

Microsaic Systems plc  
Annual Report  
2016

Opening up new markets to mass spectrometry



Microsaic Systems

# An evolution in mass detection

Microsaic is a high technology company developing and marketing chip-based mass spectrometry (MS) instruments.



## Corporate Information and Advisors

<b>Directors</b>	J C Ramage B J Metcalf G D Tracey A S Holmes E M Yeatman C J Buckley
<b>Company Secretary</b>	A S Holmes
<b>Company number</b>	03568010
<b>Company website</b>	<a href="http://www.microsaic.com">www.microsaic.com</a>
<b>Registered office</b>	GMS House Boundary Road Woking Surrey GU21 5BX
<b>Auditors</b>	Saffery Champness Chartered Accountants 71 Queen Victoria Street London EC4V 4BE
<b>Bankers</b>	HSBC Bank plc 95 Gloucester Road London SW7 4SX
<b>Solicitors</b>	Dorsey & Whitney (Europe) LLP 199 Bishopsgate London EC2M 3UT
<b>Nominated adviser and broker</b>	N+1 Singer 1 Bartholomew Lane London EC2N 2AX
<b>Registrars</b>	Neville Registrars Limited Neville House 18 Laurel Lane Halesowen B63 3DA
<b>Financial PR</b>	Citigate Dewe Rogerson Limited 3 London Wall Buildings London Wall London EC2M 5SY



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# Chairman's Statement

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I am pleased to present the Company's Annual Report and Financial Statements for the year ended 31 December 2016.

## **A year of change and realignment of strategy**

2016 has been a year of change. The Board started the process of realigning and implementing the Company's strategy focused on the pharmaceutical ("Pharma") market, where there are significant opportunities to create integrated products employing mass spectrometry ("MS") for detection. While the Company will continue to address our current market space, namely, flash chromatography and sample preparation ("flash" and "prep"), we recognize that these markets are becoming increasingly competitive. The shift in Pharma to drive down costs of bringing new products to market, together with the move in therapeutic focus to larger molecules (e.g. biologics: peptides, proteins and antibodies) will require new capabilities in detection, including at the point of use (i.e. the MS is close to where the sample is taken). The Company is well placed to take advantage of these trends. This is discussed in more detail in the Chief Executive's Review.

## **Financial Results**

In 2016 the Company exceeded 2015 unit volumes by 17%, and sales growth was in line with revised market expectations. As we reported in our trading update of 13 December 2016, challenging trading conditions were experienced, particularly in one of our market sectors. Despite this, EBITDA and pre-tax loss for 2016 are broadly in line with market expectations. Through tight cost control, overheads are £0.67m below 2015 and cash at £5.73m is also in line with market expectations.

### Corporate

In August 2016 the Company successfully raised £5.40m (before expenses) through issuing 108,000,000 ordinary shares at 5p each. The Board is grateful for the support of our new and existing shareholders who participated in the placing. These funds will provide the working capital to finance the implementation of our strategy.

In March 2016 the Company announced that Mr Christopher Buckley would join the Board as a Non-Executive Director, effective April 1, 2016. Mr Buckley has more than 30 years of international marketing and general management experience in the global pharmaceutical industry.

### Post Year End

On 31 January 2017 Mr Colin Nicholl retired from the Company. Mr Nicholl has been a strong guiding influence to Microsaic, especially as Chairman since July 2013. On behalf of the Board, I would like to again express our appreciation for his contribution to the leadership of the Company. I have accepted the role of Interim Chairman until a long-term successor to Mr Nicholl is appointed.

We are sorry to announce that Dr Jim Ramage will be retiring as a Director and Chief Executive Officer ("CEO") of the Company for health reasons. Consequently the Board has begun a search for a successor, and we will make a further announcement once this process is complete. In the meantime, Dr Ramage will continue in his role until the Company's AGM in May during which time the main elements of his role will transition to Bevan Metcalf (FD) and Glenn Tracey (COO), who will undertake the role with support of the Board.

We wish Jim all the best for the future and want to thank him for his contribution as a Non-Executive Director from 2010 to 2015 and as CEO for the last 16 months.

### Staff

On behalf of the Board, I would like to express my sincere thanks to all our staff for their hard work and loyalty during the last year.

### Outlook

We will continue to have challenges in our current markets in 2017. However, we are increasingly confident that our change of strategic emphasis to new application areas is opening significant commercial opportunities for our technology. Building our capabilities and partnerships in these new application areas will be a key objective for the coming year.

### Eric Yeatman

Interim Chairman

20 March 2017

# Strategic Report Chief Executive's Review

## Introduction

2016 has been a year where we have focused on our core customers' needs in flash and prep, strengthening our core product offering and bringing operational stability to our manufacturing base. We have worked hard to strengthen the ties we have with our customers, listening to their needs and requirements, collaborating on product enhancements, and supporting them in training, demonstrations and service support.

Despite these efforts, revenues at £0.85m, while exceeding 2015 by approximately 9%, were below our August 2016 projections at the time of the fundraising. Adverse trading conditions in H2, where momentum was lost with a key OEM partner have affected full year results. Despite this we continued to focus on tight cost control and managing our cash runway which were both in line with our year end forecasts.

Consequently, we have undertaken a review of market prospects in new areas of pharmaceutical discovery and development distinct from flash and prep and have begun an investigation into opportunities identified in these areas.

The key achievements during the year included:

- (i) Supported an OEM and distribution partner with the launch of the 4000 MiD<sup>®</sup> instrument;
- (ii) Strengthened the 4000 MiD<sup>®</sup> by adding new features including increased mass range and making the instrument more robust;
- (iii) Transferred production to a new manufacturer who is better able to address our needs;

- (iv) Reduced the Company's cost base and closely managed cash flow; overheads at £3.67m are approximately 16% below last year while cash at the end of the year was £5.73m and in line with market forecasts; and

- (v) Adjusted EBITDA and pre-tax profit are in line with forecasts.

## Current Market – Flash and Prep

Our channel to market has been to co-develop and integrate our MS detector with flash separation and preparative chromatography instrumentation being sold into Pharma by global OEM companies. As we have gained more experience in this market, we have concluded that the current opportunity is smaller than previously forecast. Users, such as bench chemists represent early adopters looking for relatively safe changes in established workflow in response to efficiency pressures. The migration of the bench chemist to less powerful MS detectors has been slower than anticipated. The Company will continue to support our current OEMs to maximize sales but at the same time is identifying higher volume-value opportunities in other market segments.

## Continuing development

The Company has strengthened the MiD<sup>®</sup> product range by adding additional features including a high mass version, for the detection of larger molecules, while adding new capabilities in software, and improvements in electronics. Continuing investment in our products is key for both existing and new customers.

### Evolving strategic focus

The Company has responded to strong trends in Pharma and biopharma, particularly the focus on the detection of larger molecules (e.g. biologics), through targeted development in innovative and enabling technologies. This market wants to integrate “point of use mass detection” into high value industrial processes where cost of failure is high and where regulation is demanding change. Our focus in biopharma will include aspects of bioprocessing and diagnostics.

Consequently, we aim to build a number of co-development streams with existing and new partners, targeting high volume-value sales opportunities. The transition from co-development to commercialisation will take time but is fundamental to the future success of the Company.

We have an excellent team of R&D professionals working for Microsaic but we have limited resources. We therefore have to work smarter, ensuring we only work with partners to co-develop products in application areas both with potential for high volume-value and that have a good probability of success. There will still be risk and a level of uncertainty. When working with co-development partners we will ensure that our partners:

- (i) Research and quantify the application areas and market opportunity(s);
- (ii) Commit to the development project; through sharing the costs and with well-balanced milestones where risk is shared fairly; and
- (iii) Deliver added value products/services to make the final product more compelling.

### Commercial model

The route to market for our products is through OEM partnerships with companies that have established global sales reach and service channels.

The process of co-development takes time: time to address the market opportunity, time to design and develop a prototype, time to develop the software, time to pass all quality and regulatory hurdles and time to train the salesforce and engineers. This is a process of building competitive advantage if it is done right.

We are focused on strengthening relationships with our existing OEMs and building productive relationships with new OEMs during 2017, with the objective of signing one new OEM in 2017. The Company will also look at other opportunities outside Pharma on a case by case basis as long as those opportunities do not divert resources from key strategic projects. The Company is in early stage discussions with one such potential OEM partner.

### R&D technology and capability

Microsaic has successfully developed and implemented MEMS (Micro-Electrical Mechanical Systems) technology at the core of its design with over 60 patents granted to date. We are continually developing our core technology to meet our customers’ requirements; during 2016 we invested in a number of improvements including extending the mass range. Our strength lies with our ability to work with like-minded partners to co-develop MS products for new application areas. We are currently focusing our R&D efforts on biologics and working with an OEM partner in this area.

## Performance Measurement

The ongoing performance of the Company is managed and monitored using a number of key financial and nonfinancial performance indicators as detailed below.

The Company's revenues are monitored as follows:

Revenue	Year to 31 December 2016 £	Year to 31 December 2015 £	Inc/(Dec) %
Products	723,515	622,599	16
Consumables	88,508	146,612	(40)
Service and support	39,157	13,602	188
	<b>851,180</b>	782,813	9

Revenues comprise sales of products, consumables (which includes the sales of service spares, accessories and consumables) and service and support income.

The Company's loss and cash are monitored on a monthly basis as follows:

Profit/(Loss) & Cash Metrics	Year to 31 December 2016 £	Year to 31 December 2015 £	Inc/(Dec) %
Loss from operations before share based payments, interest & tax	(3,308,373)	(3,816,284)	(13)
Net cash used in operating and investing activities	(2,938,860)	(4,019,302)	(27)
Cash and cash equivalents	5,728,544	3,607,591	59

The Company's profitability is monitored against budget and forecast on a monthly basis. The cash position is monitored on a regular basis and forecasts are updated quarterly.

Progress of the Company's R&D programme is reviewed on a monthly basis by the CEO and COO with progress communicated to the Board.

Non-financial key performance indicators are focused on a number of areas, including manufacturing - such as cleanroom efficiencies, supplier quality and final test - and are built into our Quality Management System. A key part of this review is capturing the feedback from our OEMs.

### Financial Results

Revenue at £0.85m increased by £0.07m or 9% over last year (2015: £0.78m). Product sales increased by 16%, while consumables decreased by 40%, and service income increased by 188%.

The gross profit for 2016 amounted to £0.30m which was in line with 2015. The gross margin percentage for 2016 at 35.5% is down on 2015 (38.9%) due to service upgrades agreed with a customer, and lower consumables.

Other operating income included an unexpected final payment received on an EU project which was completed in 2015 and income from an insurance claim. Total other operating income in 2016 amounted to £0.06m (2015: £0.22m).

Operating expenses were £3.67m (2015: £4.34m), down £0.67m with savings achieved in all key areas but mainly in people related costs.

The loss for the year, before share-based payments, tax and interest, was £3.31m (2015: Loss £3.82m).

The current tax credit for the year is £0.30m which is made up of a prior year adjustment of £0.04m and an estimated £0.26m from the current year R&D tax credit claim.

The total comprehensive loss for the year amounted to £3.10m (2015: Loss £3.52m). The basic loss per share of 2.93p compares with a loss per share of 5.39p in 2015.

Total assets at £7.13m are £1.93m above last year. The main reasons for the increase in total assets were higher cash balances at £5.73m (up £2.12m on last year); partly off-set by lower trade and other receivables at £0.16m (down £0.28m on last year) due to a lower level of sales in December and tighter credit control.

Equity at £6.51m was £2.07m above last year, with the increase in share capital and share premium of £5.06m off-set by the comprehensive loss for the year of £3.10m. The increase in share capital and share premium was due to the placing conducted by the Company in August 2016, pursuant to which 108,000,000 ordinary shares were issued to new and existing shareholders at a placing price of 5 pence, raising £5.40m (before expenses).

The share based payments reserve decreased by £0.14m: with a share options charge granted in the year of £0.11m; and lapsed and expired share options totalling £0.25m transferred to retained earnings.

Total liabilities at £0.62m were £0.14m below 2015 due to lower trade and other payables.

As with previous years, the going concern basis has continued to be adopted in preparing the financial statements. Following the progress made by the Company in reducing its loss in the year and the current cash balance, the Directors have a reasonable expectation that the Company will have adequate funds to continue operations for at least the next 12 months. Further details are provided in Note 3 to the financial statements.

