MHA
Midlands Highway Alliance Plus

HDS
HIGHWAY DATA SYSTEMS

Automated Quality Assurance

Technology for Carbon Reduction in Asphalt Production and Installation

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Skills and Digital

Tuesday 17 September 2024

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UKAS accredited materials testing house

Operate automation testing hardware and software as an integrated service for contractors

42 squads and 8 plants operating across the UK, Ireland, and the USA.

Sole provider of AQA technology on the National Highways and Transport Scotland Networks, as well as at Heathrow, Gatwick, and Cork Airports.

HDS

Problems with under-digitalization of materials testing

Cost, health & safety issues

Opportunities for CO2 reduction missed

Quality of testing, reliability of reporting

Asset management opportunities missed

Highway Data Systems Technology

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Infra-red temperature sensors measure batching temperature of material at the drag slat

Continuous readings are available in real time for operatives in the plant control room

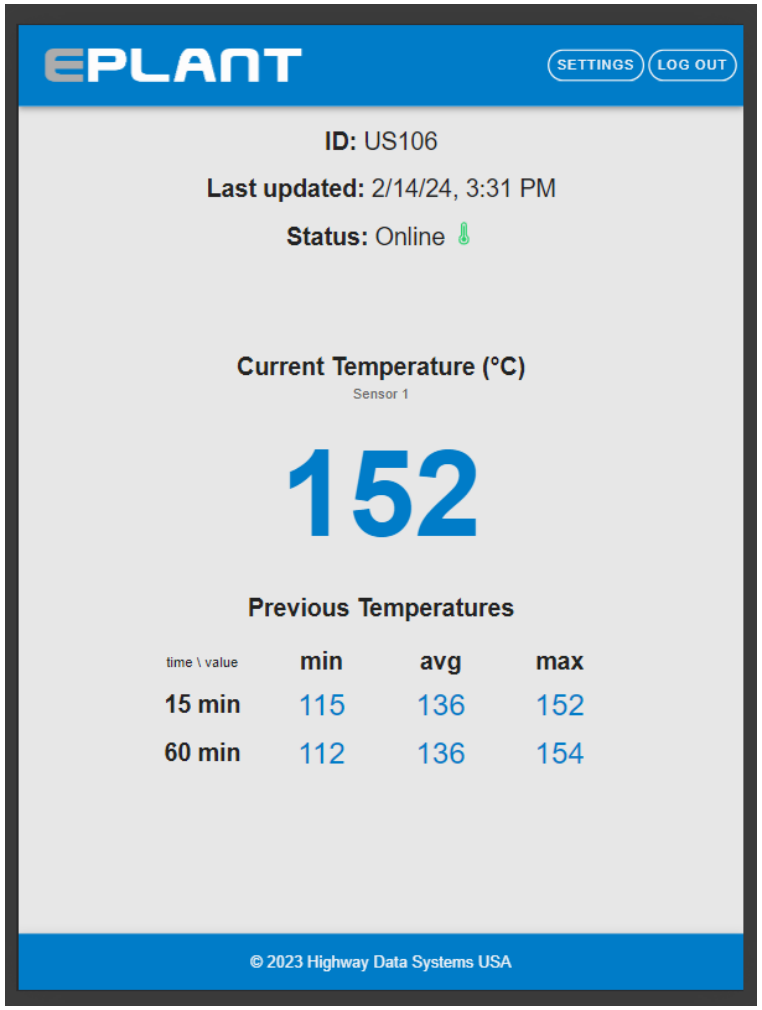
Temperature sensors are regularly calibrated by HDS

