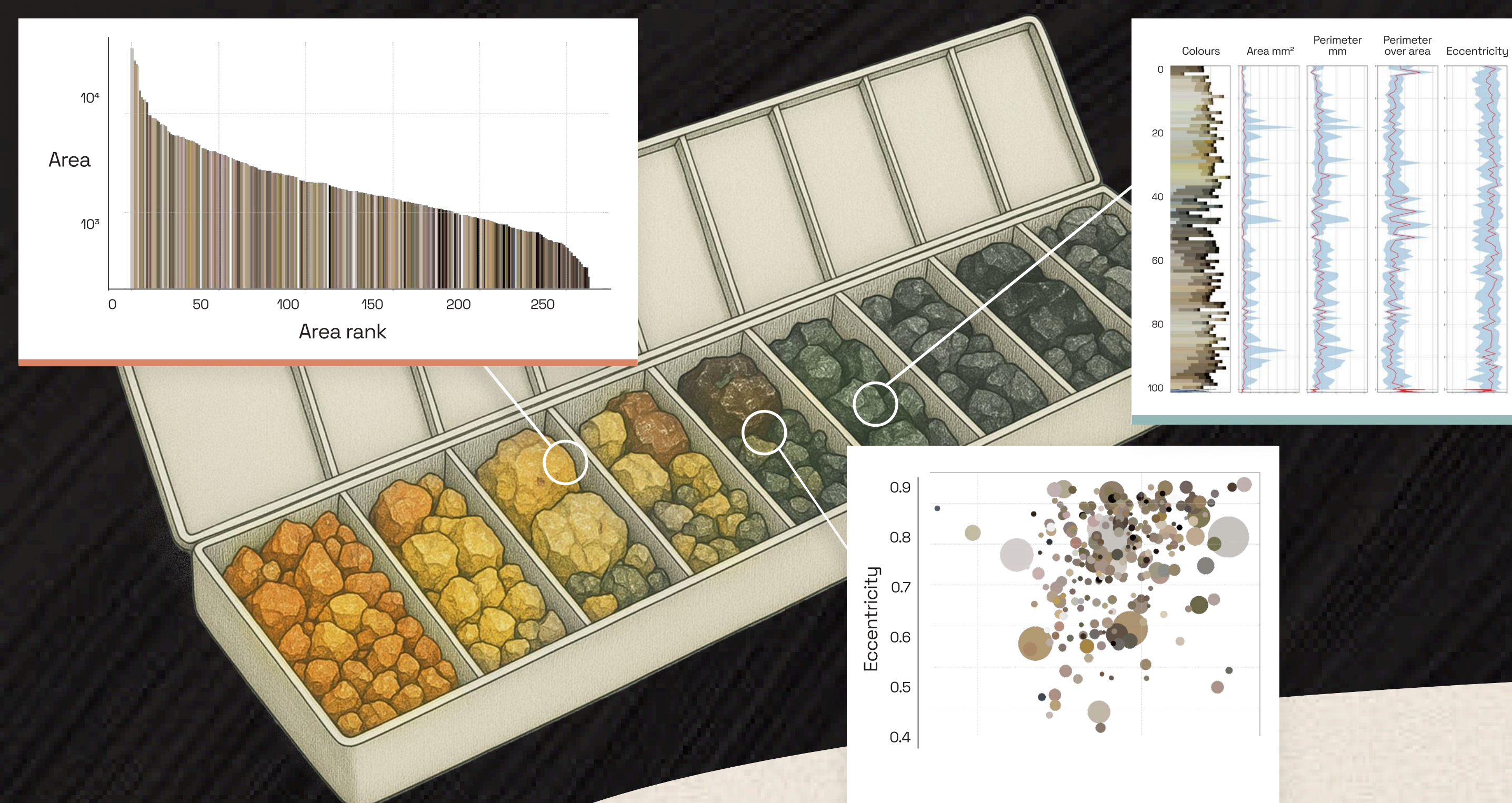# Datarock **Chip**

Machine Learning Workflows to **Extract Value from Chip Imagery**

Datarock Chip automates geological data extraction from RC and Aircore chip imagery. Using machine learning workflows, it transforms routine photographs into structured, quantitative datasets – delivering faster insights, data-driven domaining, and better informed exploration decisions.

