

Corporate Presentation

January 2024

Forward-Looking Statement

Certain statements included herein may constitute forward-looking statements within the meaning of the securities laws of certain jurisdictions. Certain such forward-looking statements can be identified by the use of forward-looking terminology such as "believes", "expects", "may", "are expected to", "intends", "will", "will continue", "should", "would be", "seeks", "anticipates" or similar expressions or the negative thereof or other variations thereof or comparable terminology. These forward-looking statements include all matters that are not historical facts. They include statements regarding Alphawave IP Group Plc's ("Alphawave IP") intentions, beliefs or current expectations concerning, amongst other things, its results in relation to operations, financial condition, prospects, growth, strategies and the industry in which it operates. By their nature, forward-looking statements involve risks and uncertainties because they relate to events and depend on circumstances that may or may not occur in the future. Forward-looking statements are not guarantees of future performance and Alphawave IP's actual results of operations, financial condition, and the development of the industry in which it operates, may differ materially from those made in or suggested by the forwardlooking statements contained in this Presentation. In addition, even if Alphawave IP's results of operations, financial condition, or the development of the industry in which it operates are consistent with the forward-looking statements contained in this Presentation, those results or developments may not be indicative of results or developments in subsequent periods. Important factors that could cause those differences include, but are not limited to customer demand, Alphawave IP's innovation and R&D and technology capabilities, target market trends, industry trends, customer activities and end-market trends, market acceptance of Group technologies; increased competition; macroeconomic conditions; changes in laws, regulations or regulatory policies; and timing and success of strategic actions. These forward-looking statements speak only as of the date of this Presentation. As such, undue reliance should not be placed on forward-looking statements. Other than in accordance with legal and regulatory obligations, Alphawave IP undertakes no obligation to publicly update or revise any forwardlooking statement, whether as a result of new information, future events or otherwise.



Founding Team and Track Record

Alphawave Semi's Founding Team Has Supplied Connectivity Solutions For Global Tier-One Customers Since 1998

Experienced Founding Management Team

JOHN LOFTON HOLT

Executive Chairman, Founder

HOLT BROTHERS Capital Partners Landon Silicen Valley New York

achronix \$3

 >20 years of executive and investment experience

TONY PIALIS

Chief Executive Officer, President. Founder



Snowbush IP

 >20 years of executive experience

JONATHAN ROGERS

SVP Engineering, Founder



SVP Operations, Founder





 >20 years of executive experience



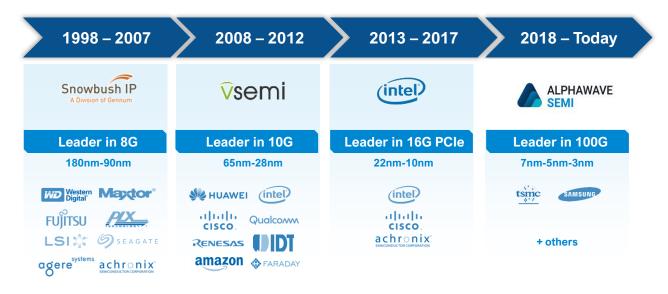




 >20 years of executive experience

Swift Success at Alphawave Underpinned by a >20 Year Track Record

- ✓ Members of the Management team have worked together for nearly two decades
- ✓ Technical team has developed in every advanced technology from 180nm → 3nm
- ✓ Communications products shipped to Tier-One customers globally since 1998
- ✓ Founders have raised and deployed \$300M across four successful semiconductor companies that have generated nearly \$3B of value since 2004





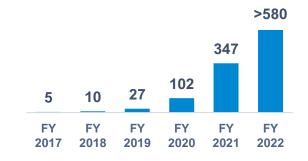
Focused on Delivering Results Since IPO...



End Customers^{1,2}

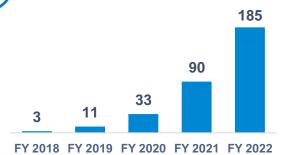


Cumulative Bookings² (US\$m)



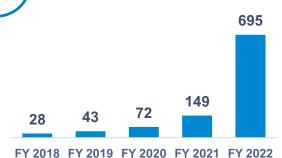


Revenue (US\$m)²



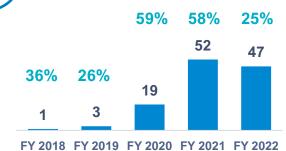


Employees²



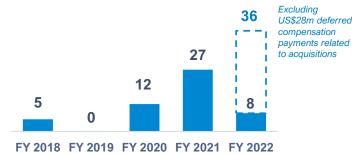


Adjusted EBITDA² (US\$m) & Margin





Pre-tax Operating Cash Flow² (US\$m)