A fully digital record is created for review and reporting

Temperature data is continuously reported to the asphalt plant control room

Average values over 15 and 60 mins available for higher level view

Data available for reporting and analysis



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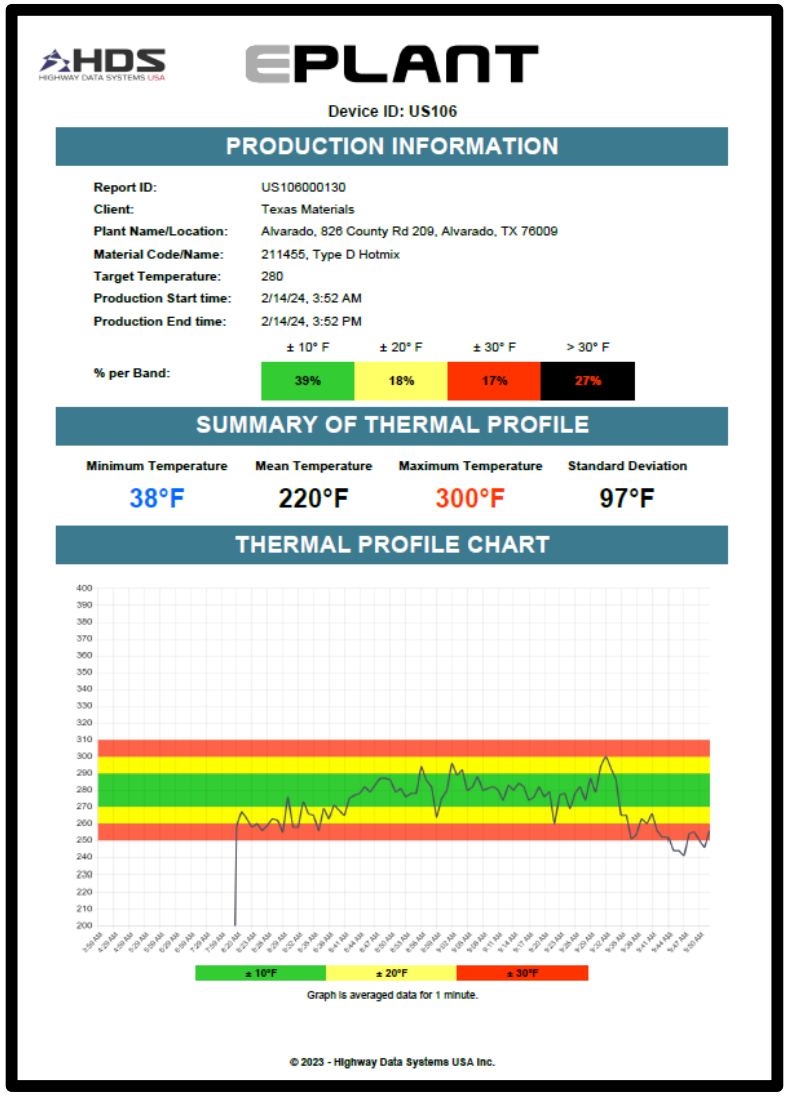

HDS HIGHWAY DATA SYSTEMS USA

EPLANT

Device ID: US106

PRODUCTION INFORMATION

Report ID:	US106000130
Client:	Texas Materials
Plant Name/Location:	Alvarado, 826 County Rd 209, Alvarado, TX 76009
Material Code/Name:	211455, Type D Hotmix
Target Temperature:	280
Production Start time:	2/14/24, 3:52 AM
Production End time:	2/14/24, 3:52 PM

	± 10° F	± 20° F	± 30° F	> 30° F
% per Band:	39%	18%	17%	27%

SUMMARY OF THERMAL PROFILE

Minimum Temperature	Mean Temperature	Maximum Temperature	Standard Deviation
38°F	220°F	300°F	97°F

THERMAL PROFILE CHART

Graph is averaged data for 1 minute.

Daily production temperature reports available in customizable sections (by shift, time, date, material etc.)

Target temperature set and distributions provide insight into performance

Exportable in PDF or CSV file, as well as via API if required

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Infra-red temperature sensors measure the temperature of material as it is deposited into delivery vehicles

All temperature sensors are regularly calibrated by HDS

All material leaving the batching plant is assigned a loaded truck temperature

Automatic Number Plate Recognition (ANPR)

Using ANPR with a time stamp, eSilo matches up infra-red thermal data with the correct vehicle.

Tickets are created with registration plates sent to HDS via E1/Rocks

All temperature data is matched up with tickets and data relayed to the plant operations team and gang on site

