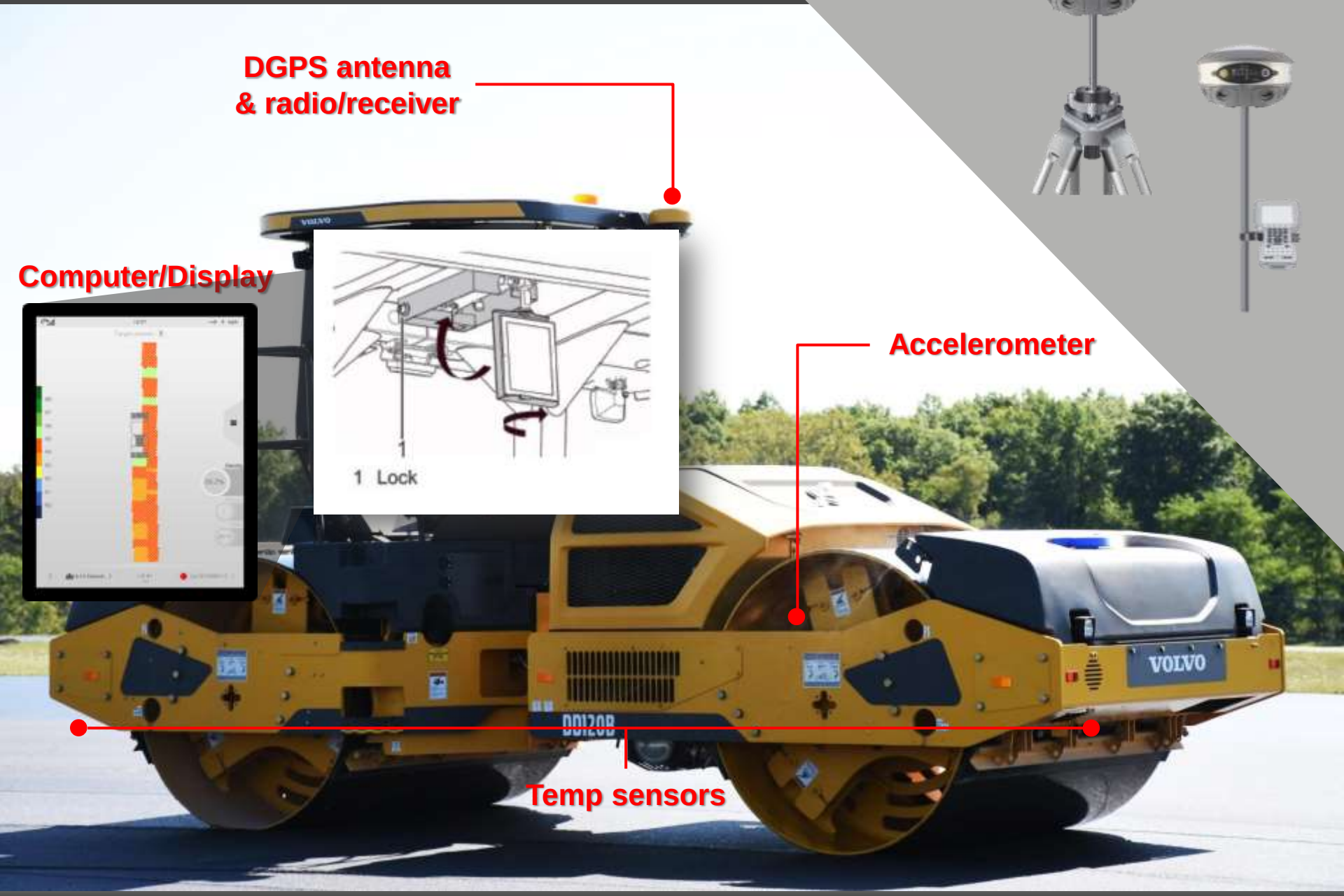
Intelligent Compaction – Volvo Density Direct

