
BIOCHROM LIMITED

**ANNUAL REPORT AND FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2016**



BIOCHROM LIMITED

COMPANY INFORMATION

DIRECTORS

Mr J Eyles
Mr R Gagnon
Mr J Duchemin

REGISTERED NUMBER

03526954

REGISTERED OFFICE

Building 1020
Cambourne Business Park
Cambourne
Cambridge
CB23 6DW

INDEPENDENT AUDITORS

KPMG LLP
Statutory Auditor & Chartered Accountants
Botanic House
100 Hills Road
Cambridge
CB2 1AR

BIOCHROM LIMITED

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BIOCHROM LIMITED

STRATEGIC REPORT FOR THE YEAR ENDED 31 DECEMBER 2016

INTRODUCTION

The directors present their annual report and financial statements for the year ended 31 December 2016.

BUSINESS REVIEW

During the financial statement period Biochrom achieved a profit after tax for the financial year of £856,213 compared to a profit of £209,558 in 2015.

Sales by the company grew by £868,091 or 6.2% versus 2015. Amino Acid Analyser instrument, sales primarily into Asian markets accounted for £271,215 of this growth. We also sold an £674,766 of consumables and accessories in European and North American markets with modest growth in this category in Asia.

In 2015 our OEM partner withdrew from the Spectrophotometer market. In 2016 we relaunched our Novaspec instruments and rebranded under the Biochrom brand, and whilst overall sales of these instruments declined a further £152,841 in total in the second half of the year sales grew from £256,675 to £782,887 as we re-established these instruments in the market.

The increased sales are reflected in our overall gross profit improving from £5,172,236 in 2015 to £5,254,251 in 2016. However, our gross margin % declined from 37% to 35% in the same period. The decline in gross margin is due to an increase in costs as a result in the decline in the value of pound sterling in the second half of the year as most of our material input costs are denominated in USD.

Operating expenses (comprising distribution costs, other administrative expenses and research and development costs net of other operating income) declined from £5,006,140 (35.8% of sales) to £4,632,965 (31.2% of sales).

In October 2016 we sold our holding in our German subsidiary, AHN Biotechnologie GmbH for the sum of 1.6 million euro. The carrying value of this investment was £819,321.

Biochrom recorded a profit on ordinary activities before taxation for the year ended 31 December 2016 of £436,232 (2.9% of sales). This compares to a profit before taxation of £50,449 (0.4% of sales) in 2015.

BIOCHROM LIMITED

STRATEGIC REPORT (CONTINUED) FOR THE YEAR ENDED 31 DECEMBER 2016

PRINCIPAL RISKS AND UNCERTAINTIES

Management continues to evaluate the financial performance of its operations by regularly monitoring certain operating metrics of the company and, when appropriate, effects changes to leverage its infrastructure and its rapidly developing distribution channels. Key performance indicators which monitor sales growth trends, expenses, operating profitability, resource efficiency and working capital are regularly reviewed.

The future prospects of the company may be affected by the following risk factors:

The current credit and financial market conditions may exacerbate certain risks affecting our business. The failure of any banking institution in which we deposit our funds or the failure of such banking institution to provide services in the current economic environment could have a material adverse effect on our operational result, financial condition or access to borrowings.

Currency exchange rate fluctuations may have a negative impact on our reported earnings.

The impact of the intended withdrawal of the United Kingdom from the European Union may have a negative impact on the reported earnings of Biochrom Ltd. Currently we enjoy the free movement of people, services and goods within the European Union. It is uncertain how we will trade with our European customers and suppliers in the future.

Our competitors and potential competitors may develop products and technologies that are more effective or commercially attractive than our products. Our products compete in markets that are subject to technological change, and therefore one or more of our products could be made obsolete by new technologies.

If we are unable to protect our intellectual property effectively, third parties may use our technology which would impair our ability to compete in our markets.

RESEARCH AND DEVELOPMENT

It is the company's policy to carry out research and development to develop products in the fields of spectrophotometry and amino acid analysis. Our objective is the rapid creation of products utilising Biochrom's strengths in electronics, software, optical and mechanical design, and production skills. Expenditure on research and development is set out in the profit and loss account.

FUTURE DEVELOPMENTS

Through 2016 we developed updated versions of our VDAS spectrophotometer line of instruments and launched these products Q1 2017. Management continues to evaluate the financial performance of its operations by regularly monitoring certain operating metrics of the company and, when appropriate, effects changes to leverage its infrastructure and its rapidly developing distribution channels. Key performance indicators which monitor sales growth trends, expenses, operating profitability, resource efficiency and working capital are regularly reviewed.

BIOCHROM LIMITED

STRATEGIC REPORT (CONTINUED)
FOR THE YEAR ENDED 31 DECEMBER 2016

This report was approved by the board and signed on its behalf.



Mr J Eyles
Director

Date: 15/11/2017

BIOCHROM LIMITED

DIRECTORS' REPORT FOR THE YEAR ENDED 31 DECEMBER 2016

The directors present their report and the financial statements for the year ended 31 December 2016.

PRINCIPAL ACTIVITY

During the year the company developed, manufactured and marketed scientific instruments, medical and laboratory equipment and associated chemicals. The principal activities of the subsidiaries were the design, manufacture and distribution of medical, laboratory and scientific equipment.

DIRECTORS

The directors who served during the year were:

Mr J Eyles
Mr R Gagnon
Mr J Duchemin

RESULTS AND DIVIDENDS

The profit for the year, after taxation, amounted to £856,213 (2015 - £209,558).

The directors do not recommend the payment of a dividend (2015 - £NIL).

DIRECTORS' RESPONSIBILITIES STATEMENT

The directors are responsible for preparing the Strategic Report, the Directors' 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 elected to prepare the financial statements in accordance with applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice), including Financial Reporting Standard 102 'The Financial Reporting Standard applicable in the UK and Republic of Ireland'. 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 of the profit or loss of the Company for that period.

In preparing these financial statements, the directors are required to:

- select suitable accounting policies for the Company's financial statements and then apply them consistently;
- make judgments and accounting estimates that are reasonable and prudent;
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Company will continue in business.

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 to enable them to ensure that the financial statements comply with the Companies Act 2006. They are also responsible for safeguarding the assets of the Company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

BIOCHROM LIMITED

DIRECTORS' REPORT (CONTINUED)
FOR THE YEAR ENDED 31 DECEMBER 2016

DISCLOSURE OF INFORMATION TO AUDITORS

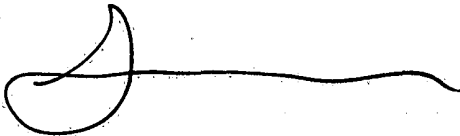
Each of the persons who are directors at the time when this Directors' Report is approved has confirmed that:

- so far as the director is aware, there is no relevant audit information of which the Company's auditors are unaware, and
- the director has taken all the steps that ought to have been taken as a director in order to be aware of any relevant audit information and to establish that the Company's auditors are aware of that information.

POST BALANCE SHEET EVENTS

There have been no significant events affecting the Company since the year end.