### Outlook

Weaker trading conditions experienced in H2 2016 have continued into Q1 2017.

Managing operating expenses and cash flow will be a priority in 2017 as it was in 2016.

Our target is to add one OEM partner in 2017. We are currently in early stage discussions with a potential OEM partner after completing initial work in late Q4 2016.

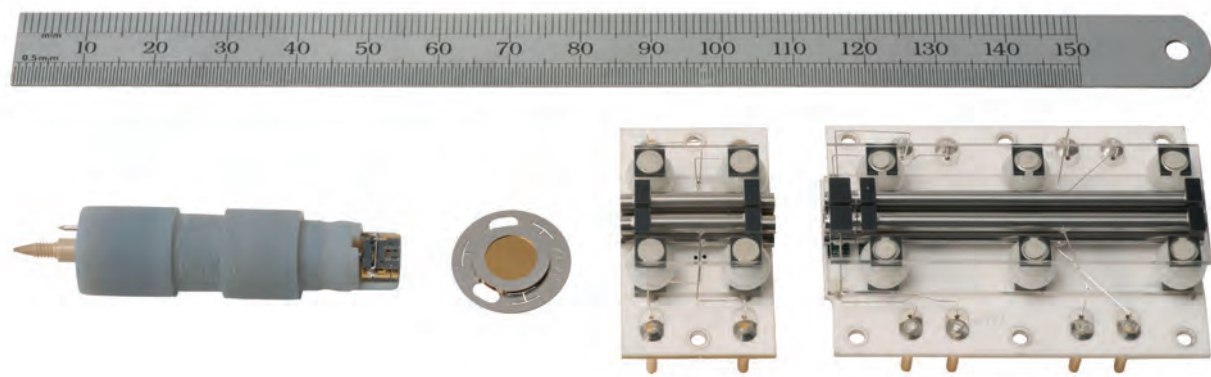
We will look to identify grant funding in 2017 in areas where we are focusing strategically; and discussions have taken place with collaborators and a grant application has been submitted.

I would like to thank our employees for their hard work and support during 2016 and our shareholders for their support during the August 2016 fundraising.

Finally, we will be looking to progress implementation of the strategy communicated to shareholders in August 2016, with the focus clearly around biopharma and the detection of larger molecules in application areas that have the potential to generate high unit volumes-value.

### Risk Management

The Company manages risk from an operational perspective, where it assesses and weighs up the potential risks to the business and how it can mitigate these risks. The Company's top six risks are detailed below together with mitigating actions:



L to R: Spray chip; Vac chip; Ion guide; Ion chip

## Risks

Description	Risk	Risk rating pre-mitigation	Mitigating action	Risk rating post-mitigation
Failure to meet customer expectations	Loss of a key customer	HIGH	Investment in R&D to deliver new and improved product features and to co-develop new applications to ensure customer expectations are met	MEDIUM TO HIGH
Unable to raise sufficient funds in the future	Inability to continue as a going concern	HIGH	Work closely with our advisors. Communicate effectively with the market. Control expenditure and cash and achieve key performance milestones	HIGH
Loss of competitive advantage	New entrant to the market might capture market share	HIGH	Investment in R&D and ensure a strong commercial presence through OEMs	MEDIUM
Theft of intellectual property (IP)	Competitor developing competing products	MEDIUM	Ensure security on servers is monitored and maintained. Ensure contracts are robust in protecting the Company's IP	LOW
Delay in bringing product development with OEM partners to market	Delay in developing and commercialising a combined product offering with an OEM partner	HIGH	Ensure the process is clearly defined and milestones are realistic. Continually monitor progress in each stage of the process and address delays	MEDIUM
Retention of key employees	Loss of key employees and subsequent difficulty in recruiting suitably qualified and skilled replacements	MEDIUM	Ensure the remuneration package is competitive including share based incentives. Maintain emphasis on retaining key staff by investing in them	MEDIUM

The Strategic Report was approved by the Board of Directors on 20 March 2017 and signed on its behalf by:

**Jim Ramage**  
Chief Executive Officer

# Strategic Report Company and product overview

Microsaic Systems develops microengineered analytical instruments that are based on the scientific technique of Mass Spectrometry ("MS"). MS is widely accepted as one of the most reliable methods for identifying the chemical make-up of substances, and Microsaic is the first and only company to have commercialised and patented chip-based MS technology using silicon microengineering.

## The analysis method of choice

MS is an established analytical technique used in many laboratories to accurately identify and quantify trace levels of chemical or biological compounds based on their unique molecular weight. Today, MS is the standard means of measuring the composition of samples during pharmaceutical development, and is also widely used in other industries including healthcare, environmental safety, food and drink, security, petrochemicals and mining. By miniaturising MS to desk-top size, Microsaic has made it practical for a wider range of users and applications within these fields, although Microsaic is now clearly focused on Pharma.

## History of the Company

Microsaic Systems was established in 2001 from the highly regarded Optical and Semiconductor Devices Group at Imperial College London. It has been based at headquarters in Woking, UK since September 2004 and its ordinary shares were admitted to trading on AIM, a market of the London Stock Exchange, in April 2011 (ticker: MSYS). The Company has a demonstration and training facility in Milton Park, Abingdon, UK.

## Continuing evolution

The 3500 MiD<sup>®</sup> was the world's smallest MS instrument when it was launched in 2012. Its successor, the 4000 MiD<sup>®</sup>, was launched in 2013 featuring an even smaller footprint than the 3500

MiD<sup>®</sup> and allowing it to fit even more comfortably into a standard laboratory fume hood. Its 'plug & play' components enable users to maintain the system themselves, resulting in less down-time, a lower maintenance cost and greater flexibility within the laboratory.

Key features of the MiD<sup>®</sup> are:

- Provides the everyday mass range and sensitivity needed by chemists;
- Best in class for power and utility requirements;
- Fits inside a standard fume hood;
- No external pump;
- Integrated PC, remote operation, and intuitive to use;
- User serviceable consumable parts; and
- Open software for easy integration into lab systems.

To further expand the marketplace for the 4000 MiD<sup>®</sup>, the Company launched the MiDas<sup>™</sup> compact interface module in 2014 to extend the use of MS in the laboratory from specialist analytical chemists to the wider research community. The MiDas<sup>™</sup> connects to the 4000 MiD<sup>®</sup> and offers automated sample preparation and handling for direct MS analysis in real time at the lab bench or in the fume hood.

The Company has strengthened the MiD<sup>®</sup> range through its development programme in 2016 adding features including a higher mass range version for the detection of larger molecules, together with software and electronic improvements.

The Company has an on-going R&D programme building on the achievements already made and focused on increasing the reach of its core Ionchip<sup>®</sup> technology, which underpins the MiD<sup>®</sup>. The product pipeline includes more sophisticated MS systems, including a triple quad system (beta version), which will allow the Company to address additional market needs and applications with different requirements.



## Board of Directors

### **Eric Yeatman - Non-Executive Director and Interim Chairman**

Eric Yeatman is Professor of Micro-Engineering at Imperial College London and was appointed Head of the Department of Electrical and Electronic Engineering in September 2015. Eric is a co-founder of the Company and was Chairman of the Board from 2004 to June 2013. He chairs the Remuneration Committee and sits on the Board's Finance and Audit Committee. Eric was appointed Interim Chairman on 24 January 2017. Eric was educated at Dalhousie University (Halifax, Canada) and Imperial College London. He specialises in micro-systems research and has acted as an advisor to two venture capital funds.

### **James Ramage - Chief Executive Officer**

James (Jim) Ramage was appointed a Director of the Company in April 2010 and became CEO on 1 December 2015. Jim is also Non-Executive Chairman of Tesla Engineering, a manufacturer of high value magnetic components for MRI scanners

and other products. He is a Fellow of the Royal Academy of Engineering and the Institute of Physics. He has extensive experience of the analytical instrumentation industry and served as a Director and Divisional Managing Director of VG Instruments plc and Fisons plc respectively prior to becoming Executive Chairman of Tesla in 1995.

### **Glenn Tracey - Chief Operating Officer**

Glenn Tracey has more than 15 years' experience leading product marketing and R&D for small and large companies in sensing and detection, across applications in human and environmental health. For the majority of this time, Glenn was at global life sciences company PerkinElmer, where he progressed through multiple senior roles advancing PerkinElmer's environmental health technologies from high-end laboratory detection to field-based sensing across a number of markets such as food, air, water and pharmaceuticals. Glenn joined the Company in March 2015 and was appointed to the Board on 1 December 2015.



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**Bevan Metcalf - Finance Director**

Bevan Metcalf has 35 years' of financial management experience with international companies primarily in the mining and pharmaceuticals sectors, including Beowulf Mining (2014-present), Afferro Mining (2008-2013), African Eagle Resources (2004-2011), Orion Corporation (1995-2003) and GlaxoSmithKline (1984-1995). In the past ten years, he has been involved with companies listed on the AIM market of the London Stock Exchange and on the Toronto stock exchange as Finance Director, Chief Financial Officer and in a Non-Executive Director capacity. Bevan is a Member of the Chartered Accountants – Australia and New Zealand, and he has a degree in Management Studies from the University of Waikato, New Zealand. Bevan was appointed to the Board of the Company on 18 December 2015.

**Andrew Holmes - Non-Executive Director**

Andrew Holmes is Professor of Micro-Electro-Mechanical Systems at Imperial College London and a co-founder of the Company. Andrew was

educated at Cambridge University and Imperial College London, and specialises in research into microfabrication and micropower technologies. He has been Company Secretary since 2004 is chair of the Finance and Audit Committee and sits on the Board's Remuneration Committee.

**Christopher Buckley - Non-Executive Director**

Christopher Buckley has more than 30 years of international marketing and general management experience in the global Pharmaceutical industry with a proven track record of translating scientific innovations into competitive customer-focused benefits. Most recently, he was a Global Brand Director at Novartis, where he spent the majority of his career progressing through a variety of local, regional and global roles. He brings Microsaic a wealth of strategic management experience, coupled with the pragmatic and commercial expertise to effectively grow global brands. Mr Buckley holds a B.Sc. Hons in Pharmacology and Physiology from the University of Aston, UK. Christopher was appointed to the Board of the Company on 1 April 2016 as a Non-Executive Director.



# Directors' Report

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The Directors present their report for the year ended 31 December 2016.

## Principal activity, business review and business risks

The principal activity of the Company continued to be the research, development and commercialisation of mass spectrometry instruments. A review of the business, its prospects and its research and development activities is contained within the Strategic Report.

## Results and dividends

The results for the Company are given in the statement of comprehensive income set out on page 34. The Directors do not recommend the payment of a dividend (2015: nil).

## Directors

Since 1 January 2016 the following Directors have held office:

C J Nicholl (Retired 31 January 2017)  
A S Holmes  
J C Ramage  
E M Yeatman  
G D Tracey  
B J Metcalf  
C J Buckley (Appointed 1 April 2016)

At the forthcoming Annual General Meeting A S Holmes will retire by rotation and be proposed for re-appointment.

## Directors' interests

The Directors' interests in the shares of the Company at 31 December 2016 were:

	Ordinary shares of 0.25p each at 31 Dec 2016		Ordinary shares of 0.25p each at 31 Dec 2015	
	Number	%	Number	%
A S Holmes	3,182,111	1.75	2,882,111	3.93
C J Nicholl <sup>(1)</sup>	4,303,559	2.37	3,803,559	5.18
B J Metcalf	300,000	0.17	-	-
J C Ramage	798,579	0.44	298,579	0.41
G D Tracey	300,000	0.17	-	-
E M Yeatman	3,896,632	2.14	3,396,632	4.63
C J Buckley	300,000	0.17	-	-
	<b>13,080,881</b>	<b>7.21</b>	10,380,881	14.15

<sup>(1)</sup>Retired 31 January 2017

The following Directors subscribed for shares in the Company on 26 August 2016 at an issue price of 5 pence per ordinary share.

