RNS Number : 1641X
Allied Minds PLC
26 April 2019

FOR IMMEDIATE RELEASE 26 April 2019

Allied Minds plc

("Allied Minds" or the "Group" or the "Company")

Annual Results Release and Strategy Update

Allied Minds plc (LSE: ALM), an IP commercialisation company focused on early stage company development within the technology and life science sectors, announces its annual results for the year ended 31 December 2018.

- Net cash and investments* of $97.7 million (2017: $169.1 million) of which $50.6 million (2017: $84.2 million) is held at the parent level.
  * includes funds in form of fixed income securities.
- Revenues of $5.6 million (2017: $5.0 million) mainly from non-recurring engineering (NRE) and service contracts, reflecting the early stage nature of our portfolio companies.
- Net profit of $47.3 million, (2017: net loss of $111.1 million) primarily reflects selling, general and administrative and research and development spending of $49.3 million and $44.9 million, respectively, to support the portfolio development activities, offset by NRE revenue of $5.6 million, finance income of $92.9 million reflecting the fair value accounting adjustment of the portfolio company preferred shares liability balance, and other income of $45.4 million reflecting $3.9 million of net gain from the disposal of trade and assets at Percipient Networks as well as $41.5 million due to the deconsolidation of two of the Company's existing portfolio companies, HawkEye^{360} and Spin Memory including the share of loss related to Spin Memory.
- Changes to strategy: Ceasing investments into new companies; managed process of monetising the existing portfolio over time to capture maximum returns; and further reduction of HQ cash operating expenses to $5.0 to $6.0 million. Key shareholders have expressed support for these measures.

Jill Smith, President and Chief Executive Officer of Allied Minds, said:

"2018 was characterised by strong progress and validation at our technology portfolio companies, but delays at our life sciences companies.

I am delighted by the successful funding rounds at Spin Memory, HawkEye^{360} and BridgeSat, each led by important strategic investors, building on a similarly successful financing for Federated Wireless in late 2017. Bolstered by the financial and commercial support of these investors, many of whom have also signed commercial agreements or partnerships with our companies, Spin Memory, HawkEye^{360} and Federated Wireless are all poised to deliver commercial revenue in 2019.

Today we announced a new strategy designed to maximise the returns from our existing portfolio. By making no investments into new companies, further reducing annual central costs to $5 to $6 million, and with disciplined capital allocation, we have sufficient cash and are well-positioned to support our companies through to monetisation outcomes that maximise returns to our shareholders."

There will be a call for analysts and investors to join at 9.30 am UK time using the dial in details below:

To join via conference call please dial:

UK Dial-In Number: +44 333 300 0804

US Dial-In Number: +1 855 857 0686

PIN: 74356751#

<u>HIGHLIGHTS</u>

Investment Highlights

During 2018, an aggregate of $84.9 million was invested into new and existing portfolio companies, including:

- $76.9 million from portfolio company fundraisings with $51.4 million coming from third-party investment and $25.5 million from Allied Minds, to support and accelerate the development of three of the Group's existing companies: BridgeSat, HawkEye^{360} and Spin Memory.
  - In January 2018, the Group syndicated $10.3 million of Spin Memory's $22.8 million convertible bridge facility underwritten by Allied Minds in October 2017; this facility was designed to bridge Spin Memory to the completion of the planned Series B funding round which targeted strategic investors and was ultimately completed in November 2018.
  - In September 2018, BridgeSat announced it had raised $10.0 million in a Series B preferred stock financing led by Boeing HorizonX Ventures, the venture arm of The Boeing Company, with participation by Allied Minds; proceeds from the transaction will be applied to accelerate the product development and buildout of BridgeSat's optical ground station (OGS) network.
  - In September 2018, HawkEye^{360} announced the second closing of its $14.9 million Series A-3 funding round led by Raytheon Company, with participation from Sumitomo Corporation of America, Razor's Edge Ventures, Shield Capital, Space Angels, Allied Minds and an unnamed new financial investor; proceeds from the transaction will be applied to fund the development, build and launch costs of the company's first commercial satellite cluster and for general commercial purposes.
  - In November 2018, Spin Memory announced its $52.0 million Series B funding round led by ARM Technology Investments Limited, the venture capital arm of ARM Limited, and Applied Ventures LLC, the venture capital arm of Applied Materials, with final participation from Abies, a Japanese venture capital fund, Woodford Investment Management, Invesco Asset Management, Allied Minds and others. The round was comprised of $29.0 million raised from new and existing investors, and $23.0 million from the exercise of convertible securities subscribed for in an earlier bridge round by Allied Minds, Woodford Investment Management and Invesco Asset Management. The proceeds will be used for the development and execution of the commercial agreement with Applied Materials

to create a comprehensive embedded MRAM solution, and a commercial agreement with ARM Limited for the licensing of Spin Memory's Endurance Engine design IP to address static random-access memory (SRAM) application in SoCs (Systems-on-a-Chip).

- In addition to these fundraisings, $8.0 million was invested by the Allied Minds into three new portfolio companies: Orbital Sidekick, QuayChain and TableUp; and one additional new portfolio company was formed: Spark Insights:
    - In April 2018, Allied Minds led the seed funding round at Orbital Sidekick, investing $3.5 million for a current 32.33% ownership interest; 11.2 Capital also invested in the round; proceeds from the seed round will be applied principally to fund a demonstration of Orbital Sidekick's hyperspectral capabilities from the International Space Station and other airborne platforms, analytics and product development, and customer acquisition.
    - In April 2018, Allied Minds led the Series A preferred stock financing at TableUp, investing $4.0 million for a current 35.52% ownership interest; proceeds from the round will be applied to analytics and product development, and growing revenue, focusing on signing more customers to the TableUp platform, building on existing relationships including with Reyes Holdings, LLC and others; post period end, Allied Minds invested an additional $350,000 in convertible notes.
    - In September 2018, Allied Minds formed QuayChain and invested $0.5 million in a seed funding round, giving Allied Minds a current 72.22% ownership interest; post period end, Allied Minds invested an additional $350,000 in convertible notes.
    - In December 2018, Allied Minds formed Spark Insights; post period end, Allied Minds invested an aggregate of $3.2 million in funding preferred share financing, giving Allied Minds a current 70.59% ownership interest.

Financial Highlights

- Net cash and investments* of $97.7 million (2017: $169.1 million) of which $50.6 million (2017: $84.2 million) is held at the parent level.

  * includes funds in form of fixed income securities.

- Revenues of $5.6 million (2017: $5.0 million) mainly from non-recurring engineering (NRE) and service contracts, reflecting the early stage nature of our portfolio companies.
- Net profit of $47.3 million, (2017: net loss of $111.1 million) primarily reflects SG&A and R&D spending of $49.3 million and $44.9 million, respectively, to support the portfolio development activities, offset by NRE revenue of $5.6 million, finance income of $92.9 million reflecting the fair value accounting adjustment of the portfolio company preferred shares liability balance, and other income of $45.4 million reflecting $3.9 million of net gain from the disposal of the trade and assets at Percipient Networks as well as $41.5 million due to the deconsolidation of two of the Company's existing portfolio companies, HawkEye^{360} and Spin Memory, including the share of loss related to Spin Memory.

Valuation disclosure

In prior periods, the Company has provided the total value of all portfolio companies in the Group, which was used to derive the group Ownership Adjusted Value (OAV). The Board, in consultation with its strategic advisors and key shareholders, has determined to cease disclosure of OAV going forward. This decision is based on the view that, on balance, disclosure of OAV may not be in the best interests of the Company and its shareholders. OAV provides a public benchmark that can be detrimental to Allied Minds and its portfolio companies, including when negotiating with co-investors (or potential acquirors), if it sets a value that may be different than these parties may otherwise ascribe. In addition, the six consolidated portfolio companies are pre- or early-revenue stage companies, and the Directors, in many cases, believe that a discounted cash flow (DCF) analysis used to derive the portfolio company value may not provide a very useful indication of value.

In lieu of OAV, Allied Minds intends to continue to provide qualitative and quantitative disclosure in relation to the commercial and financial progress of its portfolio companies, and directional commentary on valuation. In addition, where commercially possible, Allied Minds will provide, for each portfolio company: (i) the date of the last equity funding round, (ii) the post-money valuation of such round, (iii) the named key co-investors in such round, and (iv) the Company's issued and outstanding ownership, and fully-diluted ownership, of such portfolio company.

Corporate Developments

- In May 2018, Rick Davis stepped down as a Non-Executive Director
- In May 2018, the Company appointed Fritz Foley as a Non-Executive Director

Selected Portfolio Company Highlights

- BridgeSat's Network Operations Centre (NOC) is now operational alongside its first US ground station. During the year and post period end, BridgeSat entered into five US government revenue contracts, as well as other strategic partnerships and agreements with NASA, ICEYE (space laser terminal), Sitael SpA (European partner and ground station) and Es'HailSat (Middle East partner and ground stations).
- Following the Federal Communications Commission (FCC) announcement that it will authorise the Initial Commercial Deployment (ICD) of CBRS spectrum sharing for approved end-users, Federated Wireless submitted a formal application to participate in the ICD alongside 20 named partner end-users including wireless operators, cable operators, tower companies, Managed Service Providers (MSPs) and Original Equipment Manufacturers (OEMs). The majority of Federated Wireless' dedicated nationwide ESC network (sensors positioned on the US coasts to enable priority use of CBRS by the US Navy) has now been installed and the full network is nearing completion ahead of full FCC approval.
- Federated Wireless jointly announced with Verizon, Ericsson and Qualcomm the first successful test of CBRS spectrum sharing in Verizon's live commercial network, demonstrating peak speeds of 790 Mpbs (more than 3x the speed of current LTE technologies). Federated Wireless, in partnership with Amazon Web Services (AWS), Athonet and Ruckus Networks, launched a fully cloud-native private mobile network solution for developers, independent software vendors (ISVs), telecom operators, public sector and enterprises.
- HawkEye^{360} successfully launched and deployed its Pathfinder cluster of satellites on a SpaceX Falcon 9 Rocket. Post period end, the Pathfinder cluster was commissioned following successful testing, indicating satellites and payloads are performing in line with design specifications, allowing commercial operations to commence. The company continued building backlog with government and commercial clients, and completed Beta testing for its first Maritime Domain Awareness (MDA) product.
- Spin Memory entered into a licensing agreement with ARM Limited, the world's leading semiconductor intellectual property (IP) company. The licensing agreement extends to Spin Memory's Endurance Engine™ technology and related IP, and governs the terms on which ARM Limited and Spin Memory will work together to create SRAM-class magnetoresistive random-access memory (MRAM) design solutions based on this proprietary technology. Under the licensing agreement, Spin Memory will provide ARM Limited with its innovative Endurance Engine design architecture to develop a new line of embedded MRAM design IP. This MRAM design IP will address static random-access memory (SRAM) application in SoCs, with denser and lower power solutions than typically achieved with the current 6T SRAM cell-based IP.
- Spin Memory also entered into a commercial agreement with Applied Materials to create a comprehensive embedded MRAM solution. The solution brings together Applied Materials' industry-leading deposition and etch capabilities with Spin Memory's MRAM process IP. Key elements of the offering include Applied Materials' innovations in PVD and etch process technology, Spin Memory's revolutionary Precessional Spin Current™ (PSC) structure (also known as the Spin Polarizer), and industry-leading perpendicular magnetic tunnel junction (pMTJ) technology from both

companies. The solution is designed to allow customers to quickly bring up an MRAM manufacturing module and start producing world-class MRAM products. Spin Memory and Applied Materials are working together to make this turnkey solution commercially available.

- Spin Memory demonstrated efficiency gains of 40 - 70% when applying its Spin Polarizer to a third party MRAM device, enabling dramatic improvements in data retention (by a factor of >10,000x) with reduced power consumption. Additionally, it demonstrated up to six orders of magnitude endurance enhancement with a silicon based FPGA emulation of the Endurance Engine alongside Spin's test chips, resulting in endurance levels of 1014, in line with DRAM endurance performance.
- Spin Memory appointed John Kispert as Chairman. Mr. Kispert has held several executive and board positions during his more than 20 years in the memory and semiconductor industries, most recently as CEO of Spansion, Inc., which was sold to Cypress Semiconductor in March 2015.
- Spin Memory rebranded itself, having previously been known as Spin Transfer Technologies, signifying differentiation from its former business goals and objectives as it seeks to transform the industry with a new MRAM IP ecosystem.
- Precision Biopsy appointed Adam Savakus as President and Chief Operating Officer. Adam is an accomplished medical device executive with direct experience driving successful operational, regulatory and marketing outcomes. Precision Biopsy's progress in 2018 included receiving FDA IDE approval to initiate the Pivotal SCORE study, initiating SCORE study roll-ins, gathering initial results using the improved next generation consoles, and beginning its 3D Mapping FIM (first in man) study to evaluate ClariCore™'s ability to collect and analyse data. Precision Biopsy obtained its fourth issued patent, which relates to the diagnosis and treatment of tissue, and supports its ClariCore™ system with 3D mapping and focal therapy claims.
- Notwithstanding the progress described above, due to an issue with the compatibility of the next generation ClariCore console and the tissue classification algorithm that became apparent during the roll in process for the Pivotal SCORE study, Precision Biopsy suffered an operational delay lasting several months over the course of 2018. This delay impacted the external financing process which was underway and was not successfully completed. Post period end, together with Woodford Investment Management, we extended modest bridge capital to Precision Biopsy to provide runway to seek external financing to fund further development.
- SciFluor appointed Robert Dempsey as an Independent Director. Bob has over 25 years' experience in the pharmaceuticals industry focusing on ophthalmology and is currently head of Takeda's Global Ophthalmology Franchise. SciFluor's progress in 2018 included, presenting SF0166 Phase I/II clinical data at multiple medical conferences including: Angiogenesis, Exudation, and Degeneration; Association for Research in Vision and Ophthalmology; World Ophthalmology Congress, publishing SF0166 Phase I/II clinical data published in the Journal of Pharmacology and Experimental Therapeutics, commencing a six-month sub-chronic toxicity studies for SF0166 to support Phase II clinical development, and completing the study design for Phase II SF0166 trials.
- SciFluor sought to raise external financing over the course of 2018 to fund Phase II trials for SF0166, on the back of safety and preliminary efficacy data from the Phase I/II trials. This process was not successfully completed. As a result, clinical development activities at SciFluor have been pared back, and are now focused exclusively on the toxicology studies necessary to initiate the Phase II trials for SF0166. Post period end, together with Woodford Investment Management, we extended modest bridge capital to SciFluor to provide runway to seek external financing to fund further development.

Outlook for Selected Portfolio Companies

Highlighted below are the key operational management objectives for 2019 across selected portfolio companies. In addition, several of these portfolio companies aim to secure additional funding in the course of 2019. It is in the nature of early stage company creation and development that business plans need to adapt dynamically in response to changing circumstances. Where this becomes necessary we will provide an update on materially revised plans.

Portfolio Company	2019 Key Operational Management Objectives
BridgeSat	· Successfully demonstrate one-to-many communications solution and end-to-end service for ICEYE · Develop strategic partnership program with Boeing and others · Expand the capacity of the global ground network through industry partnerships and ground station installations · Build strong commercial and government customer backlog
Federated Wireless	· ICD approval, followed by FCC certification · Complete build out of nationally available of ESC network to meet customer requirements · Build infrastructure and capacity to support scale of the business
HawkEye^{360}	· Successfully launch three core analytic products in the Spectrum Awareness product line, RF Geo, RF Survey and Emitter Data Base. · Complete development of next cluster and ready for launch · Commence development of follow-on clusters two, three and four, for launch in 2020
Spin Memory	· Create proof of concepts in silicon that demonstrate the superior performance of Spin Memory's technologies · Leverage exclusive licensing agreements with Applied Materials and ARM Limited to bring technology IPs into the mainstream · Build strong commercial and government customer backlog for new use cases in AI, ADAS, 5G, IoT and more
Precision Biopsy	· Complete Pivotal SCORE study · Submit data to US FDA for 510k review · Obtain CE mark
SciFluor	· Complete toxicology studies for SF0166 · Submit amended IND to US FDA

In compliance with Listing Rule 9.6.3, the following documents will be submitted to the National Storage Mechanism and will shortly be available for inspection at www.morningstar.co.uk/uk/NSM:

- Annual Report and Accounts for the year ended 31 December 2018; and
- Notice of 2019 Annual General Meeting.

Printed copies of these documents will be posted to shareholders shortly. Copies will also be available shortly on the Investor Relations section of the Company's website at http://investors.alliedminds.com/reports-and-presentations.

The 2018 Annual General Meeting will be held at 2.00 p.m. BST on 28 June 2019 at the offices of DLA Piper UK LLP, 160 Aldersgate Street, London EC1A 4HT, United Kingdom.

For more information, please contact:

Allied Minds plc	+1 617 419 1800 IR@alliedminds.com
Joe Pignato, Chief Financial Officer Neil Pizey, Head of Corporate Development	
FTI Consulting Ben Atwell / Brett Pollard	+44 20 3727 1000

Further information on Allied Minds is available on our website: www.alliedminds.com

Notes

(i) Nature of announcement

This Annual Results Release was approved by the directors on 26 April 2019. The financial information set out in this Annual Results Release does not constitute the Company's statutory accounts for the years ended 31 December 2018 or 2017 but is derived from those accounts. Statutory accounts for the year ended 31 December 2017 have been filed with the Registrar of Companies. Statutory accounts for 2018 will be delivered to the registrar of companies in due course. The auditor has reported on those accounts; their reports were (i) unqualified, (ii) did not include a reference to any matters to which the auditor drew attention by way of emphasis without qualifying their report and (iii) did not contain a statement under section 498 (2) or (3) of the Companies Act 2006. The text of the Auditor's report can be found in the Company's full Annual Report and Accounts for the year ended 31 December 2018 (2018 Annual Report).

(ii) Forward looking statements

This Annual Results Release and the 2018 Annual Report contain statements that are or may be forward-looking statements, including statements that relate to the Company's future prospects, developments and strategies. The forward-looking statements are based on current expectations and are subject to known and unknown risks and uncertainties that could cause actual results, performance and achievements to differ materially from current expectations, including, but not limited to, those risks and uncertainties described in the risk management section of the 2018 Annual Report. These forward-looking statements are based on assumptions regarding the present and future business strategies of the Company and the environment in which it will operate in the future. Each forward-looking statement speaks only as at the date of this Annual Results Release. Except as required by law, regulatory requirement, the Listing Rules and the Disclosure and Transparency Rules, neither the Company nor any other party intends to update or revise these forward-looking statements, whether as a result of new information, future events or otherwise.

2018 Annual Report and Accounts

STRATEGIC REPORT

Chairman's Report

I am pleased to present this Annual Report to shareholders for the financial year ended 31 December 2018.

Over the course of the year we continued to make strong progress across the technology portfolio, readying several for commercialisation and growth. Spin Memory, HawkEye^{360} and Federated Wireless are all expected to generate commercial revenue for the first time over the balance of 2019. Each harnesses innovative technology to target or create a large market, has established strong go-to-market partners and solutions, and has the potential to generate substantial value.

This has been achieved through a combination of strong operating management and successful fundraises which have brought important strategic co-investors into follow-on rounds. In addition to validating the technology and market opportunity, these partners bring valuable advantages to our companies through their technical resources, market access and commercial commitment.

Leveraging our broad networks, partners and insights, in 2018 we also added four promising early stage technology businesses to our portfolio.

Despite the highly differentiated and promising developments at our life sciences companies, Precision Biopsy and SciFluor, the more challenging funding environment facing both and the technical delay at Precision Biopsy has impacted our ability to secure next round financing. Post period end, together with Woodford Investment Management, we invested modest bridge capital to provide both companies with runway that we hope is sufficient to unlock successful financings to fund further development.

Our focus has been and remains to realise value for our shareholders by effectively driving our companies through development to commercialisation and growth, and delivering strong monetisation outcomes. Going forward, we will cease new company investments and instead will focus exclusively on funding and operating our existing portfolio with a view to maximising monetisation opportunities. To align with this new strategy, we will further streamline our organisation and reduce our central office costs. Using our available capital and through disciplined capital allocation, we expect to continue to support our companies and provide follow-on capital alongside other co-investors, as long as we believe the risk-adjusted value of that position is maximised by our continued ownership and effort. Upon monetisation events, we expect to return net proceeds to shareholders after due consideration of potential follow-on investment opportunities within our existing portfolio and working capital requirements. We are confident that given the strength of the portfolio, the skills of the management teams and our cash position, we have positioned ourselves to deliver returns to our shareholders.

I would like to thank our shareholders for their continued support and our management team and staff for their hard work and commitment.

Peter Dolan
Chairman

26 April 2019

CEO's Report

2018 has been a mixed year for Allied Minds characterised by strong progress and validation at our technology portfolio companies, but delays at our life sciences companies.

I am delighted by the successful funding rounds at Spin Memory, HawkEye^{360} and BridgeSat, each led by important strategic investors, building on a similarly successful financing for Federated Wireless in late 2017. Bolstered by the financial and commercial support of these investors, many of whom have also signed commercial agreements or partnerships with our companies, Spin Memory, HawkEye^{360} and Federated Wireless are all poised to deliver commercial revenue in 2019.

Federated Wireless is expecting to launch FCC-mandated CBRS Initial Commercial Deployment (ICD), followed by full FCC certification of CBRS spectrum sharing later in the year. With 20 partner end-users having applied for ICD with Federated Wireless, and its strong contract base and customer pipeline, we expect Federated Wireless to deliver commercial revenue this year.

HawkEye^{360} launched its Pathfinder satellite cluster in late 2018 and confirmed successful commissioning in February 2019. As the first provider of commercial geolocation of RF signals from space, HawkEye^{360} expects to deliver revenue this year from multiple government and commercial customers.

In 2018, Spin Memory entered into licensing and commercial agreements with ARM Limited and Applied Materials. With Applied Materials, Spin Memory expects to jointly develop and bring to market solutions designed to allow customers to rapidly start producing world-class MRAM-enabled products for both non-volatile (flash-like) and SRAM-replacement applications. Spin Memory has licensed to ARM Limited an innovative design architecture to develop a new line of embedded MRAM design IP, targeting SRAM application in SoCs (Systems-on-a-Chip). It expects to start generating revenue this year.

We have not yet been able to replicate this success with the life sciences portfolio, and in February 2019 we took the decision to inject bridge financing, together with Woodford Investment Management, into Precision Biopsy and SciFluor. This capital is intended to provide these businesses with cash runway while they seek financing to progress their development.

Today we announced a new strategy designed to maximise the returns from our existing portfolio. We have a strong portfolio of companies where we hold significant ownership stakes, several of which are approaching commercialisation or milestones critical to realising superior returns. By making no investments into new companies, further reducing central costs and with disciplined capital allocation, we have sufficient cash and are well-positioned to support our companies through to monetisation outcomes that maximise returns to our shareholders.

I would like to thank our shareholders, our employees and our partners and customers for their ongoing support.

Jill Smith
President and Chief Executive Officer

26 April 2019

Company Overview

Our Company

Allied Minds has built and now operates a portfolio of 10 early stage companies seeking to commercialise differentiated products and services that have the potential to transform markets. Collaborating with targeted US federal research institutions, universities, medical institutions, and select corporations and entrepreneurs, we have identified potentially disruptive innovations. We have created and seed funded portfolio companies with the objective of commercialising these innovations, supporting them with capital, management, operating and other expertise, and shared services. We typically maintain a significant ownership stake in our portfolio companies. Our objective is to deliver attractive overall returns for our shareholders.

On 26 April 2019, Allied Minds announced that, from that date forward, we will focus exclusively on supporting our 10 existing portfolio companies and maximising monetisation opportunities for portfolio company interests, and will not deploy any capital into new portfolio companies. In the event of successful monetisation events from the sale of portfolio companies or portfolio company interests, we anticipate distributing the net proceeds to our shareholders, after due consideration of potential follow-on investment opportunities within our existing portfolio, working capital requirements and the most appropriate capital return mechanism. The Board has not determined a timeframe by which to have monetised the Company's ownership positions; however, together with the management team it recognises the value and benefit in achieving well-timed risk adjusted returns for the benefit of shareholders under an appropriate cost structure.

On 26 April 2019, in connection with the announcement to cease investments into new portfolio companies, Allied Minds also announced that it is implementing further reductions in its annual HQ costs. Allied Minds currently projects that its ongoing annualised HQ operating expenses excluding interest, depreciation, severance and share-based payments, will be reduced to approximately \$5.0 to \$6.0 million, in comparison to approximately \$13.6 million for 2018. The Directors believe the Company's cash balance is sufficient to continue to support Allied Minds' operations and portfolio companies.

Allied Minds consulted with key shareholders on the change in strategy, including cost reductions, ceasing new investments and a managed approach to monetising the portfolio over time, and they expressed support.

Our Portfolio

The Group currently is comprised of 10 portfolio companies in the technology and life sciences sectors based upon a broad range of underlying innovative technologies ranging from semiconductors, wireless connectivity, and space-based analytics, to medical devices and molecular compounds.

We have invested in companies at an early stage, including seed investments to build companies based on a technical breakthrough or invention. As such, our investments have significant upside potential, but also carry significant risk inherent in the early stage model. Allied Minds provides equity funding at the initial seed or Series A investment round and participates in follow-on investment rounds. Additionally, we provide hands-on support through the appropriate level of management, operating and governance support and expertise, and shared services over the life of the portfolio company to commercialisation and monetisation. A key component of the Company's strategy is to maintain strict discipline in the allocation of financial and human capital to those businesses meeting the objectives or milestones set, and ceasing funds for those where the path to commercialisation is no longer attractive.

Allied Minds has several portfolio companies that we believe are well-positioned for commercialisation and have the potential to realise significant monetisation opportunities, including BridgeSat, Federated Wireless, HawkEye^{360} and Spin Memory. These four portfolio companies currently represent the substantial majority of portfolio company value.

Outside these portfolio companies, Allied Minds has four active earlier stage investments (Orbital Sidekick, QuayChain, Spark Insights and TableUp) that we believe represent exciting opportunities in space/analytics and connectivity, albeit with more work to be done to increase their value and monetisation opportunities.

Our Model

As operators of early stage portfolio companies in which we hold a significant ownership position, we seek to provide hands-on support over the life of our companies to support their growth, focusing on enabling and driving commercialisation, supporting follow-on investment rounds and positioning for superior monetisation opportunities.

Allied Minds offers operational and management support to each of our portfolio companies leveraging the deep domain expertise of our management team in their respective careers as entrepreneurs, operators, directors, advisors and investors. Our employees have expertise in business strategy, sales and marketing, operations, finance, legal and transaction execution.

We play an active role in developing the strategic direction of our portfolio companies, and driving ongoing planning and assessment. Our executives serve on the boards of directors of our portfolio companies, working with them to develop and implement strategic, operating and funding plans. We evaluate on an on-going basis the progress and potential of each of the portfolio company's businesses, and make strategy and funding decisions based on the regular review of operational and financial performance and the achievement of key milestones. Together with our management, the respective portfolio company board of directors defines the critical milestones, or inflection points, for each portfolio company and measures tangible progress towards commercialisation and the key factors for a successful monetisation event. Portfolio company management is accountable for these milestones, which are developed into annual management objectives (MBOs).

Additionally, Allied Minds provides well-defined shared services that are designed to enable our businesses to focus on research, product development and commercialisation activities and at the same time benefit from strong, cost-effective operational and financial infrastructure and support. The comprehensive operational and financial support provided includes accounting, cash management and financial modeling, payroll, IT, legal and HR. For companies where our ownership is below 50% and whose accounts are not consolidated, Allied Minds will provide the option for the management teams to transition from our shared service platform and set up their own financial, payroll, HR, IT and operating systems, procedures and teams.

As our portfolio companies meet the objectives identified for success, we will participate in subsequent capital raises to mitigate dilution, to the extent consistent with our goal to maximise risk-adjusted returns for our shareholders and taking into account competing uses of capital across our portfolio. Co-investors in later rounds include financial, strategic and commercial partners. Where appropriate, we seek to include partners who validate the market opportunity and can provide support and/or commercial commitments to accelerate, expand and/or de-risk the path to commercialisation.

By helping our portfolio companies' management teams remain focused on critical objectives through the provision of human, financial and strategic resources, we believe we are able to accelerate their development and success. We believe that Allied Minds' experienced and hands-on support provide our portfolio companies with significant competitive advantages within their respective markets.

Our Focus

Our management team is focused on the following objectives:

- Building value in portfolio companies by commercialising technology through market-focused product and market development, developing strong management teams and boards, growing the companies organically (through partnerships, market penetration, revenue growth and cash flow improvement) and potentially through acquisitions, with a view to positioning the companies for successful follow-on investment rounds and liquidity at premium valuations;
- Exercising disciplined capital allocation, while deploying follow-on capital to support our existing portfolio companies;
- Realising the value of portfolio companies through selective, well-timed portfolio company exits to maximise risk-adjusted value;
- Maximising monetisation opportunities for our portfolio company interests; and
- Providing the tools needed for investors to fully recognise the shareholder value that has been created by our efforts.

Seeking Monetisation Opportunities

The Board of Allied Minds has determined to focus exclusively on supporting our 10 existing portfolio companies and maximising monetisation opportunities for portfolio company interests, and not to deploy any capital into new portfolio companies.

In the event of successful monetisation events from the sale of portfolio companies or portfolio company interests, we anticipate distributing the net proceeds to our shareholders, after due consideration of potential follow-on investment opportunities within our existing portfolio, working capital requirements and the most appropriate capital return mechanism. In general, we will hold our position in a portfolio company as long as we believe the risk-adjusted value of that position is maximised by our continued ownership and effort. From time to time, we engage in discussions with other companies interested in our portfolio companies (or our interest in those companies), either in response to inquiries or as part of a process we initiate. To the extent we believe that a portfolio company's further growth and development can best be supported by a different ownership structure or if we otherwise believe it is in our shareholders' best interests, we may seek to sell some or all of our position in the portfolio company. These sales may take the form of privately negotiated sales of stock or assets, mergers and acquisitions, public offerings of the portfolio company's securities and, in the case of publicly traded portfolio companies, sales of their securities in the open market.

Given this change in strategy, the value of Allied Minds is now dependent upon the value of our existing portfolio companies and our ability to translate that value into cash as effectively and efficiently as possible and to deliver that cash, net of our obligations and operating cash needs, to our shareholders. As we have in the past, we will utilise the service of professional advisers from time to time to explore the various alternatives for returning capital to our balance sheet and ultimately to our shareholders.