This report was approved by the board and signed on its behalf:



Mr J Eyles
Director

Date:

15/11/2017

BIOCHROM LIMITED

INDEPENDENT AUDITORS' REPORT TO THE SHAREHOLDERS OF BIOCHROM LIMITED

We have audited the financial statements of Biochrom Limited for the year ended 31 December 2016. The financial reporting framework that has been applied in their preparation is applicable law and UK Accounting Standards (UK Generally Accepted Accounting Practice), including FRS 102 The Financial Reporting Standard applicable in the UK and Republic of Ireland.

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 auditor's 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 set out on page 3, 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

A description of the scope of an audit of financial statements is provided on the Financial Reporting Council's website at www.frc.org.uk/apb/scope/UKNP.

OPINION ON FINANCIAL STATEMENTS

In our opinion the financial statements:

- give a true and fair view of the state of the Company's affairs as at 31 December 2016 and of its profit for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- have been prepared in accordance with the requirements of the Companies Act 2006.

OPINION ON OTHER MATTER PRESCRIBED BY THE COMPANIES ACT 2006

In our opinion the information given in the Strategic Report and the Directors' Report for the financial year is consistent with the financial statements.

Based solely on the work required to be undertaken in the course of the audit of the financial statements and from reading the Strategic report and the Directors' report:

- we have not identified material misstatements in those reports; and
- in our opinion, those reports have been prepared in accordance with the Companies Act 2006.

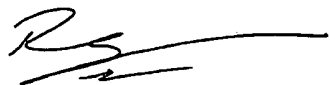
BIOCHROM LIMITED

INDEPENDENT AUDITORS' REPORT TO THE SHAREHOLDERS OF BIOCHROM LIMITED (CONTINUED)

MATTERS ON WHICH WE ARE REQUIRED TO REPORT BY EXCEPTION

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, or returns adequate for our audit have not been received from branches not visited by us; or
- the 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.



Richard Bartlett-Rawlings (Senior Statutory Auditor)

for and on behalf of
KPMG LLP

Statutory Auditor
Chartered Accountants

Botanic House
100 Hills Road
Cambridge
CB2 1AR

Date: 17 November 2017

BIOCHROM LIMITED

**STATEMENT OF COMPREHENSIVE INCOME
FOR THE YEAR ENDED 31 DECEMBER 2016**

	Note	2016 £	2015 £
Turnover	4	14,835,428	13,967,337
Cost of sales		(9,581,177)	(8,795,101)
GROSS PROFIT		5,254,251	5,172,236
Distribution costs		(2,867,493)	(1,532,782)
Administrative expenses		(1,765,472)	(3,473,358)
OPERATING PROFIT	5	621,286	166,096
Interest receivable and similar income	9	1,718	2,840
Interest payable and expenses	10	(124,772)	(27,487)
Other finance costs	11	(62,000)	(91,000)
PROFIT BEFORE TAX		436,232	50,449
Tax on profit	12	419,981	159,109
PROFIT FOR THE YEAR		856,213	209,558
OTHER COMPREHENSIVE INCOME FOR THE YEAR			
Actuarial gains on defined benefit pension scheme		(970,000)	442,000
Movement of deferred tax relating to pension deficit		(164,900)	(208,980)
OTHER COMPREHENSIVE INCOME FOR THE YEAR		(1,134,900)	233,020
TOTAL COMPREHENSIVE INCOME FOR THE YEAR		(278,687)	442,578

The notes on pages 12 to 41 form part of these financial statements.

BIOCHROM LIMITED
REGISTERED NUMBER: 03526954

BALANCE SHEET
AS AT 31 DECEMBER 2016

	Note	2016 £	2015 £
FIXED ASSETS			
Intangible assets	13	1,391,712	1,622,341
Tangible assets	14	678,093	725,892
Investments	15	11,989,690	13,177,739
		<u>14,059,495</u>	<u>15,525,972</u>
CURRENT ASSETS			
Stocks	16	1,468,333	2,258,555
Debtors: amounts falling due within one year	17	6,897,332	5,977,989
Cash at bank and in hand		1,641,816	41,721
		<u>10,007,481</u>	<u>8,278,265</u>
Creditors: amounts falling due within one year	18	(3,603,700)	(3,600,824)
NET CURRENT ASSETS		<u>6,403,781</u>	<u>4,677,441</u>
TOTAL ASSETS LESS CURRENT LIABILITIES		<u>20,463,276</u>	<u>20,203,413</u>
PROVISIONS FOR LIABILITIES			
Other provisions	21	(37,246)	(12,062)
		<u>(37,246)</u>	<u>(12,062)</u>
Pension liability	26	(2,419,000)	(2,019,000)
NET ASSETS		<u><u>18,007,030</u></u>	<u><u>18,172,351</u></u>
CAPITAL AND RESERVES			
Called up share capital	22	100	100
Share premium account	23	1,559,476	1,559,476
Capital redemption reserve	23	4,711,382	4,711,382
Profit and loss account	23	11,736,072	11,901,393
		<u>18,007,030</u>	<u>18,172,351</u>

The financial statements were approved and authorised for issue by the board and were signed on its behalf by:

Mr J Eyles
Director

Date:

15/11/2017

The notes on pages 12 to 41 form part of these financial statements.

BIOCHROM LIMITED

**STATEMENT OF CHANGES IN EQUITY
FOR THE YEAR ENDED 31 DECEMBER 2016**

	Called up share capital	Share premium account	Capital redemption reserve	Profit and loss account	Total equity
	£	£	£	£	£
At 1 January 2016	100	1,559,476	4,711,382	11,901,393	18,172,351
COMPREHENSIVE INCOME FOR THE YEAR					
Profit for the year	-	-	-	856,213	856,213
Actuarial losses on pension scheme	-	-	-	(1,134,900)	(1,134,900)
TOTAL COMPREHENSIVE INCOME FOR THE YEAR	-	-	-	(278,687)	(278,687)
Share based payments	-	-	-	113,366	113,366
AT 31 DECEMBER 2016	100	1,559,476	4,711,382	11,736,072	18,007,030

BIOCHROM LIMITED

**STATEMENT OF CHANGES IN EQUITY
FOR THE YEAR ENDED 31 DECEMBER 2015**

	Called up share capital	Share premium account	Capital redemption reserve	Profit and loss account	Total equity
	£	£	£	£	£
At 1 January 2015	100	1,559,476	-	11,383,339	12,942,915
COMPREHENSIVE INCOME FOR THE YEAR					
Profit for the year	-	-	-	209,558	209,558
Actuarial gains on pension scheme	-	-	-	233,020	233,020
TOTAL COMPREHENSIVE INCOME FOR THE YEAR	-	-	-	442,578	442,578
Contribution from waiver of intercompany receivable	-	-	4,711,382	-	4,711,382
Share based payments	-	-	-	75,476	75,476
AT 31 DECEMBER 2015	100	1,559,476	4,711,382	11,901,393	18,172,351

The notes on pages 12 to 41 form part of these financial statements.

BIOCHROM LIMITED

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2016

1. GENERAL INFORMATION

Biochrom Limited is a private limited company limited by shares and is incorporated and domiciled in England. The registered company number is 03526954. The company's registered office is disclosed on the company information page. The principal activity of the company is disclosed in the directors report.

