UNYDE® One

CASE STUDY

Fuel

114 parameters for fleet, fuel and dispensing

Every machine matched to its telematics, tank sensor and bowser hardware, on a network that keeps the lower benches reporting.

MINERAL	REGION	OPERATION	STARTING STAGE
Iron ore	Odisha, India	Open pit, captive	Stage 3: Connected, not reconciled

THE OPERATION

- A captive iron ore mine of an integrated steel producer.
- Excavators, tippers, loaders and support vehicles from several manufacturers.
- Diesel issued from mobile bowsers. Cellular coverage drops on the lower benches.

DISCIPLINES

Fuel · Dispense · Fleet · Connect

THE PROBLEM

Diesel issued at the bowser and diesel recorded against machines were reconciled from slips at month end. Any difference could not be traced to a machine or a shift, and machines on the lower benches went silent for parts of each shift.

HOW THE WORK IS PHASED

1. **Parameters.** 114 parameters agreed with operations, each with the machine class it applies to, its source and its reporting interval.
2. **Fitment.** An asset-by-asset matrix assigning telematics, CAN access, tank sensors and dispensing hardware to each machine.
3. **Network.** 4G at the rim and LoRaWAN gateways placed for the benches where 4G drops.

IN DETAIL

Fuel sensing	Capacitive tank sensors, calibrated tank by tank
Dispensing	RFID authorisation at the nozzle, volume from the flowmeter
Engine data	CAN bus where the manufacturer exposes it
Coverage	4G with LoRaWAN for the lower benches
Reporting	Issue against burn, per machine and per shift

WHAT CHANGES ON SITE

Issue and burn reconciled monthly from slips	→ **Issue and burn on one record, per machine and per shift**
Losses visible only as a total	→ **Drains flagged against a machine during the shift**
Any machine could be fuelled	→ **Fuel released only to tagged machines**
Lower benches drop out of reporting	→ **LoRaWAN carries data where 4G does not reach**

NEXT STEP

Discuss an operation like this one.

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