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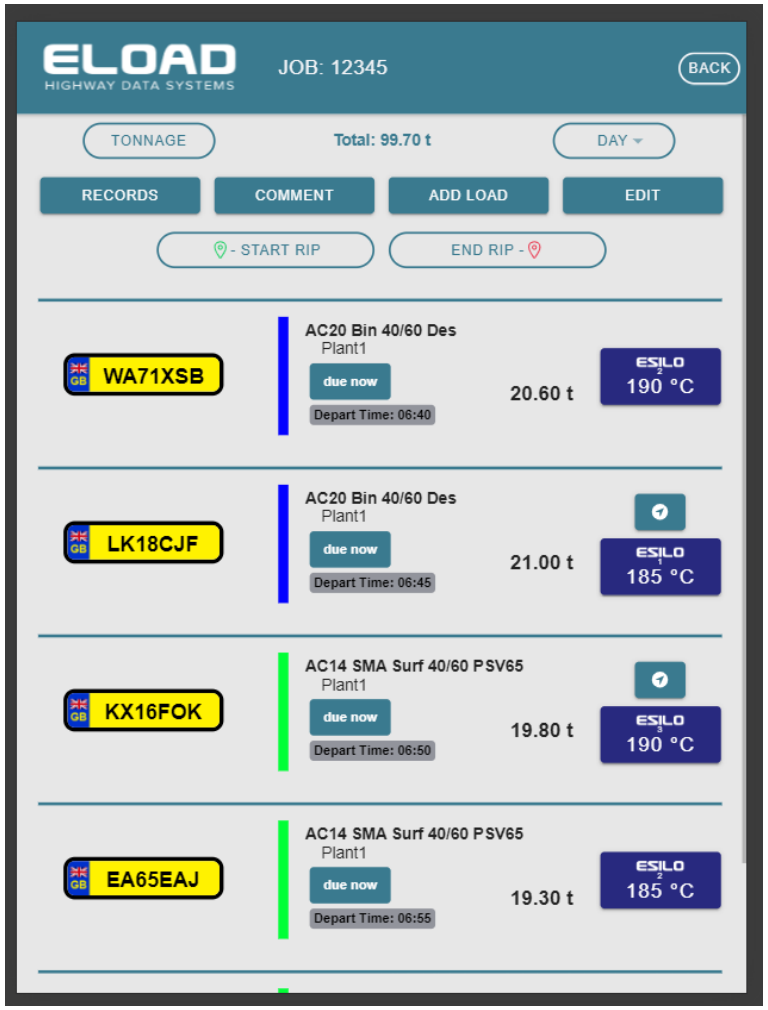
eSilo data is combined with ticket data and provided in real-time to the asphalt plant control room.

Data can also be sent ahead to AI surfacing teams via eLoad, or to external customers.

All data is saved and available to prove temperatures via a report by truck, material, date, or plant.



HDS Site Technology

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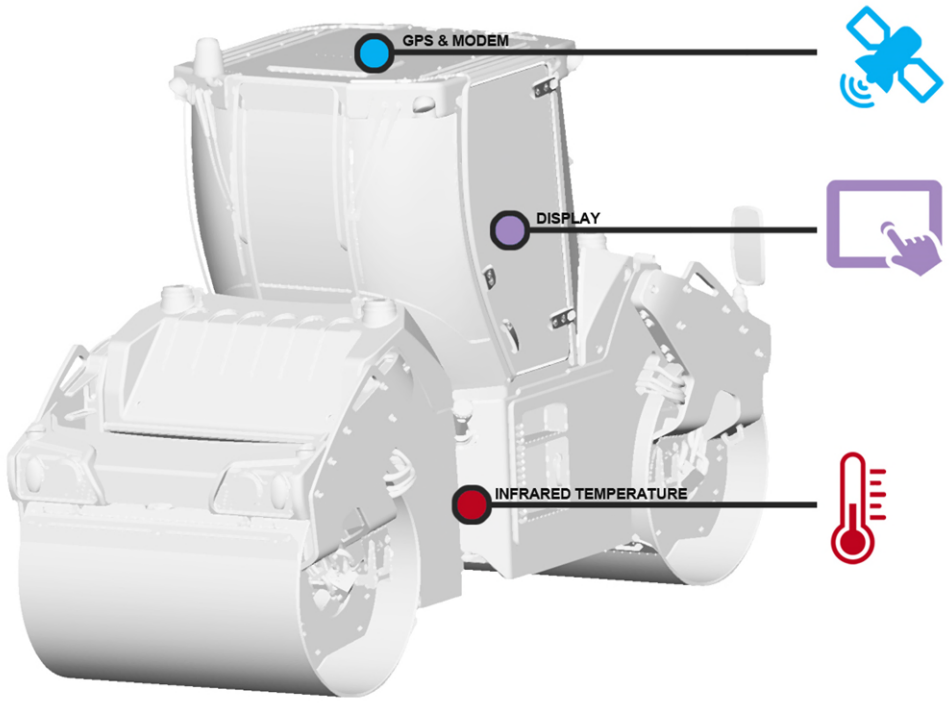

Compatible with any roller	High-accuracy GPS for real-time compaction control
Continuous temperature readings and pass counts	No need for technicians and density gauges

