

**hoverdale<sup>®</sup>**

**the materials bulk handling specialist**

**BULKEX 2021**

**12-13 October, Chesford Grange, Warwickshire**





• HOVERDALE • AUTOMATED • LINKED • OPERATION



**Matt Beverley**  
Managing Director

## Halo© Conveyor Protection



**Dean Conduit**  
Technical  
Sales & Engineering Director





## **Agenda**

- **Background to Speakers**
- **About Hoverdale UK Ltd**
- **Hoverdale Product & Services**
- **Challenges Faced and the Background**
- **The Solution**
- **Case Study**
- **Question & Answers**





## Background to Speakers

**Matt Beverley**  
**Managing Director**

I am a time served BIW (Body in white) Engineer, working most of my career in the Automotive & F1 sectors for prestigious brands such as Rolls Royce, Bentley, Aston Martin, Ferrari and McLaren.

Led complex automotive build projects in the USA, Germany, Italy, & China. I was project Director 2001-2004 for the Spyker Cars works race team where we competed at Le-Mans 24 hours for 3 consecutive years. Holding Director and Board level positions for the last 20 years.

Served 7 years as an Army reservist in the (REME) Royal Electrical & Mechanical Engineers attached to 301 Commando Squadron as a front-line Class 1 Armourer & Metal Smith.

A volunteer RFU qualified level 2 coach for the past 11 years supporting children playing rugby from the ages 4-18 years.

Happily married with 4 beautiful children. My oldest son, Harry, will be turning 18 shortly and is currently in his second year of his Engineering Apprenticeship at Hoverdale.

I joined Hoverdale in March 2019 as the Managing Director and completed a management buy-out in July 2020. This was an interesting year completing a buy-out, moving to a new site and dealing with the challenges of COVID.



## Background to Speakers

**Dean Conduit**  
**Technical Sales & Engineering Director**

I am a time served tool maker, again working most of my career in the Automotive industry. Matt & I have worked together on many of the projects he mentioned over the last 15 years taking on challenges that we were told that were impossible to do.

I thrive on engineering challenges and have a passion for finding ways to do things better. I have held senior Director level position for the last 10 years & specialise in best practice lean-manufacturing techniques.

A Volunteer RFU rugby ready coach for the past 3 years.

I also enjoy restoring narrow boats and currently have a small fleet which I have restored as hire boats. Happily married with 3 beautiful children taking up most of my spare time attending dancing, football, swimming, & rugby sessions.



## The Bulk Handling Apprenticeship

Before 2019 both Dean & I had no experience in the bulk handling sector and had never heard of a “belt scraper” So you could say we are both serving our apprenticeship again in the bulk handling industry.

Some would say this is a weakness, however we both grasped this as an opportunity to approach challenges in the industry with a fresh outlook and no pre-conceptions.

This presentation is about how we have applied knowledge transfer taken from our experiences in the Automotive & F1 sectors to solving very challenging issues. In 2019 I was fortunate to present at the BULKEX19 conference where we were the first company to market to release a patented quick release auto adjusting belt scraper with conditioning monitoring technology.

Since then, at least two other companies have followed suit with conditioning monitoring. Today we will demonstrate further evolution and what we believe are giant steps in progress that will bring tangible benefits to Bulk Handling Industry.





# Who we are...

Established in 1972 based in Nuneaton, Warwickshire - Hoverdale specialises in servicing the bulk handling industry to include; mining, quarrying, MRF waste management, food & beverage. We now export worldwide to over 22 countries and have office locations in the UK, India, Indonesia, & Africa. Our core competences include, conveyor equipment protection, re-manufacture of OEM parts to prolong life and reduce costs, bespoke engineered solutions, site installation and maintenance. Example products include, quick release auto adjusting belt scrapers, low friction quick release skirting, belt clips, metal chrome carbide overlay plate & MRF screening discs. We hold a stock of parts that generally can be shipped out for next day delivery. We take pride in exceptional customer service delivering cost effective solutions that help our clients boost profits by reducing costs & downtime. We are accredited to ISO 9001:2015.

