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REQUEST FOR PROPOSALS

DBMNE0396: APPLICATION OF MACHINE LEARNING AND DATA SCIENCE WORKFLOWS ON GEOSCIENTIFIC DATASETS TO AID MARINE EXPLORATION TARGETING

SCOPE OF WORK:

Debmarine Namibia seeks an experienced service provider to identify and predict areas of high mineralisation potential within the Atlantic 1 mining license area at both a local and regional scale using novel data science and machine learning techniques on the company's existing geoscientific and exploration sampling datasets.

The detailed scope will entail the following based on the application of cutting edge data science and machine learning techniques:

- Mineral prospectively mapping using modern data science, machine learning algorithms and image processing techniques to uncover common and specific patterns in the data.
- Developing models and workflows that can be applied to estimate the likelihood of mineralisation over exploration targets within the Debmarine Namibia license area.
- Generate exploration heat maps.
- Quantify geological uncertainty and predictive accuracy for exploration sampling targets based on available geoscientific and sampling datasets.
- Quantify relationships and trends between mineralisation and various sampling parameters or geophysical signatures.
- Interrogate various available datasets and quantify the important variables for identifying exploration sampling targets.
- Create data driven mineralisation domains, at both a local and regional scale.
- Classify orebody texture.
- Provide data science and machine learning training and skills transfer to company Geoscientists using in-house datasets.
- Provide recommendations on data cleaning, integration, application and future data collection.

DOCUMENTS TO SUBMIT:

1. Company profile.
2. Years of experience in the application of statistical analyses, data science and machine learning-based solutions for mineral exploration and mining with a focus on geoscientific application.
3. Highlight of at least four (4) projects where similar solutions have been developed and applied.
4. Detailed outline of proposed approach, methodology, potential solution development and likely time lines.
5. Overview of proposed team available to support the work with highlight of background, expertise and experience.
6. Overview of training and skills transfer plan to Debmarine Namibia Geoscientists.

Registered companies interested in providing such services are requested to submit the required documentation with Reference Number **DBMNE0396 by 19 March 2021 at 12H00 noon**.

SUBMISSION DETAILS:

Email Address: **DBMNtenders@debeersgroup.com**
Subject: DBMNE0396 - Application of Machine Learning and Data Science Workflows on Geoscientific Datasets to aid marine exploration targeting
File Type: All documents should be in PDF format

ENQUIRIES:

The Procurement Officer
Tel: +264 61 297 8481
Email: **DBMNtenders@debeersgroup.com**
File Type: Specify the Reference Number DBMNE0396

DISCLAIMER:

DEBMARINE
NAMIBIA