



# DUG Technology Ltd ABN 99 169 944 334

ASX Code 'DUG'

FY20 Full Year Results 30 September 2020

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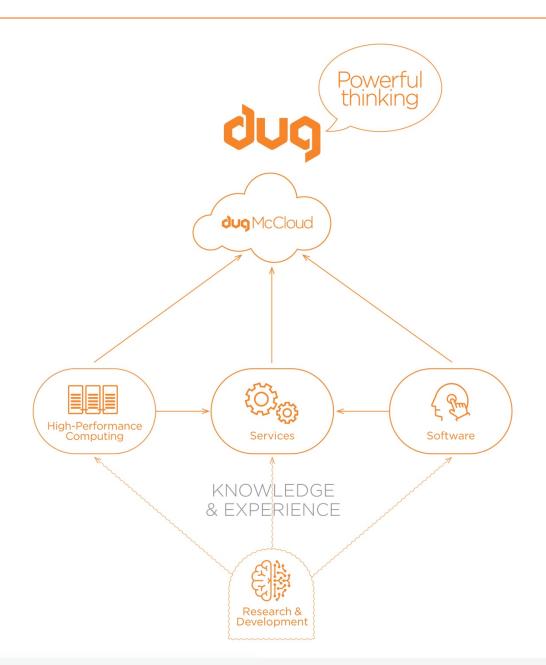
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All amounts are in United States Dollars (US\$) unless otherwise stated.

#### **DUG** in a Nutshell





DUG is a technology company at the forefront of high-performance computing (HPC), with a strong foundation in applied physics. DUG's innovative hardware and software solutions for the global technology and resource sectors enable clients to leverage large and complex datasets.

A constant focus on research and development, combined with a wealth of industry experience, has equipped DUG with the technical excellence needed to provide state-of-the-art HPC as a service (HPCaaS). DUG's solutions can be delivered either direct-to-client or via the DUG McCloud platform.



**High-Performance** Computing as a Service (HPCaaS)

Global spread of significant compute and storage

A complete HPC environment:

- Security
- Software stack
- Job scheduling
- Cluster file system
- Monitoring including black-hole mitigation

Data centre design services utilising DUG's green computer room technology (patent pending)

DUG designs, builds, owns and runs its computer rooms and everything in them



#### Services

Data Loading

- o QC
- Management

Job management

#### Seismic

- Processing
- Imaging
- High-frequency FWI
- Quantitative interpretation

Sophisticated project management system and expert staff

Turnkey pricing



#### Software

DUG Insight - scientific data analysis suite

- Many modules including signal processing and visualisation
- API for clients to add their own programs

Multi-tiered code support

- Onboarding of user codes
- Optimisation of algorithms and software for different architectures (e.g. GPUs)

Algorithm development (Extensive physics, maths, and IT capability and experience)

