DUG Technology

South-West Connect

Investor Presentation

20 October 2022

DUG Overview

- ASX-listed global technology company with offices in London, Houston and Kuala Lumpur—HQ in Perth
- Founded in 2003 by Dr Matthew Lamont and Dr Troy Thompson to introduce an enhanced Decision Support System to the Oil & Gas industry
- Designs, owns and operates some of the largest and greenest supercomputing installations on Earth
- World-leading innovators with almost two decades of experience in high performance computing and 10 years in immersion cooling
- Over 250 employees, with 100 based right here in Australia
- R&D-focus—strong team of data scientists and big-data experts
- 14 patents granted and in application

Our business

Business Units

National Security & Space

Oil & Gas

Enterprise

Product Lines

Software

- Analytic software development
- Algorithms and optimisation
- Data processing and visualisation
- DUG Insight in 36 countries

High Performance Computing (HPC)

- Green HPC and storage
- Patented DUG Cool immersion technology
- Design/own/operate some of the largest and greenest supercomputers on Earth
- Deployable complete HPC system

Services

- Data science
- Geoscience
- High-frequency Full Waveform Inversion

Delivery Platform

- Private and secure
- Communication layers
- Manage users
- Allows usage monitoring and much more

Our ambition

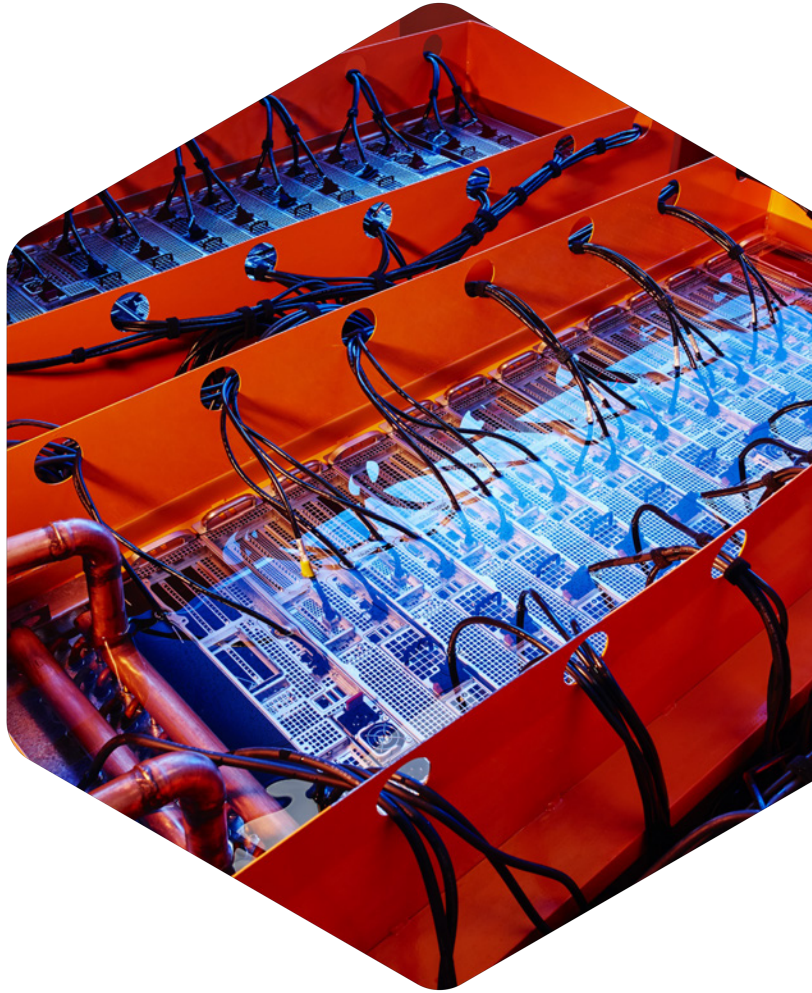
At the forefront of technical excellence and innovation

Be a global leader in data management and oil & gas seismic imaging

Leverage strong history into new compelling industries

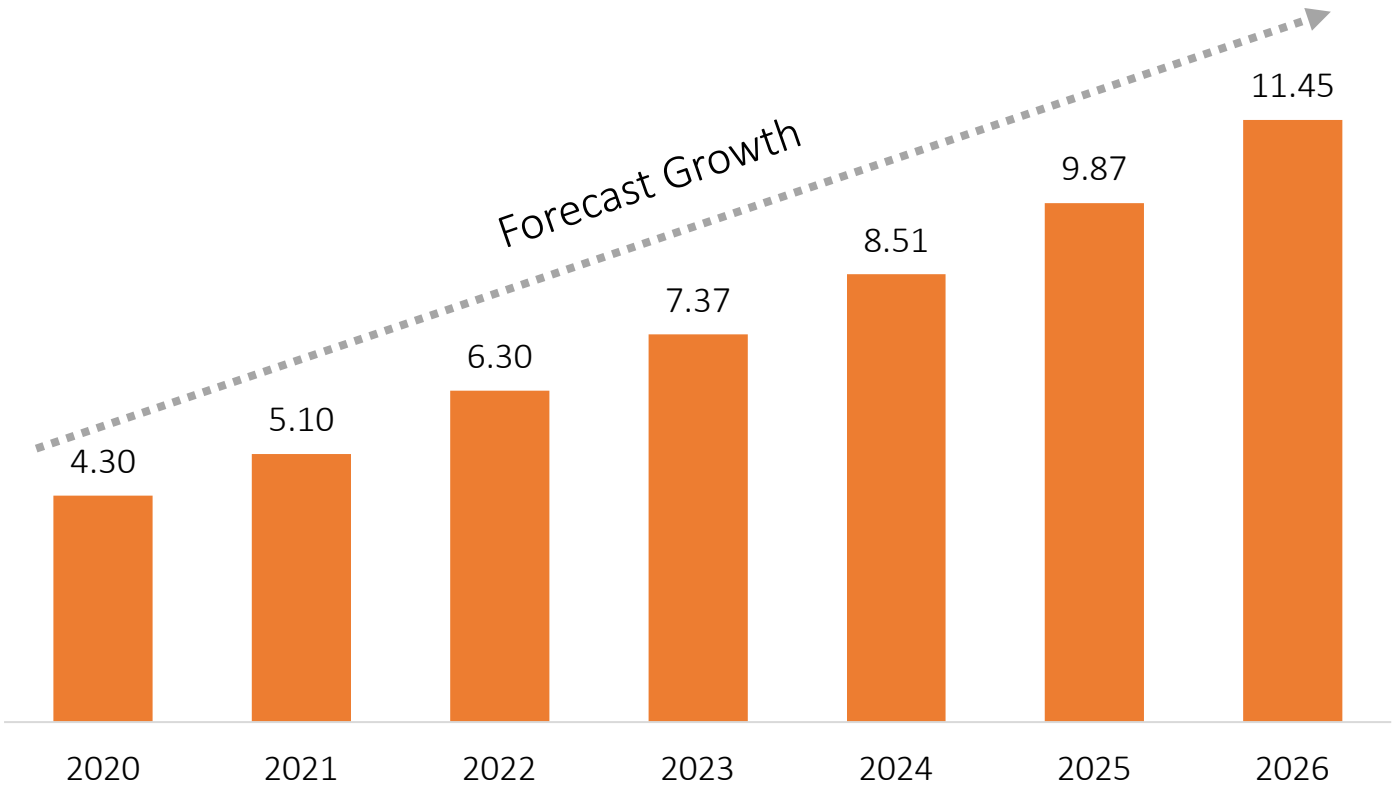
Supply clients with world-class and carbon neutral supercomputing

