ROGII

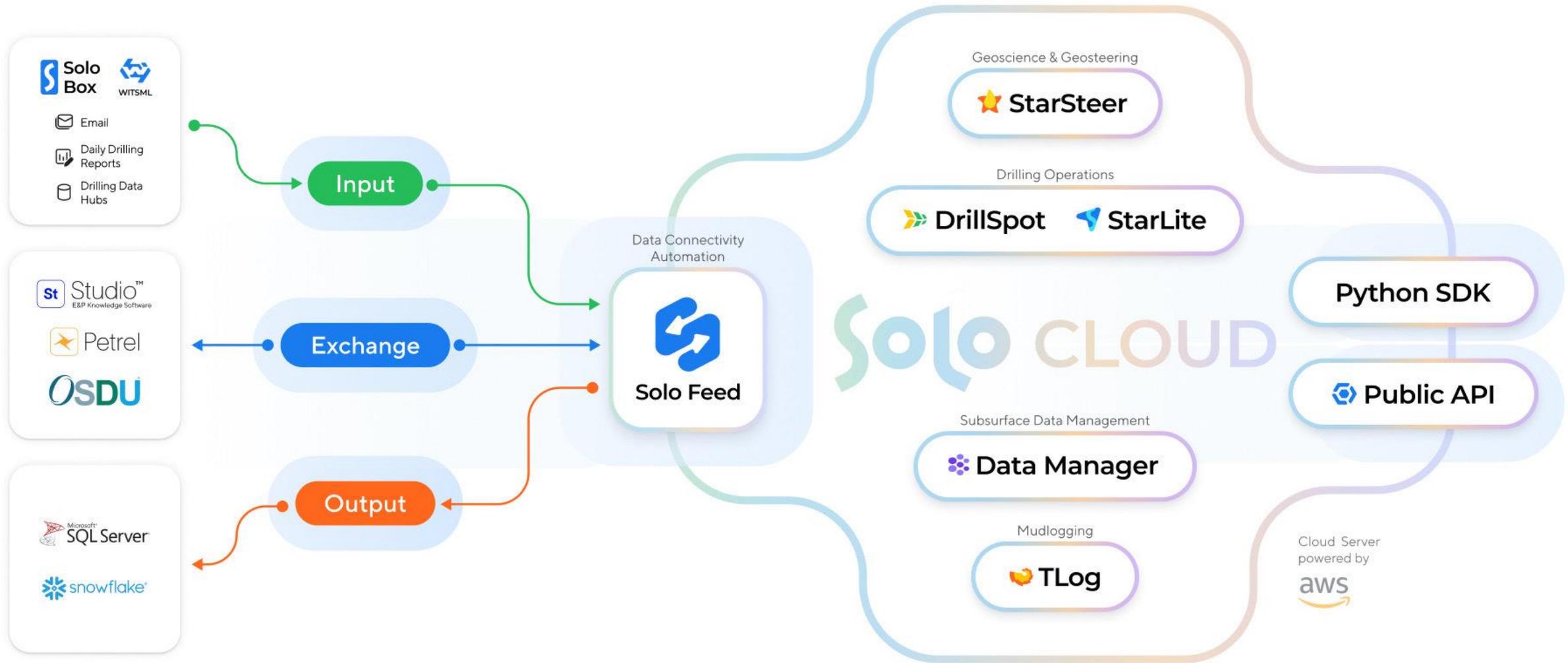# Mudlogging with integrated cloud connectivity

Improves geosteering and drilling analysis in real time
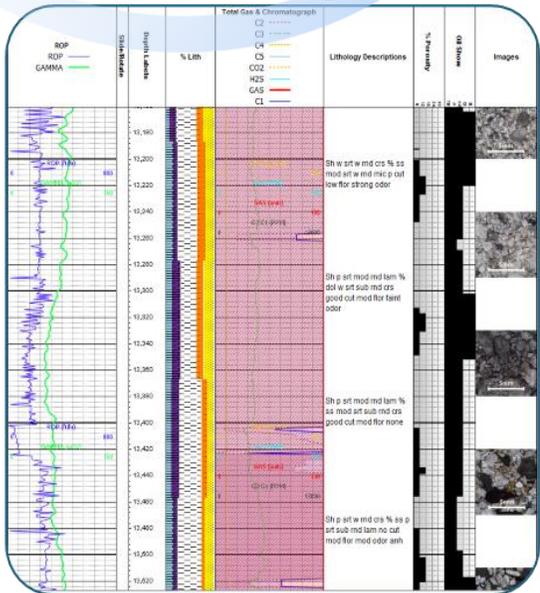
Rómulo Cuevas - Senior Technical Analyst

Benefits of TIog?

