

# Screening Technology





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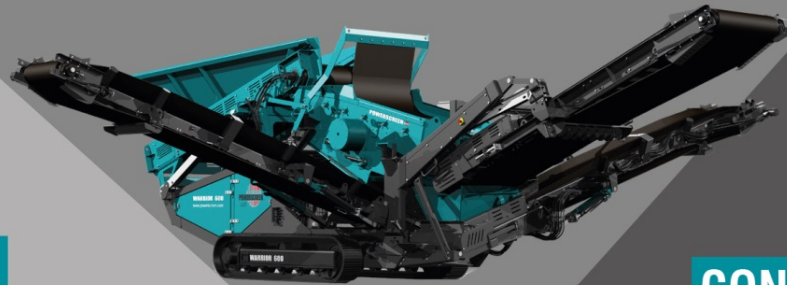




# POWERSCREEN PORTFOLIO

- 50 years in the industry.
- Founded in Ireland, American owned
- World leader in mobile crushing and screening equipment.

## MOBILE SCREENS



## MOBILE CRUSHERS



## CONVEYORS



## PARTS & SERVICE





# The Screening Market



# Types of Screening Plant

Screens – Trommels – Static - Mobile

**Screenbox**

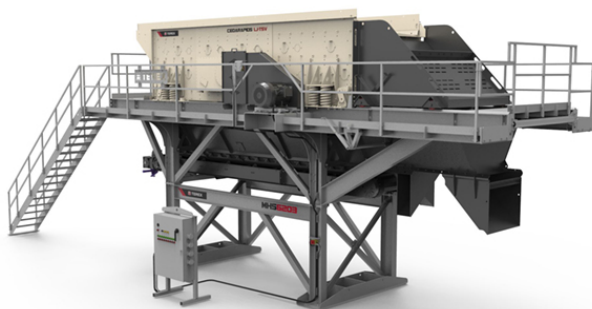


**Trommel**



Mobile

**Vibration**



**Rotation**



Static



# Mobile Screening Plants

Brought in > Offloaded > Setup > Adapted > Packed Up > Moved

**Quick setup time. Move between job sites. Adaptable for other uses.**

# Trommels in Soil & Mulch



**Turn material over. Rotational Separation.**



# Trommels Difficulties



## Difficulty with Trommels

- **Media is expensive, & difficult to change**
- **Machines are prone to spiking**
- **Limited force to break apart difficult/sticky materials**
- **Limited versatility for other applications, only two product separation**

# Sizing & Separation



**To create the best product, you must understand and control the factors that affect performance.**

## **Material factors**

**Product Material Spec**

**Feed Material Moisture Content**

**Shape of Feed Material**

**Age of the Material**

**Max size of Feed Pieces**

**Physical Material Attributes**

**(hardness, density etc.)**

*Determined by the feed material and the product you are making.*

## **Machine factors**

**Screen Size & Media**

**Feed Angle**

**Feed Rate**

**Feed Spread**

**Acceleration**

**Percentage of Screen Area Open**

**Screen Tension**

**Corrosion and Wear**

**Plant Layout**

*Determined by the equipment and how it is deployed.*

# The problems of low acceleration

## Blinding

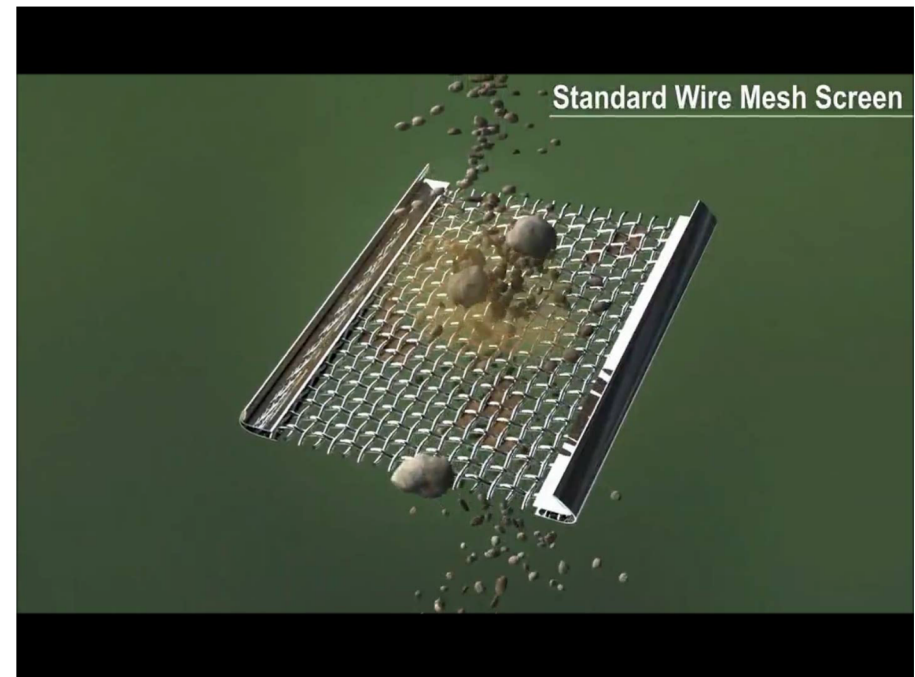
- Damp/sticky material binds to the mesh.
- The total screen area is reduced