The parent entity of the smallest group consolidated is Harvard Bioscience Inc, a company incorporated in USA. Copies of the consolidated financial statements are available to the public from Harvard Bioscience Inc., 84 October Hill Road, Holliston MA, 01746 1371, USA.

2. ACCOUNTING POLICIES

2.1 BASIS OF PREPARATION OF FINANCIAL STATEMENTS

The financial statements have been prepared under the historical cost convention unless otherwise specified within these accounting policies and in accordance with Financial Reporting Standard 102, the Financial Reporting Standard applicable in the UK and the Republic of Ireland and the Companies Act 2006.

The preparation of financial statements in compliance with FRS 102 requires the use of certain critical accounting estimates. It also requires management to exercise judgment in applying the Company's accounting policies (see note 3).

The following principal accounting policies have been applied:

2.2 FINANCIAL REPORTING STANDARD 102 - REDUCED DISCLOSURE EXEMPTIONS

The company has taken advantage of the following disclosure exemptions in preparing these financial statements, as permitted by the FRS 102 "The Financial Reporting Standard applicable in the UK and Republic of Ireland":

- the requirements of Section 7 Statement of Cash Flows;

This information is included in the consolidated financial statements of Harvard Bioscience Inc as at 31 December 2016 and these financial statements may be obtained from 84 October Hill Road, Holliston MA, 01746 1371, USA.

2.3 EXEMPTION FROM PREPARING CONSOLIDATED FINANCIAL STATEMENTS

The Company is a parent Company that is also a subsidiary included in the consolidated financial statements of its immediate parent undertaking established under the law of a non-EEA state and is therefore exempt from the requirement to prepare consolidated financial statements under section 401 of the Companies Act 2006.

2.4 GOING CONCERN

The company's business activities, together with the factors likely to affect its future development, performance and position are set out in the strategic report and directors' report on pages 1 to 4. The directors have considered trading and cash projections and are satisfied that the company will continue in operational existence for the foreseeable future. For this reason, they continue to adopt the going concern basis in preparing the financial statements.

**NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2016**

2. ACCOUNTING POLICIES (CONTINUED)

2.5 REVENUE

Revenue is recognised to the extent that it is probable that the economic benefits will flow to the Company and the revenue can be reliably measured. Revenue is measured as the fair value of the consideration received or receivable, excluding discounts, rebates, value added tax and other sales taxes. The following criteria must also be met before revenue is recognised:

Sale of goods

Revenue from the sale of goods is recognised when all of the following conditions are satisfied:

- the Company has transferred the significant risks and rewards of ownership to the buyer;
- the Company retains neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the goods sold;
- the amount of revenue can be measured reliably;
- it is probable that the Company will receive the consideration due under the transaction; and
- the costs incurred or to be incurred in respect of the transaction can be measured reliably.

Rendering of services

Revenue from a contract to provide services is recognised in the period in which the services are provided in accordance with the stage of completion of the contract when all of the following conditions are satisfied:

- the amount of revenue can be measured reliably;
- it is probable that the Company will receive the consideration due under the contract;
- the stage of completion of the contract at the end of the reporting period can be measured reliably; and
- the costs incurred and the costs to complete the contract can be measured reliably.

2.6 INTANGIBLE ASSETS

GOODWILL

Goodwill relating to the formation of the business is amortised on a straight line basis over a period of 15 years. In the opinion of the directors this is the period over which the company will derive direct economic benefit from this goodwill.

Purchased goodwill (representing the excess of the fair value of the consideration given over the fair value of the separable net assets acquired) arising on consolidation in respect of acquisitions since 1 January 1998 is capitalised. Positive goodwill is amortised to nil by equal annual instalments over its estimated useful life.

2.7 TANGIBLE FIXED ASSETS

Tangible fixed assets under the cost model are stated at historical cost less accumulated depreciation and any accumulated impairment losses. Historical cost includes expenditure that is directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management.

BIOCHROM LIMITED

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2016

2. ACCOUNTING POLICIES (CONTINUED)

2.7 TANGIBLE FIXED ASSETS (CONTINUED)

Depreciation is charged so as to allocate the cost of assets less their residual value over their estimated useful lives, using the straight-line method.

Depreciation is provided on the following basis:

Leasehold improvements	- 7 years
Plant, machinery & tooling	- 5-7 years
Motor vehicles	- 4 years
Computer equipment	- 5 years

The assets' residual values, useful lives and depreciation methods are reviewed, and adjusted prospectively if appropriate, or if there is an indication of a significant change since the last reporting date.

Gains and losses on disposals are determined by comparing the proceeds with the carrying amount and are recognised in the Statement of Comprehensive Income.

2.8 VALUATION OF INVESTMENTS

Investments in subsidiaries are measured at cost less accumulated impairment.

2.9 STOCKS

Stocks are stated at the lower of cost and net realisable value, being the estimated selling price less costs to complete and sell. Cost is based on the cost of purchase on a first in, first out basis. Work in progress and finished goods include labour and attributable overheads.

At each balance sheet date, stocks are assessed for impairment. If stock is impaired, the carrying amount is reduced to its selling price less costs to complete and sell. The impairment loss is recognised immediately in profit or loss.

2.10 DEBTORS

Short term debtors are measured at transaction price, less any impairment. Loans receivable are measured initially at fair value, net of transaction costs, and are measured subsequently at amortised cost using the effective interest method, less any impairment.

2.11 CASH AND CASH EQUIVALENTS

Cash is represented by cash in hand and deposits with financial institutions repayable without penalty on notice of not more than 24 hours. Cash equivalents are highly liquid investments that mature in no more than three months from the date of acquisition and that are readily convertible to known amounts of cash with insignificant risk of change in value.

2.12 FINANCIAL INSTRUMENTS

The Company only enters into basic financial instruments transactions that result in the recognition of financial assets and liabilities like trade and other debtors and creditors, loans from banks and other third parties, loans to related parties and investments in non-puttable ordinary shares.

Debt instruments (other than those wholly repayable or receivable within one year), including loans

**NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2016**

2. ACCOUNTING POLICIES (CONTINUED)

2.12 FINANCIAL INSTRUMENTS (CONTINUED)

and other accounts receivable and payable, are initially measured at present value of the future cash flows and subsequently at amortised cost using the effective interest method. Debt instruments that are payable or receivable within one year, typically trade debtors and creditors, are measured, initially and subsequently, at the undiscounted amount of the cash or other consideration expected to be paid or received. However, if the arrangements of a short-term instrument constitute a financing transaction, like the payment of a trade debt deferred beyond normal business terms or financed at a rate of interest that is not a market rate or in case of an out-right short-term loan not at market rate, the financial asset or liability is measured, initially, at the present value of the future cash flow discounted at a market rate of interest for a similar debt instrument and subsequently at amortised cost.

Financial assets that are measured at cost and amortised cost are assessed at the end of each reporting period for objective evidence of impairment. If objective evidence of impairment is found, an impairment loss is recognised in the Statement of Comprehensive Income.

For financial assets measured at amortised cost, the impairment loss is measured as the difference between an asset's carrying amount and the present value of estimated cash flows discounted at the asset's original effective interest rate. If a financial asset has a variable interest rate, the discount rate for measuring any impairment loss is the current effective interest rate determined under the contract.