Domain specific language (DSL) developmentinteractive HPC



Customer focussed

McMix & McMatch HPC/ services/software

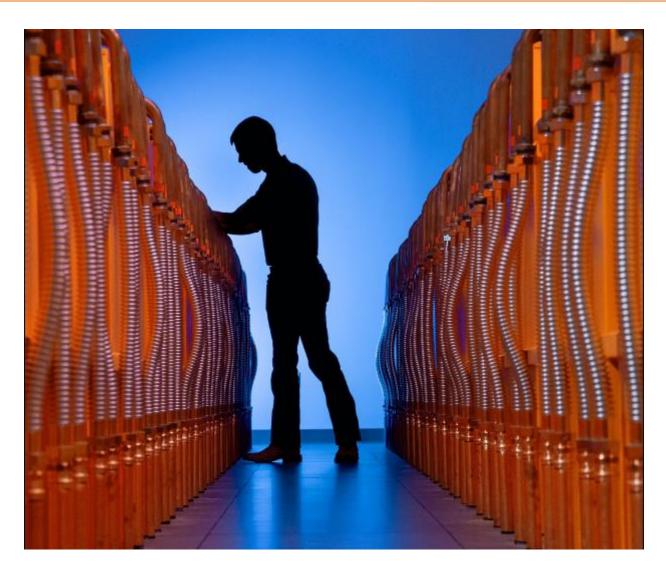
Customise to suit your needs

Globally connected/ AARNet enabled

#### **HPCaaS** to Drive Growth



- DUG's growth strategy is driven by selling *super-reliable* HPC cycles at affordable prices.
- DUG empowers scientists by letting them focus on science. DUG will enable the HPC.
- DUG's business proposition to clients means that they do not need to build and maintain HPC knowledge, skills, computer rooms, software stacks and machines.
- DUG provides the entire HPC solution ready to go:
  - compute machines.
  - high-performance big data file system.
  - job scheduling.
  - custom DUG monitoring system.
  - security.
  - high-performance network.
  - data archive.



### Software and Algorithm Support



DUG's goal:

#### To make its clients successful on DUG's HPC.

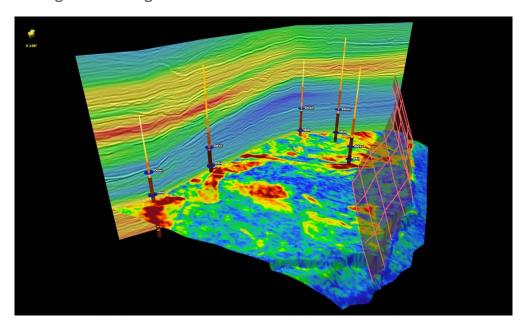
- Background
  - 1. Software writing used to be a much simpler affair as each CPU only ran a single compute task at a time. Hence most scientific compute programs were simple and logical in nature and could be written directly by the scientist who *owned* the algorithm.
  - 2. However, in order to efficiently use modern HPC architectures (for example CPU-,GPU- or KNL-based machines) programs are now complex and require a special set of coding skills to produce. DUG has teams of people with these skills, teams that have been built over the past 17 years.
  - 3. DUG also has a numerical algorithm research team comprised of physicists, mathematicians and an engineer.
- Hence DUG offers software and algorithm support to clients who use DUG's HPCaaS. This is a strong differentiator from other HPC vendors.
- The cutting edge of scientific HPC is *interactive HPC* which is enabled by Domain Specific Languages (DSLs). DUG has been involved directly (together with Imperial College and Intel) in writing one of these and offers this service to clients as well.

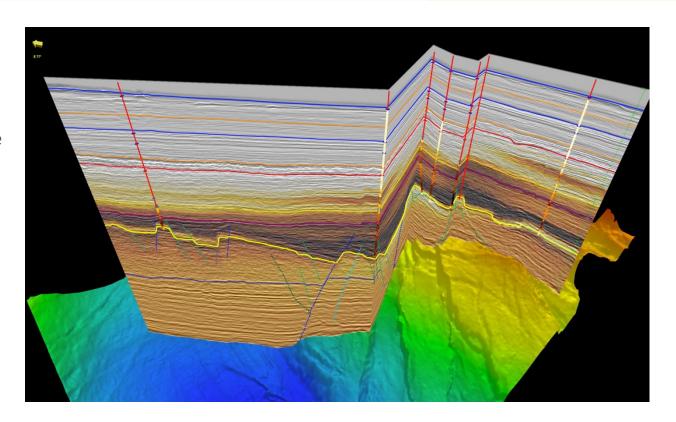


### DUG Insight is the Most Modern Software in the Industry



- DUG Insight is a modern, intuitive and interactive software suite.
- Modules sit within a single interpretation/visualisation system, streamlining the user experience.
- All software has been thoroughly tested and engineered in order to run on huge machines, allowing for visualisation and processing of any size dataset.
- DUG Insight is an integral part of DUG McCloud within the O&G industry but is now being used in radioastronomy data processing and meteorological modelling as well. Ultimately, it is a signal processing and visualisation system for big data on big machines.