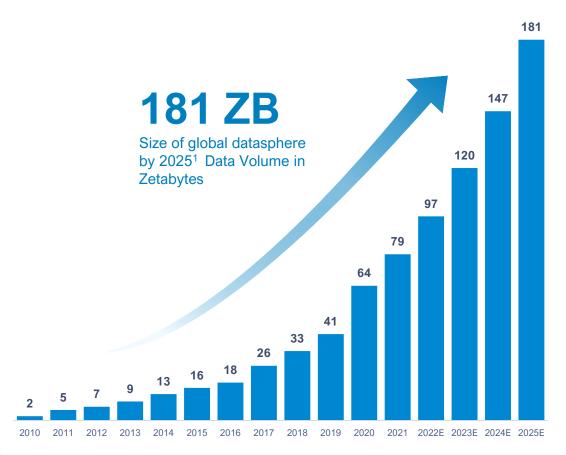


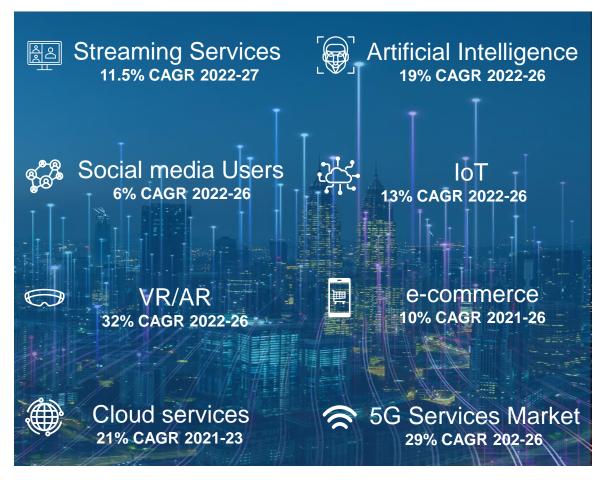


Revenue generating customers. FY 2017 and FY 2018 as per IPO prospectus.

The Age of Exponential Data Growth

More Sensors, Devices, Images and Multimedia... More Enterprise Data

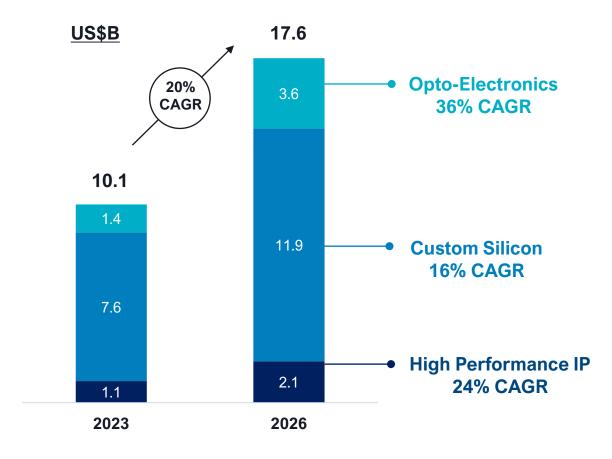




¹ The Data Center Journey, From Central Utility To Center Of The Universe (semiengineering.com). Source Statista See slide 93 for all other references



Addressable Market Expanding to \$18B by 2026



Market Drivers

- Digitalisation drives exponential growth in data
- Data bandwidth doubles every 2-3 years driving a technology refresh of switches and transceivers
- High-speed and power-efficient connectivity technology is a key enabler
- Hyperscalers investing through the economic cycle



Semico Research Corporation, December 2022, IPNest and Lightcounting



Alphawave Technology Strengths

Leading Edge Capabilities and Technologies to Deliver the Fastest Connectivity Solutions

High-Speed Connectivity IP



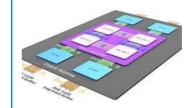
- 224Gbps,112Gbps, chiplets
- #1 TSMC OIP partner 2020-2022
- 2022 Samsung Best Collaboration Award

Advanced Silicon



• First in 7nm, 6nm, 5nm, 4nm and 3nm

Chiplet – Package Design



- Deep expertise in chiplet packages design
- 2.5D and 3D package designs in production

Opto-Electronics



- PAM4, Coherent DSPs, and silicon photonics for 1.6T Ethernet
- 224Gbps photonics in silicon





Data Connectivity Everywhere

Our Expertise is in The Circuits and Systems Required to Communicate Data...

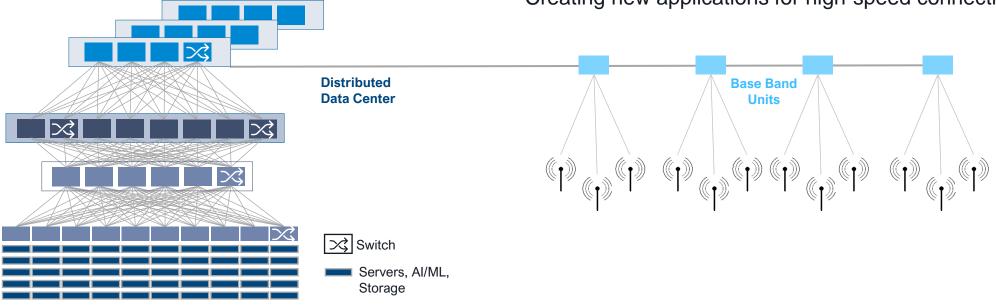
...Whether separated by kilometres of optical fibre or meters of copper cable, sub-millimetre printed wiring, the start- and end-points of data are silicon chips

Inside Data Centers...

 Up to 76% of all data centre internet traffic traverses internally within data centres

...and at the Edge (5G rollout a major driver)

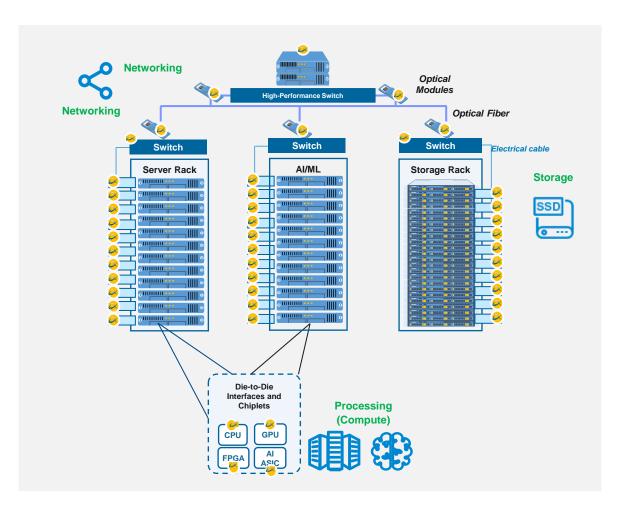
- Placing application-specific compute close to the sources of data
- Creating new applications for high-speed connectivity





