

## Financial information on Bio-Rad

### Group structure

1. Bio-Rad is a US public corporation, based in Hercules, California, and was founded in 1952 by the Schwarz family which continues to hold some 66.5 per cent of the equity shares. It manufactures and distributes a broad range of products and systems used to separate complex chemical and biological materials and to identify, analyse and purify their components. The Bio-Rad group is organized in two main segments—Life Science Group and Clinical Diagnostics, which are of broadly equal size in terms of turnover. In the year to 31 December 2003 Bio-Rad reported a pre-tax profit of \$114 million (2002 \$104 million) on turnover of \$1,003 million (2002 \$893 million). The Bio-Rad group currently employs around 4,000 people.
2. Within the Life Science Group segment, which develops, manufactures and distributes products used in biological research, the advanced 3D microscopy business of Bio-Rad is carried on by Bio-Rad's Cell Science Division. The proposed transaction involves the sale of the Cell Science Division to Zeiss. The Cell Science Division is centred on Bio-Rad UK which has its headquarters at Hemel Hempstead in the UK. Bio-Rad UK has three main functions: it undertakes all Bio-Rad R&D activities in advanced 3D microscopy, it supplies laser scanning microscope systems, and it provides marketing, installation and service facilities in northern Europe. The microscope systems produced in the UK are sold worldwide either by Bio-Rad UK (in northern Europe) or by Bio-Rad companies elsewhere in the world. In addition to the sale of laser scanning microscope systems Bio-Rad UK has since 2002 supplied microdissection systems under the brand name Clonis. Bio-Rad told us that this business was [redacted] and that only [redacted] had so far been supplied ([redacted]).
3. Bio-Rad UK was formed in 1972 as Matronics Scientific Ltd by a group of individuals, and the name was changed to Polaron Equipment Ltd in 1979. The company was purchased by Bio-Rad in 1986, at which time the name was changed to Bio-Rad Microscience Ltd. Also in 1986 Bio-Rad purchased the advanced 3D microscopy business of Dubilier Scientific Ltd through Bio-Rad Laserssharp Ltd, a subsidiary of Bio-Rad UK. Bio-Rad told us that Dubilier Scientific Ltd was the first company to identify the commercial potential of laser scanning microscopy technology and the purchase of the business allowed Bio-Rad to access this important technology. In the early 1990s the business of Bio-Rad Laserssharp Ltd was transferred to Bio-Rad in order to avoid duplication of administration. Bio-Rad told us that in the mid 1990s it had sold its electron microscopy and semiconductor businesses, so the only business activity remaining in Bio-Rad UK was advanced 3D microscopy (including the Clonis product). [redacted]

### Financial results of Bio-Rad UK

4. A summary of financial information on Bio-Rad UK for the five years to 31 December 2002 is shown in Table 1.

TABLE 1 **Bio-Rad UK: summarized financial information 1998 to 2002**

	£'000				
	<i>Years ended 31 December</i>				
	1998	1999	2000	2001	2002
<i>Sales</i>					
UK	2,472	1,004	2,008	2,277	1,350
Non-UK	<u>9,383</u>	<u>9,440</u>	<u>7,138</u>	<u>8,309</u>	<u>10,723</u>
Total	11,855	10,444	9,146	10,586	12,073
Gross profit	4,241	3,282	2,351	3,498	3,607
Operating profit/loss	586	644	-700	331	-766
Pre-tax profit	585	644	-706	317	-772
					<i>per cent</i>
<i>Financial ratios</i>					
Gross profit*	35.8	31.4	25.7	33.0	29.9
Return on sales†	4.9	6.2	-7.7	3.1	-6.3
R&D to sales‡	14.5	12.9	17.2	17.2	17.5

Source: Bio-Rad UK statutory accounts.

\*Gross profit divided by sales.

†Operating profit divided by sales.

‡R&D cost divided by sales.

5. It can be seen from Table 1 that Bio-Rad UK reported a pre-tax profit in three of the five years shown, but losses in the other two years. Although Bio-Rad UK forms the core of the Cell Science Division, much of the marketing and service activity of the division takes place in other Bio-Rad subsidiaries. The results of the UK company are, therefore, sensitive to the allocation of costs and income within the Bio-Rad group.