Focus on R&D to foster innovation and industry leading technology



Global opportunity

Global HPC Cloud Market Size (US$ billion)[1]



US$11.5bn

Global HPC Market Value 2026 Forecast

+17.6%

Forecast CAGR 2022 to 2026

(1) https://www.hpcwire.com/2022/05/30/hyperion-hpc-market-is-stabilizing-and-headed-to-50b-by-2026/

Positioned to capitalise

Tailwinds from emerging global themes

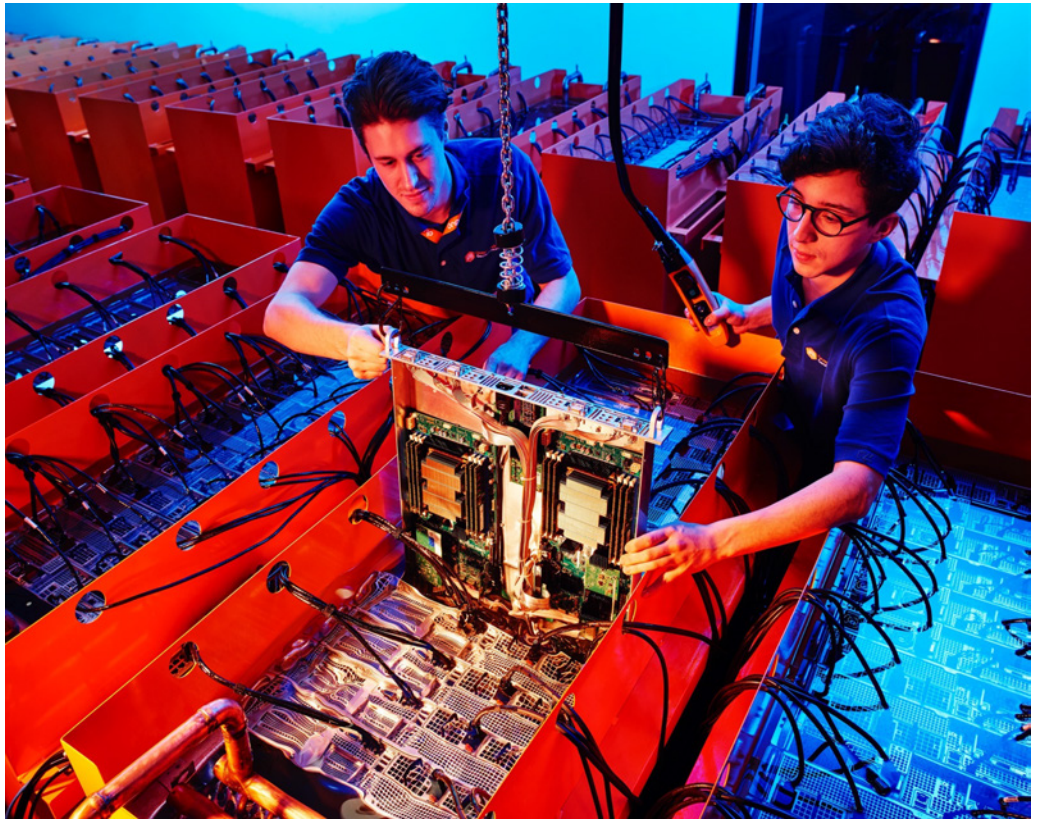
- Increasing complexity and size of data
- Emphasis on agile and composed data analytics
- Growing demand for cloud storage
- Focus on environmental sustainability
- Heightening cybersecurity risks

- ✓ Revolutionary geoscience imaging and analysis technology
- ✓ Bespoke data solutions and expert support
- ✓ State-of-the-art computing hardware
- ✓ Carbon neutral, power-efficient supercomputing
- ✓ Multi-tiered cyber and data security

