

Track-Safety Condition Monitoring System

and much more...

enekom 
FEBRUARY 12, 2021

Condition Monitoring
through Rail-Based
Acoustic Domain

 RailAcoustic®

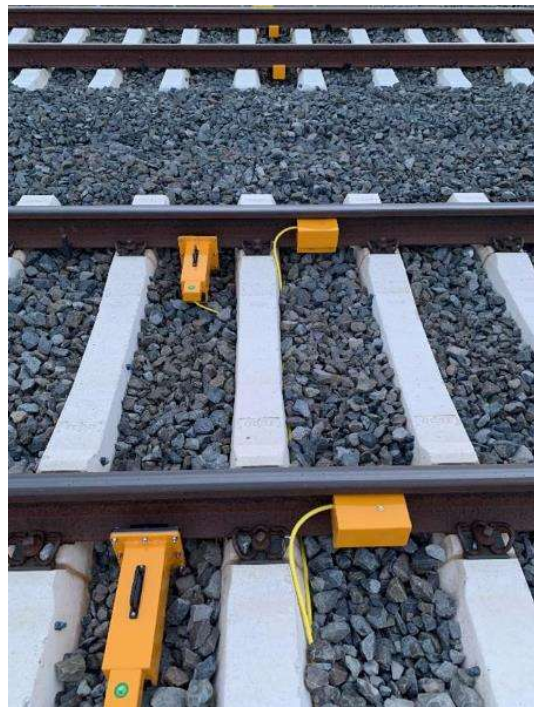
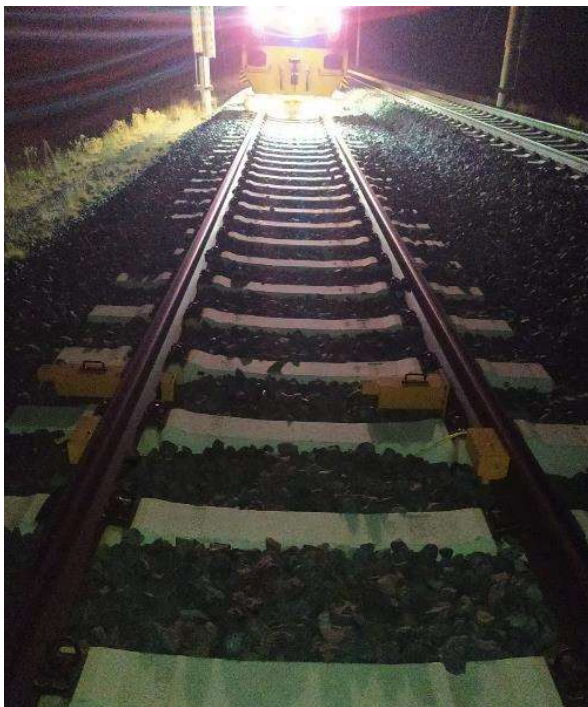


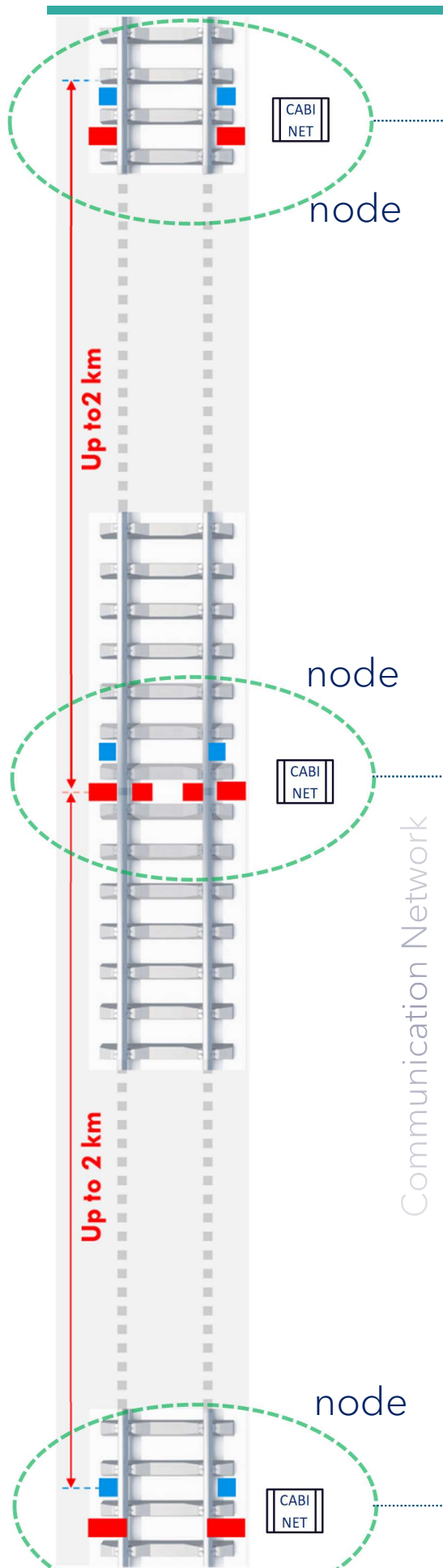
“ACOUSTIC DOMAIN” Technology is Changing the Game in Track Safety!