## Products & Services...

- Belt scrapers
- HALO technology belt scrapers- automated cleaning and adjusting
- Chrome carbide overlay plate
- MRF screening shafts and discs
- Low friction skirting & quick release clamps
- Site survey with laser scanning technology
- Fabrication & welding
- Lumsden grinding
- Induction brazing
- CNC machining





## Hoverdale Products and Services







## Hoverdale Products and Services





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BELT CLEANING SYSTEMS



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Patent pending HALO® technology developed by the Hoverdale team truly delivers the next generation in conveyor belt protection. The belt cleaner systems are designed to tackle historical issues seen across the bulk handling industry to include: Material carry-back & spillage, Blockages cleaning, Maintenance and adjustment Down-time, Removing the operator from hazardous environments, Reducing the need for manual resource requirements, Prolonging blade life and reducing consumable costs.

HALO

#### FEATURES AND BENEFITS

- Auto-adjusting as the blade wears with no manual intervention needed between blade changes
- Adjustable air pressure
- Self-cleaning blade that quickly removes blockages without the need for manual intervention
- Fully programmable auto-cleaning cycles to prevent blade push off from the belt
- Can be fitted as a primary and secondary system with the dual system working very effectively in high impact blockage areas
- Ideally for hard-to-reach areas and confined spaces removing the need to place an operator in potential risk
- Live camera feed to view contact area
- Conditioning monitoring with data reported to customer dashboard



Installation and maintenance service is available.  
Specifications are subject to change without notice.



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## The Challenges

It's recognised in the industry that belt scrapers have helped reduce the carry-back problems, however we also believe it is well understood that there could be better and more efficient ways of reducing carry-back, blockages and increasing stable production.

### Current challenges include;

- Systems need manual adjustment to maintain effectiveness over prolonged periods
- Manual intervention for maintenance requires an operator to be placed in hazardous areas and situations working at heights, confined spaces, in close proximity of dangerous toxic or corrosive materials
- Systems suffer from blockages that are not easy to remove quickly and generally require tools. These cause down-time and loss of stable production
- Carry-back causes damage to conveyor equipment creating more maintenance and repairs
- Carry-back and spillages causing hazards to employees

