DUG Technology Ltd

FY21 Results Presentation

31 August 2021

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

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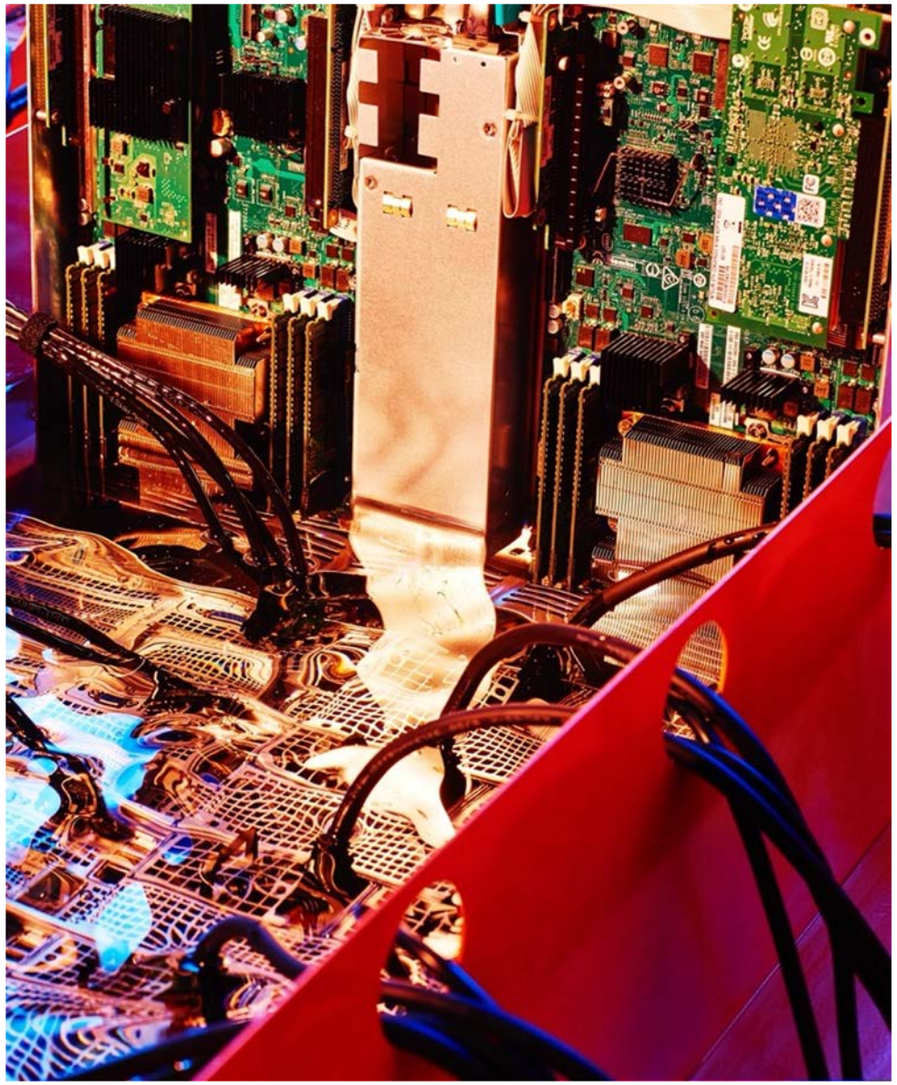
FY21 highlights

- Revenue of US$41.4m.
- Underlying EBITDA of US$2.0m.
- DUG Insight software revenue growth of 4% and deferred revenue growth of 9%.
- Third party HPCaaS revenue growth of 145%.
- Defined “Sales Areas” to add structure and focus to the sales force.
- Having executed many contracts in Australia, we are ready to leverage global footprint to take non-oil & gas McCloud to the world.
- Plans announced for climate-positive HPC campus in Geraldton. A huge opportunity for DUG with significant global urgency.
- Signing of McCloud clients is now both more rapid and more diverse.



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DUG from a helicopter

Sales Areas

- Military & Space
- Industrials
- Resources
- Health
- Education & Research
- Meteorology
- Radio Astronomy

Business Lines

Software

- Analytic software development
- Algorithms and optimisation
- Scientific data processing and viz
- DUG Insight in 36 countries

High-Performance Computing (HPC)

- Green HPC and storage
- Innovative, cost-effective solutions
- Patented DUG Cool immersion technology
- Design/own/operate some of the largest and greenest supercomputers on Earth

Services

- Data science
- Geoscience

Delivery Platform

dug McCloud

- Collaborative & client-focused
- Private & secure
- Multi-tiered integration
- Direct or cloud-based
- Brings together all business lines

Up to 51% less power

2019 Enterprise Data Centre Design Award

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Revenue model

Software

- SaaS desktop application
- SaaS algorithms on HPC
- Recurring revenue.
- Growth in FY21 of 4.4%.

