

23 November 2020

DUG Technology Limited

Services

Rating
BUY
unchanged

Price Target
A\$2.37
unchanged

DUG-ASX

Price
A\$1.20

Market Data

52-Week Range (A\$) :	1.30 - 1.49
Avg Daily Vol (M) :	0.3
Market Cap (A\$M) :	118.9
Shares Out. (M) :	99.5
Dividend /Shr (A\$) :	0.00
Dividend Yield (%) :	0.0
Enterprise Value (A\$M) :	127

FYE Jun	2020A	2021E	2022E	2023E
Sales (US\$M)	49.4	54.7	63.1	72.7
EBITDA (US\$M)	9.2	11.6	15.1	19.9
EBIT (US\$M)	(0.0)	2.7	4.1	9.1
EV/EBITDA (x)	0.0	8.1	6.1	4.8
EV/EBIT (x)	0.0	34.0	22.7	10.5
Net Debt (Cash) (US\$M)	28	8	6	10



Priced as of close of business 23 November 2020

Canaccord Genuity (Australia) Limited has received a fee as Lead Manager to the DUG Technology Limited Initial Public Offering announced on 6 July 2020.

Canaccord Genuity (Australia) Limited has received a fee as Lead Manager to the DUG Technology Limited convertible note in February 2020.

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Exploring DUG's opportunities - anecdotes from industry

Investment Recommendation

In recent weeks there have been multiple anecdotes provided by industry participants throughout forums, earnings results and annual reports that we believe help flesh out the current global demand for high-performance computing (HPC) as well as the HPC landscape in Australia that DUG is seeking to target.

DUG recently announced a new partnership deal with the Harry Perkins Institute of Medical Research, one of Australia's leading medical research institutes. The agreement highlights the use case of HPC in genomics and bioinformatics. We understand there to be multiple use cases for HPC across radio-astronomy, meteorology, genealogy and other scientific use cases. This is evidenced by case studies provided by the Pawsey Supercomputing Centre ([link](#)).

We expect incremental partnership agreements to be announced by DUG over the coming 12 months, diversifying revenue exposure and strengthening the company's presence in the Australian HPC market.

We retain our BUY rating and A\$2.37 price target.

Detailing HPC use cases and demand in Australia: Pawsey, the government-supported high-performance computing national facility, released its Annual Report 2019-20 this month. We believe it is important for building context around Australian HPC use cases for DUG outside of Oil & Gas. Access to Pawsey's systems, provided through a competitive tender and merit process, were 1.8x oversubscribed during 2020.

The top four users included Curtin University, Monash University, University of Melbourne and UNSW. Global users and collaborators totalled 390. Of the workload, 36% was for chemistry and material science, 21% was for radio astronomy and 18% was for engineering and fluid mechanics. Further commentary is included in this report.

Radio astronomy a preeminent, large scale opportunity, in our view: The Square Kilometre Array (SKA) radio astronomy project is a multi-billion dollar international scientific project with computing requirements of greater than 100 petaflops ([skatelescope.org](#)). This is well in excess of DUG's current c.30 petaflops capacity. DUG has collaborated with and processed data for the International Centre for Radio Astronomy (ICRAR), an Australian-based entity related to the SKA.

We believe there is meaningful scope for DUG to conduct HPC work within the radio astronomy market. A survey of the radio astronomy data user community in Australia (Australian SKA Regional Centre) provided some interesting insights into current pain points for the community. Notably, processing data is the most challenging stage in observational projects and processing, storing and moving data are significant pain points when working with radio astronomy data. Further commentary is included within this report.

NVIDIA results show strong demand from data centre customers: NVIDIA, a hardware technology supplier into the HPC market, reported strong 3Q20 results recently. The Data Centre division, which sells product into hyperscale public cloud providers, reported \$1.9bn 3Q20 revenue, up 162% year-over-year and 8% sequentially. The increasing availability of HPC systems by hyperscale providers offers a strong read-through for global HPC demand, in our view.

