IMDEX™

End-to-End Solutions

Enabling successful and cost-effective operations across the entire mining value chain

A LEADING GLOBAL MINING-TECH COMPANY

imdexlimited.com

Are you...

Using unreliable data?
Waiting forever for your data to arrive?
Drilling more or less than you actually need to?
Wasting time during sampling and logging?

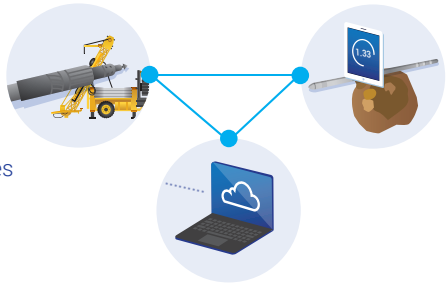
.... How do you know?

IMDEX

Our technologies enable **safe and cost-effective** operations

Drilling Optimisation

- Drilling productivity and rig alignment technologies
- Automated and remote drilling fluid testing technologies
- Data collection and paperless reporting software

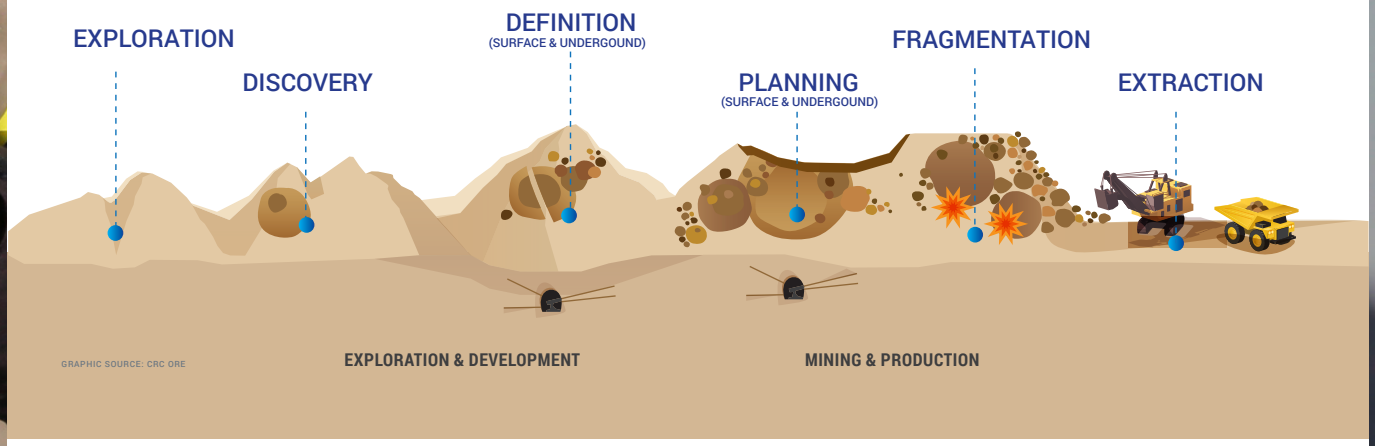


Rock Knowledge sensors

- Downhole survey sensors
- Core orientation and gamma logging technologies
- In-field sampling and analysis technologies

Real-time data & analytics

- Secure cloud-based services
- Real-time subsurface visualisation
- Interpretive software for geological data



