



Case Study | IN

# Increasing Availability at Adra Yard

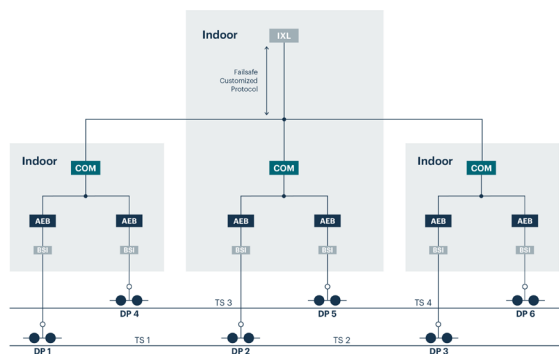
## Challenges

Adra Yard belongs to the Southeastern Railway Zone of Indian Railways and is in West Bengal. Initially the yard was equipped with track circuits and there was a requirement to get them replaced with our Frauscher Advanced Counter FADc.

This project is one of Frauscher’s esteemed Indian Railway Project with a coverage of 139 counting heads and 97 track sections. It was successfully commissioned on 31 May 2022.

## Solution

The Frauscher Advanced Counter FADc is very flexible regarding design and architecture. For Adra Yard, the distributed architecture was used with OFC networking media type across 4 locations: Central, EI-1, EI-2, EI-3. The output of track sections is at Central Location.

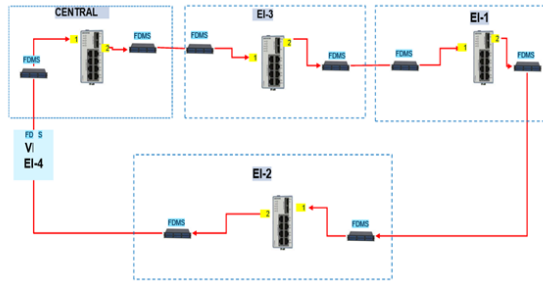


FADc distributed architecture

### Special Features of distributed architecture

- COM redundancy, PSC redundancy and network redundancy with ring architecture
- Virtual auto reset for mainline berthing tracks (dual detection)
- Reset from Reset Box
- Reset type: Preparatory reset with LV for mainline berthing tracks and hard reset with LV for rest of the section.
- One main advantage of using the distributed architecture here is cost effectiveness by saving lots of copper cables.

## Project Details



Network architecture

The FAdC is placed in the Central Location as well as in three different end cabins. All four locations are connected in ring structure with redundant path of optical fibre cable for communication.

Alarm warning features in VDU and datalogger is available during any disconnection in communication (main or redundant) between the locations.

Both the Frauscher Diagnostic System FDS are placed in Central Location and configured to connect to the rail net for remote diagnostic.



Frauscher Advanced Counter FAdC

The vital output of all track sections is in Central Location which is further connected to the Electronic Interlocking. Reset of all track sections can be carried out in Central Location.



IP68 rated Wheel Sensor RSR180

At Adra Yard, the equipment has to cope with harsh environmental conditions. The Wheel Sensor RSR180 is rated IP68 protection class (waterproof) and is immune to floods, moisture or water.

Furthermore this sensor allows easy mounting without drilling of rails but also is very robust. With its minimal space requirements, it is the perfect solution for Yards as well.

### Allocation of detection points

Location	No. of AC	Total DP	Total TS	RSR Type
Central	3	57	97	RSR180 GS05
EI-1	1	28	0	RSR180 GS05
EI-2	1	14	0	RSR180 GS05
EI-3	1	40	0	RSR180 GS05

## Results, objectives and improvements

The replacement of the track circuits with our Frauscher Advanced Counter FAdC resulted in various benefits for our customer:

- No drilling in the rail
- No trackside electronics
- Less maintenance
- No concern during monsoon season, despite of water logging
- Cost effective due to distributed architecture

## Key Facts

<b>Operator</b>	Indian Railways – South Eastern Railway	<b>Country</b>	India
<b>Partner</b>	MRT	<b>Segment</b>	Main Line
<b>Scope of supply</b>	FAdC and FDS	<b>Application</b>	Station Yard
<b>Scope of project</b>	139 counting heads, 97 track sections	<b>Project commission date</b>	31 May 2022
<b>Axle Counter</b>	FAdC	<b>Wheel Sensor</b>	RSR180 GS05