Intelligent Compaction



Intelligent Compaction

Features

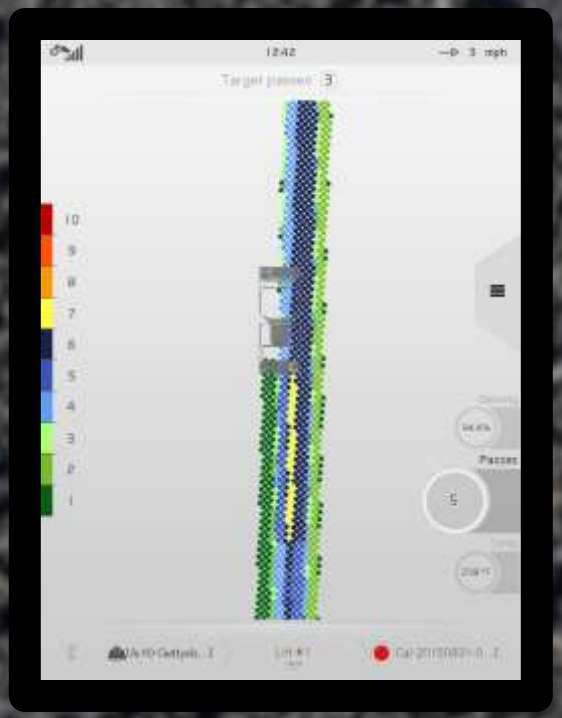
- Large color display
  - ✓ Pass count
  - ✓ Mat temperature
  - ✓ ICMV (Intelligent Compaction Measurement Value)
- Data storage

Benefits

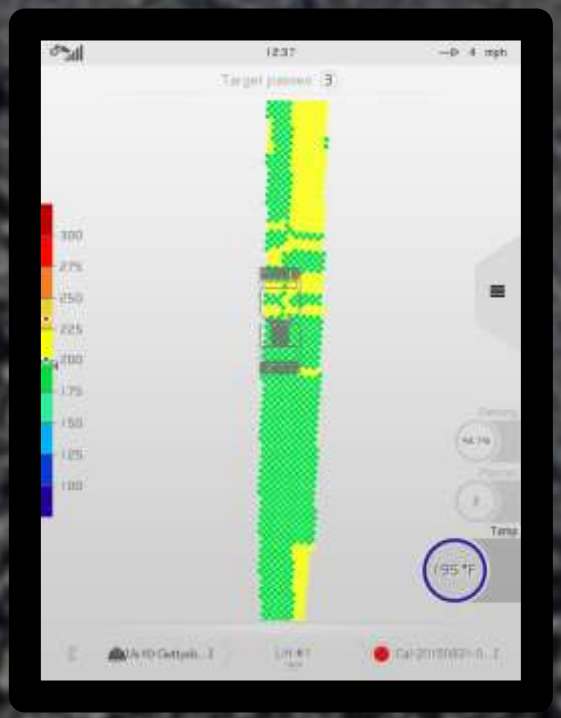
- Greater uniformity of compaction
- Real-time feedback for quality control
- Records and documents the compaction process (Veta)

