

Pharmaceutical Materials

Pharmaceutical Materials Division provides a full range of manufacturing services for active pharmaceutical ingredients (APIs) throughout a drug's life cycle. Pharm-Eco (US) provides contract chemistry and manufacturing services for drugs in the early and middle phases of their development cycle as well as contract manufacturing for low volume and potent APIs. As products reach late stages of development and commercial approval, both West Deptford (US) and Macfarlan Smith (UK) provide commercial scale manufacturing services along with regulatory support for active pharmaceutical ingredients. The division manufactures products for both the branded and generic markets. Cascade Biochem is a world leader in the chemistry of prostaglandins, and provides a full range of services for these complex niche products. In addition to achieving good sales and profit growth during 2003/04, Pharmaceutical Materials developed important opportunities for future growth by key collaborations between its business units.

West Deptford The West Deptford business manufactures high value APIs, predominantly controlled substances and metal based pharmaceuticals. West Deptford's products are used to treat cancer, chronic pain and attention deficit hyperactivity disorder and include both generic and proprietary drugs. Progress was made in key growth areas during the year. Several new products were commercialised, including an important new platinum based anticancer drug. The facility expansion completed last year is now in full production and incorporates the extraction of narcotic raw materials for key opiate products. These new products, along with the cost efficiencies obtained from the extraction process, will enable West Deptford to improve its market share in the US opiates market.

Macfarlan Smith Macfarlan Smith, located in Edinburgh, UK, is a world leader in the manufacture and sale of controlled drugs, especially opiates. During the year the business continued its record of good growth, improving both profits and market share. Overall, sales volumes of opiate products increased with particularly strong growth in sales of codeine as well as several key specialist opiate products. In support of this growth, our programme of capacity expansion at Macfarlan Smith has continued this year with the addition of both large scale and small scale specialist capacity. The business also successfully completed its first product approval inspection by the US Food and Drug Administration. This will greatly enhance our US sales force's ability to market several Macfarlan Smith products, including some in the late stages of development, in the US market.

Pharm-Eco Pharm-Eco, with two facilities near Boston, USA, is a leading provider of small scale manufacturing and contract chemistry services in support of the development of new drugs. Pharm-Eco's manufacturing business experienced good growth during the year. To provide additional capacity for future growth, we completed installation of the first two reactor suites in the production area of Pharm-Eco's Devens, Massachusetts facility. The business' performance has also improved due to ongoing expansion of its technical expertise. During 2003/04 we substantially increased our capabilities in the areas of chemical, especially chiral, separations, catalyst screening and the handling of highly potent molecules. Pharm-Eco also made a substantial contribution to the development of products for other Pharmaceutical Materials businesses, particularly prostaglandin products for Cascade Biochem.



Cascade Biochem Cascade Biochem, with facilities in Reading, UK and Cork, Ireland, made important progress in the commercialisation of its broad range of prostaglandin products. In collaboration with the process development and scale-up capabilities of Pharm-Eco, Cascade completed development of six prostaglandin products during the year. Additionally, process development for its first veterinary prostaglandin product began late in the year and will continue in 2004/05. It also concluded commercial agreements for the long term supply of several of its products to a major US generic company. In support of this commercial progress, Cascade's Cork facility completed the first phase of an expansion program. A second phase is planned for 2004/05.

Turnover **£140m**

£128m (2003)

Operating profit **£42.3m**

£36.7m (2003)

Pharmaceutical Materials Division

produced another set of strong results in 2003/04

with operating profit 15% up on last

*year at **£42.3 million***

Research & Development

Pharmaceutical Materials Division's R&D is focused on commercial products to be manufactured and marketed by the division's four business units. Technology required for the manufacture of commercial scale products includes primarily the development of chemical manufacturing processes and methods for the analysis of these products. This technology is essential to achieve competitive market positions and to obtain regulatory approval for products. Contract drug development services offered by Pharm-Eco include medicinal chemistry, process development and initial scale-up of potential new drugs. Each of Pharmaceutical Materials Division's businesses has developed substantial chemical know-how in its respective market niches and they collaborate closely on new technical challenges. Combined with Johnson Matthey's core expertise in catalysis, chiral catalysis and organometallic chemistry, the division offers the pharmaceutical marketplace a unique range of R&D capabilities.