Applicable across the whole mining value chain

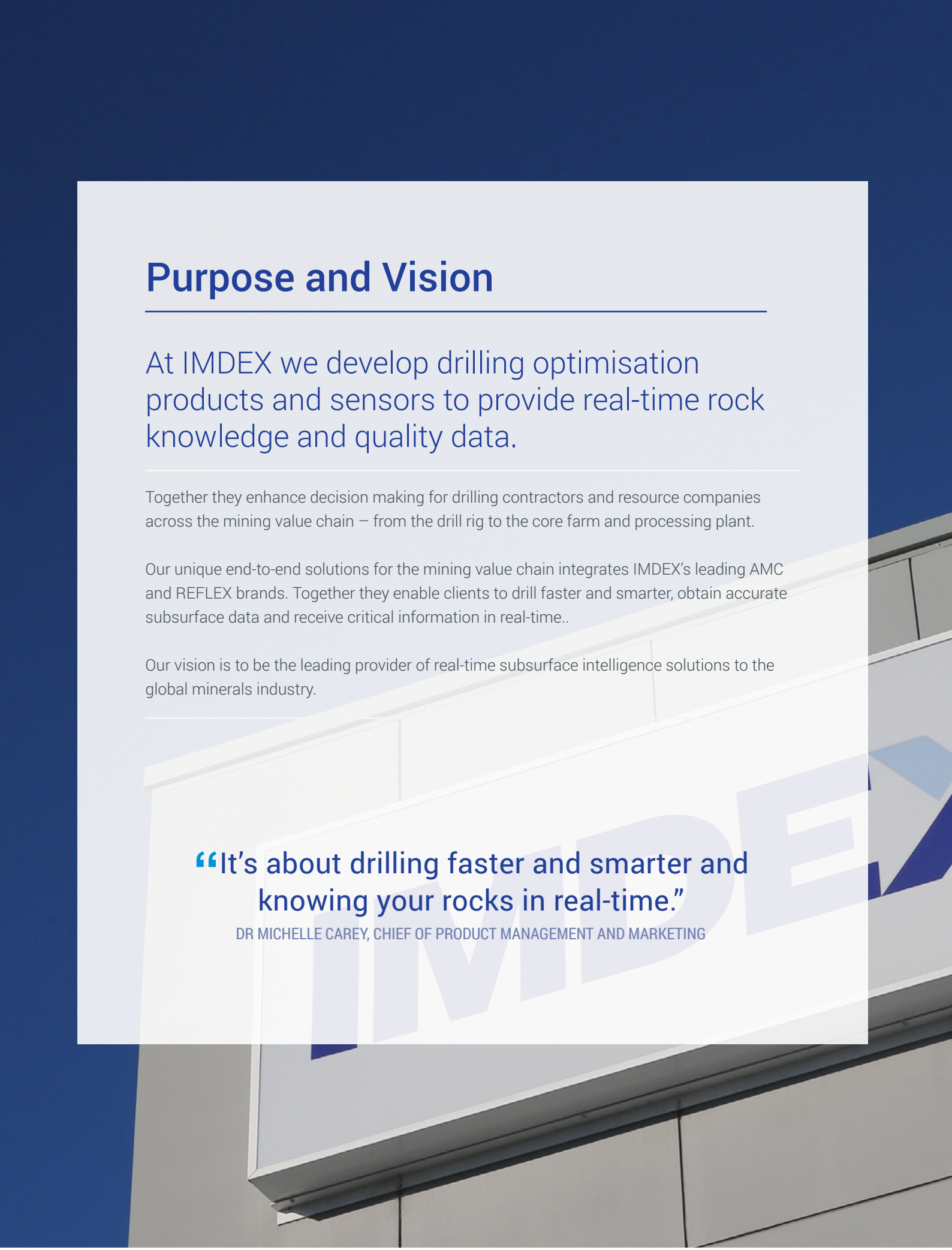
Purpose and Vision

At IMDEX we develop drilling optimisation products and sensors to provide real-time rock knowledge and quality data.

Together they enhance decision making for drilling contractors and resource companies across the mining value chain – from the drill rig to the core farm and processing plant.

Our unique end-to-end solutions for the mining value chain integrates IMDEX's leading AMC and REFLEX brands. Together they enable clients to drill faster and smarter, obtain accurate subsurface data and receive critical information in real-time..

Our vision is to be the leading provider of real-time subsurface intelligence solutions to the global minerals industry.



> "It's about drilling faster and smarter and knowing your rocks in real-time."
>
> DR MICHELLE CAREY, CHIEF OF PRODUCT MANAGEMENT AND MARKETING

Leading **brands**

IMDEX™

REAL-TIME SUBSURFACE SOLUTIONS

AMC™ DRILLING OPTIMISATION

REFLEX™ INTELLIGENCE ON DEMAND

AMC

redefines the way drilling fluids, equipment, technologies and software are used to optimise drilling programs. It is renowned for maximising productivity while enhancing safety and sustainability. AMC has a strong presence within the global minerals, horizontal directional drilling, waterwell and civil construction sectors.

REFLEX

is renowned for its real-time subsurface intelligence solutions for the global minerals industry. REFLEX technologies include downhole instrumentation, data management and analytical software for geological modelling. These market leading technologies – recognised for their ease of use and accuracy – are complemented by unrivalled expertise in geo-scientific data analysis and interpretation.

Why **one solution provider?**

When you work with IMDEX you have all the benefits of working with one trusted technology provider for a complete solution.

Benefit from operational efficiencies by utilising one company offering the integration of award-winning technology to digitise key workflow processes, supported by unrivalled expertise.

3rd party software

FLUID OPTIMISATION

Drilling fluids

Solids removal (SRU™)