Portfolio Summary

During 2018, an aggregate of $84.9 million was invested into new and existing portfolio companies. This included $76.9 million from portfolio company fundraisings, of which $51.4 million came from third-party investment, to further accelerate the development of three of the Group's existing portfolio companies: BridgeSat, HawkEye[360] and Spin Memory. In addition to these fundraisings, $8.0 million was invested by the Group into three new portfolio companies: Orbital Sidekick, QuayChain and TableUp.

Allied Minds currently has majority ownership in, or operating control of, six of its active portfolio companies; and has four active portfolio companies in which the Company holds a significant minority ownership position. Below we provide an overview of our 10 active portfolio companies, including year formed, and Allied Minds' ownership interest. There are some additional non-operating or holding companies not listed in the table below.

Portfolio Company[(2)(3)]	Year Formed	Ownership Interest [(1)]	Overview
Technology			
BridgeSat, Inc.	2015	81.38%	Developing an optical communications service for big data transfer between Low Earth Orbit (LEO) and Geostationary Equatorial Orbit (GEO) satellites, aircraft and the ground, targeting significantly lower cost and faster rates than current Radio Frequency (RF) solutions
Federated Wireless, Inc.	2012	52.23%	Plans to offer a cloud-based SaaS service that unlocks spectrum previously unavailable to commercial users by enabling government and

			commercial users to securely share the same spectrum band
HawkEye^{360}, Inc.	2015	48.32%	Data analytics company seeking to commercialise the capability to detect, independently geo-locate and analyse diverse RF signals from space
Orbital Sidekick, Inc.	2016	33.23%	Developing capabilities in aerial and space-based hyperspectral imaging and analytics, initially for the oil and gas industry
QuayChain, Inc.	2018	72.22%	Developing CBRS-enabled connected digital infrastructure and applications at multi-user industrial locations such as ports and large industrial real estate complexes, enabling operators and users to secure efficiencies in supply chain management
Spark Insights, Inc.	2018	70.59%	Analytics company developing data products for the rapidly growing property insurance analytics market, by leveraging unique catastrophic event data sets, including satellite imagery and weather data, combined with proprietary analytics
Spin Memory, Inc.	2007	42.69%	Technology solutions that have the potential to materially enhance the endurance, speed and size characteristics of MRAM (magneto-resistive random access memory) - the emerging next generation memory technology targeting replacement of existing SRAM and DRAM
TableUp, Inc.	2013	35.52%	Software provider enabling end-to-end transparency through the restaurant supply chain to enable more effective inventory and operations management
Life sciences			
Precision Biopsy, Inc.	2008	64.84%	Medical device and analytics company using spectral analysis to distinguish tissue characteristics in real-time, with the aim of improving cancer diagnostics and therapies. Initially focused on prostate cancer, the technology is potentially applicable to other cancers
SciFluor Life Sciences, Inc.	2010	70.03%	Drug development company focused on creating a portfolio of best- in-class compounds in the fields of ophthalmology, neuroscience and fibrosis. Lead clinical asset SF0166 is a topical eye droplet treatment for retinal diseases including Wet AMD and DME

Notes:

(1) Ownership interests are as at 23 April 2019 (being the latest practicable date prior to the publication of this document), and are based upon percentage interest in issued and outstanding share capital in the portfolio companies.

(2) Not reflected in the above list of active portfolio companies is one non-operating holding company: Allied Minds Federal Innovations.

(3) Post period end, Allied Minds ceased operations of LuxCath, LLC (LuxCath), and ceased operations and dissolved each of ABLS Capital, LLC, Allied-Bristol Life Sciences, LLC, ABLS II, LLC and ABLS IV, LLC (collectively, ABLS) and Signature Medical, Inc. (Signature Medical).

Portfolio Company Valuation

Of the Company's 10 active portfolio companies, six are currently majority owned and controlled, and therefore fully consolidated in the Company's consolidated financial statements prepared in accordance with International Financial Reporting Standards as adopted by the EU (IFRS). As a result, the Company's consolidated financial statements do not include current valuations of these portfolio companies.

With respect to the other four portfolio companies, the Company holds a significant minority stake. In each case, Allied Minds is able to exercise significant influence over the portfolio company by virtue of its large, albeit minority, ownership stake in the portfolio company and its representation on the board of directors. The investment in preferred stock in these portfolio companies is accounted for under IFRS 9 and is classified by the Company as an investment at fair value in the Company's consolidated financial statements. The Company's common stock holding in Spin Memory is accounted for under IAS 28 and is classified by the Company as an investment in associates.

In prior periods, the Company has provided the total value of all portfolio companies in the Group, which was used to derive the group Ownership Adjusted Value (OAV). The Board, in consultation with its strategic advisors and key shareholders, has determined to cease disclosure of OAV going forward. This decision is based on the view that, on balance, disclosure of OAV may not be in the best interests of the Company and its shareholders. OAV provides a public benchmark that can be detrimental to Allied Minds and its portfolio companies, including when negotiating with co-investors (or potential acquirors), if it sets a value that may be different than these parties may otherwise ascribe. In addition, the six consolidated portfolio companies are pre- or early-revenue stage companies, and the Directors, in many cases, believe that a discounted cash flow (DCF) analysis used to derive the portfolio company value may not provide a very useful indication of value.

In lieu of OAV, Allied Minds intends to continue to provide qualitative and quantitative disclosure in relation to the commercial and financial progress of its portfolio companies, and directional commentary on valuation. In addition, where commercially possible, Allied Minds will provide, for each portfolio company: (i) the date of the last equity funding round, (ii) the post-money valuation of such round, (iii) the named key co-investors in such round, and (iv) the Company's issued and outstanding ownership, and fully-diluted ownership, of such portfolio company.

BridgeSat

- Date of Last Funding Round: September 2018
- Post-Money Valuation: $38.0 million
- Co-Investors: Boeing HorizonX Ventures (venture arm of Boeing Company)
- Allied Minds' Issued and Outstanding Ownership: 81.38%
- Allied Minds' Fully-Diluted Ownership: 62.92%
- BridgeSat has made reasonable progress against its key operational objectives since its last funding round. See Portfolio Review and Developments for more information.

Federated Wireless

- Date of Last Funding Round: September 2017
- Post-Money Valuation: $121.5 million
- Co-Investors: Charter Communications (NASDAQ: CHTR), American Tower (NYSE: AMT), ARRIS International (NASDAQ: ARRIS) and Woodford Investment Management
- Allied Minds' Issued and Outstanding Ownership: 52.23%
- Allied Minds' Fully-Diluted Ownership: 42.77%
- Federated Wireless has made significant progress against its key operational objectives since its last funding round. See Portfolio Review and Developments for more information.

HawkEye^{360}

- Date of Last Funding Round: August 2018 (date of first closing; final closing in September 2018)
- Post-Money Valuation: $89.9 million
- Co-Investors: Raytheon Company, Sumitomo Corporation of Americas, Razor's Edge Ventures, Shield Capital, Space Angels, Woodford Investment Management and Invesco Asset Management
- Allied Minds' Issued and Outstanding Ownership: 48.32%
- Allied Minds' Fully-Diluted Ownership: 39.00%
- HawkEye^{360} has made significant progress against its key operational objectives since its last funding round. See Portfolio Review and Developments for more information.

Orbital Sidekick

- Date of Last Funding Round: April 2018
- Post-Money Valuation: $11.7 million
- Co-Investors: 11.2 Capital
- Allied Minds' Issued and Outstanding Ownership: 33.23%
- Allied Minds' Fully-Diluted Ownership: 29.87%
- Orbital Sidekick has made reasonable progress against its key operational objectives since its last funding round. See Portfolio Review and Developments for more information.

QuayChain

- Date of Last Funding Round: September 2018
- Post-Money Valuation: $0.8 million
- Co-Investors: n/a
- Allied Minds' Issued and Outstanding Ownership: 72.22%
- Allied Minds' Fully-Diluted Ownership: 65.00%
- QuayChain has made reasonable progress against its key operational objectives since its last funding round. See Portfolio Review and Developments for more information.

Spark Insights

- Date of Last Funding Round: April 2019
- Post-Money Valuation: $3.2 million
- Co-Investors: n/a
- Allied Minds' Issued and Outstanding Ownership: 70.59%
- Allied Minds' Fully-Diluted Ownership: 60.00%
- Spark Insights' last funding round was approved in December 2018 and closed in April 2019. See Portfolio Review and Developments for its 2019 key operational objectives.

Spin Memory

- Date of Last Funding Round: November 2018 (date of first closing, final closing in April 2019)
- Post-Money Valuation: $172.0 million
- Co-Investors: Arm Technology Investments Limited, Applied Ventures, LLC, Abies Venture Fund, Woodford Investment Management and Invesco Asset Management
- Allied Minds' Issued and Outstanding Ownership: 42.69%
- Allied Minds' Fully-Diluted Ownership: 33.58%
- Spin Memory has made significant progress against its key operational objectives since its last funding round. See Portfolio Review and Developments for more information.

TableUp

- Date of Last Funding Round: April 2018
- Post-Money Valuation: $12.0 million
- Co-Investors: n/a
- Allied Minds' Issued and Outstanding Ownership: 35.52%
- Allied Minds' Fully-Diluted Ownership: 30.20%
- TableUp has made reasonable progress against its key operational objectives since its last funding round. See Portfolio Review and Developments for more information.

Precision Biopsy

- Date of Last Funding Round: October 2015 (date of first closing; final closing in October 2016)
- Post-Money Valuation: $95.4 million
- Co-Investors: Woodford Investment Management
- Allied Minds' Issued and Outstanding Ownership: 64.84%
- Allied Minds' Fully-Diluted Ownership: 55.11%
- Precision Biopsy has experienced clinical delays since its last funding round. The valuation is substantially impaired due to a prolonged inability to attract new external financing, and limited cash available to fund its future operations. See Portfolio Review and Developments for more information.

SciFluor Life Sciences

- Date of Last Funding Round: April 2015
- Post-Money Valuation: $130.7 million
- Co-Investors: Woodford Investment Management and Invesco Asset Management
- Allied Minds' Issued and Outstanding Ownership: 70.03%

- Allied Minds' Fully-Diluted Ownership: 59.57%
- SciFluor has experienced clinical delays since its last funding round. The valuation is substantially impaired due to a prolonged inability to attract new external financing, and limited cash available to fund its future operations. See Portfolio Review and Developments for more information.

There can be no guarantee that the aforementioned post-money valuations of the portfolio companies will be considered to be correct in light of the future performance of the various companies, or that the Company would be able to realise proceeds in the amount of such valuations, or at all, in the event of a sale by it of any of its portfolio companies or its ownership interest in such portfolio companies.

Key Performance Indicators

The Key Performance Indicators (KPIs) selected to measure the performance of the Company in 2018 were percentage level of achievement of management by objectives (MBOs). These objectives seek to link financial, operational, technical and other performance milestones established by the Board directly to remuneration and KPIs. Performance against 2018 KPIs is set out below:

KPI	2018	2017	Performance
MBO Achievement; Percentage of Target; See Detail Below	64.0%	131.0%	Substantially below target

The MBOs set by the Board for 2018, along with the level of achievement against such MBOs, is set forth below:

MBO	Threshold Weightings	Target Weightings	Maximum Weightings	Achieved Weightings
Deliver Validating Events[1] and Technical Milestones[2] for Key Portfolio Companies	0.0%	30.0%	45.0%	15.5%
Secure Funding and Strategic Relationships for Portfolio Companies	0.0%	20.0%	30.0%	11.0%
Strengthen Investment Committee Process; Progress Longer Term Strategy:				
Initiate New Company Formation and Investment	0.0%	15.0%	22.5%	20.0%
Deepen Specific Federal Lab Relationships	0.0%	5.0%	7.5%	0.0%
Expand Sources of New Deal Pipeline	0.0%	5.0%	7.5%	0.0%
Strengthen Core Business for Sustainability:				
Manage Cash	0.0%	15.0%	22.5%	7.5%
Broaden Shareholder Base	0.0%	5.0%	7.5%	2.5%
Bolster Portfolio Company Support and Services	0.0%	5.0%	7.5%	7.5%
Total Percentage of Target	0.0%	100.0%	150.0%	**64.0%**

Notes:

(1) "Validating Events" represent various material achievements, such as fundraisings, mergers and acquisitions, development partnerships, strategic alliances, customer contracts and other significant corporate events.
(2) "Technical Milestones" represent various research and development achievements, as well as advancement of clinical trials.

The following Key Performance Indicators (KPIs) were selected to measure the performance of the Company in 2019. These objectives seek to link financial, operational, technical and other performance milestones established by the Board directly to remuneration and KPIs.

The 2019 KPIs, including financial, operational, technical and other performance targets and their weightings for the upcoming year were set at the start of 2019, and revised in April 2019, as follows:

MBO	Target Weightings
Deliver Validating Events[1] and Technical Milestones[2] and Revenue for Key Portfolio Companies	30.0%
Secure Funding and Strategic Relationships for Portfolio Companies	20.0%
Manage Cash and Maintain Strong Operational Support	
Capital Allocation to Portfolio Companies	20.0%
Manage Reorganisation and Cash, and Reduce HQ Expenses	20.0%
Deliver Shared Services Support	5.0%
Manage Deconsolidation of Portfolio Companies	5.0%
Total Percentage of Target	100.0%

Notes:

(1) "Validating Events" represent various material achievements, such as fundraisings, mergers and acquisitions, development partnerships, strategic alliances, customer contracts and other significant corporate events.
(2) "Technical Milestones" represent various research and development achievements, as well as advancement of clinical trials.

Portfolio Review and Developments

Technology Businesses

BridgeSat, Inc.

Overview

Formed in 2015, BridgeSat is seeking to build an optical-based big data delivery service that will enable communications between satellites, aircraft and the ground at speeds of 100+ Gigabits per second (Gbps). This offering strives to provide substantial advances on current Radio Frequency (RF) technology. In addition to meaningful potential cost savings, optical delivery frees up scarce RF spectrum, does not suffer from spectrum interference issues and, since the narrow optical beam is difficult to jam, it is more secure than RF. The technology underpinning BridgeSat's offering was sourced originally from The Aerospace Corporation and Draper Laboratories. BridgeSat is based in Denver, Colorado. In September 2018, BridgeSat raised $10 million in a Series B round led by The Boeing Company via its Boeing HorizonX Ventures arm.

Problem statement - RF cannot meet exponential growth in demand for satellite data downlink

Low earth orbit (LEO) satellite data downlink demand is expected to grow over 125% annually through 2024 as a result of an expected three-fold increase in the number of satellites carrying a broader range of data-intensive sensors by 2022. The cost and speed characteristics of RF, together with increasingly scarce spectrum, make it difficult to support the projected increase in data downlink demand. Similarly, data demands are growing in the geostationary equatorial orbit (GEO) satellite, airborne and terrestrial marketplaces where free space optical communications systems provide complementary support for spectrum-limited RF networks and systems.

Proposed solution - Optical-based data delivery service

BridgeSat is seeking to build an optical-based data delivery service that will enable data transfer to/from satellites and to/from aircraft at speeds of 100+ Gbps (roughly 10x the speed of current RF communications technologies) and significantly lower cost (up to 10x cheaper on a $/byte basis at speeds above 1Gbps).

BridgeSat's optical communications system has three core elements. The first is the space/airborne terminal that is installed on customer satellites or aircraft. The second is a network of optical ground stations that will receive data from BridgeSat space/airborne terminals. The BridgeSat network will ultimately be agnostic, offering compatibility with space terminals from other manufacturers. The company estimates that an initial network of 10 ground stations is needed to meet the service requirements of LEO and GEO customers. The third is the Network Operations Centre (NOC), located in Colorado, required to operate the network and manage data delivery against customer service levels.

Competition is a sign of market validation and though new entrants are emerging, BridgeSat continues to benefit from its technical leadership in multiple markets and first mover advantages in building out its network of optical communications ground stations, in addition to its strategic partnerships.

Intellectual property

BridgeSat has developed a patent portfolio with a number of patents filed covering a broad range of advancements in fiberless optical communications for applicability to space, air, and terrestrial usage.

Business model and target markets

BridgeSat's service contracts are based on volume of data and service levels.

BridgeSat's first target market is the fast-growing LEO data downlink segment, currently estimated to be worth $1.5 billion, and expected to grow 26.8% annually. In addition, BridgeSat will target the GEO, aviation-related and terrestrial data markets, for commercial and government customers.

Team

- Barry Matsumori, CEO. Barry has held leadership roles including as Senior VP of business development and advanced concepts at Virgin Orbit, Senior VP of sales and business development at SpaceX, and nearly two decades at Qualcomm, where he had a number of roles including VP of Wireless Connectivity. He has also worked with several early stage technology companies in development and management roles.
- Board of Directors: Barry Matsumori (CEO); Craig Cooning (Independent - former President of Network and Space Systems (N&SS) for The Boeing Company); and Simon Davidson (Allied Minds)
- Advisory Board: Lt. Gen. David Deptula, Ret. (former Deputy Chief of Staff for Intelligence, Surveillance, and Reconnaissance at the Headquarters US Air Force); Douglas Loverro (former Deputy Assistant Secretary of Defense for Space Policy); Dr. Sandra Magnus (former Discovery astronaut and engineer designing stealth aircraft for the US Navy); and William Parker (former Minister-Counselor at the Department of State, specialising in foreign services)

2018 management objectives

- Successfully demonstrate end-to-end service: NOC, at least one ground station, and customer pathfinder(s)
- Sign 2+ customer agreements; build strong commercial revenue backlog

Progress in 2018

- Denver NOC completed and operational in January 2018
- First optical ground station installed and operable at Sierra Nevada site
- In May 2018, announced agreements to provide space laser terminals and data services to ICEYE - the world's first commercial microsatellite synthetic-aperture radar (SAR) constellation. Production and delivery of the first space laser terminal to ICEYE is in process.
- NICT (Japanese state funding IT institute) contract progressing with design review held in July 2018 in Tokyo
- Progressed development of advanced optical communications for future applications, increasing performance and quality, including filing six design patents
- In August 2018, announced the formation of an Advisory Board, with initial appointments per above
- Signed five US government revenue contracts
- Entered into Space Act Agreement with the National Aeronautics and Space Administration (NASA)
- In September 2018, raised $10.0 million in a Series B preferred stock financing round led by Boeing HorizonX Ventures, the investment arm of the world's largest aerospace company, signaling a broader relationship with Boeing that is expected to provide BridgeSat with access to its experts, testing labs and other valuable resources to help scale BridgeSat's business
- In October 2018, announced a partnership with Sitael SpA, an Italian provider of space services and applications, including design and production of small satellites. The companies will collaborate to jointly support European customers, examine opportunities in optical communications outside Europe, and develop an optical ground station in the Italian region.
- After the period end, announced a strategic relationship with Es'HailSat, a Qatari satellite company, to build an optical ground station to be co-located at Es'HailSat's new satellite operations center in Doha, Qatar. There are two optical ground stations now in place, with a further three under contract to be built and deployed.

2019 key operational management objectives

- Successfully demonstrate one-to-many communications solution and end-to-end service for ICEYE
- Develop strategic partnership program with Boeing and others
- Expand the capacity of the global ground network through industry partnerships and ground station installations
- Build strong commercial and government customer backlog

Federated Wireless, Inc.

Overview

Federated Wireless plans to offer a cloud-based software as a service (SaaS) that unlocks spectrum previously unavailable to commercial users by enabling government and commercial users to securely share the same spectrum band. Founded in 2012, the company's solution is based on technology developed with support from Virginia Tech and the US Department of Defense (DoD). Federated Wireless is the leader in enabling shared spectrum via a software-based service that leverages artificial intelligence (AI). Investors include Charter Communications, Arris International and American Tower. Federated is poised for full Federal Communications Commission (FCC) certification of Citizens Broadband Radio Service (CBRS) shared spectrum, beginning with a live application to roll out commercial services under the FCC's Initial Commercial Deployment (ICD) program with 20 end-user partners. Federated Wireless has multi-year contracts signed for the provision of spectrum allocation services with multiple customers, including a large mobile network operator (MNO), Extenet, Zinwave, Accelleran, Airspan, Telrad, Blinq, Baicells, Landmark, Cambium, Ruckus and Motorola. Federated Wireless is based in Arlington, Virginia.

Problem statement - the spectrum crunch

Digital traffic globally is expected to increase three fold by 2022 (Source: Cisco) driven by demands of streaming media, the Internet of Things (IoT), Artificial Intelligence (AI), and next generation mobile services. Current spectrum allocation models include licensed spectrum, which can be high cost and inefficient, and unlicensed spectrum, such as Wi-Fi, which has no or very low cost but may be congested and unpredictable, and lacks carrier-grade technologies such as Long-Term Evolution (LTE). According to the FCC, "service quality is likely to suffer and prices are likely to rise" without new models that address the expected shortage of usable spectrum.

Proposed solution - shared spectrum model

Pioneered by Federated Wireless, spectrum sharing opens up for shared use spectrum previously unavailable or inefficiently used.

In the US, the FCC initially plans to open up for shared use 150MHz of spectrum in the 3.5GHz band previously held by the DoD, following an order creating CBRS. 150MHz of spectrum is equivalent to a large wireless carriers' entire spectrum holdings. The cost to deploy shared spectrum equipment is equivalent to that for Wi-Fi systems, but delivers secure, carrier-grade LTE service. The first commercial spectrum sharing services of the 3.5 GHz band poised and ready to be launched, pending final FCC certification. Beyond CBRS, spectrum sharing is being considered for other spectral bands in US, and internationally. These markets are expected to be developed in the medium to longer term.

Intellectual property

There are two key elements to the core Federated Wireless spectrum controller. The Spectrum Access System (SAS) is cloud-based software that dynamically allocates available spectrum to registered users. Spectrum is allocated according to the three tier priorities determined by FCC rules and regulations. Access to the spectrum is gained via "access points" - equivalent to a wi-fi router - which are deployed close to the end user.

The second element is the Environmental Sensing Capability (ESC) sensor network that detects use by the incumbent (in the case of 3.5GHz the US Navy) and secures priority access on an as needed basis without interference or disruption. Federated Wireless has installed and will operate over one hundred ESC sensors along the US coastlines. We expect our ESC network to be the first which is fully deployed, operational, and commercially available.

Federated Wireless has 14 issued patents and 19 patent applications protecting proprietary technology underpinning its ESC sensor design and its SAS. These patents are primarily focused on systems and algorithms embedded in its core technologies.

Business model and target markets

There are five core markets for Federated Wireless' spectrum sharing technology.

1. Mobile operators: network densification. Expected to use the newly allocated CBRS spectrum by adding access points in highly populated areas to densify their existing networks, improve coverage and extend capacity and service quality.
2. Cable operators (also known as multiple system operators or MSOs): wireless extension. Expected to provide access by installing access points in homes and destinations to provide mobile offload, with technology that offers the price point of Wi-Fi, with the quality of LTE.
3. Managed service provider: neutral host. Can harness shared spectrum by installing access points at private venues such as stadiums, campuses and other commercial properties to provide local networks at significantly reduced cost compared to current distributed antenna system technologies.
4. Broadband wireless access (BWA) providers: connect the unconnected. CBRS offers a new opportunity for BWAs to invest in network upgrades that can expand the availability of reliable and affordable fixed broadband services including in rural locations otherwise underserved by fixed line broadband.
5. Enterprise vertical markets: private LTE. Industrial and other commercial customers can install access points to enable private LTE networks in factories and other venues, in support of IoT. Federated believes that the Enterprise segment is likely to be the most significant source of demand for CBRS shared spectrum services, powered by cloud-native mobile network solutions.

Overall, Federated Wireless estimates the number of access points that are likely to be deployed in the US market to be more than 135 million, including 100 million home cable and broadband MSO installations; 30 million enterprise installations; and 5 million in last mile access installations for rural homes. Not included is additional demand expected from MNOs for network densification and underserved travel and commercial hubs. Following FCC certification, it is estimated that the US market could reach 15.1 million access points by 2022. This forecast represents a volume upgrade to the previous forecast of 5.4 million access points. It assumes that the market will charge subscriptions across the fixed wireless segment of the market for both outdoor base stations (Citizens Broadband Radio Service Devices or CBSDs) and indoor access points (CPEs) (previously it was assumed that only the base stations would command a fee). Additionally, it is now assumed that overall penetration rates by this point will be higher than previously thought, and comparable to historical take-up rates for Wi-Fi technology upgrades (as opposed to take-up rates during the original roll-out of Wi-Fi as a brand new technology). The forecasted economic size of the market is not substantially impacted by this change in volume assumptions, since pricing for indoor access points (not included in the volume forecast) will be much lower than the blended average annual access point subscription price previously assumed.

Future markets for spectrum sharing that are expected to develop for additional spectrum bands in the US, other international markets, as well as new products and services for CBRS customers are not included.

Team

- Iyad Tarazi, CEO. Joined Federated Wireless from Sprint Corp., where he served as Vice President of Network Development and led the Network Vision network modernisation project. Responsibilities included overseeing the development and integration of new products and technologies within Sprint's networks and managing Sprint-Nextel's technology integration labs.
- Matt Sysak, CFO. Joined Federated Wireless with over 25 years of experience in corporate finance, accounting, planning, M&A and has held a number of leadership roles in both public and privately-held companies. Most recently, Matt was CFO of Everfi, Inc. - a SaaS education-technology company growing revenues from $12 million to $105 million, leading the company through two acquisitions and three fundraising rounds, culminating in an exit to private equity.
- Kurt Schaubach, CTO. Brings 25 years of wireless industry experience to Federated Wireless where he plays a key role in developing technologies and new business strategies. Previously, Kurt served in various engineering roles at the National Rural Telecommunications Cooperative (NRTC), NextWave Wireless, LCC International, and Southwestern Bell.
- Board of Directors: Iyad Tarazi (CEO); Craig Cowden (Senior Vice President, Wireless Technology at Charter Communications); Jake Rasweiler (Senior Vice President - Managed Networks at American Tower); Nelson Chan (Independent - formerly CEO of Magellan Corporation); Jill Smith, Joe Pignato, and Mike Turner (each of Allied Minds)

2018 management objectives

- FCC certification
- Support multiple customer launches and realise commercial revenue
- Build out national availability of ESC network to meet customer requirements

Progress in 2018

- In May 2018, Federated Wireless jointly announced with Verizon, Ericsson and Qualcomm the first successful test of CBRS spectrum sharing in Verizon's live commercial network, demonstrating peak speeds of 790 Mpbs (more than 3x the speed of current LTE technologies).

- In April 2018, Verizon confirmed that it will ship handsets in 2018 that include CBRS compliant chipsets. Also during the year Google confirmed it will launch its Pixel 3 Band 48 phones and Sierra Wireless confirmed launch of Band 48 modules for Enterprise devices like laptops, and Cradlepoint Band 48 devices for IIoT (Band 48 is an LTE operating frequency band that works with CBRS). After the period end Samsung launched the Galaxy S10 with full support for CBRS across the product line.
- In late July 2018, the FCC announced it was seeking proposals for Initial Commercial Deployment from CBRS Spectrum Access System (SAS) administrators. Under ICD, SAS administrators, such as Federated Wireless that successfully complete FCC lab testing will be permitted to operate in specified geographies, for specified periods.
- On 10 September 2018, Federated Wireless announced that it had submitted a formal application to participate in ICD alongside 15 named partner end-users including wireless operators, cable operators, tower companies, Managed Service Providers (MSPs) and original equipment manufacturers (OEMs). Federated Wireless expects to scale nationwide with nearly 16,000 deployment sites by customers in 47 states in the US and the District of Columbia.
- In October 2018, Federated launched a new training program for Certified Professional Installers (CPI) of Citizens Broadband Radio Service Devices (CBSDs), which will help facilitate Federated Wireless' end-to-end Spectrum Controller solution.
- Federated Wireless has subsequently expanded the scope of its ICD application to include 20 partner end-users
- The majority of Federated Wireless' dedicated nationwide ESC network (sensors positioned on the US coasts to enable priority use of CBRS by the US Navy) has now been installed and the full network is nearing completion ahead of full FCC approval, allowing for full access to the entire 150 MHz of 3.5 GHz spectrum. Federated Wireless' ESC network is expected to be the first that is commercially available in the market.
- In November 2018, Federated Wireless, in partnership with Amazon Web Services (AWS), Athonet and Ruckus Networks, launched a fully cloud-native private mobile network solution for developers, independent software vendors (ISVs), telecom operators, public sector and enterprises for quick deployment of Industrial IoT applications, such as real-time surveillance, smart meters and worker safety monitoring. The solution takes advantage of CBRS shared spectrum to deliver high performance, scalable and secure IIoT services.

2019 key operational management objectives

- ICD approval, followed by FCC certification
- Complete build out of nationally available of ESC network to meet customer requirements
- Build infrastructure and capacity to support scale of the business

----

HawkEye^{360}, Inc.

Overview

Formed in 2015, HawkEye^{360} is a data analytics company operating low earth orbit (LEO) small satellites that detect, independently geo-locate and analyse diverse Radio Frequency (RF) signals from space. Using its unique data set, sourced from the Pathfinder satellites, HawkEye applies proprietary algorithms to produce contextually relevant analytics and reports for government and commercial end market applications. Its first cluster of satellites was launched in December 2018 and commissioning was successfully completed in February 2019. Data products from the Pathfinder cluster are now commercially available. Construction of the next satellite cluster has been initiated. This cluster will apply information learned from the Pathfinder to further enhance RF data collection capabilities and expand revenue opportunities. Co-investors in HawkEye^{360} include Raytheon, Razor's Edge and Sumitomo Corporation of the Americas. HawkEye^{360} is based in Herndon, Virginia.

Problem statement - current space-based RF signals detection and mapping capabilities are limited

Commercial applications than can benefit from RF geospatial information are proliferating. These applications will benefit significantly from new commercial capabilities that can independently geo-locate diverse RF signals. Such capabilities have the potential to enhance government and commercial activities across a range of applications, including emergency response support (search and rescue), shipping and transportation tracking, spectrum interference and coverage mapping, support for global health and humanitarian initiatives such as identification of illegal fishing, and support of national and global security activities.

