



# Quantifying Filter Press Operational Health



## CHALLENGES

### Continuous monitoring prevents blowouts and optimizes maintenance

Filter presses play a crucial role in managing residue from refinery operations. Residue filters ensure a high flow rate of residue filtration, which is essential to keep pace with the processing capacity of refinery plants. However, achieving this high flow rate is contingent on a complex mix of planned and unplanned maintenance. Traditional monitoring techniques

and regular scheduled maintenance practices have evolved over time based on historical data to ensure continuous operation. However, unplanned maintenance events such as blowouts can lead to significant downtime. The current maintenance practices are not one-size-fits-all and do not optimize for operational efficiency.

## SOLUTIONS

### Automating heavy equipment inspections with AI

By providing timely alerts, the necessary preventative measures can be taken to avoid potential blowouts or failures. Additionally, the AI model can be customized to the specific context of the filter press and its operating environment, providing accurate insights into the filter presses' health. This approach leads to increased uptime and optimizing maintenance schedules.

For the "health score" calculation, we consider various features, such as the size of each dropping mud cake, the angle of dropped cake, cadence, and more.



Unleash live's Filter Press AI in action

## BENEFITS

The output capacity and service life of equipment can be greatly increased through constant monitoring and informed maintenance schedules.



#### Prevent blow outs

Alerting for the health of filter press prevents blow outs and unplanned maintenance downtime.



#### Enhanced end flow

Enhance the end flow by optimizing the planned maintenance such as cloth replacement.



#### Reduced consumable cost

Achieve customized replacement schedules to improve the life of filter press cloth.

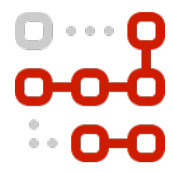



#### Safer and efficient inspections

Reduce the need for manual inspections of difficult to reach and unsafe spaces.

FEATURES

Powerful tools for faster insights, better decisions

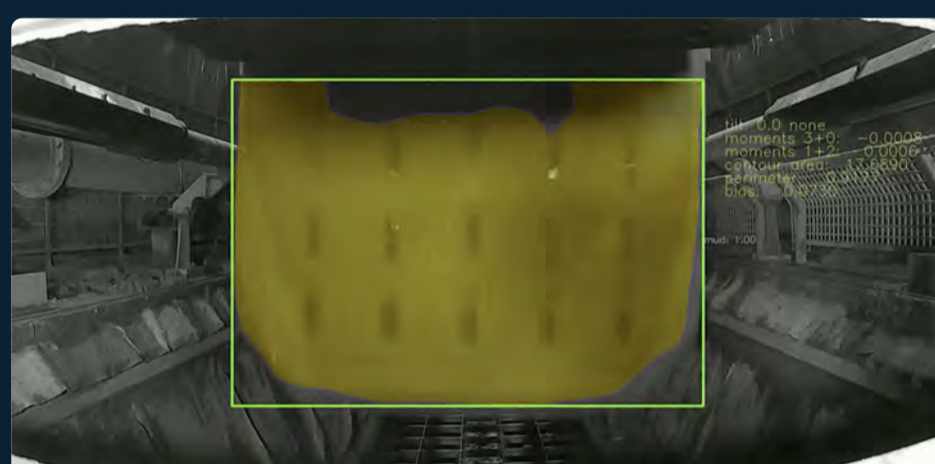
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**Powerful AI for productivity**  
 Utilize leading AI to rapidly analyze large amounts of image and video data in order to minimize productivity issues of filter presses and other heavy plant equipment. Quickly identify critical issues such as blockages, incomplete or uneven discharges. Provide notification and alerts to address issues as well as historical context to prevent future occurrences.
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**Media library**  
 Your Unleash live account captures all visual data, including AI insights, trend analysis and reporting. Store and review thousands of images and videos and select the periods of interest to go deep into its visual history.

CASE STUDY



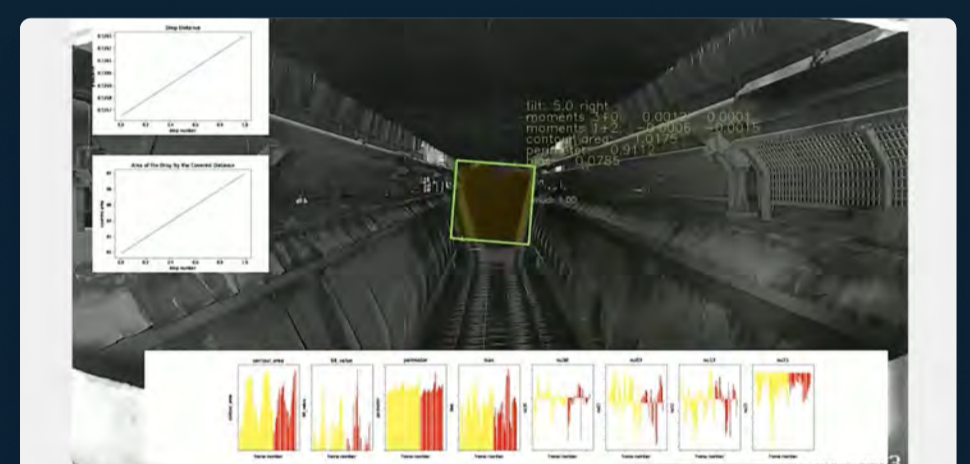
**Challenges**

A series of newly constructed filter press assets were experiencing production issues due to inconsistency in its output. The previous maintenance schedule was built on a regular time basis and not running on time, productivity or health.



**Solution**

Unleash live deployed CCTV cameras and Filter Press AI to provide constant monitoring and performance analytics for the filter press asset.



**Results**

The AI monitoring and insights allowed reliability engineers to schedule timely caustic washing to avoid blowouts and optimize cloth replacement. In turn, this reduced overall downtime and improved end flow.

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