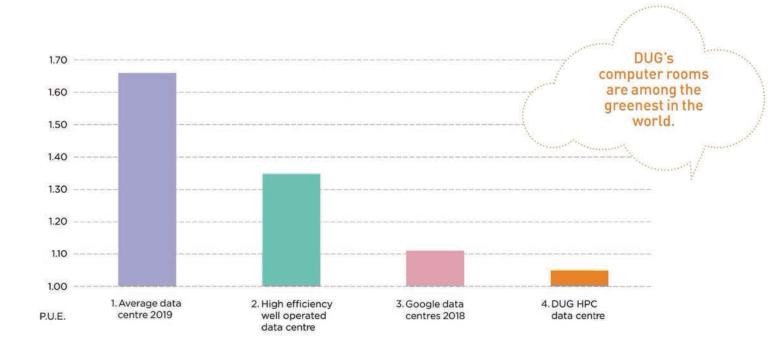




#### Orange is the New Green!



- DUG Cool Patented Technology.
  - a reduction of approximately 46% in facility energy use compared to conventional computer rooms;
  - significantly reduced hardware failure rates, thereby extending the useful life of computers;
  - streamlined modular system design to reduce maintenance, increase uptime and reduce computer room construction costs
- HPC demand is growing exponentially. Environmental consciousness is growing exponentially. Patented technology underpinning DUG's computer rooms being among the greenest on Earth, is a big deal.
- The DUG Cool solution means that the rooms 'Bubba' and 'Bruce' are housed in require no air-conditioning and are quiet compared to normal HPC-rooms.



- Plans, permissions, site and power are in place for building an exascale machine in Houston. No exascale machines exist yet. 1 exaflop = 1,000 petaflops
- DUG is in the planning stages for building a similar machine in Western Australia. This is likely to be located north of Perth:
  - Triple green is desired:
    - DUG Cool computer rooms technology.
    - Renewables energy source.
    - Hydrogen based energy storage system.

Highlights ORANGE IS THE NEW **GREEN!** 4 SUPERCOMPUTERS ~30 PETAFLOPS OF COMPUTE DUG COOL PATENTED ~35 PETABYTES OF STORAGE on 4 continents TECHNOLOGY OFFERS 46% **POWER SAVINGS** CAPITALISED FOR GROWTH DUG McCLOUD REVENUE US\$49.4m PRE-IPO (FEB-20) HPC PLATFORM TO ACCESS 314 EMPLOYEES COMPUTE, STORAGE, SERVICES EBITDA US\$9.2m (18.6%) A\$18.2m AND SOFTWARE

MICHAEL MALONE MARK PUZEY

NON-EXECUTIVE DIRECTOR

NON-EXECUTIVE DIRECTOR

230+ CLIENTS WORLDWIDE

BOARD OF DIRECTORS
SIGNIFICANTLY
STRENGTHENED

IPO (AUG-20)

A\$26.0m

WAYNE MARTIN AC QC

CHAIRPERSON

## **DUG's Current Global Footprint**

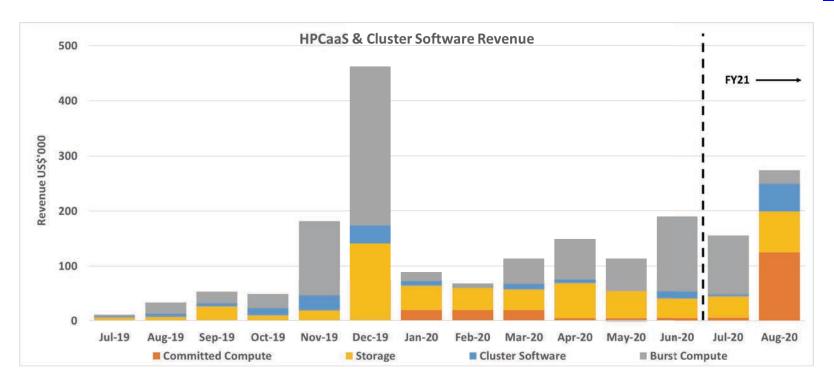




### **Business Highlights**



- Equinor have signed onto McCloud for software, HPCaaS and services.
- Fairfield have signed on for data storage, software and services.
- Geoprocesados have extended their use with new offices in Brazil and Argentina underpinned by significant contracts.
- Polarcus have re-signed for a further three years. This extends our contractual relationship with Polarcus to a total of nine years (our provision of software and hardware to Polarcus predates the McCloud initiative!).
- Award of significant service projects over past month adding up to over A\$4 million.
- Considerable effort has gone into the DUG Blog. Multiple articles per week so that followers can stay abreast of all the action at DUG. www.dug.com/dug-blog



#### Case Study - Equinor



Equinor is a known early adopter of quality new technology. Equinor is a giant Norwegian company. The sales process with Equinor involved:

- October 2018, initial presentation.
- June 2019, software demonstration.
- July to November 2019, thorough software and hardware evaluation.
- December 2019 to February 2020, tailoring the solution and negotiations.
- July 2020, contract signature.