Proposed solution - RF signals detection, mapping and analytics from formation satellite constellations

HawkEye^{360}'s capabilities are delivered via clusters of three LEO small satellites flying in formation to provide independent data streams that can be used to accurately geo-locate and capture diverse RF signals. Following its launch in December 2018, the Pathfinder cluster is now on orbit and performing in line with design specifications. Using proprietary algorithms, signals data is being used individually, and eventually will be used in combination with multiple other data sources to deliver contextual, timely analysis and predictions related to sources of RF signals, such as ships and fishing vessels. For example, maritime vessels engaged in illegal fishing may seek to evade detection by switching off their AIS (Automatic Identification System) and going "dark". HawkEye^{360}'s capability may be used to detect other forms of RF emissions from the "dark" ship making it possible to detect vessels that are attempting to hide or spoof their location and avoid interception.

The company currently plans a full commercial constellation of 10 satellite clusters (30 satellites). HawkEye^{360}'s satellites and payloads are sourced from experienced suppliers with proven performance records. The algorithms that form the foundation of HawkEye^{360}'s signals processing and data analytics are proprietary to HawkEye^{360}.

HawkEye^{360} enjoys first mover advantages and is thought to be the only commercial entity with satellites on orbit, and further launches planned, capable of diverse RF signals detection, mapping and analytics.

Intellectual Property

HawkEye sources its satellites, payloads and signals processing hardware from third party providers. Its proprietary intellectual property resides in the software that analyses the RF signals data, has the ability to combine it with other sources of geospatial information, and generates actionable reports and analytics for the end user.

Business model and target markets

The first market targeted by HawkEye^{360} is maritime domain awareness (MDA). Per Frost and Sullivan, this is currently a $1.7 billion market, forecast to grow to $2.2 billion by 2024 (excluding defence and intelligence expenditure). In civil government, the market is anticipated to include: anti-piracy and pollution; illegal, unreported and unregulated (IUU) fishing: and anti-illegal transshipment. Other representative markets include: spectrum mapping; emergency response and search and rescue; communications/spectrum interference detection; critical infrastructure awareness; and government mission support. For reference, the commercial satellite imagery market is forecasted to be worth $8.5 billion by 2026.

HawkEye^{360}'s subscription model is expected to generate recurring revenue.

Team

- John Serafini, CEO. Formerly Senior Vice President of Allied Minds where he led the formation of and the investment into HawkEye 360, along with other Allied Minds companies such as BridgeSat, Federated Wireless, Optio Labs, Percipient Networks, and Whitewood Encryption Systems. A former Airborne Ranger-qualified U.S. Army infantry officer, John is a graduate of the US Military Academy, Harvard Business School and Harvard Kennedy School of Government.
- Chris DeMay, Founder and CTO. Came up with the idea for HawkEye while serving at the NRO, where he was responsible for space-based intelligence technology development projects and programs. 14 years in various leadership positions with the U.S. Federal Government, and was the recipient of the NRO Gold Medal of Distinguished Performance and the Frank Beamer Award for Exceptional Service. Chris holds an MS in Systems Engineering and a BS in Business Information Technology, both from Virginia Tech.
- Board of Directors: John Serafini (CEO); Mark Spoto (Razor's Edge); Jill Smith (Allied Minds); Simon Davidson (Allied Minds); Honorable Arthur L. Money (Independent, former Assistant Secretary of Defense for Command, Control, Communications and Intelligence (ASD (C3I)); and David Farnsworth (Raytheon)
- Advisory Board: 16 members including: Letitia Long (recently retired Director of the National Geospatial-Intelligence Agency (NGA)); and David Deptula (retired Lieutenant General, United States Air Force)

2018 management objectives

- Successfully launch Pathfinder satellite cluster
- Launch Marine Domain Awareness (MDA) products and realise commercial revenue

Progress in 2018

- Pathfinder cluster of satellites successfully launched and deployed in December 2018 via SpaceX Falcon 9 Rocket
- Post period end, pathfinder cluster successfully commissioned on 26 February 2019, indicating satellites and payloads are performing in line with design specifications and data is available for commercial products
- Continued backlog build – across government and commercial clients
- Beta testing completed for first Maritime Domain Awareness (MDA) product
- $14.9 million Series A-3 funding round completed in September 2018, led by Raytheon with participation from Sumitomo Corporation of America, Razor's Edge Ventures, Shield Capital, Space Angels, Allied Minds and a new unnamed financial investor. Proceeds are being deployed to fund the development of the company's next commercial cluster

2019 key operational management objectives

- Successfully launch three core analytic products in the Spectrum Awareness product line, RF Geo, RF Survey and Emitter Data Base.
- Complete development of next cluster and ready for launch
- Commence development of follow-on clusters two, three and four, for launch in 2020.

Orbital Sidekick, Inc.

Overview

Allied Minds led the seed round of Orbital Sidekick in April 2018 with an investment of $3.5 million for a significant minority stake. 11.2 Capital, a VC firm specialising in breakthrough technologies, invested alongside Allied Minds.

Orbital Sidekick is a company developing capabilities in aerial and space-based hyperspectral imaging and analytics, initially for the oil and gas industry. Orbital Sidekick's Spectral Intelligence™ platform is designed to enable more efficient monitoring of natural resource assets and infrastructure integrity. Orbital Sidekick is initially targeting monitoring of assets for the oil and gas market - estimated at over $4 billion annually. There are potentially multiple additional commercial and government applications for its technology.

Orbital Sidekick was founded by Dan Katz and Tushar Prabhakar, leveraging their extensive experience in small-sat design as engineers at Space Systems Loral. The team has built a complementary network of advisors to bring expertise in oil and gas operations and regulations, hyperspectral analysis, and data services.

Progress in 2018

- Successful deployment of its first-generation hyperspectral system on the NanoRacks External Platform on-board the International Space Station (ISS) in December 2018
- Awarded a Phase I SBIR contract from AFWERX, the United States Air Force program with the goal of fostering a culture of innovation within the service
- Entered an agreement with Loft Orbital to deploy a second-generation hyperspectral payload from Loft's space infrastructure, providing a high frequency monitoring solution for Orbital Sidekick customers

2019 key operational management objectives

- Expand Orbital Sidekick's pilot programs to additional oil and gas pipeline operators to deliver Spectral Intelligence™ for asset integrity and regulatory compliance monitoring

----

QuayChain, Inc.

Overview

QuayChain plans to provide CBRS-enabled connected digital infrastructure and targeted supply chain management applications at multi-user industrial locations such as international cargo ports and large industrial real estate complexes. We refer to these locations as Smart Industrial Hubs. Specifically, QuayChain will design and build private LTE networks and will deploy proprietary connected devices and sensors. This infrastructure will enable a single Industrial IoT platform for the collection and analysis of real-time data across the Smart Industrial Hub. Applications will be developed to harness this data to improve the efficiency of existing supply chain work flow. QuayChain will work initially at key international cargo ports to build a CBRS network and deploy devices and sensors for the use by occupants of the port.

Progress in 2018

- Granted a special temporary authority (STA) by the FCC to conduct testing in the CBRS band in the Ports of Los Angeles / Long Beach locale. QuayChain was also included in the initial commercial deployment (ICD) of Federated Wireless
- Executed four pilot agreements with partners and potential end-users
- Installed small cell radios for initial testing. Successfully tested a number of CBRS enabled devices to operate on CBRS network, both stationary and moving
- Initial discussions with the terminal operators and with the trucking industry on priority technical issues within the ports area

2019 key operational management objectives

- Design, build and test a pilot network across a multi-user industrial location with insight into commercial scalability

- Design and deploy CBRS enabled devices within the key parts of the port supply chain, across multiple customers both fixed and moving
- Design applications to ingest the data collected from deployed devices and provide analytical support for key business workflows within the supply chain

----

Spark Insights, Inc.

Overview

Spark Insights is an advanced analytics company developing data products for the rapidly growing insurance analytics market. Allied Minds formed Spark Insights in late 2018 and completed a $3.2 million Series Seed financing post period end in April 2019.

Given the increasing prevalence of catastrophic events, including hurricanes, floods, and wildfires, property, insurers are struggling to quantify the impact on their policies, both before and after a catastrophic event occurs. Spark Insights plans to leverage the advent of unique data sets, including advances in satellite imagery and weather data, combined with proprietary analytics to transform critical workflows for these property insurers.

Spark Insights draws from Allied Minds' expertise in the SpaceTech sector and perspective on the maturing data sets emerging from new space platforms, analytics conducted at NASA and deep insurance and weather expertise of Allied Minds' Entrepreneur-In-Residence, Ira Scharf.

Spark Insights' focus is at the intersection of several multi-billion dollar addressable markets including an approximately $7.0 billion per year insurance analytics market, approximately $10.0 billion per year in underwriting losses, and approximately $1.0 billion per year in catastrophe modeling platforms.

Ira Scharf is a co-founder of Spark Insights and has been appointed as the company's CEO. Ira's background includes over 15 years bringing products to market in the insurance industry and over 10 years in the weather industry, in addition to degrees from MIT and Harvard Business School.

2019 key operational management objectives

- Develop initial product to improve processes in the property insurance industry using novel data sets and analytics capabilities
- Engage with pilot customers in the insurance and reinsurance industries
- Build team to support data science, engineering, and business development activities in initial pilots

----

Spin Memory, Inc. (formerly known as Spin Transfer Technologies, Inc.)

Overview

Spin Memory is developing technology solutions that have the potential to materially enhance the endurance, speed and size characteristics of MRAM (magneto-resistive random access memory) - the emerging next generation memory technology. Spin Memory believes these technologies hold the potential to unlock the widespread adoption of MRAM as a replacement for existing SRAM and DRAM. It has licensed its Endurance Engine technology to ARM Limited and will work with ARM Limited to create embedded SRAM-class MRAM design solutions based on this proprietary technology. Furthermore, Spin Memory has entered into a commercial agreement with Applied Materials, Inc. (Applied Materials) to jointly create a comprehensive MRAM solution for foundries. ARM Limited and Applied Materials were co-investors in Spin Memory's Series B funding round completed in November 2018. Based in Fremont, California, Spin Memory was formed in 2006 and employs over 20 PhDs in fields including engineering, physics, materials sciences and mathematics.

Problem statement - current pervasive SRAM and DRAM technologies are reaching obsolescence

Current pervasive SRAM and DRAM memories deliver powerful size, speed and endurance performance, but have a high power consumption and are volatile, i.e. they do not retain memory when power is cut. Current memory and storage solutions are challenged by the demands associated with the rapid expansion of IoT and more complex, data-intensive applications, including artificial intelligence, machine learning and virtual reality. At the same time, downward pressure on size and cost continues.

Proposed solution - universal technologies that enable SRAM- and DRAM-grade MRAM

Spin Memory is developing 3 patented, universal technologies that hold the potential to enable MRAM (which is inherently non-volatile and low power) to meet or exceed the size, speed and endurance characteristics of SRAM and DRAM.

- Endurance Engine - circuitry designed to correct for inherent errors or non-idealities of MRAM, improving endurance by up to six orders of magnitude, taking current MRAM technologies from 10^8 to 10^{14} compared to DRAM at up to 10^{15} or above. The Endurance Engine also improves cell size, speed, power consumption, density and retention. The Endurance Engine has parallels to innovations pioneered by SanDisk to correct for non-idealities in Flash memory that led to the widespread adoption of that technology.
- Spin Polarizer (also known as PSC) - series of materials that can be layered onto a perpendicular magnetic tunnel junction (pMTJ - the core magnetics technology of MRAM) to improve switching speeds and increase efficiency by an estimated 30%, and reduce size by a corresponding amount.
- 3D multi-level cell (3D-MLC) - allows increases in densities to a level which, when combined with the Spin Polarizer and Endurance Engine, will allow MRAM to match or exceed the characteristics of DRAM.

The three core technologies have the potential to significantly reduce costs. Specifically, the Endurance Engine is intended to decrease the overall silicon area (and hence cost) of a large (> 32 Megabit) MRAM memory. The Spin Polarizer adds an infinitesimal processing cost (fractions of a per cent) while greatly reducing silicon area. The 3D-MLC adds some processing cost that is significantly outweighed by the resultant silicon area reduction.

Intellectual property

Spin Memory has more than 200 patents issued or pending in relation to the three technologies described above. These patents cover everything from the fundamental aspects of these areas of invention to derivative improvements. Spin Memory has granted an exclusive license to ARM Limited in relation to its Endurance Engine technologies for use in applications in embedded MRAM.

Target markets and business model

Through a phased roll-out of capabilities with partners, Spin Memory is targeting Non-Volatile Memory (NVM) and SRAM replacement markets estimated at $250 million and $500 million, respectively, followed by the $1.0 billion storage class memory market (also known as MDRAM), and later DRAM with a total addressable market estimated to be worth $20 billion across mobile and enterprise segments.

Spin Memory plans to commercialise its technology through a combination of licensing agreements, potentially delineated by component and field of use, NRE-type agreements or sponsorship agreements, and other commercial partnerships. Spin Memory views the licensing model as an efficient way to reach the market that leverages the distribution and customer network and cost base of Spin Memory's partners. Should the company choose to expand its strategy beyond a licensing model, it would need to partner with a manufacturer at a future stage.

Team

- Tom Sparkman, CEO. 35 years' experience across medical, automotive, semiconductor and wireless technologies. Extensive leadership roles include CEO of Samplify Systems, and most recently General Manager and Senior Vice President, Worldwide Sales at Spansion, Inc., prior to its merger with Cypress Semiconductor. Tom holds a Bachelor of Science in Electrical Engineering from the University of California at Berkeley.
- Antoine Bruyns, CFO. Formerly at Bain & Co and JP Morgan where he advised on the IPOs of DocuSign and Eventbrite, and the acquisitions of Cavium, Ring, and Blue Bottle Coffee. Formerly Managing Director and start-up CEO of Riaktr's South African branch. Antoine holds a Masters of Business Administration from UC Berkeley's Haas School of Business and a Bachelors in Business Engineering from the Universite Libre de Bruxelles, along with both Bachelors and Masters degrees in Electrical Engineering and Computer Sciences from Ecole Polytechnique de Bruxelles.
- Andy Walker Ph.D., Vice President Product. Recognised leader in the semiconductor industry with 30 years' experience, focusing on 3-D Flash memory since 2000. Founded Schiltron Corporation to investigate and develop new 3-D memory technology. Andy has worked for several major semiconductor companies including Cypress Semiconductor, Artisan Components and Matrix Semiconductor. Prior to this he was with Philips Research Laboratories where he worked on CMOS and non-volatile memory R&D. He earned a Bachelor of Science degree in physics from the University of Dundee, Scotland and a Ph.D. from the Technical University of Eindhoven, The Netherlands.
- Board of Directors: John Kispert (Independent Chairman); Tom Sparkman (CEO); Pete Magowan (Independent, former EVP Sales and Marketing at Arm Limited); Surajit Datta (ARM); Jill Smith (Allied Minds); and Joe Pignato (Allied Minds)

2018 management objectives

- Successfully demonstrate the advantages of the Spin Polarizer and Endurance Engine
- Sign 2+ customer/partner agreements

Progress in 2018

- In November 2018, raised $52 million in a Series B financing round, including the conversion of $23 million of convertible bridge financing from existing investors, including Allied Minds. The round was led by ARM Technology Investments Limited, the venture arm of ARM Limited, and Applied Ventures, the venture capital arm of Applied Materials, and included participation by Abies, a Japanese venture capital fund
- At the completion of this financing, Spin Memory signed a licensing agreement with ARM Limited, the world's leading semiconductor intellectual property (IP) company. The licensing agreement extends to Spin Memory's Endurance Engine™ technology and related IP, and governs the terms on which ARM Limited and Spin Memory will work together to create SRAM-class magnetoresistive random-access memory (MRAM) design solutions based on this proprietary technology. Under the licensing agreement, Spin Memory will provide ARM Limited with its innovative Endurance Engine design architecture to develop a new line of embedded MRAM design IP. This MRAM design IP will address static random-access memory (SRAM) application in SoCs (Systems-on-a-Chip), with denser and lower power solutions than typically achieved with the current 6T SRAM cell-based IP.
- Simultaneously, Spin Memory announced a commercial agreement with Applied Materials to create a comprehensive embedded MRAM solution. The solution brings together Applied Materials' industry-leading deposition and etch capabilities with Spin Memory's MRAM process IP. Key elements of the offering include Applied Materials' innovations in PVD and etch process technology, Spin Memory's revolutionary Precessional Spin Current™ (PSC™) structure (also known as the Spin Polarizer), and industry-leading perpendicular magnetic tunnel junction (pMTJ) technology from both companies. The solution is designed to allow customers to quickly bring up an MRAM manufacturing module and start producing world-class MRAM products. Spin Memory and Applied Materials are working together to make this turnkey solution commercially available.
- Both the ARM Limited license agreement and the Applied Materials commercial agreement include a competitive revenue share stake for Spin Memory from future sales.
- Demonstrated efficiency gains of 40 - 70% when applying STT's Spin Polarizer to any MRAM device, enabling dramatic improvements in data retention (by a factor of >10,000x) with reduced power consumption. Results reported at the Intermag 2018 Conference
- Demonstrated up to six orders of magnitude endurance enhancement with a silicon based FPGA emulation of the Endurance Engine alongside STT's test chips, resulting in endurance levels of 10^{14}, in line with DRAM endurance performance
- Appointed John Kispert as Independent Director and Chairman. John has over 25 years of experience in the semiconductor industry, most recently serving as a CEO of Spansion, Inc. prior to its merger with Cypress Semiconductor Corp.

2019 key operational management objectives

- Create proof of concepts in silicon that demonstrate the superior performance of Spin Memory's technologies
- Leverage exclusive licensing agreements with Applied Materials and ARM Limited to bring technology IPs into the mainstream
- Build strong commercial and government customer backlog for new use cases in AI, ADAS, 5G, IoT and more

----

TableUp, Inc.

Overview

TableUp is a software provider enabling end-to-end transparency through the restaurant supply chain to enable more effective inventory and operations management. Allied Minds' minority investment in TableUp in April 2018 represents a first entry into a vertical market where efficiency gains in operations, supply chain management, and marketing are expected to be unlocked through improved connectivity. TableUp is a revenue-generating company and has a relationship with Reyes Group LLC, one of the largest food and beverage distributors in the US.

Progress in 2018

- Integrations with 70% of POS systems
- 2019 divisional lead goals set with key partners
- 36% CMGR in bookings since Series A financing

2019 key operational management objectives

- Expand referral partner network
- Expand traction in enterprise market segment
- Build integrations with additional key POS systems

Life Science Businesses

Precision Biopsy, Inc.

Overview

Precision Biopsy is a medical device and analytics company using spectral analysis to distinguish tissue characteristics in real-time, with the aim of improving cancer diagnostics and therapies. Initially focused on prostate cancer, the technology is potentially applicable to other cancers. Precision Biopsy was formed in 2008 based on technology originally sourced from the University of Colorado. It is based in Aurora, Colorado. In February 2019, it secured bridge financing of $5 million from existing investors, Allied Minds and Woodford Investment Management to support the company to a funding round to finance the Pivotal SCORE for its diagnostic device (ClariCore™).

Problem statement - poor diagnosis rates and invasive therapies for prostate cancer

The location of the prostate means that cancer tumours cannot be accurately imaged so biopsies, which involve 12-14 randomly sampled cores, are effectively performed "blind". Lack of ability to accurately target cancer tumours during the biopsy leads to poor diagnosis rates: cancer is missed nearly half of the time and as a result patients are subjected to repeat biopsies. Further, 90% of tissue cores are negative, resulting in unnecessary patient discomfort and pathology costs of around $900 million annually in the US alone. Additionally, as tumours cannot be accurately mapped, treatments for prostate cancer are predominantly whole gland treatments, principally prostatectomy, carrying c. 85% side effects, including sexual dysfunction and incontinence.

Proposed solution - "smart" diagnosis and therapy

Precision Biopsy's ClariCore™ system uses spectral analysis to distinguish benign from cancerous prostate tissue in real time during the biopsy procedure, guiding the urologist, and potentially improving diagnosis rates while reducing pathology costs. The same technology is being leveraged to produce accurate 3D mapping of prostate cancer tumours which is a critical enabler of focal therapy using ClariCore™ and other emerging therapies designed to treat only the cancerous tissue and replace certain prostatectomies. Targeted focal therapy has the potential to move treatment from the operating room to the clinic at significantly reduced cost and with fewer side effects.

Today's standard of care involves a random biopsy of 12-14 cores under ultrasound guidance. Where routine biopsies of high risk patients fail to diagnose the cancer, physicians typically prescribe an MR Fusion biopsy which involves an MRI scan (typically in the hospital) followed by the biopsy (typically in the urology office). An MRI scan is expensive and has an estimated 10mm error margin. ClariCore™ 3D is estimated to have an error margin of 1mm, which is accurate enough for focal therapy.

Intellectual property

Precision Biopsy has four US issued patents and another four patent applications pending in the US and EU. Precision Biopsy's IP portfolio is intended to protect company's core technology and commercial products for the real-time tissue classification product (ClariCore™), as well as covering tumor mapping and focal therapy for cancer in the prostate as well as anatomical locations.

Target markets

· In the US, Precision Biopsy's ClariCore™ diagnostic product targets a c. $1.5 billion segment of the estimated $7 billion prostate cancer market, or approximately 1 million biopsies annually
· Precision Biopsy believes an estimated 100,000 prostate cancer patients may be eligible for 3D mapping, worth c. $300 million annually in the US, plus an additional $500 million US market for an integrated focal therapy device
· The European market is of a similar size to the US

Team

· Adam Savakus, President and COO. Adam has 25 years' experience in the medical devices industry driving complex product development, clinical, and regulatory efforts to successful outcomes. He was part of the founding team of EndoSonics, a pioneer in the field of Intravascular Ultrasound, (IPO, acquired by Jomed, Volcano Therapeutics, Phillips), and was a key executive at Adiana developing a novel transcervical sterilisation method (acquired by Cytyc/Hologic). Most recently as EVP at Relievant MedSystems, he successfully led the product development, operations and clinical and regulatory strategy for the Intracept device. Adam holds a B.S. in Biophysics and a M.S. Bioengineering, both from Pennsylvania State University.
· Dr. Priya Werahera, Chief Scientific Officer and co-founder. Two decades' experience in prostate cancer diagnostics and therapies as an Associate Professor in the Departments of Pathology and Bioengineering at the University of Colorado. Priya holds two BS degrees (University of Moratuwa, Council of Engineering Institute), an MS from Oregon State University and a PhD in Electrical and Computer Engineering from Colorado State University.
· Scientific Advisory Board: Neal Shore, MD; Director, Carolina Urologic Research Center; Past President, Large Urology Group Practice Association (LUGPA); David Crawford, MD; Head of Section Urologic Oncology, University of Colorado Health Sciences Center; Alan Partin, MD; Chairman, Department of Urology, Johns Hopkins Brady Urological Institute; James Eastham, MD; Chief of Urology Service, Memorial Sloan Kettering Cancer Center; Andre Abreu, MD; Assistant Professor of Clinical Urology, Keck School of Medicine of USC; James Wysock, MD; Assistant Professor, New York University Langone Medical Center
· Board of Directors: Adam Savakus (President and COO); Amir Tehrani (former CEO of Precision Biopsy); Jill Smith (Allied Minds); and Mike Turner (Allied Minds)

2018 management objectives

· Gain CE Mark
· Complete Cohort B trial (now known as "Pivotal SCORE study")

Progress in 2018

- Received FDA IDE approval to initiate Pivotal SCORE study
- Initiated Cohort B roll-ins
- Initial results using the improved next generation consoles highlighted the need to partially retrain the algorithm prior to the commencement of the Pivotal SCORE study
- CE mark application postponed until start of the SCORE study
- Began 3D Mapping FIM (first in man) study to evaluate ability to collect and analyse data
- On 10 July 2018, the company obtained its fourth issued patent, which relates to the diagnosis and treatment of tissue, and supports its ClariCore™ system with 3D mapping and focal therapy claims
- Adam Savakus appointed President and Chief Operating Officer. Adam is an accomplished medical device executive with direct experience driving successful operational, regulatory and marketing outcomes.
- In mid-2018, Precision Biopsy concluded that it needed to partially retrain the tissue classification algorithm using the updated and improved Cohort B ClariCore™ console.As a result, the start of the Pivotal SCORE study was delayed several months.Post period end, the work has been successfully concluded, positioning the Pivotal SCORE study to commence as soon as funds have been raised.This delay impacted the external financing process which was underway and was not successfully completed.Post period end, Allied Minds and Woodford Investment Management invested $5.0 million of bridge capital in Precision Biopsy to provide runway to seek external financing to fund further development.
- Post period end, secured $5.0 million of bridge financing from existing investors, Allied Minds and Woodford Investment Management, to support the company to completion of a financing round to fund its Pivotal SCORE study

2019 key operational management objectives

- Complete Pivotal SCORE study
- Submit data to US FDA for 510k review
- Obtain CE mark

SciFluor Life Sciences, Inc.

Overview

SciFluor is a drug development company focused on creating best-in-class compounds, initially targeting the field of ophthalmology. SciFluor's lead clinical asset, SF0166, is a topical eye droplet treatment for Age-related Macular Degeneration (AMD) and Diabetic Macular Edema (DME), both widely prevalent retinal diseases that lead to blindness if left untreated. The disclosure below focuses on SF0166.

Problem statement - treatment of AMD and DME requires regular injections to the back of the eye

AMD and DME require monthly injections to the back of the eye, causing patient discomfort and imposing significant costs on payors.

Proposed solution - topical eye droplet

SF0166 is a fluorinated compound administered via daily topical eye droplets. SF0166 was invented by SciFluor scientists based in part on clinical results of a non-fluorinated molecular analog which addressed the same biological target and was deemed safe when ad ministered systemically but which does not reach the retina. Precise and strategic fluorination provides SF0166 qualities intended to enable passage to the back of the eye when delivered as a droplet and also confers selectivity and potency. Current treatments for Wet-AMD and DME are derived from large and expensive molecules delivered via monthly injections to the back of the eye. SciFluor concluded Phase I/II trials for SF0166 in Wet-AMD and DME patients in late 2017.

Intellectual property

SciFluor currently has 55 issued and 13 pending patents covering compositions of matter, methods of use, and formulations of SF0166 and related compounds.

Target markets

20 million patients globally suffer from DME and 15 million suffer from Wet-AMD, with a further 150 million patients suffering from earlier stage Dry-AMD. In 2016, worldwide combined revenue for Lucentis and Eylea, the two leading injectable drugs treating these diseases, exceeded $8 billion. Ageing populations and the projected increased prevalence of diabetes are expected to drive future growth.

Team

- Bob Dempsey, Independent Director. Bob has a 25 year career in Ophthalmology, building franchises and holding leadership experience in sales, marketing, medical affairs and business development at major Eye Care organisations including Takeda where he is currently leading the Global Ophthalmology Franchise. He has held numerous leadership positions at Bausch + Lomb, Inspire, Allergan, and Shire. He holds an MBA and a Bachelor of Science from Northeastern University in Boston, Massachusetts.
- Scott Edwards Ph.D, Vice President and General Manager. Scott has an extensive background in pharmaceutical R&D with a record of major accomplishments in the areas of small molecule therapeutics and medical imaging contrast agents. He began his career in drug discovery and development in the imaging division of DuPont Pharmaceutical Co. in 1988. At DuPont and Bristol-Myers Squibb, he held positions spanning discovery, pre-clinical development, clinical development and regulatory affairs resulting in multiple new drug approvals and the first pediatric extension for an imaging drug. At SciFluor, Scott has led the development and successful execution of first-in-human Phase I/II studies in patients with diabetic macular edema (DME) and neovascular age-related macular degeneration (wet-AMD). He currently is driving the toxicology studies, formulation and manufacturing development, and clinical trial design needed to advance SF0166 into full clinical development. He holds a bachelor's degree in chemistry from the Georgia Institute of Technology and a Ph.D. in organometallic chemistry from the Massachusetts Institute of Technology.
- Board of Directors comprises: William Koster, Ph.D (Chairman); Bob Dempsey (Independent - currently Group Vice President, Head of Global Ophthalmics Franchise at Takeda); Jill Smith (Allied Minds); and Mike Turner (Allied Minds).
- Advisory Board: Jeffrey S. Heier, MD (Co-President and Medical Director, Director of the Vitreoretinal Service, and Director of Retina Research at Ophthalmic Consultants of Boston); David S. Boyer, MD (Cedars-Sinai Medical Center and Good Samaritan Hospital, Los Angeles, CA); and Peter Kaiser, MD (Cole Eye Institute, Cleveland Clinic). In addition, Edmund Harrigan, MD as a clinical and regulatory advisor (28 years of pharmaceutical industry experience, including SVP roles at Pfizer leading regulatory and business development functions).

2018 management objectives

- Initiate at least one Phase II trial for SF0166
- Complete in-life IND enabling study for one new asset

Progress in 2018

- SF0166 Phase I/II clinical data presented at multiple medical conferences including: Angiogenesis, Exudation, and Degeneration (February 2018); Association for Research in Vision and Ophthalmology (April 2018); World Ophthalmology Congress (June 2018)
- SF0166 Phase I/II clinical data published in the Journal of Pharmacology and Experimental Therapeutics
- Six-month sub-chronic toxicity studies for SF0166 commenced to support Phase II clinical development
- Study design for Phase II SF0166 trials completed
- Appointed Robert Dempsey as an Independent Director. Bob has over 25 years' experience in the pharmaceuticals industry focusing on ophthalmology and is currently head of Takeda's Global Ophthalmology Franchise
- SciFluor sought to raise external financing over the course of 2018 to fund Phase II trials for SF0166, on the back of safety and preliminary efficacy data from the Phase I/II trials.This process was not successfully completed.As a result, clinical development activities at SciFluor have been pared back, and are now focused exclusively on the toxicology studies necessary to initiate the Phase II trials for SF0166.Post period end, Allied Minds and Woodford Investment Management invested $4.0 million of bridge capital in SciFluor to provide runway to seek external financing to fund further development.

2019 key operational management objectives

- Complete toxicology studies for SF0166
- Submit amended IND to US FDA

Discontinued and/or Sold Portfolio Companies and Partnerships

----

LuxCath, LLC

Based on technology originally sourced from George Washington University, LuxCath, LLC (LuxCath) is developing a proprietary ablation catheter technology to enable live, optical interrogation of heart tissue during cardiac ablation, allowing a cardiologist to assess on a real-time basis the impact of ablation therapy on targeted heart tissue. The technology aims to improve clinical outcomes while reducing procedure times, fluoroscopy exposure, costs, and clinical recurrences. In late 2018, Allied Minds reviewed its available capital resources and allocation priorities across its entire portfolio, and determined to cease additional funding to LuxCath and seek strategic alternatives, which may include a sale of our interest or other orderly exit from this company.