HPC market weighted towards industry use cases: Intersect360 Research recently released updated commentary and forecasts for the HPC market. Whilst being impacted by COVID-19 in the near term, it forecasts the market to grow to US\$55bn by 2024, a 7.1% CAGR from 2019. Use case verticals in 2019 include academia (17%), government (25%) and industry (58%). Within this, energy accounts for only 5% of demand.

Figure 1: DUG Technology (DUG-ASX); Canaccord Genuity forecasts

DUG Technology (DUG)					Share Price (A\$)		\$1.20	Share Price (US\$)		\$0.86	Year end 30 June	
Profit & Loss (US\$m)	2020A	2021E	2022E	2023E	Valuation Ratios			2020A	2021E	2022E	2023E	
Sales revenue	49.4	54.7	63.1	72.7	EV/EBITDA (x)		nmf	8.1	6.1	4.8		
Total revenue	49.4	54.7	63.1	72.7	EV/EBIT (x)		nmf	34.0	22.7	10.5		
Gross profit	49.4	54.7	63.1	72.7	EPS (US\$) (NPAT)		-0.13	0.00	0.01	0.05		
EBITDA	9.2	11.6	15.1	19.9	P/E (x) (NPAT)		-6.5	181.5	59.7	16.4		
Depreciation	-9.1	-8.6	-10.9	-10.6	EV/EBITDA Rel - XAO			0.8	0.6			
EBITA	0.1	2.9	4.3	9.3	EV/EBITDA Rel - XSO			0.8	0.6			
Amortisation	-0.1	-0.2	-0.2	-0.2	DPS (US\$)		0.00	0.00	0.00	0.00		
EBIT	0.0	2.7	4.1	9.1	Dividend yield (%)		0.0%	0.0%	0.0%	0.0%		
Net interest	-6.8	-2.1	-2.1	-2.1	CFPS (US\$)		0.07	0.11	0.13	0.16		
Other	0.0	0.0	0.0	0.0	Price / CFPS (x)		12.5	8.1	6.6	5.3		
Pre-tax profit	-6.8	0.6	1.9	7.0	Profitability Ratios		2020A	2021E	2022E	2023E		
Tax expense	-1.4	-0.2	-0.5	-1.7	EBITDA margin (%)		18.6%	21.1%	24.0%	27.4%		
NPAT (reported)	-8.2	0.5	1.4	5.2	EBIT margin (%)		0.0%	5.0%	6.4%	12.5%		
NPAT (attributable)	-8.2	0.5	1.4	5.2	ROE (%)		-103.0%	2.6%	4.3%	14.1%		
Cash Flow (US\$m)	2020A	2021E	2022E	2023E	ROA (%)		0.0%	3.8%	5.0%	10.6%		
Operating EBITDA	9.2	11.6	15.1	19.9	ROIC (%)		-20.5%	0.9%	2.5%	8.5%		
Interest and tax	-3.1	-2.3	-2.6	-3.9	Capital Structure		2020A	2021E	2022E	2023E		
Working capital/other	-1.8	1.2	0.5	0.3	Enterprise value (US\$m)		88.7	93.5	91.8	95.2		
Operating cashflow	4.3	10.5	13.0	16.3	Net Debt (cash) (US\$m)		28.0	8.0	6.2	9.6		
Capex	-3.2	-17.8	-9.8	-18.2	Net debt / equity (%)		742.9%	24.1%	18.1%	24.3%		
Free cashflow	1.1	-7.3	3.2	-1.9	Net debt / EBITDA (x)		3.0	0.7	0.4	0.5		
Acquisitions	0.0	0.0	0.0	0.0	NTA / share (US\$)		0.06	0.33	0.34	0.40		