Most Reliable Information gathered through the “RAIL”

The “proven” **RailAcoustic® Track-Safety Condition Monitoring System** is successfully in operation since **December 2018**, at a 90 km double-track High-Speed Line section, with many features such as broken and cracked rail detection, train movement & velocity tracking, landslide-flood detection, flat-wheel detection, rail temperature monitoring and more... The second project implementation is in progress at Slab-Track High Speed Rail for 11 tunnels and planned to be put in operation by the end of 2020. New and prestigious international projects are in the pipeline!

***Understanding how real-time, continuous information
in the rail body reduces maintenance costs and
increase asset availability***





All components of the system are connected through an IP-based communication network. RA-Generator (Transmitter), RA-Receiver and track-side RA-Cabinet modules, which are the basic elements of the RailAcoustic® System, are constantly diagnosed by the remote Command & Control Center and the operating status of the system is monitored remotely. At the same time, the central software performs track-safety condition monitoring through **rail fracture tests, landslide-flood detection, rail temperature measurement, train location & velocity tracking and flat-wheel detection**



functions and informing the operator or related alarm monitoring system on-screen or remotely, in real time.

1 RA-Generators

node **2** RA-Receivers

3 RA-Cabinet



Automatic Rail Defect Tests

*The system itself generates
acoustic signals!*



What is detected through Automated or Manual Rail Defect Tests?



Broken
Rails



Major
Internal
Rail
Defects



Partial
Cracks



Floods



Exact
Location of
Rail Flaws



Landslides

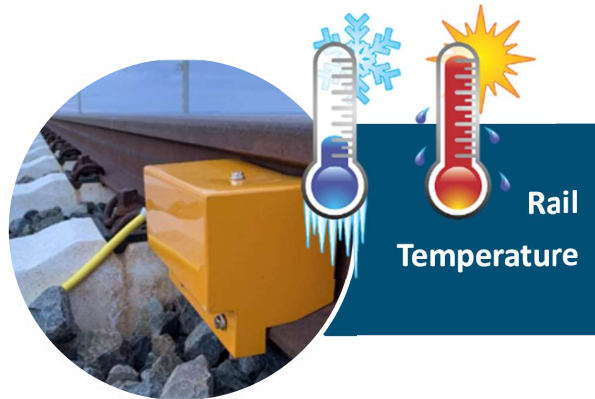


Major
Buckled
Rails



*...through processing the
acoustic signal amplitude
changes and acoustic
signal reflections, during
these tests.*

What is monitored in “Stand-By Mode” in Real-Time?



WHERE to use the RailAcoustic® System?



What is required/preferred to deploy the RailAcoustic® System on a track?



If possible,
Continuous
Welded
Rails



Preferably
Fiber-Optic
Communi-
cation
Network



110V or 220V
Trackside
Electric
Power



Concrete
Sleepers &
Plastic Pads



RailAcoustic®
*Has eyes only
for your assets...*

info@sayfasanelektrik.com.tr

www.sayfasanelektrik.com.tr

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www.sayfasanelektrik.com.tr
info@sayfasanelektrik.com.tr