Fluid management with MUD AID™ or Drilling Fluid Specialist

DRILLING TECHNOLOGIES

COREVIBE™

XTRACTA™

MAGHAMMER™

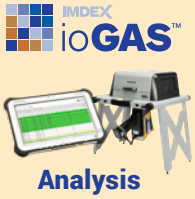
AMC BOS™

STRUCTURAL

IQ-LOGGER™

IN-FIELD GEOANALYSIS

Sample preparation



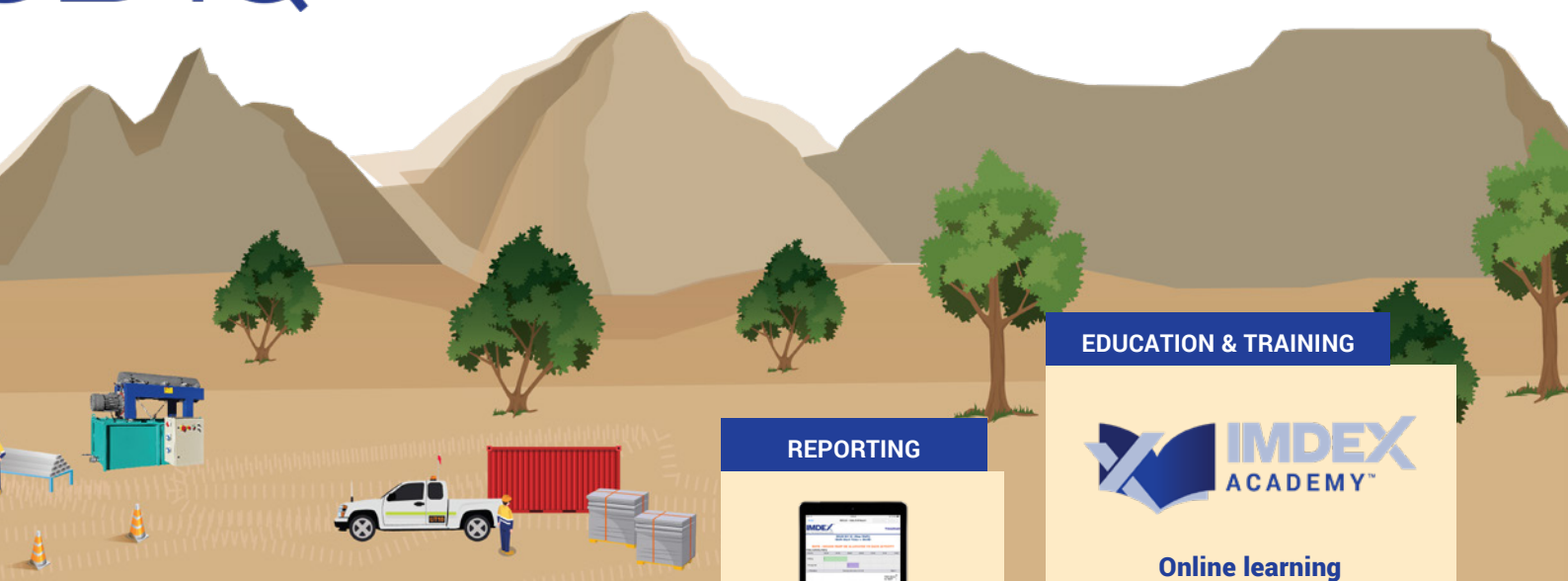
Analysis

Our strengths

- Market leading brands and expertise
- One trusted technology provider
- Integrated range of solutions for exploration, development and mining
- Award-winning cloud based software IMDEXHUB-IQ™
- World-class R&D facilities
- Global presence with local on-site support

Satellite technology

UB-IQ™



REPORTING

Daily drill report

EDUCATION & TRAINING

IMDEX ACADEMY™

Online learning

SENSORS

Survey

Geophysics

Rig alignment

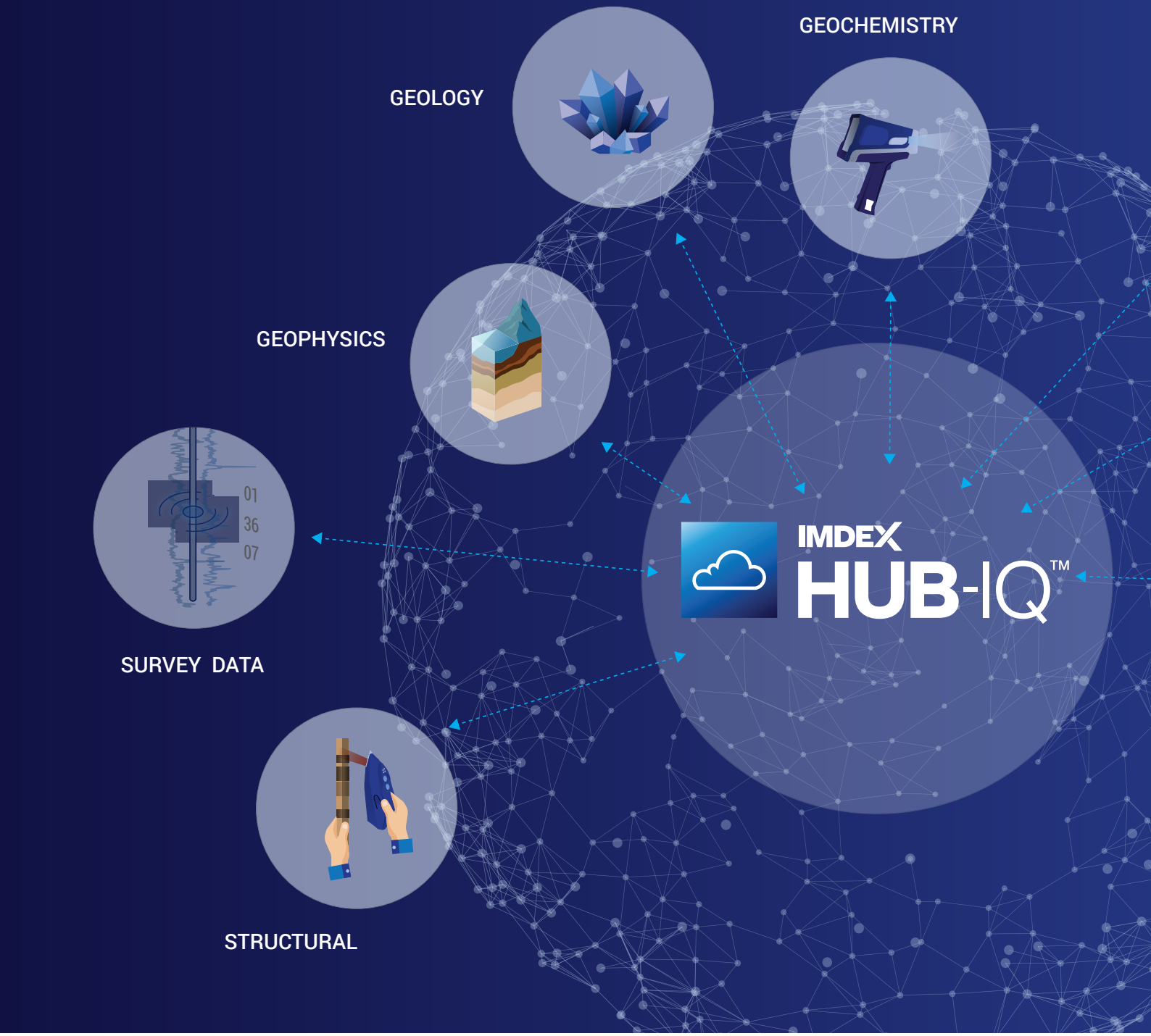
Core orientation

DIRECTIONAL DRILLING

Downhole motors

Make decisions faster **with real-time data**

IMDEXHUB-IQ™ is a secure, cloud-based portal for validating field data seamlessly transmitted from the drill rig and integrated with leading industry software.