Directors	Number of Placing Shares subscribed	Price Paid
	For	£
C J Nicholl <sup>(1)</sup>	500,000	25,000
E M Yeatman	500,000	25,000
J C Ramage	500,000	25,000
G D Tracey	300,000	15,000
B J Metcalf	300,000	15,000
A S Holmes	300,000	15,000
C J Buckley	300,000	15,000

<sup>(1)</sup>Retired on 31 January 2017

## Significant shareholdings

Shareholders, excluding Directors, having a beneficial interest of 3% or more of the Company's shares as at 31 December 2016:

Shareholder	Ordinary shares of 0.25p each at 31 December 2016	
	Number	%
Parkwalk Advisors	54,240,838	29.91
Octopus Investments	21,515,339	11.86
Herald Investment Management	17,449,625	9.62
Fidelity International	17,304,696	9.54
Directors	13,080,881	7.21
Nigel Wray	8,207,122	4.53
Henderson Global Investors	7,339,322	4.05

## Employees

The Company regards the expertise and contributions of its employees as critical to the future success of the business. The Company engages with its employees to understand all aspects of the business and seeks to remunerate its employees fairly. The Company gives full and fair consideration to applications for employment received regardless of age, gender, colour, ethnicity, disability, nationality, religious beliefs or sexual orientation. The Board takes account of employees' interests when making decisions and suggestions from employees aimed at improving the Company's performance are encouraged.

## Company share ownership plans

The Company operates two Employee Share Option Schemes (ESOS) for the benefit of its employees and Executives Directors.

The ESOS was formed in 2006 to enable the incentivisation of key employees to be aligned to the performance of the Company. Under the ESOS the Company grants employees options to acquire the Company's ordinary shares subject to:

- vesting periods (normally 3 years for new grants) a total exercise period of 10 years from the date of grant;
- the exercise price normally being the market price of the ordinary shares at the close of business the day before the date of grant; and
- performance conditions, as appropriate.

Options are granted up to the maximum amount allowed under the limits of the Enterprise Management Incentive (EMI) Scheme - these options are called 'Approved Options'. The EMI Scheme is subject to the provisions of Schedule 5 of the Income Tax (Earnings and Pensions) Act 2003 and have tax advantages for the employee and employer.

The Company received approval at its 2011 AGM to issue equity securities to employees and Directors on conversion of their options up to a maximum of 10% of the Company's issued share capital over a rolling ten year period. At 31 December 2016 181,365,146 shares were in issue, and so the maximum option pool is 18,136,515. Unexercised options outstanding at 31 December 2016 were 7,897,200. Of these, 7,555,000 have not yet vested. Since the Company was listed on AIM in 2011 1,534,100 shares have been issued in respect of exercised options. Thus the remaining option pool is 8,705,215.

### Management of risk

The management of operational risk is covered in the Risk Management Report. Financial risk is managed as follows:

#### Liquidity risk

The Company finances its operations from equity funding provided by shareholders and revenues generated by the business. The Company seeks to manage liquidity risk to ensure sufficient funds are available to meet requirements.

The Company invests its cash reserves in bank and money market deposits as a liquid resource to fund its operations. The Company's strategy for managing cash is to balance interest income with counterparty risk ensuring availability of cash to match the profile of the Company's cash flows.

#### Interest rate risk

The Company does not face any significant interest rate risk as it has no borrowings.

Surplus funds are invested to maintain a balance between accessibility of funds, competitive rates, and counterparty risk whilst investing funds prudently.

#### Credit risk

The Company manages its credit risk in cash and cash equivalents by spreading surplus funds between creditworthy financial institutions.

The Company is also exposed to credit risk attributable to trade and other receivables. The maximum credit risk in respect of the financial assets at each year end is represented by the balance outstanding on trade and other receivables. The Company has limited exposure to credit risk, as the majority of its trade and other receivables are due from major corporations and institutions.

#### Foreign currency risk

The majority of the Company's transactions are denominated in pounds sterling.

The Company has no long term commitments to purchase goods or services in foreign currencies. Purchases denominated in foreign currency are expensed at the exchange rate prevailing at the date of the transaction, and comprise an immaterial proportion of the Company's total expenditure.

The only assets and liabilities denominated in foreign currencies relate to trade payables with overseas counterparties together with small balances of US dollar and Euro currencies to settle these liabilities. The risks and sums involved are considered to be immaterial.

#### Health and safety and the environment

The Company is committed to providing a safe environment for its staff and other parties for whom it has a responsibility. It has set up systems and processes to ensure compliance with health and safety legislation and the Board considers health and safety matters at its regular monthly meetings.

The Company is also mindful of its corporate responsibilities concerning the impact of its activities on the environment and seeks to minimise this impact wherever possible.

### Quality Management System (QMS)

Our mission is to supply, design and deliver mass spectrometry products that provide innovative compact analysis with high quality and reliability.

Our quality policy applies to the development, manufacture, marketing and support of our products. In all of our activities we are strongly focused on commitment to the requirements of our customers including:

- Management of risks in order to prevent operational and product problems that may adversely impact customer satisfaction and the interests of other parties.
- Managing any externally provided products and services to ensure that they meet specified requirements including changing needs.

To help management achieve its policy the business management system has been developed using a process approach including a Plan-Do-Check cycle, risk based thinking, and a fundamental commitment to the continual improvement of the system and its effectiveness and integration into company activities.

A series of specific objectives have been established to:

- Support and align with our policy commitments
- Define the substance of each objective
- Identify improvement targets

#### Objectives:

- Customer satisfaction and responsiveness
- To continuously improve our operational effectiveness
- To improve our organisational capability and efficiency

### Implementation

The Company's QMS is designed to comply with the requirements of ISO 9001:2008, but during 2017 it will be upgraded to meet the requirements of ISO 9001:2015 with the goal of continually improving our products and processes. The effectiveness of this system in achieving the objectives of the business is measured and monitored via the measures defined as part of the QMS. It is the responsibility of each individual working for and on behalf of the Company to understand and implement this policy. This policy is communicated openly to internal and external parties to promote awareness of the company's commitment to high quality. This policy is kept reviewed annually to ensure its continued suitability and effectiveness. Progress against targets is monitored on a regular basis to identify strengths and areas for improvement.

### Directors' indemnity and insurance

The Company has granted an indemnity to its Directors under which the Company will indemnify them, subject to the terms of the deed of indemnity, against all costs, charges, losses, damages and liabilities incurred by them in the performance of their duties.

The Company also maintains insurance for its Directors and Officers against the consequences of actions brought against them in relation to their duties for the Company.

### Related party transactions

The interests of the Directors together with their participation in the 26 August 2016 placing are shown in the Directors' Report while their remuneration is detailed in the Directors' Remuneration Report. There were no other related party transactions involving the Directors.

### Directors' responsibilities

The Directors are responsible for preparing the Annual Report and the financial statements in accordance with applicable law and regulations.

Company law requires the Directors to prepare financial statements for each financial year. Under that law the Directors have prepared the Company financial statements in accordance with International Financial Reporting Standards (IFRSs) as adopted by the European Union and applicable law. Under company law the Directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the Company and the profit or loss of the Company for that period.

In preparing the financial statements the Directors are required to:

- select suitable accounting policies and then apply them consistently;
- make judgements and accounting estimates that are reasonable and prudent; and
- state whether IFRSs as adopted by the European Union have been followed, subject to any material departures disclosed and explained in the financial statements.

The Directors are responsible for keeping adequate accounting records that are sufficient to show and explain the Company's transactions and disclose with reasonable accuracy at any time the financial position of the Company and enable them to ensure that the financial statements comply with the Companies Act 2006. They are responsible for safeguarding the assets of the Company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The Directors are responsible for the maintenance and integrity of the corporate and financial information included on the Company's website. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

### Statement of disclosure to auditors

So far as each Director is aware, there is no relevant audit information of which the Company's auditors are unaware. Additionally the Directors have taken all the steps that they should have taken in order to make themselves aware of any relevant audit information and to establish that the Company's auditors are aware of that information.

### Auditors

Saffery Champness has expressed their willingness to remain in office as auditors of the Company, and a resolution for their re-appointment will be proposed at the forthcoming Annual General Meeting.

This Directors' Report was approved by the Board of Directors on 20 March 2017 and signed on its behalf.

### Jim Ramage

Director  
Company number 03568010

# Directors' Remuneration Report

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This report on the Directors' remuneration sets out the Company's policy on the remuneration of Executive and Non-Executive Directors, together with details of Directors' remuneration packages and service contracts.

## Remuneration policy

The remuneration policy for Executive Directors, determination of their individual remuneration packages and their performance appraisals have been delegated to the Board's Remuneration Committee comprising three Non-Executive Directors.

## Remuneration of the Executive Directors

In setting remuneration for executive Directors, the Remuneration Committee considers a number of factors including:

- the basic salaries and benefits available to Executive Directors of comparable companies;
- the need to pay Executive Directors a competitive salary in line with the nature and complexity of their work;
- the need to attract and retain Executive Directors of an appropriate calibre;
- the need to ensure Executive Directors' commitment to the continued success of the Company by means of incentive schemes; and
- the need for the remuneration awarded to reflect performance.

## Remuneration of the Non-Executive Directors

The remuneration of the Non-Executive Directors is agreed by the Board following recommendation by the Remuneration Committee, having a view to rates paid in comparable organisations. The Non-Executive Directors do not receive any pension, bonus or other benefits from the Company. Since becoming a public limited company, no share options have been issued to Non-Executive Directors and they are not entitled to participate in any Company share option schemes.

The Chairman receives a fixed annual fee of £35,000 and the other Non-Executive Directors receive an annual fee of £20,000. Additional days worked are based on an agreed day rate

and additional days worked must be approved by the Chairman, or the Chair of the Remuneration Committee.

### Remuneration of the Executive Directors

The Remuneration of the Executive Directors consists of a basic salary, share options, a contributory personal pension, life assurance and a discretionary bonus based on performance against individual and business objectives. No bonus was awarded in 2016.

### Share options

It is the normal practice for the Company to award share options to Executive Directors on joining the Company. The award of additional options to Executive Directors, as well as to other employees, is reviewed annually by the Remuneration Committee.



## Directors' emoluments

Non cash payments represent life assurance premiums. The Directors did not receive a salary increase during the year.

	Salaries & fees	Non Cash Payments	Pension Contributions	Share based payments	Year to 31 December 2016	Year to 31 December 2015
	£	£	£	£	£	£
C J Nicholl <sup>(1)</sup>	47,600	-	-	-	47,600	45,550
E M Yeatman	20,000	-	-	-	20,000	28,067
A S Holmes	20,000	-	-	-	20,000	28,067
C J Buckley <sup>(2)</sup>	17,745	-	-	6,842	24,587	-
J C Ramage	116,900	-	-	59,459	176,359	38,300
G D Tracey	93,804	170	1,290	11,965	107,229	7,889
B J Metcalf	101,875	558	7,641	5,435	115,509	2,750
Other <sup>(3)</sup>	-	-	-	-	-	414,152
<b>TOTAL</b>	<b>417,924</b>	<b>728</b>	<b>8,931</b>	<b>83,701</b>	<b>511,284</b>	<b>564,775</b>

<sup>(1)</sup>Retired 31 January 2017

<sup>(2)</sup>Appointed Non-Executive Director 1 April 2016

<sup>(3)</sup>Emoluments of Directors who resigned in 2015

**Directors' share options**

Share options over the Company's ordinary shares held by the Directors at the year end were as follows:

	At 1 January 2016 Number	Granted in the year Number	Lapsed in the year Number	Exercised in the year Number	At 31 December 2016 Number	Exercised price Pence	Exercise Period
C J Nicholl <sup>(1)</sup>	116,000	-	(116,000)	-	-	43.1p	24 May 2009 - 24 May 2016
G D Tracey	100,000	-	-	-	<b>100,000</b>	47.75p	17 April 2015 - 17 April 2025
	-	200,000	-	-	<b>200,000</b>	23.5p	13 January 2016 - 13 January 2026
	-	1,000,000	-	-	<b>1,000,000</b>	5p	14 September 2016 - 14 September 2026
J C Ramage	-	500,000	-	-	<b>500,000</b>	23.5p	13 January 2016 - 13 January 2026
	-	1,000,000	-	-	<b>1,000,000</b>	5p	14 September 2016 - 14 September 2026
B J Metcalf	-	120,000	-	-	<b>120,000</b>	23.5p	13 January 2016 - 13 January 2026
	-	1,000,000	-	-	<b>1,000,000</b>	5p	14 September 2016 - 14 September 2026
C J Buckley	-	75,000	-	-	<b>75,000</b>	23.5p	13 January 2016 - 13 January 2026
	216,000	3,895,000	(116,000)	-	<b>3,995,000</b>		

<sup>(1)</sup>Retired 31 January 2017

Mr Buckley was awarded his options before he became a Director. The share options above are subject to service and/or performance conditions.

