyor System
FOR PAINTING LINES

Version June 2018
A TYPICAL SOLUTION
P & F
conveyor system

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

DOOR FRAMES

Required space:
510m²

Operators: 3

Painting parts / day:
185 pieces

Total cost of conveyor:
120,000€

Total cost of equipment:
175,000€

Case study
No.2
NIKO SOLUTION 1

NIKO power chain conveyors

The NIKO Conveyor is considerably more profitable providing:

- **45%** Less conveyor cost
- **28%** Less equipment cost

**Total cost of conveyor:** 65,000€

**Total cost of equipment:** 125,000€

**Required space:** 580m²

**Operators:** 3

**Painting parts / day:** 160 pieces

**DOOR FRAMES**
NIKO SOLUTION 2
NIKO conveyor systems with crane wagons

The NIKO Conveyor is considerably more profitable providing:

- **80%** Less conveyor cost
- **77%** Less equipment cost
- **60%** Less industrial space cost

**Painting parts / day:** 90 pieces

**Required space:** 200m²

**Operators:** 5

**Total cost of conveyor:** 22,000€

**Total cost of equipment:** 40,000€

**Total cost of equipment:** 

Visit www.niko.eu.com for more information.

NIKO Overhead Conveyor System
FOR PAINTING LINES
NIKO conveyor systems with power chain conveyor

Total cost of conveyor: 41,000€

Total cost of equipment: 105,000€

Required space: 280m²

Operators: 4

Painting parts / day: 110 pieces

The NIKO Conveyor is considerably more profitable providing:

- 65% Less conveyor cost
- 40% Less equipment cost
- 45% less industrial space cost
A TYPICAL SOLUTION
Painting line with forklift

Product: Casting parts
Load per flight bar: 800kg
Envelope dimension of product:
L 3000mm  H900mm  W600mm

Total cost of conveyor: 25,000€
Total cost of equipment: 120,000€
Required space: 540m²
Operators: 8
Painting parts / day: 85 pieces
NIKO conveyor systems with power chain conveyor

The NIKO Conveyor is considerably more profitable providing:

- **12%** less equipment cost
- **40%** less industrial space cost
- **37%** less labor cost
- **50%** higher productivity

**Total cost of conveyor:** 32,500€

**Total cost of equipment:** 105,000€

**Required space:** 310m²

**Operators:** 5

**Painting parts / day:** 170 pieces
NIKO SOLUTION 2

NIKO conveyor systems with crane wagons and power chain conveyor

The NIKO Conveyor is considerably more profitable providing:

- **25%** Less industrial space cost
- **50%** Less labor cost
- **60%** Higher productivity

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**CASTING PARTS**

- Painting parts / day: 210 pieces
- Operators: 4
- Required space: 400m²
- Total cost of conveyor: 42,000€
- Total cost of equipment: 125,000€
NIKO power chain conveyors

The NIKO Conveyor is considerably more profitable providing:

- **Higher productivity**: 86%
- **Less labor cost**: 60%
- **Less industrial space cost**: 30%

**Total cost of conveyor**: 103,000€

**Total cost of equipment**: 125,000€

**Required space**: 370m²

**Operators**: 3

**Painting parts / day**: 620 pieces

**Painting parts**: CASTING PARTS
So why buy a NIKO conveyor system?

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

<table>
<thead>
<tr>
<th>NIKO Conveyor system</th>
<th>Painting line with forklifts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Less floor space required</strong></td>
<td>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.</td>
</tr>
<tr>
<td>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.</td>
<td>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</td>
</tr>
<tr>
<td><strong>Avoid any re-paint procedure</strong></td>
<td>VS</td>
</tr>
<tr>
<td>Easy handling loadbars moved by hand, no contact with the painted product. Employee transfers the load hanged on loadbars and drives them through the conveyor line. The worker touch the product in the loading zone and again after the whole process is finished.</td>
<td>VS</td>
</tr>
<tr>
<td><strong>Easier manipulation of products even after exit of products from drying/curing process.</strong></td>
<td>VS</td>
</tr>
<tr>
<td>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.</td>
<td>VS</td>
</tr>
<tr>
<td>Options of overhead parking zones for products storage before proceeding to any other process.</td>
<td>VS</td>
</tr>
<tr>
<td>Multi directional options without having to occupy additional workers.</td>
<td>VS</td>
</tr>
<tr>
<td>Applicable in limited spaces.</td>
<td>VS</td>
</tr>
<tr>
<td><strong>Less safety hazards for workers and equipment.</strong> Niko Overhead Conveyor reduce physical labor, provide easy moving solution for increased efficiency and reduce injuries caused by improper lifting and falling materials</td>
<td><strong>Floor-movers can impose safety hazards for workers and equipment.</strong> Forklift operators must be trained and certified to operate the forklifts.</td>
</tr>
<tr>
<td>Less workers needed to operate an overhead conveyor system compared to forklift systems thus increased productivity and reduce cost compared to Cart system.</td>
<td>VS</td>
</tr>
</tbody>
</table>
Niko power chain conveyor

Niko Systems occupy less space.

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

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.

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.

Continuous running automatic power chain conveyor

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

In Continuous Running Automatic Power Chain Conveyors it is difficult to load/unload products since the system is in continuous movement. Therefore, 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.
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