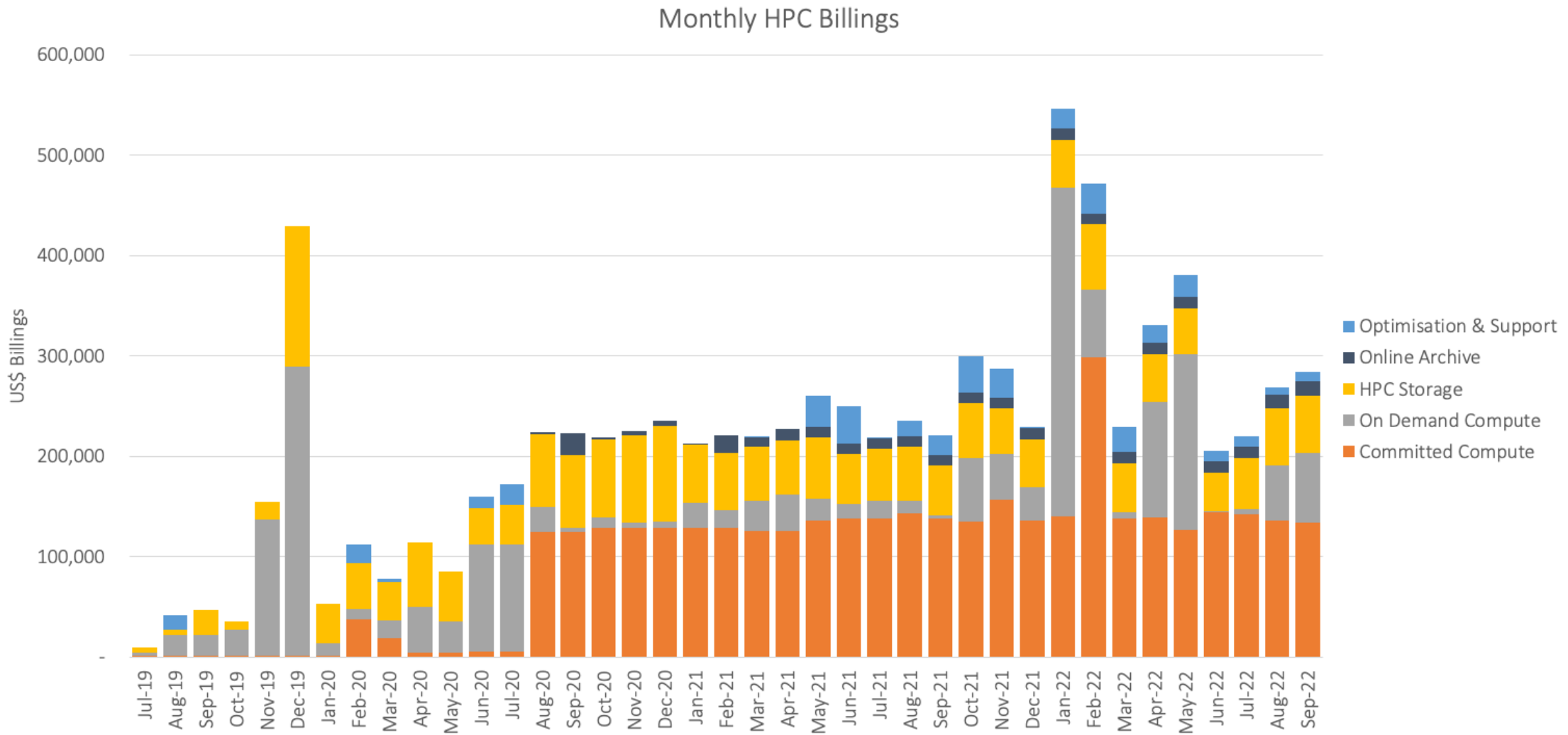
DUG's global footprint

HPC overview

- HPC is the processing of large volumes of data, performing complex calculations at high speed
- The amount of data in the world is expected to double between today and 2025
- DUG has supported oil and gas customers utilising our HPC for many years
- We enable our clients to solve their big data problems faster
- Australian sovereign HPC capability
- Expertise in HPC craft, including:
  - Green HPC solutions
  - Algorithm development and code optimisation
  - High levels of uptime
  - Security protocols
  - Architecture design of systems



HPC growth


Monthly HPC Billings
US$ Billings
600,000
500,000
400,000
300,000
200,000
100,000
-
Jul-19
Aug-19
Sep-19
Oct-19
Nov-19
Dec-19
Jan-20
Feb-20
Mar-20
Apr-20
May-20
Jun-20
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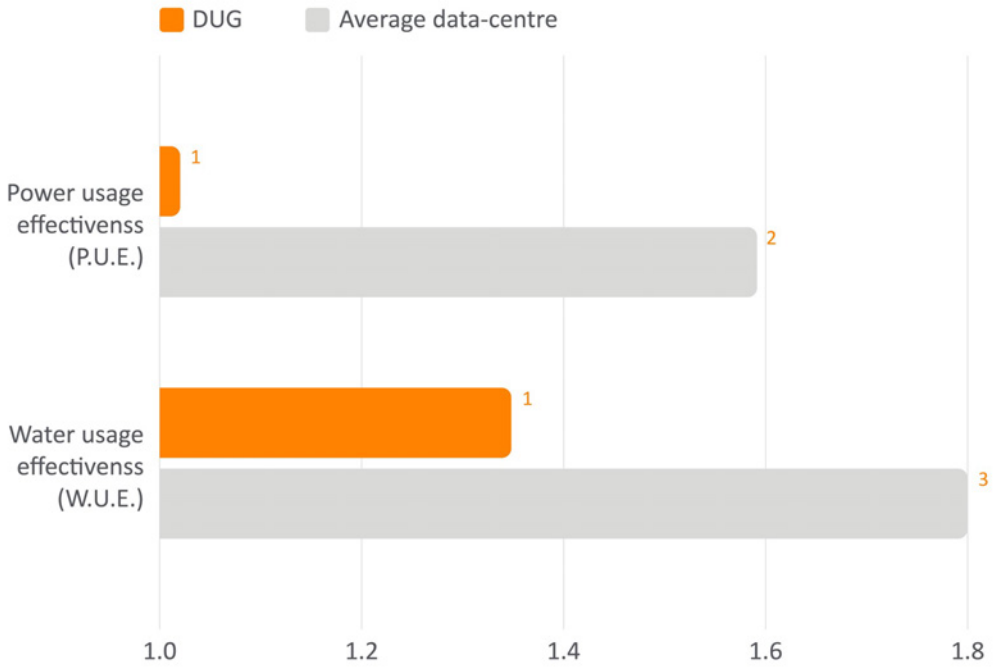
Jan-22
Feb-22
Mar-22
Apr-22
May-22
Jun-22
Jul-22
Aug-22
Sep-22
Optimisation & Support
Online Archive
HPC Storage
On Demand Compute
Committed Compute

Green HPC is DUG's superpower

- DUG has some of the greenest supercomputing installations on Earth
- This helps our customers meet their environmental, social and governance (ESG) requirements
- Patented **DUG Cool** immersion-cooling technology
  - Reduces power consumption **by up to 51%**
  - **Uses 85% less synthetic refrigerants** which are harmful to the environment