Following a significant evaluation of technology, support, contract and cost evaluation Equinor chose DUG, displacing the major Cloud and Software incumbents. This deal is:

- a significant milestone for DUG.
- verification of our technology and business proposal.
- a big sign in the market place.





### **FY20 Profit and Loss Summary**



	FY20 US\$'m	FY19 Restated US\$'m	FY19 Statutory US\$'m	Change US\$'m
Revenue				
HPCaaS	1.5	1.1	1.1	0.4
Services	37.0	40.2	40.2	(3.2)
Software	6.6	7.6	7.6	(1.0)
Government Grants	4.3	3.2	3.2	1.1
Total Revenue	49.4	52.1	52.1	(2.7)
Depreciation and Amortisation Employee Benefits Other Costs Total Operating Costs	9.2 30.4 9.8 <b>49.4</b>	8.7 29.6 10.7 <b>49.0</b>	7.3 29.6 12.7 <b>49.6</b>	(0.5) (0.8) 0.9 (0.4)
EBIT	0.0	3.1	2.5	(3.1)
EBITDA	9.2	11.8	9.8	(2.6)
Net loss after tax <b>excluding</b>				
"one off" finance expenses	(3.5)	(2.6)	(2.6)	(0.9)
Net loss after tax including				
"one off" finance expenses	(8.3)	(2.6)	(2.6)	(5.7)

- FY20 was a year in which DUG's pivot to HPCaaS and SW, and broadening of its client base beyond the resource sector, really started to take hold.
- Pre COVID, we were on track to deliver close to double-digit revenue growth for FY20. However, we did see marginal softening in the last quarter attributed to the delay in commencement of new projects.
- FY19 EBITDA has been restated for the impact of IFRS16: Leases.
- The cost base remains relatively flat with continued reinvestment in the business with c. US\$4.0m of operational costs incurred in establishing the HPCaaS business in FY20.
- Finance expenses include "one off" costs of US\$4.8m relating to transaction costs, interest and fair valuation of convertible notes and IPO costs.

### Segment Revenue and EBITDA



REVENUE FY20 US\$49.4m FY19 US\$52.1m

HPCaaS FY20 US\$1.7m FY19 US\$1.4m Services
FY20 US\$38.0m
FY19 US\$40.2m

Software FY20 US\$9.7m FY19 US\$10.5m EBITDA
FY20 US\$9.2m
FY19 US\$11.8m

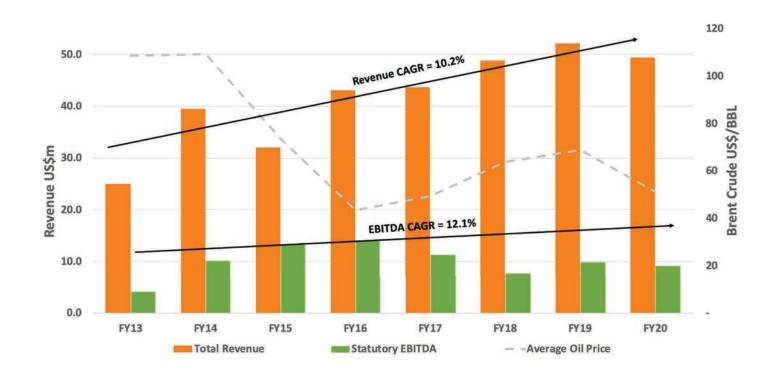
HPCaaS FY20 44.0% FY19 45.4% Services FY20 3.0% FY19 12.2% Software FY20 6.7% FY19 17.8%

- Segment revenue includes grant revenue.
- HPCaaS growth through bust utilisation and growing committed contracts.
- Services reflects impact of COVID on momentum in the last quarter.
- Software decline represents transition of a client to a McCloud contract.