Signature Medical, Inc.

Signature Medical was developing cardiac signature technology on a wearable device enabling diagnosis and monitoring of heart failure during hospital therapy and post discharge. Its lead AcoustiCare™ device, was being designed to allow for better intervention and reduced hospital readmissions, and to improve outcomes for patients and reduce costs to the healthcare system. In late 2018, Allied Minds reviewed its available capital resources and allocation priorities across its entire portfolio, and determined to cease funding to and operations at Signature Medical. The company was subsequently dissolved in February 2019.

Percipient Networks, LLC

In January 2018, we sold substantially all of the assets of Percipient Networks to WatchGuard Technologies, Inc.

Allied-Bristol Life Sciences, LLC

During 2018, Allied Minds determined to cease funding to and operations at Allied-Bristol Life Sciences (ABLS), including ABLS Capital, LLC, ABLS II, LLC (Harvard) and ABLS IV, LLC (Cornell), and to seek strategic alternatives and an orderly exit from this drug discovery and development company created in August 2014 through a partnership between Allied Minds and Bristol-Myers Squibb (BMS). Although the ABLS model provided a thoughtful route to engaging in drug discovery while mitigating some of the risk inherent in this activity, Allied Minds reviewed its available capital resources and allocation priorities across its entire portfolio, and made this determination. Following the completion of the strategic review process, and after the period end, each of ABLS, ABLS Capital, LLC, ABLS II, LLC (Harvard) and ABLS IV, LLC (Cornell) ceased operations and were dissolved, and surplus cash was distributed to investors, including an aggregate of $4.3 million returned to Allied Minds.

General Electric

In September 2016, Allied Minds and GE Ventures announced the launch of a strategic alliance to jointly identify and invest in new and existing technologies developed from both innovation pipelines. Allied Minds and GE Ventures' continued to explore commercialisation candidates in the first half of the year. However, no joint investments were agreed, and the agreement with GE expired by its own terms in September 2018.

Financial Review

During 2018, $84.9 million was invested into new and existing subsidiary businesses. This included $76.9 million from subsidiary fundraisings, with $51.4 million coming from third-party investment, to further accelerate the development of three of the Group's existing companies, HawkEye^{360}, Inc. BridgeSat, Inc., and Spin Memory, Inc. In addition to these fundraisings, $8.0 million was invested by the Group into new and other existing subsidiary businesses.

Consolidated Statement of Comprehensive Loss

For the years ended 31 December

	2018 *$ '000*	2017 *$ '000*
Revenue	5,561	5,001
Cost of revenue	(2,827)	(5,242)
Selling, general and administrative expenses	(49,328)	(55,214)
Research and development expenses	(44,947)	(49,012)
Finance income/ (cost), net	92,875	(6,545)
Other income/(expense)	45,417	–
Other comprehensive (loss)/income	561	(103)
Total comprehensive income/(loss)	47,312	(111,115)
of which attributable to:		
Equity holders of the parent	39,322	(75,778)
Non-controlling interests	7,990	(35,337)

Revenue increased by $0.6 million, to $5.6 million in 2018 (2017: $5.0 million). This increase is primarily attributable to revenue from new consulting contracts in 2018 at Federated Wireless of $3.0 million, offset in part by lower consulting revenue at HawkEye^{360} of $1.1 million and at discontinued companies of $1.6 million. During 2018, Allied Minds sold the trade and asset of Percipient Networks and subsequently ceased operations and dissolved the company. In addition, Allied Minds dissolved each of Whitewood Encryption, Seamless Devices, RF Biocidics, Inc., and Foreland. Cost of revenue was lower by $2.4 million at $2.8 million (2017: $5.2 million), when compared to the prior year, mainly due to inventory write-offs at discontinued companies in 2017.

Selling, general and administrative (SG&A) expenses decreased by $5.9 million, to $49.3 million, for the year ended 31 December 2018 (2017: $55.2 million), largely due to the restructuring charge recorded for discontinued funding of subsidiaries during 2017 compared to zero charges recorded in 2018.

R&D expenses decreased by $4.1 million to $44.9 million for the year ended 31 December 2018 (2017: $49.0 million). The decrease was primarily due to $2.0 million of expense incurred by closed and dissolved subsidiaries in 2017. The remainder of the decrease reflects the net effect from R&D spend at the other subsidiaries.

Finance cost, net increased by $99.4 million to $92.9 million in 2018 (2017: $(6.5) million) reflecting the fair value accounting adjustment of the subsidiary preferred shares liability balance of $91.6 million (2017: $(6.8) million), and interest income, net of interest expense, of $1.3 million (2017: $0.3 million).

Other income increased by $45.4 million in 2018 (2017: $nil) reflecting $3.9 million of net gain from the disposal of the trade and assets at Percipient Networks as well as $41.5 million due to the deconsolidation of two of the company's existing subsidiaries, HawkEye^{360} and Spin Memory and the write down of residual investment to fair value at deconsolidation date:

- As a result of HawkEye's Series A-3 Preferred Stock financing round that was completed in September 2018, Allied Minds' ownership percentage dropped from 54.07% to 48.33%. Consequently, the Company no longer controls a majority of the outstanding voting stock and does not control a majority of the board seats and as a result, the subsidiary was deconsolidated. Upon deconsolidation, Allied Minds recognised the fair value of the Series A-1 Preferred Stock, Series A-2 Preferred Stock, and Series A-3 Preferred Stock (collectively the "HE^{360} Preferred Stock") held in HawkEye^{360}, resulting in a gain of $11.1 million.
- As a result of Spin Memory's Series B Preferred Stock financing round, the first closing of which was completed in November 2018, Allied Minds' ownership percentage dropped from 48.55% to 41.63%. Consequently, the Company no longer controls a majority of the outstanding voting stock and does not control a majority of the board seats and as a result, the subsidiary was deconsolidated. Upon deconsolidation, Allied Minds recognised the fair value of the Series A Preferred Stock, Series B-1 Preferred Stock, and Series B-2 Preferred Stock (collectively the "SM Preferred Stock") held in Spin Memory, resulting in a gain of $27.1 million. Additionally, due to Allied Minds Common Stock holdings that have equity-like characteristics, the investment is accounted for under IAS 28 and is classified by the Company as an investment in associates which resulted in an additional net gain of $4.6 million. At December 31, 2018, Allied Minds' investment was adjusted by the share of losses generated by Spin Memory in December 2018 of $1.3 million.

As a result of the above discussed factors, total comprehensive income increased by $158.4 million to $47.3 million for the year ended 31 December 2018 (2017: $(111.1) million). Total comprehensive income for the year attributed to the equity holders of the Group was $39.3 million (2017: $(75.8) million) and $8.0 million (2017: $(35.3) million) was attributable to the owners of non-controlling interests.

Consolidated Statement of Financial Position

As of 31 December

	2018 *$ '000*	2017 *$ '000*
Non-current assets	86,096	28,369
Current assets	107,034	184,792
Total assets	193,130	213,161
Non-current liabilities	436	867
Current liabilities	69,557	200,202
Equity	123,137	12,092
Total liabilities and equity	193,130	213,161

Significant performance-impacting events and business developments reflected in the Company's financial position at year end include:

Non-current assets

- Property and equipment decreased by $20.6 million to $6.0 million as at 31 December 2018 (2017: $26.6 million), primarily as a result of the deconsolidation of HawkEye^{360} and Spin Memory of $22.8 million and depreciation expense of $5.7 million, offset by purchases of approximately $7.9 million, mainly at BridgeSat and Federated Wireless;
- Intangible assets as of 31 December 2018 increased by $0.1 million to $1.2 million (2017: $1.1 million) mainly as a result of amortisation expense of $0.4 million, impairment charges of $0.5 million and the net effect of the deconsolidation of HawkEye^{360} and Spin Memory of $0.2 million, offset by additions of $1.2 million in acquired licenses and software assets;
- Investments at fair value increased to $56.5 million as of 31 December 2018 (FY17: $nil), reflecting the $7.5 million invested in Orbital Sidekick, Inc. and TableUp, Inc. and an additional $21.9 million and $27.1 million recognised as a result of the deconsolidation of HawkEye^{360} and Spin Memory respectively.
- Investments in associates increased to $21.9 million as of 31 December 2018 (FY17: $nil) entirely driven by the deconsolidation of Spin Memory of $23.2 million that was offset by share of loss generated by Spin Memory in December 2018 of $1.3 million.

Current assets

- Cash and cash equivalents, including restricted cash, decreased by $57.9 million to $100.2 million at 31 December 2018 from $158.1 million at 31 December 2017. The decrease is mainly attributed to $70.9 million of net cash used in operations and $28.0 million cash from investing activities mainly reflecting the deconsolidation of the two subsidiaries, offset by $41.0 million of cash from financing activities mainly from subsidiary financing rounds;
- Trade and other receivables decreased by $9.2 million to $6.4 million (FY17: $15.6 million) due to a decrease in trade receivables of $2.1 million and a decrease in prepaid expenses of $7.1 million primarily as a result of the deconsolidation of HawkEye^{360} and Spin Memory;
- Other current investments decreased by $11.1 million to $nil (FY17: $11.1 million) due to their maturity into cash equivalents.

Current liabilities

- Subsidiary preferred shares decreased by $127.4 million to $54.2 million as of 31 December 2018 (2017: $181.6 million) primarily driven by the deconsolidation of HawkEye^{360} and Spin Memory of $40.9 million and $91.5 million in IFRS 9/IAS 39 fair value adjustment for the year partially offset by net proceeds from subsidiary preferred rounds of $5.0 million at BridgeSat;
- Deferred revenue decreased to $2.3 million as of 31 December 2018 (2017: $4.3 million) primarily due to the deconsolidation of HawkEye^{360} and Spin Memory of $3.6 million;

Equity

- Net equity increased by $111.0 million to $123.1 million at 31 December 2018 (FY17: $12.1 million) reflecting the combination of comprehensive income for the period of $47.2 million, deconsolidation of subsidiaries of $54.8 million, proceeds from the exercise of options in Allied Minds of $1.5 million and a $7.4 million charge due to equity-settled share based payments.

Consolidated Statement of Cash Flows

For the years ended 31 December

	2018 *$ '000*	2017 *$ '000*
Net cash outflow from operating activities	(70,879)	(90,779)
Net cash (outflow)/inflow from investing activities	(27,994)	4,331

Net cash inflow from financing activities	41,032	35,372
Net decrease in cash and cash equivalents	(57,841)	(51,076)
Cash and cash equivalents in the beginning of the year	158,075	209,151
Cash and cash equivalents at the end of the year	100,234	158,075

The Group's net cash outflow from operating activities of $70.9 million in 2018 (2017: $90.8 million) was primarily due to the net operating losses for the year of $91.5 million offset by the interest received net of paid and other finance charges of $0.9 million, the net effect from movement in working capital of $5.7 million and the adjustment for non-cash items such as depreciation, amortisation, impairments and share-based expenses of $14.0 million.

The Group had a net cash outflow from investing activities of $28.0 million in 2018 (2017: $4.3 million). This outflow predominately reflected the maturity of fixed income securities totaling $11.0 million (FY17: $5.9 million) and net proceeds from the sale of the trade and assets at Percipient of $3.5 million, offset in part by the deconsolidation of the two subsidiaries HawkEye^{360} and Spin Memory of $25.9 million (FY17: $nil), the investments at fair value of $7.5 million (FY17: $nil) and purchases of property and equipment and intangibles of $9.1 million (FY17: $1.5 million).

The Group's net cash inflow from financing activities of $41.0 million in 2018 (2017: $35.4 million) primarily reflects $39.4 million proceeds from the financing round at BridgeSat and the deconsolidation of HawkEye^{360} and Spin Memory and $1.6 million from exercises of stock options.

The Group's strategy is to maintain healthy, highly liquid cash balances that are readily available for investment. To further minimise its exposure to risks the Group does not maintain any material borrowings or cash balances in foreign currency.

Risk Management

The execution of the Group's strategy is subject to a number of risks and uncertainties. A key focus for the Board is to formally identify the principal risks facing the Group and develop a robust and effective framework to ensure that the risks are both well understood and appropriate for the Company's risk appetite to achieve the stated corporate goals. This process needs to address both risks arising from the internal operations of the Group and those arising from the business environment in which it operates. It is possible that one or more of these identified risks could impact the Group in a similar timeframe which may compound their effects.

With our focus on early stage company development, commercialisation and monetisation, the Group inherently faces significant risks and challenges. The overall aim of the risk management policy is to achieve an effective balancing of risk and reward, although ultimately no strategy can provide an absolute assurance against loss.

The Board has carried out a robust assessment of the principal risks facing the Group, including those that would threaten its business model, future performance, solvency and/or liquidity. The major risks and uncertainties identified by the Board are set out below along with the consequences and mitigation strategy of each risk.

1. The science and technology being developed or commercialised by the Group's businesses may fail and/or the Group's businesses may not be able to develop their innovations and intellectual property into commercially viable products or technologies. There is also a risk that some of the portfolio companies may fail or not succeed as anticipated, whether as a result of technical, product, market, fund-raising or other risks, resulting in an impairment of the Group's value.

<u>Impact</u>: The failure of any of the Group's portfolio companies would impact the Group's value. A failure of one of the major portfolio companies could also impact the Group's reputation as a builder of high value businesses and possibly make additional fund raising at the Group or portfolio company level more difficult.

<u>Mitigation</u>:

- Before making any investment, extensive due diligence is carried out by the Group which covers all the major business risks including market size, strategy, adoption and intellectual property. Where appropriate, we seek validation through co-investment by other strategic and/or financial parties.
- A disciplined approach to capital allocation is pursued whereby we closely monitor milestone developments before committing additional capital. Should a project fail to achieve sufficient progress or we be unable to attract other co-investors, we may terminate the investment.
- Dedicated leadership with deep industry or sector knowledge, and relevant technical and/or leadership experience, is recruited to management positions, and the Group ensures that each portfolio company has independent directors and/or other advisors, as appropriate for the relevant stage of development.
- Each portfolio company holds board of director meetings at least quarterly, with participation from the Group's management and/or investment team, along with senior management and independent directors and/or advisors, as appropriate, of such portfolio company.
- The shared services model provides significant administrative support to the portfolio companies, including strong budgetary and financial controls that ensure good governance.
- Within the Group there is significant operating and investment expertise that provides direct, hands-on strategic, operating and fund-raising support to its portfolio companies, as appropriate.
- The Group actively uses third party advisors and consultants, specific to the particular domain in which a portfolio company operates, to assist on market strategy and direction.

2. The Group expects to continue to incur substantial expenditure in further research and development, product development, sales and marketing and other operational activities of its businesses. There is no guarantee that the Group or any of its individual portfolio companies will become profitable prior to the achievement of a portfolio company sale or other liquidity event, and, even if the Group or any of its individual portfolio companies does become profitable, such profitability may not be sustainable. The Group may not be able to attract other co-investors, or monetise its ownership interests in portfolio companies during any specific time frame or otherwise on desirable terms, if at all.

<u>Impact</u>: Allied Minds' objective is to generate returns for its shareholders through early stage company creation and development within the technology and life science sectors. Such value is expected to be delivered through the commercialisation and monetisation of these businesses via a sale or other liquidity event for each. The timing and size of these potential inflows is uncertain and should liquidity events not be forthcoming, or in the event that they are achieved at values significantly less than the amount of capital invested, then it would be difficult to sustain the current levels of investment in the other portfolio companies. This would lead to reduced participation in funding rounds, which will result in a lower ownership position, or potentially impact the ability of a company to raise additional funds.

<u>Mitigation</u>:

- The Group retains significant cash balances in order to support its cash flow requirements, including Allied Minds' investment requirements for each portfolio company and for corporate resources.
- The Group has close relationships with a wide group of investors, including within its current shareholder base, and continues to identify and develop strategic and financial relationships for co-investing in the Group's portfolio companies.
- Senior management continually seeks to build and maintain strategic and financial relationships for the Group, and each portfolio company continually seeks to engage in strategic and financial relationships relevant to their respective markets and to maintain current information on and awareness of potential fund-raising and monetisation strategies.

3. A significant portion of the Group's intellectual property relates to technologies originated in the course of research conducted in, and initially funded by, US universities or other federally-funded research institutions. Although the Group has been granted exclusive licenses to use this intellectual property, there are certain limitations inherent in these licenses, for example as required by the Bayh-Dole Act of 1980.

Impact: There are certain circumstances where the US government has rights to utilise the underlying intellectual property without any economic benefit flowing back to the Group. In the event this were to happen, this could impact the financial return to the Group on its investment in the applicable portfolio companies.

Mitigation:

- To the Board's knowledge, while these so called "march in" rights exist, the US government has never had cause to use them.
- The Group seeks to develop dual use capabilities for the technology it licenses and generally tends to avoid use cases directly applicable to government use.
- This risk is also mitigated through employing experienced technology transfer experts supported by our legal team to assess risks that may arise out of this eventuality.

4. The Group, including certain of the portfolio companies, currently has in place cooperative research and development agreements with certain US Department of Defense laboratories and other federally funded government institutions. Certain regulatory measures apply to these agreements which restrict the export of information and material that may be used for military or intelligence applications by a non-US person, and compliance with these regulatory measures may be complex and limit commercial alternatives.

Impact: If the Group were to breach restrictions on the use of certain licensed technologies, particularly those derived from federally funded research facilities, this could materially impact upon the Group's ability to license additional intellectual property from these establishments. In certain circumstances it may also lead to the termination of existing licenses. In the event that this were to happen, this could materially affect a number of the Group's businesses and potentially harm the reputation and standing of the Group and cause the termination of certain important relationships with federally funded research institutions.

Mitigation:

- Prior to licensing any technology under these agreements, the Group's management seeks to identify the commercial and other alternatives available for products and services associated with such technology and innovations, and to ensure that there are sufficient markets available to justify the capital investment.
- Prior to the commercialisation process, the Group's management seeks to obtain all the necessary clearances from applicable regulatory bodies to ensure that the export of products based upon the licensed IP is strictly in accordance with government guidelines.
- The Group, including certain of the portfolio companies, employs a number of individuals with experience in working with various government agencies.
- Senior management is fully cognisant of the regulations and sensitivities in relation to this issue and in particular with International Traffic in Arms Regulations (ITAR) which regulate the use of technologies for export, and has numerous mitigating actions available should issues arise.

5. The Group operates in complex and specialised business domains and requires highly qualified and experienced management to implement its strategy successfully. Substantially all of the operations of the Group are located in the United States, which is a highly competitive employment market. Furthermore, given the relatively small size of the senior management at the corporate level, the Group is reliant on a small number of key individuals.

Impact: There is a risk that the Group may lose key personnel, or fail to attract or retain new personnel. The loss of key personnel would have an adverse impact on the ability of the Group to continue to grow and may negatively affect the Group's competitive advantage.

Mitigation:

- The Board annually seeks external expertise to assess the competitiveness of the compensation packages of its senior management, and to ensure that the structure of compensation is designed to properly incent performance and retention.
- Senior management continually monitor and assess compensation levels to ensure the Group remains competitive in the employment market.

6. A large proportion of the overall value of the Group's businesses may be concentrated in a small proportion of the Group's businesses. If one or more of the intellectual property rights relevant to a valuable business were terminated, this would have a material adverse impact on the overall value of the Group's businesses.

Impact: The termination of critical IP licenses would materially impact the value of the portfolio company and have a consequent effect on the value of the overall Group.

Mitigation:

- In each portfolio company, the management is specifically directed to pursue a policy of generating and patenting additional intellectual property to both provide additional protection and create direct IP ownership for the company.
- Where possible, the Group seeks to negotiate intellectual property ownership rights in any research and development agreement it enters into with a network partner, such that the Group becomes a part owner of the underlying IP.

7. Clinical studies and other trials to assess the commercial viability of a product are typically expensive, complex, often take years, and have uncertain outcomes. Allied Minds relies on other co-investors to substantially fund later financing rounds. If the Group is unable to attract other co-investors, the Company may not be able to complete the regulatory or commercialisation process. If the Company fails to complete or experiences delays in completing trials for any of its product candidates, it may not be able to obtain regulatory approval or commercialise its product candidates on a timely basis, or at all.

Impact: Significant delays in any of the clinical studies to support the appropriate regulatory approvals could significantly impact the amount of capital required for the portfolio company to achieve final regulatory approval, which in turn may impact the value of such portfolio company. A critical failure in any stage of a clinical testing programme or the failure to attract other co-investors would probably necessitate a termination of the project and a loss of the Group's investment.

Mitigation:

- The Group has dedicated internal resources within each portfolio company to establish and monitor each of the clinical programmes in order to try and maximise successful outcomes.
- Prior to the launch of any clinical trials it will be normal for a dedicated management team (and an advisory team to include key opinion leaders (KOLs) to be hired, and experience with the management of clinical programmes would be a prerequisite qualification.
- In the event of the outsourcing of these trials, care and attention is given to assure the quality of the Contract Research Organisation (CRO) vendors used to perform the work.
- Senior management continually seeks to build and maintain strategic relationships for the Group, and each portfolio company continually seeks to engage in strategic relationships relevant to their respective markets and to maintain current information on and awareness of potential fund-raising and monetisation strategies.

8. The US Investment Company Act of 1940 regulates companies which are engaged primarily in the business of investing, reinvesting, owning, holding or trading in securities. Securities issued by companies other than consolidated partner companies are generally considered "investment securities" for purposes of the Investment Company Act, unless other circumstances exist which actively involve the company holding such interests in the management of the underlying company.

Impact: If the Company is deemed to be an "investment company" subject to regulation under the Investment Company Act, applicable restrictions could make it impractical for the Group to continue its business as contemplated and could have a material adverse effect on its business. If anything were to happen which would cause the Company to be deemed to be an investment company under the Investment Company Act, requirements imposed by the Investment Company Act, including limitations on capital structure, ability to transact business with portfolio companies and ability to compensate key employees, could make it impractical for it to continue its business as currently conducted.

Mitigation:

- The Company intends to monitor and conduct its operations so that it will not be deemed to be an investment company under the Investment Company Act.
- The Company seeks to build value by forming majority-owned or primarily controlled subsidiary companies; it is not engaged primarily in the business of investing, reinvesting, owning, holding or trading in securities and does not own or propose to acquire investment securities above prescribed thresholds under the Investment Company Act.
- Currently the Company holds more than 50% of the voting securities of a majority of its portfolio companies, and more than 25% of all of its other portfolio companies, and intends to continue to try to structure its new businesses in such a way as to hold the majority of the voting securities in its portfolio companies, or otherwise obtain and maintain primary control.
- In addition to ownership levels, the Company seeks to obtain and maintain primary control of its portfolio companies through a combination of the following:
    - o Rights to elect representatives to the board of directors, with ability to exercise influence over the portfolio company's business strategy, operating plans, budgets and key corporate decisions;
    - o Legal rights, such as access to information (books and records) and financial statements, liquidation preferences, registrations rights, rights of first refusal, pre-emptive rights and co-sale rights;
    - o Protective provisions, such as rights to block certain portfolio company actions; and
    - o Active involvement in the management of the portfolio company, such as shared service support, business development introductions, co-locating, and key management recruiting.

9. The Group expects to remain viable through December 2021 given its current cash and financial position. However, if the Group is unable to generate sufficient revenue, appropriately manage expenses, attract co-investors to participate in follow-on portfolio company financings, or generate a sale or other liquidity event for any of its existing portfolio companies or portfolio company interests prior to the end of such period, then the Group's business, financial condition, results of operations, prospects and future viability could be adversely affected.

Impact: Lack of capital could restrict the Group's ability to further fund, develop and commercialise its existing businesses. In turn, this could ultimately lead to failure of individual portfolio companies and loss of investment as well as failure of the Group as a whole.

Mitigation:

- Senior management continually seeks to build and maintain close relationships with its shareholder base and other strategic partners at the Group level, and each portfolio company continually seeks to engage in strategic relationships relevant to their respective markets and to maintain current information on and awareness of potential fund-raising and monetisation strategies.
- The Company strives to maintain majority ownership and/or primary control over all of the portfolio companies, so that it can seek to influence optimal capital allocation, use of cash, and fund-raising strategy.
- The Company has built a valuable portfolio of companies since its inception.
- The Company continuously and critically reviews the progress of its portfolio companies against pre-set milestones to ensure its financial capital and human resource is properly allocated to the more promising areas of its portfolio to help strengthen and accelerate the Group's path to monetisation.

Brexit

On 23 June 2016, the UK electorate voted to leave the European Union in a so-called "Brexit" referendum.

It is expected that companies based in the UK and with significant UK and EU operational focus will be the most directly impacted by Brexit. All of the Group's portfolio companies are based in the US, and substantially all of the business and operations of the Group are conducted in the US. However, the Group has raised significant capital in the UK and may need to raise additional capital in the UK in the future to support the growth and development of its portfolio companies. The uncertainty caused by Brexit may result in the Group being unable to obtain additional capital on a timely basis on commercially acceptable terms.

In addition, Brexit exposes the Group to increased foreign currency risk. Foreign exchange risk is an exposure for the Group as it derives substantially all of its revenue in US dollars and the Group's businesses borrow, account in, and are valued in, US dollars, but its shares trade in amounts denominated in pounds sterling. Any capital raised by the Group in the UK would be denominated in pounds sterling, but would be allocated to portfolio companies which operate in the US and whose functional currency is US dollars.

If the Group requires and fails to obtain sufficient capital on acceptable terms, it may be forced to curtail or abandon its planned growth activity and to forego further investment in developing certain of its current businesses, and otherwise be subject to a material adverse impact on the Group's business and financial condition.

Corporate and Social Responsibility

Details on the Group's policies, activities and aims with regard to its corporate and social responsibilities, including diversity, are included in the Sustainability section of the 2018 Annual Report and are incorporated herein by reference.

This Strategic Report of the 2018 Annual Report has been approved by the Board of Directors.

ON BEHALF OF THE BOARD

Peter Dolan	**Jill Smith**
Chairman	***Chief Executive Officer***

26 April 2019

Consolidated Financial Information

The financial information set out below has been extracted from the 2018 Annual Report and is an abridged version of the full financial statements, not all of which are reproduced in this Annual Results Release.

Directors' Responsibilities Statement

The responsibility statement set out below has been reproduced from the 2018 Annual Report, which was published in April 2019, and relates to that document and not this announcement.

We confirm that to the best of our knowledge:

• the financial statements, prepared in accordance with the applicable set of accounting standards, give a true and fair view of the assets, liabilities, financial position and profit or loss of the Group and the parent Company and the undertakings included in the consolidation taken as a whole; and

• the Strategic Report of the 2018 Annual Report includes a fair review of the development and performance of the business and the position of the Group and the undertakings included in the consolidation taken as a whole, together with a description of the principal risks and uncertainties that they face.

We consider the 2018 Annual Report, taken as a whole, is fair, balanced and understandable and provides the information necessary for shareholders to assess the Group's position and performance, business model and strategy.

ON BEHALF OF THE BOARD

Peter Dolan ***Chairman***	**Jill Smith** ***Chief Executive Officer***

26 April 2019

FINANCIAL STATEMENTS

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME/ (LOSS)

For the year ended 31 December	***Note***	**2018** **$ '000**	**2017** **$ '000**
Revenue	*3*	5,561	5,001
Operating expenses:			
Cost of revenue	*4,5*	(2,827)	(5,242)
Selling, general and administrative expenses	*4,5*	(49,328)	(55,214)
Research and development expenses	*4,5*	(44,947)	(49,012)
Operating loss		(91,541)	(104,467)
Other income/(expense):			
Gain on disposal of assets	*11*	3,887	-
Gain on deconsolidation of subsidiary	*11*	42,831	-
Other income		46,718	-
Finance income	*7*	1,775	485
Finance cost	*7*	(462)	(180)
Finance income/(cost) from IFRS9/IAS 39 fair value accounting	*7*	91,562	(6,850)
Finance income/(loss), net		92,875	(6,545)
Share of net loss of associates accounted for using the equity method	11	(1,301)	-
Income/(loss) before taxation		46,751	(111,012)
Taxation	*24*	-	-
Income/(loss) for the period		46,751	(111,012)
Other comprehensive income/(loss):			
Items that may be reclassified subsequently to profit or loss:			
Foreign currency translation differences		561	(103)
Other comprehensive income/(loss), net of taxation		561	(103)
Total comprehensive income/(loss) for the period		47,312	(111,115)
Income/(loss) attributable to:			
Equity holders of the parent		38,761	(75,675)
Non-controlling interests	*17*	7,990	(35,337)
		46,751	(111,012)
Total comprehensive income/(loss) attributable to:			
Equity holders of the parent		39,322	(75,778)
Non-controlling interests	*17*	7,990	(35,337)
		47,312	(111,115)
Income/(loss) per share		$	$
Basic	*8*	0.16	(0.32)
Diluted	*8*	0.16	(0.32)

See accompanying notes to consolidated financial statements.

CONSOLIDATED STATEMENT OF FINANCIAL POSITION

As of 31 December	***Note***	**2018** **$ '000**	**2017** **$ '000**
Non-current assets			
Property and equipment	*9*	5,997	26,627
Intangible assets	*10*	1,221	1,074
Investments at fair value	*11*	56,544	—
Investment in associate	*11*	21,900	—
Other financial assets	*21*	434	668
Total non-current assets		86,096	28,369
Current assets			
Cash and cash equivalents	*13*	97,734	158,075

	Note	2018	2017
Restricted cash	*13*	2,500	—
Other investments	*12*	—	11,057
Trade and other receivables	*15*	6,400	15,642
Other financial assets	*21*	400	18
Total current assets		107,034	184,792
Total assets		193,130	213,161
Equity			
Share capital	*16*	3,743	3,714
Share premium	*16*	160,170	158,606
Merger reserve	*16*	263,367	263,367
Translation reserve	*16*	651	89
Accumulated deficit	*16*	(300,304)	(354,443)
Equity attributable to owners of the Company		127,627	71,333
Non-controlling interests	*16,17*	(4,490)	(59,241)
Total equity		123,137	12,092
Non-current liabilities			
Other non-current liabilities	*19*	436	867
Total non-current liabilities		436	867
Current liabilities			
Trade and other payables	*19*	13,030	14,276
Deferred revenue	*3*	2,333	4,296
Subsidiary preferred shares	*18*	54,194	181,630
Total current liabilities		69,557	200,202
Total liabilities		69,993	201,069
Total equity and liabilities		193,130	213,161

See accompanying notes to consolidated financial statements.