### Financial results of the Cell Science Division

6. Table 2 shows the trading results of the Cell Science Division as a whole for the five years to 31 December 2003.

TABLE 2 Cell Science Division: summarized results 1999 to 2003

	1999	Years ended 31 December			\$'000	£'000
		2000	2001*	2002*	2003	2003†
Sales						
Cost of goods sold						
Gross margin						
Selling and marketing						
General and administration						
Profit before R&D						
R&D						
Direct contribution						
Central management expenses						
Interest expense						
Pre-tax loss						
<i>Ratios:</i>						
Gross margin‡						
Profit before R&D§						
R&D¶						
Direct contribution#						

Source: Cell Science Division management accounts.

\*In 1999 the SEC published Staff Accounting Bulletin 101 (SAB 101) which provided further guidance on revenue recognition. Historically Bio-Rad invoiced customers and recognized revenue when products were dispatched, but prior to installation. Bio-Rad applied SAB 101, which recommended that revenue recognition should be delayed until installation was complete, with effect from 2001. However, in 2001 and 2002 the Cell Science Division had continued to invoice and recognize revenue when products were dispatched. In order to comply with SAB 101 Cell Science Division made adjustments to sales and cost of sales in 2001 and 2002 to take account of sales previously invoiced and recognized at the 2000 and 2001 year ends. The net retrospective adjustment as a result of applying SAB 101 was an increase in sales of \$3.0 million in 2001 (together with associated cost of sales) and of \$1.9 million in 2002 (together with the associated cost of sales).

†Conversion of the 2003 results made from \$ to £ at the rate on 9 March of \$1:£0.544.

‡Gross profit divided by sales.

§Profit before research and development divided by sales.

¶Research and development divided by sales.

#Direct contribution divided by sales.

7. The aggregate losses of the division at the pre-tax level over the five years shown in Table 2 were [X]. Bio-Rad provided us with details of the results of the division from 1992 to 2003 which showed aggregate losses at the pre-tax level over the 12-year period of [X]. Losses were reported at the pre-tax level in all 12 years and there was a profit at the direct contribution level in only three years. The results of the Cell Science Division included marketing and other activities carried on by Bio-Rad and its subsidiaries other than Bio-Rad UK, so the results are sensitive to allocations of costs and interest expenses within the Bio-Rad group. According to Bio-Rad up to [X] per cent of the R&D spend of the Cell Science Division represented adaptation of its technology for the characteristics of the various microscope stands incorporated in its microscope systems.
8. Table 3 shows prices for confocal and multiphoton models. It is based on data from Bio-Rad and shows average sale prices for confocal and multiphoton models. The prices for multiphoton systems exclude the price of the pulsed laser (which we understand can cost between €100,000 and €200,000). Table 3 shows that the price paid for multiphoton systems from Bio-Rad is higher on average than the price paid for confocal systems.

TABLE 3 Average sale prices for confocal, MPR and multiphoton systems

	Dollar price		Bio-Rad Sterling*		Obs
	Average	Std dev	Average	Std dev	
Confocal					
MPR					
Multiphoton†					

Source: Bio-Rad, CC calculations.

\*To obtain the sterling equivalent of Bio-Rad prices given in US dollars, we have used the average exchange rate for the relevant month for each Bio-Rad sale taken from the Financial Times.

†Multiphoton prices do not include the price of the laser.

## Projections for 2004

9. [✂] A summary of the projection for 2004, with the position in individual geographical areas and a comparison with the position reported in 2003 is shown in Table 4.

TABLE 4 Cell Science Division: comparison of the projection for 2004 with 2003

Geographical area	Sales	Cost of sales	Gross margin	SG&A*	\$'000	£'000	per cent	
					Direct contribution	Direct contribution†	Gross margin‡	Direct contribution§
<b>2004</b>								
Pan America								
Northern Europe								
France								
Southern Europe								
Japan								
North Asia								
South Asia								
Division¶								
R&D								
Direct contribution								
<b>2003</b>								
Pan America								
Northern Europe								
France								
Southern Europe								
Japan								
North Asia								
South Asia								
Division¶								
R&D								
Direct contribution								
Management expenses								
Interest								
Pre-tax profit								
Change 2003 to 2004 (%)								

Source: Bio-Rad.

\*Selling, general and administration expenses.

†Conversion of the projected 2004 and 2003 direct contribution made from \$ to £ at the rate on 9 March of \$1:£0.544.

‡Gross profit divided by sales.

§Direct contribution divided by sales.

¶Central expenses not allocated to individual territories.

10. The projection for 2004 shows [REDACTED].
11. At our request Bio-Rad provided further information in connection with its projections, in order to illustrate the effect of various alternative scenarios. [REDACTED]