- FY19 EBITDA restated for the impact of IFRS16: *Leases*.
- Lower revenue impacting EBITDA margin 18.6% (FY19 22.6%).
- Comparable total operating cost base at US\$49m.
- HPCaaS delivering significant EBITDA margin.

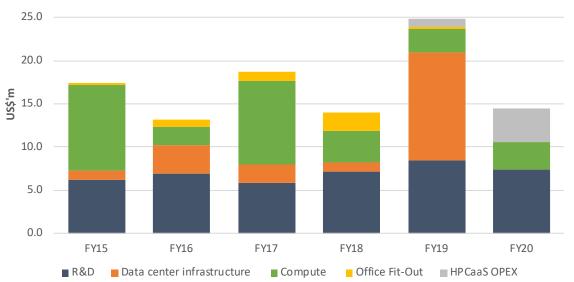
#### Solid History of Revenue, EBITDA and Reinvestment





- While results for the last quarter of FY20 show softening due to COVID and oil price, DUG's historical revenue profile reflects counter cyclical growth relative to oil price volatility.
- EBITDA impacted by tactical reinvestment decisions.

- Over the last five years US\$103m has been reinvested in growth.
- For FY20 DUG has invested circa US\$4.0m in operational costs in establishing the DUG McCloud business.
- All R&D is expensed as incurred.
- As at end-August 2020, capacity is ~30 PF of double-precision compute and ~35 PB of storage.



#### **FY20** Balance Sheet Summary

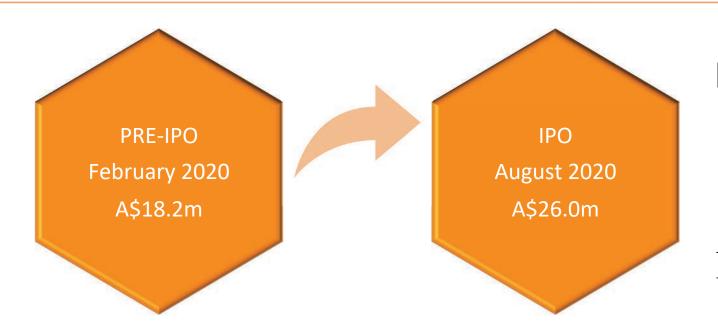


	FY20	FY19
	US\$'m	US\$'m
Fixed Assets	22.7	26.9
Right of use Assets	12.3	-
Other Long Term Receivables	7.0	4.5
Non-Current Assets	42.0	31.4
Cash	12.0	2.0
Trade and Other Receivables	10.7	13.3
<b>Current Assets</b>	22.7	15.3
Total Assets	64.7	46.7
Lanca de la Parisa de la Caracteria de l	24.4	22.0
Loans and Borrowings	24.4	22.0
Provisions and Other Long Term Payables	0.2	2.3
Lease Liabilities	13.0	-
Non-Current Liabilities	37.6	24.3
Trade Payables	3.0	6.0
Other Payables and Accruals	2.3	1.7
Lease Liabilities	2.3	-
Loans and Borrowings	15.7	2.5
Current Liabilities	23.3	10.2
Total Liabilities	60.9	34.5
NET ASSETS	3.8	12.2
Share Capital	5.5	5.5
Retained Earnings	(1.0)	8.0
Reserves	(0.7)	(1.3)
TOTAL EQUITY	3.8	12.2

- Fixed assets primarily reflect the net book value of DUG compute, network and related infrastructure (i.e. no intangibles). R&D has been expensed.
- The introduction of AASB16: *Lease Accounting*, introduces right of use assets and lease liabilities to the balance sheet in FY20.
- Cash at 30 June 2020 was US\$12.0m. Post-IPO cash in August 2020 is US\$24.3m. Short lead time items such as compute and storage will be added just in time as demand dictates.
- Current Loans and borrowings include US\$15.5m relating to convertible notes issued in the Pre-IPO capital raise in February 2020.
- The Loan Funded Share Plan can introduce US\$7.2m of cash to DUG which is not recorded in the Balance Sheet.