Equity issued	0.0	28.7	0.0	0.0	Price / NTA (x)		17.5	2.6	2.5	2.2		
Borrowings	10.4	-15.4	0.0	0.0	Shares on issue (m)		62.6	99.5	99.5	99.5		
Other	0.0	0.0	0.0	0.0	Growth Ratios		2020A	2021E	2022E	2023E		
Net cashflow	11.5	6.1	3.2	-1.9	Sales revenue (%)		-5.2%	10.8%	15.3%	15.1%		
Opening cash	2.0	12.0	16.6	18.4	Gross profit (%)		-5.3%	10.7%	15.3%	15.1%		
Closing cash	12.0	16.6	18.4	14.9	EBITDA (%)		-6.4%	25.6%	30.9%	31.4%		
Balance Sheet (US\$m)	2020A	2021E	2022E	2023E	EBIT (%)		nmf	nmf	47.4%	124.6%		
Cash	12.0	16.6	18.4	14.9	NPATA (%)		nmf	nmf	204.1%	264.0%		
Receivables	7.8	10.1	11.6	13.4	EPS (NPATA) (%)		nmf	nmf	204.1%	264.0%		
Inventories	0.0	0.0	0.0	0.0	DPS (%)		0.0%	0.0%	0.0%	0.0%		
PPE	22.8	31.8	30.5	37.9	Interim P&L (US\$m)		1H19A	2H19A	1H20A	2H20A		
Intangibles	0.3	0.3	0.3	0.3	Sales revenue		26.4	25.7	26.8	22.6		
Other assets	21.8	21.8	21.8	21.8	Gross profit		26.4	25.8	26.8	22.6		
Total assets	64.7	80.6	82.6	88.4	EBITDA		5.5	4.4	5.1	4.1		
Borrowings	40.1	24.6	24.6	24.6	EBIT		5.5	-2.9	0.8	-0.8		
Payables	3.0	5.1	5.7	6.2	Pre-tax profit		5.5	-3.8	-0.3	-6.5		
Other liabilities	17.9	17.9	17.9	17.9	NPAT (reported)		5.5	-8.1	-2.0	-6.3		
Total liabilities	61.0	47.5	48.1	48.7	EPS (US\$) (NPAT)		0.09	-0.13	-0.03	-0.10		
Net assets	3.8	33.0	34.5	39.7	DPS (US\$)		0.00	0.00	0.00	0.00		
Board of Directors					Valuation							
Wayne Martin					Chairman	DCF						
Matt Lamont					Founder & Managing Director	Cost of equity	12.0%	Beta		1.5		
Phil Schwan					CTO & Executive Director	Cost of debt	5.5%	WACC post tax		10.4%		
Bhavesh Morar					Chief Financial Officer	Terminal growth rate	2.5%	DCF (A\$/share)		\$2.37		
Louise Bower					Independent NED							
Frank Sciarone					Independent NED	Capitalisation of future earnings						
Charles Ramsden					Independent NED	EBITDA (US\$m)	2021E 2022E					
Michael Malone					Independent NED	EV/ EBITDA multiple	11.6 15.1					
Mark Puzey					Independent NED	Enterprise value (US\$m)	10.0 10.0					
Shareholders					Shares	%	Net cash/ (debt) (US\$m)	115.6 151.3				
Matt Lamont					23.8	23.9%	Equity value (US\$m)	-8.0 -6.2				
Perennial Value					10.2	10.2%	Equity value (A\$/share)	107.6 145.1				
Phil Schwan					7.2	7.3%	\$1.50 \$2.03					
Regal Funds					5.9	5.9%						
Top 20 shareholders					70.6	71.0%						

