

CASE STUDY

MASSIVE DUSTFIGHTER IMPACT

80% Less Housekeeping and
30% Longer Conveyor Belt
Life for Iron Ore Handling at a
Major Dutch Port.

PROJECT DETAILS

Product Category
Port Bulk Handling

Material
Wet Iron Ore

Belt Width / Throughput
1400 mm / 5,000 t/h

Installation Date
June 2017

CHALLENGE

- Installation of a maintenance-free sealing system at a critical transfer point
- Reduction of material spillage and dust emissions, along with associated downtime and maintenance interruptions
- Minimization of wear-related costs
- Improvement of occupational health and safety

SOLUTION

16 m [AirScrape](#)
1 m [Tailscrape](#)

RESULT

- 80% reduction in housekeeping and maintenance
- Cleaning reduced from weekly to only two to four times per year
- 30% increase in conveyor belt lifetime
- Significant reduction in material spillage
- Minimal skirting maintenance
- Improved conveyor reliability



MASSIVE DUSTFIGHTER IMPACT

80% LESS HOUSEKEEPING AND 30% LONGER CONVEYOR BELT LIFE

A major bulk handling port in the Netherlands, specializing in the import and handling of wet iron ore from South America, faced significant challenges caused by material spillage, high housekeeping requirements, and excessive conveyor belt wear resulting from conventional skirting systems.

The conveyor system, with a belt width of 1,400 mm, a belt speed of 5 m/s, and a throughput rate of 5,000 t/h, required a reliable and low-maintenance sealing solution to improve operational efficiency, environmental compliance, and long-term plant availability. To solve these issues, the customer replaced conventional skirting blocks with Scrapetec's contactless AirScrape conveyor skirting system in combination with TailScrape.

The Challenge

The previously installed contact-based skirting systems created continuous friction between the skirting and the moving conveyor belt. This resulted in high monthly material spillage, more than three hours of housekeeping every week, frequent maintenance interventions, and premature conveyor belt wear.

In addition, labour costs increased, along with the risk of belt damage and unplanned downtime. In a high-volume iron ore operation, these inefficiencies had a direct impact on operating costs and plant productivity.

The Solution

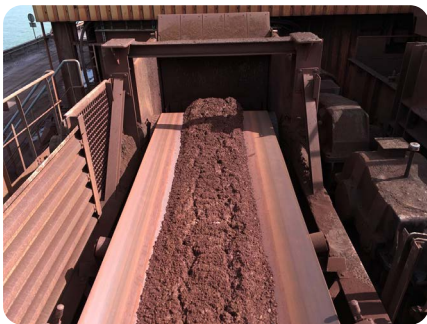
AirScrape was selected because of its contactless design, which



The transfer point prior to installation: material discharge in all directions due to insufficient sealing.



Preparation for the installation of the AirScrape system through minor metal fabrication modifications at the transfer point.



View of the clean material discharge behind the settling zone following the AirScrape installation.

operates without direct contact with the conveyor belt and therefore completely eliminates friction and belt wear caused by conventional sealing systems.

Combined with TailScrape, the system provided a complete solution for reducing spillage, minimizing maintenance requirements, and lowering total operating costs. Only minor structural modifications, cutting and welding work, and sidewall adjustments were required during installation, which could be completed within a few hours.

The Results

The results were immediate and measurable:

- 80% reduction in housekeeping and maintenance
- Cleaning reduced from weekly to only two to four times per year
- 30% increase in conveyor belt lifetime
- Significant reduction in material spillage
- Minimal skirting maintenance
- Improved conveyor reliability

By eliminating friction between the skirting and the conveyor belt, one of the main causes of premature belt wear was permanently removed.

Economic Benefits and Long-Term Success

The significant reduction in manual cleaning lowered labour costs, reduced maintenance effort, and minimized the risk of unplanned shutdowns. The 30% increase in conveyor belt lifetime alone generated substantial savings in a high-throughput iron ore application.

The economic benefits were strong enough that, after more than four years of successful operation, the customer replaced the original AirScrape units and expanded the solution to additional conveyors and further sites within the company group.

Conclusion

This project proves that material spillage, high maintenance effort, and conveyor belt wear do not have to be accepted as unavoidable operating costs.

With AirScrape and TailScrape, the customer achieved a cleaner, more efficient, and significantly more reliable conveyor operation. When operational reliability, maintenance reduction, and ROI matter, contactless conveyor skirting provides a sustainable and measurable solution.