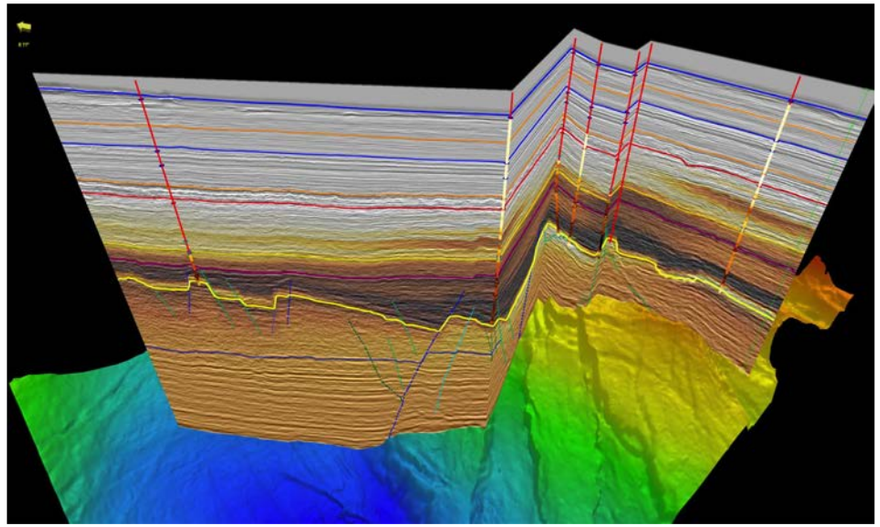
FOCUS BUSINESS LINES

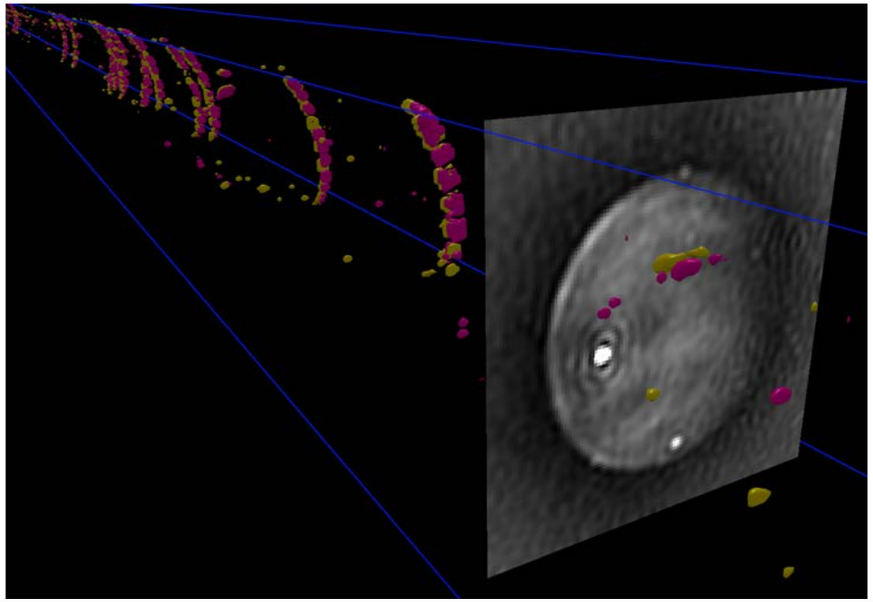
High-Performance Computing

- HPCaaS is sold under two main models:
  - Recurring storage and compute under a committed revenue model. For example, clients commit to 20,000 node hours per month on a particular type of computer for a period of time between 6 and 36 months.
  - Burst utilisation, on as needs basis, at ~2x price point of committed.
- Growth in FY21 of 145%.

Services

- Turnkey projects using DUG's staff, software and HPC.
- Master service agreements - stream of projects.





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DUG's global footprint & capacity

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High-performance computing (HPC)

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HPC is used everywhere

"All areas of contemporary research require access to advanced computing capabilities such as big data, data science and HPC."

Professor Andrew Rohl, Head of the School of Electrical Engineering, Computing and Mathematical Sciences, Curtin University.

HIGH-PERFORMANCE COMPUTING

We live in a world of ever-increasing data.

DUG delivers BIG DATA SOLUTIONS.

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Precedents for HPC transition

- HPC is traditionally provided by government / public facilities
  - Pawsey and NCI for example.
- Precedents exist for HPC being increasingly provided by commercial facilities:

United Kingdom

- In February 2021, the UK Met Office announced a move to the Cloud with a £1.2 billion investment to capitalise on the power of commercial HPC.
- The European Open Science Cloud initiative seeks to broaden access to cloud technologies for academia, the public sector and business. This initiative brings together hundreds of organisations including commercial providers. Other initiatives such as the UKRI Cloud Working Group also assist researchers to engage with cloud services.

United States

- In mid-2019, CloudBank was founded by the National Science Foundation. It provided researchers with access to compute time from public cloud resources (such as those provided by AWS, Azure and Google).

DUG is at the forefront of “riding the wave” of the commercialisation of HPC.

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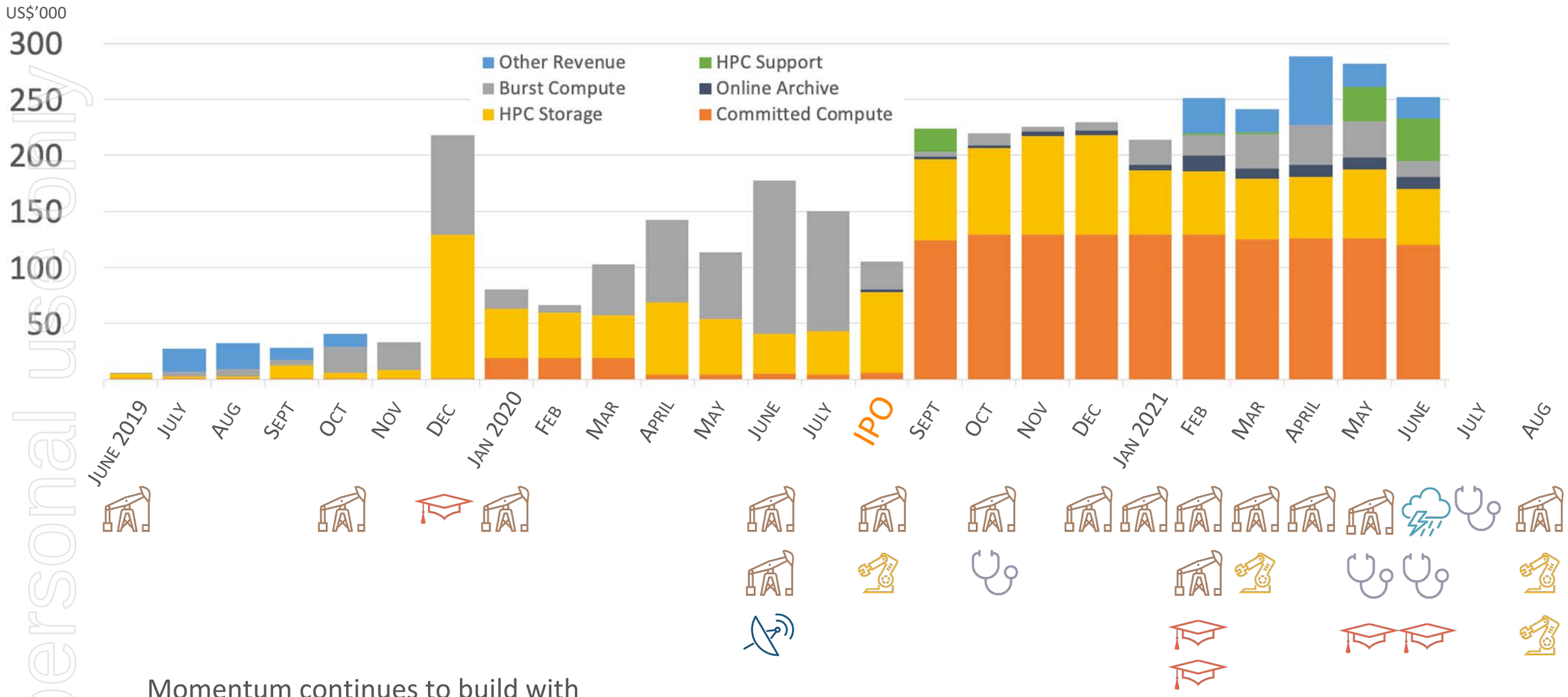
Third party HPCaaS revenue & signings