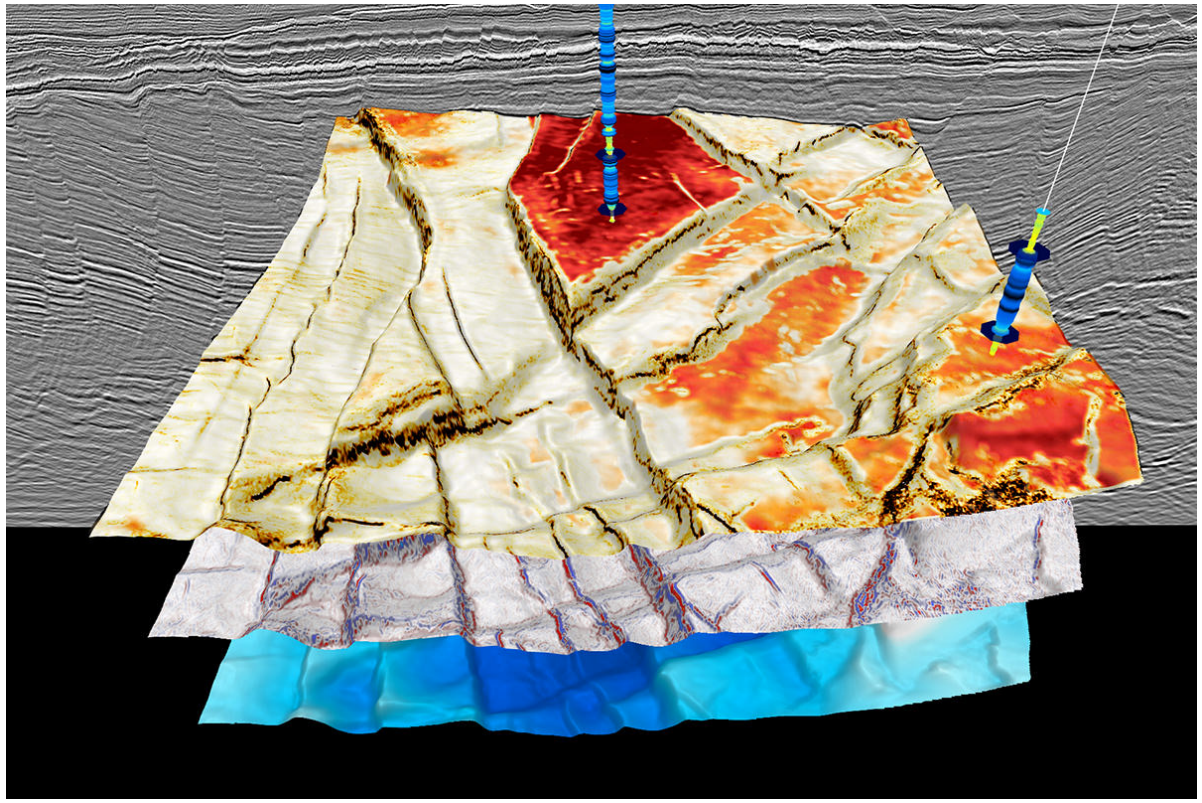
1 Based on 12-month rolling average measurement values.
2 https://www.missioncriticalmagazine.com/ext/resources/whitepapers/2020/2020AnnualSurvey_EndUser_v4s.pdf
3 https://eta-publications.lbl.gov/sites/default/files/lbnl-1005775_v2.pdf

Security is DUG's highest priority

- The DUG Information Management System has received security and quality accreditation
  - ISO 9001 (Quality Management Systems)
  - ISO 27001 (Information Security Management Systems)
- Proper management and protection of information and related systems are vital to guarantee our continued operation and protect the privacy and confidentiality of information entrusted to us
- ISO certification will support commercial deals across all business units, particularly HPC as a service (HPCaaS)
- DUG will now apply for DISP certification to provide greater access to commercial Defence opportunities

Software - DUG Insight

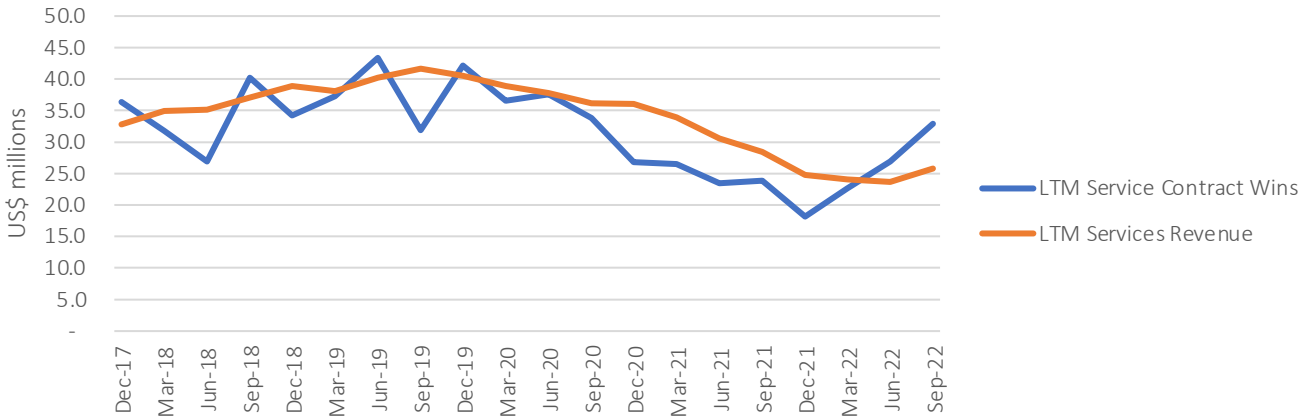
- Best-in-class data processing, imaging and visualisation / interpretation software
- Interactive processing, even on very large datasets, saves users precious time
- Focus on geoscience, not computer science, thanks to Insight's integrated user interface
- Use on our DUG McCloud platform or deploy on-premises
- 150+ customers and thousands of users around the world
- Widely acclaimed team of software and geoscience specialists to support our clients



Services – market conditions

- Energy security driving demand
- Stability in oil prices above US$70/BBL
- Strong order intake in services business
- New technology creating further opportunities