Our Technology Enables High-Speed Data Transmission

In Key Applications Inside Data Centers



Semiconductors are at the start and end points of any transmission of data

	Applications	Where
Processing (Compute)	CPU, GPU, FPGA, AI	In Servers and AI/ML racks
Networking	Network cards (NICs), Switch, optical modules and cabling	In servers and AI/ML racks, switches, optical modules, and cabling
Storage	Solid State Drives (SSD), Flash Memory, Hard Disk Drives (HDD)	In storage rack



Key Technology Trends

Optics Getting Closer to The End Points

Increasing use of optical cables over copper and co-packaged optics for lower cost, power and latency

Coherent Optical

Increasing use of coherent optical communication inside data centers to overcome the bandwidth limitations of optical components

Disaggregated Computing

Disaggregation of compute and storage to increase efficiency

Advances on CMOS Technology

Higher development and manufacturing costs of high-end semiconductors

Chiplet

Emergence of the chiplet design paradigm



Long-Term Technology Trends

Today

- Emphasis on using copper connectivity wherever possible to keep costs low
- Computer and system designers select packaged electronic parts and wire them together on a custom circuit board
- Global and interconnected supply chain

10 Years

- Ubiquitous use of low-cost optical connectivity solutions, even over short reaches
- Complete systems
 designed and made by
 packaging multiple
 standard silicon chiplets
 within a few centimetres
- Complete on-shore ecosystem for integrated circuits, chiplets, advanced packaging

Alphawave Semi is well-positioned to:

Extend and expand technology leadership

Deliver solutions for emerging optical connectivity

Offer complete custom silicon expertise and chiplet IP

Leverage solid relationships with major western companies and governments



Drivers of Our Vision and Ambition



Building a Leading Connectivity Business



Land and Expand



High-Performance
Silicon IP and Products

People and culture



Vertically Integrated



Building a Leading Connectivity Business



High-Performance Silicon IP and Products

- Leading edge connectivity IP
- Delivering the fastest connectivity solutions
- Complete set of products and expertise aligned to long-term market trends



Vertically Integrated

- Monetising our IP through IP licences, custom silicon and connectivity products
- Greater scale
- Enhanced competitive position



People and Culture

- Technology-centric, open and diverse culture fosters innovation
- Approximately 700 employees
- Key design centres in Canada, US, Israel and India



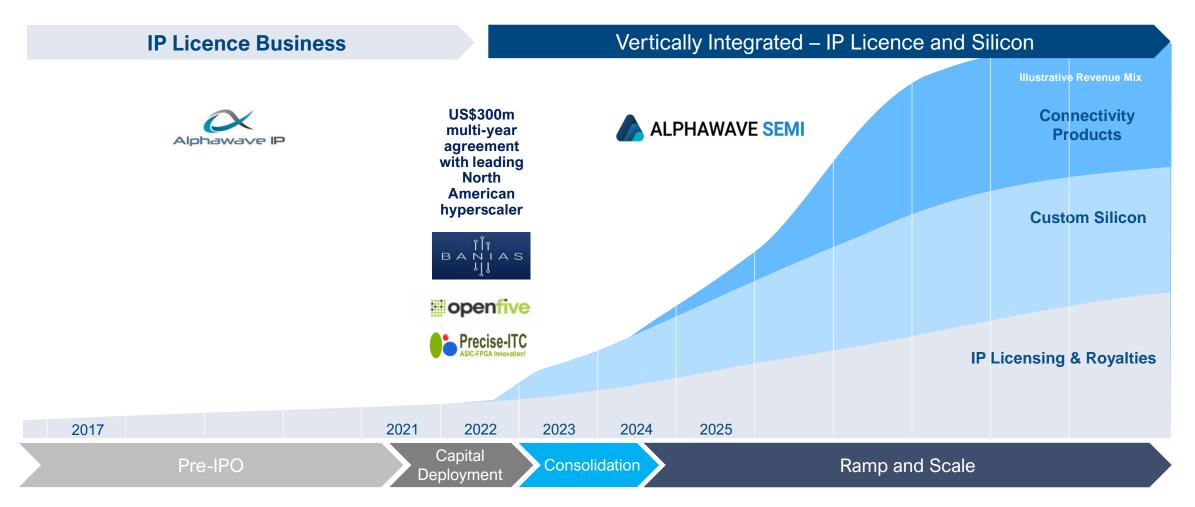
Land & Expand

- Adding value to customers by servicing more of their connectivity needs
- Growing opportunity with large cloud, wireless infrastructures and hyperscalers
- Collaborative approach with customers promotes innovation



Leading Connectivity Technology for Digital Infrastructure

Vertically Integrated - Monetising our IP Through IP Licence and Silicon





Growth Strategy Built on a Broad Product Portfolio

Leading Connectivity IP and Silicon

Connectivity Silicon IP



Networking, Optical, Compute, Storage, AI, CPU, 5G Infrastructure, Automotive

Custom Silicon



Bespoke silicon to customers' requirements incorporating our Connectivity IP



Connectivity Products

High bandwidth, advanced node optical and electrical networking products

First revenue 2024

PAM4 & Coherent Transceivers

>230 IPs and partnered with TSMC, Samsung, Intel 85 revenue generating end customers

