



## Real time in-drum slurry viscosity and density tracking and control

**SlurryTrack®** measures and tracks density and/or viscosity of water-based and solvent-based ceramic slurry during shell building, enabling tight and consistent monitoring and control of shell quality throughout the shell-building process. Its accuracy and reproducibility allow rapid and automatic adjustment of slurry improved adhesion and uniform shell thickness every time.

Slurry viscosity and density are the most important variables to ensure consistently high quality in shell building. SlurryTrack accurately and reproducibly tracks **slurry consistency** and provides an objective signal when slurry requires correction.

**Efficiency** starts with initial adjustment and verification of slurry properties. Eliminates manual adjustments, freeing shell room personnel to focus on shell building, rather than slurry measurements. .

Slurry consistency tracking improves shell quality, helping prevent expensive shell failures and rejects. Results in increased yield and **profitability.**

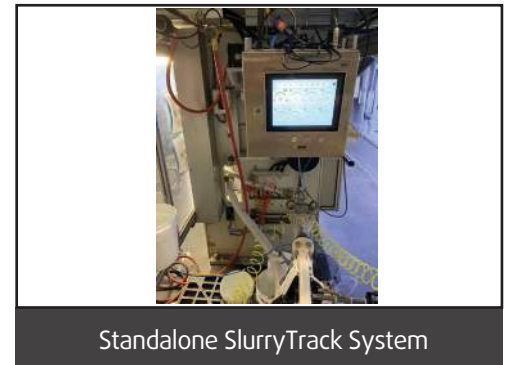
SlurryTrack helps optimize slurry properties for more consistent, **sustainable** shell building processes.



Direct in Drum Slurry Monitoring



SlurryTrack HMI



Standalone SlurryTrack System

**Slurry optimization results in shell-building optimization**  
Tighter control clears the way for better understanding of shell-building defects.



**More efficient operations**  
Takes over time consuming and messy, manual slurry sampling and measurement



**Reduced production costs**  
Higher yield and fewer costly rejected parts due to shell defects



**Easy scalability**  
Reproducible measurements clear the way for easy scaleup of processes in multiple drums



**Reduce Wastage**  
Reduce wastage of slurry by preventing over-dilution.



**Higher Operator Trust**  
Eliminates manual measurement



**Completely Automate**  
Clears the way for complete automation of shell room operations by eliminating subjective judgement and human error



**Data-driven Decisions**  
Tracks and traces state and history of every slurry drum.



# SLURRYTRACK

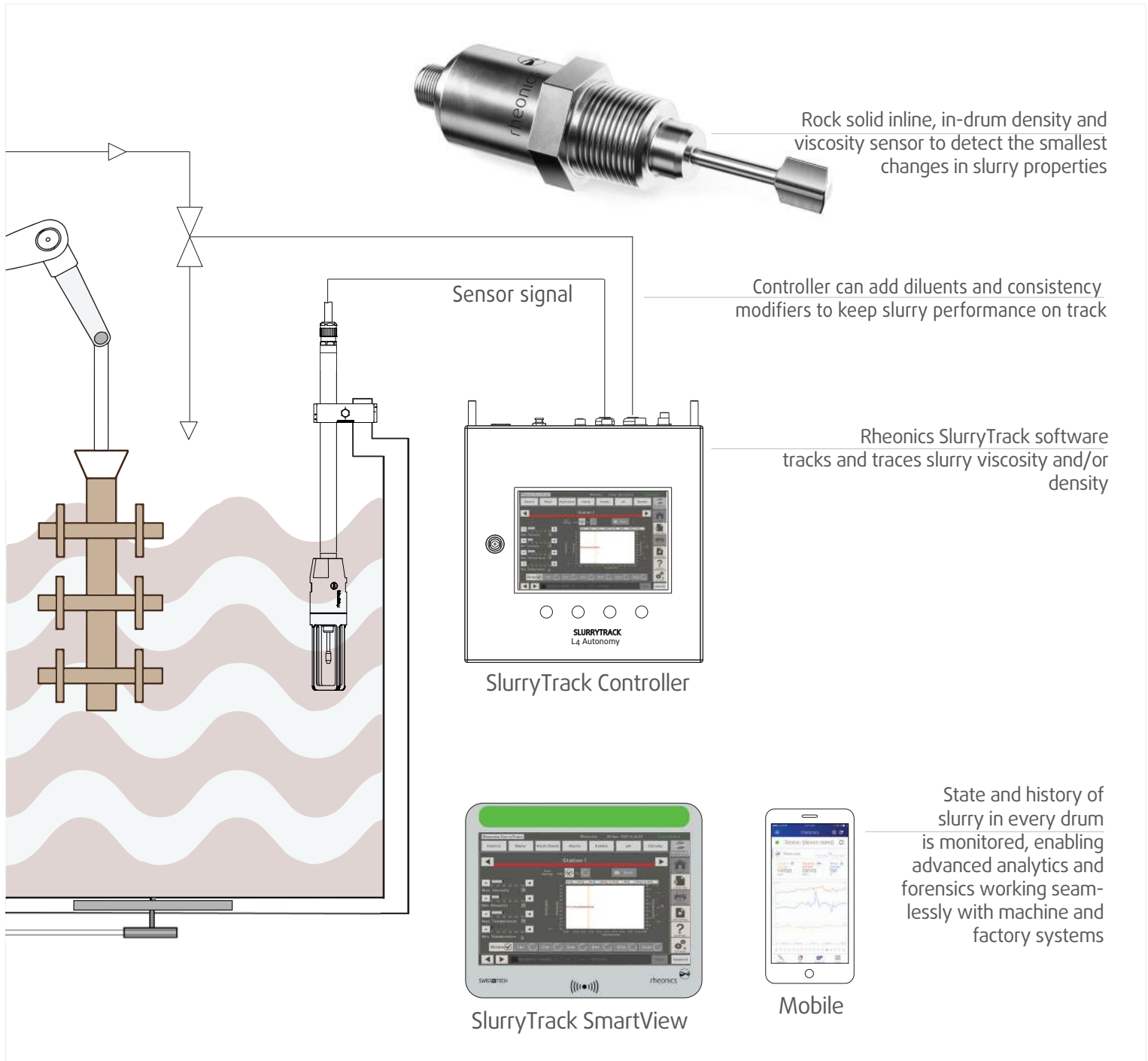
In-drum slurry viscosity and density tracking