## Pegging

- Pieces become stuck in the mesh.
- Pieces become difficult to dislodge.

## Material Stickiness

- Low acceleration fails to separate damp or sticky materials. E.g. Compost or Mulch.





# Increasing Acceleration

**Flip Flow Technology – 30G Acceleration – Greater Separation**



# Increasing Acceleration

Flip Flow Technology



**Independent Deck. Trampoline Effect. Greater Force.**

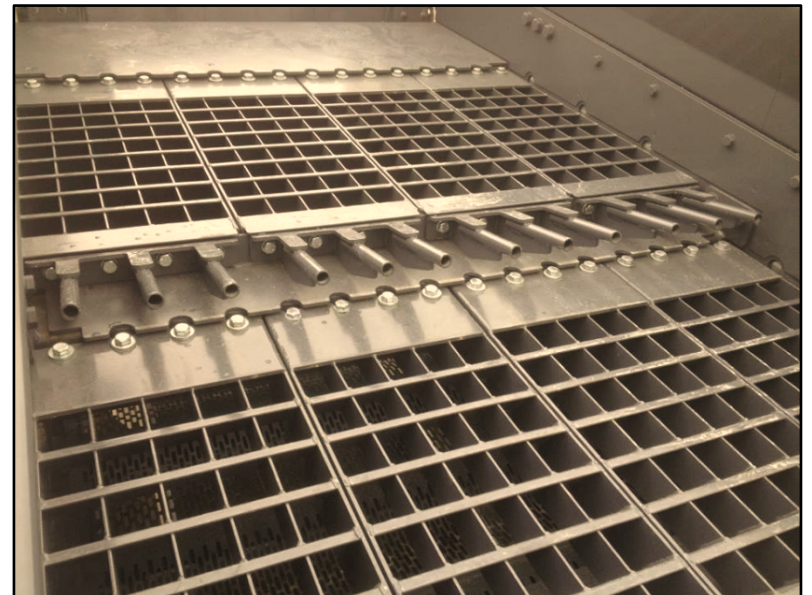
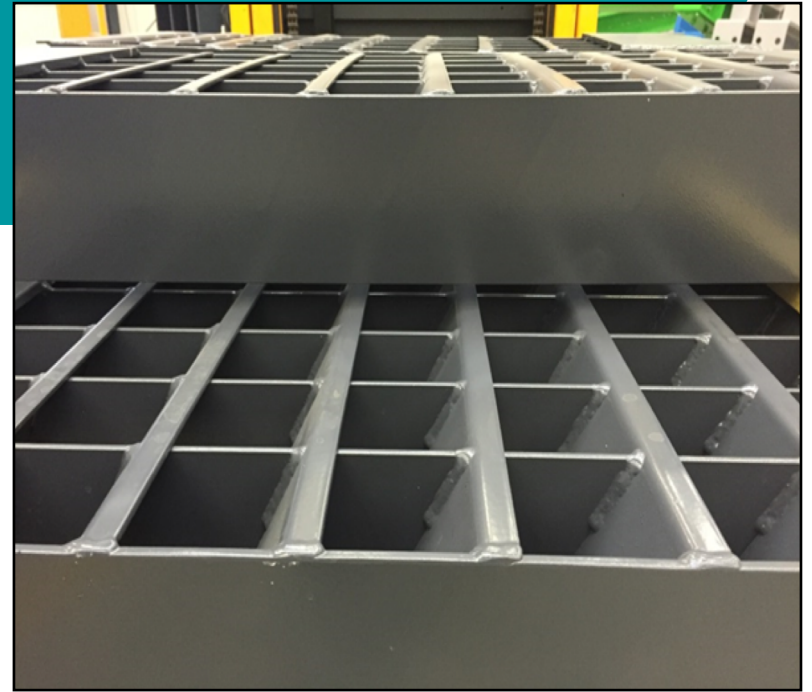
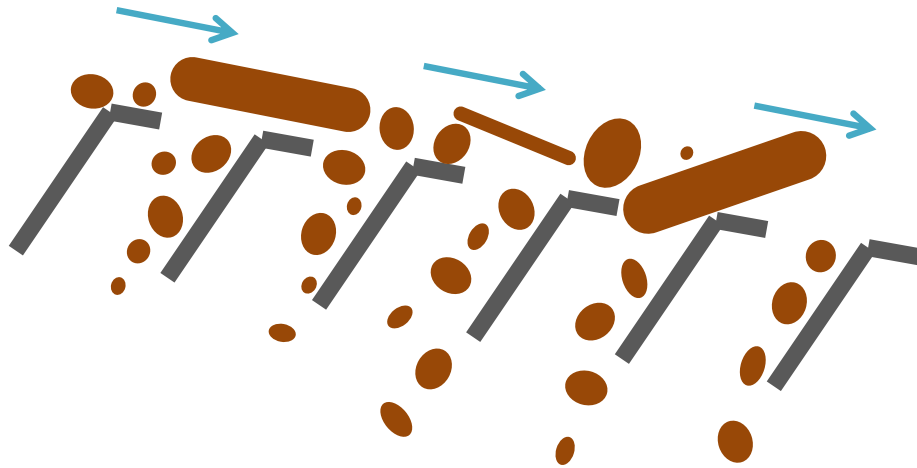