The share price on 4 January 2016 was 24.5p and on 30 December 2016 was 3.375p, with a high and low over the year of 24.5p and 2.875p respectively.

The share based payment charge for the Directors during the year was £83,701 (2015: Nil). Share options were issued to Mr Ramage, Mr Metcalf and Mr Tracey during the year.

In January 2016 and September 2016, share options were awarded to Directors as set out above.

#### Directors' notice periods

Details of each Director's notice period as per their service contract are as follows:

	<b>Contract date</b>	<b>Term</b>	<b>Notice period</b>
C J Nicholl <sup>(1)</sup>	24-Apr-06	Indefinite	6 months
G D Tracey	01-Dec-15	Indefinite	6 months
B J Metcalf	18-Dec-15	Indefinite	3 months
A S Holmes	01-Apr-06	Indefinite	3 months
J C Ramage	21-Jun-10	Indefinite	6 months
E M Yeatman	01-Apr-06	Indefinite	3 months
C J Buckley	01-Apr-16	Indefinite	3 months

<sup>(1)</sup>Retired 31 January 2017

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# Corporate Governance Report

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As an AIM quoted company, Microsaic Systems plc is not required to comply with the UK Corporate Governance Code (2016), a set of recommended corporate governance principles for UK public companies issued by the Financial Reporting Council. However, the Directors support high standards of corporate governance and have established a set of corporate governance principles based on the QCA (Quoted Companies Alliance) Guidelines which they regard as appropriate for the size, nature and stage of development of the Company.

## The Board

Following the retirement of Colin Nicholl, the Board comprises six Directors consisting of an Interim Non-Executive Chairman, three Executive Directors (the CEO, COO and FD), and two additional Non-Executive Directors. Directors appointed by the Board are subject to re-election by shareholders at the following Annual General Meeting and thereafter Directors are subject to re-election at least every three years.

## Independence of the Non-Executive Directors

The Board believes that its Non-Executive Chairman and Non-Executive Directors are independent. While two of these Directors have significant shareholdings in the Company, the Board believe that the advice and behaviour of its Non-Executive Directors is independent and at all times in the best interest of all shareholders. In addition, the skills and business judgement which they possess and exercise contribute to the efficient and effective management of the Company.

The Board keeps under review the relevance and appropriateness of the executives' skills in light of the continuing evolution of the marketplace, technology and the Company's strategy.

## Role of the Board

The Board is responsible for ensuring that the Company is managed in an efficient, effective and professional manner. These responsibilities include oversight of and approval of the corporate strategy, financial budgets, Company performance, approval of major capital expenditure, executive performance and the framework of internal controls.

## Role of the Management Team

The Management Team is comprised of the Executive Directors and is headed up by the CEO. This team is responsible for the day to day operations and execution of the strategy.

Within agreed authority limits they run the operations of the business and work towards defined goals and key performance indicators that are embedded within the Company's strategy, budget and performance goals.

## Engagement with staff

The Executive team holds a quarterly meeting with staff, to communicate progress of the business and to receive feedback.

The Board holds regular meetings on a monthly basis and additional meetings at any other times as may be necessary to deal with any urgent matters. The agenda for Board meetings is prepared by the Executive Directors (following an established framework) and agreed with the Chairman. All submissions are circulated in advance to allow due consideration of matters therein.

The Executive Directors prepare regular reports which allow the Board to assess the Company's activities and review its performance and the Board has clearly specified the levels of authority delegated to management. Non-Executive Directors are able to have discussions with other employees where they feel it is appropriate. Non-Executive Directors also have the authority to seek external independent advice as they think fit at the expense of the Company.

The Board is ultimately responsible for the Company's system of internal control and for reviewing its effectiveness. This includes financial, operational and compliance controls and risk-management systems. Internal control systems are designed to meet the Company's particular needs

and the risks to which it is exposed. The internal control systems are designed to minimise rather than eliminate the risk of failure to achieve business objectives and by their nature can only provide reasonable and not absolute assurance against misstatement and loss.

### Conflicts of interest

Directors must keep the Board advised of any interest that could potentially conflict with those of the Company. At the start of each Board meeting the Chairman asks the Directors if a material conflict exists. Where a material conflict exists, the Director concerned must not participate in discussions or vote on the subject matter.

### Directors' attendance record

The following table shows the attendance at the meetings of the Board of Directors during 2016:

	Meetings held Number	Meetings attended Number
C J Nicholl <sup>(1)</sup>	16	15
A S Holmes	16	15
J C Ramage	16	16
E M Yeatman	16	14
B J Metcalf	16	16
C J Buckley	13	11
G D Tracey	16	16

<sup>(1)</sup>Retired 31 January 2017



### Finance and Audit Committee

The remit of the Finance and Audit Committee is documented in its terms of reference which were adopted by the Board of Directors.

The purpose of the Committee is to assist the Board in the effective discharge of its responsibilities for corporate governance, financial reporting, corporate control and risk management. The Committee normally meets at least twice a year and, amongst other things, reviews the annual report and accounts and interim statements with the external auditors. The Committee also approves external auditors' fees and ensures auditors' independence as well as focusing on compliance with legal requirements and accounting standards. The ultimate responsibility for reviewing and approving the annual financial statements and interim financial statements remains with the Board.

The members of the Finance and Audit Committee are: A S Holmes, C J Buckley, and E M Yeatman. A S Holmes is the Chair of the committee. The external auditors, Chief Executive Officer, Finance Director and other executives may be invited to Committee meetings at the discretion of the Committee.

### Remuneration Committee

The remit of the Remuneration Committee is documented in its terms of reference which were adopted by the Board of Directors.

The Remuneration Committee meets as required and at least once a year. Its responsibilities include reviewing the performance of the Executive Directors, setting their remuneration levels, determining the payment of bonuses and other benefits and considering the grant of options under the Company share option schemes (see Remuneration Report above).

The members of the Remuneration Committee are: A S Holmes, E M Yeatman and C J Buckley. The Chair of the committee is E M Yeatman.

### Board nominations

The appointment of replacement or additional Directors is the responsibility of the Board as a whole.

At this stage, it is not considered appropriate for the Company to have a formally constituted Nominations Committee, however, this will be kept under review.

### Communications with shareholders

The Board keeps shareholders informed of all major developments concerning the Company. Information is communicated through the following channels:

- The release of announcements, trading updates and interim financial statements through the Regulatory News Service of the London Stock Exchange and on the Company's website; and
- The annual report including the financial statements are sent to all registered shareholders.

The Board encourages shareholders to attend the Company's annual general meeting. Notices of statutory meetings of shareholders are sent to all registered shareholders.

### Eric Yeatman

Interim Chairman

# Independent Auditors' Report

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We have audited the financial statements of Microsaic Systems plc for the year ended 31 December 2016 set out on pages 34 to 60. The financial reporting framework that has been applied in their preparation is applicable law and International Financial Reporting Standards (IFRSs) as adopted by the European Union and as applied in accordance with the provisions of the Companies Act 2006.

This report is made solely to the Company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the company's members those matters we are required to state to them in an auditors' report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Company and the Company's members as a body, for our audit work, for this report, or for the opinions we have formed.

## Respective responsibilities of Directors and auditors

As explained more fully in the Directors' Responsibilities Statement, the directors are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view. Our responsibility is to audit and express an opinion on the financial statements in accordance with applicable law and International Standards on Auditing (UK and Ireland). Those standards require us to comply with the Auditing Practices Board's Ethical Standards for Auditors.

## Scope of the audit of the financial statements

An audit involves obtaining evidence about the amounts and disclosures in the financial statements sufficient to give reasonable assurance that the financial statements are free from material misstatement, whether caused by fraud or error. This includes an assessment of: whether the accounting policies are appropriate to the Company's circumstances and have been consistently applied and adequately disclosed; the reasonableness of significant accounting estimates made by the directors; and the overall presentation of the financial statements. In addition, we read all the financial and non-financial information in the annual report to identify material inconsistencies with the audited financial statements and to identify any information that is apparently materially incorrect based on, or materially inconsistent with, the knowledge acquired by us in the course of performing the audit. If we become aware of any apparent material misstatements or inconsistencies we consider the implications for our report.

## Opinion on financial statements

In our opinion:

- the financial statements give a true and fair view of the state of affairs of the Company as at 31 December 2016 and of its loss for the year then ended; and
- the Company financial statements have been properly prepared in accordance with IFRSs as adopted by the European Union and as applied in accordance with the provisions of the Companies Act 2006; and
- the financial statements have been prepared in accordance with the requirements of the Companies Act 2006.

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### Other matter prescribed by the Companies Act 2006

In our opinion, based on the work undertaken in the course of the audit:

- the information given in the Strategic Report and the Directors' Report for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- the Strategic Report and the Directors' Report have been prepared in accordance with applicable legal requirements.

### Emphasis of Matter – Going Concern

In forming our opinion on the financial statements, we have considered the adequacy of the disclosures made in Note 3 to the financial statements concerning the Company's ability to continue as a going concern. The Company is reliant on meeting certain financial and operational targets in order to have sufficient working capital for the next twelve months.

Although the Directors are confident of meeting these targets, this is not guaranteed and therefore indicates the existence of uncertainty. In view of this uncertainty we consider that it should be drawn to the members' attention. Our opinion is not qualified in respect of this matter.

### Matters on which we are required to report by exception

In the light of the knowledge and understanding of the company and its environment obtained in the course of the audit, we have not identified material misstatements in the Strategic Report or the Directors' Report.

We have nothing to report in respect of the following matters where the Companies Act 2006 requires us to report to you if, in our opinion:

- adequate accounting records have not been kept by the Company, or returns adequate for our audit have not been received from branches not visited by us; or
- the Company financial statements are not in agreement with the accounting records and returns; or
- certain disclosures of directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.

### Lucy Brennan

Senior Statutory Auditor

For and on behalf of Saffery Champness  
Chartered Accountants and Statutory Auditors  
71 Queen Victoria Street  
London  
EC4V 4BE

20 March 2017

## Statement of Comprehensive Income

	Notes	Year to 31 December 2016 £	Year to 31 December 2015 £
<b>Revenue</b>	5	<b>851,180</b>	782,813
Cost of sales		(549,179)	(478,270)
<b>Gross profit</b>		<b>302,001</b>	304,543
Other operating income	6	55,941	218,782
Other operating expenses		(3,666,315)	(4,339,609)
<b>Loss from operations before share based payments</b>	7	<b>(3,308,373)</b>	(3,816,284)
Share based payments		(109,963)	(82,636)
<b>Loss from operations after share based payments</b>		<b>(3,418,336)</b>	(3,898,920)
Finance income	8	12,532	14,654
<b>Loss before tax</b>		<b>(3,405,804)</b>	(3,884,266)
Tax on loss on ordinary activities	9	303,819	359,421
<b>Total comprehensive loss for the year</b>		<b>(3,101,985)</b>	(3,524,845)
<b>Loss per share attributable to the equity holders of the Company</b>			
Basic and diluted loss per ordinary share	10	<b>(2.93)p</b>	(5.39)p

## Statement of Financial Position

	Notes	31 December 2016 £	31 December 2015 £
<b>ASSETS</b>			
<b>Non-current assets</b>			
Intangible assets	11	84,377	102,304
Property, plant and equipment	12	196,970	175,242
<b>Total non-current assets</b>		<b>281,347</b>	277,546
<b>Current assets</b>			
Inventories	13	694,288	600,268
Trade and other receivables	14	163,731	445,745
Corporation tax receivable		262,710	267,374
Cash and cash equivalents		5,728,544	3,607,591
<b>Total current assets</b>		<b>6,849,273</b>	4,920,978
<b>TOTAL ASSETS</b>		<b>7,130,620</b>	5,198,524
<b>EQUITY AND LIABILITIES</b>			
<b>Equity</b>			
Share capital	18	453,413	183,413
Share premium	19	20,504,071	15,714,258
Share based payment reserve		302,069	445,258
Retained earnings		(14,746,480)	(11,897,647)
<b>Total Equity</b>		<b>6,513,073</b>	4,445,282
<b>Current liabilities</b>			
Trade and other payables	15	427,742	607,985
<b>Non-Current liabilities</b>			
Provisions	16	189,805	145,257
<b>Total liabilities</b>		<b>617,547</b>	753,242
<b>TOTAL EQUITY AND LIABILITIES</b>		<b>7,130,620</b>	5,198,524