Last 12 Month Service Wins and Revenue



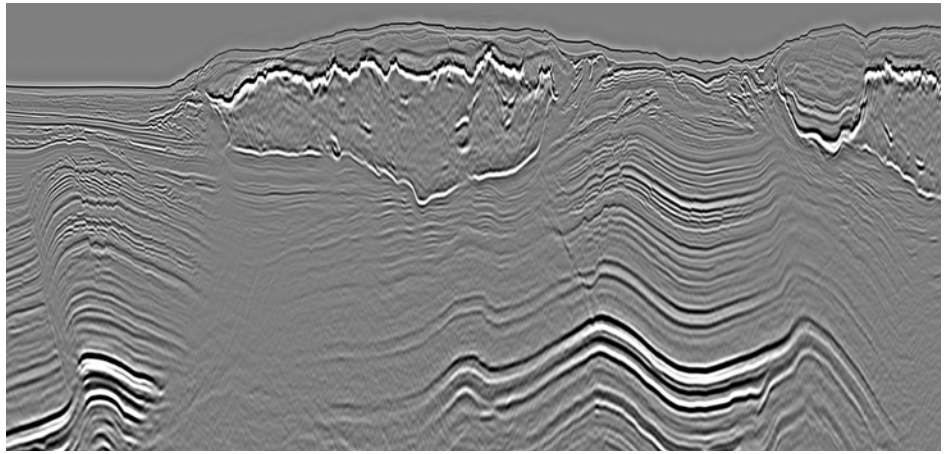
Source: Company data

Brent Crude Oil Price Since IPO

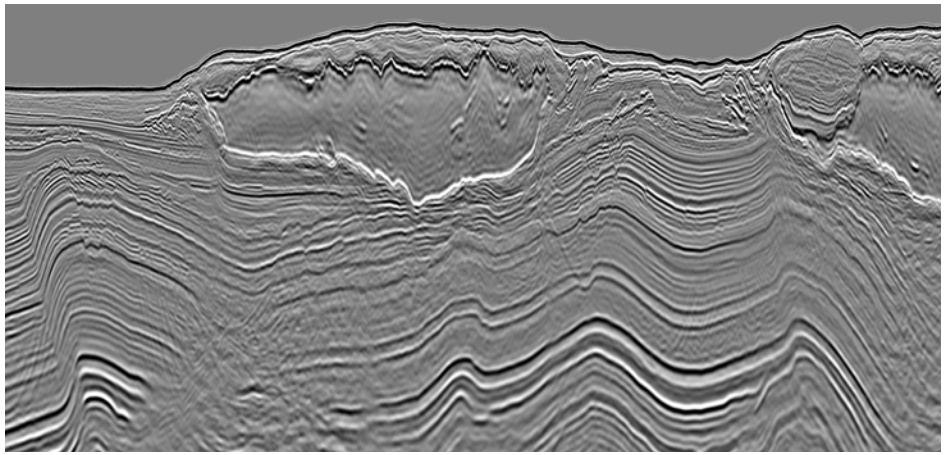
Source: https://www.macrotrends.net/

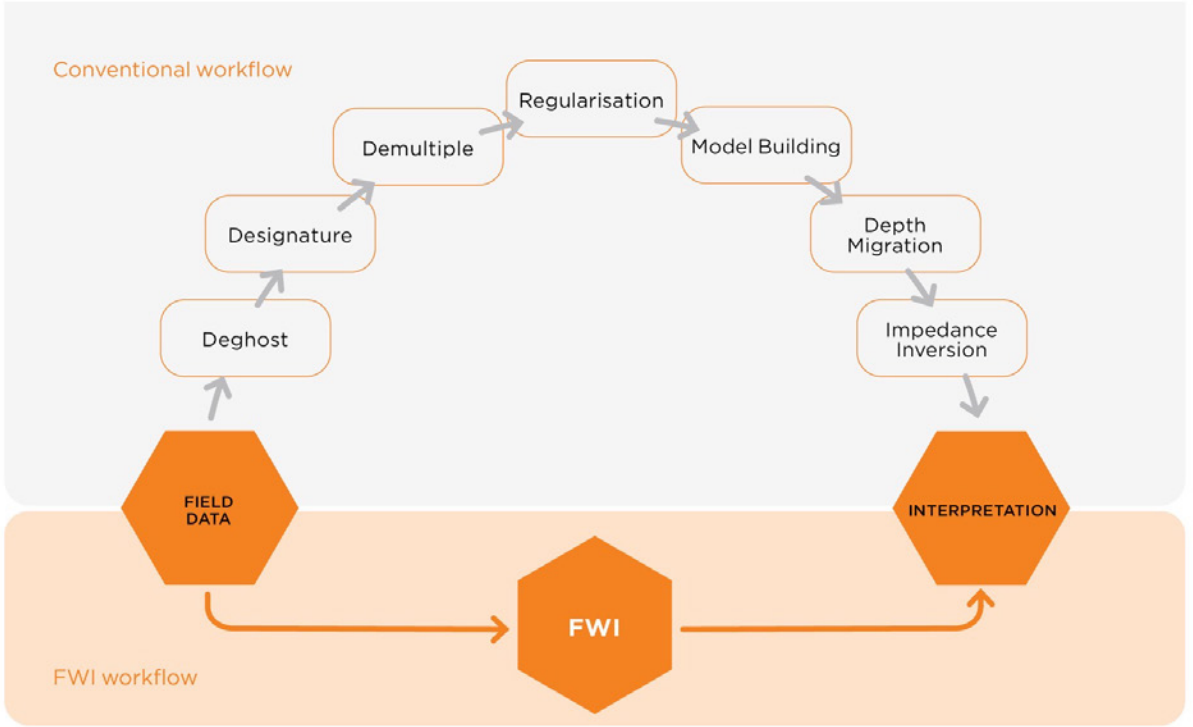
Services – FWI Imaging

Conventions imaging—9 month turnaround (~20x more labour)



DUG FWI imaging—5 week turnaround (~15x more compute time)





FWI workflow produces superior results in a much-reduced timeframe

Q1 FY23 snapshot

Continued strength in order intake

- Services contract wins of US$10.8m, up 110% on Q1 FY2022
- Strong wins follow US$20.8m in contracts awarded during 2H FY2022