Built for:
- ✓ Exploration Managers
- ✓ Chief Geologists
- ✓ Field Geologists
- ✓ Resource Geologists
- ✓ Data Scientists
- ✓ Geoscience Data Managers

Manual chip logging is slow, inconsistent, and subjective. **Valuable chip imagery is often underutilised**, leaving exploration teams waiting weeks for assays before making key decisions.

Datarock Chip replaces the manual process with an automated, machine learning–based workflow that detects trays, segments compartments, and extracts measurable geological attributes – providing analytics ready quantitative data within hours not weeks.
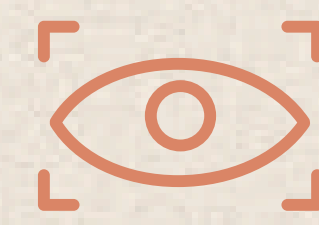
Frequent **Use Cases**
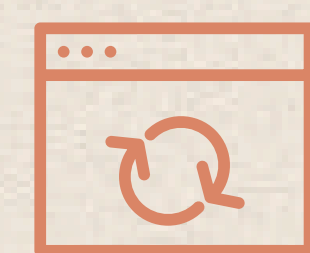
Automated Chip Logging

Converts chip-tray photography into quantitative, auditable datasets of colour, morphology, and texture – removing subjectivity from manual logging.

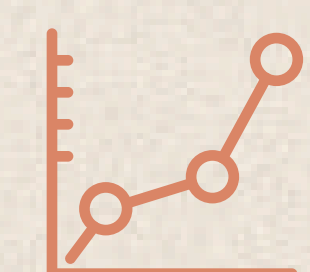Enables fast, consistent logs across rigs, geologists and campaigns, improving QA/QC and comparability.

Early-Stage Domaining & Target Generation

Uses chip imagery to build ML-based geological domains before assays arrive, giving exploration teams early insight into lithological or alteration trends and improving drill hole planning decisions.

Data Integration & Model Inputs

Produces analytics ready CSV outputs compatible with geostatistical, domaining, and predictive-modelling platforms.

Outputs integrate seamlessly with Datarock Core for downstream geotech, geometallurgy, and resource model workflows.

Standardisation Across Teams & Campaigns

Establishes a repeatable, explainable workflow for chip imagery capture and analysis, ensuring data integrity and auditability across geologists, sites, and drilling programmes.

Quantitative Geology & Texture Analysis

Extracts objective geological attributes such as grain size, angularity, and rock texture to detect subtle lithological changes.

Provides numerical inputs that enhance domaining and support automated logging workflows.
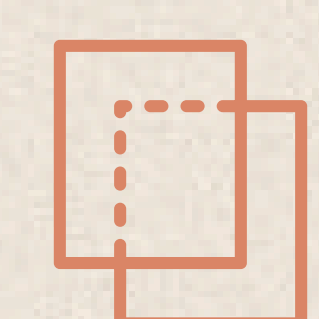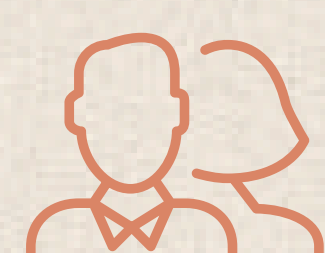
Historical Data Re-analysis

Processes legacy chip tray imagery to recover geological information without re-logging or re-sampling. Brings older datasets into alignment with current QA/QC and data-standard frameworks.

Data Fusion for Predictive Properties

Combines chip imagery outputs with complementary datasets – FTIR, ASD, MWD telemetry, geophysics, and geochemistry – to predict rock properties, hardness, or mineralisation potential using multivariate ML workflows.

