UNYDE® One

CASE STUDY

Payload

Pairing each truck with the loader that filled it

Trips loaded by machines without instrumentation arrived with no loading record. RFID load identification and payload sensing close that gap.

MINERAL	REGION	OPERATION	STARTING STAGE
Coal	Chhattisgarh, India	Captive open pit	Stage 2: Instrumented, in silos

THE OPERATION

- A captive coal mine supplying an integrated steel group.
- Tippers, excavators and wheel loaders working the same faces.
- Material moved by truck from the face to stockpile and despatch.

DISCIPLINES

Payload · Fleet · Dispatch

THE PROBLEM

Haul cycles were recorded on instrumented trucks, but a trip loaded by an uninstrumented machine had no loading event, so its tonnes and the loader's output could not be attributed.

HOW THE WORK IS PHASED

1. **Measure.** Trips without a loading event reported as a coverage gap rather than estimated.
2. **Specify.** Payload sensing chosen per machine type.
3. **Expand.** RFID load identification across the fleet, pairing each truck with its loader at every pass.

IN DETAIL

Load identification	RFID pairing of truck and loader at each pass
Tippers	Payload from structural strain sensors
Excavators and loaders	Payload from hydraulic pressure
Engine data	CAN bus and OBD
Supervisors	Exceptions sent by WhatsApp notification

WHAT CHANGES ON SITE

Loading events missing for some trips	→ **Missing events reported per trip, with the loader**
Tonnes from trip count and capacity	→ **Payload measured on fitted machines**
Loader output estimated	→ **Passes and load per loader, per shift**
One sensing method for all machines	→ **Method chosen per machine type**

NEXT STEP

Discuss an operation like this one.

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Clients are not named in Unyde case studies. unyde.in/mining/unydeone/case-studies/loader-to-truck/