- **Live Striplog Generation:** Create and customize templates for TVD and horizontal wells

- **Customizable Log Templates:** Tailored to geologists' specific requirements

- **Versatile Data Handling:** Import and export multiple formats (LAS, CSV, PDF, etc.)

- **Seamless Solo Cloud Integration:** Real-time collaboration via Solo Cloud

- **Stream from folder:** Auto-import new data from local folders (supports XRF, XRD, and more)

Benefits of Integrating Mudlog Interpretation into Geosteering Software

- **TVT Geosteering:** Refines structural models and optimizes well trajectory using TVT from lithological and gas data

- **Correlation Panel:** Integrates Mudlog and LWD logs for real-time stratigraphic and fault interpretation

- **XRD/XRF Geosteering Correlation:** Enhances lithofacies differentiation and geochemical steering through mineralogical and elemental mapping

Benefits of Integrating Mudlog Interpretation into Drilling Software

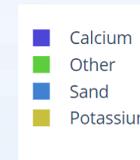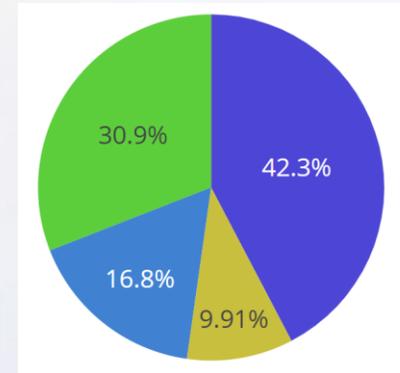- **TVT & Lithology Integration:** Enhance geomechanical and geosteering insights by linking drilling data with mudlog lithologies

- **Hazard Detection Correlation:** Identify formation vs. drilling-related issues through anomaly and mudlog data integration

- **Drilling Parameter Correlation:** Correlate ROP, WOB, RPM, and MSE with lithology and gas to assess rock behavior and bit performance
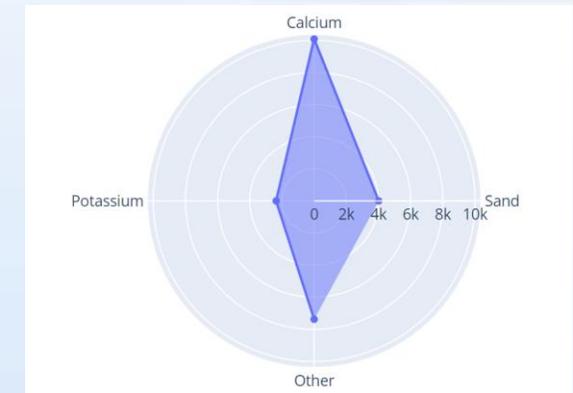
Automated Reporting and Decision-Making