Source: Company Reports, Canaccord Genuity estimates

Pawsey Supercomputing Centre

Pawsey is a government-supported high-performance computing national facility located in Perth, Western Australia. It supports researchers predominantly in Australia and is a joint venture between the CSIRO, Curtin University, Edith Cowan University, Murdoch University and the University of Western Australia.

Access to its systems is provided through a competitive tender and merit process. In its Annual Report 2019-20, Pawsey confirmed that requests were 1.8x the hours available.

- The top four users were Curtin University, Monash University, University of Melbourne and UNSW.
- Global users and collaborators totalled 390.
- Of the workload, 36% was for chemistry and material science, 21% was for radio astronomy and 18% was for engineering and fluid mechanics.
- FY20 revenue totalled \$15.8m and largely came from the National Collaborative Research Infrastructure Strategy Grant (40%) and the WA Government (28%).

Pawsey provided 10 use case examples, which can be found on pages 24-43 ([here](#)):

- ICRAR – astronomy
- Curtin University – extra-terrestrial geology
- UNSW – computational fluid dynamics
- UWA – aquaculture
- University of Sydney – chemistry, physics
- APPF – plant biology
- WA Govt DPI – biology
- WA Govt DPI – plant pathology
- University of Melbourne – biomedical engineering, fluid physics
- RMIT – biology

SKA and radio astronomy pain points

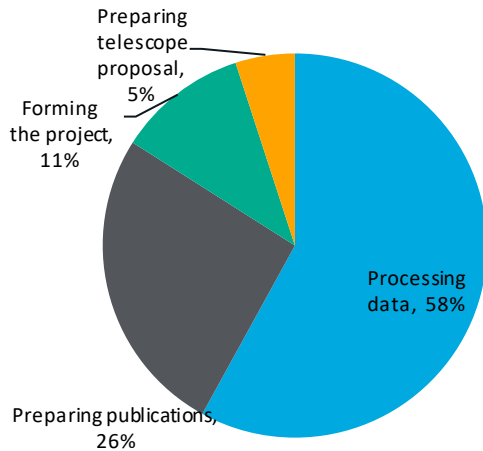
DUG has achieved some early success in radio astronomy through its work with the Square Kilometre Array (SKA) project and the International Centre for Radio Astronomy (ICRAR).

- The SKA project is an international effort to build the world's largest radio telescope, with sites in Western Australia and South Africa. The project has a multi-billion-dollar budget and will require computing requirements in excess of 100 petaflops once built (skatelescope.org).
- SKA has been capturing data using the Murchison Widefield Array (MWA) telescope for two years, amassing a backlog of data. This data has been sent to Pawsey in Perth.
- DUG was asked to review and process this data. Having worked on academic code used to process the MWA data for two weeks, DUG achieved run-times that were 125x faster than those achieved at Pawsey.
- It also allowed a team from the International Centre for Radio Astronomy (ICRAR) to process its data backlog in a day, using one-fifth of DUG's Perth HPC system. The ICRAR team had previously managed to process a sixth of its total backlog over a two-year period.

We believe there is meaningful scope for DUG to conduct HPC work within the radio astronomy market into the medium term.

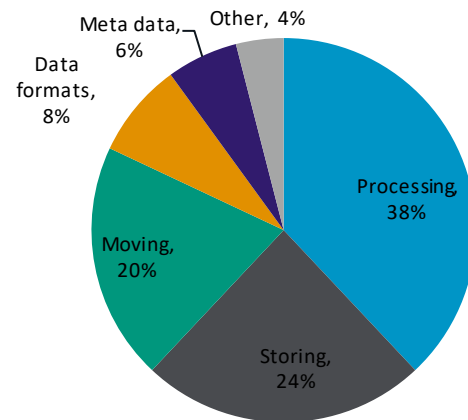
A survey of the radio astronomy data user community in Australia (Australian SKA Regional Centre) provided some interesting insights into current pain points for the community. Notably, processing data is the most challenging stage in observational projects and processing, storing and moving data are significant pain points when working with radio astronomy data.

Figure 2: What is the most challenging stage in observational projects?



Source: Australian SKA Regional Centre

Figure 3: What are the biggest issues you encounter when working with radio data?



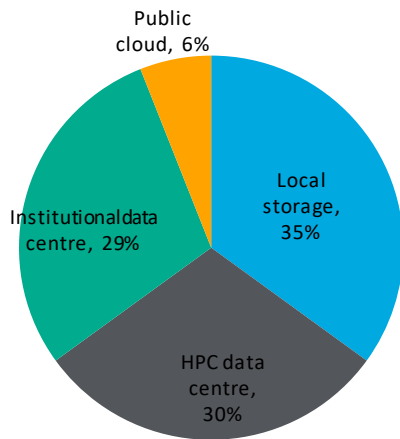
Source: Australian SKA Regional Centre

Additionally, the biggest issues encountered using astronomy software and tools included:

- Software is poorly supported and maintained (21% of respondent's concerns)
- Software is poorly documented and there is a lack of use case examples (18%)
- Software is poorly written (11%)
- Lack of flexibility and support for certain use cases which often results in bespoke software creation (9%)
- Support for large datasets (9%)
- Lack of support for different platforms (7%)
- Data format capability (7%)
- Concern that the current software packages will not be capable of supporting the next generation of telescopes (5%)
- Other (13%)

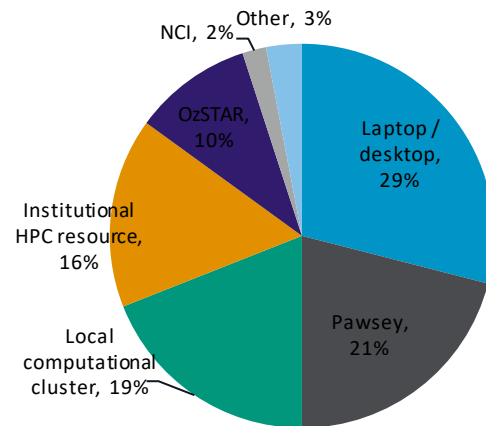
Importantly, there looks to us to be meaningful scope for DUG to service the radio astronomy community needs from both a data storage and processing perspective. As detailed below, a substantial proportion of storage is either held locally or in institutional data centres and a significant proportion of data processing is still conducted on laptop/desktop or local computational machines.

Figure 4: Where is your data stored?



Source: Australian SKA Regional Centre

Figure 5: Where do you process your data?



Source: Australian SKA Regional Centre

HPC market growing as use cases expand

Advancements in research, the adoption of cloud computing and expanding use cases in government, industrial and enterprise applications are driving interest and demand for computing and storage. More commonly discussed verticals of Artificial Intelligence and Machine Learning are at the forefront of this dynamic.

The HPC market and accompanying demand can be characterised in different ways, depending on definition and the point of measurement.

- Intersect360 Research, an HPC market intelligence firm, posture that global HPC market revenue reached US\$39.0bn in 2019, growing by 8.2% over pcp. It expects a 3.7% contraction in 2020 as a result of COVID-19. A rebound is forecast beyond this, with a five-year CAGR of 7.1% to 2024 (HPC market to reach US\$55.0bn).
- CSO, a technology research firm, expects the HPC market to earn c.US\$719bn by 2026, growing at a c.25% CAGR from 2019 to 2026. This implies a starting point of c.US\$151bn. They segment the market into technical and business computing, which separates applications and end users. For example, a university undertaking research versus a business conducting fraud detection.
- Demand may also be categorised by compute and storage. The latter has a much wider use case and definition. Mordor Intelligence, a business management consultancy, expects the global cloud storage market to reach US\$170bn by 2025, growing at a c.25% CAGR.

Market verticals within HPC include national agencies and research labs, biosciences, energy, financial services and product manufacturing, amongst others.

According to Intersect360, use case verticals in 2019 included academia (17%), government (25%) and industry (58%). Within this, energy accounts for only 5% of demand. Larger verticals within industry include financial services and bio-sciences.

Appendix: Important Disclosures

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Individuals identified as "Sector Coverage" cover a subject company's industry in the identified jurisdiction, but are not authoring analysts of the report.

Investment Recommendation

Date and time of first dissemination: November 23, 2020, 02:52 ET

Date and time of production: November 23, 2020, 02:52 ET

Target Price / Valuation Methodology:

DUG Technology Limited - DUG

Our 12-month price target for DUG is A\$2.37/share. This is based on a DCF valuation which assumes a WACC of 10.4% (12.0% cost of equity, 20.0% debt to equity and terminal growth of 2.5%).

Risks to achieving Target Price / Valuation:

DUG Technology Limited - DUG

Brand damage from technology-related issues: With technology operating services across multiple end-user touch points, service levels and uptime performance are critically important. Similarly, data security breaches as a result of cyberattacks, data theft or human error could impact brand reputation and client demand.

