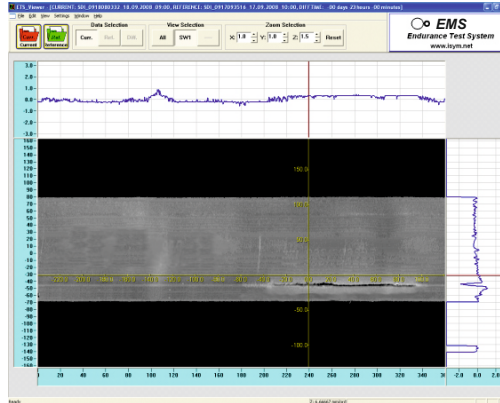
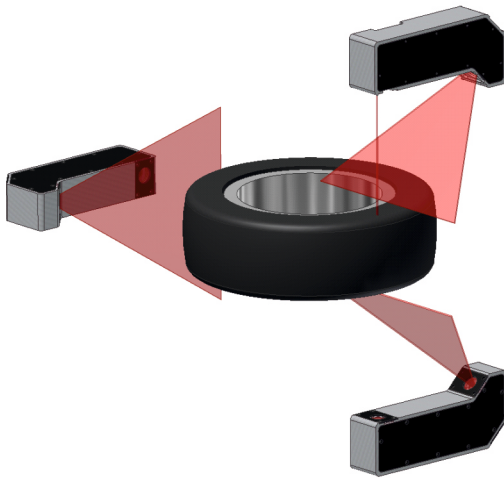


# EMS

## Endurance test Monitoring System



### Continuous Measuring of the Tire's 3D Contour

The 3-D Scanning system EMS is designed for measuring the tread -, sidewall - or the complete bead to bead geometry of a tire continuously while the tire is rotating on a test stand (high-speed, durability, ...).

By the continuous measuring of the tire's 3D contour during the test, changes in the tire geometry caused by dynamic forces or anomalies that develop in the tire during the test run are measured and detected.

The EMS allows a virtually endless monitoring and offers shut down criteria depending on predefined adjustable criteria.

The system can be operated as a one head setup, typically for dynamic growth, or with two heads for sidewall monitoring or with three heads for a bead to bead inspection.

#### Features:

- Non-stop online monitoring
- Detection of growth, deformations, separations and breakups
- Measurement of depressions, dents, bulges and run out

#### Properties:

- Non contacting measurement based on laser triangulation
- Suitable for endurance test stand and uniformity systems
- Heavy duty 3D sensors

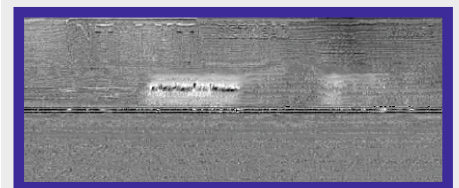
#### The application software offers:

- Visualisation and analysis of the tire geometry
- Offline analysis of endurance tests
- Automatic shut down function
- Automatic data archiving for reconstruction of flaw development during the whole test period

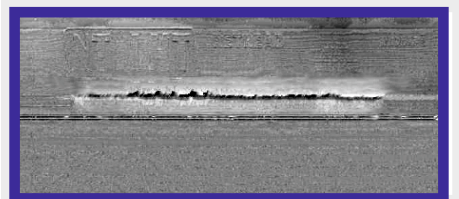
### Development of a break-up in a tire sidewall:



▼ +5 days



▼ only +8 h

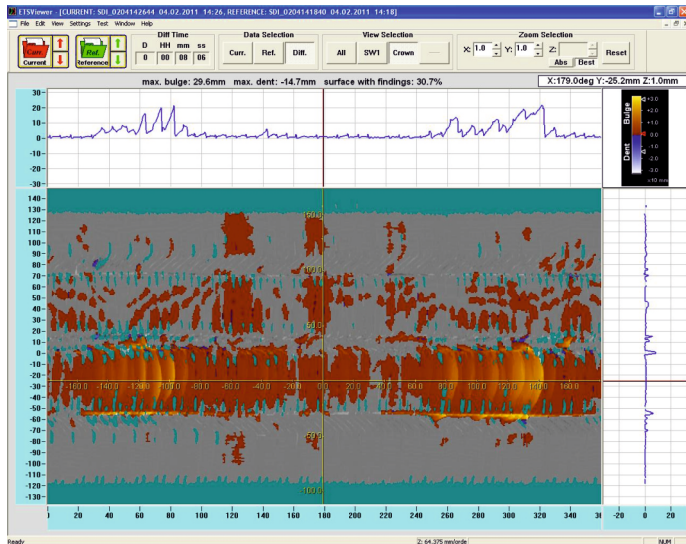


# NON-DESTRUCTIVE TIRE TESTING BY SDS TECHNOLOGY

## Sample Result (coloured):

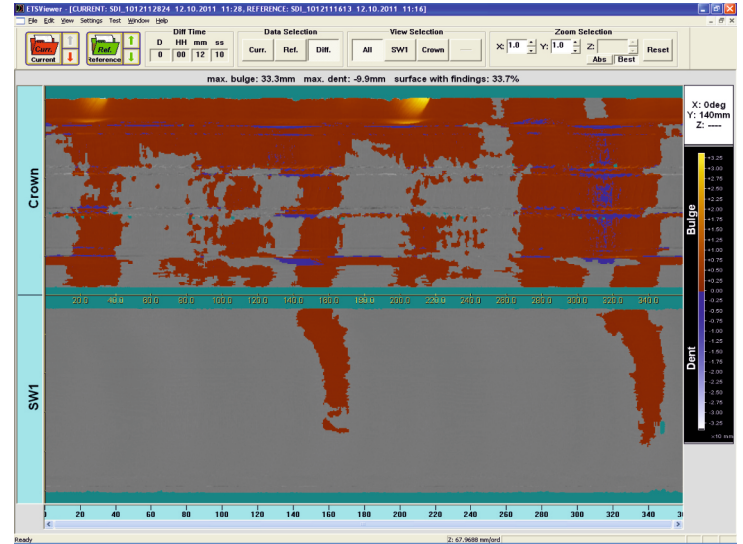
### Passenger Car Tire

Crown view with scaled cursor  
showing a tread breakup:



### Truck Tire

Overview with shoulder separation and  
tread deformation going into sidewall:



Technical Specification EMS	
Circumferential resolution	0,2° (~1.5mm at Ø 1m)
Radial resolution	0.6 mm
Axial resolution	0.1 mm
Scan intervals	30s .. 24h
Maximum duration of endurance test	limited only by available memory capacity
Drive speed of the test stand	10 .. 400 km/h (6.25 .. 250 mph)
In-motion unsharpness (circumferential direction)	<2.5 mm at 100 km/h (62.5 mph) drive speed
Laser	visible line laser
Power consumption	< 700 W
Remote Control	yes via internet
Ambient temperature sensor	-20°C to +60°C
Ambient temperature computer system	+10°C to +35°C

SDS Systemtechnik GmbH  
Rudolf-Diesel-Strasse 7  
D-75365 Calw-Stammheim

[www.sds-systemtechnik.com](http://www.sds-systemtechnik.com)  
[info@sds-systemtechnik.de](mailto:info@sds-systemtechnik.de)

**SDS**  
Systemtechnik  
GmbH



Technical consulting  
Phone +49 (0) 7051 / 93154-0

Personal advice on-site.  
Arrange an appointment:  
Phone +49 (0) 7051 / 93154-0  
Fax +49 (0) 7051 / 93154-99