Intelligent Compaction

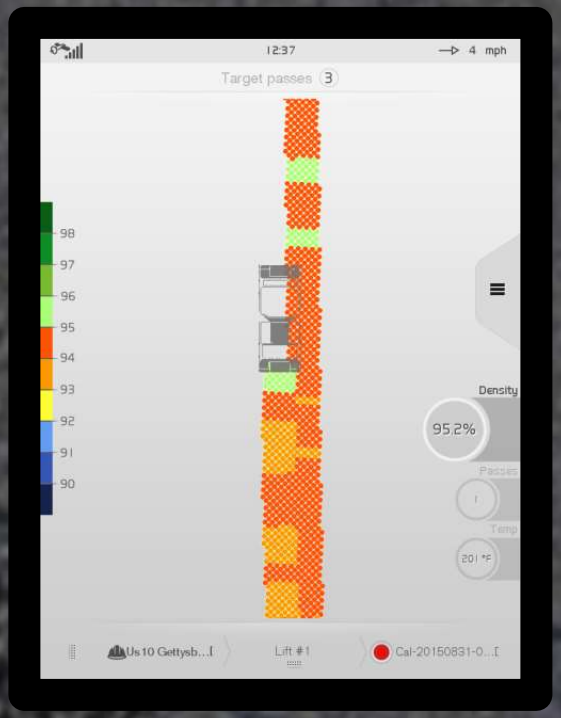
Pass Count



Temperature

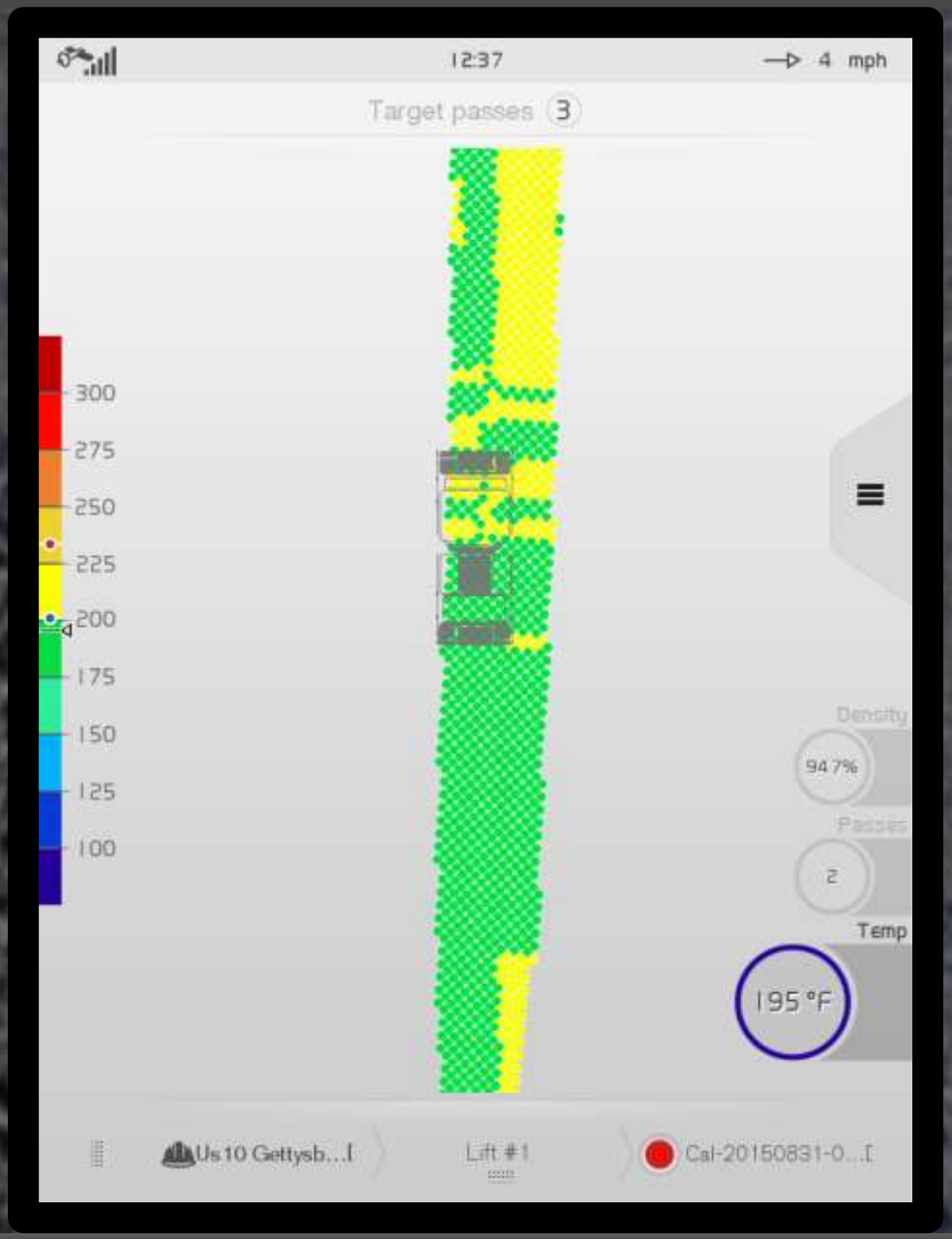


Estimated Density

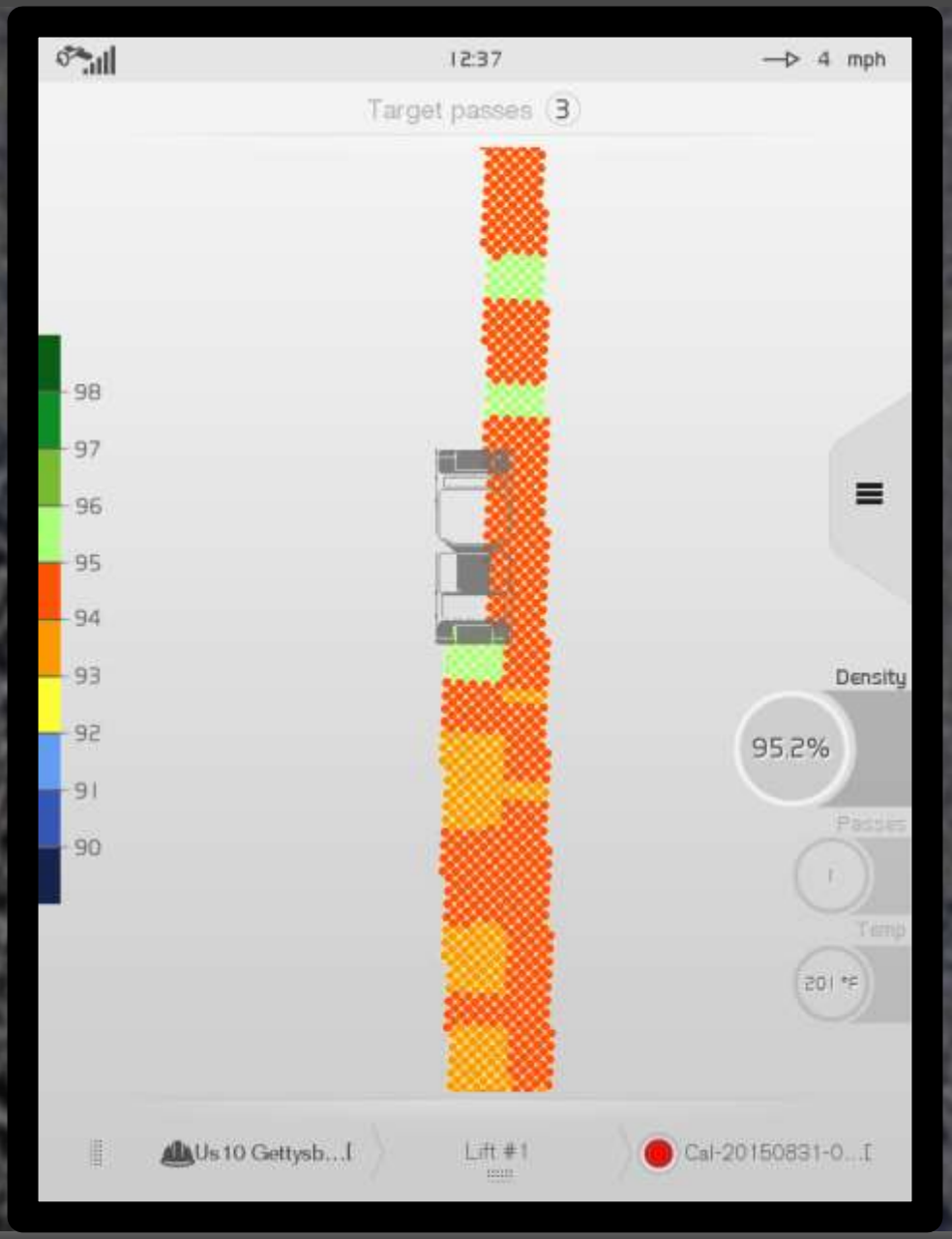


Pass Mapping

Temperature Mapping

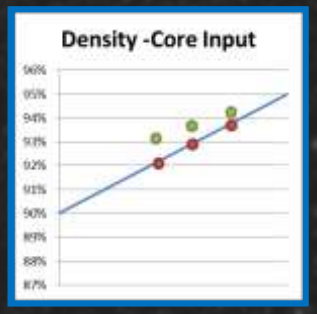


Density Mapping



How it works …

Input



This defines the expected range of density

Accelerometer (IMU)

