Konkan Railway Automated Train Examination System (ATES)

KR-ATES is a Way Side Equipment (WSE) being fully conceptualised and designed by a team of Konkan Railway to detect various defects in rolling stocks of moving trains which pass through it and provide an immediate alert to avoid unplanned detachments and also fatal accidents.

This system, first of its kind, being developed in house using indigenous sources, has full potential to be a low cost alternative to systems being used in developed countries, and also customized to meet the requirements of Indian Railways. The system has following components:

- Infrared Sensors to measure temperatures of wheels and axles
- High Speed Infrared cameras to take video of undergear of moving train passing through it
- Proximity sensors to detect the direction of train and to trigger the system
- Microprocessors and embedded software to read and convert data and video in digital form
- Wifi based ENS system to transmit data to remote places like station office and control room
- Visual basic based Data Analysis and Presentation software
- A large screen to monitor data of passing train and also check audio visual alerts

The ATES system has already been installed at Ratnagiri and Verna in KRCL. The results produced so far have been encouraging and six more units have now been commissioned at Ajni, Udhna, Ahmedabad, Chakradharpur, Visakhapatnam in Indian Railways.

KRCL is also installing 3 ATES systems in Mughalsarai-Kanpur section of North Central Railway. The system has accordingly been upgraded to work at speed over 120 kmph on trunk routes of Indian Railways. With this there will be 10 installations of ATES in the country.

Railway Board has also sanctioned a work of installation of ATES in 40 yards of Indian Railways. This work is planned to be undertaken by KRCL.

KRCL is also exploring opportunities to export this technology outside India.

Control panel
Monitor
Control room
Cameras
Wheel disc temperature sensors
Trigger / Proximity sensors
Axle box temperature sensors

ATES Ver 2014.1

AUTOMATIC TRAIN EXAMINATION SYSTEM
कोंकण रेलवे कार्पोरेशन लिमिटेड
Konkan Railway Corporation Limited
(भारत सरकार का उपक्रम) (A Government of India Undertaking)
www.konkanrailway.com
RATNAGIRI

Trian name & no user defind

DATE	17/10/15	TRAIN NAME		DIRECTION	UP	NO OF AXLE	94	TYPES OF STOCK	COACH	NO OF LOCOS	1	
TIME	11:29:51	TRAIN NO										

| NO OF STOCK | COACH-22 | AMBIENT TEMPERATURE(°C) | 32 | AXLE BOX TEMPERATURE (ALERT) (°C) | 80 | WHEEL TEMPERATURE (ALERT) (°C) | 100 | AXLE BOX TEMPERATURE (WARNING) (°C) | 65 Min / 79 Max | WHEEL TEMPERATURE (WARNING) (°C) | 85 Min / 99 Max |

SUMMERY REPORT AXLE BOXS   **SUMMERY REPORT WHEELS**

NORMAL	94	WARNING	NIL	ALERT	NIL	NORMAL	94	WARNING	NIL	ALERT	NIL

WARNING   **ALERT**   **WARNING**   **ALERT**

COACH NO	AXLE NO	SIDE	(°C)		COACH NO	AXLE NO	SIDE	(°C)		COACH NO	WHEEL NO	SIDE	(°C)		COACH NO	WHEEL NO	SIDE	(°C)

DETAILED REPORT

PF-1 SIDE	PF SI						PF S							
AXLE BOX TEMP (°C)	64	64	61	52	52	47	52	54	55	52	54	52	52	50	52
WHEEL TEMP (°C)	49	49	50	51	49	44	47	59	61	57	56	66	59	59	58
AXLE NUMBER	1	2	3	4	5	6	1	2	3	4	1	2	3	4	1
DOWN-SIDE	LOCC						COA				COA				COA
AXLE NUMBER	1	2	3	4	5	6	1	2	3	4	1	2	3	4	1
WHEEL TEMP (°C)	51	47	49	51	51	51	55	57	59	57	58	60	59	57	60
AXLE BOX TEMP (°C)	57	51	44	43	47	46	47	51	53	51	58	49	53	49	51
PF-2 SIDE	PF SI						PF S							

Axles box temperatures   Axle-1 Axle-2
Axle warning
Axle Alert
Axle number

Wheels temperatures   wheel-1 Wheel-2
Wheel warning
Wheel Alert
Axle number

Playlist18 00:23
Playlist17 00:22

File Name 1 Log101715112951.mpeg4
File Name 2 Log101715112951.mpeg4

Waiting for new arrival..

Error status
Admin Data Remote Dir Video Audio

Last arrival
Old file Log101715112951.txt   New arival   PRINT

Remote communication   Ok   Sound stop   REMOTE IP 192.168.1.5

09:31
18-10-2015

Last Updated : 03.01.2025