Leveraging our IP



Connectivity Silicon IP

Servers and Storage



High-speed Interface IP for data centre compute – CPU, GPU, AI & FPGA

PCIe Gen6 / CXL 3.0



Networking



Interface IP for Networks – Switches, Routers, DPUs, NICs

400G, 800G, 1.6T Ethernet



Memory



Memory Interface IP for DRAMs & HBM – CPU, GPU, AI, FPGA, DPUs

HBM, LPDDR, DDR



Chiplets



Chiplet Interface IP 2.5D and 3DIC

UCIe, BOW, Open-HBI





Custom Silicon

Silicon Proven Solutions Leveraging Our High-Performance IP



Custom Silicon Expertise

- Experienced engineering teams and advanced packaging expertise (2.5/3D)
- Reliable operations and partnerships
- Proven design flow and methodology for leading nodes
- Application optimized IP sub-systems





Silicon IP



>155 IPs and partnered with TSMC, Samsung, Intel

- PCIe/CXL
- 224G/ 112G
- Ethernet
- HBM, LPDDR, DDR
- Die-to-Die Chiplets
- RiscV

Strong Partnerships Across the Supply Chain



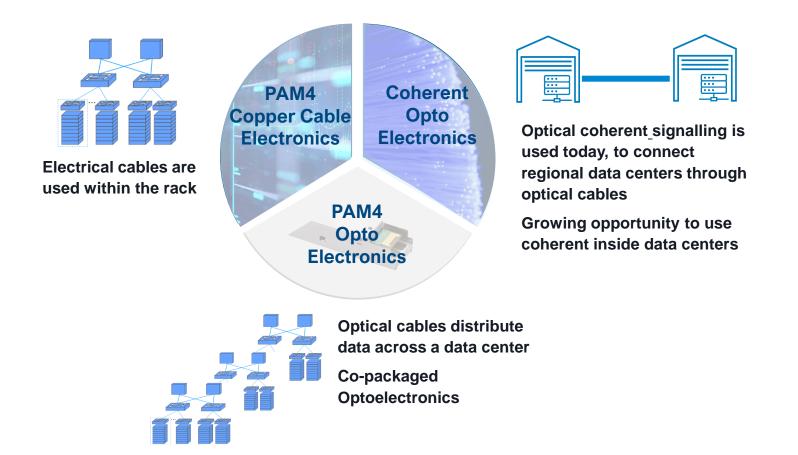


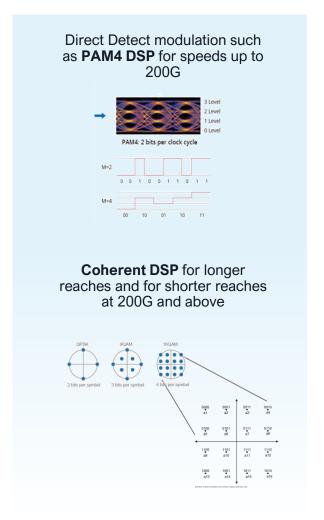




Connectivity Products

Full Range of PAM4 and Coherent DSPs – Electrical and Optical

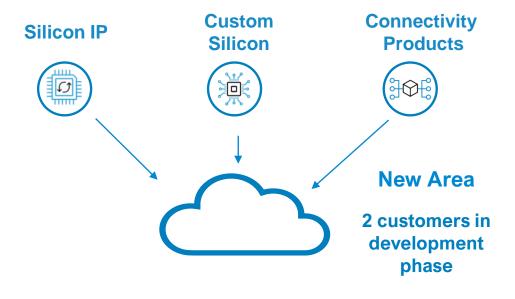


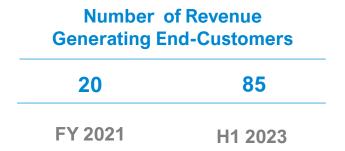




Adding Value to Customers - Land & Expand

Servicing More Connectivity Requirements





- Technology refresh/upgrade provide an opportunity to work with new customers
- Once technology is qualified and deployed is easier for customers to increase adoption
- Close R&D collaboration with customers drives product development
- Hyperscaler multi-year agreement provides unique platform to develop new products and scale the business



People and Culture

Attracting Talent and Creating an Environment to Foster Leading Innovation

- Attracting and retaining talent:
 - Employee share ownership aligned to shareholder's interests
 - Working on leading edge technology
 - Supporting employees' wellbeing through period of accelerated business expansion
- Technology-centric culture focused on solving the hardest challenges
- Promoting an open and diverse environment to foster innovation





~20% Female





Our Commitment to ESG

Building the Team to Support a Responsible Business Expansion

ESG Steering Group to drive improvements and long-term sustainability strategy



- Our products contribute to more sustainable data centers
- Fabless business model with relatively lower carbon footprint
- Ongoing commitment to actively manage and reduce our carbon footprint
- Environmental disclosures following TCFD recommendations



Social

- Talent identification and retention programme
- Commitment to Diversity & Inclusion
- Corporate values fostering innovation and the next wave of innovators
- University Relations, Internships, and Community Engagement programme



Governance

- Responsible Company adhering to high standards as per our Code of Ethics and Business Conduct
- Increasing focus on Supply Chain Governance
- Head of Governance driving further improvements



Recent Company Announcements

Alphawave Semi Partners with Keysight to Deliver Industry Leading Expertise and Interoperability for a Complete PCIe 6.0 Subsystem Solution