For financial assets measured at cost less impairment, the impairment loss is measured as the difference between an asset's carrying amount and best estimate of the recoverable amount, which is an approximation of the amount that the Company would receive for the asset if it were to be sold at the balance sheet date.

Financial assets and liabilities are offset and the net amount reported in the Balance Sheet when there is an enforceable right to set off the recognised amounts and there is an intention to settle on a net basis or to realise the asset and settle the liability simultaneously.

2.13 CREDITORS

Short term creditors are measured at the transaction price. Other financial liabilities, including bank loans, are measured initially at fair value, net of transaction costs, and are measured subsequently at amortised cost using the effective interest method.

NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2016

2. ACCOUNTING POLICIES (CONTINUED)

2.14 FOREIGN CURRENCY TRANSLATION

Functional and presentation currency

The Company's functional and presentational currency is GBP.

Transactions and balances

Foreign currency transactions are translated into the functional currency using the spot exchange rates at the dates of the transactions.

At each period end foreign currency monetary items are translated using the closing rate. Non-monetary items measured at historical cost are translated using the exchange rate at the date of the transaction and non-monetary items measured at fair value are measured using the exchange rate when fair value was determined.

Foreign exchange gains and losses resulting from the settlement of transactions and from the translation at period-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the Statement of Comprehensive Income except when deferred in other comprehensive income as qualifying cash flow hedges.

2.15 FINANCE COSTS

Finance costs are charged to the Statement of Comprehensive Income over the term of the debt using the effective interest method so that the amount charged is at a constant rate on the carrying amount. Issue costs are initially recognised as a reduction in the proceeds of the associated capital instrument.

2.16 OPERATING LEASES

Rentals paid under operating leases are charged to the Statement of Comprehensive Income on a straight line basis over the lease term.

**NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2016**

2. ACCOUNTING POLICIES (CONTINUED)

2.17 PENSIONS

DEFINED CONTRIBUTION PENSION PLAN

The Company operates a defined contribution plan for its employees. A defined contribution plan is a pension plan under which the Company pays fixed contributions into a separate entity. Once the contributions have been paid the Company has no further payment obligations.

The contributions are recognised as an expense in the Statement of Comprehensive Income when they fall due. Amounts not paid are shown in accruals as a liability in the Balance Sheet. The assets of the plan are held separately from the Company in independently administered funds.

DEFINED BENEFIT PENSION PLAN

The Company operates a defined benefit plan for certain employees. A defined benefit plan defines the pension benefit that the employee will receive on retirement, usually dependent upon several factors including but not limited to age, length of service and remuneration. A defined benefit plan is a pension plan that is not a defined contribution plan.

The liability recognised in the Balance Sheet in respect of the defined benefit plan is the present value of the defined benefit obligation at the end of the balance sheet date less the fair value of plan assets at the balance sheet date (if any) out of which the obligations are to be settled.

The defined benefit obligation is calculated using the projected unit credit method. Annually the company engages independent actuaries to calculate the obligation. The present value is determined by discounting the estimated future payments using market yields on high quality corporate bonds that are denominated in sterling and that have terms approximating to the estimated period of the future payments ('discount rate').

The fair value of plan assets is measured in accordance with the FRS 102 fair value hierarchy and in accordance with the Company's policy for similarly held assets. This includes the use of appropriate valuation techniques.

Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to other comprehensive income. These amounts together with the return on plan assets, less amounts included in net interest, are disclosed as 'Remeasurement of net defined benefit liability'.

The cost of the defined benefit plan, recognised in profit or loss as employee costs, except where included in the cost of an asset, comprises:

- a) the increase in net pension benefit liability arising from employee service during the period; and
- b) the cost of plan introductions, benefit changes, curtailments and settlements.

The net interest cost is calculated by applying the discount rate to the net balance of the defined benefit obligation and the fair value of plan assets. This cost is recognised in profit or loss as a 'finance expense'.

2.18 INTEREST INCOME

Interest income is recognised in the Statement of Comprehensive Income using the effective interest method.

BIOCHROM LIMITED

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2016

2. ACCOUNTING POLICIES (CONTINUED)

2.19 PROVISIONS FOR LIABILITIES

Provisions are made where an event has taken place that gives the Company a legal or constructive obligation that probably requires settlement by a transfer of economic benefit, and a reliable estimate can be made of the amount of the obligation.

Provisions are charged as an expense to the Statement of Comprehensive Income in the year that the Company becomes aware of the obligation, and are measured at the best estimate at the Balance Sheet date of the expenditure required to settle the obligation, taking into account relevant risks and uncertainties.

When payments are eventually made, they are charged to the provision carried in the Balance Sheet.

2.20 CURRENT AND DEFERRED TAXATION

The tax expense for the year comprises current and deferred tax. Tax is recognised in the Statement of Comprehensive Income, except that a charge attributable to an item of income and expense recognised as other comprehensive income or to an item recognised directly in equity is also recognised in other comprehensive income or directly in equity respectively.

The current income tax charge is calculated on the basis of tax rates and laws that have been enacted or substantively enacted by the balance sheet date in the countries where the Company operates and generates income.

Deferred tax balances are recognised in respect of all timing differences that have originated but not reversed by the Balance Sheet date, except that:

- The recognition of deferred tax assets is limited to the extent that it is probable that they will be recovered against the reversal of deferred tax liabilities or other future taxable profits; and
- Any deferred tax balances are reversed if and when all conditions for retaining associated tax allowances have been met.

Deferred tax balances are not recognised in respect of permanent differences except in respect of business combinations, when deferred tax is recognised on the differences between the fair values of assets acquired and the future tax deductions available for them and the differences between the fair values of liabilities acquired and the amount that will be assessed for tax. Deferred tax is determined using tax rates and laws that have been enacted or substantively enacted by the balance sheet date.

3. JUDGEMENTS IN APPLYING ACCOUNTING POLICIES AND KEY SOURCES OF ESTIMATION UNCERTAINTY

Preparation of the financial statements requires management to make significant judgements and estimates. The items in the financial statements where these judgements and estimates have been made include:

Depreciation on fixed assets Depreciation is charged so as to allocate the cost of assets less their residual value over their estimated useful lives.

No other significant judgements have been made by management in preparing the financial statements other than those noted in the accounting policies above.