# Increasing Acceleration

## Flip Flow Technology



# Screen Media: 3D Punchplate





## Screen Media: Ball Decks



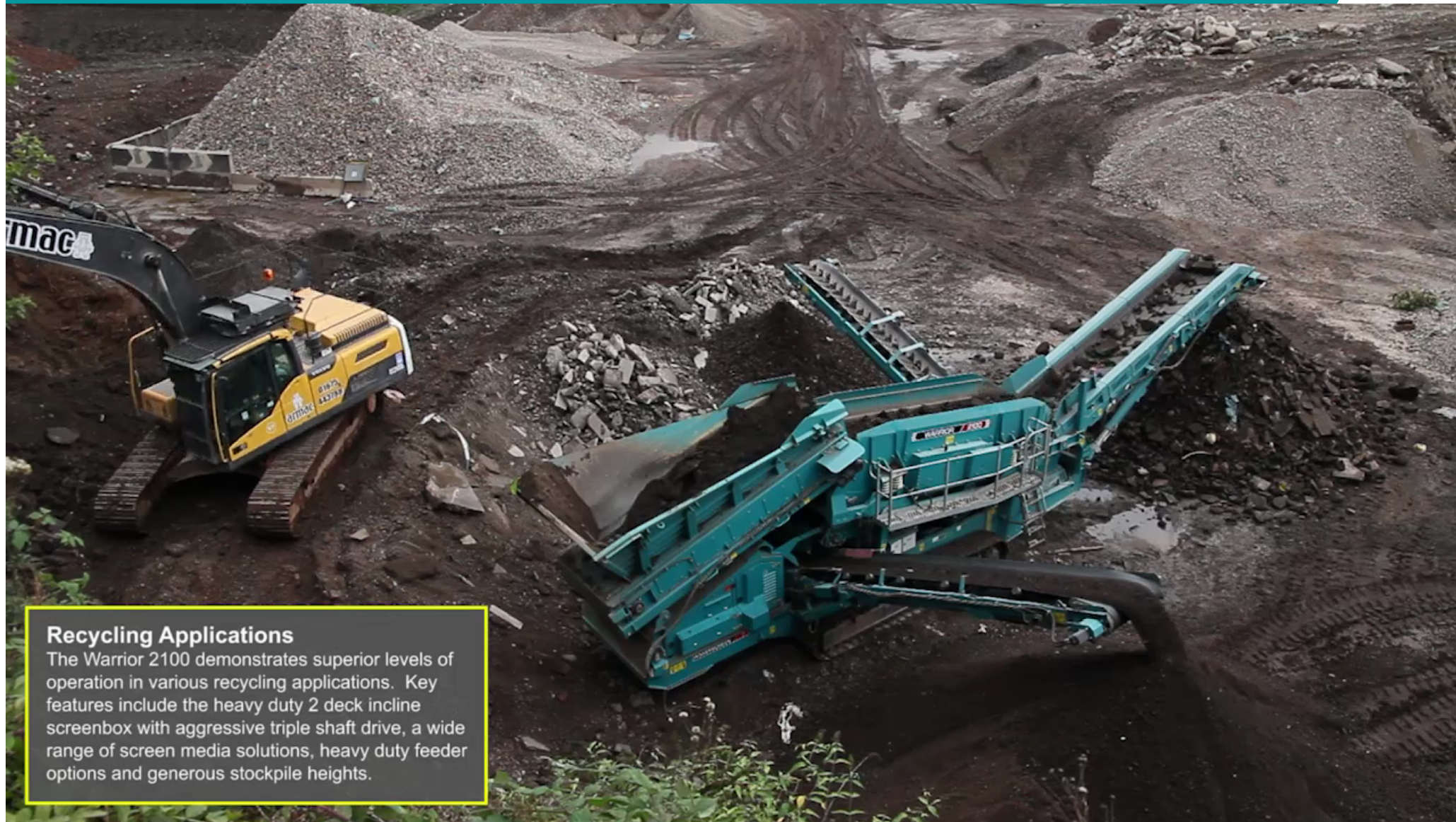


# Screen Media: Flex Mats

Increasing Vibration Frequency  
Screen stays clean for longer

# **New Screenbox Design**

# Separating Difficult Materials | Triple Shaft Screen



## Recycling Applications

The Warrior 2100 demonstrates superior levels of operation in various recycling applications. Key features include the heavy duty 2 deck incline screenbox with aggressive triple shaft drive, a wide range of screen media solutions, heavy duty feeder options and generous stockpile heights.

**Higher acceleration. Higher aggression. Better Separation.**



# Top Soil Application





# Top Soil Application



# Twin Screenboxes





# Twin Screenboxes

# Mobile Intelligence

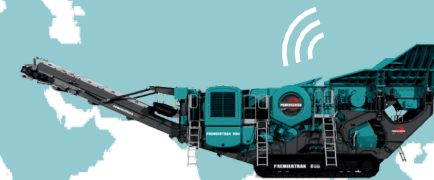
# Mobile Intelligence

[www.powerscreen.com/pulse](http://www.powerscreen.com/pulse)



"Today I consumed  
\$300 offuel"

"This week I  
processed  
18,000 tonnes"



"I will need  
replacement wear  
parts next month"

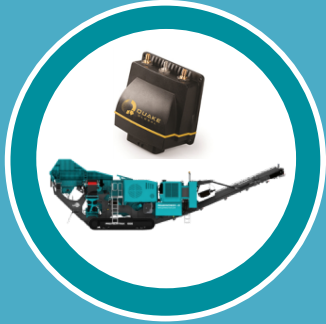


## OUR MACHINES CAN TALK

- Operating data
- Production tonnages
- Machine status
- GPS location
- Fuel consumption
- Wear parts usage