rheonics

Slurry viscosity and density tracking and control solution

Automatic slurry consistency measurement and adjustment

Level 5 autonomy



## Add-Ons

Wash Check

pH Monitoring

Slurry Level Monitoring

Thermal Management



# SLURRYTRACK

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Slurry viscosity and density tracking and control solution

## Operating modes of the system

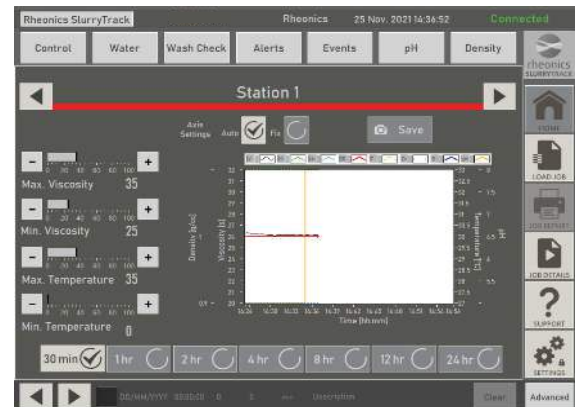
### Operator focused design

Two basic operating modes: monitor density/viscosity or automatic control of slurry consistency

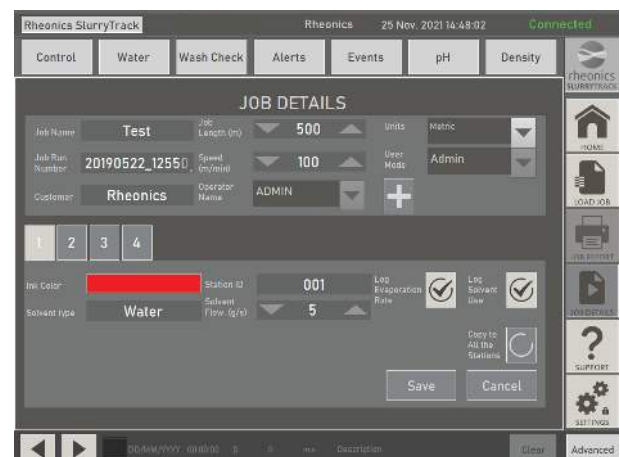
Enter Slurry type (Slurry ID), Station (drum) ID and save - that's all the operator needs to do to set up the system.



Once the desired set point of density or viscosity has been reached, clicking the "Lock" button starts automatic control. In Advanced mode set points can be changed manually. Automatic control can be disabled by clicking the "Auto" button.



Density and/or viscosity setpoints, slurry type, and other job details are stored in a job configuration file that can be exported in .csv format. Saved parameters for the same shell can be loaded into the system to produce repeat batches. Running repeat batches becomes much simpler, eliminating trial and error, and reducing overall setup time.



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Slurry viscosity and density tracking and control solution

SlurryTrack has at its core a technologically superior, best-in-class density and/or viscosity sensor, the Rheonics SRD/SRV sensor. It uses patented and proprietary, ultra-stable resonator technology that adds up to the industry's most robust, repeatable and accurate sensor. Rheonics sensors are factory calibrated to NIST standards, requiring no re-calibration during their lifetime.

## Small form factor and easy installation

Fits in the palm of your hand; robust and zero maintenance

## All 316L stainless steel wetted parts

Hermetically sealed housing, no gaps or moving parts

## Accurate, repeatable, reproducible

Newtonian, non-Newtonian, single- and multi-phase fluids

## Wide range

Covers entire range of slurry required parameters

## Built-in fluid temperature measurement

For fast, reliable temperature monitoring



## Focus on slurry quality instead of measurement skills!

Achieve exceptional batch-to-batch consistency, dramatically reduce setup time, and optimize process turnaround time through reliable, automatic density/viscosity control

- Robust, **maintenance free** slurry monitoring sensor eliminates need for re-calibration
- Agile tracking **reduces shell and parts defects** by providing real-time slurry properties monitoring and control
- Simple, **intuitive graphical interface**
- Tighter, more **accurate slurry consistency control**
- **Reduce setup time**
- Complete automation for **improved productivity and efficiency**

## Contact Information

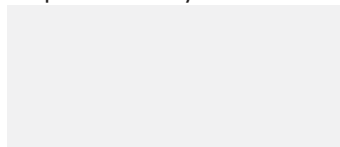
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