BIOCHROM LIMITED

**NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2016**

4. TURNOVER

An analysis of turnover by class of business is as follows:

	2016 £	2015 £
Instrument sales	7,079,243	6,989,067
Other sale of goods	7,156,424	6,500,320
Service and repairs	599,761	477,950
	<u>14,835,428</u>	<u>13,967,337</u>

Analysis of turnover by country of destination:

	2016 £	2015 £
Europe	8,090,823	8,685,664
Rest of the world	6,744,605	5,281,673
	<u>14,835,428</u>	<u>13,967,337</u>

5. OPERATING PROFIT

The operating profit is stated after charging:

	2016 £	2015 £
Depreciation of tangible fixed assets	147,325	212,221
Amortisation of intangible assets, including goodwill	230,629	230,628
Exchange differences	(127,615)	(28,438)
Defined contribution pension cost	136,016	204,185
Defined benefit pension cost	62,000	91,000
	<u></u>	<u></u>

BIOCHROM LIMITED

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2016

6. AUDITORS' REMUNERATION

	2016 £	2015 £
Fees payable to the Company's auditor and its associates for the audit of the Company's annual financial statements	<u>105,025</u>	<u>92,325</u>
FEES PAYABLE TO THE COMPANY'S AUDITOR AND ITS ASSOCIATES IN RESPECT OF:		
Taxation compliance services	<u>24,900</u>	<u>39,535</u>
	<u>129,925</u>	<u>131,860</u>

7. EMPLOYEES

Staff costs, including directors' remuneration, were as follows:

	2016 £	2015 £
Wages and salaries	2,028,880	1,963,536
Social security costs	154,626	110,815
Cost of defined benefit scheme	56,284	59,079
Cost of defined contribution scheme	111,836	73,489
	<u>2,351,626</u>	<u>2,206,919</u>

The average monthly number of employees, including the directors, during the year was as follows:

	2016 No.	2015 No.
Manufacturing, production and development	16	32
Distribution	24	21
Administration	9	10
	<u>49</u>	<u>63</u>

BIOCHROM LIMITED

**NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2016**

8. DIRECTORS' REMUNERATION

	2016 £	2015 £
Directors' emoluments	91,493	93,721
Company contributions to defined contribution pension schemes	6,833	4,800
	<u>98,326</u>	<u>98,521</u>

During the year retirement benefits were accruing to 1 director (2015 - 1) in respect of defined contribution pension schemes.

9. INTEREST RECEIVABLE

	2016 £	2015 £
Other interest receivable	1,718	2,840
	<u>1,718</u>	<u>2,840</u>

10. INTEREST PAYABLE AND SIMILAR CHARGES

	2016 £	2015 £
Bank interest payable	229	109
Loans from group undertakings	124,543	27,378
	<u>124,772</u>	<u>27,487</u>

11. OTHER FINANCE COSTS

	2016 £	2015 £
Net interest on net defined benefit liability	62,000	91,000
	<u>62,000</u>	<u>91,000</u>

BIOCHROM LIMITED

**NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2016**

12. TAXATION

	2016 £	2015 £
CORPORATION TAX		
Adjustments in respect of previous periods	-	45,551
TOTAL CURRENT TAX	<u>-</u>	<u>45,551</u>
DEFERRED TAX		
Origination and reversal of timing differences	<u>(419,981)</u>	<u>(204,660)</u>
TOTAL DEFERRED TAX	<u>(419,981)</u>	<u>(204,660)</u>
TAXATION ON LOSS ON ORDINARY ACTIVITIES	<u>(419,981)</u>	<u>(159,109)</u>

FACTORS AFFECTING TAX CHARGE FOR THE YEAR

The tax assessed for the year is lower than (2015 - lower than) the standard rate of corporation tax in the UK of 20% (2015 - 20.25%). The differences are explained below:

	2016 £	2015 £
Profit on ordinary activities before tax	<u>436,232</u>	<u>50,449</u>
Profit on ordinary activities multiplied by standard rate of corporation tax in the UK of 20% (2015 - 20.25%)	<u>87,246</u>	<u>10,214</u>
EFFECTS OF:		
Expenses not deductible for tax purposes, other than goodwill amortisation and impairment	108,242	1,534
Fixed asset and other permanent timing differences	55,074	54,456
Income not taxable for tax purposes	(121,760)	-
Adjustments to tax charge in respect of prior periods	(66,606)	45,551
Amounts (charged) / credited directly to equity or otherwise transferred	(194,000)	89,490
Adjustment in research and development tax credit leading to an decrease in the tax charge	(195,000)	(191,596)
Group income	-	(18,424)
Deferred tax on pension scheme charged directly to other comprehensive income	(164,900)	(208,980)
Adjust closing deferred tax to average rate of 20% (2015 - 20.25%)	137,108	65,134
Adjust opening deferred tax to average rate of 20.25% (2015 - 20.25%)	(65,385)	(6,488)
TOTAL TAX CHARGE FOR THE YEAR	<u>(419,981)</u>	<u>(159,109)</u>

BIOCHROM LIMITED

**NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2016**

12. TAXATION (CONTINUED)**FACTORS THAT MAY AFFECT FUTURE TAX CHARGES**

The Finance Act 2015, which provides for a reduction in the main rate of corporation tax from 20% to 19% effective from 1 April 2017 and to 18% effective from 1 April 2020, was substantively enacted on 26 March 2015. This rate reduction has been reflected in the calculation of deferred tax at the balance sheet date.

13. INTANGIBLE ASSETS

	Goodwill £
COST	
At 1 January 2016	<u>6,779,057</u>
At 31 December 2016	<u>6,779,057</u>
AMORTISATION	
At 1 January 2016	5,156,716
Charge for the year	<u>230,629</u>
At 31 December 2016	<u>5,387,345</u>
NET BOOK VALUE	
At 31 December 2016	<u>1,391,712</u>
At 31 December 2015	<u>1,622,341</u>

BIOCHROM LIMITED

**NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2016**

14. TANGIBLE FIXED ASSETS

	Long-term leasehold property £	Plant and machinery £	Motor vehicles £	Computer equipment £	Total £
COST OR VALUATION					
At 1 January 2016	761,327	2,182,993	17,000	1,072,847	4,034,167
Additions	9,424	18,311	10,880	29,190	67,805
Transfers intra group	-	180,790	-	-	180,790
At 31 December 2016	<u>770,751</u>	<u>2,382,094</u>	<u>27,880</u>	<u>1,102,037</u>	<u>4,282,762</u>
DEPRECIATION					
At 1 January 2016	498,780	1,936,564	17,000	855,931	3,308,275
Charge for the year on owned assets	41,868	75,675	417	29,365	147,325
Transfers intra group	-	149,069	-	-	149,069
At 31 December 2016	<u>540,648</u>	<u>2,161,308</u>	<u>17,417</u>	<u>885,296</u>	<u>3,604,669</u>
NET BOOK VALUE					
At 31 December 2016	<u>230,103</u>	<u>220,786</u>	<u>10,463</u>	<u>216,741</u>	<u>678,093</u>
At 31 December 2015	<u>262,547</u>	<u>246,429</u>	<u>-</u>	<u>216,916</u>	<u>725,892</u>

The net book value of land and buildings may be further analysed as follows:

	2016 £	2015 £
Long leasehold	230,103	262,547
	<u>230,103</u>	<u>262,547</u>

BIOCHROM LIMITED

**NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2016**

15. FIXED ASSET INVESTMENTS

	Investments in subsidiary companies £
COST OR VALUATION	
At 1 January 2016	13,177,739
Disposals	(819,321)
At 31 December 2016	<u>12,358,418</u>
IMPAIRMENT	
Charge for the period	368,728
At 31 December 2016	<u>368,728</u>
NET BOOK VALUE	
At 31 December 2016	<u>11,989,690</u>
At 31 December 2015	<u>13,177,739</u>

SUBSIDIARY UNDERTAKINGS

The following were subsidiary undertakings of the Company:

Name	Class of shares	Holding	Principal activity
Scie-Plas Limited	Ordinary	100 %	Dormant
Asys Hitech GmbH	Ordinary	100 %	Dormant
Walden Precision Apparatus Limited	Ordinary	100 %	Dormant
CMA Microdialysis AB	Ordinary	100 %	Manufacturer of laboratory equipment
Multi Channel Systems GmbH	Ordinary	100 %	Developer, manufacturer and marketer of scientific instrumentation

The registered office of Scie-Plas Limited and Walden Precision Apparatus Limited is Building 1020 Cambourne Business Park, Cambourne, Cambridge, England, CB23 6DW.

