LEFKOSA — NEAR EAST

BUS 400

' JOHNSON MATTHEY'

BA

M.BAKI ATILAL
BUS -4 90184

Conclusion ?
Pagination ?
Source ?

NEAR EAST UNIVERSITY — 1988 — LIBRARY — LEFKOŞA

JOHN MATHONEY

Contents

INTRODUCTION

I analysis with this project Johnson Matthey world leader in prec›ous metal and other specialised marterials.

I analysis the Johnson Matthey that is producing precious metals and other specialised materials.I give all information about the information about the production and profability of the corporate.Which kind of produces, *Which kind of technology they are use, the structure of the corporate organization* of the corporate, target market of the corporate, corporate policies, exploitation, board of staff, activities,are offered by these project.

1-- General Information

A) *Name Of The Firm;*
Johnson Mattley

Date Of Establishment: 1908

Kind Of Business;
Production of precious metal and other specialised materials.

B) Capitol Of Business;
The establishment capitol was 15,000,000 sterlings

Board of Directors

DJ Davies	Chairman & Chief Executive
DG Titcombe	Managing Director Precious Metals and Catalytic System
JN Sheldrick	Executive Director Finance and Technology
CRN Clark	Managing Director Materials technology
GH Wilson	Deputy Chairman
PC Burnell	Non - executive directors
HE Fitzgibbons	Non - executive directors
MP Milies	Non - executive directors
PF Retief	Non - executive directors
JA Stevenson	Non - executive directors
IG Thorburn	Non - executive directors

Other Senior Management

Catalytic System

KE Arnold	Division Director
MR Barter	Vise President and Managing Director,North America
PG Emmel	Managing Director,South Africa
WD Evans	Managing Director,Europe
JM Shares	Finance and Planning Director

Materials Technology

MJ Cleare	President,North America
RL Leubner	Managing Director,Europe
DW Morgan	Finance Director
Y Katoh	Executive Chairman,Japan

Colour and Print

EE Kuhn	Finance Director
DW Lloyd	Managing Director,Colour
AJ Parton	Operations Director,Print

Precious Metals

K Green	Operations Director,Marketing
PE Tape	Finance and Administration Director
KT Burgo›ne	General Manager,Canada
BJ Doherty	Managing Director,Australia
DW Perkins	Vice President and General Manager,USA

Corparate

GJ Coates	Group Treasurer
MJ Henkel	Group Taxation Manager
DB Macdermot	Group Accounting Controller
G Mcguire	Director,Technology Centre
IF Stephenson	Group System Controller and Head of Environment,Health and Safety

Corporate Statement

Johnson Matthey is the world leader in precious metal technology using advanced technical skills to add value to precious metals and other specialised materials.

The group' s principal businesses include the refining,marketing and fabrication of precious metals and rare materials: the manufacture of catalysts and pollution control system: the formulation of speciality chemicals,pharmaceu_ tical compounds and electronic materials: and the production of pigment, ceramic colours, transfers and liquid precious metals

The Johnson Matthey group employs 6100 employees working in 29 contries.

Operations Overview

Catalytic system:

Principal products:

* automotive exhaust emmission control catalysts for petrol and diesel fuelled vehicles
* catalytic industrial air pollution control systems
* chemical and metallurgical products

Materials Technology

Principal products and services:

* fabricated precious metals
* precious metal chemicals and refining
* process catalysts
* electronic materials
* pharmaceutical compounds
* fuel cell catalysts
* rare earth products
* engineering materials and metal joining products

Precious Metals

Principal products and services

* sole marketing agency for Rustenburg Platinum Mines
* pure platinum , palladium,rhodium,ruthenium, iridium,and osmium metal
* gold and silver refining
* platinum investment bars
* gold and silver high purity bars and grain for industrial applications and investment
* platinum,gold and silver pricing and metal account services

Colour & Print

Principal products:

* colour and stains for ceramics and glass
* enamels and conductive pastes for automotive glass
* pigments and dispersions for platics and surface coatings
* liqiid precious metal preparations for pottery and glass
* lithographic and screenprinted ceramic transfers

Activities

Autocatalysts..: Johnson Matthey is the world's leading producer of autocatalysts, supplying more than one third of total world demand.

Precious Metals Refining and Marketing..: Johnson Matthey is the sole marketing agent and joint refiner for Rustenburg Platinum Mines,the world's largest source of platinum groups metals,and is world leader in the sales and marketing of these metals.Johnson Matthey is the worlds's largest of gold outside South Afr›ca: it is also the world's largest producer of high purity small gold bars for jewellery manufacture and investment.

Electronic Materials..: Johnson Matthey is the world leader in die attrach materials for ceramic packaged integrated circuits and sputtering target materials for electronic applications.

Platinum Anti-cancer Drugs..: Johnson Matthey is the supplier of the metal-based bulk pharmaceuticals used in the world's top selling platinum anti-cancer drugs.

Fuel Cell Catalysts..: Johnson Matthey is the world's largest manufacture of precious metal fuel cell catalysts and world leader in the development of fuel cell catalyst technology.

Catalyst Gauzes..: Johnson Matthey is the world's leading producer of platinum alloy catalysts for fertiliser and chemical production.

Ceramic Transfers..: Johnson Matthey is the world's biggest manufacturer of decorative ceramic transfers.