# Capitalised for growth





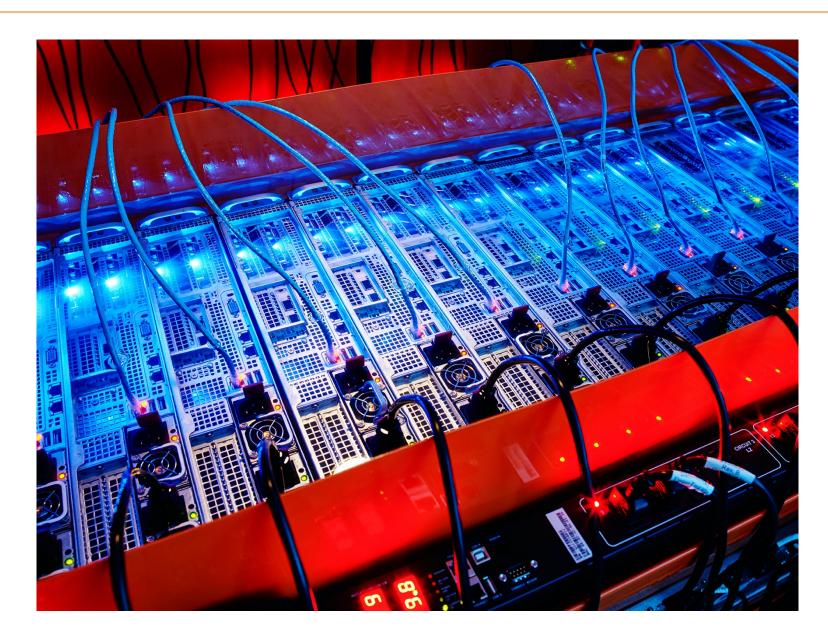
Key Information (24 August 2020)	ASX code:	DUG
Share price		A\$1.28
Market cap		A\$127.3m
Ordinary shares on issue		54,809,919
Shares issued under load funded share plan		8,522,477
Shares issued to Convertible Note Holderse		16,888,889
New Shares issued		19,259,259
Total shares on issue on completion of IPO		99,473,544

Range of Shares (24 August 2020)	Number	Percentage
1 - 1,000	293	0.18
1,001 - 5,000	551	1.55
5,001 - 10,000	238	1.77
10,001 - 100,000	312	9.24
100,000 over	69	87.26
Total	1,463	100.00

Substantial Shareholders (24 August 2020)	Percentage
Mr Matthew Lamont	23.90
Perennial Value Management Limited	11.45
Mr Philip Imperial Schwan	7.30
Regal Funds Management Pty Ltd	5.92
Tiga Trading Pty Ltd	5.12
Thorney Technologies Ltd	5.12
Total held by substantial shareholders	58.81

# **Staying Connected**



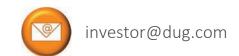
















# Appendices

#### The Evolution of DUG



DUG founded by Matt Lamont and Troy Thompson.

Initial development of HPC system.



First major commercial oil discovery at Julimar using DUG's proprietary software for probabilistic lithology and fluid prediction.

**DUG** opens KL office.

First large numerical processing project delivered using DUG's HPC and proprietary software.

\$3.5m software deal to PGS.

DUG opens

Houston office.

**DUG** Insight interpretation software licensed to clients in the oil & gas industry.

DUG opens London office.

London office uses





**DUG Houston moves** to a large new office. Perth office expansion.

dug McCloud

KL office expands. DUG London moves to new office in Victoria.

Launch of DUG McCloud more broadly.

full-waveform inversion (HF-FWI) software instrumental in the Dorado oil discovery.

16th May Skybox opening. their scientific data.

commissioned - can take up to a 150 double-precision petaflop (PF) computer

HPC room in Houston

Facility expandable

installation.

to exascale.

DUG begins working for clients outside the resource sector - such as radio astronomy, biomedical research, academic institutions - to process

IPO.

DUG provides hardware Start work on a new software stack for HF-FWI. and software on Polarcus's seismic acquisition vessels to facilitate real-time Utilisation of DUG's HP DUG Cool developed - a now patented technology for HPC and proprietary onboard quality control installations that materially high-frequency and fast track processing reduces energy consumption. and imaging.

