PROGRAM 2: DATA FROM DRILLING

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Majors, METS and Survey Participants (16)
This program will develop technologies for capturing geochemical, petrophysical and seismic data either during drilling or within the drilling workflow.

The program will also deliver software that will enable drilling data to be integrated into 3D geological models in real-time, delivering timely data to inform decisions on drill holes during drilling.

This will contribute to drilling productivity through more efficient targeting, by minimising mobilisation costs and by allowing modifications to the drilling program during deployment.
PROJECT 3: REAL-TIME DOWNHOLE ASSAY TOOL

LEADER: Yulia Uvarova

PARTICIPANTS: Anglo American, Barrick, Imdex, Olympus, Sandvik, South 32, CSIRO, UniSA

RESOURCES: $1.71M (cash) + $1.01M (in-kind)

PERFORMANCE TARGET (Life-of-MinEx CRC):
A real-time downhole quantitative analytical technique that provides a broad suite of chemical elements for targeting in greenfield environments at detection limits that allow robust and reliable real-time decisions.

A downhole sensor for Au assay whilst drilling that will replace 50% of fire assays and enable reliable decisions without further analytical work.
PROJECT 4: PETROPHYSICAL LOGGING WHILE DRILLING (LWD)

LEADER: Brett Harris

PARTICIPANTS: Imdex, MRIWA, South 32, Curtin University

RESOURCES: $1.05 (cash) + $0.89 (in-kind)

PERFORMANCE TARGET (Life-of-MinEx CRC):
Achieve real time subsurface sensing during CT drilling to depths of 1000m and to provide real time imaging to assist geo-steering to within 30 m of a lithological target.
PROJECT 5: SEISMIC IN THE DRILLING WORKFLOW

LEADER: Andrej Bona
PARTICIPANTS: Anglo American, BHP, HiSeis, MRIWA, Curtin University
RESOURCES: $1.34 (cash) + $0.74 (in-kind)

PERFORMANCE TARGET (Life-of-MinEx CRC):
1. Reduction of borehole seismic survey costs by 50% from current.
2. Reduction of need for brownfields exploration drilling by 50% due to application of seismic methods.
3. Seismic sensor technologies are deployed in boreholes, underground workings and on the surface at a participant operation (instrumented field) and deliver data for continuous updating of a subsurface geological model for mine planning and safe operation.
PROJECT 6: AUTOMATED 3D MODELLING

LEADER: Mark Jessell and Mark Lindsay
PARTICIPANTS: Anglo American, BHP, GSWA, Micromine, UWA
RESOURCES: $1.6M (cash) + $1.7 (in-kind)

PERFORMANCE TARGET (Life-of-MinEx CRC):

Reduce to one week the time taken from receiving data to constructing probabilistic 3D models.
Lithological recovery from geology/petrophysics/geophysical inversion

Automation pathway

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