Datarock's Machine Learning Chip **Workflow**

Key Technical Specifications
From raw imagery to structured downhole data:

1. Capture
Capture chip tray imagery using Datarock's chip photography guideline

2. Upload
Upload via the Datarock Chip app

3. Automated ML
Automated ML processing detects trays and compartments, and extracts geological attributes

4. Download
Download results as CSV's ready for additional analysis.

5. Integrate
Integrate model-ready outputs directly into native geoscience software

Analytics Ready **Outputs**

Datarock Chip delivers CSV based product datasets and downhole plots of colour, grain and texture that integrate seamlessly with geostatistical domaining and ML workflows for rapid 3D interpretation.
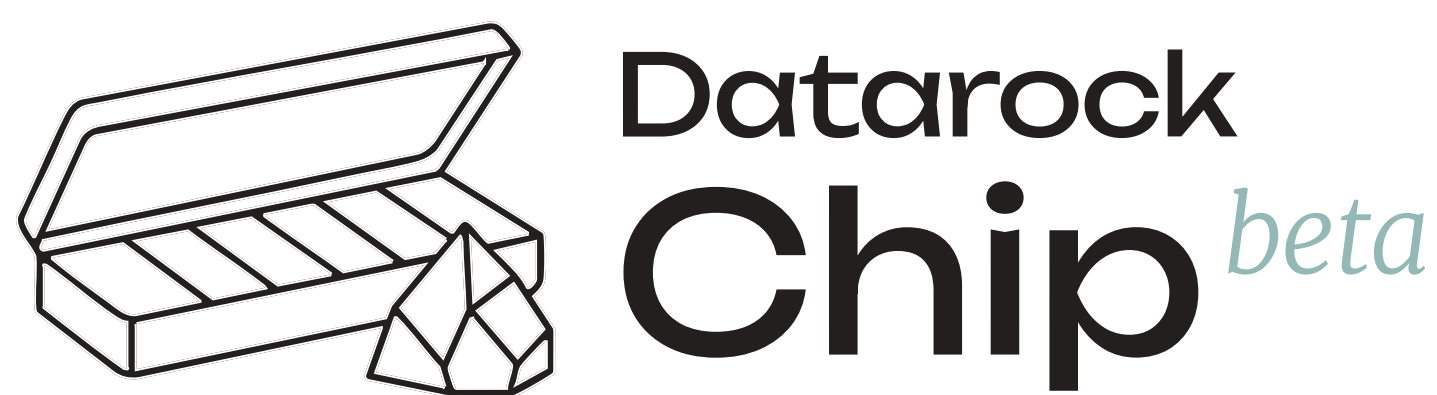
Colour
Four dominant colours per compartment.

Morphology
Count, area, perimeter, long axis, and eccentricity.

Texture
Automated clustering of compartments incorporating rock texture, morphology and colour.

Datarock
Chip *beta*

Subscription inclusions

Site setup & 20k compartments	Price on enquiry
Additional compartment	Price on enquiry

Chip Product
Includes:
- ✓ Analytics Ready Data
- ✓ Colour
- ✓ Chip Morphology
- ✓ Rock Texture