The financial statements were approved for issue by the Board of Directors on 20 March 2017 and signed on its behalf by:

**Jim Ramage**

Chief Executive Officer

Company number 03568010

## Statement of Changes In Equity

	Notes	Share capital £	Share premium £	Share based payment reserve £	Retained earnings £	Total equity £
<b>At 1 January 2015</b>		158,133	12,790,887	438,662	(8,578,539)	4,809,143
Shares issued		25,280	3,302,180	-	-	3,327,460
Share issue costs		-	(378,809)	129,697	-	(249,112)
Transfer in respect of lapsed share options		-	-	(205,737)	205,737	-
Total comprehensive loss for the year		-	-	-	(3,524,845)	(3,524,845)
Share based payments-share options		-	-	82,636	-	82,636
<b>At 31 December 2015</b>		183,413	15,714,258	445,258	(11,897,647)	4,445,282
Shares issued	18	270,000	5,130,000	-	-	5,400,000
Share issue costs		-	(340,187)	-	-	(340,187)
Transfer in respect of lapsed and exercised share options		-	-	(253,152)	253,152	-
Total comprehensive loss for the year		-	-	-	(3,101,985)	(3,101,985)
Share based payments-share options		-	-	109,963	-	109,963
<b>At 31 December 2016</b>		453,413	20,504,071	302,069	(14,746,480)	6,513,073

## Statement of Cash Flows

	Notes	Year to 31 December 2016 £	Year to 31 December 2015 £
<b>Total comprehensive loss for the year</b>		<b>(3,101,985)</b>	<b>(3,524,845)</b>
Amortisation of intangible assets	11	41,509	48,349
Depreciation of property, plant and equipment	12	109,419	126,581
Loss on disposal of Intangibles		2,029	-
(Profit)/loss on disposal of property, plant and equipment		(1,288)	-
Provision for leasehold dilapidations	16	16,779	9,000
Provision for warranty	16	27,769	-
Provision for bad and doubtful debts		(1,989)	1,989
Share based payments		109,963	82,636
General inventory provision		(25,000)	(8,226)
Tax on loss on ordinary activities	9	(303,819)	(359,421)
Interest received	8	(12,532)	(14,654)
(Increase)/decrease in inventories		(69,020)	(350,867)
Decrease/(Increase) in trade and other receivables		284,003	71,111
(Decrease)/Increase in trade and other payables		(180,243)	(96,568)
<b>Cash used in operations</b>		<b>(3,104,405)</b>	<b>(4,014,915)</b>
Taxation received		308,483	192,047
<b>Net cash used in operating activities</b>		<b>(2,795,922)</b>	<b>(3,822,868)</b>
<b>Cash flows from investing activities</b>			
Purchases of intangible assets	11	(25,611)	(34,088)
Purchases of property, plant and equipment	12	(131,359)	(173,551)
Proceeds from sale of property, plant and equipment		1,500	-
Interest received		12,532	11,205
<b>Net cash used in investing activities</b>		<b>(142,938)</b>	<b>(196,434)</b>
<b>Cash flows from financing activities</b>			
Proceeds from share issues	18	5,400,000	3,327,460
Share issue costs		(340,187)	(249,112)
<b>Net cash from financing activities</b>		<b>5,059,813</b>	<b>3,078,348</b>
<b>Net increase/(decrease) in cash and cash equivalents</b>		<b>2,120,953</b>	<b>(940,954)</b>
Cash and cash equivalents at beginning of the year		3,607,591	4,548,545
<b>Cash and cash equivalents at the end of the year</b>		<b>5,728,544</b>	<b>3,607,591</b>

## Notes to the financial statements

The principal activity of the Company continued to be the research, development and commercialisation of mass spectrometry instruments. The Company is incorporated in England and its registered address is GMS House, Boundary Road, Woking, Surrey, GU21 5BX.

### 1. Accounting policies

The following principal accounting policies have been used consistently in the preparation of these financial statements.

#### **Basis of preparation**

These financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) and the interpretations of the International Financial Reporting Interpretations Committee (IFRIC) as adopted by the European Union, and with those parts of the Companies Act 2006 applicable to companies reporting under IFRS.

These financial statements have been prepared under the historical cost basis except where financial instruments are required to be carried at fair value under IFRS.

#### **Revenue recognition**

Revenue represents amounts receivable from the sale of goods and services, net of value added tax, trade discounts and commissions. Revenue from the sale of goods is recognised when the risks and rewards of ownership of the goods passes to the customer, which is normally upon delivery. Revenue from services is recognised in the period in which the service is provided.

Other operating income includes EU grant income, insurance income arising from a claim and income from development contracts. The Company's management assesses the contracts at each balance sheet date, including the costs to completion, which are subject to estimation uncertainty.

#### **Segmental reporting**

The Company currently has one business segment, being the research, development and commercialisation of scientific instruments. This is undertaken wholly within the United Kingdom. Revenue by geographical market is analysed between the UK and non-UK.

#### **Intangible assets**

Trademarks and patents are stated at historic cost of registration less accumulated amortisation and any accumulated impairment losses. Amortisation is charged to operating expenses and calculated to write off the cost in equal annual instalments over 5 years, which is considered to be a prudent estimate of their useful economic lives.

### Property, plant and equipment

Items of property, plant and equipment are stated at cost of acquisition or production costs less accumulated depreciation and impairment losses.

Depreciation is charged to the statement of comprehensive income on a straight-line basis to write-off the carrying value of each asset to residual value over its estimated useful economic life as follows:

Plant and equipment	- 33.3% on a straight line basis
Fixtures and fittings	- 33.3% on a straight line basis
Software	- 33.3% on a straight line basis

### Pensions

The Company has an Auto-enrolment pension scheme for employees. Contributions are charged to the statement of comprehensive income in the period they are payable.

### Inventories

Inventories are stated at the lower of cost and net realisable value. Cost is based on the first-in first-out principle and includes expenditure incurred in acquiring the inventories and bringing them into their present locations and condition. The cost of finished goods and work in progress comprises raw materials, direct labour and other direct costs. Net realisable value is the estimated selling price in the ordinary course of business less applicable selling expenses.

### Provisions

Provisions are established where the Directors have identified an obligation which is probable and where the amount can be estimated reliably.

### Taxation

Current taxes are based on the results of the Company and are calculated according to local tax rules, using the tax rates that have been enacted by the balance sheet date.

The Company recognises research and development tax credits receivable in cash as a current asset under the heading corporation tax receivable. Any difference with amounts actually received is dealt with as adjustments to prior period tax.

Deferred tax is provided in full using the balance sheet liability method for all taxable temporary differences arising between the tax bases of assets and liabilities and their carrying values for financial reporting purposes. Deferred tax is measured using currently enacted or substantially enacted tax rates.

Deferred tax assets are recognised to the extent the temporary difference will reverse in the foreseeable future and that it is probable that future taxable profit will be available against which the asset can be utilised.

## Notes to the financial statements

### **Foreign currency translation**

Monetary assets and liabilities denominated in foreign currencies are translated into sterling at the rates of exchange ruling at the balance sheet date. Transactions in foreign currencies are recorded at the rate ruling at the date of transaction, or forward contract rate, if applicable. All differences are taken to the statement of comprehensive income.

### **Financial instruments**

The Company has adopted both IAS 32 and IAS 39. Financial assets and financial liabilities are recognised on the Company's statement of financial position when the Company becomes a party to the contractual provisions of the instrument.

### *Cash and cash equivalents*

The fair value of cash and cash equivalents is considered to be their carrying amount due to their short term maturity.

### *Trade receivables*

Trade receivables do not carry interest and are stated at their nominal value as reduced by appropriate allowances for estimated irrecoverable amounts.

### *Financial liability and equity*

Financial liabilities and equity instruments are classified according to the substance of the contractual arrangements entered into. An equity instrument is any contract that evidences a residual interest in the assets of the Company after deducting all of its liabilities.

### *Bank borrowings*

Interest-bearing bank loans and overdrafts are recorded as the proceeds received, net of direct issue costs. Finance charges, including premiums payable on settlement or redemption and direct issue costs, are accounted for on an accrual basis to the statement of comprehensive income using the effective interest method and are added to the carrying amount of the instrument to the extent that they are not settled in the period in which they arise. The Company had no bank borrowings at 31 December 2015 and 2016.

### *Trade payables*

Trade payables are not interest bearing and are stated at their nominal value.

### *Equity instruments*

Equity instruments issued by the Company are recorded at the value of the proceeds received net of direct issue costs including the fair value of any warrants issued in lieu of issue costs.

### **Leases**

Assets obtained under hire purchase contracts and finance leases are capitalised and depreciated over their useful lives. Obligations under such agreements are included in liabilities net of the finance charges allocated to future periods.

All other leases are considered operating leases, the costs of which are expensed on a straight line basis over the lease term. Rent free periods and other incentives are spread on a straight line basis over the lease term.

### **Research and development**

Expenditure on research is recognised as an expense in the period in which it is incurred.

Development costs incurred on specific projects are capitalised when all the following conditions are satisfied:

- completion of the intangible asset is technically feasible so that it will be available for use or sale
- the Company intends to complete the intangible asset and use or sell it
- the Company has the ability to use or sell the intangible asset
- the intangible asset will generate probable future economic benefits. Among other things, this requires that there is a market for the output from the intangible asset or for the intangible asset itself, or, if it is to be used internally, the asset will be used in generating such benefits
- there are adequate technical, financial and other resources to complete the development and to use or sell the intangible asset, and
- the expenditure attributable to the intangible asset during its development can be measured reliably.

Costs incurred which do not meet the above criteria are expensed as incurred. No development costs have been capitalised to date.

### **Share based payments**

In accordance with IFRS 2 "Share-based payments", the Company reflects the economic cost of awarding shares and share options to Directors, employees and advisors by recording an expense in the statement of comprehensive income equal to the fair value of the benefit awarded, fair value being determined by reference to option pricing models. The expense is recognised in the statement of comprehensive income over the vesting period of the award.

The fair value of warrants issued to advisors as remuneration for their services in a fundraising will be charged to share premium over the vesting period of the award.

## Notes to the financial statements

### 2. Adoption of new and revised standards

During the financial year, the Company has adopted the following new IFRSs (including amendments thereto) and IFRIC interpretations that became effective for the first time.

Standard	Effective date, annual period beginning on or after*
Annual improvements to IFRSs 2010-2012 Cycle	1 February 2015
Annual Improvements 2012-2014 cycle	1 January 2016
IAS 16 <i>Property, Plant &amp; Equipment</i> and IAS 38 – <i>Intangible assets</i> (amendments)	1 January 2016
IAS 1 Disclosure Initiative	1 January 2016

\*This is the date from which these pronouncements became effective in the EU

Although these new standards and amendments applied for the first time in 2016, they did not have a material impact on the annual financial statements of the Company. The Directors identified no other standards becoming effective in the year that were relevant to the Company's financial reporting.

#### Standards issued but not yet effective:

At the date of authorisation of these financial statements, the following standards and interpretations relevant to the Company and which have not been applied in these financial statements, were in issue but were not yet effective. In some cases these standards and guidance have not been endorsed for use in the European Union.

Standard	Effective date, annual period beginning on or after
Annual Improvements 2014-2016 cycle	1 January 2017 /1 January 2018
Amendments to IAS 12 – <i>Recognition of Deferred Tax for Unrealised Losses</i>	1 January 2017
Amendments to IAS 7 – <i>Disclosure Initiative</i>	1 January 2017
IFRS 9 <i>Financial instruments</i>	1 January 2018
IFRS 15 <i>Revenue from contracts with Customers</i> including amendments to IFRS 15: <i>Effective date of IFRS 15</i> .	1 January 2018
Clarifications to IFRS 15 <i>Revenue from contracts with Customers</i>	1 January 2018
IFRS 16 <i>Leases</i>	1 January 2019
IFRS 2 (amendments) <i>Classification and Measurement of Share-based Payment Transactions</i>	1 January 2018
IFRIC Interpretation 22 <i>Foreign Currency Transactions and Advance Consideration</i>	1 January 2018

**IFRS 9 Financial Instruments (effective for accounting periods beginning on or after 1 January 2018)**

This replaces IAS 39 Financial Instruments: Recognition and Measurement. The Standard includes requirements for recognition and measurement, impairment, derecognition and general hedge accounting.