REPORTING

DRILLING
OPTIMISATION

BLAST HOLE
SENSOR DATA

Benefits

Make confident decisions in the moment

With access to real-time data, decisions can be made while operations are live. Not next week after the data has been adjusted and certainly not after the drill rig has finished and left the site.

See the bigger picture

Transparency across multiple streams of data, associated with a single drill hole or an entire operation allows managers to monitor activity and ensure quality decisions in the field, wherever they are.

Reliable information, not just data

The rigorous data validation and built-in QA/QC at the time of data collection, ensures that only data that can be transformed into valid, actionable information is transferred.

Seamless integration

We are partnering with leading industry software partners, such as Seequent, acQuire and MICROMINE, enabling the secure sharing of data between IMDEXHUB-IQ™ and our partners.

Simple and secure chain of custody

With no manual intervention or paperwork required, errors and inefficiencies in the workflow are reduced and decisions are made on verifiable data.

Robust security

IMDEX is a globally recognised cloud service provider, our team of IT professionals monitor information security. IMDEXHUB-IQ™ is ISO27001 certified and practices are aligned with ISO27001.

Structural Geology

Make decisions faster, with real-time data

Are you confident the structural data you are relying on for key business decisions is accurate and reliable? Have you ever had to wait days, or even weeks for results from the field before making decisions? Worse still, have you had to make a decision based on data you didn't trust?

IMDEX has developed the end-to-end Structural Geology solution so resource companies can benefit from real-time, secure access to verified structural data directly from the field, improving operational efficiencies and reducing risk from manual intervention.

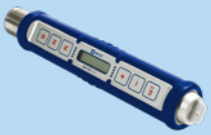
Seamlessly collect **accurate and reliable** field data

REFLEX GYRO SPRINT-IQ™

- ✓ QA'd survey data while drilling
- ✓ No need for on-site technician

REFLEX TN14 GYROCOMPASS™

- ✓ QA'd rig alignment data



REFLEX ACT-IQ™

- ✓ QA'd orientation data

REFLEX IQ-LOGGER™

- ✓ QA'd structural data
- ✓ Rapid accurate core logging

Secure access to your data **anywhere, any time**

IMDEXHUB-IQ™

The award winning cloud-based hub sits at the heart of the solution.

ONE SERVICE PROVIDER

Collect and verify your data in one, secure place

SEEQUENT

Seequent Central

Real-time 3D data visualisation

IMDEX ioGAS™

Advanced data analytics and interpretation including stereonets

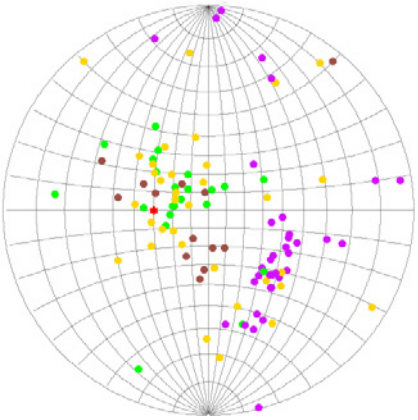
3rd party software

Your database

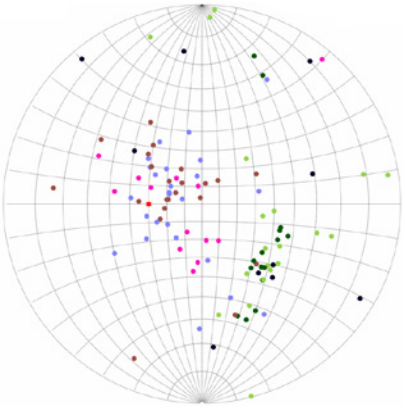
Interpretation and analysis **in real-time**

Rapid data **capture, visualisation and analysis**

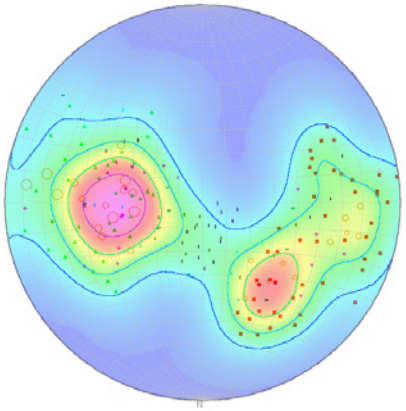
FROM COLLECTION



... TO VALIDATON



.. TO ANALYSIS



REFLEX IQ-LOGGER™

IMDEX HUB-IQ™

IMDEX ioGAS™

"The REFLEX IQ-LOGGER™ immediately became an integral part of our daily oriented core analysis and QA/QC procedures due to its ease of use, precision, and rapid visual feedback via dynamic stereonet analysis. It allowed us to collect literally 10x the structural data over traditional measurement systems and at a much higher quality. In my opinion, it is an essential tool for any drill based structural study."

- TERRALOGIC EXPLORATION, CHRIS GALLAGHER, MANAGER EXPLORATION TECHNOLOGY

Benefits

INSTANT DECISION MAKING WITH ACCURATE REAL-TIME DATA

SAVE TIME WITH UP TO 10X FASTER COLLECTION OF STRUCTURAL DATA

CONFIDENCE IN THE QUALITY OF YOUR DATA THROUGH IN BUILT QA/QC

VISUALIZATION AND ANALYSIS IN REAL-TIME

Downhole Navigation

Utilise quality real-time data to hit that target

Hitting drill targets whilst maintaining productivity is a challenge in the industry. Having access to quality survey data in real time is critical to meeting this challenge. Without it you run the risk of not knowing where the hole is, or worse missing a target completely and wasting the cost of drilling the hole.