# How does it work?



## Machine

Engine  
Clutch  
Machine



## Communication

2 modes:  
Cellular  
Satellite



## Portal

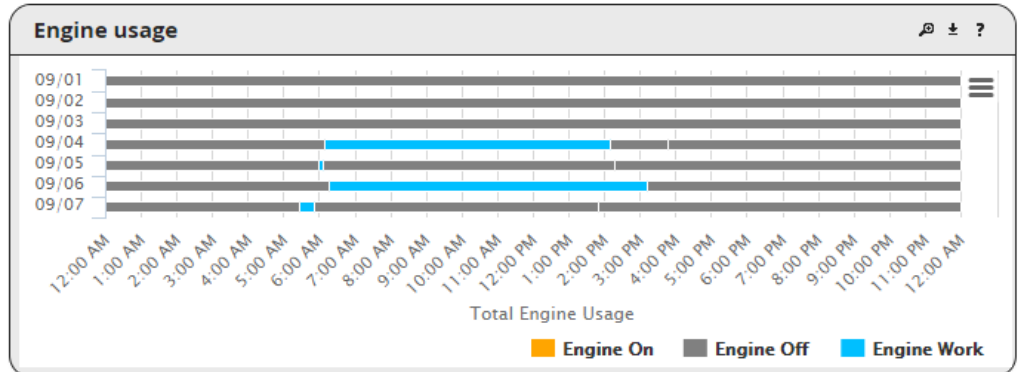
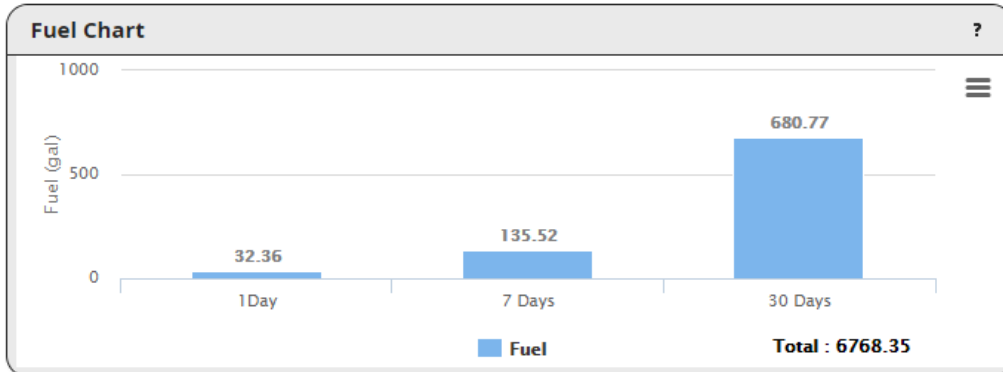
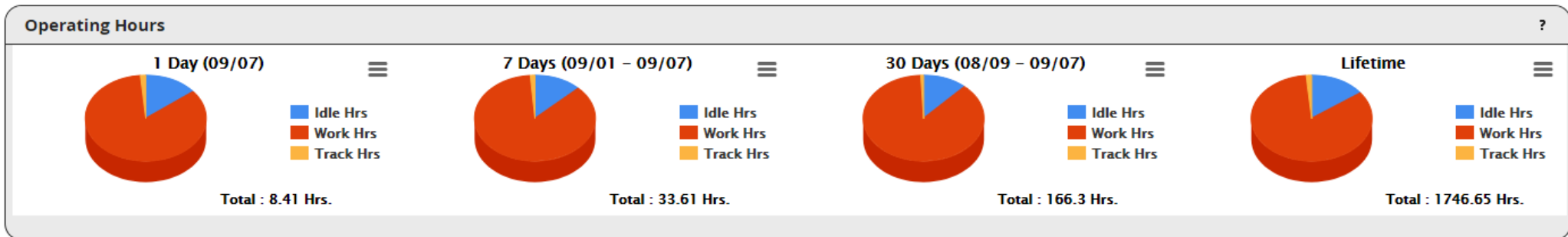
Access via laptop,  