**IFRS 15 Revenue from Contracts with Customers (effective for accounting period beginning on or after 1 January 2018)**

IFRS 15 specifies how and when the Company will recognise revenue as well as requiring the Company to provide the users with more informative, relevant disclosures. The standard provides a single, principles based five-step model to be applied to all contracts with customers.

**IFRS 16 Leases (effective for accounting period beginning on or after 1 January 2019)**

IFRS 16 specifies how the Company will recognise, measure, present and disclose leases. The standard provides a single lessee accounting model, requiring lessees to recognise assets and liabilities for all leases unless the lease term is 12 months or less or the underlying asset has a low value.

The Directors have not identified any further relevant future standards. The Directors have not yet assessed the full impact of the above standards on the Company's financial reporting though the impact is not expected to be material.

**3. Going concern**

The Company is engaged in the research, development and commercialisation of mass spectrometry instruments. The Company is currently loss making and has raised funds in the past by issuing equity. In common with other research based companies Microsaic raises finance in discrete tranches to fund its working capital and research and development activities. The Company raised £5.4m (before expenses) in August 2016 and has sufficient working capital for at least 12 months from the date of sign off of the Accounts. On this basis the Directors have concluded that it is appropriate to prepare the financial statements on a going concern basis.

**4. Critical accounting estimates and judgements**

Accounting estimates and judgements are continually evaluated and are based on past experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances.

The Company makes estimates and assumptions concerning the future. The resulting accounting estimates could, by definition, differ from the actual outcome.

## Notes to the financial statements

The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are summarised below:

### *Going concern*

The financial statements have been prepared on a going concern basis, as highlighted in note 3 above.

### *Recognition of other operating income*

Other operating income includes EU grant income and income from development contracts. The Company's management assesses the contracts at each balance sheet date, including the costs to completion, which are subject to estimation uncertainty.

### *Amortisation of trademarks and patents*

Capitalised costs relating to trademarks and patents are amortised over their estimated useful lives. As the product development programme is still ongoing and the lifetime of the Company's intellectual property is difficult to determine, the Directors have applied a prudent estimate of 5 years. This assumption is reviewed at each balance sheet date and amended if required.

### *Share based payments*

The calculation of the share based payment expense utilises assumptions and estimates (for example volatility, future exercise rates) which may differ from actual results. Details of the assumptions are set out in notes 24 and 25 to the financial statements.

### *Provision for dilapidations*

The Company occupies leasehold premises. The Directors have assessed the level of provision for dilapidations after consultation with their advisors and made a provision accordingly.

### *Provision for warranties*

The Company provides customers with a 15 month warranty on mass spectrometry product sales. The Directors have assessed the level of provision for warranties by estimating the costs that may have to be incurred over the warranty period.

### *Research and development tax credits*

The Company recognises research and development tax credits receivable in cash as a current asset under the heading corporation tax receivable. These credits are subject to acceptance by HM Revenue & Customs and the resulting cash receipt may be greater or less than this amount.

## 5. Revenue

Throughout 2016 the Company operated in one business segment, that of research, development and commercialisation of mass spectrometry instruments.

The geographical analysis of revenue was as follows:

	<b>Year to 31 December 2016</b>	Year to 31 December 2015
	£	£
UK	12,347	158,515
Non-UK	838,833	624,298
	<b>851,180</b>	782,813

Further attribution of the non-UK revenue is not possible due to the nature of the sales via OEM agreements which are then distributed globally. One customer represented 57% of total revenue (2015: 52%).

## 6. Other operating income

The Company's other operating income for the year ended 31 December 2016 is £55,941 (2015: £218,782) and includes income from a European grant funded project and income from an insurance claim.

## Notes to the financial statements

### 7. Expenses by nature

	Year to 31 December 2016 £	Year to 31 December 2015 £
<b>Loss from operations is stated after charging/(crediting)</b>		
Amortisation of intangible assets	41,509	48,349
Provision for bad and doubtful debts	(1,989)	1,989
Movement in general inventory provision	(25,000)	(8,226)
Inventories expensed	65,253	115,721
Depreciation of property, plant and equipment	109,419	126,581
Profit on disposal of property, plant and equipment	(1,288)	-
Provision for dilapidations on leased buildings	16,779	9,000
Provision for warranty	27,769	-
Loss on disposal of intangible assets	2,029	-
Pension costs	116,146	116,977
Share based payments - equity settled	109,963	82,636
Operating lease rentals - land and buildings	155,155	153,297
Exchange (gain)/loss	(2,539)	(9,357)
Research and development expenditure (before pensions)	1,068,993	1,386,542
Directors' emoluments (before pensions and share based payments)	418,652	564,774

	Year to 31 December 2016 £	Year to 31 December 2015 £
<b>Services provided by the Company's auditors</b>		
Fees payable to the Company's auditors for the audit of the financial statements	17,500	16,750
Fees payable to the Company's auditors for other services		
- Tax compliance	4,000	5,000
- Other	-	4,449
	<b>21,500</b>	<b>26,199</b>

**8. Finance income**

	Year to 31 December 2016 £	Year to 31 December 2015 £
Bank interest	12,532	14,654

**9. Tax on loss on ordinary activities**

	Year to 31 December 2016 £	Year to 31 December 2015 £
<b>Domestic current period tax</b>		
UK corporation tax	(262,710)	(267,374)
Adjustment for prior periods	(41,109)	(92,047)
Current tax credit	(303,819)	(359,421)
<b>Tax on loss on ordinary activities</b>	<b>(303,819)</b>	<b>(359,421)</b>

**Factors affecting the current tax credit for the period**

	Year to 31 December 2016 £	Year to 31 December 2015 £
Loss before tax	(3,405,804)	(3,884,266)
Loss before tax multiplied by standard rate of UK corporation tax of 20% (2015: 20%)	(681,161)	(776,853)
Effects of:		
Non-deductible expenses	32,279	20,289
Depreciation	21,884	25,316
Loss on disposal of property, plant and equipment	406	-
Capital allowances	(26,430)	(34,969)
Research and development expenditure	(105,163)	(110,948)
Tax losses carried forward	495,475	609,791
Previous period research and development adjustment	(41,109)	(92,047)
<b>Current tax credit</b>	<b>(303,819)</b>	<b>(359,421)</b>

## Notes to the financial statements

The Company has estimated tax losses of £15,566,843 (2015: £13,071,202) available for carry forward against future trading profits.

### 10. Basic and diluted loss per ordinary share

	Year to 31 December 2016	Year to 31 December 2015
Loss after tax attributable to equity shareholders (£)	(3,101,985)	(3,524,845)
Weighted average number of ordinary 0.25p shares for the purpose of basic and diluted loss per share	105,824,162	65,378,437
<b>Basic and diluted loss per ordinary share</b>	<b>(2.93)p</b>	<b>(5.39)p</b>

Potential ordinary shares are not treated as dilutive as the Company is loss making, therefore the weighted average number of ordinary shares for the purposes of the basic and diluted loss per share are the same.

### 11. Intangible assets

Intangible assets comprise patents and trademarks owned by the Company. The cost is amortised on a straight line basis over a five year period as this has been judged as their estimated useful life.

Year ended 31 December 2016:

	£
<b>Cost</b>	
At 1 January 2016	440,981
Additions	25,611
Disposals	(23,214)
At 31 December 2016	<b>443,378</b>
<b>Amortisation</b>	
At 1 January 2016	338,677
Charge for the year	41,509
Disposals	(21,185)
At 31 December 2016	<b>359,001</b>
<b>Net book value</b>	
At 31 December 2016	<b>84,377</b>
At 31 December 2015	102,304

Year ended 31 December 2015:

	£
<b>Cost</b>	
At 1 January 2015	406,893
Additions	34,088
Disposals	-
At 31 December 2015	440,981
<b>Amortisation</b>	
At 1 January 2015	290,328
Charge for the year	48,349
Disposals	-
At 31 December 2015	338,677
<b>Net book value</b>	
At 31 December 2015	102,304

## 12. Property, plant and equipment

Year ended 31 December 2016:

	Plant and equipment £	Fixtures and fittings £	Total £
<b>Cost</b>			
At 1 January 2016	768,515	303,643	1,072,158
Additions	130,885	474	131,359
Disposals	(242,370)	(8,409)	(250,779)
At 31 December 2016	<b>657,030</b>	<b>295,708</b>	<b>952,738</b>
<b>Depreciation</b>			
At 1 January 2016	668,573	228,343	896,916
Charge for the year	62,990	46,429	109,419
Disposals	(242,158)	(8,409)	(250,567)
At 31 December 2016	<b>489,405</b>	<b>266,363</b>	<b>755,768</b>
<b>Net book value</b>			
At 31 December 2016	<b>167,625</b>	<b>29,345</b>	<b>196,970</b>
At 31 December 2015	99,942	75,300	175,242

## Notes to the financial statements

Year ended 31 December 2015:

	Plant and equipment £	Fixtures and fittings £	Total £
<b>Cost</b>			
At 1 January 2015	673,707	224,900	898,607
Additions	94,808	78,743	173,551
At 31 December 2015	768,515	303,643	1,072,158
<b>Depreciation</b>			
At 1 January 2015	603,239	167,096	770,335
Charge for the year	65,334	61,247	126,581
At 31 December 2015	668,573	228,343	896,916
<b>Net book value</b>			
At 31 December 2015	99,942	75,300	175,242

### 13. Inventories

	Year to 31 December 2016 £	Year to 31 December 2015 £
Raw materials	685,775	273,521
Work in progress	4,313	277,464
Finished goods	4,200	74,283
Subtotal	694,288	625,268
General provision	-	(25,000)
Total	694,288	600,268

Inventories are higher in 2016 as a result of increased stocks being built up to ensure the smooth transfer to a new manufacturing supplier.

**14. Trade and other receivables**

	Year to 31 December 2016 £	Year to 31 December 2015 £
<b>Amounts falling due within one year</b>		
Trade receivables	12,335	119,735
Other receivables	124,883	294,203
Other taxes and social security	26,513	31,807
	<b>163,731</b>	<b>445,745</b>

The ageing of trade receivables was as follows:

	Year to 31 December 2016 £	Year to 31 December 2015 £
Not past due	12,335	55,364
Up to 30 days past due	-	64,371
	<b>12,335</b>	<b>119,735</b>

Trade receivables were down significantly on 2015 due to lower sales in December and tighter credit control.

**15. Trade and other payables**

	Year to 31 December 2016 £	Year to 31 December 2015 £
<b>Amounts falling due within one year</b>		
Trade payables	185,739	260,218
Other taxes and social security	55,897	69,320
Other payables	11,956	13,736
Accruals and deferred income	174,150	264,711
	<b>427,742</b>	<b>607,985</b>

## Notes to the financial statements

### 16. Provisions

	Dilapidations £	Warranties £	TOTAL £
Balance at 1 January 2016	75,667	69,590	145,257
Movement during the year	16,779	27,769	44,548
Balance at 31 December 2016	<b>92,446</b>	<b>97,359</b>	<b>189,805</b>

The provision for anticipated dilapidations is in respect of the Company's leasehold properties at Woking and Abingdon. The provisions are based on future costs at the end of the lease.

The Company provides customers with a 15 month warranty on mass spectrometry product sales. The provision above is the anticipated cost of servicing those warranty claims which are serviced by Microsaic's own staff. The provision is based on historical costs including materials, replacement parts and the cost of service engineers.

### 17. Deferred tax

Deferred taxation provided in the financial statements:

	£
Balance at 1 January and 31 December 2016	-

A deferred tax asset in respect of tax losses has only been recognised to the extent of the deferred tax liability in respect of accelerated capital allowances.