Momentum continues to build with increasing diversity of sales areas

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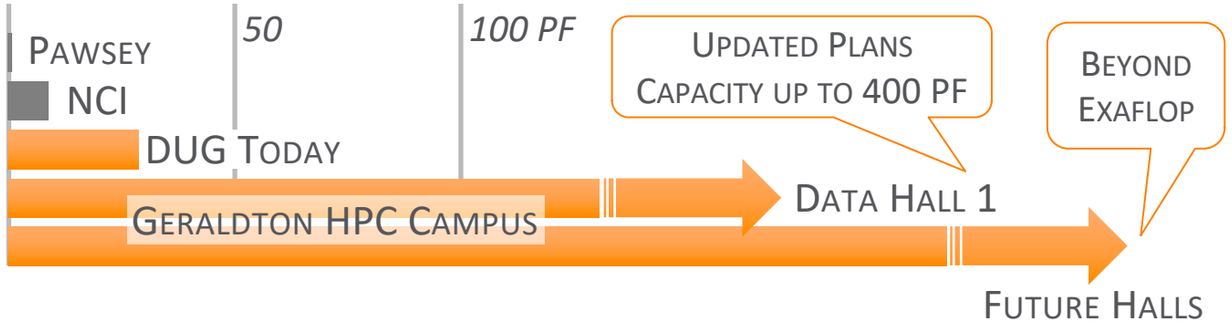
HPCaaS deployment of capital

- Long lead time data centre infrastructure is built upfront.
- Short lead time infrastructure and compute is deployed just-in-time (JIT) as demand dictates.
- Source of funds is asset finance in conjunction with self funding.
- Nominal maintenance CAPEX due to cooling solution.
- Compute depreciation period of 5 years and 25 years on infrastructure.

Potential Economic Scenario Geraldton Data Hall 1 (half-full) of 10	
Megawatts (12MW when full)	6
PetaFLOPS	162
Upfront CAPEX	$3.5m
JIT infrastructure & renewables CAPEX	$56m
JIT compute CAPEX	$165m
Revenue (5-years)	$646m
EBITDA (5-years)	$445m
EBITDA %	69%

HPC Capacity in Double-Precision Petaflops (PF)



- These are estimates only! Units are US$ millions.
- No guidance provided on the timeline to achieve this capacity. This is Data Hall 1 of 10 (planned) in Geraldton.
- Currently the Perth computer room is dominated by Intel KNL CPUs (with some CPUs and some GPU machines). The remaining 5MW is likely to be based on GPU technology and hence is modelled as such. The FLOPS/space/power of computer equipment increases continuously. The actual mix of compute hardware will be determined by demand.
- Assumes 80% utilisation.
- Revenues stated are based on three-year committed compute pricing with revenue in the 4th and 5th years being reduced to two-thirds current market price.
- Forecasting does not take any potential grants (around hydrogen) or partnerships into consideration.

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For example - The SKA Project

- The Square Kilometre Array (SKA) Project is one of the largest international scientific research projects in history.
- The Murchison Widefield Array (MWA) telescope had amassed a backlog of data that was being processed using the Pawsey Supercomputing Centre.
- DUG HPC experts took two weeks to optimise the academic code used to process the MWA data and achieved run-times that were 125x faster.

DUG's **support and HPC expertise** allowed the ICRAR team to process their data backlog in three hours, using just a fifth of DUG's supercomputer in Perth.

and DUG's green HPC was credited for lowering emissions!

and publish a paper!

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For example - The Harry Perkins Institute of Medical Research

The Harry Perkins Institute of Medical Research ("Perkins") applies bioinformatics - a rapidly evolving field combining biology, computer science and mathematics - to tackle chronic diseases including cancer and rare genetic disorders.

"***We require a fully supported high-performance computing (HPC) system designed to let us store, process and analyse data our way.***" Perkins

DUG's bespoke HPC solution gave Perkins scientists quick and easy access to their huge datasets without computational restriction.

"Trusting the technology to the experts at DUG, we can now get back to our number one priority - saving lives." Perkins

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DUG has signed Austal!

"DUG is an ideal partner for Austal, not only as an Australian-based high-performance computing service provider but one of the greenest in the world.

Austal will be running computational analysis through DUG to improve the efficiency of our vessel designs and reduce their GHG emissions; a great combination of world-leading Australian expertise and capability, tackling the challenge of decarbonisation."