12.14.2023

Alphawave Semi Named One of Canada's Enterprise− Industry Leaders Winners in Deloitte's Technology Fast 50™ Program

11.08.2023

Alphawave Semi Announces Appointment of Rahul Mathur as Chief Financial Officer

10.23.2023

Alphawave Semi Elevates Chiplet-Powered Silicon Platforms for Al Compute through Arm Total Design

10.17.2023

Alphawave Semi Announces Appointment of David Reeder to Board of Directors

09.01.2023

Alphawave Semi Spearheads Chiplet-Based Custom Silicon for Generative AI and Data Center Workloads with Successful 3nm Tapeouts of HBM3 and UCIe IP

07.10.2023



Outlook Unchanged

US\$	2023 ¹	2025
Revenues	\$340-360m	\$500m
Gross margin		c.60%
Opex %		c.30%
R&D %		Below 20%
Adjusted EBITDA ¹	Approx. \$87m	Approx. \$150m
Adjusted EBITDA %	c. 25%	c.30%
Capex (exc. Cap R&D)	c. 12%	c. 10%

H₁ 2023

- Depreciation and amortisation US\$13.3m
- Share-based payments US\$18.5m
- Deferred compensation US\$4.1m
- Capex US\$14.6m or 8% of revenue
- Capitalised R&D of US\$24.7m or 13% of revenue

^{1 2023} assumes mid-point of the guidance range and 25% adjusted EBITDA margin; 2025 assumes US\$500m revenue and 30% adjusted EBITDA margin

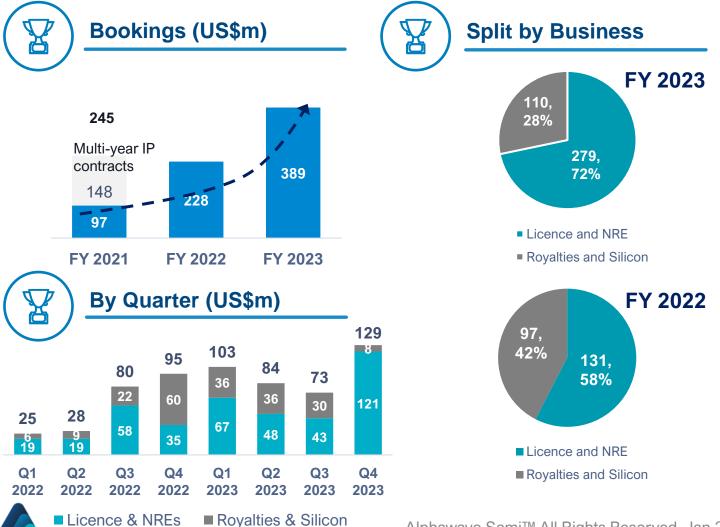




Bookings FY 2023

FY 2023 Bookings up 70% Year-on-Year

Over 80% of Licence & NRE Bookings in Advanced Nodes



Licence & NRE

- Main contribution from North American customers
- Increased contribution from APAC and EMEA
- Reduced contribution from China customers for the second consecutive year
- Major extension of IP development and licence deal with a leading APAC customer including 2nm technology
- Two 3nm custom silicon design wins

Royalties & Silicon

- Mainly driven by orders from legacy Chinese customers
- Increased contribution from North American customers