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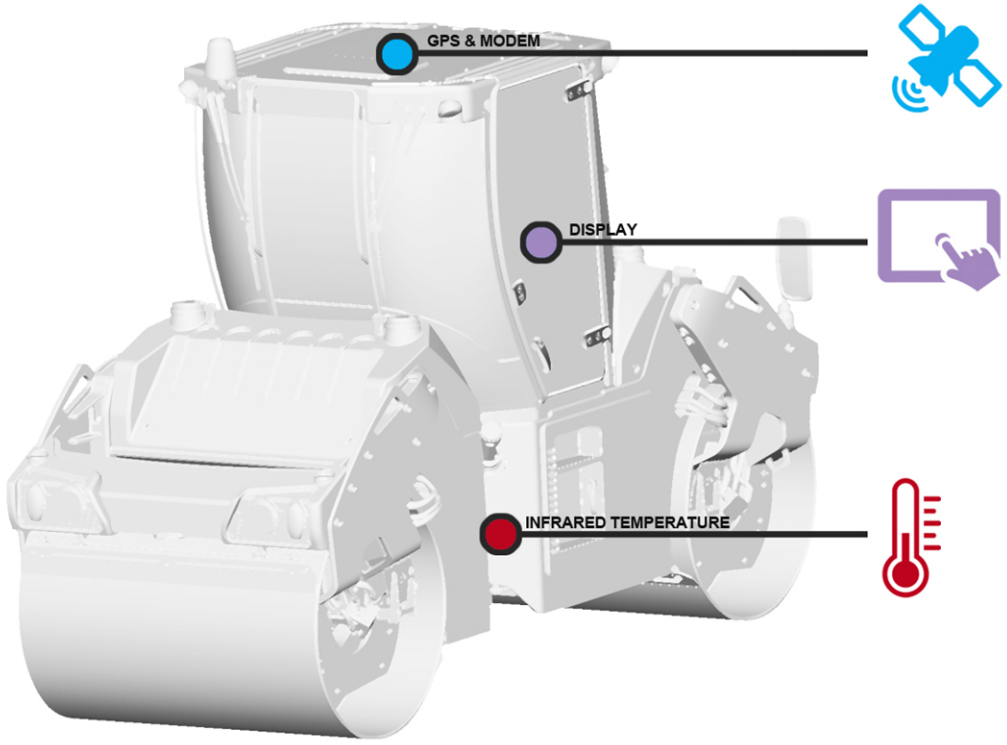

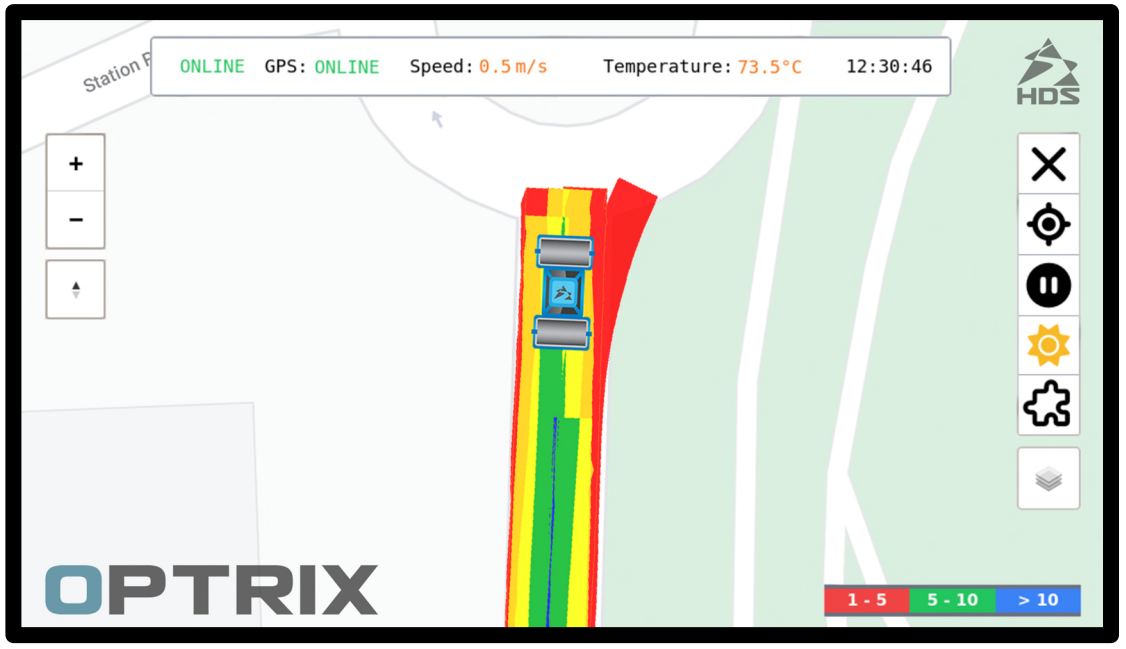

Easy to understand, colour coded on site reporting

Results for 100% of material under construction

All rollers on site are interconnected

HDS

Automated Quality Assurance

Significant opportunities to reduce CO2 output and increase CO2 whole life cost

Real time quality assurance helps to correct problems before they become permanent

Get people out of harm's way and improve the quality of materials testing

All data is run through an accredited materials test laboratory

Digital quality assurance data should be used in asset management