Andrew Malcolm, Chief Digital Officer

https://www.austal.com/news/austal-engages-australian-based-dug-environmentally-friendly-high-performance-computing-service

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“Climate positive” is not just a marketing term

- HPC is traditionally a big energy consumer with a big carbon footprint.
- Science-aware professionals (aka clients!) are acutely aware of this.

  “Astronomers know all too well how precious and unique the environment of our planet is. Yet the size of our carbon footprint might surprise you.”

  Stevens, A., et al., 2020, 'The imperative to reduce carbon emissions in astronomy', Nature Astronomy, vol. 4, pp. 843-851.

- Carbon neutral is not good enough – a climate-positive future is the only future.
- A sustainable economy must reconcile *both* environmental and economic agendas.
- Some see this as a contradiction with a long runway to resolve.

DUG sees this as a mammoth business opportunity, for today.

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The greenest power is the power you don't use

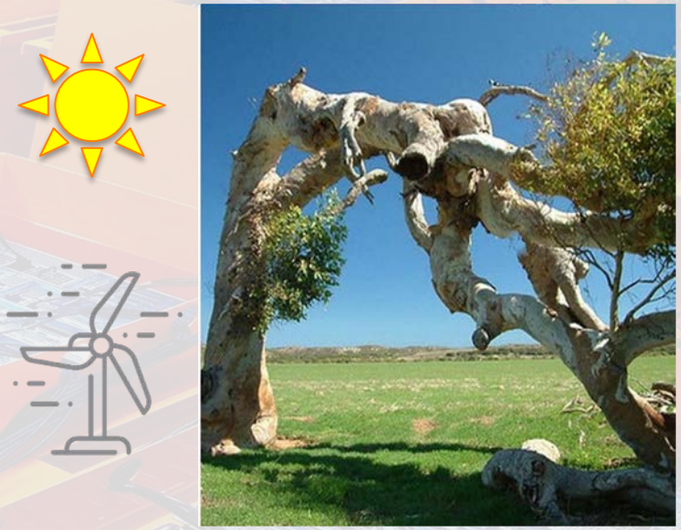
- DUG already offers arguably the greenest computing solution on the planet thanks to the patented *DUG Cool* immersion technology.
  - **Reduces power consumption by 51%!**
  - **85% less synthetic refrigerants** (man-made fluorinated gases).
  - Power-usage effectiveness as low as 1.03!

A BIG DEAL!

RATIO OF ENERGY USED BY CENTRE TO ENERGY DELIVERED TO COMPUTERS. **LOWER THE BETTER!**

- A complete climate-positive solution requires green energy at *all* times.
  - Renewables-generated power.
  - "Green" Energy Storage System when renewables are not generating.

GOAL FOR THE GERALDTON HPC CAMPUS



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A green-innovation investment

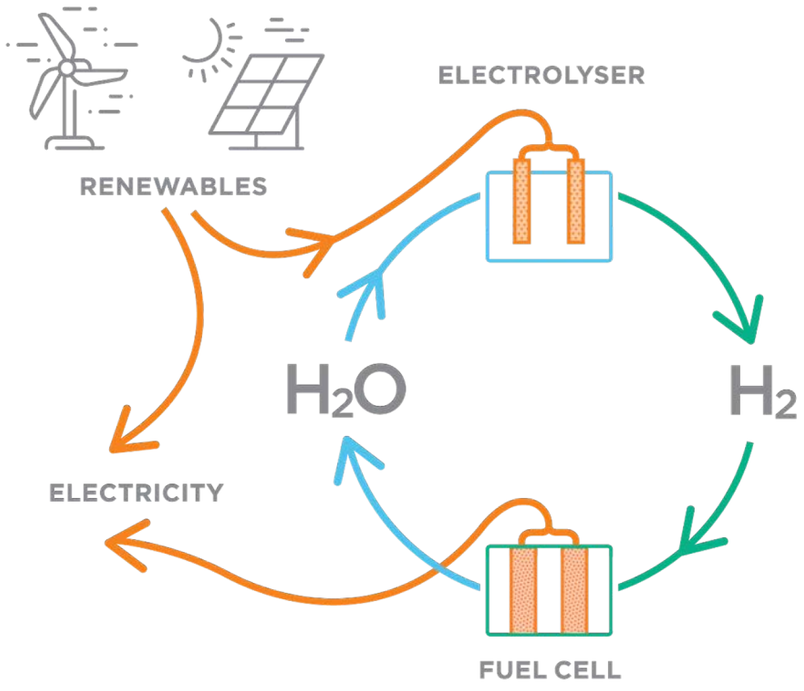
Solar and wind-generated power is inexpensive (especially in Geraldton). But in Geraldton, on average, there are 6 hours a day when the sun isn't shining and the wind isn't blowing. What to do then?

Hydrogen Energy Storage Systems are one very green solution.

The economics of hydrogen based systems hang on the capital cost of the hydrogen electrolysers.

DUG put its brains trust to work and has come up with a novel solution for a low cost electrolyser.

- A working, proof-of-concept electrolyser has been created.
- Theoretical concepts are mature.
- Patent application process to protect novel aspects of this technology is in progress.



DUG believes it can achieve a levelised cost of energy (LCoE) of AU$0.13 per kWh.

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Location matters

Why does DUG need another data centre in Geraldton when Houston still has capacity?

- Australian HPCaaS clients' data must remain in Australia – sovereign data security.
- The Perth data centre is nearly at capacity.
- Geraldton will provide climate-positive HPCaaS; the implications of DUG's green HPCaaS is much more than making DUG green. It is about helping many other companies achieve their green objectives – this is the business opportunity.
- DUG is working on fully utilising the data centre in Houston. The HODL Ranch Mining deal is an example of this initiative.
- The hydrogen work DUG is undertaking, if successful, represents enormous opportunity. DUG has a history of low cost, pragmatic engineering solutions.