Financial Results
H1 2023

H1 2023 Highlights

Bookings

US\$187m

H1 2022: US\$53m

Revenue

US\$187m

H1 2022: US\$57m

Adjusted EBITDA¹

US\$32m

H1 2022: US\$23m

Design Wins

16

H1 2022: 13

End-Customers

85

FY 2022: 80

H1 2022: 28

Employees

744

FY 2022: 695

H1 2022: 251

1 See slide 36 for reconciliation of non-GAAP metrics



H1 2023 Highlights

Backlog¹

US\$365m

Dec 2022: US\$365m

Bookings

US\$187m

H1 2022: US\$53m

Revenue

US\$187m

H1 2022: US\$57m

Adjusted EBITDA

US\$32m

H1 2022: US\$23m

Pre-Tax Operating Cash Flow

US\$(31)m

H1 2022: US\$32m

Cash and Cash Equivalents

US\$123m

H1 2022: US\$452m

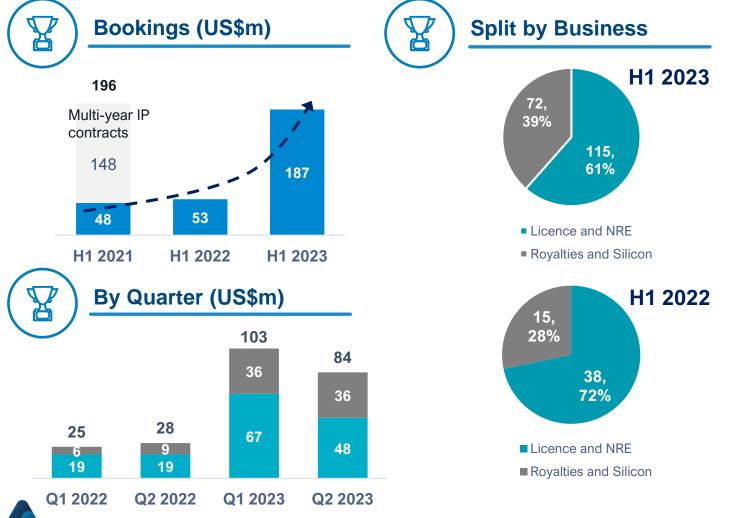


H1 2023 Bookings up 251% Year-on-Year

75% of IP & NRE Bookings in Advanced Nodes

■ Royalties & Silicon

■ Licence & NREs



Licence & NRE

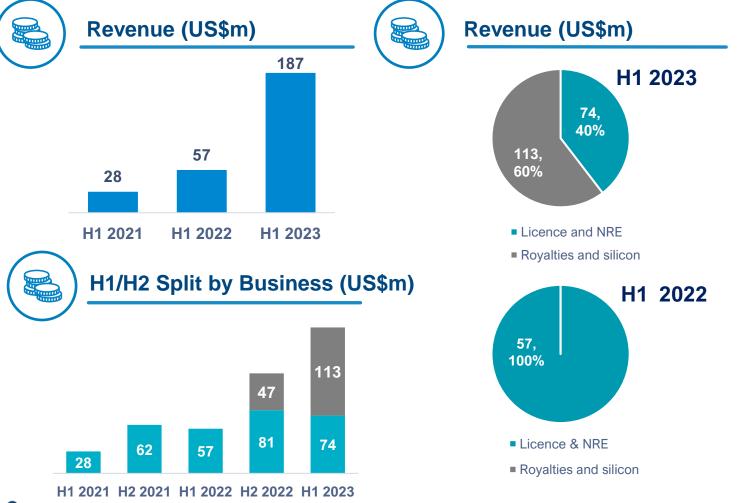
- Main contribution from North American customers
- Increased contribution from EMEA and APAC
- First 3nm custom silicon design win with 224G Ser-Des IP enabling 800G/1.6T connectivity
- Design win with a leading APAC customer for our leading Gen6 PCle SerDes and Controller IP

Royalties & Silicon

 Mainly driven by orders from Chinese and North American customers

H1 2023 Revenue up 228% Year-on-Year

Revenue Outside of China US\$63m up 79% Year-on-Year



■ Royalties and silicon

Licence & NRE

 Growth mainly driven by multiyear contracts

Royalties & Silicon

 Approximately ¾ from Chinese customers related to preexisting custom designs in production

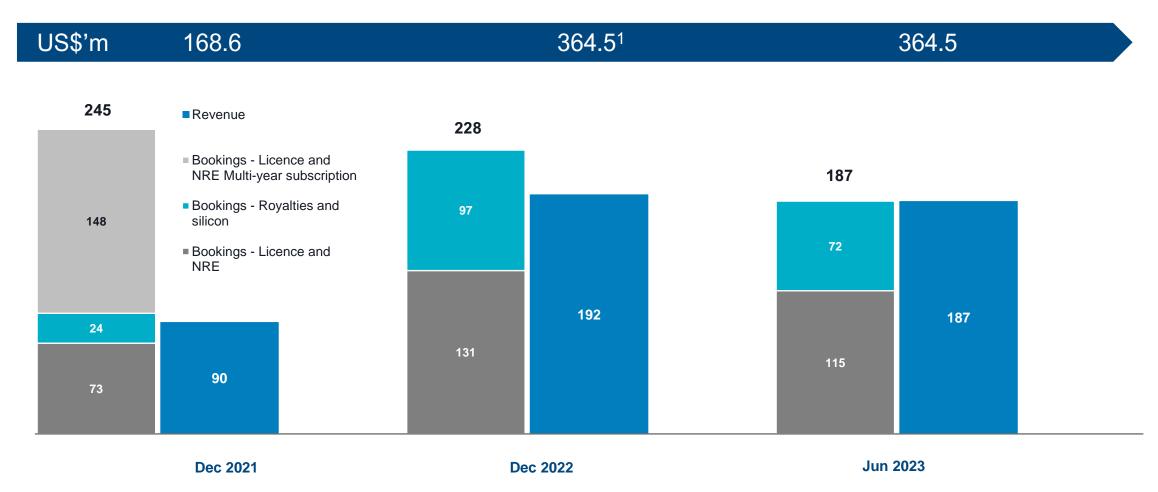
North America +134% YoY

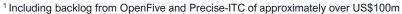
H1 2023 Gross margin at 44% reflects business mix including legacy silicon revenue from OpenFive

Licence and NRE

Backlog US\$366m

Large Diverse Backlog Drives Stability and Predictability With 18+ Months of Visibility



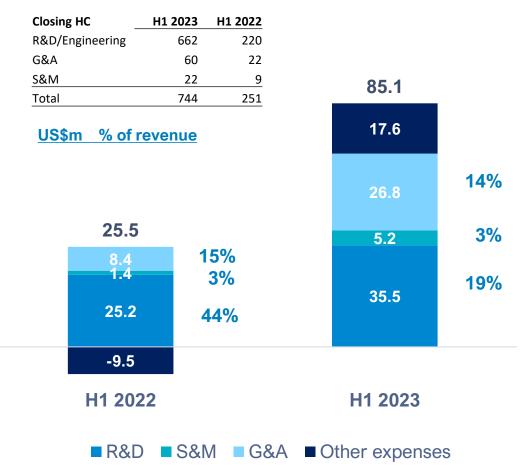




Investing In Future Revenue Growth

Operating Expenses Reflect Increased Headcount

- Increased headcount from 251 to 744
 - Approximately 350 employees from the acquisitions of OpenFive and Banias Labs
- R&D increased headcount and some additional IT/SW tooling required
 - US\$24.7m R&D expenses capitalised in H1 2023 (H1 2022: US\$nil)
 - US\$6.3m amortisation of acquired intangibles
- G&A building finance, legal and HR functions
 - Includes US\$4.1m of deferred compensation payments related to acquisitions
- Other expenses/(income) in H1 2022 include a US\$19.3m exchange gain
 - H1 2023 SBP US\$18.5m (H1 2022: US\$7.2m)