Improved revenue and earnings

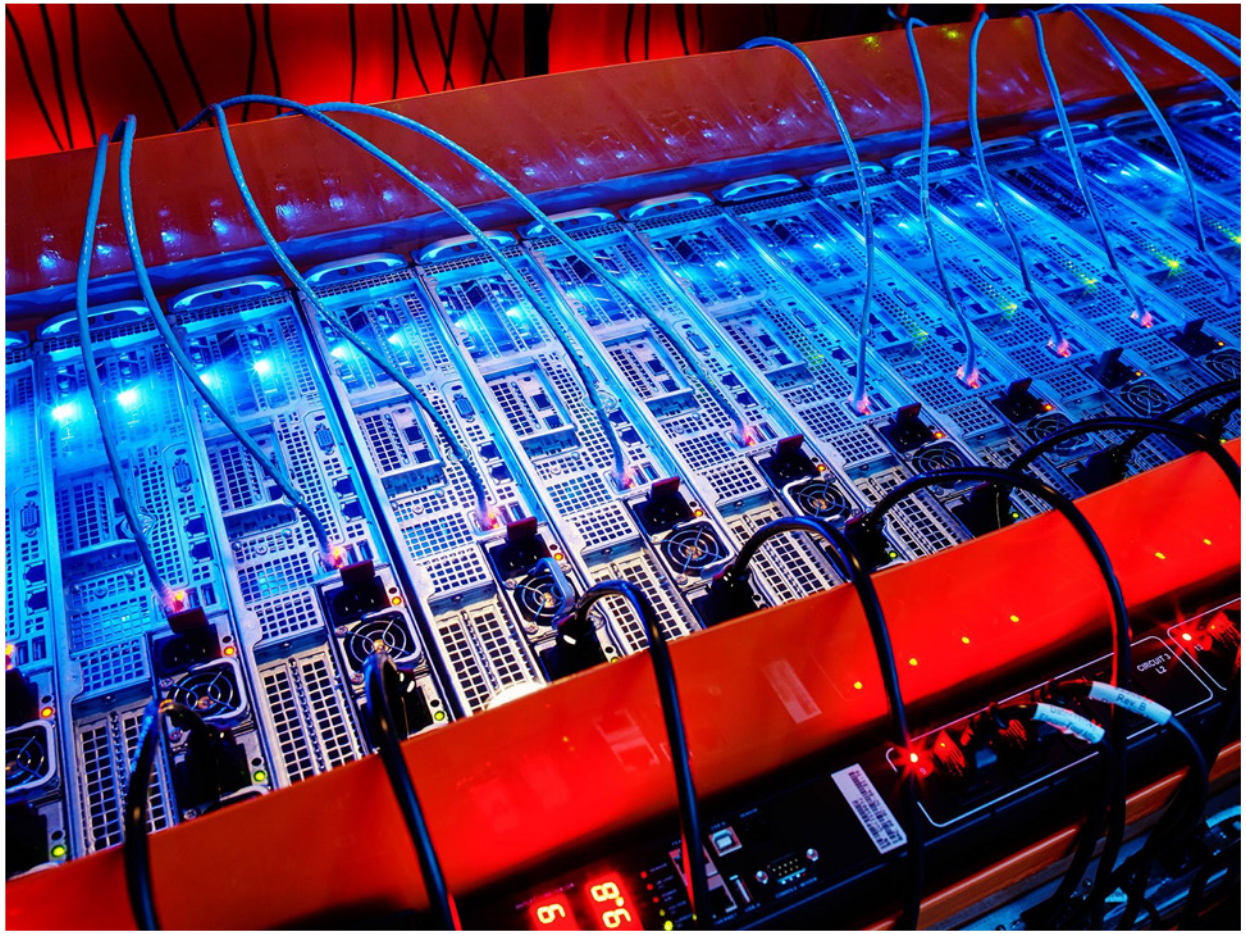
- Revenue of US$11.2m, best since Q2 FY21
- EBITDA of US$3.0m, best since Q2 FY20

Cash flow and net debt

- Operating cash inflows of US$0.7m[1], investment in working capital
- Cash of US$1.5m
- Net debt of US$2.8m

[1] Disclosed as US$0.3 million in the Appendix 4C due to interest costs disclosed within operating cash flows in the Appendix 4C. The company considers these a financing cash flow for reporting purposes.