Tablet or  
Smartphone

Real time communication between machine and user.

# Mobile Intelligence

## Measuring Efficiencies

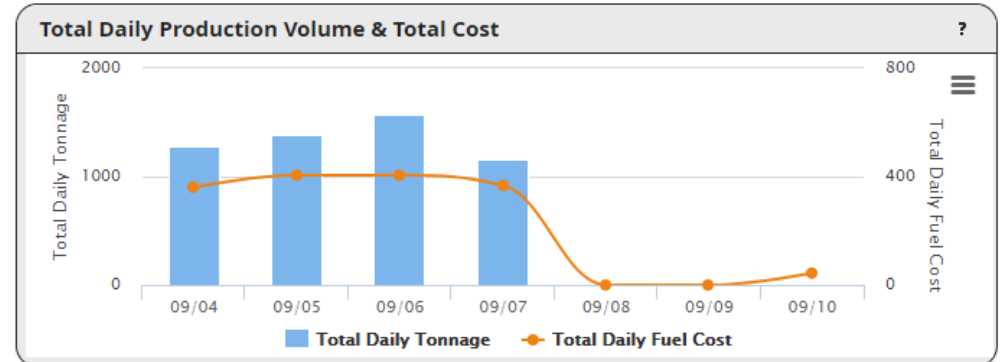
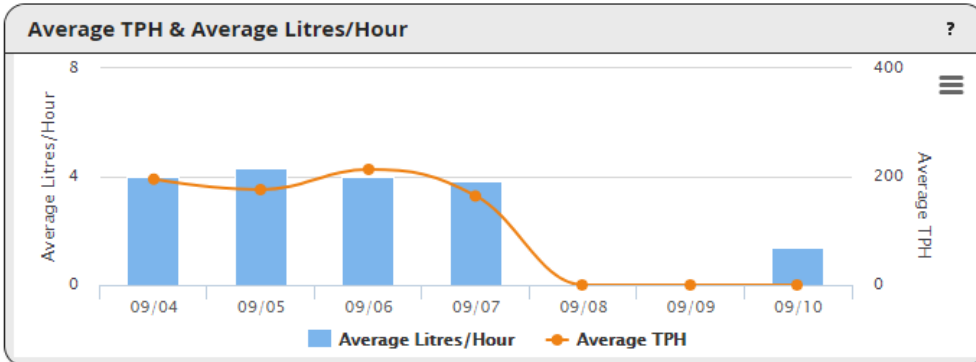
*Check when a machine is working vs idle. Deploy elsewhere.*