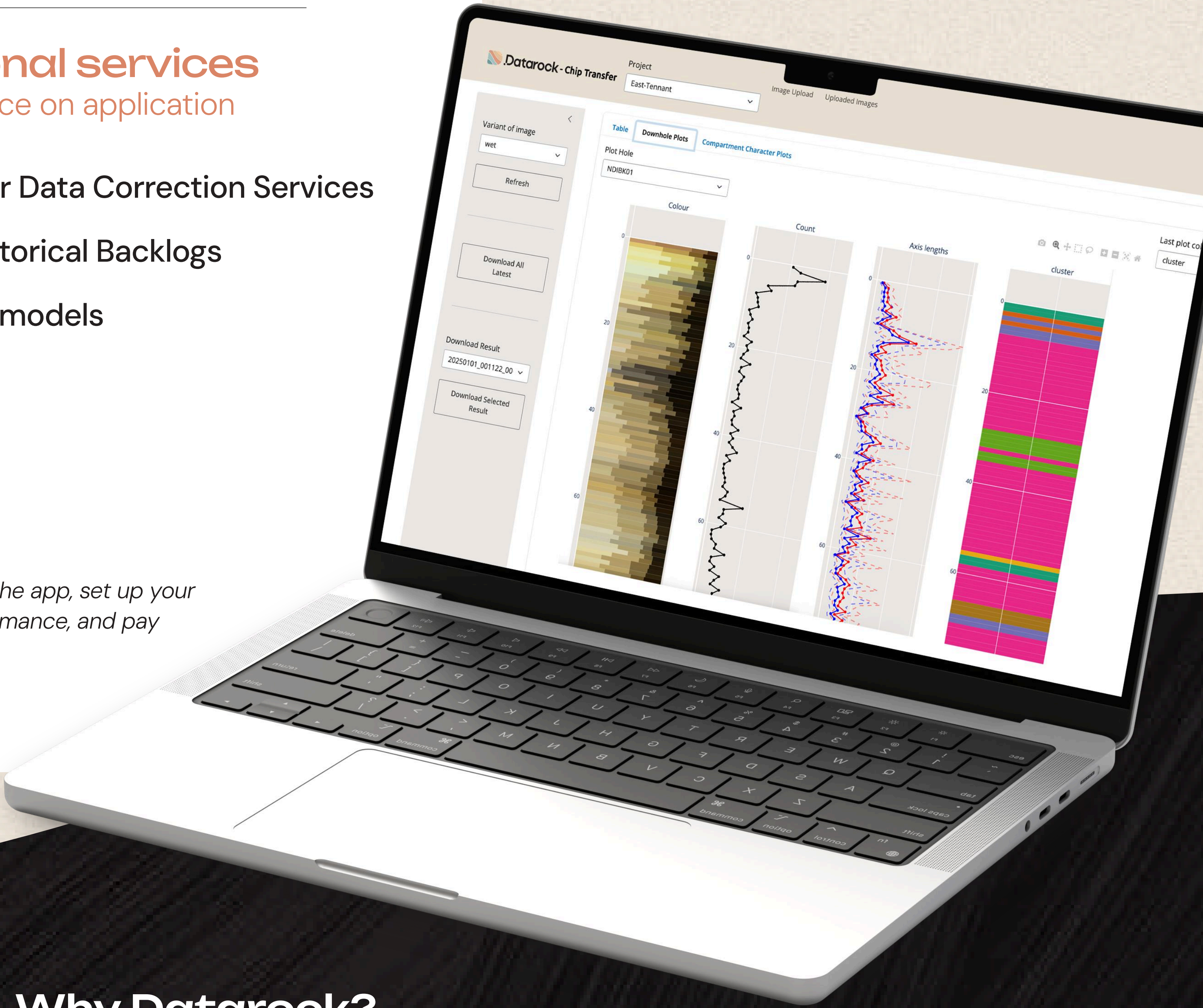|	
Transfer App Access	Yes
Technical Support	Yes

+ Additional services
Available – Price on application

- Customer Data Correction Services
- Large Historical Backlogs
- Bespoke models

Subscribe to use the app, set up your imagery for performance, and pay per compartment.

About Us

Accelerate exploration. Unlock ore body knowledge. Solutions in production.

Production-ready, explainable AI that standardises characterisation, accelerates updates, and integrates with your existing software and databases.

Trusted by

AGNICO EAGLE · AngloAmerican · BHP · Evolution · RioTinto
Teck · ANGLOGOLDASHANTI · FCX FREEPORT-McMoRan · Fortescue

Why Datarock?

90%
Reduction in data generation and processing costs — driving real operational efficiency.

27+Million
Metres of core analysed since 2020 — across exploration, resource, and geotech programmes.

100+
Organisations using Datarock.

8/10
Top global mining companies trust Datarock for model-ready, explainable insights.

Book a demo ▶

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