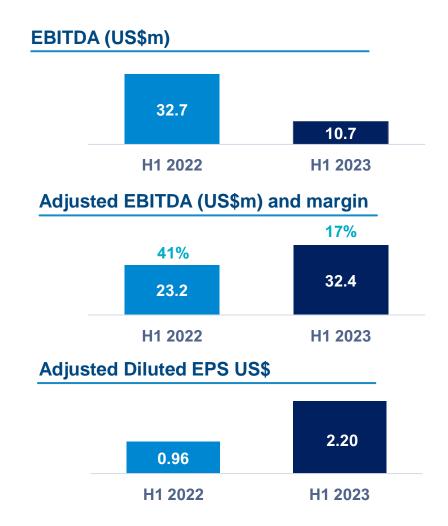
Due to rounding, numbers presented in the chart may not add up to the totals provided.



Higher Adjusted EBITDA Reflects Increasing Scale

Adjusted EBITDA Margin Reflects Business Mix and Investment in Growth

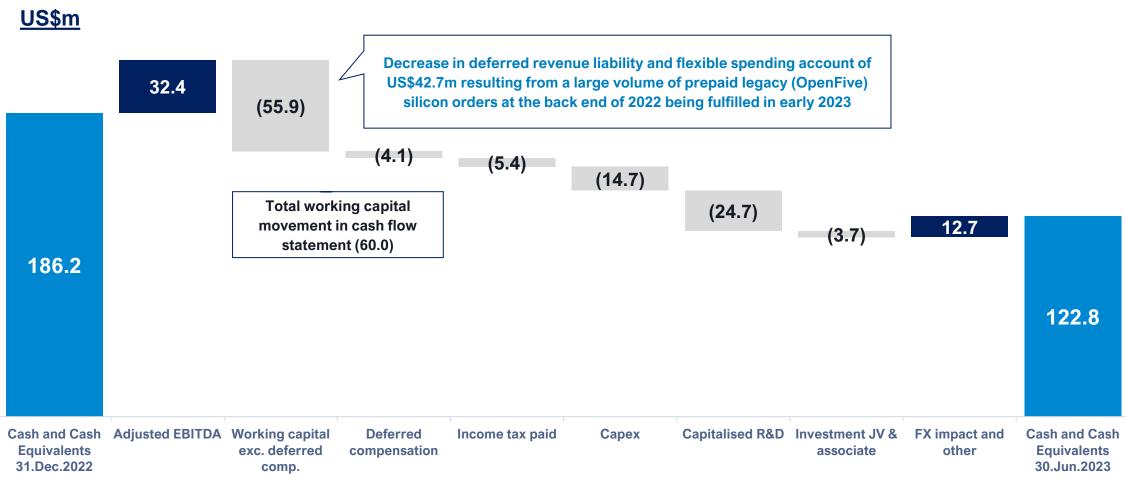
- EBITDA¹ in H1 2022 included US\$19m exchange gain
- Adjusted EBITDA of US\$32.4m, 40% over H1 2022
- Adjusted EBITDA margin of 17% reflects:
 - Acquired legacy custom silicon revenue at low margin
 - Investment in capabilities to support our pipeline of opportunities
- Adjusted diluted EPS of \$2.20
 - Higher adjusted operating profit
 - Higher share count







H1 2023 Cash Flow Bridge



Due to rounding, numbers presented in the chart may not add up to the totals provided.



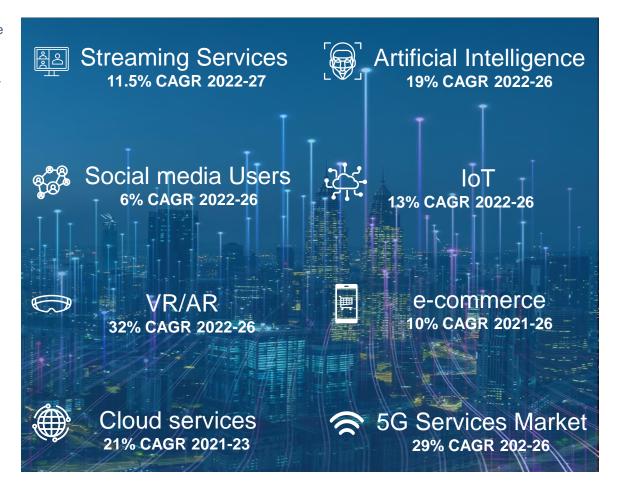


Appendix

References Slide 4

- Streaming Services <u>Video Streaming (SVoD) Global | Statista Market Forecast Revenue</u> is expected to show an annual growth rate (CAGR 2022-2027) of 11.48%, resulting in a projected market volume of US\$139.20bn by 2027
- Social Media Users Number of worldwide social network users 2027 | Statista Number of users from 4.26 billion in 2021 to almost six by 2027
- VR/AR IDC Spending Guide Forecasts Strong Growth for Augmented and Virtual Reality
 The five-year compound annual growth rate (CAGR) for AR/VR spending will be 32.3%.