Accurate and reliable data gives you the confidence to make informed decision on drill hole progress against the plan in real-time. Integration of IMDEXHUB-IQ™ with Seequent's Central software means you now have real-time 3D visualisation of the drillhole.

Plan for **success**

IMDEXHUB-IQ™

- ✓ Create your drillhole, enter start and end coordinates
- ✓ Push to drillers

REFLEX EZ-NAV™

- ✓ Design your drillhole
- ✓ Optimise drilling time

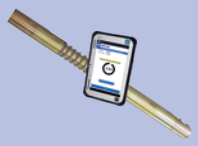
Collect quality, data **in real-time**

REFLEX TN14 GYROCOMPASS™

- ✓ QA'd rig alignment

REFLEX GYRO SPRINT-IQ™

- ✓ 2x more accurate than competitor gyros
- ✓ In-built QA



REFLEX EZ-TRAC™

- ✓ Magnetic survey
- ✓ In-built QA

Amend **on the fly**

REFLEX EZ-NAV™

- ✓ Run survey data against the design
- ✓ Measure how close you got to the bullseye

REFLEX DOWNHOLE MOTORS™

- ✓ Easily change direction

Analyse data **in real-time**

IMDEXHUB-IQ™

- ✓ Approve dataset from anywhere and at any time.
- ✓ Collect and verify your data in one, secure place

IMDEX ioGAS™

Advanced data analytics and interpretation

SEEQUENT

Seequent Central

Real-time 3D data visualisation

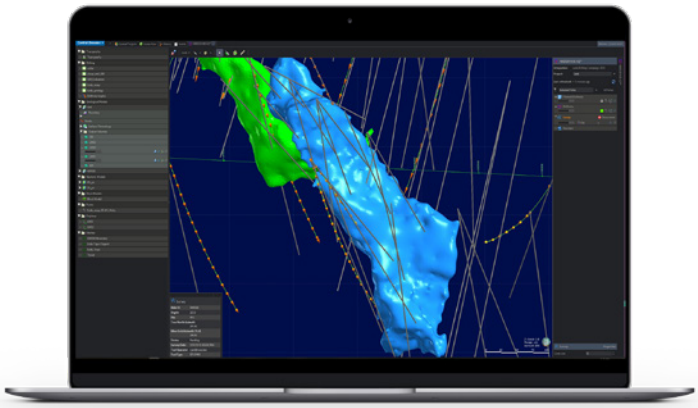
3rd party software

Your database

Real-time **3D visualisation** for your drillhole data

Thanks to the integration of the IMDEXHUB-IQ™ with Seequent's Central solution, you can now visualise and analyse your drillhole data alongside your 3D model in a seamless and integrated way.

Track progress of drilling by comparing survey data from the field with the planned hole in 3D. With the integration created at the project level in Central, anyone on the project team can easily look at the most recent data to make decisions while drilling is underway.



Benefits

INSTANT DECISION MAKING WITH ACCURATE REAL-TIME DATA

PROVEN TECHNOLOGY THAT IS RELIABLE AND ACCURATE FROM A BRAND YOU CAN TRUST

NO ON-SITE TECHNICIAN REQUIRED WITH EASY TO USE DRILLER-OPERABLE TOOLS

VISUALISATION AND ANALYSIS IN REAL-TIME

Drilling Optimisation

Ensure execution of drilling programs to specification, on time, within budget and safely.

As the cost of drilling increases, the need to improve productivity is paramount. Additional costs caused by higher operational standards, environmental restrictions and increased hole depths will continue. As specialists in Drilling Optimisation, IMDEX's vision is to ensure the execution of drilling programs to specification, on time, within budget and safely.

Our solution assists clients to:

- Hit targets accurately
- Drill as fast as the ground will allow
- Reduce down-time
- Be safe and environmentally responsible
- Deliver a cost effective quality drilling program and have the data to back it up.

DRILLING TECHNOLOGIES

COREVIBE™

XTRACTA™

MAGHAMMER™

AMC BOS™

IMDEX HUB-IQ™

DIRECTIONAL DRILLING

Downhole motors

FLUID OPTIMISATION

Solids Removal

Fluid management with MUD AID™ or Drilling Fluid Specialist

DRILLING FLUIDS

Drilling fluids

SENSORS

Survey

Geophysics

Rig alignment

Core orientation

New **technologies**

IMDEX COREVIBE™
Energy pulse assisted drilling

Conventional wireline coring has been transformed. High frequency energy pulse assisted drilling (EPAD) enables the IMDEX COREVIBE™ to deliver a 30%* productivity gain, due to an increased Rate of Penetration (ROP) whilst retaining good bit life, core quality and keeping the hole on target.

UP TO **30%**

INCREASE IN PRODUCTIVITY*

IMDEX XTRACTA™
Retractable core barrel

Pulling rods is one of the most laborious, time-consuming and risky parts of diamond drilling. IMDEX XTRACTA™ allows the driller to inspect and/or change the bit/reamer each time the core is retrieved, optimising bit usage and minimising rod pulls.

With no need to pull the rods to change bits, the hole is always cased and maintaining hole integrity.