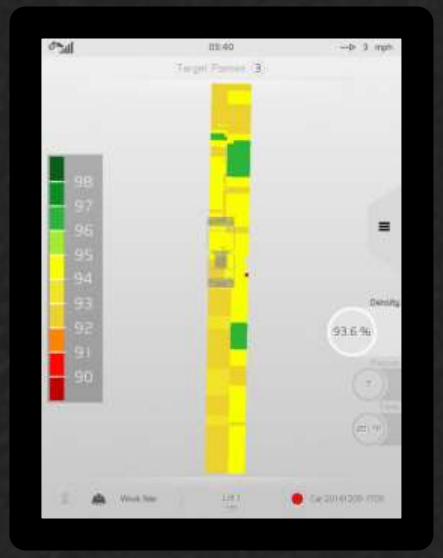
Compaction data

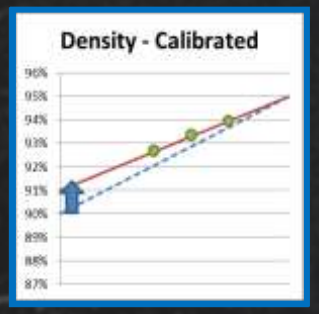
Neural Network (NN)

The NN aligns this range and uses the compaction data from the IMU to compare against the default vibration profiles to estimate the % relative density …

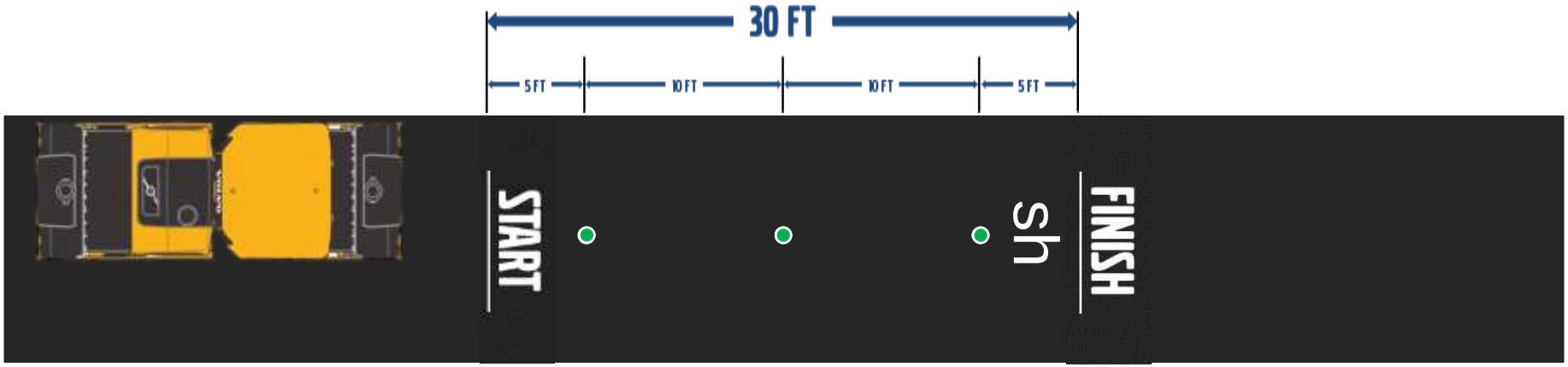
At each of the 3 core locations, the pre-calibrated density is estimated by the NN

Output





CALIBRATION



Allow plenty of distance to bring the compactor up to speed with vibration on.

Touch **Start Calibration** when the rear drum reaches the start line.