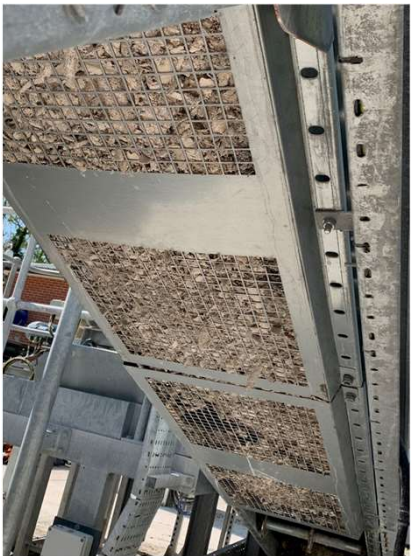






## Typical problems experienced

Blockages, Spillage, Carry Back = Loss  
of stable production







## Conventional Scraper Systems

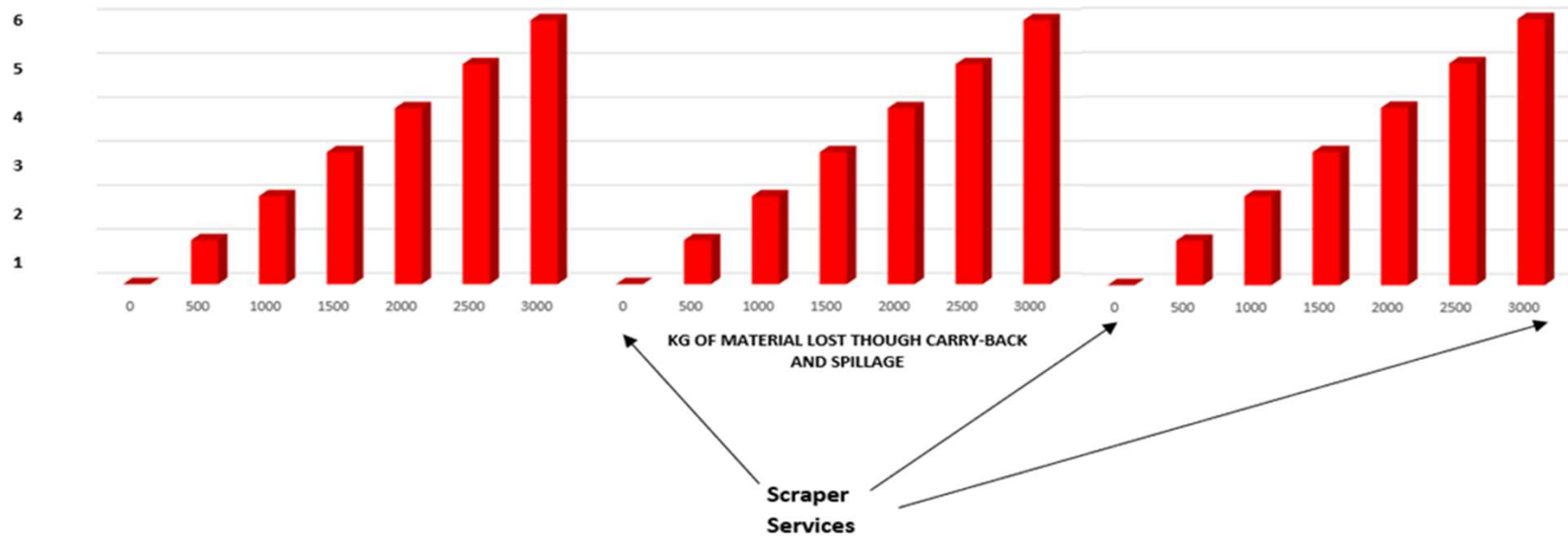




## The Saw Tooth Effect

Month

CARRY- BACK SIGNATURE-MANUAL OR SEMI-AUTO ADJUSTMENT  
CONVENTIONAL SCRAPER SYSTEMS





## **Areas we targeted to improve**

- Remove the operator from risk and hazardous areas, reduce resource requirements
- Remove the need for manual tools and skilled labour to carry out preventative and emergency maintenance
- Remove the need for manual inspections to understand the performance and blade life
- Automated cleaning cycles and blockage removals
- Reduce replacement parts and consumable cost
- Increase stable production - increase profits
- To make accurate predictions on when scheduled maintenance should occur





## The Solution

### HALO Technology What does HALO Mean:

- H = Hoverdale** in house developed patent pending technology
- A = Automated** adjustment, self-cleaning, and blockage removal
- L = Linked** data collected to accurately predict and prevent blade wear, blockages and impacts
- O = Operation** is completely programmable and needs no manual intervention







**[Link to animated presentation](#)**



## Summary Of Benefits



- Fully automated blade adjustment as blades wear keeping optimum contact with belt
- Damper system ensure heavy impacts are absorbed protecting both the conveyor and the scraper equipment
- Blockage removal and cleaning cycles are fully automated preventing blade lift off
- Full data capture of all the key areas to include blade wear, impacts, blockages, cleaning cycles and blade lift off
- Data reported to a simple customer dashboard traffic light system
- Historical data captured and analysed to predict & prevent problem events through fault code recognition
- Full stainless construction capable of operating in wet, corrosive, toxic hot areas with the correct configuration