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FY21 results

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EY, our new auditor

- EY have taken a much more conservative approach.
- The impact of the restatement on the FY20 profit and loss is to increase revenue by US$0.2m and EBITDA by US$1.0m.
- Following a review of the opening balance sheet, restatements have been made to prior periods.
- Differing interpretations of new revenue accounting standards has led to timing differences in the recognition of software revenue.
- Due to COVID uncertainty, a conservative approach has been adopted in the recognition of deferred tax assets.

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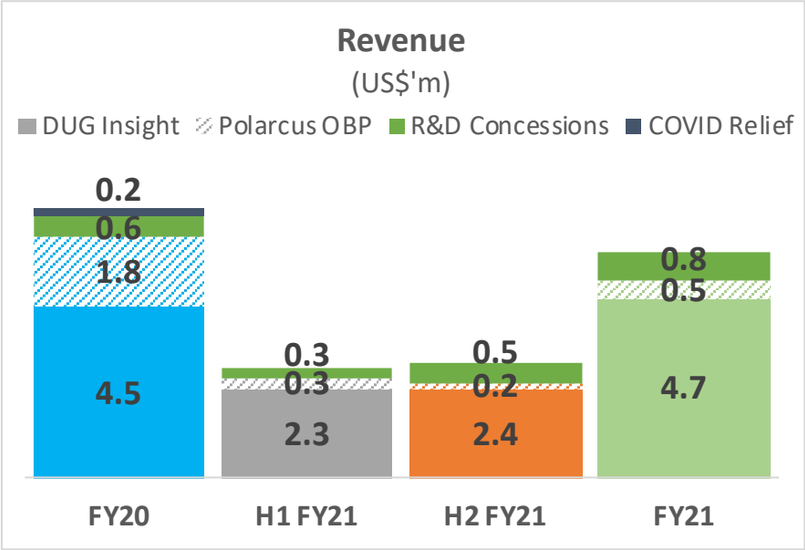
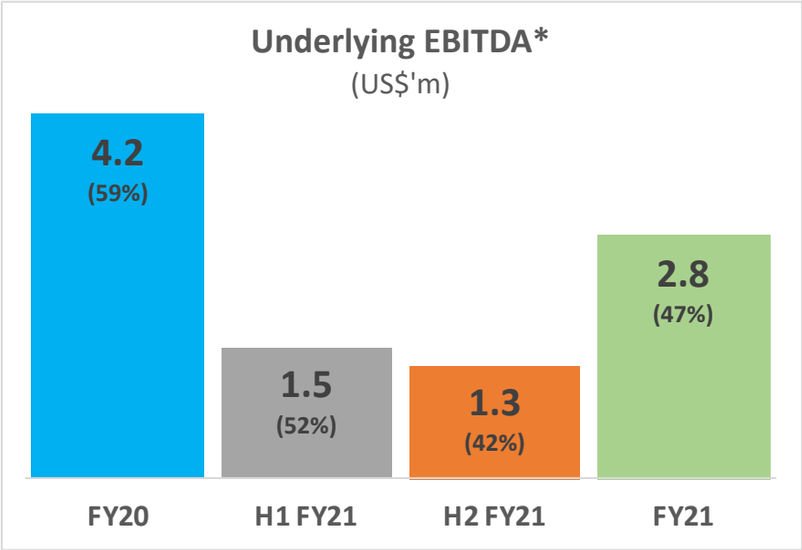
Software performance

- DUG Insight revenue increased by 4.4% YOY.
- Following reassessment of the revenue standard software is now being recognised over time, instead of point in time. This removes the cyclicity from previous software reports and introduces deferred revenue.
- This resulted in deferred revenue of US$2.1m which will be recognised during FY22. Deferred revenue has grown 8.6% from 30-Jun-20 to 30-Jun-21. This outstrips overall Software revenue growth due to a higher number of sales being made in H2 FY21 and not fully recognised in FY21.
- DUG signed PXGEO, a marine geophysical services provider, for the provision of software onboard their marine seismic vessel PXGEO 2. This contract commences in FY22 and will initially be worth US$900,000 over three years with growth anticipated as PXGEO grows its fleet.
  - Tantamount to Polarcus contract with respect to provision of software.
  - Continues a strong relationship with the PXGEO executive.





Based on preliminary unaudited results.

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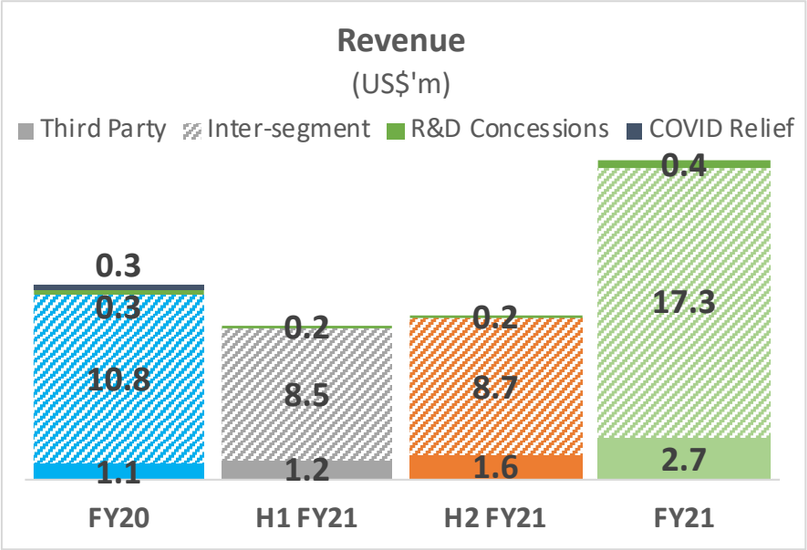
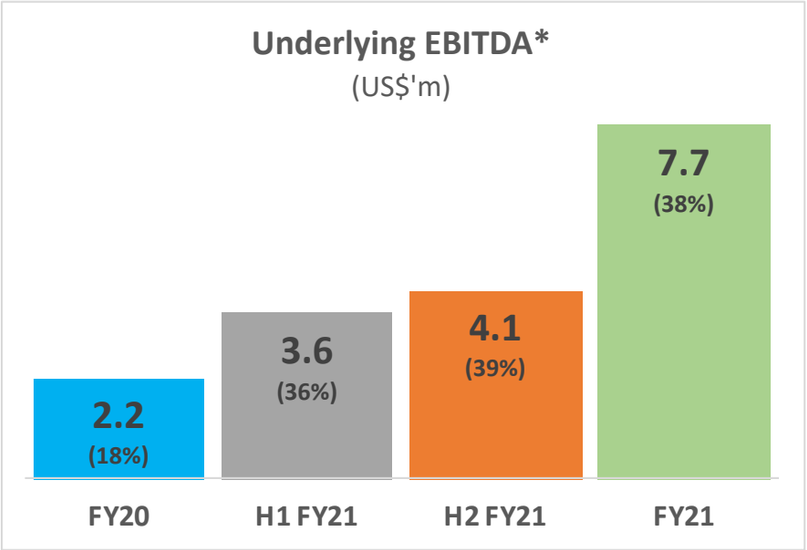
HPCaaS performance