	Year to 31 December 2016 £	Year to 31 December 2015 £
Accelerated capital allowances	<b>35,934</b>	33,870
Tax losses carried forward	<b>(35,934)</b>	(33,870)
	-	-

**18. Share capital**

	Number	£
<b>Allotted, called up and fully paid ordinary shares of 0.25p each</b>		
Ordinary shares as at 31 December 2015	73,365,146	183,413
Ordinary shares issued for cash in the year	108,000,000	270,000
Ordinary shares as at 31 December 2016	<b>181,365,146</b>	<b>453,413</b>

The Company has one class of share, ordinary shares of 0.25p each, with each share carrying one vote and equal rights to discretionary dividends. The Company issued the following ordinary shares of 0.25p each for cash during the year:

	Shares issued Number	Issue price Pence	Cash consideration £
26 August 2016 Placing of shares	108,000,000	5	5,400,000
	<b>108,000,000</b>		<b>5,400,000</b>

**19. Reserves**

The share premium account represents the excess over the nominal value for shares allotted, less issue costs.

The share option reserve represents accumulated charges made under IFRS 2 in respect of share based payments. Where share options expire, lapse or are exercised, the amounts within the share based payments reserve relating to those options are transferred to retained earnings as shown in the Statement of Changes in Equity.

## Notes to the financial statements

### 20. Operating lease commitments

At the year end the Company had future minimum lease payments under non-cancellable operating leases which fall due as follows:

	Year to 31 December 2016 £	Year to 31 December 2015 £
<b>Land and buildings</b>		
Within one year	146,714	123,103
Between two and five years	270,637	54,433
	<b>417,351</b>	177,536
<b>Equipment</b>		
Within one year	9,559	9,975
Between two and five years	-	9,559
	<b>9,559</b>	19,534

The lease on the Woking facility was renewed in September 2016 for a period of 5 years. The lease on the Milton Park office in Abingdon comes up for renewal in December 2017.

### 21. Capital commitments

At the balance sheet date the Company had no capital commitments.

	Year to 31 December 2016 £	Year to 31 December 2015 £
Contracted for but not provided in the financial statements	-	-

## 22. Directors' emoluments

	Year to 31 December 2016 £	Year to 31 December 2015 £
Salaries and fees	417,924	462,910
Other payments	-	10,422
Termination payment	-	65,100
Non cash payments	728	1,511
Pension costs	8,931	24,832
Employment related share based payments	83,701	-
	<b>511,284</b>	<b>564,775</b>

In the year to 31 December 2016 two Executive Directors that served during the year accrued benefits under Company's Auto-enrolment pension scheme. There are no key management personnel other than the Directors.

The highest paid Director, Mr J Ramage, received emoluments of £176,359 as disclosed in the Directors' Remuneration Report which included a share based payment charge of £59,459.

There were no gains on the exercise of share options.

## 23. Employees

	Year to 31 December 2016 Number	Year to 31 December 2015 Number
Directors	7	6
Other staff	27	31
	<b>34</b>	<b>37</b>
<b>Employment costs (including Directors)</b>	<b>£</b>	<b>£</b>
Wages and salaries	1,630,336	1,903,929
Social security costs	179,718	235,120
Termination payment	-	65,100
Pension costs	116,146	116,977
Employment related share based payments	109,963	82,636
	<b>2,036,163</b>	<b>2,403,762</b>

## Notes to the financial statements

### 24. Share-based payments

#### Share option schemes

The Company operates approved and unapproved share option schemes as a means of encouraging ownership and aligning interests of staff and shareholders.

	Year to 31 December 2016		Year to 31 December 2015	
	Number of options	Weighted average exercise price	Number of options	Weighted average exercise price
Outstanding at the beginning of the year	2,764,391	43.1p	3,155,391	46.8p
Granted during the year	7,195,000	7.6p	100,000	47.8p
Forfeited/expired during the year	(2,062,191)	41.8p	(359,000)	91.7p
Exercised during the year	-	-	(132,000)	25.86p
Outstanding at 31 December	7,897,200	11.1p	2,764,391	43.1p
Exercisable at 31 December	342,200	46.6p	458,200	45.7p

Details of options in issue at the year-end are:

Date of grant	Exercise price	Latest exercise date	Estimated fair value	Number of options 31 December 2016	Number of options 31 December 2015
May 2006	43.10p	May 2016	79.5p	-	116,000
February 2008	129.31p	February 2018	26.6p	23,200	23,200
December 2010	25.86p	December 2020	11.0p	29,000	29,000
July 2012	42.00p	July 2022	12.1p	290,000	290,000
December 2012	39.00p	December 2022	13.6p	-	1,276,191
May 2014	46.80p	May 2024	11.4p	160,000	830,000
November 2014	49.50p	November 2024	11.9p	100,000	100,000
April 2015	47.75p	May 2025	10.5p	100,000	100,000
January 2016	23.5p	January 2026	11.7p	995,000	-
September 2016	5p	September 2026	2.0p	3,200,000	-
September 2016	5p	September 2026	0.6p	3,000,000	-
				7,897,200	2,764,391

The estimated fair values of the share options were calculated by applying the Black Scholes model. The period of exercise for all options granted is between 1 and 10 years from date of grant and the vesting period is normally 3 years from the date of grant. The expected volatility has been determined by calculating the historical volatility of the share price over the previous year. The fair value of options is calculated at the time of award using Black Scholes or Monte Carlo simulations. The model inputs are detailed below:

**The model inputs using Black Scholes were:**

Date of grant	Exercise price	Share price	Risk free rate	Expected volatility	Gross dividend yield
February 2008	*129.31p	*129.31p	5.25%	35%	-
December 2010	*25.86p	*25.86p	1.50%	75%	-
April 2011	32.00p	32.00p	0.50%	50%	-
June 2012	40.00p	40.00p	0.50%	33%	-
July 2012	42.00p	42.00p	0.50%	33%	-
May 2014	46.80p	46.80p	2.69%	16%	-
November 2014	49.50p	49.50p	2.05%	18%	-
April 2015	47.75p	47.75p	1.58%	17%	-
January 2016	23.50p	23.50p	1.74%	38%	-
September 2016	5p	5.12p	0.87%	30%	-

\* the share prices and corresponding option exercise prices for grants made up to 2010 have been adjusted for a bonus issue and share sub-division that took place in April 2011.

From September 2016 and consistent with the application guidance in IFRS 2 the Company considered the most appropriate method to obtaining volatility to be the use of the historical volatility of comparable listed companies.

**Model inputs using Monte Carlo simulations**

The three million options awarded to the Executive Directors in September 2016 have share price performance criteria linked to the vesting of the options and have therefore been valued using a Monte Carlo Simulation. The options vest in three tranches linked to the performance conditions detailed below. In addition the Executive Directors must be employed by the Company for at least two years from the date of award.

Tranche 1: 999,999 options to vest if the average share price is greater than or equal to 10p over a period of 30 calendar days;

Tranche 2: 999,999 options to vest if the average share price is greater than or equal to 15p over a period of 30 calendar days; and

Tranche 3: 1,000,002 options to vest if the average share price is greater than or equal to 20p over a period of 30 calendar days.

## Notes to the financial statements

The Monte Carlo Model was adapted to incorporate specific vesting conditions relating to the options. The model assumes the options vest on the second anniversary of the date of grant. The fair value of a single option subject to the share price condition is set out below along with the key model inputs:

	2021	2022	2023	2024	2025	2026	Total
Exercise Price	£0.05	£0.05	£0.05	£0.05	£0.05	£0.05	
Expected Life (years)	5	1	1	1	1	1	
Volatility	30%	30%	30%	30%	30%	30%	
Risk Free Rate	0.31%	0.12%	0.10%	0.13%	0.12%	0.10%	
Dividend Yield	0%	0%	0%	0%	0%	0%	
Probability	50%	15%	15%	10%	5%	5%	
Weighted Fair Value Per Option	£0.002	£0.001	£0.001	£0.001	£0.0005	£0.001	£0.006
Total Weighted Fair Value	£6,714	£2,542	£3,148	£2,569	£1,435	£2,057	£18,465

### 25. Warrants

On 20 October 2015, the Company granted Warrants to Numis Securities Ltd, the Company's brokers as part of their remuneration for the equity placing which was completed in October 2015, to subscribe for 1,467,303 ordinary shares, being 2% of the issued share capital of the Company on that date. The exercise price of the Warrants is 33p and the Warrants can be exercised for a period of 5 years from the date of grant.

The estimated fair value of the Warrants of 8.84p was calculated by applying the Black Scholes model. The period of exercise for the Warrants is 5 years from the date of grant and there is no vesting period. The expected volatility has been determined by calculating the historical volatility of the share price over the previous year.

The model inputs were:

Date of grant	Share price	Exercise Price	Risk free rate	Expected volatility
October 2015	33.0p	33.0p	1.86%	37%

## 26. Financial instruments

The Company's financial instruments comprise cash and various trade receivables and trade payables that arise directly from its operations. No trading in financial instruments is undertaken.

The main risks arising from the Company's financial instruments are liquidity, currency and interest rate. The Board oversees the management of these risks, which are summarised below.

### Liquidity risk

The Company is financing its operations from equity funding provided by shareholders and revenues generated by the business. The Company seeks to manage liquidity risk to ensure sufficient funds are available to meet requirements.

The Company invests its cash reserves in bank and money market deposits as a liquid resource to fund its operations. The Company's strategy for managing cash is to balance interest income with counterparty risk ensuring the availability of cash to match the profile of the Company's cash flows.

### Interest rate risk

The Company does not face any significant interest rate risk as it has no borrowings. Surplus funds are invested to maintain a balance between accessibility of funds, competitive rates, and counterparty risk whilst investing funds safely.

### Credit risk

The Company manages its credit risk in cash and cash equivalents by spreading surplus funds between creditworthy financial institutions.

The Company is also exposed to credit risk attributable to trade and other receivables. The maximum credit risk in respect of the financial assets at each period end is represented by the balance outstanding on trade and other receivables. The Company has limited exposure to credit risk, as the majority of its trade and other receivables are due from major corporations and institutions.

### **Foreign currency risk**

The majority of the Company's transactions are denominated in pounds sterling.

The Company has no long term commitments to purchase goods or services in foreign currencies. Purchases denominated in foreign currency are expensed at the exchange rate prevailing at the date of the transaction, and comprise an immaterial proportion of the Company's total expenditure.

The only assets and liabilities denominated in foreign currencies relate to trade receivables and trade payables with overseas counterparties together with small balances of US dollar and Euro currencies to settle these liabilities. The risks and sums involved are considered to be immaterial.

### **Fair values**

The Directors consider that there is no material difference between the book value and the fair value of the financial instruments at 31 December 2016 and 31 December 2015.

### **Capital management**

The Company's capital base comprises equity attributable to shareholders. As the Company's focus has been on establishing itself as a successful supplier of mass spectrometer, the primary objective in managing cash spend has been to achieve progress on product development and commercialisation in a cost efficient manner and in managing liquidity risk to ensure the Company continues as a going concern.

## **27. Related party transactions**

The remuneration paid to the Directors is shown in Note 22 to the financial statements. A number of Directors subscribed for shares in the Company on 26 August 2016 at the issue price of 5 pence per ordinary share, as detailed on page 17. During the year £15,600 (2015: £14,275) was paid to Mr R Syms who is a consultant to the Company and has a 2% interest in Microsaic as at 31 December 2016. At 31 December 2016 the balance owed to Mr R Syms was nil (2015: nil).

There were no other related party transactions.

## **28. Control**

As at 31 December 2016, no individual shareholder had a controlling interest in the Company.



## Notice of Annual General Meeting

Notice is hereby given that the Annual General Meeting of Microsaic Systems plc (the "Company") shall be held at the offices of Citigate Dewe Rogerson, 3 London Wall Buildings, London Wall, London EC2M 5SY on 15 May 2017 at 11 a.m. for the purpose of considering and, if thought fit, passing the following resolutions of which resolutions 1 to 4 inclusive shall be proposed as ordinary resolutions and resolutions 5 and 6 shall be proposed as special resolutions.