**Validated by SGS, a world leading inspection, verification, testing and certification company.*

INCREASE PRODUCTIVITY

REDUCE RISK OF INJURY

REDUCE HOLE DETERIORATION

DRILL AGGRESSIVELY

Make the most of your **drilling fluid**

Verify performance of SRU

IMDEX HUB-IQ™

Keep fluids at optimal performance

Tailor drilling fluid program to conditions

Solids removal

- ✓ Drill faster by keeping fluid clean and free of solids
- ✓ Reduce water consumption by up to 80%
- ✓ Reduce waste volume and weight
- ✓ Reduce drilling footprint by up to 80%
- ✓ Contain drilling fluid / reduce contamination risk
- ✓ Reduce time on sump maintenance
- ✓ Reduce time waiting for water.

Drilling fluids

- ✓ Optimise productivity
- ✓ Meet the highest standards in biodegradability and toxicity
- ✓ Prevent hole loss in complex conditions
- ✓ Maintain core recovery.

Fluid management by remote with MUD AID™ or on-site specialist

- ✓ Drill faster and to specification by keeping fluids optimised
- ✓ Less down time due to maintaining drilling fluid system
- ✓ Manage risk in complex ground conditions
- ✓ Access to advice even in remote/ inaccessible sites
- ✓ Make the most of specialist advice.

Optimise performance of drilling fluid system

Why care about mud?

DRILLING FLUIDS HAVE AN IMPACT ON

30-60%

OF ALL DRILLING OPERATIONS

DRILLING FLUIDS ACCOUNT FOR

5-15%

OF DRILLING COSTS

AMC BOS™

A proactive solution for fluid loss and borehole instability

AMC's patent pending Borehole Optimisation System (AMC BOS™) anticipates fluid loss, lost circulation and unstable zones, even in the most difficult conditions – making operations more predictable and decreasing the risk of hole loss.

This solution comprises of the AMC BOS UNIT™ an in-hole lubricating and casing while drilling tool, and AMC BOS FIX™ a rapid fill lubricating grout.

Mining technology

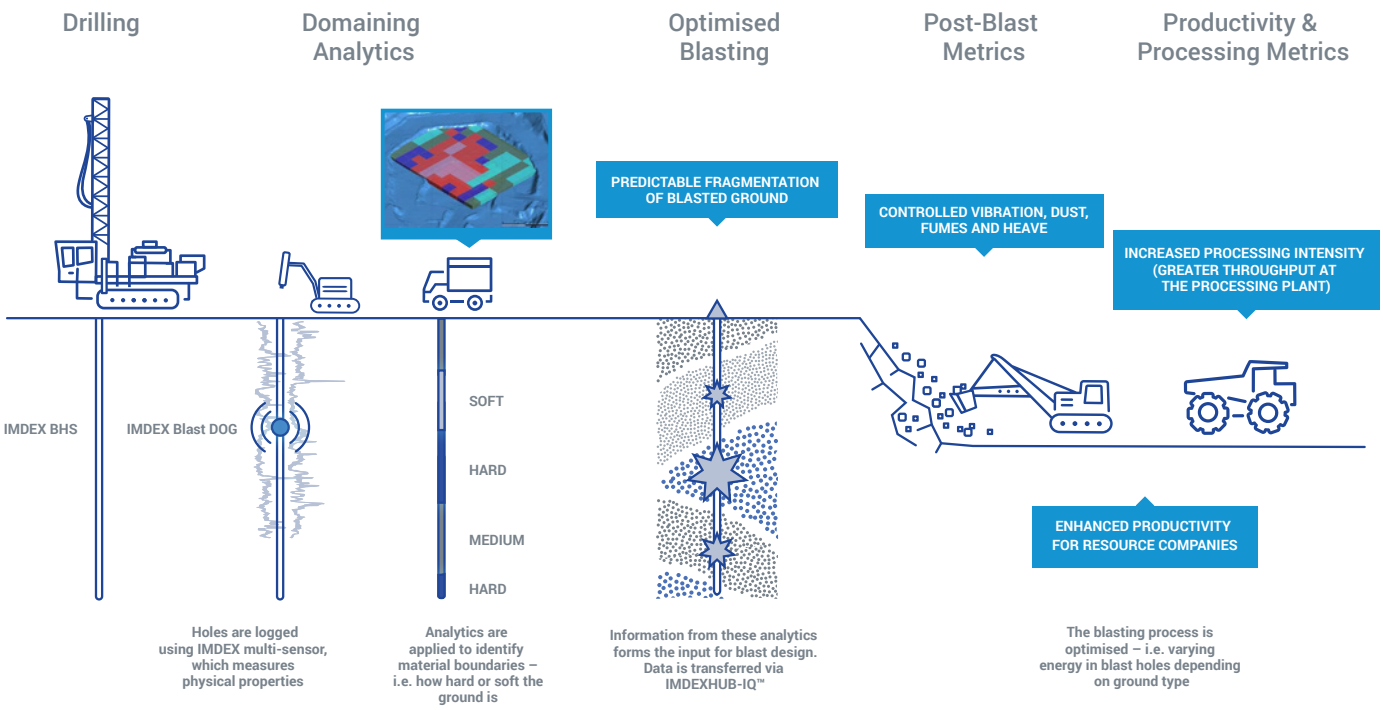
Achieve better blast outcomes using Rock Knowledge

The industry is facing an ongoing challenge to continually improve productivity, efficiency and safety. Ore grades are decreasing and becoming harder to find and recover, due to a lack of total deposit knowledge.