- Explosive third party revenue growth, with increased momentum in H2:
  - HPCaaS revenue up 145% YOY
  - Committed compute up 1537% YOY
  - Storage revenue up 97% YOY
- Key HPCaaS signings across multiple sales areas this calendar year:
  - CSIRO
  - Rockwave
  - HiSeis
  - Portable Spectral Services
  - Australian Catholic Universities
  - Artrya
  - Austal
  - Optic Earth
  - Imperial Collage
  - Offshore Weather Services
  - Biotome
- We are in the early stages of this business line, and it is carrying investment cost.
- EBITDA and EBITDA margin expected to continue to increase with scale.





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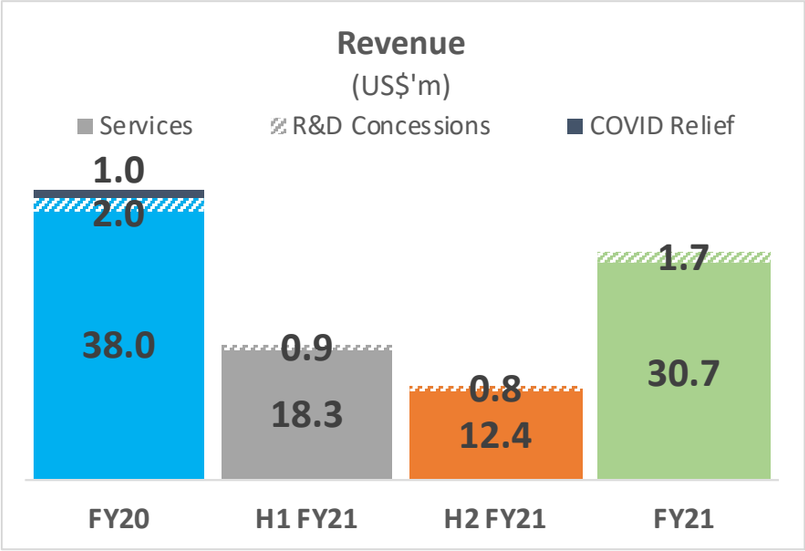
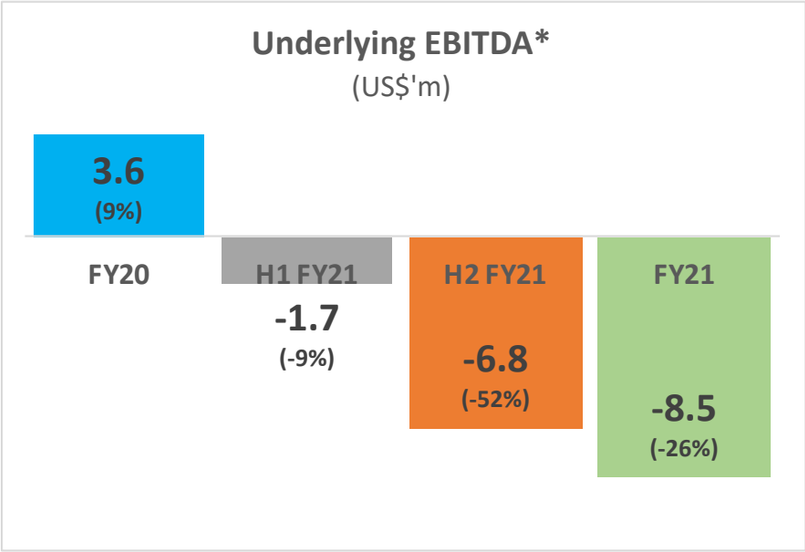
Based on preliminary unaudited results.

Services performance

- Revenue in this business line reflects a lingering COVID shadow.
- Services are slowly returning to normal but have been unpredictable.
- Headcount has reduced during the financial year from 188 to 164.
- The redundancies undertaken at the end of H1 FY21 have resulted in cost-savings of c. US$1.5m in H2 FY21. These were undertaken to “right size” the business. We believe that the teams now retain the capacity for a strong rebound.
- Research undertaken for high-frequency FWI, with several key objectives met in the last 12 months, has led to increased HPC utilisation.
- The research costs combined with a decline in revenue has impacted the EBITDA margin for this business line.
- DUG continues to shape the business.





