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SURFACE SYSTEMS & INSTRUMENTS, INC.

smoothroad.com

SCAN • DESIGN • CONTROL



**CS9350 Profiler for Surveying
and Smoothness Testing**

Road Designing System														
File Settings Edit View Tools Plot														
1.00														
Stations	50.00	Grid	20/F	37.50	Grid	20/F	25.00	Grid	20/F	12.50	Grid	20/F	0.00	Grid
7625.00	29	-0	-1.30	24	-0	-1.30	15	-0	-1.30	13	-0	-1.30	17	-0
7650.00	39	6	-1.30	22	4	-1.30	17	3	-1.30	12	1	-1.30	13	0
7675.00	42	-6	-1.00	23	-4	-1.00	25	-2	-1.00	16	-1	-1.00	17	0
7600.00	36	0	-1.00	31	0	-1.00	26	0	-1.00	18	0	-1.00	19	0
7625.00	33	0	-1.00	31	0	-1.00	27	0	-1.00	23	0	-1.00	23	0
7650.00	25	0	-1.00	23	0	-1.00	19	0	-1.00	17	0	-1.00	19	0
7675.00	27	0	-1.00	23	0	-1.00	18	0	-1.00	19	0	-1.00	20	0
7700.00	31	0	-1.00	23	0	-1.00	19	0	-1.00	20	0	-1.00	17	0
7725.00	33	0	-1.00	24	0	-1.00	23	0	-1.00	21	0	-1.00	20	0
7750.00	30	0	-1.00	25	0	-1.00	23	0	-1.00	20	0	-1.00	17	0
7775.00	30	0	-1.00	25	0	-1.00	21	0	-1.00	19	0	-1.00	18	0
7800.00	23	0	-1.00	26	0	-1.00	23	0	-1.00	19	0	-1.00	17	0
7825.00	36	-0	-1.00	26	-0	-1.00	24	-0	-1.00	17	-0	-1.00	17	-0
7850.00	36	-0	-1.00	27	-0	-1.00	25	-0	-1.00	18	-0	-1.00	18	-0
7875.00	31	-0	-1.00	26	-0	-1.00	22	-0	-1.00	20	-0	-1.00	18	-0
7900.00	27	-0	-1.00	24	-0	-1.00	21	-0	-1.00	20	-0	-1.00	18	-0
7925.00	28	-0	-1.00	21	-0	-1.00	18	-0	-1.00	18	-0	-1.00	16	-0
7950.00	31	-0	-1.00	15	-0	-1.00	14	-0	-1.00	12	-0	-1.00	12	-0
7975.00	27	0	-1.00	17	0	-1.00	18	0	-1.00	17	0	-1.00	19	0

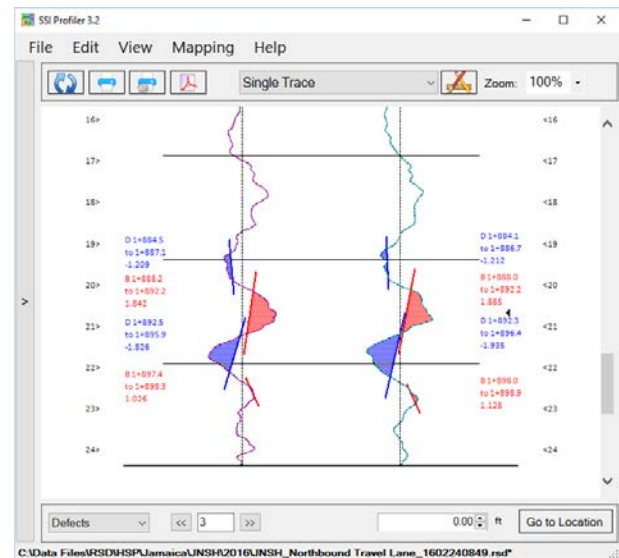
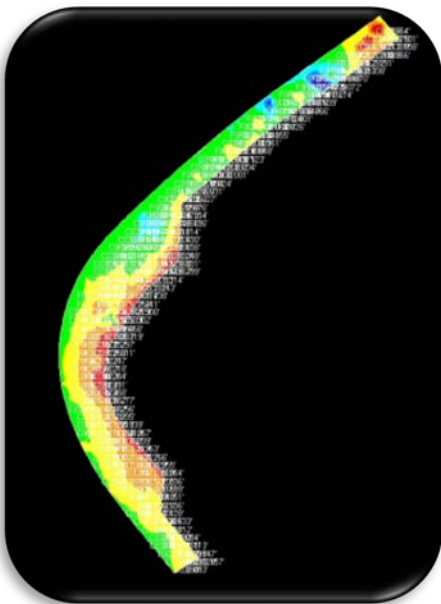
**Optimize Surface Design
Using Profile and Slope Data**



