



ALEC

Adaptive Lazy Evolving Compression

alec-codec.com

Extend Sensor Battery Life by 3–5×

Streaming compression for soil, weather, and crop sensors. ALEC reduces transmission frequency by 80%+ — turning 6-month batteries into multi-year deployments.

THE CHALLENGE

- Battery-powered sensors in remote fields
- LoRaWAN/satellite bandwidth limits
- gzip fails on small sensor payloads

THE SOLUTION

- Delta encoding — only send changes
- Evolving context learns crop/soil patterns
- 2 KB RAM — runs on Cortex-M0+ MCUs

KEY RESULTS

83%

Data Reduction

3–5×

Battery Extension

<1ms

Encode Latency

0

Data Loss

Ready to extend your sensor battery life?

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