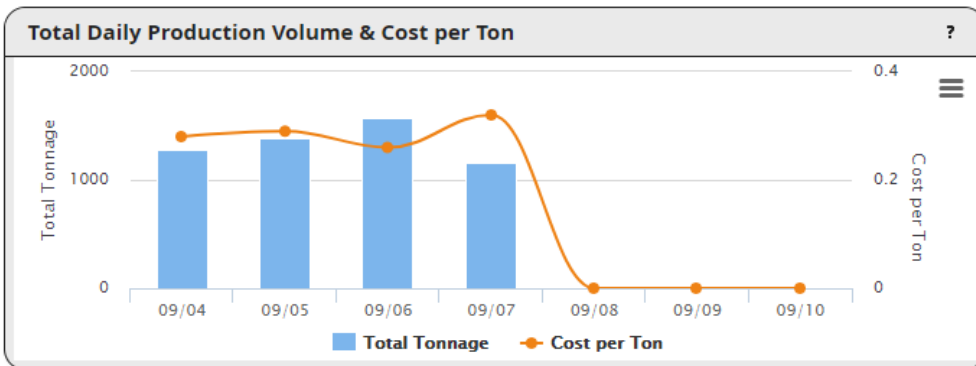
# Mobile Intelligence

## Increasing Production

*Try different settings, and compare outputs.*



Fuel Cost:  per gal



**Find the 'sweet spot' of high tonnage and low fuel consumption.**



# Mobile Intelligence

## Service Coverage

*Track usage for service intervals, monitor fault codes remotely.*

All Alarm Source ▾ All Priority ▾ [Request Alarms From Unit](#) [Notification](#) [Print Report](#) [Export to Excel](#)

### Alarm Details

SOURCE	ALARM CODE	DESCRIPTION	FMI CODE	ACTIVE DATE	LOCATION	PRIORITY
Engine	1761	Aftertreatment 1 Diesel Exhaust Fluid Tank Level	Data Valid but Below Normal Range: Least Severe Level	08/13/2018 09:59:26 AM	0.95mi WSW of Jessup, MD	High

### Sensor History

READ DATE	ADD BLUE LEVEL (UREA LEVEL)	AUTO START COUNT	AUTO STOP COUNT	BATTERY VOLTAGE	CONVEYOR 1 HOURS	CONVEYOR 1 START COUNT	CONVEYOR 2 HOURS	CONVEYOR 2 START COUNT	COOLANT TEMP	ENGINE HOURS
09/01/2018	101.60	0.00	0.00	8.10	6.14	1.00	0.00	0.00	99.00	6.80
08/31/2018	101.60	0.00	0.00	8.10	7.93	2.00	0.00	0.00	100.00	9.70
08/30/2018	101.60	0.00	0.00	8.11	4.17	2.00	0.00	0.00	104.00	5.25
08/29/2018	101.60	0.00	0.00	8.10	8.70	1.00	0.00	0.00	103.00	9.30
08/28/2018	101.60	0.00	0.00	8.10	7.37	3.00	0.00	0.00	102.00	8.85
08/27/2018				8.09						
08/26/2018	101.60	0.00	0.00	8.10	4.73	1.00	0.00	0.00	94.00	4.95
08/25/2018	101.60	0.00	0.00	8.10	5.29	1.00	0.00	0.00	97.00	5.45
08/24/2018	101.60	0.00	0.00	8.11	3.93	1.00	0.00	0.00	93.00	4.20
08/23/2018	101.60	0.00	0.00	8.10	4.40	1.00	0.00	0.00	91.00	4.70
08/22/2018	101.60	0.00	0.00	8.10	7.89	1.00	0.00	0.00	97.00	8.35
08/21/2018	101.60	0.00	0.00	8.10	3.05	3.00	0.00	0.00	92.00	3.35

# Thank you for your time.

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