Connect with DUG



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youtube.com/dugeoonline

info@dug.com

+61 8 9287 4100

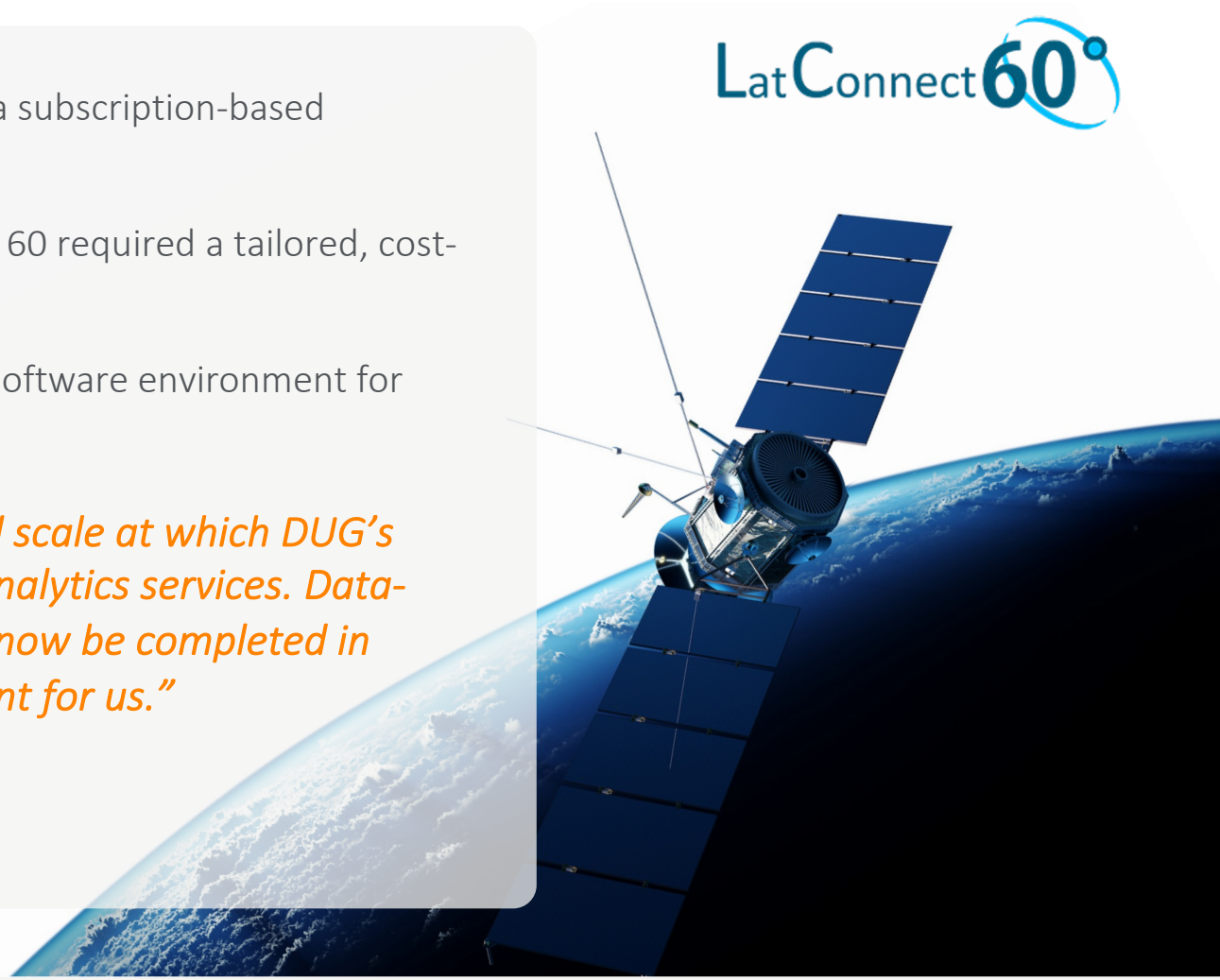
Case Studies and Appendices

Case study – Sharpening Earth observation capabilities

- Smart-satellite provider LatConnect 60 is working to promote a subscription-based monitoring service to enhance crop management
- To sustain a large-scale deployment of the service, LatConnect 60 required a tailored, cost-effective and efficient solution
- DUG provided the required compute capacity and an optimal software environment for LatConnect 60 to run its workflows and analyses

"We have been thoroughly impressed by the speed and scale at which DUG's HPC offering has been able to support our agriculture analytics services. Data-processing tasks which took us weeks in the past can now be completed in hours. This is a game-changing development for us."

Venkat Pillay, CEO of LatConnect60



Case study – Supercharging medical research at Perkins

- Researchers at the Harry Perkins Institute of Medical Research (Perkins) must constantly develop new algorithms and methodologies to keep pace with the rapid evolution of bioinformatics
- Perkins required a fully supported HPC system designed to let them store, process and analyse colossal amounts of genomic data in their unconventional ways
- DUG provided Perkins researchers with tailored HPC expertise and support, ensuring their workflows could leverage state-of-the-art processors and storage systems such as VAST Data's massive scalable storage system that can service any I/O load

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

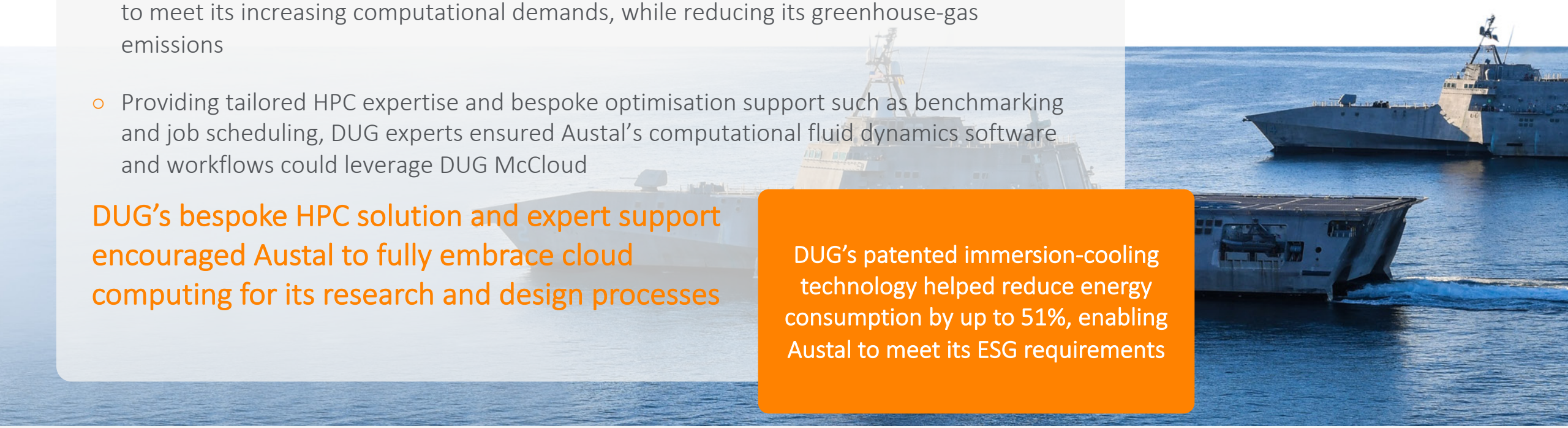
Perkins said: *"Trusting the technology to the experts at DUG, we can now get back to our #1 priority - saving lives."*

Case study – Better and greener shipbuilding

- Ship design specialists at Austal perform resource-intensive computational analyses to improve the efficiency and performance of its industry-leading defence and commercial vessels
- Austal required quick access to different hardware and an efficient, flexible cloud platform to meet its increasing computational demands, while reducing its greenhouse-gas emissions
- Providing tailored HPC expertise and bespoke optimisation support such as benchmarking and job scheduling, DUG experts ensured Austal's computational fluid dynamics software and workflows could leverage DUG McCloud

DUG's bespoke HPC solution and expert support encouraged Austal to fully embrace cloud computing for its research and design processes

DUG's patented immersion-cooling technology helped reduce energy consumption by up to 51%, enabling Austal to meet its ESG requirements