Registered number: 8998697

The financial statements were approved by the Board of Directors and authorised for issue on 26 April 2019 and signed on its behalf by:

Jill Smith
Chief Executive Officer

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

For the year ended 31 December 2018

	Note	**Share capital**		**Share**	**Merger**	**Translation**	**Accumulated**	**Total parent**	**Non-controlling**	**Total**
		Shares	**Amount**	**premium**	**reserve**	**reserve**	**Deficit**	**equity**	**interests**	**equity**
			$' 000	$' 000	$' 000	$' 000	$' 000	$' 000	$' 000	$' 000
Balance at 31 December 2016		233,744,378	3,657	157,067	263,435	192	(289,437)	134,914	(20,797)	114,117
Total comprehensive loss for the year										
Loss from continuing operations		-	-	-	-	-	(75,675)	(75,675)	(35,337)	(111,012)
Foreign currency translation		-	-	-	-	(103)	-	(103)	-	(103)
Total comprehensive loss for the year						(103)	(75,675)	(75,778)	(35,377)	(111,115)
Issuance of ordinary shares	16	3,402,567	43	-	(68)	-	-	(25)	-	(25)
Gain/(loss) arising from change in non-controlling interest	17	-	-	-	-	-	(50)	(50)	50	-
Dissolution of subsidiaries	17	-	-	-	-	-	4,653	4,653	(4,653)	-
Exercise of stock options	6	1,055,596	14	1,539	-	-	-	1,553	-	1,553
Equity-settled share based payments	6	-	-	-	-	-	6,066	6,066	1,496	7,562
Balance at 31 December 2017		238,202,541	3,714	158,606	263,367	89	(354,443)	71,333	(59,241)	12,092
Total comprehensive income for the year										
Income from continuing operations		-	-	-	-	-	38,761	38,761	7,990	46,751
Foreign currency translation		-	-	-	-	562	(63)	499	(1)	498
Total comprehensive income for the year						562	38,698	39,260	7,989	47,249
Issuance of ordinary shares	16	1,224,831	17	-	-	-	-	17	-	17
Gain/(loss) arising from change in non-controlling interest	17	-	-	-	-	-	(5,208)	(5,208)	5,208	-
Deconsolidation of subsidiaries	17	-	-	-	-	-	5,300	5,300	49,490	54,790
Dissolution of subsidiaries	17	-	-	-	-	-	9,952	9,952	(9,952)	-
Exercise of stock options	6	887,373	12	1,564	-	-	-	1,577	-	1,577
Equity-settled share based payments	6	-	-	-	-	-	5,397	5,397	2,016	7,413
Balance at 31 December 2018		240,314,745	3,743	160,170	263,367	651	(300,304)	127,627	(4,490)	123,137

See accompanying notes to consolidated financial statements.

CONSOLIDATED STATEMENT OF CASH FLOWS

For the year ended 31 December	Note	2018 $ '000	2017 $ '000
Cash flows from operating activities:			
Net operating loss		(91,541)	(104,467)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation	9	5,662	5,800
Amortisation	10	396	302
Impairment losses on property and equipment	9	84	701
Impairment losses on intangible assets	10	461	1,662
Share-based compensation expense	5,6	7,413	7,562
Changes in working capital:			
Decrease in inventory	14	-	2,551
Decrease in trade and other receivables	15	(7)	(9,742)
(Increase)/decrease in other assets		94	394
Increase in trade and other payables	19	4,150	335
(Decrease)/increase in other non-current liabilities	19	(380)	147
Increase in deferred revenue	3	1,623	3,838
Deconsolidation of subsidiaries		270	—
Interest received	7	1,771	475
Interest paid	7	(407)	(174)
Other finance expense	7	(468)	(163)
Net cash used in operating activities		(70,879)	(90,779)
Cash flows from investing activities:			
Purchases of property and equipment, net of disposals	9	(7,908)	(1,246)
Purchases of intangible assets, net of disposals	10	(1,202)	(276)
Purchase of investments at fair value	11	(7,500)	—
Proceeds on disposal of assets	11	3,600	—
Cash payment on disposal of assets		(113)	—
Disposal of other investments	12	11,057	5,853
Deconsolidation of subsidiaries	11	(25,928)	—
Net cash (used in)/ provided by investing activities		(27,994)	4,331
Cash flows from financing activities:			
Proceeds from exercise of stock options	16	1,577	1,545
Repayment of notes payable	19	-	(115)
Proceeds from issuance of share capital	16	17	50
Proceeds from issuance of preferred shares in subsidiaries	18	39,438	33,892
Net cash provided by financing activities		41,032	35,372
Net decrease in cash and cash equivalents, and restricted cash		(57,841)	(51,076)
Cash and cash equivalents, beginning of the period		158,075	209,151
Cash and cash equivalents, and restricted cash, end of the period		100,234	158,075

See accompanying notes to consolidated financial statements.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

For the year ended 31 December 2018

(1) Accounting Policies

Basis of Preparation

Allied Minds plc ("Allied Minds" or the "Company") is a company incorporated and domiciled in the UK. The Annual Report and Accounts of Allied Minds and its subsidiaries (together referred to as the "Group") are presented for the year ended 31 December 2018. The Group financial statements consolidate those of the Company and its subsidiaries and include the Group's interest in associates using the equity method of accounting. The Group financial statements have been prepared and approved by the directors in accordance with the International Financial Reporting Standards, International Accounting Standards, and Interpretations (collectively "IFRS") issued by the International Accounting Standards Board ("IASB") as adopted by the European Union ("adopted IFRSs"). The accounting policies set out below have, unless otherwise stated, been applied consistently to all periods presented in these consolidated financial statements.

Basis of Measurement

The consolidated financial statements, with exception of financial instruments, have been prepared on the historical cost basis.

Use of Judgments and Estimates

In preparing these consolidated financial statements, management has made judgments, estimates and assumptions that affect the application of the Group's accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates. Estimates and underlying assumptions are reviewed on an on-going basis. Revisions to estimates are recognised prospectively. The effects on the amounts recognised in the consolidated financial statements, or on other alternative performance measures, is included in the following notes:

Estimates made include:

- Note 3 - revenue recognition: in determining the correct amount of revenue to be recognised, the Directors make estimates of the fair values of each component of a contract to be able to allocate the overall consideration to each component based on the relative fair value method or make estimates of future costs when applying the inputs method.
- Note 11 and 18 - portfolio and subsidiary preferred shares valuations: when deriving the estimated fair value of subsidiary undertakings and subsidiary preferred shares, this includes making certain estimates of the future earnings potential of the subsidiary businesses, appropriate discount rate and earnings multiple to be applied, marketability and the probability weighting of the scenarios and other industry and company specific risk factors.

Judgements made include:

- Note 3 - timing of revenue recognition: making certain judgements when determining the appropriate accounting treatment of key customer contract terms in accordance with the applicable accounting standards and in determining whether revenue should be recognised at a point in time or over a period of time.

- Note 11 - when the power to control the subsidiary exists or retaining significant influence as it is dependent on certain factors including the voting power the entity exercises over the company, the proportion of seats the company controls on the board and the investees dependence on the investor for funding, knowledge and its operations.

- Note 11 - as the entities in the group progress they require further external funding which in some scenarios reduces the Group's shareholding to an extent that it loses control under IFRS 10 which results in them no longer being able to consolidate the entity. Due to the fact that the Group holds a variety of instruments in the entities, which have varying risks and rights, there is significant judgement in relation to whether the shares are accounted for as an investment in associate per IAS 28 or as a financial asset per IFRS 9 and therefore held at fair value.

- Note 18 - subsidiary preferred shares liability classification: when determining the classification of financial instruments in terms of liability or equity. These judgements include an assessment whether the financial instrument include any embedded derivative features, whether they include a contractual obligations upon the Group to deliver cash or other financial assets or to exchange financial assets or financial liabilities with another party, and whether that obligation will be settled by the Company's exchanging a fixed amount of cash or other financial assets for a fixed number of its own equity instruments. Further information about these critical judgments is included below under Financial Instruments.

- Note 11 and 18: subsidiary preferred shares valuations: when determining the appropriate valuation methodology.

Changes in Accounting Policies

With the exception of the new standards the Group adopted as of 1 January 2018, included below, no other new standards, interpretations and amendments have had a material effect on the Group's financial statements.

Going Concern

The Directors have taken proactive cost management measures that include reduction in expenses of the management function of the head office at the parent level. They have also decided to focus exclusively on supporting the 10 existing portfolio companies and maximising monetisation opportunities for portfolio company interests, and not to deploy any capital into new portfolio companies. In the event of successful monetisation events from the sale of portfolio companies or portfolio company interests, the Directors anticipate distributing the net proceeds to shareholders, after due consideration of potential follow-on investment opportunities within the existing portfolio, working capital requirements and the most appropriate capital return mechanism. The Directors expect this strategy to take at least three years to be fully implemented, and as a matter of good governance, will continue to keep this strategy under review at appropriate intervals. They have prepared trading and cash flow forecasts for the Group covering the period to 31 December 2021. Reflecting this revised strategy, despite the fact that the Group is currently loss making and is likely to continue to be so, at least in the short term, after making enquiries and considering the impact of risks and opportunities on expected cash flows, and given the fact that the Group has $97.7 million of available funds in the form of cash and fixed income securities as at 31 December 2018, the Directors have a reasonable expectation that the Group has adequate cash to continue in operational existence for a period of not less than 12 months from the date of approval of the financial statements. For this reason, they have adopted the going concern basis in preparing the financial statements.

Basis of Consolidation

Allied Minds plc was formed on 15 April 2014 and the consolidated financial statements for each of the years ended 31 December 2018 and 2017 comprises the financial statements of Allied Minds plc and its subsidiaries.

Subsidiaries

The financial information of the subsidiaries is prepared for the same reporting period as the parent Company, using consistent accounting policies. Subsidiaries are entities controlled by the Group. The Group controls an entity when it is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. The financial statements of subsidiaries are included in the consolidated financial statements from the date that control commences until the date that control ceases. Losses applicable to the non-controlling interests in a subsidiary are allocated to the non-controlling interests even if doing so causes the non-controlling interests to have a deficit balance.

Changes in the Group's interest in a subsidiary that do not result in a loss of control are accounted for as equity transactions. Where the Group loses control of a subsidiary, the assets and liabilities are derecognised along with any related NCI and other components of equity. Any resulting gain or loss is recognised in profit or loss. Any interest retained in the former subsidiary is measured at fair value when control is lost.

Associates

Associates are those entities in which the Group has significant influence, but not control, over the financial and operating policies. Significant influence is presumed to exist when the Group holds between 20 and 50 percent of the voting power of another entity.

Associates are accounted for using the equity method (equity accounted investees) and are initially recognised at cost. The Group's investment includes goodwill identified on acquisition, net of any accumulated impairment losses. The consolidated financial statements include the Group's share of the total comprehensive income and equity movements of equity accounted investees, from the date that significant influence commences until the date that significant influence ceases. When the Group's share of losses exceeds its interest in an equity accounted investee, the Group's carrying amount is reduced to $nil and recognition of further losses is discontinued except to the extent that the Group has incurred legal or constructive obligations or made payments on behalf of an investee.

Transactions eliminated on consolidation

Intra-group balances and transactions, and any unrealised income and expenses arising from intra- group transactions, are eliminated. Unrealised gains arising from transactions with equity-accounted investees are eliminated against the investment to the extent of the Group's interest in the investee. Unrealised losses are eliminated in the same way as unrealised gains, but only to the extent that there is no evidence of impairment.

Acquisitions and disposals of non-controlling interests

Non-controlling interests ("NCI") are measured at their proportionate share of the acquiree's identifiable net assets at the acquisition date. Changes in the Group's interest in a subsidiary that do not result in a loss of control are accounted for as equity transactions.

Acquisitions and disposals of non-controlling interests that do not result in a change of control are accounted for as transactions with owners in their capacity as owners and therefore no goodwill is recognised as a result of such transactions. The adjustments to non-controlling interests are based on a proportionate amount of the net assets of the subsidiary. Any difference between the price paid or received and the amount by which non-controlling interests are adjusted is recognised directly in equity and attributed to the owners of the parent.

Loss of control

When the Group loses control over a subsidiary, it derecongnises the assets and liabilities of the subsidiary, and any related NCI and other components of equity. Any resulting gain or loss is recognised in profit or loss. Any interest retained in the former subsidiary is measured at fair value when control is lost.

Functional and Presentation Currency

These consolidated financial statements are presented in US dollars, which is the functional currency of most of the entities in the Group. All amounts have been rounded to the nearest thousand unless otherwise indicated.

Foreign Currency

Transactions in foreign currencies are translated to the respective functional currencies of Group entities at the foreign exchange rate ruling at the date of the transaction. Monetary assets and liabilities denominated in foreign currencies at the balance sheet date are retranslated to the functional currency at the foreign exchange rate ruling at that date. Foreign exchange differences arising on translation are recognised in the consolidated statement of comprehensive loss. Non-monetary assets and liabilities that are measured in terms of historical cost in a foreign currency are translated using the exchange rate at the date of the transaction. Non-monetary assets and liabilities denominated in foreign currencies that are stated at fair value are retranslated to the functional currency at foreign exchange rates ruling at the dates the fair value was determined.

The assets and liabilities of foreign operations, including goodwill and fair value adjustments arising on consolidation, are translated to the Group's presentational currency (US dollar) at foreign exchange rates ruling at the balance sheet date. The revenues and expenses of foreign operations are translated at an average rate for the year where this rate approximates to the foreign exchange rates ruling at the dates of the transactions. Exchange differences arising from this translation of foreign operations are reported as an item of other comprehensive income and accumulated in the translation reserve or non- controlling interest, as the case may be. When a foreign operation is disposed of, such that control, joint control or significant influence (as the case may be) is lost, the entire accumulated amount in the translation reserve, net of amounts previously attributed to non-controlling interests, is reclassified to profit or loss as part of the gain or loss on disposal. When the Group disposes of only part of its interest in a subsidiary that includes a foreign operation while still retaining control, the relevant proportion of the accumulated amount is reattributed to non-controlling interests. When the Group disposes of only part of its investment in a subsidiary or an associate that includes a foreign operation while still retaining significant influence or joint control, the relevant proportion of the cumulative amount is reclassified to profit or loss.

Cash and Cash Equivalents

Cash and cash equivalents include all highly liquid instruments with original maturities of three months or less.

Financial Instruments

As of 1 January 2018, the Company adopted IFRS 9, Financial Instruments ("IFRS 9"), which replaced IAS 39, Financial Instruments: Recognition and Measurement. IFRS 9 sets out requirements for recognising and measuring financial assets, financial liabilities and some contracts to buy or sell non-financial items. This standard replaces IAS 39 Financial Instruments: Recognition and Measurement. At the reporting date, the only complex financial instruments that the Group holds are subsidiary preferred shares liabilities. The Group have taken the transition option to apply IFRS 9 from 1 January 2018. There is no effect on these financial instruments on the transition to the new accounting standard with it continuing to be measured at fair value through profit or loss and hence no restatement is required. The application of the IFRS 9 'expected credit loss' model does not have a material impact on the level of impairment of receivables.

Classification - Financial Assets

IFRS 9 contains a new classification and measurement approach for financial assets that reflects the business model, in which assets are managed, and their cash flow characteristics. IFRS 9 contains three principal classification categories for financial assets: measured at amortised cost, fair value through other comprehensive income ("FVOCI") and fair value through profit or loss ("FVTPL"). The standard eliminates the existing IAS 39 categories of held to maturity, loans and receivables, and available for sale. Under IFRS 9, derivatives embedded in contracts where the host is a financial asset in the scope of the standard are never bifurcated. Instead, the hybrid as a whole is assessed for classification.

Cash and cash equivalents: Represent basic cash balances in banks used to fund operations. These are classified as assets at amortised cost under the new standard.

Trade Receivables: Under IFRS 9 trade receivables that do not have a significant financing component have to be initially recognised at their transaction price rather than at fair value. The Group initially recognises receivables and deposits on the date that they are originated at their transaction price, which is the same as their fair value. As such, Trade and other receivables are now classified as assets at amortised cost under IFRS 9.

Security and other deposits: These generally represent security deposits paid by the Group to landlords as part of operating lease commitments. As the Company's objective is that those deposits will be collected back, they are now classified as assets at amortised cost under IFRS 9.

Investments in subsidiaries: Per the application of IFRS 9, the Group elected to classify minority interest investments at FVTPL with all fair value gains and losses to be recognised in profit or loss as they arise, increasing volatility in the Group's profits. All other group subsidiaries are fully consolidated in the consolidated financial statements.

Investments at fair value: Reflect investments made by the Group in non-derivative instruments of the investees that are designated in this category or not classified in any other category. These financial assets are initially measured at fair value and subsequently re-measured at fair value at each reporting date. The Company elects if the gain or loss will be recognised in the Consolidated Statements of Comprehensive Income/ (Loss) in Other Comprehensive Income/(Loss) or through the profit and loss on an instrument by instrument basis. Investments at fair value are presented in the Consolidated Statements of Financial Position as non-current assets, unless the Group intends to dispose of them within 12 months after the end of the reporting period. If the investments at fair value continue to be held for the same long-term strategic purposes, per the application of IFRS 9, the Group may elect then to classify them as FVOCI or FVTPL. The Group decided to classify them as FVTPL. In the former case, all fair value gains and losses would be reported in other comprehensive income, no impairment losses would be recognised in profit or loss and no gains or losses would be reclassified to profit or loss on disposal. In the latter case, all fair value gains and losses would be recognised in profit or loss as they arise, increasing volatility in the Group's profits.

Classification - Financial Liabilities

Under IAS 39 all fair value changes of liabilities designated as at fair value through profit or loss are recognised in profit or loss, whereas under IFRS 9 these fair value changes are generally presented as follows:

- the amount of change in the fair value that is attributable to changes in the credit risk of the liability is presented in OCI; and
- the remaining amount of change in the fair value is presented in profit or loss.

The Group has designated the subsidiary preferred shares liability at FVTPL and the trade and other payables and loans at amortised cost under IFRS 9. The Group's assessment did not indicate any material impact of IFRS 9's requirements regarding the classification of financial liabilities were applied at 31 December 2018.

Impairment

IFRS 9 replaces the 'incurred loss' model in IAS 39 with a 'forward looking expected credit loss' ("ECL") model. The impairment methodology applied depends on whether there has been a significant increase in credit risk. For trade receivables, the group applies the simplified approach permitted by IFRS 9, which requires expected lifetime losses to be recognised from initial recognition of the receivables.

The following accounting policy relates to the financial assets and liabilities recognised in accordance with IAS 39 as applicable for 2017 results:

Financial Assets

The Group initially recognises loans and receivables and deposits on the date that they are originated. All other financial assets are recognised initially on the trade date at which the Group becomes a party to the contractual provisions of the instrument.

The Group derecognises a financial asset when the contractual rights to the cash flows from the asset expire, or it transfers the rights to receive the contractual cash flows on the financial asset in a transaction in which substantially all the risks and rewards of ownership of the financial asset are transferred.

Financial assets and liabilities are offset and the net amount presented in the Consolidated Statement of Financial Position when, and only when, the Group has a legal right to offset the amounts and intends either to settle on a net basis or to realise the asset and settle the liability simultaneously.

The Group classifies its financial assets into the following categories: cash and cash equivalents, trade and other receivables, security and other deposits, other investments. Fixed income securities are recognised at fair value through profit and loss. The remaining categories are recognised at amortised cost using the effective interest rate method.

Other investments comprise fixed income debt securities, including government agency and corporate bonds, are stated at amortised cost less impairment. It is the Group policy to hold these investments until a maximum maturity of three years.

Financial Liabilities

The Group initially recognises debt securities issued and subordinated liabilities on the date that they are originated. All other financial liabilities are recognised initially on the trade date at which the Group becomes a party to the contractual provisions of the instrument.

The Group derecognises a financial liability when its contractual obligations are discharged, cancelled or expire.

The Group classifies non-derivative financial liabilities into the following categories: trade and other payables and loans. Such financial liabilities are recognised at fair value through profit and loss plus any directly attributable transaction costs. Subsequent to initial recognition these financial liabilities are measured at amortised cost using the effective interest method.

Warrants are accounted for as financial liabilities and recorded at fair value.

The Group's financial liabilities include subsidiary preferred shares some of which incorporate embedded derivatives. In accordance with IAS 39.11 the Group has elected not to bifurcate the embedded derivative but fair value the entire instrument at each reporting date. The gain or loss on remeasurement to fair value is recognised immediately in profit or loss.

Financial Instruments Issued by the Group

Following the adoption of IAS 32, financial instruments issued by the Group are treated as equity only to the extent that they meet the following two conditions:

- they include no contractual obligations upon the Group to deliver cash or other financial assets or to exchange financial assets or financial liabilities with another party under conditions that are potentially unfavourable to the Group; and
- where the instrument will or may be settled in the Company's own equity instruments, it is either a non derivative that includes no obligation to deliver a variable number of the Company's own equity instruments or is a derivative that will be settled by the Company's exchanging a fixed amount of cash or other financial assets for a fixed number of its own equity instruments.

To the extent that this definition is not met, the financial instrument is classified as a financial liability. Where the instrument so classified takes the legal form of the Company's own shares, the amounts presented in the financial information for share capital and merger reserve account exclude amounts in relation to those shares.

Where a financial instrument that contains both equity and financial liability components exists, these components are separated and accounted for individually under the above policy.

Share Capital

Ordinary shares are classified as equity. The Group considers its capital to comprise share capital, share premium, merger reserve, translation reserve, and accumulated deficit.

Property and Equipment

Property and equipment is stated at cost less accumulated depreciation and any accumulated impairment losses. Cost includes expenditure that is directly attributable to the acquisition of the asset. Assets under construction represent machinery and equipment to be used in operations, R&D activities, or to be leased to customers once completed.

When parts of an item of property and equipment have different useful lives, they are accounted for as separate items (major components) of property and equipment. Depreciation is calculated using the straight-line method over the estimated useful lives of the related assets:

Computers and electronics	3 years
Furniture and fixtures	5 years
Machinery and equipment	5 -20 years
Under construction	Not depreciated until transferred into use
Leasehold improvements	Shorter of the lease term or estimated useful life of the asset

Depreciation methods, useful lives and residual values are reviewed at least annually and adjusted if appropriate.

The directors have considered the value of fixed assets without revaluing them.

The directors are satisfied that the aggregate value of those assets at the time in question is or was not less than aggregate amount at which they are or were for the time being stated in the company's accounts

Intangible Assets

Licenses (or Options to License) and Purchased In Process Research & Development

Licenses or options to license represent licenses or such options provided by universities, federal laboratories, and scientists in exchange for an equity ownership in the entities or cash. Purchased in process research & development ("IPR&D") represents time and expertise already invested by the scientist and provided in exchange for an equity interest in the entity. Licenses or options to license and purchased IPR&D are valued based on the amount of cash directly paid to acquire those assets or based on the amount of cash contributed by Allied Minds, at inception of the subsidiary, and the proportionate amount of equity ascribed to Allied Minds. The licenses or options to license and purchased IPR&D are capitalised only when they meet the criteria for capitalisation, namely separately identifiable and measurable and it is probable that economic benefit will flow to the entity.

Capitalised Development Costs

Research and development costs include charges from universities based on sponsored research agreements ("SRAs") that the subsidiaries of Allied Minds enter into with universities. Under these agreements, the universities perform research on the technology that is being licensed to the subsidiaries. Research and development costs also include charges from independent research and development contractors, contract research organisations ("CROs"), and other research institutions.

Expenditure on research activities is recognised in profit or loss as incurred. Development expenditure is capitalised only if the expenditure can be measured reliably, the product or process is technically and commercially feasible, future economic benefits are probable, the Group intends to and has sufficient resources to complete development and to use or sell the asset, and if the Group can measure reliably the expenditure attributable to the intangible asset during its development. The point at which technical feasibility is determined to have been reached is when regulatory approval has been received, where applicable. Management determines that commercial viability has been reached when a clear market and pricing point have been identified, which may coincide with achieving recurring sales. Development activities involve a plan or design for the production of new or substantially improved products or processes. The expenditure considered for capitalisation includes the cost of materials, direct labour and an appropriate proportion of overhead costs. Otherwise, the development expenditure is recognised in profit or loss as incurred. Subsequent to initial recognition, development expenditure is measured at cost less accumulated amortisation and any accumulated impairment losses.

Software

Software intangible assets that are acquired by the Group and have finite useful lives are measured at cost less accumulated amortisation and any accumulated impairment losses.

Finite-lived intangible assets are amortised on a straight-line basis over their estimated useful lives, from the date that they are available for use. Intangible assets which are not yet available for use (and therefore not amortised) are tested for impairment at least annually.

Amortisation

Amortisation is charged to the consolidated statement of comprehensive loss on a straight-line basis over the estimated useful lives of intangible assets unless such lives are indefinite. Intangible assets with an indefinite useful life and goodwill are systematically tested for impairment at each balance sheet date. Other intangible assets are amortised from the date they are available for use. Amortisation methods, useful lives and residual values are reviewed at least annually and adjusted if appropriate.

The estimated useful lives of the Group's intangible assets are as follows:

Licences and Options to License	Over the remaining life of the underlying patents
Purchased IPR&D	Over the remaining life of the underlying patents, once commercial viability has been achieved
Development cost	Over the remaining life of the underlying technology
Software	2 years

Taxation

Tax on the profit or loss for the year comprises current and deferred tax. Tax is recognised in the income statement except to the extent that it relates to items recognised directly in equity, in which case it is recognised in equity.

Current Income Tax

Current tax is the expected tax payable or receivable on the taxable income or loss for the year, using tax rates enacted or substantially enacted at the reporting date, and any adjustment to tax payable in respect of previous years.

Deferred Income Tax

Deferred tax is recognised in respect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. Deferred tax assets are recognised for unused tax losses, unused tax credits and deductible temporary differences to the extent that it is probable that future taxable profits will be available against which they can be used. Deferred tax assets are reviewed at each reporting date and are reduced to the extent that it is no longer probable that the related tax benefit will be realised.

Deferred tax is measured at the tax rates that are expected to be applied to temporary differences when they reverse, using tax rates enacted or substantively enacted at the reporting date.

Deferred tax assets and liabilities are offset if there is a legally enforceable right to offset current tax liabilities and assets, and they relate to taxes levied by the same tax authority on the same taxable entity, or on different tax entities where the Group intends to settle current tax liabilities and assets on a net basis or their tax assets and liabilities will be realised simultaneously.

Deferred taxes are recognised in profit or loss except to the extent that it relates to items recognised directly in equity or in other comprehensive income.

Impairment

Impairment of Non-Financial Assets

Non-financial assets consist of property and equipment and intangible assets, including licences, purchased IPR&D, capitalised development cost, with finite lives and such intangible assets which are not yet available for use.

The Group reviews the carrying amounts of its property and equipment and finite-lived intangibles at each reporting date to determine whether there is any indication of impairment. If any such indication exists, then the asset's recoverable amount is estimated. Intangible assets which are not yet available for use are tested annually for impairment.

For impairment testing, assets are grouped together into the smallest group of assets that generates cash inflows from continuing use that are largely independent of the cash inflows of other assets or cash-generating units ("CGUs").

The recoverable amount of an asset or CGU is the greater of its value in use and its fair value less costs to sell. Value in use is based on the estimated future cash flows, discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or CGU.

An impairment loss is recognised in profit and loss if the carrying amount of an asset or CGU exceeds its recoverable amount. Impairment losses are allocated to reduce the carrying amounts of assets in a CGU on a pro rata basis.

Impairment of Financial Assets

The company recognises loss allowances for expected credit losses (ECLs) on financial assets measured at amortised cost.

The company measures loss allowances at an amount equal to lifetime ECL, except for other debt securities and bank balances for which credit risk (i.e. the risk of default occurring over the expected life of the financial instrument) has not increased significantly since initial recognition, which are measured as 12-month ECL.

Loss allowances for trade receivables and contract assets are always measured at an amount equal to lifetime ECL.

When determining whether the credit risk of a financial asset has increased significantly since initial recognition and when estimating ECL, the company considers reasonable and supportable information that is relevant and available without undue cost or effort. This includes both quantitative and qualitative information and analysis, based on the company's historical experience and informed credit assessment and including forward-looking information.

Share-based Payments

Share-based payment arrangements in which the Group or its subsidiaries receive goods or services as consideration for their own equity instruments are accounted for as equity-settled share-based payment transactions, regardless of how the equity instruments are obtained by the Group or its subsidiaries. Grants of equity instruments under the subsidiary stock option incentive plans are accounted for as equity-settled in the consolidated accounts of the parent and are reflected in equity as a credit to Non-Controlling Interest.

The grant date fair value of share-based payment awards granted to employees is recognised as an employee expense, with a corresponding increase in equity, over the period that the employees become unconditionally entitled to the awards. The fair value of the options granted is measured using an option pricing valuation model, taking into account the terms and conditions upon which the options were granted. The amount recognised as an expense is adjusted to reflect the actual number of awards for which the related service and non-market vesting conditions are expected to be met, such that the amount ultimately recognised as an expense is based on the number of awards that do meet the related service and non-market performance conditions at the vesting date. For share-based payment awards with non-vesting conditions, the grant date fair value of the share-based payment is measured to reflect such conditions and there is no true-up for differences between expected and actual outcomes.

Employee Benefits

Short-term Employee Benefits

Short-term employee benefit obligations are measured on an undiscounted basis and are expensed as the related service is provided. A liability is recognised for the amount expected to be paid if the Group has a present legal or constructive obligation to pay this amount as a result of past service provided by the employee, and the obligation can be estimated reliably.

Defined Contribution Plans

A defined contribution plan is a post-employment benefit plan under which an entity pays fixed contributions into a separate entity and has no legal or constructive obligation to pay further amounts. Obligations for contributions to defined contribution plans are recognised as an employee benefit expense in the periods during which related services are rendered by employees. Prepaid contributions are recognised as an asset to the extent that a cash refund or a reduction in future payments is available.

Phantom Plan

The Phantom Plan is a cash settled bonus plan. Expense is accrued when it is determined that it is probable that a payment will be made and when the amount can be reasonably estimated.

Provisions

A provision is recognised in the balance sheet when the Group has a present legal or constructive obligation as a result of a past event, that can be reliably measured and it is probable that an outflow of economic benefits will be required to settle the obligation. Provisions are determined by discounting the expected future cash flows at a pre-tax rate that reflects risks specific to the liability.