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- **Centralized Data Architecture:**
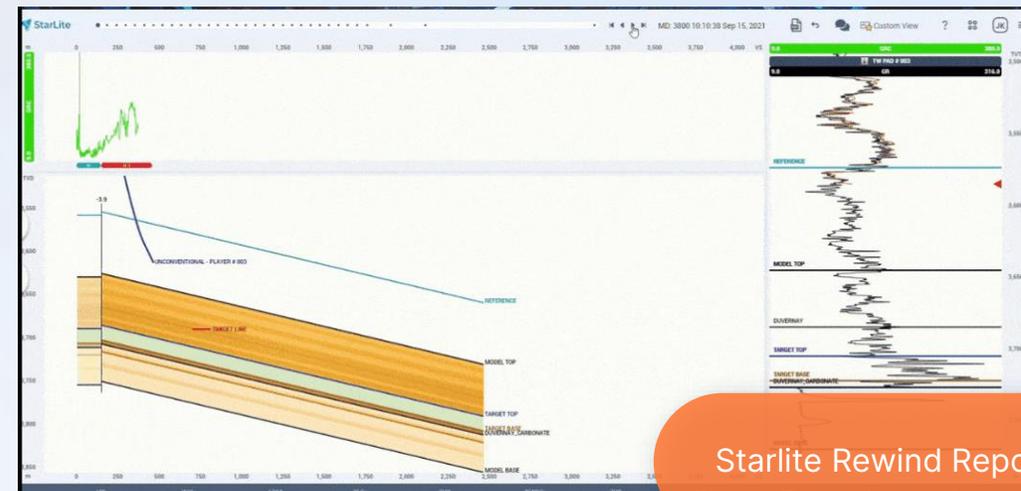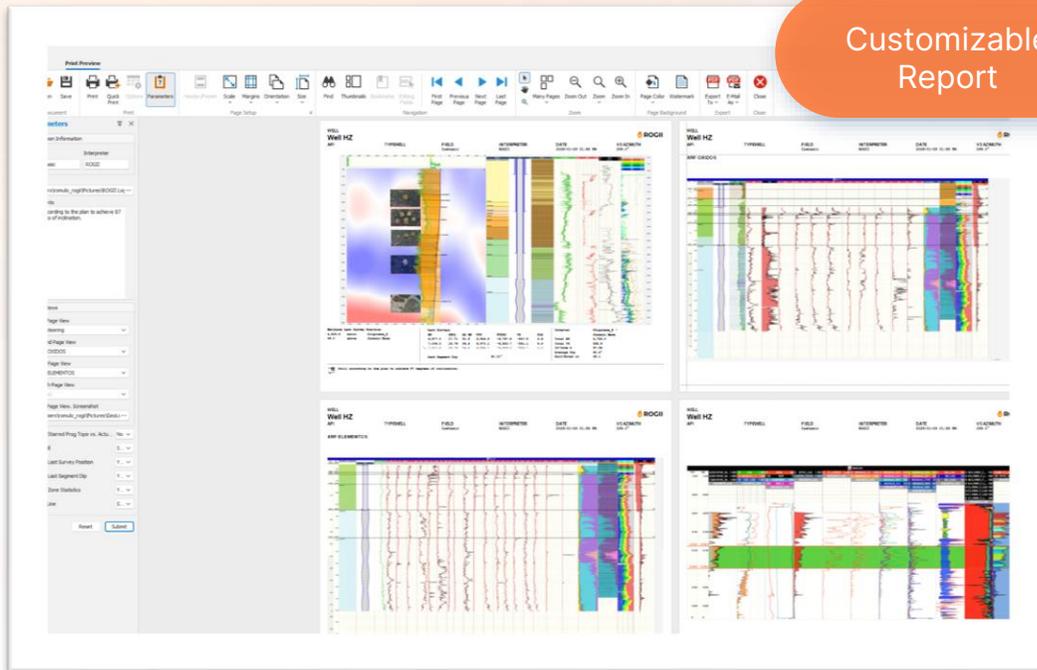 All mudlog, drilling, and geosteering datasets are consolidated within the same digital environment (e.g., TLog–StarSteer–DrillSpot ecosystem), ensuring consistent depth referencing and data integrity across disciplines.

Pie chart: Calcium 42.3%, Other 30.9%, Sand 16.8%, Potassium 9.91%

Data Analysis with StarSteer python tool

Customizable Report

Starlite Rewind Report

Solo Cloud is the foundation for AI and ML

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Real-time, clean, structured data.

⭐ StarSteer

LLM Chat Scripter:

- Trained on subsurface data
- Understands Solo data structure
- Full knowledge of StarSteer python syntax

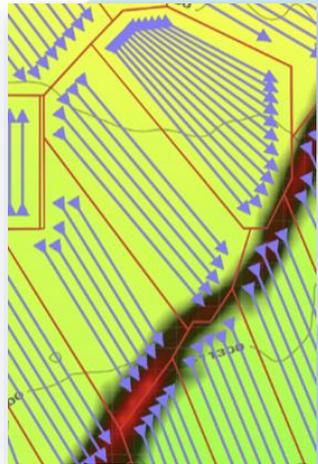## ≫ DrillSpot

ML Rig Status Detection:

- Consistent 1-sec resolution results
- Framework for drilling optimization
- No human bias

Python SDK

External ML Workflows

Ex. Automatic bit position detection based on XRD/XRF data

Solo CLOUD

Conclusion: Geosteering–Drilling Integration with Mudlogs

- **Unified Subsurface Model:** Integrates mudlog, petrophysical, and drilling data for enhanced real-time interpretation

- **Dynamic Data Correlation:** Links drilling parameters with lithology and XRD/XRF data to assess formation properties and drillability

- **Operational Intelligence:** Real-time synchronization across platforms enables predictive geosteering and dysfunction detection

- **Integrated Decision Workflow:** Combines geological and mechanical insights for proactive, data-driven drilling decisions