

MINING & RESOURCE EFFICIENCY

Predictive maintenance for underground pumps

Mining operator • Mashonaland West



Unplanned pump failures halt production and raise safety risk. We need a local solution that uses existing sensor feeds to predict failures 7–14 days ahead.

POSTED BY	Mining operator • Mashonaland West	PILOT BUDGET	Pilot budget on request
LOCATION	Mashonaland West (shaft site visits available)	APPLICATIONS CLOSE	Open
SUB-THEME	Mining & Resource Efficiency	TEAM SIZE	2–6 people

1 The problem

Background

Unplanned pump failures halt production and raise safety risk. We need a local solution that uses existing sensor feeds to predict failures 7–14 days ahead.

What's going wrong

Unplanned pump failures halt production and raise safety risk. We need a local solution that uses existing sensor feeds to predict failures 7–14 days ahead.

2 What we need

A strong solution will:

- ✓ Pilot dashboard with alerts that maintenance teams trust enough to schedule work before breakdown.

Constraints

- Must work offline-first underground
- integrate with current SCADA exports
- no permanent cloud dependency for critical alerts.

3 Deliverables

By forum week, matched teams are expected to bring:

- 01 A working prototype or demonstrable approach.
- 02 Evidence of fit to the problem and constraints.
- 03 A costed plan for a pilot.
- 04 A seven-minute pitch for forum week.

4 How teams are evaluated

Applications and final pitches are scored by the challenge owner and the ZBIF secretariat.

CRITERION	WHAT WE LOOK AT	WEIGHT
Fit to the problem	Does it solve the problem as the challenge owner describes it?	30%
Technical feasibility	Can the team build and run it with the resources available?	25%
Cost and scalability	Is it affordable to pilot, and to roll out if the pilot works?	20%
Team capability	Does the team have the skills and time to deliver?	15%
Local impact	Jobs, skills or value it keeps in Zimbabwe.	10%

Who can apply

- ✓ A registered ZBIF innovator account: innovators, consultancies, technologists, university teams or freelancers.
- ✓ At least one team member based in Zimbabwe.
- ✓ Able to attend forum week in Bulawayo on 27–28 April 2027 if shortlisted.
- ✓ IP ownership and pilot terms are agreed between your team and the challenge owner in the Deal Room.

5 Timeline

19 Oct 2026	Challenge posted
Rolling	Applications close
Within 3 weeks	Matching results sent to teams and the challenge owner
Until forum week	Build phase, with mentor and challenge-owner check-ins
Forum week	Live pitch and Deal Rooms in Bulawayo

6 Data and resources

Shared with matched teams after signing a simple data-use agreement.

Challenge owner point of contact	After matching
Operational context pack	Shared under data-use agreement

7 How to apply

- 01 Create a free innovator account at **zbif.bulconsultancy.com**, or sign in.
- 02 Open this challenge (ref ZB-18) and press **Apply**.
- 03 Tell us your team name, size and how you would solve the problem. Applications close on **Open**.

Questions about the brief can be asked from the challenge page. Answers are shared with every applicant.