Revenue Recognition

The accounting policy that reflects the new accounting standard for IFRS 15 is effective from 1 January 2018. IFRS 15 establishes a comprehensive framework for determining whether, how much and when revenue is recognised. It replaces existing revenue recognition guidance, including IAS 18 Revenue, IAS 11 Construction Contracts and IFRIC 13 Customer Loyalty Programs.

While IAS 18 states that the revenue recognition criteria depends on each type of revenue, IFRS 15 implements a uniform method of recognising revenue based on the actual contract and performance obligation. Under IFRS 15, revenue will be recognised when the Company satisfies a performance obligation by transferring a promised good or service to its customer. As such, based on the application of the new standard, the amount of revenue recognised is the amount allocated to the satisfied performance obligation. A performance obligation may be satisfied at a point in time (typically for promises to transfer goods to a customer) or over time (typically for promises to transfer services to a customer).

Determining the timing of the transfer of control - at a point in time or over time - requires judgement. This was the key point that was considered by the Group on transition of this accounting standard. Based on Group's assessment, it was concluded that the majority of the Company's projects that:

- *Render a service* is performed on a time and materials basis and revenue will be recognised as services are provided based on actual hours worked for a set period. The performance obligations identified within these projects are distinct and meet the criteria resulting in transfer of control over time. Since the fair value and the stand-alone selling prices of the services are broadly similar, the Group concluded that the application of IFRS 15 does not result in significant differences in the timing of revenue recognition for these services.
- *Sell goods*, revenue is recognised when the control of the products were transferred to the customer. The performance obligations identified within these projects are distinct and meet the criteria resulting in transfer of control at a point in time. No significant accounting differences noted between IAS 18 and IFRS 15 in the timing of revenue recognition for the sale of these products.

The Group has adopted IFRS 15 on a cumulative catch-up basis, with the effect of initially applying this standard recognised at the date of initial application (i.e. 1 January 2018). Based on the Group's assessment, it was determined the application of IFRS 15 results in no significant differences in the timing of revenue recognition and it did not have a significant impact on the Group's accounting policies.

The following accounting policy relates to the revenue policy under IAS 18 as applicable for 2017 results:

Sale of Goods

Revenue is recognised when the significant risks and rewards of ownership have been transferred to the customer, recovery of the consideration is probable, the associated costs and possible return of goods can be estimated reliably, there is no continuing management involvement with the goods and the amount of revenue can be measured reliably.

The transfer of significant risks and rewards of ownership usually occurs when products are shipped and the customer takes ownership and assumes risk of loss.

Rendering of Services

The Group recognises revenue from rendering of services at the time services are provided to the customer and the Group has no additional performance obligation to the customer.

Government Grants

Grants received are recognised as revenue when the related work is performed and the qualifying research and development costs are incurred.

License Revenue

The Group recognises revenue from fees associated with licensing of its technologies to third parties in the form of license fees and royalties on an accruals basis in accordance with the substance of the relevant agreement and when the Company's right to receive payment is established, provided that it is probable that the economic benefits will flow to the Company and the amount of revenue can be measured reliably.

Finance Income and Finance Costs

Finance income mainly comprises interest income on funds invested and foreign exchange gains. Finance costs mainly comprise loan interest expense and foreign exchange losses. Interest income and interest payable are recognised as they accrue in profit or loss, using the effective interest method.

Fair Value Measurements

A number of the Group's accounting policies and disclosures require the measurement of fair values, for both financial and non-financial assets and liabilities.

When measuring the fair value of an asset or a liability, the Group uses market observable data as far as possible. Fair values are categorised into different levels in a fair value hierarchy based on the inputs used in the valuation techniques as follows:

- Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities.
- Level 2: inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices).
- Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs).

If the inputs used to measure the fair value of an asset or a liability might be categorised in different levels of the fair value hierarchy, then the fair value measurement is categorised in its entirety in the same level of the fair value hierarchy as the lowest level input that is significant to the entire measurement.

The Group recognises transfers between levels of the fair value hierarchy at the end of the reporting period during which the change has occurred.

The carrying amount of cash and cash equivalents, accounts receivable, deposits, accounts payable, accrued expenses and other current liabilities in the Group's Consolidated Statements of Financial Position approximates their fair value because of the short maturities of these instruments.

Operating Leases

Payments made under operating leases are recognised in profit or loss on a straight-line basis over the term of the lease. Lease incentives received are recognised as an integral part of the total lease expense, over the term of the lease.

Operating Segments

Allied Minds determines and presents operating segments based on the information that internally is provided to the executive management team, the body which is considered to be Allied Minds' Chief Operating Decision Maker ("CODM").

An operating segment is a component of Allied Minds that engages in business activities from which it may earn revenues and incur expenses, including revenues and expenses that relate to transactions with any of the Allied Minds' other components. The operating segment's operating results are reviewed regularly by the CODM to make decisions about resources to be allocated to the segment, to assess its performance, and for which discrete financial information is available.

(2) New Standards and Interpretations not yet Adopted

A number of new standards, interpretations and amendments to existing standards are effective for annual periods beginning after 1 January 2019, and have not therefore been applied in preparing this consolidated financial information. Management has yet to complete an analysis of these new standards, interpretations and amendments to existing standards on the results of its operations, financial position, and disclosures. The Group intends to adopt these standards on their respective effective dates.

The following are amended or new standards and interpretations that may impact the Group. The Group is finalising the required disclosures, which includes an assessment of the impact of the new guidance on our financial position and results of operations. The adoption of the proposed changes is not expected to have a material effect on the financial statements unless otherwise indicated:

IFRS 16*, 'Leases'* (effective 1 January 2019)

IFRS 16 replaces existing leases guidance, including IAS 17 Leases, IFRIC 4 Determining whether an Arrangement contains a lease, SIC -15 Operating Leases - Incentives and SIC - 27 Evaluating the substance of transactions involving the legal form of a lease.

The standard is effective for annual periods beginning on or after 1 January 2019. Early adoption is permitted for entities that apply IFRS 15 at or before the date of initial application of IFRS 16.

IFRS 16 introduces a single, on-balance sheet lease accounting model for lessees in a similar way to finance leases under IAS 17. A lessee recognises a right-of-use asset representing its right to use the underlying asset and a lease liability representing its obligation to make lease payments. There are recognition exemptions for short-term leases and leases of low-value items. Lessor accounting remains similar to the current standard-i.e: lessors continue to classify leases as finance or operating leases.

The actual impacts of adopting the standard on 1 January 2019 may change because:

- The Group has not finalised the testing and assessment of controls over the implementation of the new standard; and
- The new accounting policies are subject to change until the Group presents its first financial statements that include the date of initial application.

Previously the Group recognised operating lease expense on a straight line basis over the term of the lease, and recognised assets and liabilities only to the extent that there was a timing difference between actual lease payments and the expense recognised. As at 31 December 2018, the Group's future minimum lease payments under non-cancellable operating leases amounted to $3.4 million, on an undiscounted basis (see Note 20).

So far, the most significant impact identified is that the Group will recognise new assets and liabilities for its operating leases of its rented office and laboratory space. In addition, the nature of expenses related to those leases will now change as IFRS 16 replaces the straight-line operating lease expense with a depreciation charge for right-of-use assets and interest expense on lease liabilities.

The Company does not have any finance leases as of 31 December 2018. Based on the information currently available, the Group estimates that it will recognise additional lease liabilities of $2.8 million and $2.6 million in lease assets as at 1 January 2019.

Transition

As a lessee; the Group can either apply the standard using a:

- retrospective approach; or
- modified retrospective approach with optional practical expedients.

The lessee applies the election consistently to all of its leases.

The Group plans to apply IFRS 16 initially on 1 January 2019, using modified retrospective approach. Therefore, the cumulative effect of adopting IFRS 16 will be recognised as an adjustment to the opening balance of retained earnings at 1 January 2019, with no restatement of comparative information.

When applying the modified retrospective approach to leases previously classified as operating leases under IAS 17, the lessee can elect, on a lease-by-lease basis, whether to apply a number of practical expedients on transition. The Group is assessing the potential impact of using these practical expedients.

The Group is not required to make any adjustments for leases in which it is a lessor except where it is an intermediate lessor in a sub-lease.

Other new standards and interpretations yet to be adopted, for which the Company does not expect to have a material impact on its financial statements include:

- Annual Improvements to IFRS Standards 2015-2017 Cycle (issued on 12 December 2017)
- Amendments to IAS 19: Plan Amendment, Curtailment or Settlement (issued on 7 February 2018)
- Amendments to IAS 28: Long-term Interests in Associates and Joint Ventures (issued on 12 October 2017)
- IFRIC 23 Uncertainty over Income Tax Treatments (issued on 7 June 2017)
- IFRIC 22 Foreign Currency Transactions and Advance Consideration (issued on 8 December 2016)
- Amendments to IFRS 9: Prepayment Features with Negative Compensation (issued on 12 October 2017)

(3) Revenue

Revenue recorded in the statement of comprehensive loss consists of the following:

For the year ended 31 December:	2018	2017
	$'000	$'000
Product revenue	290	1,537
Service revenue	5,271	3,464
Total revenue in consolidated statement of income/(loss)	5,561	5,001

Product revenue includes license revenue of $40,342 and $22,000 during 2018 and 2017, respectively.
Deferred revenue recorded in the statement of financial position consists of the following:

As of 31 December:	2018	2017
	$'000	$'000
Customer deposits	2,225	3,750
Other deferred revenue, current	108	546
Total deferred revenue in statement of financial position	2,333	4,296

(4) Operating Segments

Basis for Segmentation

For management purposes, the Group's principal operations are currently organised in three types of activities:

(i) Early stage companies - subsidiary businesses that are in the early stage of their lifecycle characterised by incubation, research and development activities

(ii) Later stage companies - subsidiary businesses that have substantially advanced with or completed their research and development activities, are closer in their lifecycle to commercialisation, and/or have a potential of realising material return on investment through a future liquidity event

(iii) Minority holdings companies - reflects the activity related to portfolio companies other than consolidated subsidiary businesses where the Group has made a minority investment and does not control or exercise joint control over the financial and operating policies of those entities.

Minority holdings: In April 2018, Allied Minds led funding rounds at Orbital Sidekick ($3.5 million) and at TableUp ($4.0 million), receiving a significant minority stake in each company. Also, two of the company's subsidiaries, HawkEye^{360}, Inc. and Spin Memory, Inc. (formerly Spin Transfer Technologies, Inc.), were deconsolidated during 2018 as a result of financing events at both companies.

As a result of HawkEye's Series A-3 financing round that was completed in September 2018, Allied Minds' ownership percentage dropped from 54.07% to 48.33%. Consequently, while Allied Minds is still considered a large minority shareholder, since it no longer holds a majority of voting rights in the Company and does not hold a majority on the board of directors, Allied Minds does not exercise effective control over HawkEye^{360}. However, even after the transaction, Allied Minds is able to exercise significant influence over the entity by virtue of its large, albeit minority, stake in the company and its representation on the HawkEye^{360}'s board of directors. Allied Minds does not hold common stock in HawkEye^{360} and therefore is not subject to equity method accounting under IAS 28. HawkEye^{360}'s Preferred Stock was classified as an Investments held at fair value upon deconsolidation. Upon deconsolidation, Allied Minds recognised the fair value of the Series A-1 Preferred Stock, Series A-2 Preferred Stock, and Series A-3 Preferred Stock (collectively the "HE^{360} Preferred Stock") held in HE^{360}, resulting in a gain of $11.1 million.

As a result of Spin Memory's Series B financing round, the first closing of which was completed in November 2018, Allied Minds' ownership percentage dropped from 48.55% to 41.63%. Consequently, while Allied Minds is still considered a large minority shareholder, it no longer holds a majority of voting rights and therefore it does not exercise effective control over Spin Memory. However, even after the transaction, Allied Minds is able to exercise significant influence over the entity by virtue of its large, albeit minority, stake in the company and its representation on the Spin Memory's board of directors. Due to the liability-like characteristics of the Series A Preferred Stock and Series B Preferred Stock the investment is accounted for under IFRS 9 and is classified by the Company as an investment at fair value. Upon deconsolidation, Allied Minds recognised the fair value of the Series A Preferred Stock, Series B-1 Preferred Stock, and Series B-2 Preferred Stock (collectively the "SM Preferred Stock") held in Spin Memory, resulting in a gain of $27.1 million. Additionally, due to Allied Minds' Common Stock holdings that have equity-like characteristics, the investment is accounted for under IAS 28 and is classified by the Company as an investment in associates which resulted in an additional net gain of $4.6 million. At December 31, 2018, Allied Minds' investment was adjusted by the share of losses generated by Spin Memory in December 2018 of $1.3 million.

As such, as of year-end 2018, given its investment activities in 2018, Allied Minds has decided that it is appropriate to create a new operating segment to classify and capture its minority and deconsolidated portfolio companies. Such segment will be called Minority Holdings and shall include HawkEye^{360}, Spin Memory, and other companies that follow a similar strategic path in the future. In addition, TableUp and Orbital Sidekick are included in the Minority Holdings segment and not included within the Early Stage segment because they represent the values of the entire investments that Allied Minds holds and not their own current assets (as is the case for the rest of the consolidated subsidiaries). Allied Minds has significant influence over the companies' strategic operations through its large, albeit minority, ownership stake and its representation on each company's board of directors. Therefore, these are included in Allied Minds' trial balance as non-current assets, which then map to the Minority Holdings segment as well.

The Group's CODM reviews internal management reports on these segments at least quarterly in order to make decisions about resources to be allocated to the segment and to assess its performance.

Other operations include the management function of the head office at the parent level of Allied Minds.

Information about Reportable Segments

The following provides detailed information of the Group's reportable segments as of and for the years ended 31 December 2018 and 2017, respectively:

	2018 $'000				
	Early stage	**Later stage**	**Minority Holdings**	**Other operations**	**Consolidated**
Statement of Comprehensive Loss					
Revenue	250	4,792	519	—	5,561
Cost of revenue	(5)	(2,384)	(438)	—	(2,827)
Selling, general and administrative expenses	(2,168)	(17,400)	(10,907)	(18,853)	(49,328)
Research and development expenses	(4,454)	(23,763)	(16,730)	—	(44,947)
Other income	3,887	—	42,831	—	46,718
Finance income/(cost), net	261	57,597	34,247	770	92,875
Share of net loss of associates accounted for using the equity method	—	—	(1,301)	—	(1,301)
Income/(loss) for the period	(2,229)	18,842	48,221	(18,083)	46,751
Other comprehensive income	—	—	—	561	561
Total comprehensive income/((loss)	(2,229)	18,842	48,221	(17,522)	47,312
Total comprehensive loss attributable to:					
Equity holders of the parent	(1,368)	9,067	49,147	(17,524)	39,322
Non-controlling interests	(862)	9,777	(925)	—	7,990
Total comprehensive loss	(2,230)	18,844	48,222	(17,524)	47,312
Statement of financial position					
Non-current assets	(50)	6,895	78,444	807	86,096
Current assets	19,529	33,537	—	53,968	107,034
Total assets	19,479	40,432	78,444	54,775	193,130
Non-current liabilities	—	(60)	—	(376)	(436)
Current liabilities	(1,696)	(64,156)	—	(3,705)	(69,557)
Total liabilities	(1,696)	(64,216)	—	(4,081)	(69,993)
Net assets/(liabilities)	17,783	(23,784)	78,444	50,694	123,137

	2017 $'000				
	Early stage	**Later stage**	**Minority holdings**	**Other operations**	**Consolidated**
Statement of Comprehensive Loss					
Revenue	1,607	1,761	1,633	—	5,001
Cost of revenue	(3,861)	(714)	(667)	—	(5,242)
Selling, general and administrative expenses	(9,544)	(10,886)	(12,319)	(22,465)	(55,214)
Research and development expenses	(6,424)	(25,185)	(17,403)	—	(49,012)
Finance income/(cost), net	(11)	(1,296)	(5,658)	420	(6,545)
Loss for the period	(18,233)	(36,320)	(34,414)	(22,045)	(111,012)
Other comprehensive income/(loss)	79	—	—	182	(103)
Total comprehensive loss	(18,154)	(36,320)	(34,414)	(22,227)	(111,115)
Total comprehensive loss attributable to:					
Equity holders of the parent	(13,792)	(31,606)	(8,153)	(22,227)	(75,778)
Non-controlling interests	(4,362)	(4,714)	(26,261)	—	(35,337)
Total comprehensive loss	(18,154)	(36,320)	(34,414)	(22,227)	(111,115)
Statement of financial position					
Non-current assets	452	1,919	24,915	1,083	28,369
Current assets	22,297	58,470	19,379	84,646	184,792
Total assets	22,749	60,389	44,294	85,729	213,161
Non-current liabilities	(3)	(28)	(81)	(755)	(867)
Current liabilities	(2,239)	(111,598)	(81,923)	(4,442)	(200,202)
Total liabilities	(2,242)	(111,626)	(82,004)	(5,197)	(201,069)

Net assets/(liabilities)	20,509	(51,237)	(37,710)	80,532	12,092

All closed or dissolved subsidiaries were presented in the Early Stage segment up to the time at which they were all dissolved. During 2018, Allied Minds sold the trade and assets of Percipient Networks and subsequently ceased operations and dissolved the company. In addition, Allied Minds dissolved each of Whitewood Encryption, Seamless Devices, RF Biocidics, Inc., and Foreland. Later stage companies in the current year comprise those that have graduated from Early stage by way of further advancements in their development as described above. Those currently include BridgeSat, Federated Wireless, Precision Biopsy, and SciFluor Life Sciences. This change has been reflected accordingly in the comparative year information about reportable segments. Hawkeye^{360} and Spin Memory were deconsolidated and were reclassified from Later Stage segment to the Minority Holdings segment at the date of deconsolidation. The Group has retrospectively restated 2017 segment amounts to reflect the above transactions.

Summarised information related to the Company's operating revenues by reporting segment for the years ended 31 December 2018 and 2017 is as follows:

	2018			2017				
	Service revenue	**Software revenue**	**Total**	**Product revenue**	**Service revenue**	**Software revenue**	**Other revenue**	**Total**
Early Stage	-	250	250	1,309	224	89	(15)	1,607
Later Stage	4,752	40	4,792	-	1,761	-	-	1,761
Minority	519	-	519	-	1,633	-	-	1,633
Total revenue	5,271	290	5,561	1,309	3,618	89	(15)	5,001

In 2018, Cost of revenue and Selling, general and administrative expenses of Early stage, Later stage, Minority holdings and Other operations segments included depreciation and amortisation expense of $117,000, $1,041,000, $4,664,000, and $235,000, respectively (2017: $308,000, $485,000, $5,072,000, $nil, and $236,000, respectively).

The proportion of net assets shown above that is attributable to non-controlling interest is disclosed further in notes 11 and 17.

Geographic Information

The Group revenues and net operating losses for the years ended 31 December 2018 and 2017 are considered to be entirely derived from its operations within the United States and accordingly no additional geographical disclosures are provided.

(5) Operating Expenses

The average number of persons employed by the Group (including Directors) during the year, analysed by category, was as follows:

For the year ending 31 December:	**2018**	**2017**
Selling, general and administrative	68	80
Research and development	124	125
Total	192	205

The aggregate payroll costs of these persons were as follows:

For the year ending 31 December:	**2018** $'000	**2017** $'000
Selling, general and administrative	25,896	28,714
Research and development	21,070	21,596
Total	46,966	50,310

Total operating expenses were as follows:

For the year ending 31 December:	**2018** $'000	**2017** $'000
Salaries and wages	33,915	36,864
Payroll taxes	2,267	2,026
Healthcare benefit	2,233	2,589
Other payroll cost	1,138	1,269
Share-based payments	7,413	7,562
Total	46,966	50,310
Cost of revenue	2,827	5,242
Other SG&A expenses	23,432	26,500
Other R&D expenses	23,877	27,416
Total operating expenses	97,102	109,468

	2018 $'000	**2017** $'000
Auditor's remuneration		
Audit of these financial statements	618	552
Audit of the financial statements of subsidiaries	20	20
Audit-related assurance services	211	129
	849	701

The Group recorded an impairment charge on property and equipment of $0.1 million (2017: $0.6 million) and on intangible assets of $0.5 million (2017: $1.6 million) and wrote off certain tangible and intangible assets as a result of companies that were closed during fiscal year 2018.

See note 6 for further disclosures related to share-based payments and note 23 for management's remuneration disclosures.

(6) Share-Based Payments

UK Long Term Incentive Plan

Under the UK Long Term Incentive Plan ("LTIP"), awards of Ordinary Shares may be made to employees, officers and directors, and other individuals providing services to the Company and its subsidiaries. Awards may be granted in the form of share options, share appreciation rights, restricted or unrestricted share awards, performance share awards, restricted share units, phantom-share awards and other share-based awards. Vesting is subject to the achievement of certain performance conditions and continued services of the participant.

Awards have been granted under the LTIP based on the following vesting criteria:

- awards subject to performance conditions based on the Company's total shareholder return ("TSR") performance or relative total shareholder return (rTSR) performance over a defined of time;
- awards subject to performance conditions based on a basket of shareholder value metrics ("SVM"). Performance is assessed on these measures on a scorecard basis over a defined period of time;
- awards that vest 100 per cent after a period of time subject to continued service condition only.

The Company issued awards under the LTIP during 2018 and 2017 in respect of a total of 3,924,851 and 7,466,235 Ordinary Shares, respectively. A summary of stock option activity under the UK LTIP for the year ended 31 December 2018 and 2017, respectively, is shown below:

For the year ended 31 December:	2018			2017		
	rTSR	SVM	Time	rTSR	SVM	Time
Number of shares granted at maximum ('000)	3,481	–	444	2,837	1,632	2,998
Weighted average fair value ($)	1.13	–	1.12	0.89	1.44	1.48
Fair value measurement basis	Monte Carlo	Market value of ordinary share	Market value of ordinary share	Monte Carlo	Market value of ordinary share	Market value of ordinary share

The share grants that vest upon the occurrence of a market condition (i.e. the TSR performance) and service condition were adjusted to current market price at the date of the grant to reflect the effect of the market condition on the non-vested shares' value. The Company used a Monte Carlo simulation analysis utilising a Geometric Brownian Motion process with 50,000 simulations to value those shares. The model takes into account share price volatilities, risk-free rate and other covariance of comparable UK public companies and other market data to predict distribution of relative share performance. This is applied to the reward criteria to arrive at expected value of the TSR awards.

The share grants that vests only upon the occurrence of a non-market performance condition (i.e. the SVM grants) and service condition were valued at the fair value of the shares on the date of the grants and the vesting conditions are taken into account by subsequently adjusting the number of instruments included in the measurement of the transaction amount so that, ultimately, the amount of recognised share-based expense is based on the number of instruments that eventually vest.

The accounting charge does not necessarily represent the intended value of share-based payments made to recipients, which are determined by the Remuneration Committee according to established criteria. The share-based payment charge for the fiscal year ended 31 December 2018 related to the UK LTIP was $7.4 million (2017: $7.6 million).

U.S. Stock Option/Stock Issuance Plan

The U.S. Stock Option/Stock Issuance Plan (the "U.S. Stock Plan") was originally adopted by Allied Minds, Inc. (now Allied Minds, LLC) in 2008. The U.S. Stock Plan provides for the grant of share option awards, restricted share awards, and other awards to acquire common stock of Allied Minds, Inc. (now Allied Minds, LLC). All stock options granted to employees under this plan are equity settled, for a ten-year term. Pursuant to the Company's IPO in 2014, Allied Minds plc adopted and assumed the rights and obligations of Allied Minds, Inc. (now Allied Minds, LLC) under this plan except that the obligation to issue Common Stock is replaced with an obligation to issue ordinary shares to satisfy awards granted under the U.S. Stock Plan. As of 19 June 2014, the maximum number of options reserved under the plan were issued and outstanding and as a result of the Company's IPO in 2014, all issued and outstanding options vested on 19 June 2014. The Company does not intend to make any further grants under the U.S. Stock Plan.

No new stock option grants were awarded in 2018 and 2017 under the Allied Minds 2008 Plan. A summary of stock option activity in the U.S. Stock Plan is presented in the following table:

For the twelve months ended:	31 December 2018		31 December 2017	
	Number of options	Weighted average exercise price	Number of options	Weighted average exercise price
Outstanding as of 1 January	7,499,116	$2.21	8,554,712	$2.12
Exercised during the period	(887,373)	$1.78	(1,055,596)	$1.46
Forfeited during the period	(5,311,743)	$2.30	—	—
Outstanding as of period end	1,300,000	$2.15	7,499,116	$2.21
Exercisable at period end	1,300,000	$2.15	7,499,116	$2.21
Intrinsic value of exercisable	$ nil		$0.1 million	

The options outstanding as of 31 December 2018 had an exercise price in the range of $1.78 to $2.49 (2017: $1.78 to $2.49).

Other Plans

SciFluor Life Sciences, Inc. ("SciFluor")

Stock compensation expense was approximately $800,000 and $nil for the year ended 31 December 2018 and 2017, respectively. Deferred stock compensation expense under these grants was approximately $465,000 and $nil as of 31 December 2018 and 2017, respectively.

There were no new grants under the 2015 Equity Incentive Plan in 2017. The fair value of the stock option grants awarded in 2018 under the 2015 Equity Incentive Plan was estimated as of the date of grant using a Black-Scholes- Merton option valuation model that uses the following weighted average assumptions:

	2018	2017
Expected option life (in years)		

	6.07	-
Expected stock price volatility	32.90	-
Risk-free interest rate	2.85	-
Expected dividend yield	-	-
Grant date option fair value	$ 2.51	-
Share price at grant date	$ 6.72	-
Exercise price	$ 6.72	-

Expected volatility has been based on an evaluation of the historical volatility of the share price of publicly traded companies comparable to SciFluor, particularly over the historical period commensurate with the expected term. The expected term of the instruments has been based on historical experience and general option holder behavior.

A summary of stock option activity in the SciFluor plans is presented in the following table:

	Number of options 2018	Weighted average exercise price 2018	Number of options 2017	Weighted average exercise price 2017
Outstanding as of 1 January	457,961	$ 1.20	457,961	$ 1.20
Granted during the year	775,303	$ 6.72	-	-
Forfeited during the year	(501,179)	$ 4.05	-	-
Outstanding as of 31 December	732,085	$ 5.10	457,961	$ 1.20
Exercisable as of 31 December	469,615	$ 4.20	457,961	$ 1.20
Intrinsic value of Exercisable	$ nil		$ 3.7 million	

The options outstanding as of 31 December 2018 had an exercise price in the range of $1.20 to $6.72 (2017: $nil) and a weighted-average contractual life of approximately 3.4 years (2017: nil years).

Plans Under Other Subsidiaries

The stock compensation expense under other subsidiaries of the Company was $1,216,000 (2017: $1,495,000). Deferred stock compensation expense under these grants as of 31 December 2018 was approximately $1,106,000 (2017: $1,220,000).

Allied Minds Phantom Plan

In 2007, Allied Minds established a cash settled bonus plan for Allied Minds employees, also known as its Phantom Plan. In 2012, the board of directors adopted the Amended and Restated 2007 Phantom Plan. Under the terms of the Amended and Restated Plan, upon a liquidity event Allied Minds will allocate 10% of the value (after deduction of the amount invested by Allied Minds and accrued interest at a rate not exceeding 5% per annum) of the invested capital owned by Allied Minds of each operating company to the plan account. Upon a liquidity event, plan participants holding units will receive their proportionate share of the plan account. The allocated shares at all times remain the sole and exclusive property of Allied Minds and holders of units have no rights or interests in Allied Minds. No amount has been paid out to employees under the Phantom Stock Plan through 31 December 2018.

Allied Minds has not accrued any expense relating to the Phantom Plan as of 31 December 2018 or 2017. Management will record an expense relating to this plan when it is probable that a subsidiary will be sold and the amount of the payout is reasonably estimable.

Share-based Payment Expense

The Group recorded share-based payment expense related to stock options of approximately $7,413,000 and $7,562,000 for the years ended 31 December 2018 and 2017, respectively. There was no income tax benefit recognised for share- based payment arrangements for the years ended 31 December 2018 and 2017, respectively, due to operating losses. Shared-based payment expenses are included in selling, general and administrative expenses and research and development expenses in the Consolidated Statement of Comprehensive Income.

(7) Finance Cost, Net

The following table shows the breakdown of finance income and cost:

For the year ended 31 December:	2018	2017
	$'000	$'000
Interest income on:		
- Bank deposits	1,771	475
Foreign exchange gain	4	10
Finance income	1,775	485
Interest expense on:		
- Financial liabilities at amortised cost	(407)	(174)
Foreign exchange loss	(55)	(6)
Finance cost contractual	(462)	(180)
Income/(loss) on fair value measurement of subsidiary preferred shares	91,562	(6,850)
Finance income/(cost)	91,100	(7,030)
Total finance income/(cost), net	92,875	(6,545)

See note 18 for further disclosure related to subsidiary preferred shares.