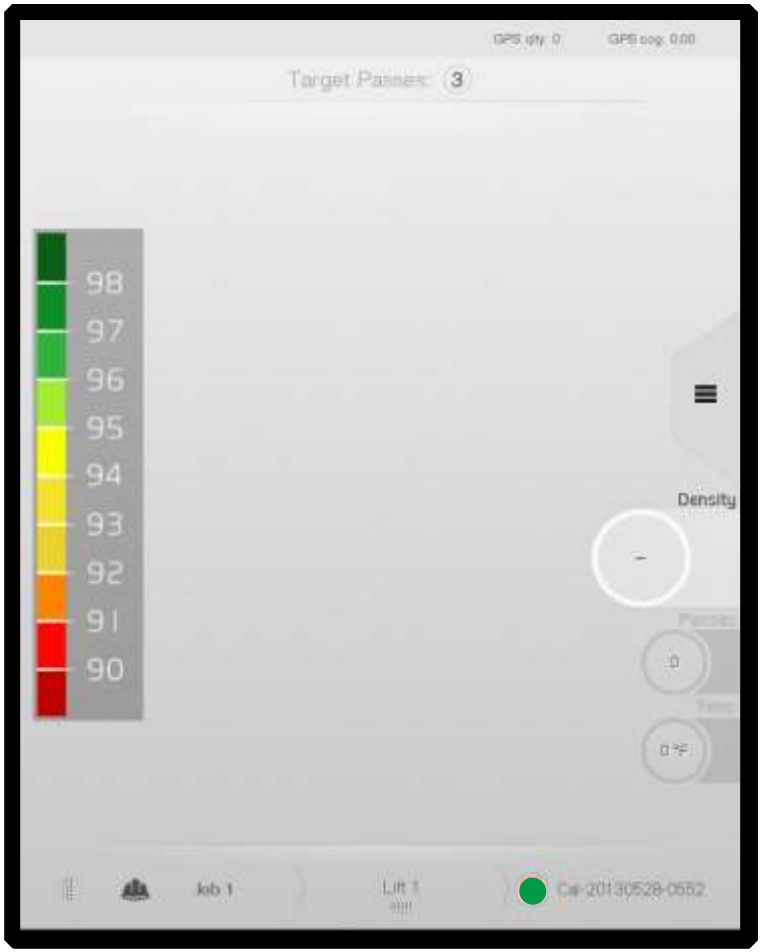
After a minimum of 4 passes over all three cores locations, touch **Finish Calibration**

5

SAVE CALIBRATION

To save the calibration touch … **Save Initial Calibration**

The **red** calibration status light at the bottom right of the display indicates a “raw” calibration.