### Ordinary resolutions

1. THAT the Company's financial statements for the year ended on 31 December 2016, together with the Directors' report and auditors' report thereon, be and are hereby received and adopted;
2. THAT, upon the recommendation of the Directors, Saffery Champness be and hereby are reappointed as auditors to the Company, and that the Board be authorised to fix the remuneration of the auditors;
3. THAT Andrew Holmes be and hereby is re-appointed as a Director of the Company, following his retirement pursuant to Article 81.1(c) of the Articles;
4. THAT the Directors be and are hereby generally and unconditionally authorised, in accordance with section 551 of the Companies Act 2006, to exercise all the powers of the Company to allot equity securities (as defined by section 560 of the Companies Act 2006) up to an aggregate nominal value of £151,137 representing one third of the Company's issued share capital at the date of this document, provided that this authority shall (unless renewed, varied or extended by the Company in general meeting) expire on the date which is 15 months after the date on which this resolution is passed or, if earlier, on the conclusion of the next annual general meeting of the Company, save that the Company may before such expiry make an offer or agreement which would or might require equity securities to be allotted after such expiry, and the Directors may allot such equity securities in pursuance of such offer or agreement as if this authority had not expired, and provided further that this authority shall revoke and replace all unexercised authorities previously granted to the Directors to allot shares but without prejudice to any allotment of shares or grant of rights already made, offered or agreed to be made pursuant to such authorities;

### Special resolutions

5. THAT, conditional upon the passing of resolution 4, the Directors be and are hereby empowered, pursuant to section 570 of the Companies Act 2006, to allot equity securities (as defined by section 560 of the Companies Act 2006) for cash as if section 561(1) of the Companies Act 2006 did not apply to any such allotment, provided that this power shall be limited to:
  - (a) the allotment of equity securities pursuant to an offer or issue by way of rights, open offer or other pre-emptive offer:
    - (i) to the holders of ordinary shares in the capital of the Company and other persons entitled to participate therein in proportion (as nearly as may be practicable) to their respective holdings; and
    - (ii) to holders of other equity securities as required by the rights of those securities or as the Directors otherwise consider necessary, but subject to such exclusions or other arrangements as the Directors may deem necessary or expedient in relation to treasury shares, fractional entitlements, record dates,

legal or practical problems in or under the laws of any territory or the requirements of any regulatory body or stock exchange; and

- (b) the allotment (otherwise than pursuant to resolution 5(a) above) of equity securities up to an aggregate nominal amount of £22,670 representing five (5) per cent of the Company's issued share capital at the date of this document, and such power shall expire on the date which is 15 months after the date on which this resolution is passed or, if earlier, the conclusion of the Company's next annual general meeting (unless renewed, varied or revoked by the Company prior to or on such date) save that the Company may, before such expiry make offers or agreements which would or might require equity securities to be allotted after such expiry and the Directors may allot equity securities in pursuance of any such offer or agreement notwithstanding that the power conferred by this resolution has expired;
6. THAT, conditional upon the passing of resolution 4, the Directors be and are hereby empowered, in addition to the power conferred by resolution 5, pursuant to section 570 of the Companies Act 2006, to allot equity securities (as defined by section 560 of the Companies Act 2006) for cash as if section 561(1) of the Companies Act 2006 did not apply to any such allotment, such authority to be:
- (a) limited to an aggregate nominal amount of £22,670 representing five (5) per cent of the Company's issued share capital at the date of this document; and
  - (b) used only for the purposes of financing (or refinancing, if the authority is to be used within six months after the original transaction) a transaction which the Directors of the Company determine to be an acquisition or other capital investment of a kind contemplated by the Statement of Principles on Disapplying Pre-Emption Rights most recently published by the Pre-Emption Group prior to the date of this document, and such power shall expire on the date which is 15 months after the date on which this resolution is passed or, if earlier, the conclusion of the Company's next annual general meeting (unless renewed, varied or revoked by the Company prior to or on such date) save that the Company may, before such expiry make offers or agreements which would or might require equity securities to be allotted after such expiry and the Directors may allot equity securities in pursuance of any such offer or agreement notwithstanding that the power conferred by this resolution has expired.

The power granted pursuant to resolutions 5 and 6 revokes and replaces all unexercised powers previously granted to the Directors to allot equity securities as if section 561(1) of the Companies Act 2006 did not apply but without prejudice to any allotment of equity securities already made or agreed to be made pursuant to such authorities.

**By order of the Board**

**Andrew Holmes**  
Company Secretary

21 April 2017

**Registered Office**

GMS House  
Boundary Road  
Woking  
Surrey  
GU21 5BX

**Explanatory comments on the resolutions proposed at the annual general meeting (the “Meeting”) of the Company to be held at the offices of Citigate Dewe Rogerson, 3 London Wall Buildings, London Wall, London EC2M 5SY on 15 May 2017 at 11 a.m.**

**Resolution 1** – The Company is required by its Articles and by the Companies Act 2006 to lay the Directors’ and auditors’ reports and copies of the annual accounts before the Meeting.

**Resolution 2** – This resolution concerns the re-appointment of Saffery Champness, recommended by the Directors, as auditors to the Company. Whilst resolving to reappoint Saffery Champness as auditors to the Company, the resolution also authorises the Board to fix the auditors’ remuneration.

**Resolution 3** – A minimum of one third of the Directors are also required to retire each year and seek re-appointment at the Meeting. In calculating the number of Directors required to retire Dr James Ramage has been disregarded pursuant to Article 81.1(d) of the Articles as he wishes to retire at the AGM without reappointment. Biographies of the Directors are contained in the Company’s annual report for the year ended 31 December 2016.

**Resolutions 4 to 6** – These resolutions concern the authority of the Directors to allot up to one third of the Company’s existing issued share capital (including up to ten (10) per cent as if the statutory pre-emption rights did not apply; up to five (5) per cent of which may be allotted without restriction and the balance of which may only be allotted for financing a transaction or other capital investment that the Company wishes to undertake).

Please also read the notes below which provide further information in respect of the Meeting.

#### Notes:

**The following notes explain your general rights as a shareholder and your rights to attend and vote at the Meeting or to appoint someone else to vote on your behalf.**

#### Quorum

1. The quorum for the Meeting shall be two shareholders present in person or by proxy. If, within fifteen minutes from the appointed time for the Meeting, a quorum is not present, then the Meeting will stand adjourned to the same day in the next week (or if that day is a public holiday to the next working day thereafter) at the same time and place or to such other day, time or place as the Directors may determine and no notice of such adjournment need be given. At an adjourned Meeting, shareholders present in person or by proxy will form a quorum.

#### Website address

2. Information regarding the Meeting, including information required by section 311A of the Companies Act 2006, is available from [www.microsaic.com](http://www.microsaic.com)

### Entitlement to attend and vote

3. Only those holders of ordinary shares of 0.25p each in the capital of the Company ("Shares") registered on the Company's register of members at 6 p.m. on 11 May 2017 shall be entitled to attend and vote at the Meeting.

### Appointment of proxies

4. Members entitled to attend, speak and vote at the Meeting (in accordance with Note 3 above) are entitled to appoint one or more proxies to attend, speak and vote in their place. If you wish to appoint a proxy please use the form of proxy enclosed with this document (the "Form of Proxy"). In the case of joint members, only one need sign the Form of Proxy. The vote of the senior joint member will be accepted to the exclusion of the votes of the other joint members. For this purpose, seniority will be determined by the order in which the names of the members appear in the register of members in respect of the joint shareholding. The completion and return of the Form of Proxy will not stop you attending and voting in person at the Meeting should you wish to do so. A proxy need not be a member of the Company. You may appoint more than one proxy provided each proxy is appointed to exercise the rights attached to a different share or shares held by you. If you choose to appoint multiple proxies use a separate copy of the Form of Proxy (which you may photocopy) for each proxy, and indicate after the proxy's name the number of shares in relation to which they are authorised to act (which, in aggregate, should not exceed the number of Shares held by you). Please also indicate if the proxy instruction is one of multiple instructions being given. All forms must be signed and returned in the same envelope.
5. You can appoint the Chairman of the Meeting, or any other person, as your proxy. If you wish to appoint someone other than the Chairman, cross out the words "the Chairman of the Meeting" on the Form of Proxy and insert the full name of your appointee.
6. You can instruct your proxy how to vote on each resolution by ticking the "For" and "Against" boxes as appropriate (or entering the number of shares which you are entitled to vote). If you wish to abstain from voting on any resolution please tick the box which is marked "Vote Withheld". It should be noted that a vote withheld is not a vote in law and will not be counted in the calculation of the proportion of votes "For" and "Against" a resolution.

If you do not indicate on the Form of Proxy how your proxy should vote, he/she can exercise his/her discretion as to whether, and if how so how, he/she votes on each resolution, as he/she will do in respect of any other business (including amendments to resolutions) which may properly be conducted at the Meeting.

A member that is a company or other organisation not having a physical presence cannot attend in person but can appoint someone to represent it. This can be done in one of two ways: either by the appointment of a proxy (described in Notes 4 to 6 above) or of a corporate representative. Members considering the appointment of a corporate representative should check their own legal position, the Company's articles of association and the relevant provision of the Companies Act 2006.

A company incorporated in England and Wales or Northern Ireland should execute the Form of Proxy under its common seal or otherwise in accordance with Section 44 of the Companies Act 2006 or by signature on its behalf by a duly authorised officer or attorney whose power of attorney or other authority should be enclosed with the Form of Proxy.

### **Appointment of proxies**

7. The Form of Proxy and any power of attorney (or a notarially certified copy or office copy thereof) under which it is executed must be received by Neville Registrars Limited, Neville House, 18 Laurel Lane, Halesowen, West Midlands B63 3DA no later than at 11 a.m. on 11 May 2017 in respect of the Meeting. Any Forms of Proxy received before such time will be deemed to have been received at such time. In the case of an adjournment, the Form of Proxy must be received by Neville Registrars Limited no later than 48 hours (excluding non-working days) before the rescheduled Meeting.

On completing the Form of Proxy, sign it and return it to Neville Registrars Limited at the address shown on the reverse of the Form of Proxy. As postage has been prepaid no stamp is required. You may, if you prefer, return the Form of Proxy in a sealed envelope to the following address: FREEPOST NEVILLE REGISTRARS (this is all that is required on the envelope).

### **Termination of proxy appointments**

8. In order to revoke a proxy instruction you will need to inform the Company. Please send a signed hard copy notice clearly stating your intention to revoke your proxy appointment to Neville Registrars Limited, Neville House, 18 Laurel Lane, Halesowen, West Midlands B63 3DA.

In the case of a member which is a company incorporated in England and Wales or Northern Ireland, the revocation notice must be executed under its common seal or otherwise in accordance with section 44 of the Companies Act 2006 or by signature on its behalf by an officer or attorney whose power of attorney or other authority should be included with the revocation notice.

If you attempt to revoke your proxy appointment but the revocation is received after the time of the Meeting or the taking of the vote at which the proxy is used, then, subject to the paragraph directly below, your proxy will remain valid.

If you submit more than one valid proxy appointment in respect of the same Shares, the appointment received last before the latest time for receipt of proxies will take precedence.

Completion of a Form of Proxy will not preclude a member from attending and voting in person. If you have appointed a proxy and attend the Meeting in person, your proxy appointment will be automatically terminated.

### Issued shares and total voting rights

9. The total number of Shares in issue in the capital of the Company as at close of business on the last practical date prior to the printing of this Notice is 181,365,146 ordinary shares of 0.25p each.

On a vote by a show of hands, every holder of Shares who (being an individual) is present in person, by proxy or (being a corporation) is present by a duly authorised representative, not being himself a member, shall have one vote. On a poll every holder of Shares who is present in person or by proxy shall have one vote for every complete Share held by him and such proportion of a vote that represents the number of fractions of a Share so held.

### Communication

10. Except as provided above, members who have general queries about the Meeting should use the following means of communication (no other methods of communication will be accepted):
- calling the Neville Registrars Limited shareholder helpline (lines are open from 9.00 a.m. to 5.00 p.m. Monday to Friday, excluding public holidays):
    - (i) From the UK: 0121 585 1131;
    - (ii) From outside the UK: +44 (0) 121 585 1131 (calls from outside the UK are charged at applicable international rates); or
  - in writing to Neville Registrars Limited at Neville House, 18 Laurel Lane, Halesowen, West Midlands B63 3DA.

You may not use any electronic address provided either:

- in this notice of Meeting; or
- any related documents (including the Form of Proxy for this Meeting), to communicate with the Company for any purposes other than those expressly stated.

## Notes

## Notes



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