(8) Income Per Share

The calculation of basic and diluted loss per share as of 31 December 2018 was based on the income attributable to ordinary shareholders of $38.7 million (2017: $75.7 million) and a weighted average number of ordinary shares outstanding of 239,915,663 (2017: 236,194,051), calculated as follows:

Income/(loss) attributable to ordinary shareholders

	2018	2017

	$'000		$'000	
	Basic	Diluted	Basic	Diluted
Income/(loss) for the year attributed to the owners of the Company	38,761	38,761	(75,675)	(75,675)
Income/(loss) for the year attributed to the ordinary shareholders	38,761	38,761	(75,675)	(75,675)

Weighted average number of ordinary shares

	2018		2017	
	Basic	Diluted	Basic	Diluted
Issued ordinary shares on 1 January	238,202,541	238,202,541	233,744,378	233,744,378
Effect of share capital issued	—	—	—	—
Effect of vesting of RSUs	896,372	896,372	1,823,106	1,823,106
Effect of share options exercised	816,751	816,751	626,567	626,567
Effect of dilutive shares	—	778,945	—	—
Weighted average ordinary shares	239,915,663	240,694,608	236,194,051	236,194,051

Income per share

	2018 $		2017 $	
	Basic	Diluted	Basic	Diluted
Income/(loss) per share	0.16	0.16	(0.32)	(0.32)

(9) Property and Equipment

Property and equipment, net, consists of the following at:

Cost

in $'000	**Machinery and Equipment**	**Furniture and Fixtures**	**Leasehold Improvements**	**Computers and Electronics**	**Under Construction**	**Total**
Balance as of 31 December 2016	35,109	862	5,563	1,351	701	43,586
Additions, net of transfers	723	25	258	373	(133)	1,246
Disposals	(1,159)	(211)	(147)	(530)	-	(2,047)
Balance as of 31 December 2017	34,673	676	5,674	1,194	568	42,785
Additions, net of transfers	1,664	184	1,813	464	3,762	7,908
Disposals	(561)	-	-	(14)	-	(575)
Deconsolidation of subsidiaries	(33,334)	(151)	(4,405)	(733)	(2,691)	(41,314)
Balance as of 31 December 2018	2,463	709	3,082	911	1,639	8,804

Accumulated Depreciation and Impairment loss

in $'000	**Machinery and Equipment**	**Furniture and Fixtures**	**Leasehold Improvements**	**Computers and Electronics**	**Under Construction**	**Total**
Balance as of 31 December 2016	(8,674)	(316)	(1,860)	(854)	-	(11,704)
Depreciation	(4,456)	(122)	(909)	(313)	-	(5,800)
Impairment loss	(425)	(114)	(53)	(109)	-	(701)
Disposals	1,159	211	147	530	-	2,047
Balance as of 31 December 2017	(12,396)	(341)	(2,675)	(746)	-	(16,158)
Depreciation	(4,184)	(131)	(1,065)	(282)	—	(5,662)
Impairment loss	(81)	—	—	(3)	—	(84)
Disposals	561	—	—	14		575
Deconsolidation of subsidiaries	15,091	91	2,899	441	—	18522
Balance as of 31 December 2018	(1,007)	(381)	(842)	(571)	—	(2,807)

Property and equipment, net

in $'000	**Machinery and Equipment**	**Furniture and Fixtures**	**Leasehold Improvements**	**Computers and Electronics**	**Under Construction**	**Total**
Balance as of 31 December 2017	22,277	335	2,999	448	568	26,627
Balance as of 31 December 2018	1,456	328	2,240	334	1,639	5,997

Impairment of property and equipment of $84,000 and $701,000 for the years ended 31 December 2018 and 2017, respectively, is mainly attributed to the closing of subsidiary companies, which resulted in the associated assets being impaired, see further detail in note 25. Impairment of property and equipment is included in selling, general and administrative expenses in the consolidated statement of comprehensive income.

Property and equipment under constructions represents assets that are in the process of being built and not placed in service as of the reporting date.

(10) Intangible Assets

Information regarding the cost and accumulated amortisation of intangible assets is as follows:

Cost

in *$'000*	Licenses	Purchased IPR&D	Software	Development cost	Total
Balance as of 31 December 2016	4,821	768	730	94	6,413
Additions - Acquired separately	264	-	12	-	276
Additions - Internally developed	-	-	-	-	-
Disposals	(3,883)	(491)	(199)	(94)	(4,667)
Balance as of 31 December 2017	1,202	277	543	-	2,022
Additions - Acquired separately	20	-	1,182	-	1,202
Additions - Internally developed	-	-	-	-	-
Disposals	(529)	-	-	-	(529)
Deconsolidation of subsidiaries	(530)	-	(35)	-	(565)
Balance as of 31 December 2018	162	277	1,691	-	2,130

Accumulated amortisation and Impairment loss *in* *$'000*	Licenses	Purchased IPR&D	Software	Development cost	Total
Balance as of December 31, 2016	(2,943)	(124)	(560)	(24)	(3,651)
Amortisation	(130)	(13)	(153)	(6)	(302)
Impairment loss	(1,223)	(354)	(21)	(64)	(1,662)
Disposals	3,883	491	199	94	4,667
Balance as of December 31, 2017	(413)	-	(535)	-	(948)
Amortisation	(59)	-	(337)	-	(396)
Impairment loss	(461)	-	-	-	(461)
Disposals	529	-	-	-	529
Deconsolidation of subsidiaries	340	-	27	-	367
Balance as of December 31, 2018	(65)	-	(844)	-	(909)

Intangible assets, net *in* *$'000*	Licenses	Purchased IPR&D	Software	Development cost	Total
Balance as of 31 December 2017	789	277	8	-	1,074
Balance as of 31 December 2018	97	277	847	-	1,221

Relating to Spin Memory, assets of $30.1 million and liabilities of $75.1 million have been deconsolidated of and no consideration was received.

Relating to Hawkeye^{360}, assets of $26.2 million and liabilities of $56.0 million have been deconsolidated of and no consideration was received.

Amortisation expense is included in selling, general and administrative expenses in the consolidated statement of comprehensive loss. Amortisation expense, recorded using the straight-line method, was approximately $396,000 and $302,000 for the years ended 31 December 2018 and 2017, respectively.

Impairment of intangible assets of $462,000 and $1,662,000 for the years ended 31 December 2018 and 2017, respectively, is mainly attributed to the closing of subsidiary companies, which resulted in the associated intangible assets being impaired to zero, see further detail in note 25. Impairment expense is included in selling, general and administrative expenses in the consolidated statement of comprehensive income.

At each reporting period, management considers qualitative and quantitative factors that define the future prospects of the respective investment and assesses whether it supports the value of the underlying intangible.

(11) Investment in Subsidiaries and Associates

Group Subsidiaries and associates

Allied Minds has 19 portfolio companies as of 31 December 2018. As of and for the two years ended 31 December 2018 the capitalisation of all subsidiary companies in the Group portfolio is in the form of ordinary shares only, except for certain subsidiaries where preferred shares were issued to both the parent company and third parties in financing rounds, namely ABLS II, BridgeSat, Federated Wireless, HawkEye^{360}, Precision Biopsy, QuayChain, SciFluor Life Sciences, Signature Medical and Spin Memory (former Spin Transfer Technologies). The Group's ownership of preferred shares as per cent of the total ownership percentage of economic interest in those subsidiaries as of 31 December 2018 were 19.14%, 38.22%, 12.59%, 48.33% 18.02%, 72.22%, 3.80%, 47.63% and 17.45%, respectively.

The following outlines the formation of each subsidiary and evolution of Allied Minds' equity ownership interest over the two year period ended 31 December 2018:

	Inception Date	Location (4)	Ownership percentage of equity interest at 31 December (2) 2018	2017
Active subsidiaries				
Holding companies				
Allied Minds, LLC (1), (3)	19/06/14	Boston, MA	100.00%	100.00%
Allied Minds Securities Corp. (3)	21/12/15	Boston, MA	100.00%	100.00%
Early stage companies				
ABLS Capital, LLC	09/07/15	Boston, MA	30.25%	30.25%
Allied-Bristol Life Sciences, LLC	31/07/14	Boston, MA	80.00%	80.00%
ABLS II, LLC(5)	24/09/14	Boston, MA	35.95%	35.95%
ABLS IV, LLC(5)	26/10/17	Boston, MA	80.00%	80.00%
Allied Minds Federal Innovations, Inc.	09/03/12	Boston, MA	100.00%	100.00%
LuxCath, LLC(5)	29/05/12	Boston, MA	99.29%	98.00%
QuayChain, Inc.	18/09/18	San Pedro, CA	72.22%	—
Signature Medical, Inc.(5)	12/12/16	Boston, MA	88.09%	88.09%
Spark Insights, Inc.	09/10/18	Boston, MA	100.00%	—
Later stage companies				
BridgeSat, Inc.	09/02/15	Denver, CO	81.38%	98.15%

Federated Wireless, Inc.	08/08/12	Arlington, VA	52.23%	52.26%
Federated Wireless Government Solutions, Inc. (3)	04/05/16	Arlington, VA	52.23%	52.26%
Precision Biopsy, Inc.	17/06/08	Denver, CO	64.84%	64.59%
SciFluor Life Sciences, LLC	14/12/10	Cambridge, MA	70.03%	69.89%
Closed subsidiaries				
Foreland Technologies, Inc.	23/01/13	Boston, MA	—	100.00%
Percipient Networks, LLC	29/01/14	Wakefield, MA	—	100.00%
RF Biocidics, Inc.	12/06/08	Boston, MA	—	67.14%
RF Biocidics (UK) Ltd (3)	10/09/10	United Kingdom	—	67.14%
Seamless Devices, Inc.	14/10/14	Boston, MA	—	79.12%
Whitewood Encryption Systems, Inc.	21/07/14	Boston, MA	—	100.00%
Number of active subsidiaries at 31 December:			16	23
Deconsolidated Companies				
HawkEye360, Inc. (2) (4)	16/09/15	Herndon, VA	48.33%	53.06%
HawkEye360 Federal, Inc. (2) (4)	22/09/15	Herndon, VA	48.33%	53.06%
Spin Memory, Inc.(2) (4)	03/12/07	Fremont, CA	41.63%	48.40%
Minority Holding Companies				
TableUp, Inc. (4)	04/20/07	Boston, MA	35.52%	—
Orbital Sidekick, Inc. (4)	02/08/16	San Francisco, CA	33.23%	—

Notes:

(1) On 19 June 2014, Allied Minds plc completed a reorganisation of its corporate structure, whereby Allied Minds plc acquired the entire issued share capital of Allied Minds, Inc., first incorporated on 4 June 2004, which at the same time changed its name to Allied Minds, LLC;

(2) Represents ownership percentage used in allocations to non-controlling interests except for BridgeSat, Federated Wireless, HawkEye360, Precision Biopsy, SciFluor Life Sciences, Signature Medical and Spin Memory in which cases the percentage used to allocate the non-controlling interests was 99.12%, 93.69%, 0%, 80.59%, 86.86%, 100.00% and 56.31% (2017: 100%, 94.15%, 0%, 80.35%, 86.86%, 100.00% and 56.13%), where in these cases there are liability classified preferred shares in issue, which are excluded. Note that Spin Memory was deconsolidated in the year 2018 and the Non-controlling interest was allocated up to the time it was deconsolidated.

(3) These subsidiaries do not represent separate subsidiary businesses referred to earlier within the annual report.

(4) All subsidiaries have a registered office address at CT Corporation System, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801, United States except for Allied Minds Securities Corp. with registered office address at CT Corporation System, 155 Federal Street, Suite 700, Boston, MA 02110, United States. Hawkeye 360 Inc., Hawkeye 360 Federal Inc., Spin Memory Inc. and TableUp Inc. have a registered office address at 1209 Orange Street, Wilmington, DE 19801. Orbital Sidekick Inc. has a registered office at Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808.

(5) Signature Medical, LuxCath and ABLS are in the process of being wound up.

2018

On 24 August 2018, BridgeSat closed a Series B Preferred Stock round of financing issuing 7,098,240 Series B preferred shares for an aggregate purchase price of $10.0 million to Allied Minds and another strategic investor. As a result, following the transaction, Allied Minds' ownership percentage in BridgeSat is 81.38%. Allied Minds continues to exercise effective control over BridgeSat and as such, the subsidiary will continue to be fully consolidated within the Group's financial statements.

On 7 September 2018, HawkEye closed a Series A-3 Preferred Stock financing round for $14.9 million. On the date of the closing, Allied Minds' ownership percentage was reduced to 48.33%, the Company no longer controls a majority of the outstanding voting stock and does not control a majority of the board seats and as a result, the subsidiary was deconsolidated.

On 9 November 2018, Spin Memory completed the first closing of its Series B Preferred Stock financing round for up to $52.0 million. As of 31 December 2018, as a result of such funding round, the Company's ownership percentage was reduced to 41.63%, the Company no longer controls a majority of the outstanding voting stock and does not control a majority of the board seats and as a result, the subsidiary was deconsolidated.

During 2018, the Company formed two new subsidiaries, QuayChain, Inc. (72.22%) and Spark Insights, Inc. (100.0%).

In April 2018 the Company made two minority investments in TableUp, Inc. ("TableUp") and Orbital Sidekick, Inc. ("OSK"). They are accounted for as investments held at fair value as the shares held do not have equity like features.

Also during 2018, the Company dissolved Foreland Technologies, RF Biocidics, RF Biocidics (UK), Seamless Devices and Whitewood Encryption Systems. In January 2018, Allied Minds completed a sale of the trade and assets of Percipient Networks for $3.6 million with $0.4 million in escrow and a gain on disposal of assets of $3.9 million, and subsequently ceased operations and dissolved the company. Further, at the end of 2018, the Company discontinued funding for ABLS, LuxCath and Signature Medical and as such, the assets for the three companies were written down as of 31 December 2018.

2017

In February 2017, HawkEye360 completed a second closing of its Series A-2 Preferred Stock financing round for an additional $2.75 million, of which $1.25 million was raised from existing shareholders of HawkEye360 and members of management of HawkEye360 for 967,641 shares of Series A-2 Preferred Stock and $1.5 million was raised from an existing investor of HawkEye360 in exchange for a warrant to purchase 1,161,172 shares of Series A-2 Preferred Stock.

In May 2017, BridgeSat closed a Series A Preferred Stock round of financing issuing 4,675,446 Series A preferred shares to Allied Minds and another strategic investor for an aggregate purchase price of $6.0 million. As a result, following the transaction, Allied Minds' ownership percentage in BridgeSat was 98.15%. The Company continues to exercise effective control over BridgeSat and as such, the subsidiary will continue to be fully consolidated within the group's financial statements.

In July 2017, Signature Medical completed a Series A Preferred Stock round of financing issuing 13,241,526 shares of Series A preferred to Allied Minds and two new strategic investors for an aggregate purchase price of $2.5 million. As a result, following the transaction, Allied Minds' ownership percentage in Signature Medical was 88.09%. The Company continues to exercise effective control over Signature Medical and as such, the subsidiary will continue to be fully consolidated within the group's financial statements.

In September 2017, Federated Wireless completed a Series B Preferred Stock round of financing issuing 27,167,093 shares of Series B preferred stock for to Allied Minds, existing shareholders of the Group, and a number of new strategic investors who led the round, for an aggregate purchase price of $42.0 million. As a result, following the transaction, Allied Minds' ownership percentage in Federated Wireless was 52.26%. The Company continues to exercise effective control over Federated Wireless and as such, the subsidiary will continue to be fully consolidated within the group's financial statements.

2016

Allied Minds is determined to control ABLS Capital, ABLS and ABLS II by virtue of the organisation documents whereby the company effectively controls the policies and management of these companies. As a result Allied Minds fully consolidate these entities within the group's financial statements.

The following tables summarise the financial information related to the Group's subsidiaries with material non-controlling interests, aggregated for interests in similar entities, and before intra-group eliminations.

As of and for the year ended 31 December:

	2018 $'000		
	Early stage	**Later stage**	**Minority holdings**
Statement of Comprehensive Loss			
Revenue	250	4,792	519
Loss for the year	(1,543)	18,844	48,221
Other comprehensive loss	—	—	—
Total comprehensive loss	(1,543)	18,844	48,221
Comprehensive loss attributed to NCI	(862)	9,777	(925)
Statement of Financial Position			
Non-current assets	(82)	6,906	78,444
Current assets	19,438	33,537	—
Total assets	19,356	40,443	78,444
Non-current liabilities	—	(62)	—
Current liabilities	(1,645)	(64,155)	—
Total liabilities	(1,645)	(64,217)	-
Net assets/(liabilities)	17,711	(23,774)	78,444
Carrying amount of NCI	(862)	9,788	925
Statement of Cash Flows			
Cash flows from operating activities	(7,511)	47,658	24,183
Cash flows from investing activities	(272)	(5,931)	(2,886)
Cash flows from financing activities	5,289	(68,866)	(3,232)
	(2,494)	(27,139)	18,065

	2017 $'000		
	Early stage	**Later stage**	**Minority holdings**
Statement of Comprehensive Loss			
Revenue	1,405	1,761	1,633
Loss for the year	(13,390)	(36,320)	(34,414)
Other comprehensive loss	79	—	
Total comprehensive loss	(13,311)	(36,320)	(34,414)
Comprehensive loss attributed to NCI	(4,360)	(4,714)	(26,261)
Statement of Financial Position			
Non-current assets	412	1,919	24,915
Current assets	21,825	58,470	19,379
Total assets	22,237	60,389	44,294
Non-current liabilities	(3)	(28)	(81)
Current liabilities	(2,066)	(111,600)	(81,925)
Total liabilities	(2,069)	(111,628)	(82,006)
Net assets/(liabilities)	20,168	(51,239)	(37,712)
Carrying amount of NCI	(4,371)	(54,870)	—
Statement of Cash Flows			
Cash flows from operating activities	(11,262)	(39,448)	(37,866)
Cash flows from investing activities	149	(925)	(547)
Cash flows from financing activities	8,881	51,142	25,344
	(2,232)	10,769	(13,069)

Investment in Associates

Spin Memory: As of November 2018, Spin Memory was deconsolidated from the Group's financial statements as a result of its latest Series B Preferred Stock financing round. Allied Minds' ownership percentage as of 31 December 2018 dropped from 48.55% to 41.63%. Consequently, since the Company no longer holds a majority of the voting rights in Spin Memory and it does not hold a majority on its board of directors, Allied Minds does not exercise effective control over Spin Memory. However, even after the transaction, Allied Minds is able to exercise significant influence over the entity by virtue of its large, albeit minority, stake in the company and its representation on the Spin Memory's board of directors. As such, only the profits and losses generated by Spin Memory through November 2018 were included in the Group's Consolidated Statements of Comprehensive Income/ (Loss). Upon the date of deconsolidation, Allied Minds recognised an investment in Spin Memory related to its common shares of $23.2 million with a share of loss in associate of $1.3 million. As a result of the deconsolidation, Allied Minds recorded an unrealised gain of $31.7 million in the Consolidated Statements of Comprehensive Income/ (Loss).

As of 31 December 2018, Allied Minds' investment in Spin Memory related to its common shares was subject to equity method accounting. In accordance with IAS 28, Allied Minds' investment was adjusted by the share of profits and losses generated by Spin Memory subsequent to the date of deconsolidation as follows:

		Ownership percentage 31 December	
	Location	**2018**	**2017**
Spin Memory, Inc.	Fremont, CA	41.63%	48.40%

	2018	2017
	$'000	$'000
Spin Memory, Inc.	21,900	—
Carrying amount for equity accounted investees	21,900	—

The Group's interest in Spin Memory is presented in the below table as of 31 December:

	2018	2017
	$'000	$'000
Carrying amount of interest in associates		
Share of:		
Loss from continuing operations	1,301	—
Total comprehensive loss	1,301	—

HawkEye^{360}: As of September 2018, HawkEye was deconsolidated from the Group's financial statements as a result of its Series A-3 Preferred Stock financing round. Allied Minds' ownership percentage as of 31 December 2018 dropped from 54.07% to 48.33%. Consequently, since the Company no longer holds a majority of the voting rights in HawkEye and it does not hold a majority on its board of directors, Allied Minds does not exercise effective control over HawkEye. However, even after the transaction, Allied Minds is able to exercise significant influence over the entity by virtue of its large, albeit minority, stake in the company and its representation on the HawkEye's board of directors. Allied Minds do not own any common shares in HawkEye and the preferred shares Allied Minds own are not equity-like therefore Allied Minds does not account for its ownership in HawkEye in accordance with IAS 28. As a result of the deconsolidation, Allied Minds recorded an unrealized gain of $11.1 million in the Consolidated Statement of Comprehensive Income/(Loss).

Investments at fair value

The Group's investments at fair value represent securities of portfolio companies where Allied Minds holds a minority stake in those companies. These investments are initially measured at fair value through profit or loss and are subsequently re-measured at fair value at each reporting date.

The fair value is derived using the option pricing model ("OPM"), the Probability-Weighted Expected Return Method ("PWERM") or a hybrid of the two.

The key inputs into these valuation models include the equity value of the subsidiary, the term of the instrument, risk free rate and volatility.

The valuation methodologies utilised for determining the equity value include backsolve to a third party funding round, income approach such as Net Present Valuation method or market approach.

Other valuation approaches

In certain cases, the value of a subsidiary is determined using a market instead of income- based approach.

Where there has been a third party funding round in the year this has been used as the implied value of the subsidiary, adjusted for indexation where this is deemed to be appropriate.

Other methodologies such as asset based, dissolution scenarios and cash in are also utilised where deemed appropriate.

Whilst the Board considers the methodologies and assumptions adopted in the valuation are supportable, reasonable and robust, because of the inherent uncertainty of valuation, those estimated values may differ significantly from the values that would have been used had a ready market for the investment existed and the differences could be significant.

PWERM and OPM

The principal methods the Group applies for allocation of value are the PWERM, the OPM as well as a hybrid of the two. These models take assumptions such as the equity values, term of the instruments, risk free rate and volatility to determine the fair value of each share class.

The PWERM estimates the value of equity securities based on an analysis of various discrete future outcomes, such as an IPO, merger or sale, dissolution, or continued operation as a private enterprise until a later exit date. The equity value today is based on the probability-weighted present values of expected future investment returns, considering each of the possible outcomes available to the enterprise, as well as the rights of each security class. The key judgement relates to probability weighting of the scenarios.

The OPM treats common stock or derivatives thereof as call options on the enterprise's value or overall equity value. The value of a security is based on the optionality over and above the value securities that are senior in the capital structure (e.g. preferred stock), considering the dilutive effects of subordinate securities. In the OPM, the exercise price is based on a comparison with the overall equity value rather than per-share value.

Those investments are presented in the below table:

	31 December 2018	Finance (income)/cost from IFRS 9 fair value accounting	Additions	31 December 2017
	$'000	$'000	$'000	$'000
HawkEye360, Inc.	21,887	—	21,887	—
Spin Memory, Inc.	27,157	—	27,157	—
Orbital Sidekick	3,500	—	3,500	—
TableUp	4,000	—	4,000	—
Total investments at fair value	56,544	—	56,544	—

On 7 September 2018, HawkEye closed a Series A-3 Preferred Stock financing round for $14.9 million. On the date of the closing, Allied Minds' ownership percentage was reduced to 48.33% and since the Company no longer controls a majority of the outstanding voting stock and does not control a majority of the board seats and as a result, the subsidiary was deconsolidated. As such, the Company included only the profits and losses generated by HawkEye through September 2018 in the Group's Consolidated Statements of Comprehensive Income/ (Loss). However, even after the transaction, Allied Minds is able to exercise significant influence over the entity by virtue of its large, albeit minority, stake in the company and its representation on the HawkEye's board of directors. As Allied Minds is able to demonstrate that it has significant influence over HawkEye, the entity will be accounted for as an associate under IAS 28, however, the shares held by Allied Minds are recorded as investments held at fair value per IFRS 9 as the preferred shares held do not have equity-like features and therefore Allied Minds had no basis to account for its investment in HawkEye under IAS 28, Investment in Associates and Joint Ventures. All movements to the value of Allied Minds' share in the preferred stock will be recorded through the Consolidated Statements of Comprehensive Income/(Loss), accordingly. As of 31 December 2018, Allied Minds recognised an investment held at fair value related to its Preferred Shares in HawkEye of $21.9 million.

On 9 November 2018, Spin Memory completed the first closing of its Series B Preferred Stock financing round for up to $52.0 million. As of December 31, 2018, as a result of such funding round, the Company's ownership percentage was reduced to 41.63%, the Company does not control a majority of the board seats and therefore, the subsidiary was deconsolidated. However, even after the transaction, Allied Minds is able to exercise significant influence over the entity by virtue of its large, albeit minority, stake in the company and its representation on the Spin Memory's board of directors. As such, only the profits and losses generated by Spin Memory through November 2018 were included in the Group's Consolidated Statements of Comprehensive Income/ (Loss). Upon the date of deconsolidation, Allied Minds held shares of preferred stock in Spin Memory as well as common shares. The preferred shares held by Allied Minds fall under the guidance of IFRS 9 and will be treated as a financial asset held at fair value and all movements to the value of Allied Minds' share in the preferred stock will be recorded through the Consolidated Statements of Comprehensive Income/(Loss), accordingly. As of 31 December 2018, Allied Minds recognised an investment held at fair value related to its Preferred Shares in Spin Memory of $27.2 million.

On 6 April 2018, Allied Minds made an investment in Orbital Sidekick, a company developing capabilities in aerial and space-based hyperspectral imaging and analytics, initially for the oil and gas industry. Allied Minds led the Series Seed Preferred Stock financing with a total investment of $3.5 million for a significant minority stake. As a result of the transaction, Allied Minds is able to exercise significant influence over the entity by virtue of its large, albeit minority, stake in the company and its representation on the Orbital Sidekick board of directors. Due to the liability-like characteristics of the Series Seed Preferred Stock instrument of Orbital Sidekick in which Allied Minds invested, conversely the investment is accounted for under IFRS 9 and is classified by the Company as an investment at fair value.

On 6 April 2018, Allied Minds made an investment in TableUp - a software provider enabling end-to-end transparency through the restaurant supply chain to enable more effective inventory and operations management. Allied Minds led the Series A Preferred Stock financing with a total investment of $4.0 million for a significant minority stake. As a result of the transaction, Allied Minds is able to exercise significant influence over the entity by virtue of its large, albeit minority, stake in the company and its representation on the TableUp board of directors. Due to the liability-like characteristics of the Series A Preferred Stock instrument of TableUp in which Allied Minds invested, conversely the investment is accounted for under IFRS 9 and is classified by the Company as an investment at fair value.

Allocation Model Inputs

The following presents the quantitative information about the significant unobservable inputs used in the fair value measurement of the Group's financial assets:

As of 31 December:	**2018**
Volatility	42.3%-60.0%
Time to Liquidity (years)	1.64 - 2.30
Risk-Free Rate	2.73% - 2.86%
IPO/M&A/Sale Probability	45% - 50%/ 45%-50%/ 0%-10.0%

Sensitivity Analysis

The following summarises the sensitivity from the assumptions made by the Company in respect to the unobservable inputs used in the fair value measurement of the Group's financial assets:

As of 31 December:		**2018**	**2017**
		$'000	$'000
Input	**Sensitivity range**	**Financial assets increase/(decrease)**	
Enterprise Value	-2%	(887)	(515)
	+2%	855	515
Volatility	-10%	32	(556)
	+10%	95	301
Time to Liquidity	-6 months	572	(306)
	+6 months	(320)	118
Risk-Free Rate [(1)]	-0.10%/-0.07%	572	(306)
	0.09% / 0.05%	(320)	118
M&A vs. IPO Probability	40%	(1,778)	—
	60%	1,901	—

[(1)] Risk-free rate is a function of the time to liquidity input assumption.

(12) Other Investments

As of 31 December:	**2018**	**2017**
	$'000	$'000
Fixed income securities		
Corporate bonds	—	11,057
Other investments, current	—	11,057
Fixed income securities		
Corporate bonds	—	—
Other investments, long-term	—	—
Total other investments	—	11,057

Other investments represent investments in fixed income securities issued by government agencies and US and non-US corporations. As of 31 December 2017, the investments had a credit rating of A-1 to A+, maturities of up to 2 months and original coupon rate from 0.00% to 1.55%.

(13) Cash and Cash Equivalents

As of 31 December:	2018 $'000	2017 $'000
Bank balances	100,366	158,207
Restricted cash	(2,632)	(132)
Total cash and cash equivalents	97,734	158,075

Restricted cash includes a balance of $2.5 million that is held in escrow and represents the remaining commitment by Allied Minds to subscribe to the Spin Memory Series B funding round to the extent further investors do not take it up. The amount is classified as current assets in the statement of financial position. The remaining $0.1 million within restricted cash represents a collateral against a letter of credit with a bank issued for the benefit of a landlord in lieu of a security deposit to an office space lease for one of the Group's subsidiaries. The amount is classified as other financial assets, non-current in the statement of financial position.

(14) Inventories

At 31 December 2018, the company had no inventory balance (2017: $nil). Finished units and raw materials recognised as cost of revenue in the year amounted to $2,066,000 (2017: $1,874,000). The write-down of inventories to net realisable value recognised through cost of revenue during the year was $nil (2017: $2,532,000).

(15) Trade and Other Receivables

As of 31 December:	2018 $'000	2017 $'000
Trade receivables	1,334	3,493
Prepayments and other current assets	5,066	12,149
Total trade and other receivables	6,400	15,642

(16) Equity

In December 2016, the Company issued 17,457,015 ordinary shares of one pence at 367 pence, which were admitted to the premium listing segment of the Official List of the UK Listing Authority and to trading on the LSE's Main Market for listed securities. This resulted in approximately $78.1 million of net proceeds from the equity placing (net of issue cost of $2.2 million). The amounts subscribed for share capital in excess of the nominal value in relation to this transaction are reflected in the merger reserve balance as of 31 December 2016.

During 2018, existing and former employees of the Group exercised options to purchase 877,373 shares of the Company under the U.S. Stock Plan (2017: 1,055,596), resulting in additional share premium of $1,564,000 (2017: $1,539,000). Additionally, 1,224,831 shares were issued to existing and former employees of the Group during the year as result of vesting of RSUs under the LTIP.

As of 31 December 2018, 11,551,496 ordinary shares were reserved under the U.S. Stock Plan and 24,031,475 were reserved under the LTIP, see note 6 for further discussion of the share-based payment plans.

The table below explains the composition of share capital:

As of 31 December:	2018 $'000	2017 $'000
Equity		
Share capital, $0.01 par value, issued and fully paid 240,314,745 and 238,202,541, respectively	3,743	3,714
Share premium	160,170	158,606
Merger reserve	263,367	263,367
Translation reserve	651	89
Accumulated deficit	(300,304)	(354,443)
Equity attributable to owners of the Company	127,627	71,333
Non-controlling interests	(4,490)	(59,241)
Total equity	123,137	12,092

Holders of Ordinary Shares are entitled to vote, on all matters submitted to shareholders for a vote. Each Ordinary Share is entitled to one vote. Each ordinary share is entitled to receive dividends when and if declared by the Company's board of directors. The Company has not declared any dividends in the past.

Share premium represents the amounts subscribed for share capital in excess of the nominal value, net of directly attributable issue costs.

Merger reserve reflects the amounts subscribed for share capital in excess of the nominal value in relation to the qualifying acquisition of subsidiary undertakings.

Translation reserve comprises all foreign exchange differences arising from the translation of the financial statements of foreign operations.

(17) Acquisition of Non-Controlling Interest ("NCI")

For the two years ended 31 December 2018, the Group recognised the following changes in common and preferred stock ownership in subsidiaries resulting in changes to non-controlling interest:

- In October 2017, Allied-Bristol Life Sciences (ABLS) launched its fourth project - ABLS IV, LLC, in a partnership with Cornell University. ABLS owns 100% of the common stock of ABLS IV. Following the transaction, Allied Minds continues to exercise effective control over ABLS and subsidiaries including ABLSI V and as such the subsidiary will continue to be fully consolidated within the group's financial statements.
- During 2017, as a result of the restructuring earlier in the year, the company discontinued funding of eight subsidiaries, seven of which were legally dissolved and deconsolidated as of 31 December 2017.