Case study – 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

DUG's green HPC was credited for lowering emissions

ICRAR published a paper two years ahead of schedule, with 80+ citations

Case study – Outsmarting bushfires with AI

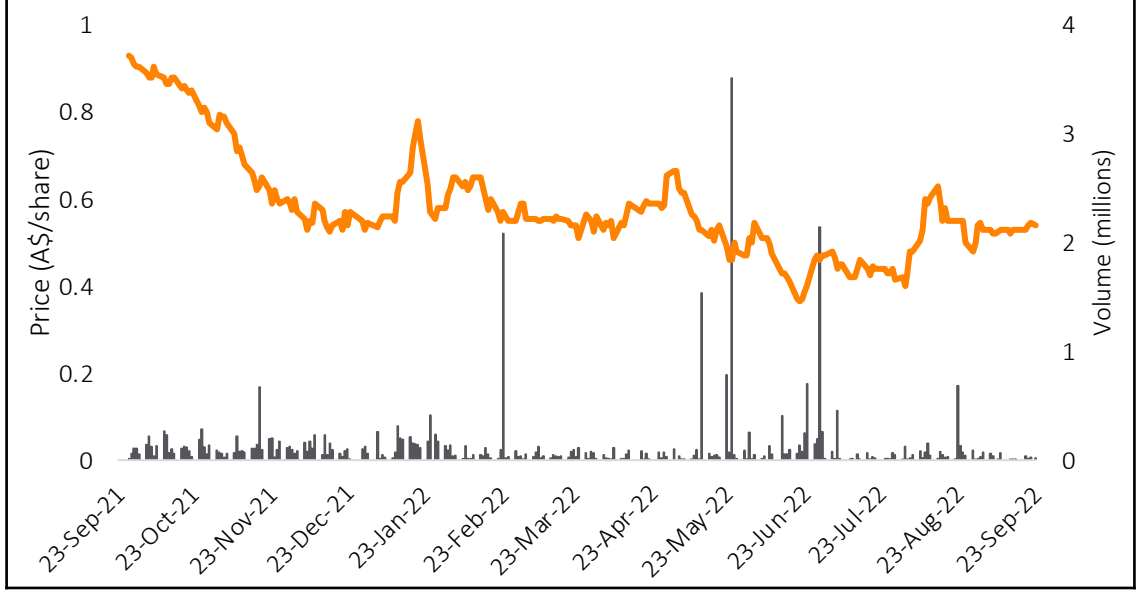
- The Frontier Development Lab AusNZ approached DUG to provide the HPC service and support for Data Quest 2020—a research sprint incorporating artificial intelligence (AI) into firefighting
- Predicting and preventing bushfires are arduous tasks due to the complexity of the processes involved, coupled with obsolete tools that require manual input
- DUG supplied HPC resources and data science expertise, enabling the researchers to efficiently test AI-powered systems by leveraging **terabytes of satellite data**

A number of innovative AI solutions for bushfire prevention and management were successfully developed

Clear, demonstrable pathways and deployable tools for future use by fire experts and first responders

Corporate summary

Share Price (ASX:DUG)



Board of Directors

Frank Sciarrone	Non-Executive Chairman
Matthew Lamont Ph.D.	Managing Director
Louise Bower	Non-Executive Director
Mark Puzey	Non-Executive Director

Corporate Structure	Units	
Share Price (as at 30 Sep 2022)	A$/sh	0.52
Shares on Issue	#m	118.1
Market Capitalisation	**A$m**	**61.4**
(+) Financial Debt[1] (as at 30 Sep 2022)	A$m	6.6
(-) Cash at Bank[1] (as at 30 Sep 2022)	A$m	2.3
Enterprise Value	A$m	65.7

Substantial Shareholders (as at 26 July 2022)	
Mr Matthew Lamont	20.4%
Perennial Value Management Limited	14.9%
Regal Funds Management Pty Ltd	9.3%
Thorney Investment Group	6.9%
Mr Philip Imperial Schwan	6.1%
Top 20 Shareholders	**71.23%**

Patents

Number	Title	Application Number	Filing Date mm/dd/year	Status	Patent Number	Date Issued mm/dd/year
1	METHOD FOR REMOVING THE INTERFERENCE CAUSED BY TIME OVERLAPPING SEISMIC RECORDINGS AND SEISMIC SURVEY ACQUISITION METHOD ASSOCIATED THEREWITH	2016370548	6/14/18	Granted	2016370548	7/23/20
2	METHOD FOR DETERMINING FREE SURFACE REFLECTIVITY FOR SEISMIC DATA PROCESSING	2017228842	8/30/18	Granted	2017228842	12/24/20
3	METHOD FOR DETERMINING SENSOR DEPTHS AND QUALITY CONTROL OF SENSOR DEPTHS FOR SEISMIC DATA PROCESSING	2017295827	2/11/19	Granted	2017295827	2/18/21
4	METHOD FOR DETERMINING NOTIONAL SEISMIC SOURCE SIGNATURES AND THEIR GHOSTS FROM NEAR FIELD MEASUREMENTS AND ITS APPLICATION TO DETERMINING FAR FIELD SOURCE SIGNATURES	1900855.6	1/22/19	Granted	GB2566653	8/18/21
5	METHOD FOR IMPROVED PROCESSING OF DATA WITH TIME OVERLAPPING RECORDINGS OF ENERGY SOURCES	PCT/US2018/035742	6/1/18	Granted	WO2018226541 A1	12/13/18
6	FLUID COOLING SYSTEM AND METHOD FOR ELECTRONICS EQUIPMENT	2016363679	5/20/18	Granted	2016363679	7/9/20
7	SEISMIC DATA PROCESSING METHOD FOR RESOLVING THE NEAR-SURFACE IN THE PRESENCE OF VELOCITY INVERSIONS	PCT/US2021/012539	1/7/21	Pending		
8	DECONVOLUTION OF DOWN-GOING SEISMIC WAVEFIELDS	PCT/US2020/065908	12/18/20	Pending		
9	SEISMIC WAVEFIELD MODELING HONORING AVO/AVA WITH APPLICATIONS TO FULL WAVEFORM INVERSION AND LEAST-SQUARES IMAGING	63/037,632	6/11/20	Pending		
10	METHOD FOR COMBINED UP-DOWN WAVEFIELD SEPARATION AND REDUCING NOISE IN VERTICAL PARTICLE MOTION MEASUREMENTS USING JOINT SPARSITY RECOVERY	63/137,897	1/15/21	Pending		
11	COMBINED QUASI-NEWTON AND ADAPTIVE GRADIENT OPTIMIZATION SCHEME USED IN SEISMIC DATA PROCESSING	63/167,332	3/29/21	Pending		
12	METHOD FOR DEGHOSTING AND NOISE REDUCTION IN COMBINED PRESSURE AND PARTICLE MOTION MEASUREMENTS USING JOINT SPARSITY RECOVERY	63/189,900	5/18/21	Pending		
13	WATER ELECTROLYSIS APPARATUS AND METHOD	63/242,420	9/9/21	Pending		
14	CONTROL SYSTEM FOR MODULAR ELECTROLYSIS CELL ARRANGEMENT	63/262,454	10/13/21	Pending		