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FY21 profit and loss

- Total Income US$41.4m (FY20 US$49.6m).
  - Software – DUG Insight growth 4% YOY
  - HPCaaS growth 145% YOY with strong performance in H2 FY21
  - Lingering COVID impact in Services with revenue decline of US$5.8m in H2 FY21
  - Other income - In addition to R&D concessions, FY20 includes US$1.5m of COVID related support in Houston
- Reduction of US$1.0m in Employee Benefits compared with FY20 due to redundancies mainly affecting in the Services division.
- Other Operation Costs remain flat as DUG continues to shape the Services business and invest in Software and HPCaaS growth.
- Underlying EBITDA excludes US$3.3m of costs related to redundancies, bad debt, legal fees and settlement related to PGS as well as COVID related annual leave accruals.
- Underlying Net loss after tax excludes the costs mentioned above and US$1.8m of one-off finance costs related to the IPO.

USD'm	Restated FY20	Restated H1 FY21	H2 FY21	FY21	Change YOY
Revenue					
Software - Insight	4.5	2.3	2.4	4.7	0.2
Software - OBP	1.8	0.3	0.2	0.5	(1.3)
HPCaaS	1.1	1.2	1.5	2.7	1.6
Services	37.9	18.2	12.4	30.6	(7.3)
Other Income	4.3	1.4	1.5	2.9	(1.4)
Total Income	**49.6**	**23.4**	**18.0**	**41.4**	**(8.2)**
Employee Benefits	30.6	14.9	14.7	29.6	1.0
Other Operating Costs	9.8	5.1	4.7	9.8	0.0
Total Operating Costs	**40.4**	**20.0**	**19.4**	**39.4**	**1.0**
Underlying EBITDA	**9.2**	**3.4**	**(1.4)**	**2.0**	**(7.2)**
Statutory EBITDA	10.0	1.6	(2.9)	(1.3)	(11.3)
Underlying EBITDA margin	**18.5%**	**14.5%**	**(7.8%)**	**4.8%**	**(13.7%)**
Depreciation and Amortisation	9.0	3.7	3.7	7.4	1.6
Underlying EBIT	**0.2**	**(0.3)**	**(5.1)**	**(5.4)**	**(5.6)**
Statutory EBIT	1.0	(2.1)	(6.6)	(8.7)	(9.7)
Underlying Net Loss After Tax	**(7.2)**	**(0.8)**	**(9.8)**	**(10.6)**	**(3.4)**
Statutory Net Loss After Tax	(11.2)	(4.4)	(11.3)	(15.7)	(4.5)

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Based on preliminary unaudited results.

FY21 balance sheet

- Cash balance FY21 - US$10.0m (FY20: US$12.0m).
- US$17.8m of current loans and borrowings at FY21 represents the term debt facility with CBA.
- Post 30 June 21, an agreement was reached with CBA to extend the term of the facility from 7 January 22 to 1 July 22. During FY22, principal repayments of US$6.3m are required. This is at a similar level to the repayments in FY21.
- Deferred revenue of US$2.7m (FY20: US$2.4m) will be amortised to profit and loss in FY22.
- DUG has decided to take an extremely conservative approach to Deferred Tax Assets (DTAs) and has not recognised any DTAs on the balance sheet. The value of the benefit to be utilised against future taxable profits is significant at US$14.4m (FY20: US$8.7m).

USD'm	Restated FY20	FY21
Current Assets		
Cash and Cash Equivalents	12.0	10.0
Trade and Other Receivables	7.2	6.0
Other	1.7	1.8
Total Current Assets	**20.9**	**17.9**
Non Current assets		
Property, Plant and Equipment	22.5	23.1
Right of Use Assets	15.4	14.0
Other Assets	1.0	1.2
Total Non Current Assets	**38.9**	**38.3**
Total Assets	**59.8**	**56.2**
Current Liabilities		
Trade and Other Payables	3.0	2.2
Loans and Borrowings	15.6	17.8
Deferred Revenue	2.4	2.7
Lease Liabilities	2.5	2.2
Provisions	2.6	3.2
Total Current Liabilities	**26.0**	**28.1**
Non Current Liabilities		
Loans and Borrowings	23.7	-
Lease Liabilities	16.1	15.8
Provisions	0.2	0.2
Total Non Current Liabilities	**40.1**	**15.9**
Total Liabilities	**66.1**	**44.0**
Net Assets	**(6.2)**	**12.1**

Based on preliminary unaudited results.

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FY21 cash flow

- Underlying cash utilised in operations in FY21 amounted to US$0.6m and excludes non-recurring cash for redundancies and legal and settlement fees related to PGS.
- US$6.0m has been invested in HPC assets by adding storage, compute and JIT infrastructure.
- US$6.1m was repaid on debt facilities in FY21.

USD'm	Restated FY20	FY21
Statutory net cash flow generated from /(utilised in) operations	6.3	(2.8)
Underlying net cash flow generated from / (utilised in) operations	**5.5**	**(0.6)**
Cash flows from Investing Activities	**(3.2)**	**(6.0)**
- Repayment of bank debt	(0.2)	(6.1)
- Repayment of lease liabilities	(1.5)	(2.5)
- Interest Paid	(2.1)	(1.5)
- Net IPO proceeds	10.7	16.9
Cash flow from Financing Activities	6.9	6.8
Net increase / (decrease) in Cash	**10.0**	**(2.0)**

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Based on preliminary unaudited results.

Investment highlights

- We live in a world of ever-increasing data needs and usage.
- DUG delivers Big Data Solutions to industry and government.
- With 30 PF of very green, very reliable HPC across a global footprint, DUG is taking non-oil & gas McCloud to the world.
- Plans have been announced for a climate positive HPC campus in Geraldton, a huge opportunity for DUG and Australia.
- Pace and diversity of new McCloud clients is rapidly increasing.
- DUG is well placed to “ride the wave” of HPC commercialisation and deliver strong growth in long-term shareholder returns