Commodity price volatility: The business has been impacted in recent months by oil price volatility, and continuing uncertainty may lead to long-term changes in end-market demand for services.

Foreign exchange movements: DUG's functional currency is US dollars. Shares are listed in Australian dollars and with no hedging in place against movements in exchange rates, translation risk is present.

Increasing competition or technology advancements: The business operates in competitive and fast changing markets. The relevance of products and services, product pricing, customer relationships and brand reputation should be monitored.

IP protection and patent rights: Patent applications may be challenged or not granted, and with this, DUG may not be able to adequately protect its IP from competing products.

The company is currently a co-respondent in litigation alleging patent infringement. The outcome of this litigation may require damages to be paid and/or alteration of operations.

Reliance on key personnel: DUG is a founder-led business with a track record of long tenures and a consistent strategy. Changes to this dynamic, especially relating to Matt Lamont, Phil Schwan and Troy Thompson would warrant caution. Failure to attract, train and/or retain adequately skilled employees could have an adverse impact on the business going forward.

Slower-than-expected uptake of HPCaaS services and DUG McCloud platform, especially in FY21: Adoption of these offerings and expansion to use cases outside the resources sector may take longer than expected, impacting operating performance and investor sentiment.

Distribution of Ratings:

Global Stock Ratings (as of 11/23/20)

Rating	Coverage Universe		IB Clients
	#	%	%
Buy	553	62.77%	55.88%
Hold	165	18.73%	40.61%
Sell	8	0.91%	37.50%
Speculative Buy	134	15.21%	79.85%
	881*	100.0%	

*Total includes stocks that are Under Review

Canaccord Genuity Ratings System

BUY: The stock is expected to generate risk-adjusted returns of over 10% during the next 12 months.

HOLD: The stock is expected to generate risk-adjusted returns of 0-10% during the next 12 months.

SELL: The stock is expected to generate negative risk-adjusted returns during the next 12 months.

NOT RATED: Canaccord Genuity does not provide research coverage of the relevant issuer.

"Risk-adjusted return" refers to the expected return in relation to the amount of risk associated with the designated investment or the relevant issuer.

Risk Qualifier

SPECULATIVE: Stocks bear significantly higher risk that typically cannot be valued by normal fundamental criteria. Investments in the stock may result in material loss.

12-Month Recommendation History (as of date same as the Global Stock Ratings table)

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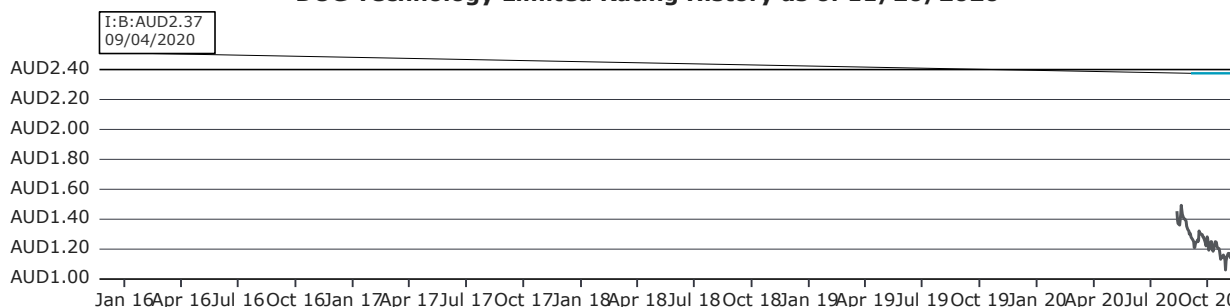
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DUG Technology Limited Rating History as of 11/20/2020



Buy (B); Speculative Buy (SB); Sell (S); Hold (H); Suspended (SU); Under Review (UR); Restricted (RE); Not Rated (NR)

Past performance

In line with Article 44(4)(b), MiFID II Delegated Regulation, we disclose price performance for the preceding five years or the whole period for which the financial instrument has been offered or investment service provided where less than five years. Please note price history refers to actual past performance, and that past performance is not a reliable indicator of future price and/or performance.

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