**Variable Depth Mill & Paver
Control for Smoothness**

2D/3D Mobile Surveyor & Profile Optimization Software

Survey, Design, Pave & Test for Smoothness



•Quickly Collect Dense Surface Scans

•In-Vehicle Rugged Computer

•Certified Profiler for DOT Smoothness Testing



Optimizing Smoothness: SSI Survey Profiler

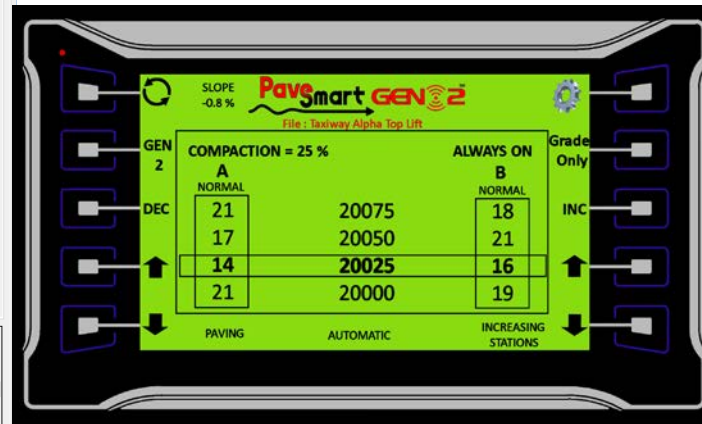
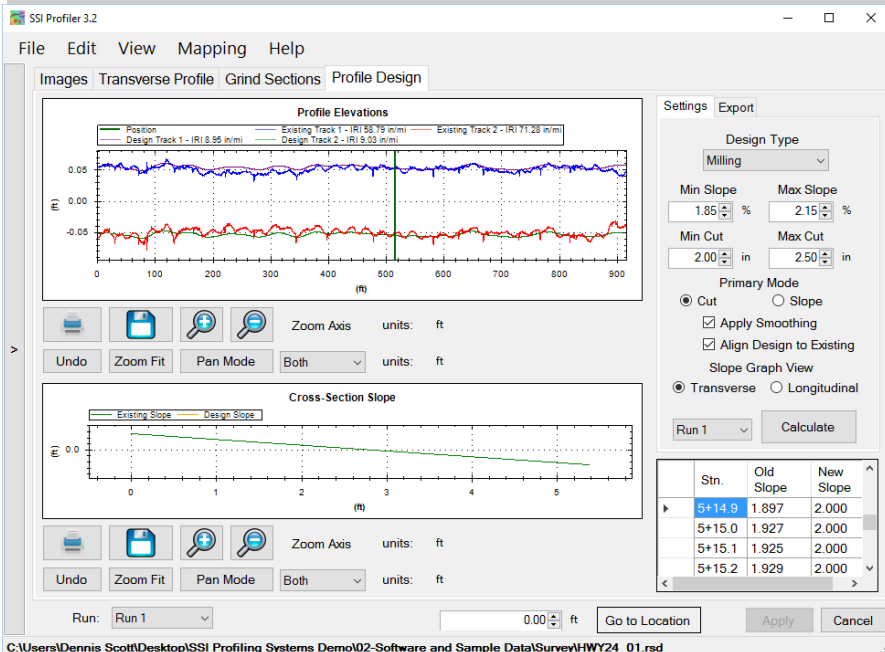


HARDWARE FEATURES

- Quickly generate dense, open area 2D or 3D surfaces.
- Highest resolution pavement scan using unique merger or inertial profiler, tactical grade IMU and corrected GPS data sets.
- Tighter, more accurate data than RTK survey instruments alone.
- Multiple configurations available; examples:
 - 2-paths profile and cross-slope outputs 2D relative profile.
 - 3 paths profile with cross-slope and RTK GPS for 3D Topo.
- Choice of vehicle platforms:
 - High speed system attaches to front or rear of host vehicle.
 - Lightweight configuration on Polaris Ranger 570 EFI.
- One setup for multiple passes, slopes, and lanes.
- Corrected GPS with RTK post processing (base optional).
- Interface with external GPS devices to use existing hardware.
- Works with grade control systems (e.g. PavSmart) for milling, paving or grinding machines.
- Use third party controls for variable depth milling or paving.
- Portable configuration for use of hardware on different machines
- DOT compliant inertial profiler for QA/QC smoothness testing.
- Profiling system complies with AASHTO/ASTM standards.
- Detachable hardware. • Reusable shipping/storage container.
- Panasonic Toughbook rugged operator interface computer.
- Reusable shipping/storage container. • Patented technology.

SOFTWARE FEATURES

- Inertial profiling system data combined with slope for 2D survey and corrected GPS for 3D survey. • Dense surface data for better designs.
- Create a design file with 2D or 3D survey data in conventional survey formats, but with higher resolution.
- Use surface data in SSI Profile Design module to analyze existing surface and optimize design for best smoothness values.
- Configurable design parameters for slope, cut/fill and smoothness.
- Data also compatible with third-party CAD design software.
- Design flexibility—resurvey surface to assess changes as project build progresses. *Build based on the True Surface Profile.*
- Surface designs work with both milling and paving machines.
- Separate or combined data formats: profile only, slope only, GPS only, or integrated 2D/3D survey data.
- Multiple export formats: PNEZD, PLLHD, Excel, CSV, ERD/PPF & PDF.
- Easy software for calibration, collection and analysis of data on a Touchscreen Toughbook with Windows 7/8/10 Pro.
- On-the-Fly adjustments to design data and ongoing machine control.
- Ride quality data reported under DOT ride quality specifications (IRI, MRI, HRI PRI, RN). • Fully compatible with ProVal.
- User-selectable data collection and analysis parameters (project details, filtering methods, blanking band, bump/dip templates, etc.).
- Precisely calculate areas of localized roughness for corrections or bonus/penalty results. • On-screen GPS navigation along profile data.
- Surface profile data complies with DOT/FHWA specifications.



- **Generate Rich 2D/3D Survey Data** • **Compatible with CAD Software & Machine Control Systems**
- **Profiling System Data for QA/QC Ride Quality Testing** • **Guaranteed to Meet DOT Agency Specifications and Test Methods.**

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