The registered office of Asys Hitech GmbH is Nordstrasse 4, Eugendorf, Austria.

The registered office of CMA Microdialysis AB is Torshamnsgatan 30A, 164 40 Kista, Sweden.

The registered office of Multi Channel Systems GmbH is Aspenhaustraße 21, 72770 Reutlingen, Germany.

BIOCHROM LIMITED

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2016

15. FIXED ASSET INVESTMENTS (CONTINUED)

The aggregate of the share capital and reserves as at 31 December 2016 and of the profit or loss for the year ended on that date for the subsidiary undertakings were as follows:

	Aggregate of share capital and reserves £	Profit/(loss) £
Scie-Plas Limited	1,132,597	-
Asys Hitech GmbH	157,450	(3,879)
Walden Precision Apparatur Limited	989,073	-
CMA Microdialysis AB	1,601,494	(567,814)
Multi Channel Systems GmbH	1,853,872	254,118
	<u>5,734,486</u>	<u>(317,575)</u>

During the year, the company disposed of its investment in AHN Biotechnologie GmbH, a 100% subsidiary company. Proceeds of £1,448,123 were received, generating a profit on disposal of £628,802.

During the year, the investment in CMA Microdialysis AB was impaired. The company's carrying value was considered to be in excess of the recoverable amount, and impairment of £368,728 charged to value the company to its recoverable amount.

16. STOCKS

	2016 £	2015 £
Raw materials and consumables	616,862	739,136
Work in progress	398	26,900
Finished goods and goods for resale	851,073	1,492,519
	<u>1,468,333</u>	<u>2,258,555</u>

BIOCHROM LIMITED

**NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2016**

17. DEBTORS

	2016 £	2015 £
Trade debtors	1,752,027	1,884,206
Amounts owed by group undertakings	3,502,038	2,668,693
Other debtors	747,274	760,052
Prepayments and accrued income	119,049	143,175
Deferred taxation (note 20)	776,944	521,863
	<u>6,897,332</u>	<u>5,977,989</u>

18. CREDITORS: AMOUNTS FALLING DUE WITHIN ONE YEAR

	2016 £	2015 £
Trade creditors	164,804	361,136
Amounts owed to group undertakings	2,617,280	2,528,223
Other taxation and social security	72,826	58,405
Obligations under finance lease and hire purchase contracts	272,243	161,058
Other creditors	92,088	57,044
Accruals and deferred income	384,459	434,958
	<u>3,603,700</u>	<u>3,600,824</u>

BIOCHROM LIMITED

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2016

19. FINANCIAL INSTRUMENTS

	2016 £	2015 £
FINANCIAL ASSETS		
Financial assets measured at fair value through profit or loss	1,641,816	41,721
Financial assets that are debt instruments measured at amortised cost	6,054,200	5,312,949
	<u>7,696,016</u>	<u>5,354,670</u>
FINANCIAL LIABILITIES		
Financial liabilities measured at amortised cost	(3,116,609)	(3,231,517)
	<u>(3,116,609)</u>	<u>(3,231,517)</u>

Financial assets measured at fair value through profit or loss comprise cash and cash equivalents

Financial assets measured at amortised cost comprise trade debtors, amounts owed to group entities and associated entities and other debtors.

Financial liabilities measured at amortised cost comprise trade creditors, amounts owed to group undertakings, accruals and other creditors, excluding amounts owed to employees.

20. DEFERRED TAXATION

	2016 £	2015 £
At beginning of year	521,863	526,183
Charged to profit or loss	419,981	204,660
Charged to other comprehensive income	(164,900)	(208,980)
AT END OF YEAR	<u>776,944</u>	<u>521,863</u>

The deferred tax asset is made up as follows:

	2016 £	2015 £
Accelerated capital allowances	(60,488)	(46,809)
Tax losses carried forward	435,965	205,252
Pension surplus	401,467	363,420
	<u>776,944</u>	<u>521,863</u>

BIOCHROM LIMITED

**NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2016**

21. PROVISIONS

	Warranty Provision £
At 1 January 2016	12,062
Charged to profit or loss	25,184
AT 31 DECEMBER 2016	<u>37,246</u>

The provision for product warranty represents the estimated costs to be incurred for work under warranty on products sold. The provision is determined with reference to the call rate for the products still under warranty cover and the average unit cost of the work performed.

22. SHARE CAPITAL

	2016 £	2015 £
SHARES CLASSIFIED AS EQUITY		
ALLOTTED, CALLED UP AND FULLY PAID		
100 Ordinary shares of £1 each	<u>100</u>	<u>100</u>

23. RESERVES**Share premium account**

This includes any premiums received on issue of share capital. Any transaction costs associated with the issuing of shares are deducted from share premium.

Capital redemption reserve

This represents the waiver of an intercompany receivable from a fellow subsidiary of Harvard Bioscience Inc which was hived up into the Biochrom Limited during the 2014 financial year.

Profit and loss account

This reserve includes all current and prior period retained profits and losses, as well as gains or losses on the defined benefit pension schemes.

BIOCHROM LIMITED

**NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2016**

24. SHARE BASED PAYMENTS

In order to stimulate the realisation of long term group objectives Harvard Bioscience Inc., the company's ultimate parent company, provides its employees with share option plans.

Harvard Bioscience Inc 1996 Share Option and Grant Plan

In 1996, Harvard Bioscience Inc adopted the 1996 Stock Option and Grant Plan (the "1996 Stock Plan") pursuant to which the company's board of directors could grant stock options to employees, directors and consultants. The 1996 Stock Plan authorised grants of options to purchase 4,072,480 shares of authorised but unissued common stock. In 2000, the 1996 Stock Plan was replaced by the 2000 Stock Option and Incentive Plan.

Harvard Bioscience Inc 2000 Share Option and Incentive Plan

The Second Amended and Restated 2000 Stock Option and Incentive Plan (the "2000 Plan" and, together with the 1996 Stock Plan, the "Stock Plans") was amended by the Harvard Bioscience Inc. board of directors on 10 April 2008. Such amendment to the 2000 Plan, which included an increase in the number of shares available thereunder by 2,500,000, was approved by the stockholders at the company's 2008 Annual Meeting.

Options awarded under this plan are conditional and can be exercised over the vesting period provided the employee is still employed by the group. The vesting period is generally 4 years. The options are equity instruments of, and granted by, Harvard Bioscience Inc and are generally valid for a period of 10 years starting on the issue date.

No share options were exercised during the 2016 year. In the 2015 year, 74,899 options were exercised at an average weighted share price at the date of exercise of \$3.4895 USD. The options outstanding at 31 December 2016 had an exercise price of \$4.5553 (2015 \$4.3139 USD), and a weighted average remaining contractual life of 5.40 years (2015: 5.68 years).