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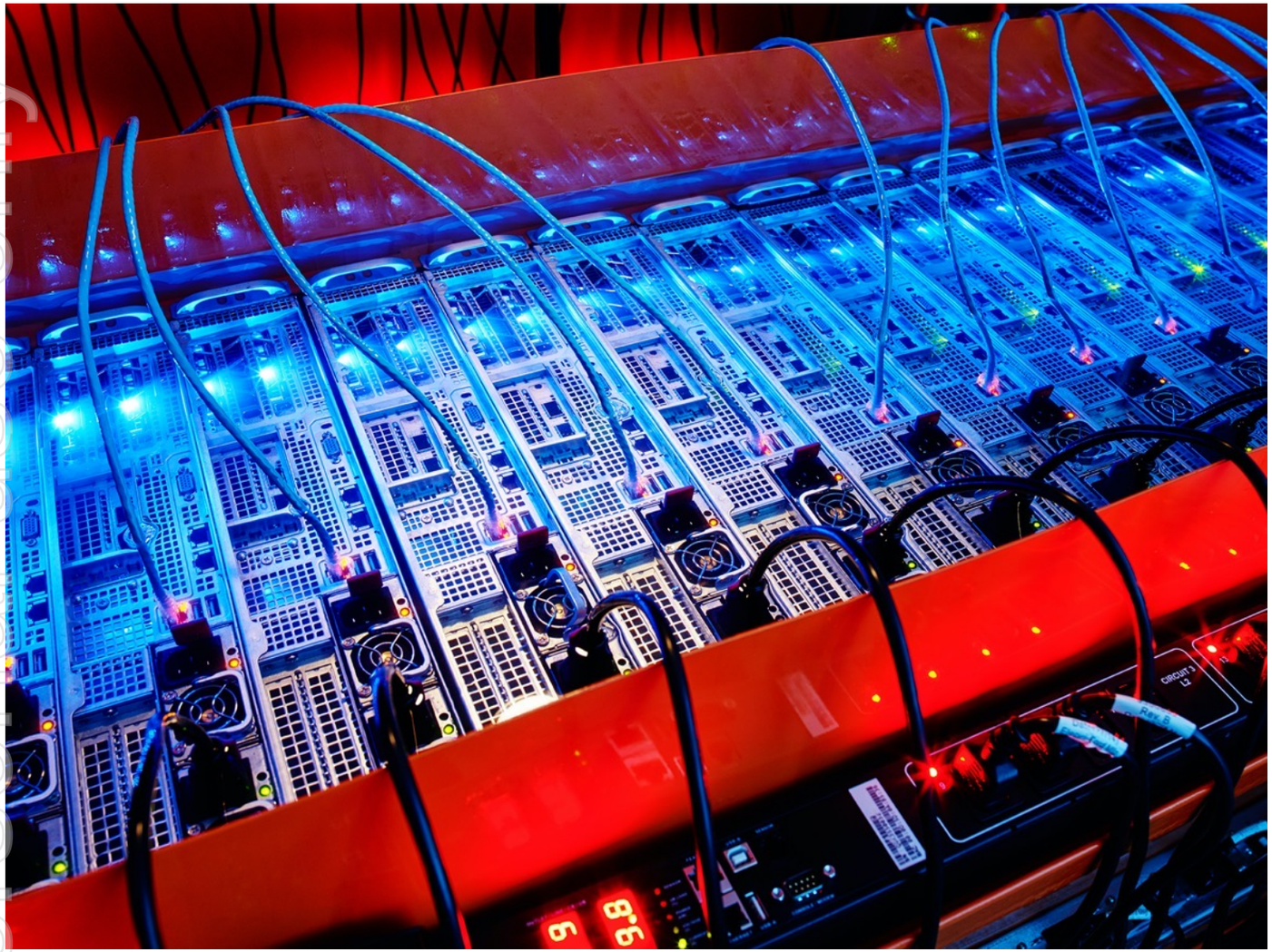
Staying Connected



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Reliable, flexible and cost-effective on the outside. The power to save the world within! Our 'DUG Cool' immersion-cooling technology can help achieve your carbon reduction goals. By submerging our high-performance computing (HPC) hardware in an environmentally friendly dielectric fluid we reduce our energy consumption by up to 51% and use up to 85% less synthetic refrigerants. Our HPC solutions give you the power to innovate. AND save the planet.

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www.dug.com

About DUG

- DUG is an ASX listed technology company, headquartered in Australia, that specialises in analytical software development and reliable, green, high-performance computing (HPC). The company is built on a strong foundation of applied science and a history of converting research into practical, real-world solutions. DUG delivers innovative software products and cost-effective, cloud-based HPC as a service backed by bespoke support for technology onboarding. DUG's expertise in algorithm development and code optimisation enables clients to leverage big data and solve complex problems.

- DUG is a global company with offices in Perth, London, Houston and Kuala Lumpur, supporting a diverse industrial client-base that includes radio-astronomy, biomedicine and meteorology, as well as the resource, government and education sectors. DUG designs, owns, and operates a network of some of the largest and greenest supercomputers on Earth. The company continues to invest and innovate at the forefront of software and HPC, working towards a **climate-positive** future.

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Corporate summary

Corporate Structure	
Shares on Issue[1]	99,473,544
Share Price (as at 26 August 2021)	A$1.165
12 Month Liquidity (volume of shares traded)	32,930,678
Market Capitalisation (as at 26 August 2021)	A$115.9m
Cash at Bank (as at 30 June 2021, US$:A$ 1.32767)	A$13.3m
Financial Debt (as at 30 June 2021, US$:A$ 1.32767)	A$23.6m
Enterprise Value	A$126.2m

Board & Management	
Wayne Martin AC QC	Non-Executive Chairman
Matthew Lamont Ph.D.	Managing Director
Louise Bower	Non-Executive Director
Frank Sciarrone	Non-Executive Director
Mark Puzey	Non-Executive Director

Substantial Shareholders	
Mr Matthew Lamont	24.0%
Perennial Value Management Limited	14.9%
Mr Philip Imperial Schwan	7.3%
Regal Funds Management Pty Ltd	5.9%
Thorney Investment Group	5.1%
Top 20 (as at 26 August 2021)	**74.44%**
Number of Shareholders (as at 26 August 2021)	**2,145**

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