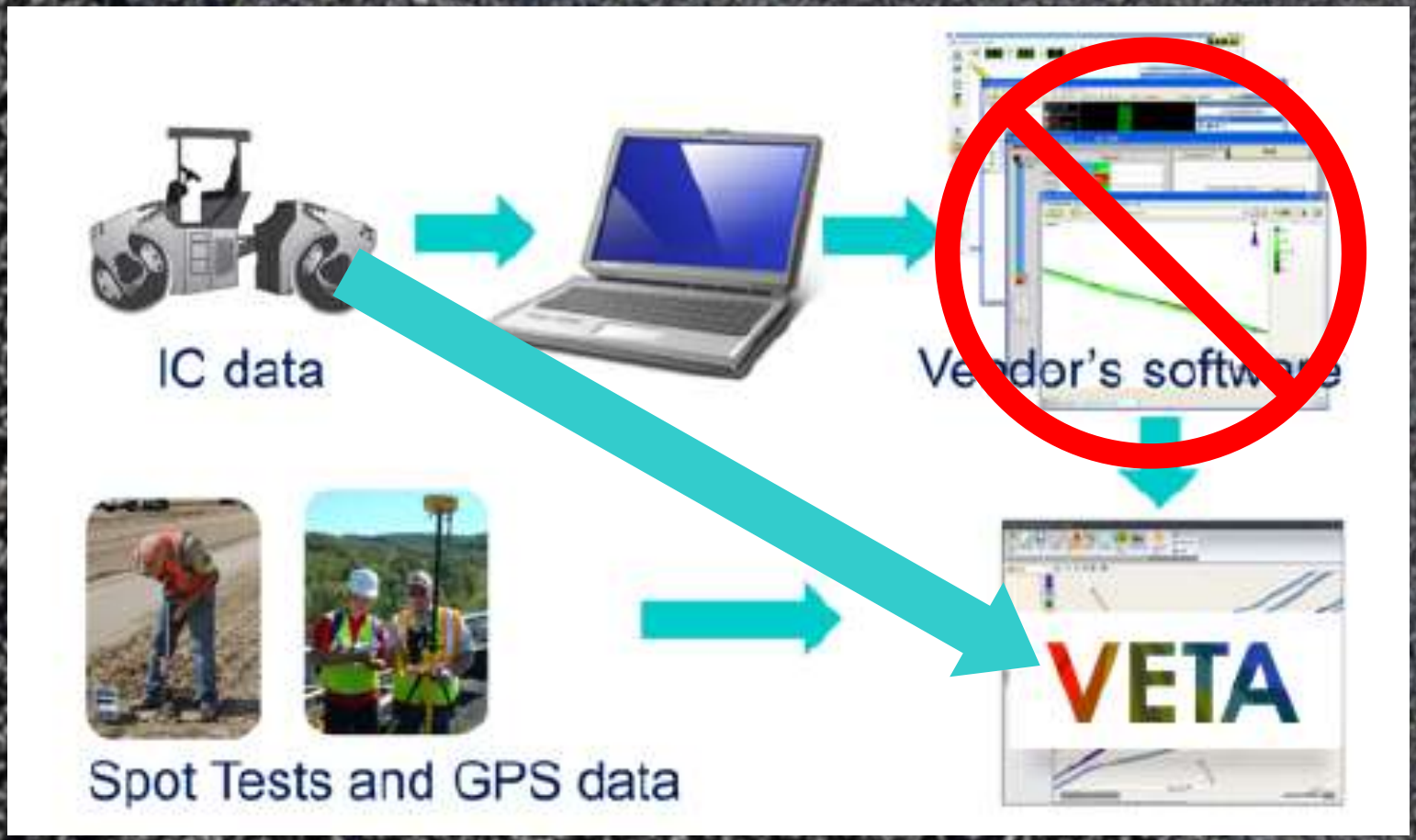
Levels of Accuracy

Raw data estimate

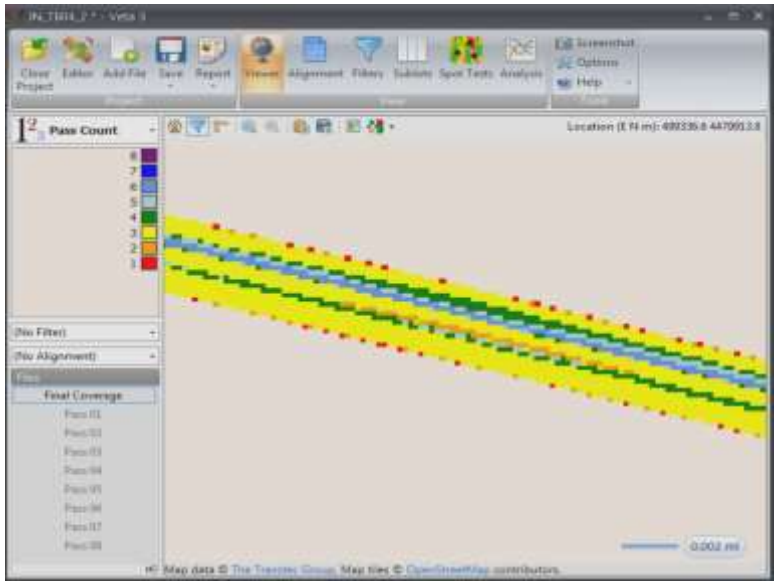
Density test gauge

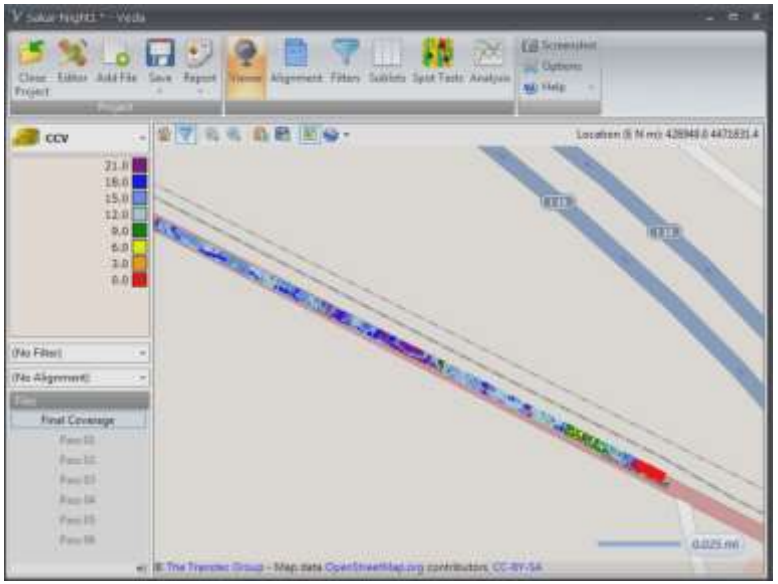
Core data

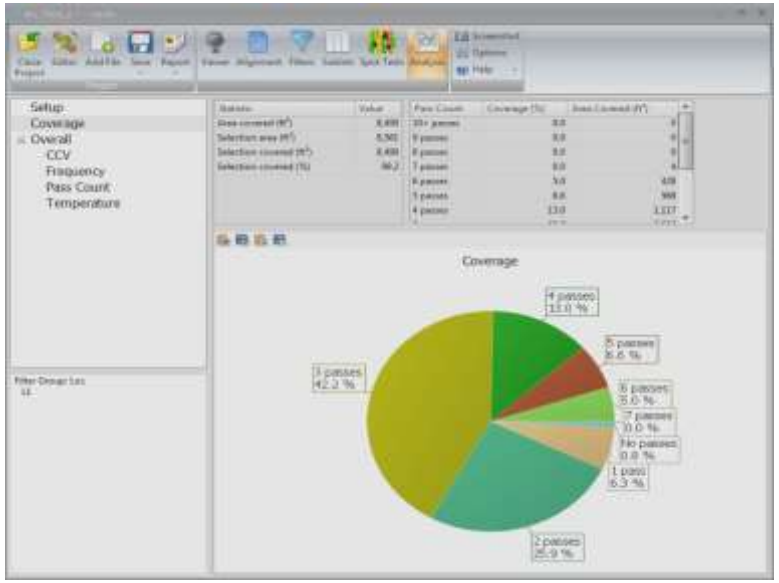
Intelligent Compaction

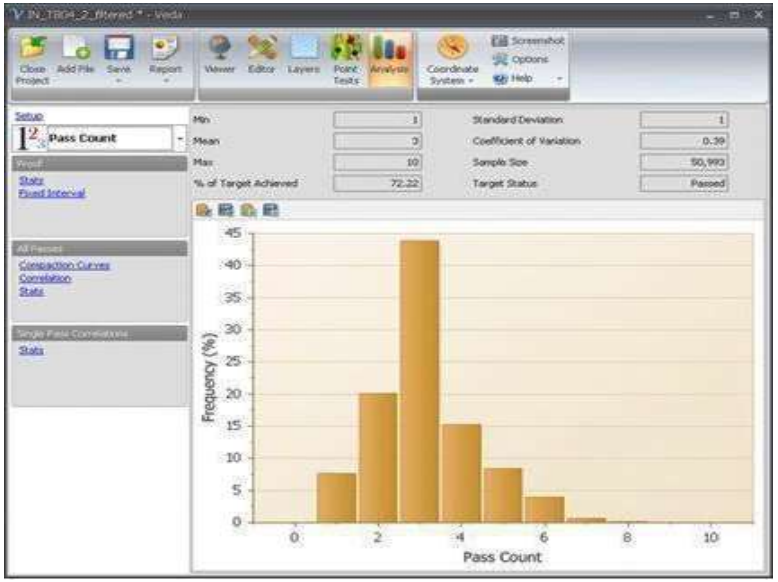


Intelligent Compaction









Customer Offering …

Volvo IC

Features:

- GPS receiver
- Large color touch screen
- Pass counting & mapping
- Mat temperature sensing

Density Direct ™

Features:

- All Features of Basic
- ***Density Mapping***

AVAILABLE ON MODELS – **DD110B, DD120B, DD140B**

QUESTIONS?