#### **Board of Directors**





Wayne Martin Ac QC
CHAIRPERSON

Hon. Wayne Martin AC QC was appointed as the independent Non-Executive Chairperson of DUG in February 2020.

Mr Martin was formerly Chief Justice of Western Australia (2006 to 2018) and prior to being appointed Chief Justice was a Barrister from 1988.

Mr Martin has a Bachelor of Law with first class honours from the University of Western Australia, and a Master of Laws from King's College London.



Matt Lamont Ph.D.
MANAGING DIRECTOR

Matt is founder and Managing
Director of DUG. He sets the
Company's strategic direction
and remains intimately involved
in its R&D and DUG McCloud.
Prior to founding DUG, Matt held
senior technical positions at
Woodside in Perth and BHP
Billiton in Houston.
Matt holds a Ph.D. in geophysics
from Curtin University, Australia.
He is an adjunct Associate
Professor at Curtin.



Louise Bower
EXECUTIVE DIRECTOR &
CHIEF FINANCIAL OFFICER

Louise is responsible for global commercial operations including financial planning, management of financial risks, and governance. Louise held financial roles in different industry sectors and jurisdictions, including South Africa and the UK, prior to joining DUG in 2009. She holds an honours degree in accounting science and a chartered accountant qualification.



Frank Sciarrone
INDEPENDENT
NON-EXECUTIVE DIRECTOR

Frank was appointed Non-Executive Director of DUG in July 2015. Over the past 35 years, Mr Sciarrone has held various positions in investment banking including in the banking industry, funds management and corporate/private client financial advisory services. Mr Sciarrone is the current Managing Director of Vantage Wealth Management, Chair of the Fire and Emergency Services Super Fund, Director of the **Government Employees** Superannuation Board and Biovision Pty Ltd and Chair of 12 Buckets, a children's charity.



Michael Malone
INDEPENDENT
NON-EXECUTIVE DIRECTOR

Michael was appointed as Non-Executive Director of DUG in June 2020. Mr Malone founded iiNet Limited, an ASX listed telecommunications company in 1993 and continued as CEO until his retirement in 2014. Mr Malone brings to the board extensive experience as an ASX listed company director. Mr Malone is a current Independent Non-Executive Director of the National Broadband Network (nbnco), Axicom Group and SpeedCast Ltd and the Australian representative director of the Asia Pacific Network Information Centre Foundation.



Mark Puzey
INDEPENDENT
NON-EXECUTIVE DIRECTOR

Mark was appointed as Non-Executive Director of DUG in June 2020 and is Chair of the Audit and Risk Committee. Mr Puzey spent 33 years with KPMG where his roles extended across internal and external audit, IT advisory, risk management, governance, strategy and business transformation; focussed on ASX listed companies.

Mr Puzey is the current Audit and Risk Committee Chairman and Non-Executive Director of ASX listed M8 Sustainable Ltd; and Non-Executive Director and One-Future Committee Chairman of Gold Corporation.

#### DUG People - Experienced and Invested Executive





Matt Lamont Ph.D.

MANAGING DIRECTOR

Matt is founder and Managing Director of DUG. He sets the Company's strategic direction and remains intimately involved in its R&D and DUG McCloud. Prior to founding DUG, Matt held senior technical positions at Woodside in Perth and BHP Billiton in Houston. Matt holds a Ph.D. in geophysics from Curtin University, Australia. He is an adjunct Associate Professor at Curtin.



Louise Bower
CHIEF FINANCIAL OFFICER

Louise is responsible for global commercial operations including financial planning. management of financial risks, and governance. Louise held financial roles in different industry sectors and jurisdictions. including South Africa and the UK, prior to joining DUG in 2009. She holds an honours degree in accounting science and a chartered accountant qualification.



Troy Thompson Ph.D.
RESEARCH PRINCIPAL

Troy is a founding partner and Research Principal. Troy holds a Ph.D. in geophysics from Curtin University, Australia. Troy leads the team developing DUG's industry-leading P&I

algorithms.



Phil Schwan
CHIEF TECHNICAL OFFICER

Since joining DUG in 2008, Phil has led the design and development of DUG Insight and is now responsible for IT and DUG McCloud operations. Prior to DUG, Phil served as CEO of CFS and as a lead designer of the Lustre data storage system. Lustre is widely used to manage highperformance and highcapacity storage, including 70 of the top 100 world supercomputers. CFS was acquired by Sun Microsystems.