 Virtual reality will account for more than 70% of all AR/VR spending throughout the 2022-2026 forecast
- Cloud Services Gartner Forecasts Worldwide Public Cloud End-User Spending to Reach Nearly \$500 Billion in 2022_2021:\$419m 2023 \$600m
- Al IDC Forecasts 18.6% Compound Annual Growth for the Artificial Intelligence Market in 2022-2026
- loT https://www.statista.com/statistics/1183457/iot-connected-devices-worldwide/
- **e-commerce** Global Ecommerce Growth Forecast 2022 | Morgan Stanley Over the long term, the e-commerce market has plenty of room to grow and could increase from \$3.3 trillion today to \$5.4 trillion in 2026.
- 5G Services Market Global 5G Services Market Size is Anticipated to Reach
 (globenewswire.com) The global size to grow from USD 53.0 billion in 2020 to USD 249.2
 billion by 2026, at a Compound Annual Growth Rate (CAGR) of 29.4% during the forecast period.





Non-GAAP Metrics

See note 4 to the accounts Alternative Performance Measures FY 2022 Preliminary Results Report and FY 2021 Annual Report at https://www.awaveip.com/en/investors/results-reports-presentations/

	Year ended 31 December 2022 US\$m	Year ended 31 December 2021 US\$m
Backlog (end of the prior year)	168.6	37.3
Add: New bookings excluding IP royalties	213.0	220.8
Add: Backlog acquired with OpenFive and Precise-ITC	176.5	_
Less: Revenues recognised in the period ¹	(192.4)	(89.4)
Backlog (end of the year)	365.8	168.6
Operating profit to EBITDA reconciliation		
	Year ended	Year ended
	31 December 2022	31 December 2021
	US\$'000	US\$'000
Operating profit	45,021	36,035
Add backs:		
Depreciation of tangible fixed assets and right-of-use assets	5,508	3,127
Amortisation	5,769	_
EBITDA	56,298	39,162
	Year ended 31 December 2022 US\$'000	Year ended 31 December 2021 US\$'000
EBITDA	56,298	39,162
Add backs:		
Non-recurring Initial Public Offering costs	_	9,961
M&A-related costs	16,973	533
Share-based payment	15,695	6,143
Exchange gain	(36,838)	(4,023)
Retention payments	1,703	_
Adjusted EBITDA	53,831	51,776

Profit for the year to adjusted profit after tax reconciliation		
	Year ended 31 December	Year ended 31 December
	2022	2021
	US\$'000	US\$'000
Profit for the year	6,483	9,431
Add backs:		
Non-recurring Initial Public Offering costs	-	9,961
M&A-related costs	16,973	533
Share-based payment	15,695	6,143
Exchange gain	(36,838)	(4,023)
Retention payments	1,703	-
Amortisation of acquired intangibles	5,129	_
Adjusted profit for the year	9,145	22,045
Adjusted profit per ordinary share attributable to the shareholders (expressed in c	cents per ordinary share)	
	Year ended	Year ended
	31 December 2022	31 December 2021
Adjusted basic earnings per share (US\$ cents)	1.35	3.52
Adjusted diluted earnings per share (US\$ cents)	1.21	3.14



Non-GAAP Metrics

See note 4 to the accounts Alternative Performance Measures H1 2023 Results Report at https://www.awaveip.com/en/investors/results-reports-presentations/

	Six months ended	Year ended 31 December
	30 June	
	2023	2022
	US\$m	US\$m
Backlog (end of the prior year)	364.5	168.6
Add: New bookings excluding IP royalties	187.2	213.0
Add: Backlog acquired with OpenFive and Precise-ITC	-	168.3
Less: Revenues recognised in the period ¹	(187.2)	(185.4)
Backlog (end of the period)	364.5	364.5

Operating profit to EBITDA reconciliation

	Six months	Six months
(US\$'000)	ended 30 June 2023	ended 30 June 2022
Operating (loss)/profit	(2,580)	29,898
Add backs:		
Depreciation and amortisation	13,307	2,839
EBITDA	10,727	32,737

EBITDA to adjusted EBITDA reconciliation

(US\$'000)	Six months ended 30 June 2023	Six months ended 30 June 2022
EBITDA	10,727	32,737
Add backs:		
Non-recurring M&A-related (income)/costs	(263)	2,537
Share-based payment	18,502	7,192
Exchange gain	(592)	(19,271)
Retention payments	4,069	-
Adjusted EBITDA	32,443	23,195

Profit after tax to adjusted profit after tax reconciliation

(US\$'000)	Six months ended 30 June 2023	Six months ended 30 June 2022
Profit after tax	(13,431)	16,252
Add backs:		
Non-recurring M&A-related (income)/costs	(263)	2,537
Share-based payment	18,502	7,192
Exchange gain	(592)	(19,271)
Retention payments	4,069	-
Amortisation of acquired intangibles	6,328	-
Tax effect of above adjustments	823	
Adjusted profit after tax	15,436	6,710

Adjusted profit per ordinary share attributable to the shareholders (expressed in cents per ordinary share)

	Note	Six months ended 30 June 2023	Six months ended 30 June 2022
Adjusted basic earnings per share	13	2.20	1.00
Adjusted diluted earnings per share	13	2.20	0.96



Non-GAAP Metrics

See note 4 to the accounts Alternative Performance Measures H1 2022, FY 2022 and H1 2023 at https://www.awaveip.com/en/investors/results-reports-presentations/

- Bookings are a non-IFRS measure representing legally binding and largely non-cancellable commitments by customers to license our technology. Bookings comprise licence fees, non-recurring engineering, support and, in some instances, our estimate of potential future royalties.
- Backlog is a non-IFRS measure representing our bookings less revenues recognised to date.