IMDEX enables precision mining by providing the most accurate and spatially dense model that has ever existed. IMDEX can help unlock the potential of your operation, utilising total deposit knowledge to guide the blast design, optimise blast outcomes and enhancing downstream processes.

The portfolio of mining technology solutions developed by IMDEX are transforming the way the industry undertakes drill and blast by utilising digital and automated technologies. This includes:

- Utilising the latest in best in breed gyro technologies
- Stabilising the walls of the hole using the IMDEX BHS™
- Obtaining Rock Knowledge using the Internet of Geosensing™ (IoG™) to optimise your blast in open pit and underground using the IMDEX BLAST DOG™.



Benefits

MAXIMISE REVENUE BY INCREASING MINE TO MILL EFFICIENCY

PREDICTABLE FRAGMENTATION OF BLASTED GROUND

CONTROL VIBRATION, DUST, FUMES AND HEAVE

REDUCE REDRILLS

In-field Geoanalysis

Providing quality geochemical data, where and when you need it

Do you find yourself making decisions without having all the necessary data available? IMDEX's In-Field Geoanalysis solution saves you crucial time and resources during your drilling or sampling program, by providing the data you need, where and when you need it.

A rapid mobile sample preparation system consistently provides a quality sample for analysis that you can rely on without having to send the sample offsite. Coupled with REFLEX XRF CONNECT™ and the cloud based IMDEXHUB-IQ™ platform, you can make informed decisions with confidence.

Seamless **QA/QC** workflows

REFLEX PRESS™

- ✓ Field portable
- ✓ Rapid sample preparation

REFLEX XRF CONNECT™

- ✓ Control QA/QC workflows
- ✓ QA'd assay data
- ✓ Secure chain of custody (no USB sticks)

Secure access to your data **anywhere, any time**

IMDEXHUB-IQ™

The award winning cloud-based portal sits at the heart of the solution.

ONE SERVICE PROVIDER

Collect and verify your data in one, secure place

Interpretation and analysis **in real-time**

IMDEX ioGAS™

Advanced data analytics and interpretation

3rd party software

Benefits

INSTANT DECISION MAKING WITH ACCURATE REAL-TIME DATA

CONSISTENT AND QUALITY SAMPLE PREPARATION

INCREASED EFFICIENCY FROM STREAMLINED QA/QC WORKFLOWS

PRIORITISE SAMPLES BEING SENT OFFSITE

Driller-Operable Geophysics

Know your critical lithological boundaries, before seeing the rocks

Geological logging can be qualitative, slow and subjective, sometimes with little support for the first pass assessment of drilling material. Imagine knowing where your critical lithological boundaries are before you see the rocks?

The REFLEX EZ-GAMMA™ can be used alone or with the REFLEX GYRO GAMMA SHUTTLE™ to allow efficient and simultaneous survey and gamma logging that can be completed by a member of the drill crew.

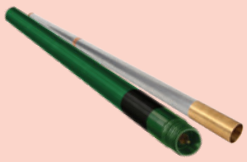
This unique combination of instruments saves time and eliminates the need for a costly technician and logging truck.

Results are immediately available for approval via IMDEXHUB-IQ™ and for analysis in ioGAS™. Available tools such as wavelet tessellation analysis allow geoscientists to rapidly analyse and visualise critical lithological boundaries, perform cross correlation, as well as identify zones of alteration.

Simultaneously collect gamma and survey data

Secure access to your data **anywhere, any time**

Interpretation and analysis **in real-time**



REFLEX EZ-GAMMA™ + REFLEX GYRO tools

Such as REFLEX GYRO SPRINT-IQ™

- ✓ Driller operable - no external technician needed
- ✓ Collect gamma data on every hole
- ✓ In-rod, no risk of hole collapse

IMDEX SURVEY-IQ™

- ✓ One tablet, one app
- ✓ QA'd survey and gamma data at time of collection

IMDEXHUB-IQ™

The award winning cloud-based portal sits at the heart of the solution.