The number and weighted average exercise prices of share options in are as follows:

	Weighted average exercise price (pence) 2016	Number 2016	Weighted average exercise price (pence) 2015	Number 2015
Outstanding at the beginning of the year	4.3139	198,571	3.6415	239,897
Granted during the year	4.2860	60,181	5.4146	78,000
Forfeited during the year	3.2700	(6,595)	4.0059	(44,427)
Exercised during the year	-	-	3.4895	(74,899)
OUTSTANDING AT THE END OF THE YEAR	4.5553	252,157	4.3139	198,571

BIOCHROM LIMITED

**NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2016**

24. SHARE BASED PAYMENTS (CONTINUED)

	2016	2015
Option pricing model used	1.09	2.26
Weighted average share price (US\$)	4.2860	5.4146
Exercise price (US\$)	4.2860	5.4146
Weighted average contractual life	5.40	5.68
Expected volatility	40.17%	42.25%
Expected dividend growth rate	0%	0%
Risk-free interest rate	1.50%	1.74%
	2016	2015
	£	£
Equity-settled schemes	113,366	75,476
	113,366	75,476

BIOCHROM LIMITED

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2016

25. PENSION SCHEMES

BIOCHROM PENSION SCHEME

Defined contribution pension scheme

The company operates a defined contribution pension scheme. Contributions payable for the year are charged to the profit and loss account and amounted to £136,016 (2015: £204,185). There were no outstanding or prepaid contributions at either the beginning or the end of the financial year.

Defined Benefit pension scheme

The company operates a defined benefit pension scheme in the UK. This is a separate trustee administered fund holding the pension scheme assets to meet long term pension liabilities. Contributions are charged to the profit and loss account so as to spread the cost of pensions over employees' working lives with the company. The contributions payable to this funded scheme are determined by a qualified independent actuary using the projected unit method. The assumptions which have the most significant effect on these calculations and on the results of the valuation are those relating to the rate of return on investment and the rates of increase in salaries and pensions. It was assumed that the expected long term rate of return applicable for period commencing 1 January 2016 was 4.06% (period commencing 1 January 2015: 4.06%). The most recent independent full FRS102 actuarial valuation was at 31 December 2016 by a qualified actuary, independent of the scheme's sponsoring employer.

The market value of assets was £11,678,000. The assets are held separately from those of the company being invested with investment managers in a managed fund. The assets are the result of the transfer of funds from the Pharmacia UK Pension fund in the year ended 31 December 1999.

The company currently pays recovery plan contributions at the rate of £34,333 per month. Company contributions of 24.4% of pensionable earnings, and employees' contributions at the rate of 7% of pensionable earnings, ceased to be payable when accrual of pension benefits ceased with effect from 2nd January 2014.

Present values of defined benefit obligation, fair value of assets and defined benefit asset (liability) in the scheme are as follows:

	2016	2015
	£	£
Fair value of plan assets	11,678,000	9,168,000
Present value of plan liabilities	(13,685,000)	(11,187,000)
NET PENSION SCHEME LIABILITY	2,007,000	2,019,000

BIOCHROM LIMITED

**NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2016**

25. PENSION SCHEMES (Continued)

Reconciliation of fair value of plan assets:

	2016 £	2015 £
At the beginning of the year	9,168,000	8,906,000
Interest income	349,000	314,000
Contribution by the company	437,000	424,000
Benefits paid and expenses	(413,000)	(282,000)
Actuarial gains / (losses)	2,137,000	(194,000)
AT THE END OF THE YEAR	11,678,000	9,168,000

The actual return on the plan assets over the period ended 31 December 2016 was £2,486,000.

Composition of plan assets is as follows:

	2016 £	2015 £
UK Equities	2,573,000	2,197,000
Overseas Equities	3,518,000	2,728,000
Corporate Bonds	-	1,174,000
Index Linked Gilts	5,247,000	2,755,000
Property	105,000	117,000
Cash	235,000	197,000
TOTAL PLAN ASSETS	11,678,000	9,168,000

None of the fair value of the assets shown above include any direct investments in the Company's own financial instruments or any property occupied by, or other assets used by, the employer.

Reconciliation of present value of plan liabilities:

	2016 £	2015 £
At the beginning of the year	11,187,000	11,423,000
Interest cost	417,000	395,000
Benefits and expenses	(413,000)	(282,000)
Actuarial (gain) / loss	2,494,000	(349,000)
AT THE END OF THE YEAR	13,685,000	11,187,000

BIOCHROM LIMITED

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2016

25. PENSION SCHEMES (Continued)

The amounts recognised in profit or loss are as follows:

	2016 £	2015 £
Interest on obligation	68,000	81,000
	<u>68,000</u>	<u>81,000</u>

The amounts recognised in other comprehensive income as follows:

	2016 £	2015 £
Return on plan assets (excluding amounts included in net interest cost) - gain (loss)	2,137,000	(194,000)
Experience gains and losses arising on the plan liabilities - gain (loss)	225,000	156,000
Effects of changes in the demographic and financial assumptions underlying the present value of the plan liabilities - gain (loss)	(2,719,000)	193,000
TOTAL	<u>(357,000)</u>	<u>155,000</u>

The value of the scheme's liabilities has been determined by a qualified actuary based on the results of the actuarial valuation as at 31 December 2016 and FRS102 results at 31 December 2015

	2016 % per annum	2015 % per annum
Discount rate	2.6	3.8
Inflation (RPI)	3.3	3.1
Inflation (CPI)	2.3	2.1
Salary Growth	n/a	n/a
Allowance for revaluation of deferred pension of CPI or 2.5% p.a. if less	2.3	2.1
Allowance for pension in payment increases of RPI or 5% p.a. if less	2.3	3.0
Allowance for pension in payment increases of CPI or 3% p.a. if less	2.1	1.9
Allowance for commutation of pension for cash at retirement	100% of post a day	100% of post a day

The assumptions used by the actuary are the best estimates chosen from a range of possible actuarial assumptions which, due to the time scale covered, may not necessarily be borne out in practice.

BIOCHROM LIMITED

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2016

25. PENSION SCHEMES (Continued)

The mortality assumptions adopted at 31 December 2015 imply the following life expectancies:

	Life expectancy at age 65 Years
Male retiring in 2016	22.2
Female retiring in 2016	24.2
Male retiring in 2036	23.9
Female retiring in 2036	26.1

The best estimate of contributions to be paid by the employer to the scheme for the period commencing 1 January 2017 is £451,140.

THE HARVARD APPARATUS LIMITED RETIREMENT BENEFIT SCHEME

Defined benefit pension scheme

The company operates a defined benefit pension arrangement called the Harvard Apparatus Limited Retirement Benefits Scheme (the "Scheme"). The Scheme provides benefits based on salary and length of service on retirement, leaving service or death. The Scheme closed to future accrual on 31 July 2013, on this date all active members of the Scheme became deferred pensioners.

The Company expects to contribute £83,000 to the Scheme over the year to 31 December 2017. The following disclosures exclude any allowance for other pension schemes operated by the Company.

The Scheme is subject to the Statutory Funding Objective under the Pensions Act 2004. A valuation of the Scheme is carried out at least once every three years to determine whether the Statutory Funding Objective is met. As part of the process the Company must agree with the Trustees of the Scheme the contributions to be paid to address any shortfall against the Statutory Funding Objective.