Simon Davey
GENERAL COUNSEL &
COMPANY SECRETARY

Simon brings more than 20 years' experience and legal expertise to the Company having worked in legal, technology, and O&G firms in the UK and Australia.

Simon holds a Bachelor of Laws degree and a Bachelor of Commerce (majoring in Finance), from Murdoch University, Australia.



Mark Lommers
CHIEF ENGINEER

Mark joined DUG following years developing and managing infrastructure and support systems for DUG's immersion cooled HPC systems in Perth, KL, London and Houston, as a consultant. Mark was pivotal in the development of DUG Cool. Mark holds a Bachelor of Engineering degree from Curtin University, Australia.



Stuart Midgley Ph.D.
SYSTEM ARCHITECT

Stuart joined DUG as Head of IT in 2007. Now the Company's System Architect. Stuart developed DUG's HPC systems, and also designed and developed the DUG Cool system of immersive cooling technology. Stuart was instrumental in the construction of DUG's supercomputer facility at Skybox in Houston. Stuart was awarded his Ph.D. by the University of Western

Australia.



Mick Lambert

MANAGER, McCLOUD

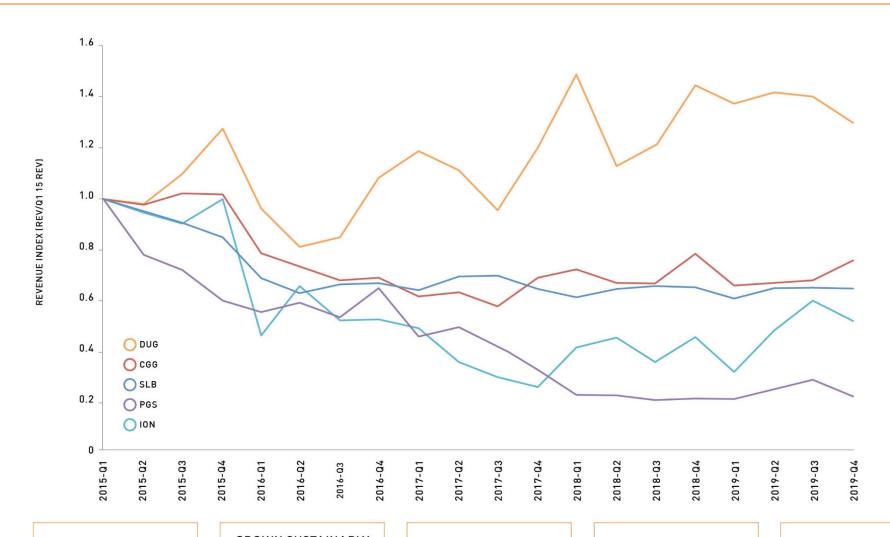
SOLUTIONS

Mick Lambert is Manager, McCloud Solutions, responsible for building the McCloud business including the Insight software business.

Mick has over 40 years experience in the seismic industry, with 20+ years as C-level officer, including 16 years as President and CEO of GX Technology (GXT).

# Seismic Data Processing Performance during the Oil Price Downturn





	DUG REVENUE INDEX VS. COMPETITORS SUMMARY	
COMPANY	REVENUE CHANGE SINCE Q1 2015 (%)	
gug	+15.7%	
Schlumberger	-48.6%	
<b>€</b> CGG	-33.4%	
PGS	-71.9%	
ion	-58.2%	

3RD LARGEST
PROPRIETARY SEISMIC
PROCESSING PROVIDER
WORLDWIDE

GROWN SUSTAINABLY
WHEN OTHERS SHRUNK
THROUGH ONE OF THE
WORST INDUSTRY
DOWNTURNS

60% HEADCOUNT INCREASE SINCE 2015 23% REVENUE CAGR FY12-FY19 ~472,000KM AND ~437,000KM<sup>2</sup> OF DATA PROCESSED SINCE 2015

713 PROJECTS COMPLETED SINCE 2015 212 SERVICE CUSTOMERS SINCE 2015



Reach for the Sky