ONE SERVICE PROVIDER

Collect and verify your data in one, secure place

IMDEX ioGAS™

Advanced data analytics and interpretation including wavelet tessellation

- ✓ Automatically generate strip logs
- ✓ Multiscale

SEEQUENT

Seequent Central

- ✓ Real-time 3D data visualisation
- ✓ Live link with ioGAS™

3rd party software

Provide data-generated strip log for informed core logging

Rapid and real-time boundary picking

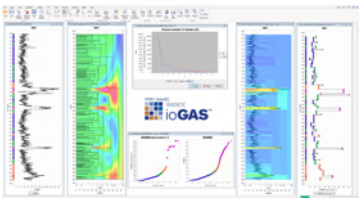
FROM COLLECTION

IMDEX SURVEY-IQ™

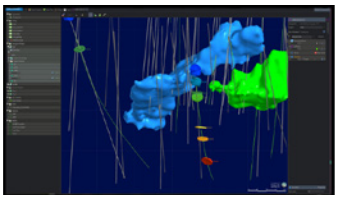
... TO VALIDATON

IMDEX HUB-IQ™

.. TO ANALYSIS



IMDEX ioGAS™

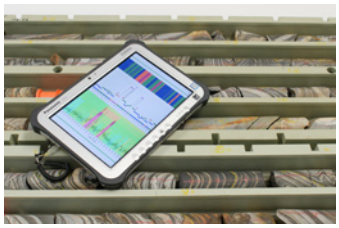


SEEQUENT

.. TO 3D MODELLING

OR

.. TO CORE LOGGING



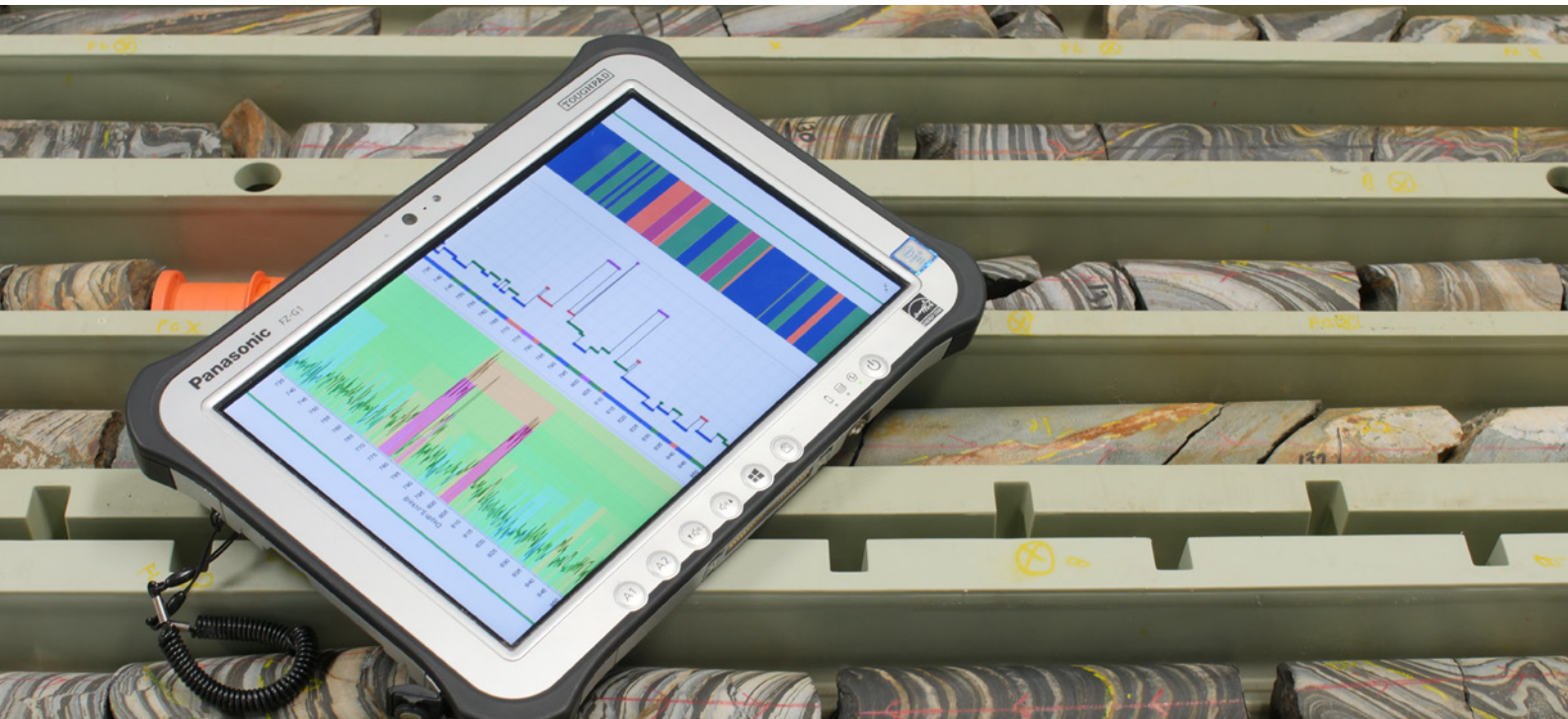
Benefits

INSTANT DECISION MAKING WITH ACCURATE REAL-TIME DATA

CONFIDENCE IN THE QUALITY OF YOUR DATA THROUGH IN BUILT QA/QC

NO ON-SITE TECHNICIAN REQUIRED WITH EASY TO USE DRILLER-OPERABLE TOOLS

VISUALISATION AND ANALYSIS IN REAL-TIME



Global presence, **local support**

IMDEX is an established business operating in all key mining regions of the world.

Our company's global presence and comprehensive distribution network allow us to provide local and timely solutions to clients. It also ensures we can efficiently introduce new technologies to our markets.

AMC™ DRILLING OPTIMISATION

REFLEX™ INTELLIGENCE ON DEMAND

> "We have facilities in all key mining regions of the world."
>
> PAUL HOUSE, CHIEF EXECUTIVE OFFICER

Partnering with IMDEX

Research and **development**

At IMDEX, we are committed to ongoing research and development to maintain and enhance our technical leadership and support our position as a leading global mining technology company.

Our company currently employs a high proportion of engineers, geoscientists, industrial chemists and data scientists working on R&D and ongoing product development.

Best in class **support**

At IMDEX we're committed to offering the highest level of support to our clients, so you can receive support on our products and solutions wherever you are in the world.

- IMDEX Customer Care Portal online support centre - **support.imdexlimited.com**
- On-site or remote support from qualified drilling fluid technicians
- Laboratory support and analytical services
- Personalised field and/or classroom training through **IMDEX Academy.**

Supply chain and **logistics**

At IMDEX we understand the global logistical challenges of the drilling and mining industries.

We own and operate manufacturing and repair facilities in all key regions for our brands. Our facilities use state-of-the art equipment, quality materials and enable us to control supply chain to the highest standards for our clients' operations.

We are committed to transparent, safe and ethical procurement practices. Our ethical buying and responsible sourcing program and practice are built on the Walkfree foundation's guidelines, "Tackling Modern Slavery in Supply Chains".

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A LEADING GLOBAL MINING-TECH COMPANY

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