- On 7 September 2018, HawkEye completed the second closing of its Series A-3 Preferred Stock financing round for a combined total proceeds with its first closing of $14.9 million. On the date of the second closing the Company's ownership percentage was reduced to 48.33%, and the Company does not hold a majority of the board seats and as a result, the subsidiary was deconsolidated.
- On 9 November 2018, Spin Memory completed the first closing of its Series B Preferred Stock financing round for up to $52.0 million. As of 31 December 2018, the Company's ownership percentage was reduced to 41.63% and the Company does not control a majority of the board seats and therefore, the subsidiary was deconsolidated.
- During 2018, the Company formed two new subsidiaries, QuayChain, Inc. (72.22%) and Spark Insights, Inc. (100.0%).
- During 2018, Allied Minds sold the trade and assets of Percipient Networks and subsequently ceased operations and dissolved the company. In addition, Allied Minds dissolved each of Whitewood Encryption, Seamless Devices, RF Biocidics, Inc., RF Biocidics (UK), and Foreland Technologies.
- Further, at the end of 2018, the Company discontinued funding for ABLS, LuxCath and Signature Medical and as such, the assets for the three companies were written down as of 31 December 2018.

The following summarises the changes in the non-controlling ownership interest in subsidiaries by reportable segment:

	Early stage	Later stage	Minority Holdings	Consolidated
	$'000	$'000	$'000	$'000
Non-controlling interest as of 31 December 2016	**4,400**	**(25,197)**	—	**(20,797)**
Share of comprehensive loss	(4,360)	(30,977)	—	(35,337)
Effect of change in Company's ownership interest	36	14	—	50
Equity-settled share based payments	206	1,290	—	1,496
Dissolution of subsidiaries	(4,653)	—	—	(4,653)
Non-controlling interest as of 31 December 2017	**(4,371)**	**(54,870)**	—	**(59,241)**
Share of comprehensive loss	(862)	9,777	(925)	7,990
Effect of change in Company's ownership interest	4,711	110	387	5,208
Equity-settled share based payments	160	1,796	59	2,015
Deconsolidation of subsidiaries	—	—	49,490	49,490
Dissolution of subsidiaries	(9,952)	—	—	(9,952)
Non-controlling interest as of 31 December 2018	**(10,314)**	**(43,187)**	**49,011**	**(4,490)**

(18) Subsidiary Preferred Shares

Certain of the Group's subsidiaries have outstanding preferred shares which have been classified as a subsidiary preferred shares in current liabilities in accordance with IFRS 9 as the subsidiaries have a contractual obligation to deliver cash or other assets to the holders under certain future liquidity events, and/or a requirement to deliver an uncertain number of common shares upon conversion. The preferred shares do not contain mandatory dividend rights. The preferred shares are convertible into common stock of the subsidiary at the option of the holder and mandatorily convertible into common stock of the subsidiary upon a qualified public offering at or above certain value and gross proceeds specified in the agreements or upon the vote of the holders of a majority of the subsidiary preferred shares. Under certain scenarios the number of common stock shares receivable on conversion will change. The Group has elected not to bifurcate the variable conversion feature as a derivative liability, but account for the entire instrument at fair value through the income statement.

The preferred shares are entitled to a vote with holders of common stock on an as converted basis. The holders of the preferred shares are entitled to a liquidation preference amount in the event of a liquidation or a deemed liquidation event of the respective subsidiary. The Group recognises the subsidiary preferred shares balance upon the receipt of cash financing, and records the change in its fair value for the respective reporting period through profit and loss. Preferred shares are not allocated shares of the subsidiary losses.

The following summarises the subsidiary preferred shares balance:

As of 31 December:	2018	Finance cost from IFRS 9 fair value accounting	Additions	Deconsolidation	2017
	$'000	$'000	$'000	$'000	$'000
BridgeSat	5,487	169	4,979	-	339
Federated Wireless	46,634	(399)	-	-	47,033
HawkEye360	-	2,088	11,071	(26,671)	13,512
Precision Biopsy	542	(25,431)	-	-	25,973
SciFluor Life Sciences	1,001	(31,353)	-	-	32,354
Signature Medical	530	-	-	-	530
Spin Memory	-	(36,636)	23,389	(48,642)	61,889
Total subsidiary preferred shares	54,194	(91,562)	39,439	(75,313)	181,630

The redemption is conditional on occurrence of uncertain future events beyond the control of the Group. The amount that would be payable in case of such events is as follows:

As of 31 December:	2018	2017
	$'000	$'000
BridgeSat	5,325	325
Federated Wireless	50,000	50,000
HawkEye360	-	8,500
Precision Biopsy	22,000	22,000
SciFluor Life Sciences	25,200	25,200
Signature Medical	500	500
Spin Memory	-	50,000
Total liquidation preference	103,025	156,525

For the two years ended 31 December 2018, the Group recognised the following changes in subsidiary preferred shares:

2018

- On 24 August 2018, BridgeSat closed a Series B Preferred Stock round of financing issuing 7,098,240 Series B preferred shares for an aggregate purchase price of $10.0 million to Allied Minds and another strategic investor. As a result, following the transaction, Allied Minds' ownership percentage in BridgeSat is 81.38%. Allied Minds continues to exercise effective control over BridgeSat and as such, the subsidiary will continue to be fully consolidated within the Group's financial statements.
- On 7 September 2018, HawkEye closed a Series A-3 Preferred Stock financing round for $14.9 million. On the date of the closing, Allied Minds' ownership percentage was reduced to 48.33%, the Company no longer controls a majority of the outstanding voting stock and does not control a majority of the board seats and as a result, the subsidiary was deconsolidated.
- On 9 November 2018, Spin Memory completed the first closing of its Series B Preferred Stock financing round for up to $52.0 million. As of 31 December 31 2018, as a result of such funding round, the Company's ownership percentage was reduced to 41.63%, the Company does not control a majority of the board seats and therefore, the subsidiary was deconsolidated.

2017

- HawkEye^{360} completed a second closing of the Series A-2 financing round in February 2017 for additional $2.75 million, of which $1.25 million from existing shareholders of the Group and members of management of the company for 967,641 Series A-2 shares
- BridgeSat closed a Series A round of financing in May 2017 issuing 4,675,446 Series A preferred shares for $6.0 million. Allied Minds contributed $5.7 million and another strategic investor contributed with the remainder of the round.
- Signature Medical completed a Series A round of financing in July 2017 issuing 13,241,526 Series A preferred shares for $2.5 million. Allied Minds contributed with $2.0 million and two new strategic investors contributed with the remainder of the round.
- Federated Wireless completed a Series B round of financing in September 2017 issuing 27,167,093 Series B preferred shares for $42.0 million. Allied Minds contributed $9.0 million. Other existing shareholders of the Group and a number of new strategic investors contributed with the remainder of the round.

The fair value is derived using the option pricing model ("OPM"), the Probability-Weighted Expected Return Method ("PWERM") or a hybrid of the two.

The key inputs into these valuation models include the equity value of the subsidiary, the term of the instrument, risk free rate and volatility.

The valuation methodologies utilised for determining the equity value include backsolve to a third party funding round, income approach such as Net Present Valuation method, market approach or asset based approach.

Net Present Valuation ("NPV") method

NPV is a standard technique used in valuation and can be defined as the difference between the present value of the future cash flows from an investment and the amount of investment. Present value of the estimated cash flows is computed by discounting them at the required rate of return which includes an adjustment for risk.

The following are important factors when determining fair value based on NPV:

- Estimated income generally consists of sales, co-development revenues, one-time payments and royalty payments on sales depending on the company, its business model and industry. These are estimated based on a variety of factors including: total addressable market; competitive factors; barriers to competition; pricing; typical standards for contract value; royalty rates; and likelihood of development of a product that is commercially viable.
- Costs and capital expenditures are estimated for each phase of development based on the companies' information or according to industry standards. Costs are typically forecasted for cost of goods, SG&A (selling, general and administrative), research and development as well as a variety of other expenses. These are typically developed "from the ground up" for earlier years and for later years depicted as a factor or percentage of sales.
- The terminal or exit value represents the aggregate value of an entity at the end of the discrete forecast period. Terminal value may be estimated using the terminal multiple method, which inherently assumes that the business will be valued at the end of the projection period based on reference valuations. Under this methodology, the terminal value is typically calculated by applying one of two commonly accepted methodologies:
    - Multiple base terminal value: Use of an appropriate multiple to the relevant financial metric forecasted for the last projected year taking into consideration the ongoing growth potential of the business in the terminal year. Exit values included in the analysis are typically projected as a multiple of EBIT, EBITDA or Sales based on the final year results for the forecast period. Where available, a set of guideline public companies that are similar to the company to be used for comparative purposes and the multiple is derived from this set;
    - EBIT Exit Multiple to determine the terminal value: an assumption is made regarding an appropriate long-term growth rate beyond the discrete forecast period of the discounted cash flow or an appropriate exit multiple which is used to estimate a terminal value. The terminal growth rate or exit multiple is derived by estimating the long-term annual growth potential of the business at the terminal year.
- Selection of discount rates is based on part utilising American Institute of Certified Public Accountants ("AICPA") practice standards varying by stage of development of the subsidiary as well as other risk factors and typically range from 20-45%.
- Where available NPV results are compared against peer companies and to valuations for similar companies.

Due to the early stage nature of the Group's subsidiary companies, projections are particularly sensitive to certain key assumptions namely:

- Discount rate and in particular risk premium;
- The ability to predict the cost and timing of achieving technical and commercial viability;
- Projected revenue and operating costs in the post-product development phase of each company; and
- The size and share of addressable market for intellectual property, products and services developed.

Other valuation approaches

In certain cases, the value of a subsidiary is determined using a market instead of income- based approach.

Where there has been a third party funding round in the year this has been used as the implied value of the subsidiary, adjusted for indexation where this is deemed to be appropriate.

Other methodologies such as asset based, dissolution scenarios and cash in are also utilised where deemed appropriate.

Whilst the Board considers the methodologies and assumptions adopted in the valuation are supportable, reasonable and robust, because of the inherent uncertainty of valuation, those estimated values may differ significantly from the values that would have been used had a ready market for the investment existed and the differences could be significant.

PWERM and OPM

The principal methods the Group applies for allocation of value are the PWERM, the OPM as well as a hybrid of the two. These models take assumptions such as the equity values, term of the instruments, risk free rate and volatility to determine the fair value of each share class.

The PWERM estimates the value of equity securities based on an analysis of various discrete future outcomes, such as an IPO, merger or sale, dissolution, or continued operation as a private enterprise until a later exit date. The equity value today is based on the probability-weighted present values of expected future investment returns, considering each of the possible outcomes available to the enterprise, as well as the rights of each security class. The key judgement relates to probability weighting of the scenarios.

The OPM treats common stock or derivatives thereof as call options on the enterprise's value or overall equity value. The value of a security is based on the optionality over and above the value securities that are senior in the capital structure (e.g. preferred stock), considering the dilutive effects of subordinate securities. In the OPM, the exercise price is based on a comparison with the overall equity value rather than per-share value.

In certain cases, the value of a subsidiary is determined using a market instead of income- based approach. Where there has been a third party funding round in the year this has been used as the implied value of the subsidiary, adjusted for indexation where this is deemed to be appropriate.

Whilst the Board considers the methodologies and assumptions adopted in the valuation are supportable, reasonable and robust, because of the inherent uncertainty of valuation, those estimated values may differ significantly from the values that would have been used had a ready market for the investment existed and the differences could be significant.

Allocation Model Inputs

The following presents the quantitative information about the significant unobservable inputs used in the fair value measurement of the Group's subsidiary preferred shares liability:

As of 31 December:	**2018**	**2017**
Volatility	27.6%-90.1%	29.0% - 79.3%
Time to Liquidity (years)	0.50 - 2.50	1.70 - 4.57
Risk-Free Rate	2.47% - 2.60%	1.85% - 2.15%

Sensitivity Analysis

The following summarises the sensitivity from the assumptions made by the Company in respect to the unobservable inputs used in the fair value measurement of the Group's subsidiary preferred shares liability:

As of 31 December:		**2018** $'000	**2017** $'000
Input	**Sensitivity range**	**Subsidiary Preferred Shares Liability increase/(decrease)**	
Enterprise Value	-2%	(569)	(1,956)
	+2%	329	2,144
Volatility	-10%	541	(138)
	+10%	(1,148)	(651)
Time to Liquidity	-6 months	237	168
	+6 months	(209)	(413)
Risk-Free Rate [1]	-0.04%/-0.44%	237	168
	0.01% / 0.06%	(209)	(413)

[1] Risk-free rate is a function of the time to liquidity input assumption.

The change in fair value of the subsidiary preferred shares is recorded in Finance cost, net in the consolidated statement of comprehensive loss.

(19) Trade and Other Payables

As of 31 December:	**2018** $'000	**2017** $'000
Trade payables	4,254	2,489
Accrued expenses	8,251	10,434
Other current liabilities	525	1,353
Trade and other payables, current	13,030	14,276
Other non-current payables	436	867
Total trade and other payables	13,466	15,143

(20) Leases

Office and laboratory space is rented under non-cancellable operating leases. These lease agreements contain various clauses for renewal at the Group's option and, in certain cases, escalation clauses typically linked to rates of inflation.

Minimum rental commitments under non-cancellable leases were payable as follows:

For the year ended 31 December:	**2018** $'000	**2017** $'000
Less than one year	1,330	2,204
Between one and five years	2,075	5,842
More than five years	—	—
Total minimum lease payments	3,405	8,046

Total rent expense under these leases, including deconsolidated companies, was approximately $2,484,000 and $2,426,000 in 2018 and 2017, respectively. Rent expenses are included in selling, general and administrative expenses and research and development expenses in the consolidated statements of comprehensive loss.

(21) Financial Instruments and Related Disclosures

The following table shows the carrying amounts and fair values of financial assets and financial liabilities, including their levels in the fair value hierarchy:

As of 31 December:	2018 $'000				
	Carrying	Fair value			
	Amount	Level 1	Level 2	Level 3	Total
Financial assets designated as fair value through profit or loss					
Investments at fair value	-	-	-	56,544	56,544
Loans and receivables					
Cash and cash equivalents	100,366	-	100,366	—	100,366
Trade and other receivables	6,400	-	6,400	—	6,400
Security and other deposits	834	-	834	—	834
Total	107,600	-	107,600	56,544	164,144
Financial liabilities designated as fair value through profit or loss					
Subsidiary preferred shares	54,194	-	-	54,194	54,194
Financial liabilities measured at amortised cost					
Unsecured loan	-	-	-	-	-
Trade and other payables	13,468	-	13,468	—	13,468
Total	67,662	-	13,468	54,194	67,662

As of 31 December:	2017 $'000				
	Carrying	Fair value			
	amount	Level 1	Level 2	Level 3	Total
Financial assets designated as fair value through profit or loss					
Fixed income securities	11,057	-	11,057	-	11,057
Loans and receivables					
Cash and cash equivalents	158,075	-	158,075	-	158,075
Trade and other receivables	15,642	-	15,642	-	15,642
Security and other deposits	686	-	686	-	686
Total	185,460	-	185,460	-	185,460
Financial liabilities designated as fair value through profit or loss					
Subsidiary preferred shares	181,630	-	-	181,630	181,630
Financial liabilities measured at amortised cost					
Unsecured loan	—	-	—	-	—
Trade and other payables	15,143	-	15,143	-	15,143
Total	196,773	-	15,143	181,630	196, 773

The fair value of financial instruments that are not traded is determined by using valuation techniques that maximise the use of observable market data where it is available and rely as little as possible on entity specific estimates. If all significant inputs required to fair value an instrument are observable, the instrument is included in Level 2. Where the inputs for determining the fair value of financial instruments are not based on observable market data, the instrument is included in Level 3.

The Group has determined that the carrying amounts for cash and cash equivalents, trade and other receivables and payables, security and other deposits, and customer deposits are a reasonable approximation of their fair values and are included in Level 2.

For assumptions used in the fair value measurement of the Group's subsidiary preferred shares liability designated as Level 3, see footnote 18. For assumptions used in the fair value measurement of Investments at fair value designated as Level 3, see footnote 11.

(22) Capital and Financial Risk Management

The Group's policy is to maintain a strong capital base so as to maintain investor, creditor and market confidence and to sustain future development of the business. Management monitors the level of capital deployed and available for deployment in subsidiary projects. The board of directors seeks to maintain a balance between the higher returns that might be possible with higher levels of deployed capital and the advantages and security afforded by a sound capital position.

The Group's executive management and board of directors have overall responsibility for establishment and oversight of the Group's risk management framework. The Group is exposed to certain risks through its normal course of operations. The Group's main objective in using financial instruments is to promote the commercialisation of intellectual property through the raising and investing of funds for this purpose. The Group's policies in calculating the nature, amount and timing of funding are determined by planned future investment activity. Due to the nature of activities and with the aim to maintain the investors' funds secure and protected, the Group's policy is to hold any excess funds in highly liquid and readily available financial instruments and reduce the exposure to other financial risks.

The Group has exposure to the following risks arising from financial instruments:

Credit Risk

Credit risk is the risk of financial loss to the Group if a customer or counterparty to a financial instrument fails to meet its contractual obligations. Financial instruments that potentially subject the Group to concentrations of credit risk consist principally of cash and cash equivalents, other investments in the form of fixed income securities, and trade and other receivables.

The Group held following balances:

As of 31 December:	2018 $'000	2017 $'000
Cash and cash equivalents	97,734	158,075
Other investments	—	11,057
Trade and other receivables	6,400	15,642
	104,134	184,774

The Group maintains money market funds, certificates of deposits, and fixed income securities with financial institutions, which the Group believes are of high credit quality. Risk control assesses the credit quality of the customer, taking into account its financial position, past experience and other factors. Individual risk limits are set based on ratings in accordance with limits set by the board. The utilisation of credit limits is regularly monitored. The credit quality of financial assets that are neither past due nor impaired can be assessed by reference to credit ratings (if available) or to historical information about counterparty default rates.

Group policy is to maintain its funds in highly liquid deposit accounts with reputable financial institutions.

The aging of trade receivables that were not impaired was as follows:

As of 31 December:	2018 $'000	2017 $'000
Neither past due nor impaired	467	3,493
Past due 30-90 days	867	—
Past due over 90 days	—	367
Reserve for bad debt	—	(367)
	1,334	3,493

The Group has no significant concentration of credit risk. The Group assesses the credit quality of customers, taking into account their current financial position. An analysis of the credit quality of trade receivables that are neither past due nor impaired is as follows:

As of 31 December:	2018 $'000	2017 $'000
Customers with less than three years of trading history with the Group	1,334	3,493
	1,334	3,493

Liquidity Risk

Liquidity risk is the risk that the Group will encounter difficulty in meeting the obligations associated with its financial liabilities that are settled by delivering cash or another financial asset. The Group's approach to managing liquidity is to ensure, as far as possible, that it will have sufficient liquidity to meet its liabilities when they are due, under both normal and stressed conditions, without incurring unacceptable losses or risking damage to the Group's reputation.

The Group seeks to manage liquidity risk, ensuring that sufficient liquidity is available to meet foreseeable requirements.

The following are the remaining contractual maturities of financial liabilities at the reporting date. The amounts are gross and undiscounted, and include estimated interest payments and exclude the impact of netting agreements. The current portion of the carrying amount of lease obligations is included in trade and other payables.

As of 31 December 2018:		Contractual cash flows			
$'000	Carrying amount	Total	Less than 1 year	2-5 years	More than 5 years
Trade and other payables	13,030	13,030	13,030	-	-
Other non-current liabilities	436	436	-	436	-
	13,466	13,466	13,030	436	-

As of 31 December 2017:		Contractual cash flows			
$'000	Carrying amount	Total	Less than 1 year	2-5 years	More than 5 years
Trade and other payables	14,276	14,276	14,276	—	—
Other non-current liabilities	867	867	—	867	—
	15,143	15,143	14,276	867	—

It is not expected that the cash flows included in the maturity analysis could occur significantly earlier, or at significantly different amounts.

Market Risk

Market risk is the risk that changes in market prices - such as foreign exchange rates, interest rates and equity prices - will affect the Group's income or the value of its holdings of financial instruments. The objective of market risk management is to manage and control market risk exposures within acceptable parameters, while optimising the return. The Group maintains the exposure to market risk from such financial instruments to insignificant levels. The Group exposure to changes in interest rates is determined to be insignificant.

Capital Risk Management

The Group is funded by equity finance and long term borrowings. Total capital is calculated as 'total equity' as shown in the consolidated statement of financial position.

The Group's objectives when managing capital are to safeguard the Group's ability to continue as a going concern in order to provide returns for shareholders and benefits for other stakeholders and to maintain an optimal capital structure to reduce the cost of capital. In order to maintain or adjust the capital structure, the Group may issue new shares or borrow new debt. The Group has some external debt and no material externally imposed capital requirements. The Group's share capital is set out in note 16.

Brexit

On 23 June 2016, the UK electorate voted to leave the European Union in a so-called "Brexit" referendum. The full consequences of the decision to leave the European Union will not be known for some time. The uncertainty surrounding the implementation and effect of Brexit has caused and is likely to continue to cause increased economic volatility.

It is expected that companies based in the UK and with significant UK and EU operational focus will be the most directly impacted by Brexit. All of the Group's portfolio companies are based in the US, and substantially all of the business and operations of the Group are conducted in the US. Brexit exposes the Group to increased foreign currency risk. However, since the functional currency of the Group's portfolio companies is US dollars and the cash deposits are maintained in US based banks, the Group's exposure to changes in foreign exchange rates as a result of Brexit is determined to be insignificant.

(23) Related Parties

Transactions with Key Management Personnel

Key Management Personnel Compensation

Key management personnel compensation received comprised the following:

For the year ended 31 December:	2018 $'000	2017 $'000
Short-term employee benefits	3,032	1,658
Share-based payments	3,713	7,607
Total	6,745	9,265

Short-term employee benefits of the Group's key management personnel include salaries and bonuses, health care and other non-cash benefits.

Share-based payments include the value of awards granted under the LTIP during the year. Share-based payments under the LTIP are subject to vesting terms over future periods. See further details of the two plans in note 6.

Bonuses to key management for the year of $1,237,000 were outstanding at 31 December 2018 (2017: $1,840,000) and were paid in March of 2019.

Key Management Personnel Transactions

Directors' remuneration for the year comprised the following:

For the year ended 31 December:	2018 $'000	2017 $'000
Executive Directors' fees	1,192	1,328
Non-executive Directors' fees	493	456
Total	1,685	1,784

Executive management and Directors of the Company control 0.5% of the voting shares of the Company as of 31 December 2018 (2017: 0.2%).

The Group has not engaged in any other transactions with key management personnel or other related parties.

(24) Taxation

Amounts recognised in profit or loss

No current income tax expense was recorded for the years ended 31 December 2018 and 2017 due to accumulated losses.

For the year ended 31 December:	2018 $'000	2017 $'000
Net income/(loss)	46,751	(111,012)
Income taxes	-	-
Net income/(loss) before taxes	46,751	(111,012)

Reconciliation of Effective Tax Rate

The Group is primarily subject to taxation in the US, therefore the reconciliation of the effective tax rate has been prepared using the US statutory tax rate. A reconciliation of the US statutory rate to the effective tax rate is as follows:

	2018 %	2017 %
Weighted average statutory rate	21.0	35.0
Effect of state tax rate in US	5.6	5.2
Research credits	(7.6)	3.8
Share-based payment remeasurement	5.0	(12.7)
Permanent differences on dissolved/deconsolidated subsidiaries and preferred stock valuation	(32.4)	5.0
Other temporary differences	0.9	(2.5)

Current year income/(losses) for which no deferred tax asset/(liability) is recognised	7.5	(33.8)
	-	-

The Group's state tax rate increased in 2018 due to an increased exposure in jurisdictions with higher effective income tax rates.

In 2017 the Group reported a consolidated net loss. In 2018 the Group reported consolidated net income. This change in operating performance impacts the Group's reconciliation of its effective tax rate as certain items that were previously accretive to the Group's overall tax rate due to its loss position no longer in 2018 due to its income position.

Factors that may affect future tax expense

The Group is primarily subject to taxation in the US and UK. Additionally, the Group is exposed to state taxation in various jurisdictions throughout the US. Changes in corporate tax rates can change both the current tax expense (benefit) as well as the deferred tax expense (benefit). Reductions in the UK corporation tax rate to 19% (effective 1 April 2017) and to 18% (effective 1 April 2020) were substantially enacted on 26 October 2015. A further reduction to 17% (effective 1 April 2020) was substantially enacted on 6 September 2016.

On 22 December 2017, the U.S. government enacted a comprehensive tax legislation, H.R.1, commonly referred to as the Tax Cuts and Jobs Act (the Tax Act). The Tax Act makes broad and complex changes to the U.S. tax code.

The Tax Act reduces the U.S. federal corporate tax rate from 35% to 21%. The change in our future effective tax rate is not anticipated to have an effect on our tax until all of our U.S. federal net operating losses and credits have been utilised.

Unrecognised Deferred Tax Assets

Deferred tax assets have not been recognised in respect of the following items, due to history of operating losses and no convincing evidence that future taxable profit will be available against which the Group can use the benefits therefrom, as well as due to potential permanent restrictions under IRS Section 382 rules:

As of 31 December:	**2018** $'000	**2017** $'000
Tax loss carryforward (1)	99,852	97,633
Research credits (1)	10,190	11,772
Temporary differences (2)	1,649	4,502
Deferred tax assets	111,691	113,907
Other temporary differences (2)	(3,549)	(746)
Deferred tax liabilities	(3,549)	(746)
Deferred tax assets, net, not recognised	108,142	113,161

(1) expiring since 2015

(2) generally will expire 20 years subsequent to the time the deduction is taken

Deferred tax is measured at the rates that are expected to apply in the period when the temporary differences are expected to reverse, based on tax rates and laws that have been enacted or substantially enacted by the statement of financial position date. The reduction in the main rate of UK corporation tax to 20% (from 23%) was substantially enacted on 2 July 2013 and applied from 1 April 2015. However, the UK corporation tax rate initially reduced from 23% to 21% from 1 April 2014. The change in the UK corporate tax rate did not materially impact the calculation of the deferred tax assets as these assets are generally exposed to tax in US jurisdiction.

During the year ending 31 December 2018 the Company recognised a profit of approximately $46.8 million. The Company did not record any current or deferred income taxes relating to this income as previously unrecognised tax assets were available to offset any tax liability from the current year income.

There were no movements in deferred tax recognised in income or equity in 2017 as the deferred tax asset was not recognised in that year.

As of 31 December 2018 the Company had United States federal net operating losses carry forwards ("NOLs") of approximately $374.8 million (2017: $321.7 million) available to offset future taxable income, if any. These carryforwards start to expire in 2024 and are subject to review and possible adjustment by the Internal Revenue Service. The Company may be subject to limitations under Section 382 of the Internal Revenue Code as a result of changes in ownership. The Company's preliminary analysis on the impact from Section 382 limitations suggests that there is unlikely to be a material restriction on NOLs. A detailed exercise is ongoing. Upon the completion of the study, there may or may not be limitations on the Company's ability to utilize its current NOLs against future profits, although these are not expected to be material.

(25) Subsequent Events

The Company has evaluated subsequent events through 26 April 2019, which is the date the consolidated financial information is available to be issued.

SciFluor Life Sciences, Inc.

In February 2019, Allied Minds and Woodford Investment Management (WIM) jointly contributed an aggregate of $4.0 million of convertible bridge financing to SciFluor, half of which was contributed by Allied Minds and half by WIM. The bridge financing will be applied to support the business to the completion of a Series B financing round to fund Phase II trials for its SF0166 topical eye drop treatment for retinal disease and position the company for growth of its platform. In addition, Allied Minds and WIM contributed an aggregate of $5.0 million of convertible bridge financing to Precision Biopsy, half of which was contributed by Allied Minds and half by WIM. The bridge financing will be applied to support the company to completion of a financing round to fund its pivotal SCORE study.

Spin Memory, Inc.

Spin Memory completed the final closing of its $52.0 million Series B Preferred Stock financing when $2.5 million was released from escrow by Allied Minds in March 2019.

TableUp, Inc.

In April 2019, TableUp secured $0.4 million of funding through the issuance of a convertible bridge note to Allied Minds.

Spark Insights, Inc.

In April 2019, Allied Minds invested an aggregate of $3.2 million in funding preferred share financing, giving Allied Minds a current 70.59% ownership interest.

QuayChain, Inc.

In April 2019, QuayChain secured $0.4 million of funding through the issuance of a convertible bridge note to Allied Minds.

Closed Subsidiaries

The Group ceased operations and dissolved each of ABLS and Signature Medical subsequent to year end. The impact of this was assessed in the Group financials as of 31 December 2018 and unrecoverable amounts were written off.

Company Information

Company Registration Number 08998697

Registered Office
Beaufort House
51 New North Road
Exeter EX4 4EP
United Kingdom

Website
www.alliedminds.com

Board of Directors
Peter Dolan
(Non-Executive Chairman)

Jill Smith
(Chief Executive Officer)

Kevin Sharer
(Senior Independent Director)

Fritz Foley
(Independent Non-Executive Director)

Harry Rein
(Independent Non-Executive Director)

Jeff Rohr
(Independent Non-Executive Director)

Company Secretary
Michael Turner

Brokers
Credit Suisse International
1 Cabot Square
London E14 4QJ
United Kingdom
TEL: +44 207 888 8888

Numis Securities Limited
The London Stock Exchange Building
10 Paternoster Square
London EC4M 7LT
United Kingdom
TEL: +44 207 260 1000

Registrar
Link Asset Services
The Registry
34 Beckenham Road
Beckenham Kent BR3 4TU
United Kingdom
TEL UK: 0871 664 0300
TEL Overseas: +44 208 639 3399

Solicitors
DLA Piper UK LLP
160 Aldersgate Street
London EC1A 4HT
United Kingdom
TEL: +44 207 349 0296

Independent Auditor
KPMG LLP
15 Canada Square
London E14 5GL
United Kingdom
TEL: +44 207 311 1000

Media Relations
FTI Consulting LLP
200 Aldersgate
Aldersgate Street
London EC1A 4HD
United Kingdom
TEL: +44 203 727 1000

END

FR BLGDSISDBGCU