The Scheme's liabilities have been calculated by updating the calculations carried out for the initial results of the formal actuarial valuation as at 31 December 2014. The data and benefits used in that valuation were summarised in John Harrison's valuation report dated 7 March 2016.

Present values of defined benefit obligation, fair value of assets and defined benefit asset (liability) in the scheme are as follows:

	2016 £	2015 £
Fair value of plan assets	1,599,000	1,468,000
Present value of plan liabilities	(2,011,000)	(1,348,000)
Less: Unrecognisable surplus	-	(120,000)
NET PENSION SCHEME LIABILITIES	(412,000)	-

BIOCHROM LIMITED

**NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2016**

25. PENSION SCHEMES (Continued)

Reconciliation of fair value of plan assets:

	2016 £	2015 £
At the beginning of the year	1,468,000	1,860,000
Interest income	55,000	60,000
Contribution by the company	75,000	68,000
Benefits paid and expenses	(311,000)	(386,000)
Actuarial gains / (losses)	312,000	(134,000)
AT THE END OF THE YEAR	1,599,000	1,468,000

Composition of plan assets is as follows:

	2016 £	2015 £
LGIM Liability Driven Investment Fund	303,000	271,000
LGIM Diversified Growth Fund	526,000	590,000
LGIM Global Equity Fund	708,000	580,000
Cash at bank	62,000	27,000
TOTAL PLAN ASSETS	1,599,000	1,468,000

None of the fair value of the assets shown above include any direct investments in the Company's own financial instruments or any property occupied by, or other assets used by, the employer.

Reconciliation of present value of plan liabilities:

	2016 £	2015 £
At the beginning of the year	1,348,000	2,205,000
Interest cost	49,000	70,000
Benefits and expenses	(311,000)	(386,000)
Actuarial (gain) / loss	925,000	(541,000)
AT THE END OF THE YEAR	2,011,000	1,348,000

BIOCHROM LIMITED

**NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2016**

25. PENSION SCHEMES (Continued)

The amounts recognised in profit or loss are as follows:

	2016 £	2015 £
Interest on obligation	(6,000)	10,000
TOTAL	(6,000)	10,000

The amounts recognised in other comprehensive income as follows:

	2016 £	2015 £
Return on plan assets (excluding amounts included in net interest cost) - gain (loss)	312,000	(134,000)
Experience gains and losses arising on the plan liabilities - gain (loss)	-	374,000
Effects of changes in the demographic and financial assumptions underlying the present value of the plan liabilities - gain (loss)	(925,000)	167,000
Changes in effect of asset ceiling	-	(120,000)
TOTAL	(613,000)	287,000

The value of the scheme's liabilities has been determined by a qualified actuary based on the results of the actuarial valuation as at 31 December 2016 and FRS102 results at 31 December 2015.

	2016 % per annum	2015 % per annum
Discount rate	2.8	4.1
Inflation assumption (RPI)	3.6	3.6
Inflation assumption (CPI)	2.6	2.6
Allowance for commutation of pension for cash at retirement	100% of post a day	100% of post a day
Mortality table	S2PXA CMI 2015	S2PXA CMI 2015

The assumptions used by the actuary are the best estimates chosen from a range of possible actuarial assumptions which, due to the time scale covered, may not necessarily be borne out in practice.

BIOCHROM LIMITED

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25. PENSION SCHEMES (Continued)

The mortality assumptions adopted at 31 December 2016 imply the following life expectancies:

	Life expectancy at age 65 Years
Male retiring in 2016	21.9
Female retiring in 2016	23.9
Male retiring in 2036	23.2
Female retiring in 2036	25.4

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26. COMBINED BIOCHROM AND HARVARD APPARATUS LIMITED RETIREMENT BENEFIT SCHEMES

The combined effect of the two defined benefit pension schemes operated by the company disclosed above in note 25 are as follows:

Reconciliation of present value of plan liabilities:

	2016 £	2015 £
RECONCILIATION OF PRESENT VALUE OF PLAN LIABILITIES		
At the beginning of the year	12,535,000	13,628,000
Interest cost	466,000	465,000
Actuarial gains/losses	3,419,000	(890,000)
Benefits paid	(724,000)	(668,000)
AT THE END OF THE YEAR	15,696,000	12,535,000

Composition of plan liabilities:

	2016 £	2015 £
Biochrom Pension Scheme	13,685,000	11,187,000
Harvard Apparatus Limited Retirement Benefit Scheme	2,011,000	1,348,000
TOTAL PLAN LIABILITIES	15,696,000	12,535,000

	2016 £	2015 £
At the beginning of the year	10,636,000	10,766,000
Interest income	404,000	374,000
Actuarial gains/losses	2,449,000	(328,000)
Contributions	512,000	492,000
Benefits paid	(724,000)	(668,000)
AT THE END OF THE YEAR	13,277,000	10,636,000

BIOCHROM LIMITED

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26. COMBINED BIOCHROM AND HARVARD APPARATUS LIMITED RETIREMENT BENEFIT SCHEMES (CONTINUED)

Composition of plan assets:

	2016 £	2015 £
Biochrom Pension Scheme	11,678,000	9,168,000
Harvard Apparatus Limited Retirement Benefit Scheme	1,599,000	1,468,000
TOTAL PLAN ASSETS	13,277,000	10,636,000

None of the fair value of the assets shown above include any direct investments in the Company's own financial instruments or any property occupied by, or other assets used by, the employer.

	2016 £	2015 £
Fair value of plan assets	13,277,000	10,636,000
Present value of plan liabilities	(15,696,000)	(12,535,000)
Unrecognisable surplus deducted	-	(120,000)
NET PENSION SCHEME LIABILITY	(2,419,000)	(2,019,000)

The amounts recognised in profit or loss are as follows:

	2016 £	2015 £
Interest on obligation	(62,000)	(91,000)
TOTAL	(62,000)	(91,000)

The cumulative amount of actuarial gains and losses recognised in the Statement of Comprehensive Income was £(970,000) (2015 - £442,000).

BIOCHROM LIMITED

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27. COMMITMENTS UNDER OPERATING LEASES

At 31 December 2016 the Company had future minimum lease payments under non-cancellable operating leases as follows:

	2016 £	2015 £
LAND AND BUILDINGS		
Not later than 1 year	240,900	118,184
Later than 1 year and not later than 5 years	742,300	445,345
	<u>983,200</u>	<u>563,529</u>
	2016 £	2015 £
OTHER OPERATING LEASES		
Not later than 1 year	36,958	48,003
Later than 1 year and not later than 5 years	26,040	47,760
	<u>62,998</u>	<u>95,763</u>

28. RELATED PARTY TRANSACTIONS

As the company is a wholly owned subsidiary, the company has taken advantage of the exemption contained in FRS102 paragraph 33.1A and has therefore not disclosed transactions or balances with entities forming part of the group (or with investors of the group qualifying as related parties).

29. CONTROLLING PARTY

The ultimate controlling party and the largest group in which the company is consolidated is Harvard Bioscience Inc, a company incorporated in USA. Copies of the consolidated financial statements are available to the public from Harvard Bioscience Inc., 84 October Hill Road, Holliston MA, 01746-1371, USA.