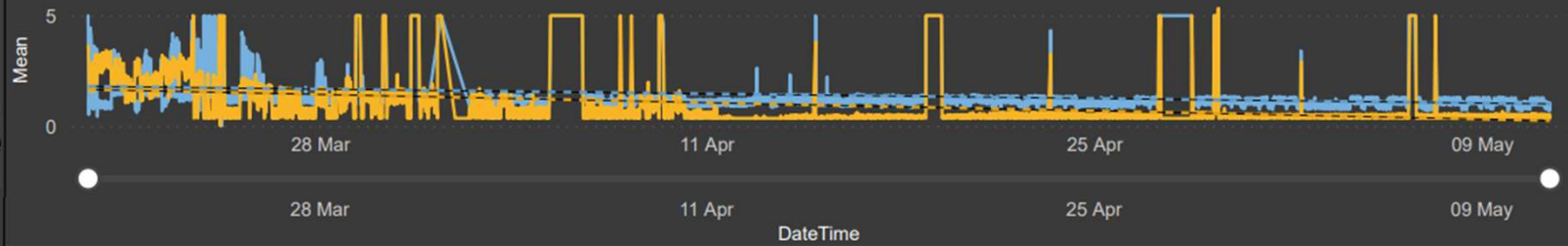


Customer, Location, Conv...

- ☐ b827eba85907
- ☐ primary
- ☐ secondary

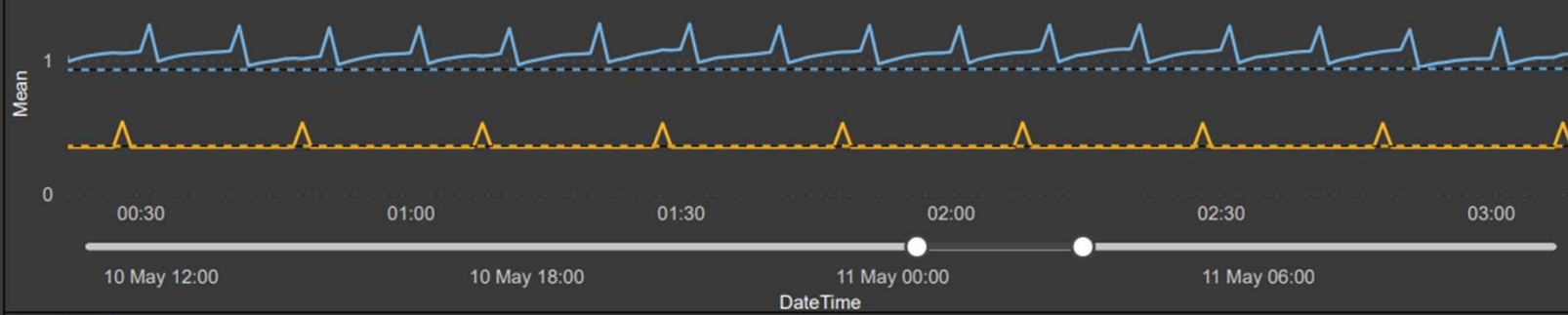
### All data

Scraper ID ● b827eba85907-Primary ● b827eba85907-Secondary



### Last 24 hours

Scraper ID ● b827eba85907-primary ● b827eba85907-secondary



### Last 24 hours



Customer	Location	Conveyor	BCM ID	Device ID	Blade Type	Raw material	Material	Initial Length	Change Length
		1540	b827eba85907	primary	B	Mixed waste	Nylon	200	50
		1540	b827eba85907	secondary	C	Mixed waste	PTFE	200	50

# CUSTOMER DASHBOARD

**CONVEYOR ID NUMBER:**

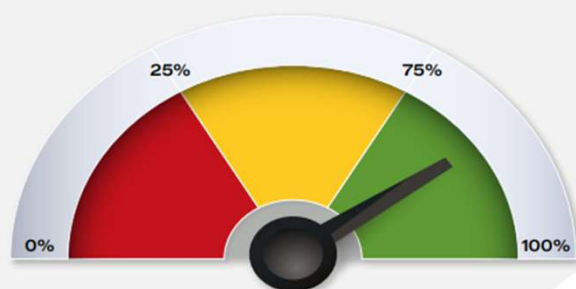
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**LOCATION:**

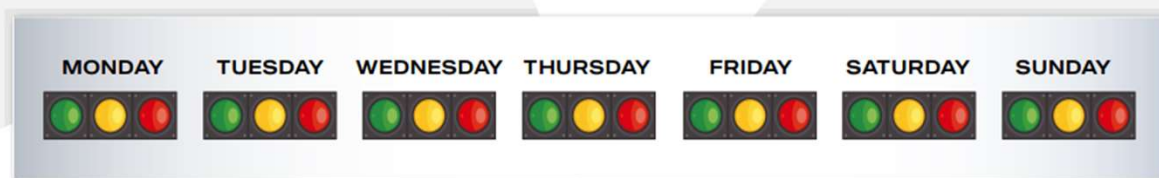
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## BLADE WEAR



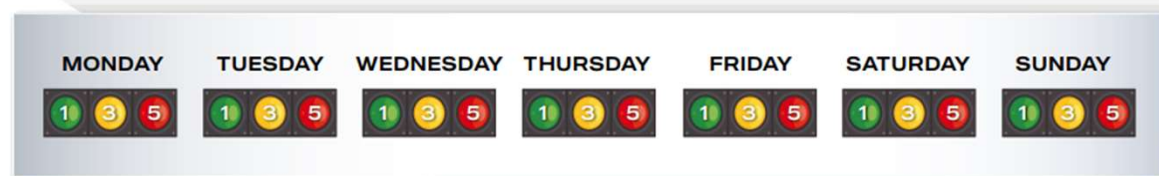
### CLEANING CYCLES PER WEEK



## LIVE CAMERA FEED



## IMPACTS PER DAY







**Live link data to customer  
system**



## Case Study

**Customer:** Located in the Northwest processing MRF waste.

**Line details:** 1200mm wide vulcanised flat belt.

The head drum is located 10 meters up and is completely enclosed.



Line was blocking on average 3 times in a 24-hour cycle resulting in the production being severely disrupted. Each time a blockage was identified through excessive Amp loading on the head drum motor a production stop was initiated. Working at heights & confined space permits were required with rescue teams in support to remove the blockages.

In February 2021 Hoverdale supplied a fitted Double HALO scraper system. Since this date, all blockages have been eliminated and the line which was the most problematic line in the plant is the best performing.

### Benefits

- The HALO system has prevented the blockages from occurring with a cleaning cycle on the primary blade every 15 minutes and the secondary blade every 20 minutes
- Resource reduction with no need for manual cleaning, and time-consuming permits and rescue teams.
- The removal of maintenance operators from dangerous environments
- Carry-back and spillage has been eliminated saving cleaning staff resource and material being dropped to the floor causing slipping hazards
- Performance of the line managed via data collection and customer dashboard
- Remote visual check possible via live camera feed



Following the successful results of the first HALO at this plant the customer has now increased the HALO technology to a further 11 high priority processing lines.

Since October 2020 Hoverdale has successfully supplied and fitted 168 HALO systems covering the following bulk handling industries.

- MRF Waste
- Biofuel
- Aggregates
- Animal Waste Removal
- Vinyl production
- Minerals & chemical production

We have our first HALO system schedule to be fitted in December to the Food & Beverage industries.

### **Our commitment**

We will fit a system on trial for 30 days. If you are not happy with the performance and the return on investment, we will remove at no cost. To date of the 168 Halo systems fitted we have removed 0.

So please visit the **Hoverdale Stand 29** and see the technology first-hand and book your 30-day trial.





**Thank you for listening**

**We hope you have found the  
presentation informative**

**We are happy to take any Questions**