Corporate Policies

Johnson Matthey continues to place a high emphasis on its responsibilites for the environment and the health and safety of its employees ,customers and the community.During the year an environmental ,health and safety sub-committee of the board was established to ensure that these responsibilities are effectively discharged.The Committee is chaired by Gordon Thorburn as Executive Director responsible for environmental healht and safety matters and also includes the Groups two Managing Directors and the head of group environment,health and safety. Its one of the first recipients of the Energy Efficiency Accreditation Schame Award for Achievement in Energy Efficiency during year.

Environmental Policy

JM committed to conducting our business ›n a mannner which avoids adverse effect on the environment and public health.The care of the environments is of prime importance to our business and is the responsibility of all employees. JM organise reviews and evaluation to ensure compliance with statutory obligatons and group and local policies,although it is JM aim to work to higher standards.Each operating division formulates its own detailed arrangements to meet the following goals:

* Design and manufacture products so as to optimise their enviromental performance,including considering the environmental effects when sourcing raw materials.
* Train all employees to identify and achieve their environmental responsibilities
* Promote the efficient usage of all forms of energy to reduce consumption.
* Recover and recycle surplus and waste process materials.

* Eliminate or reduce polluting releases and all forms of waste for disposal to ensure the minimum interfrence with the environment.
* Provide waste management programmes for the safe disposal of waste so that it does not adversely affect the health and safety of employees,the public,or the environment.
* Minimise the environmental effects of new developments and projects through forward planning.Facilities are to be environmentally efficient and visually attractive.
* Commun›cate JM environmental policy to employees, customers and the community.

Health and Safety Policy

JM comm›ited to applying the best practicable health and safety standards in JM business to protect JM employees,contractors,visitors, customers,shareholders and the community.Its JM aim to prevent all accident injuries and occupational health problems.

Health and safety is a major management function ranking in importance with others that lead to efficient operation.Line managers are responsible for health and safety and have a duty to implement statutory obligations and group and local policies.They are also responsible for endeavouring to eliminate or safely manage the risk inherent in JM business.This is achieved by the effect›ve implementation of the group health and safety policy and by formulating and appliying a local health and safety policy to meet the following goals:

* Organise and establish controls for effective compliance with health and safety policies and work closely with official authorities responsible for health and safety.
* Design and maintain process,facilities and equipment to ensure a safe working environment.
* Train all employees to perform their duties in a safe and competent manner in order to protect themselves the companys property and the community.
* Advise all employees ,contractors and visitiors of their responsibility for safety .Employees must comply with statutory obligations and with company health and safety requirements.
* Organise reviews and evaluations to ensure compliance with the aim of steadily reducing accidents.
* Design,manufacture and market products ,which when used in accordance with the relevant safety communications,will not present unacceptable risks to JM customers.
* Provide immediate and effective response to all accidents and emergencies.

FUTURE

JM has successfully completed the major programme of rationalisation remits that they embarked on shortly after DJ Davies became chairman four years ago. These remits enabled the company to maintain growth in profits during a long and deep worldwide recession. They are now well positioned for the future as management turns its emphasis from cost reduction to positive growth. The new financial year has starded well for all JM divisions.

Vision for Johnson Matthey.

1_ Company shall concentrate on the development of JM high value added, high technology products and services where out proven expertise in precious metals provides a competitive edge_in particular precious metal catalysis,electronic materials,biomedical products and fuel cells.JM spend on research and development is about one third of JM operating profits. JM spend on capital investment is approximately double JM depreciaton.

2_ Company insist on a return on net assets of over 20%. JM aim higher.

3_ JM shall work closely with our customer to ensure that their requirements are met to their total satisfaction.

4_ JM markets are global and we shall define market share in terms of global performance.It is no longer good enough to be the top player in the UK,or even in the European Un›on. 50% profits came from North American businesses last year.

5_ JM shall expand our businesses not just from internal growth,but also through acquisitions and joint ventures as appropriate.In this respect . Company has in the past year formed a joint venture with HICOM in Malaysia to create the first autocatalyst fac›lity in South East Asia: with Mitsubishi Kasei in Japan to give us an immediate 40% share of the Japanese sputtering target market: and most importantly with Cookson to create Cookson Matthey Ceramics which will give us the critical mass needed to compete head on with the leading American and German companies worldwide.

6_ Size is an important ingredient for a company with our ambitions.Company aim to become a constituent member of the FTSE 100.

STRATEGY

Johnson Matthey's corporate strategy is to focus on the development of its high technology,high added value businesses in global growth markets. The achievement of a 20% return on net assets is also a key management objective.In 1993/ 94 company embarked on a number of important initiavites that will substantially enlarge the scale of JM operations in Asia and ensure the continued growth of key worldwide Business.

In October 1993,Company was opened new technology centre located at Kitsuregawa in Japan.This was important step in Company strategy for Asia and represents 25 million sterlin investments in the very latest technical and manufacturing facilities.The centre is fundemental to the development of our autocatalyst,electronic materials,fuel cells and other businesses both in Japan and the rest of Asia.Another important strategic move in Japan ,wh›ch we announced in may 1994,is the formation of a joint venture with Mitsubishi Kasei,the Mitsubishi Groups chemical company.The new company,to be called Ryoka Matthey,w›ll manufacture high technology sputtering targets in Japan.The joint venture will compete effectively in the vitally important Japanese semiconductor market.Together with JM substantial business in the Un›ted States, the new venture will establish Johnson Matthey as a number one in sputtering targets worlwide.Ryoka Matthey will be profitable from inception and is a significant addition to our rapidy growing Electronic Materials business.

Elsewhere in Asia,our ceramic transfers joint venture in Indonesia commenced production in April 1994,and a few months earlier we announced we had reached agreements to from a joint venture to build a new autocatalyst plant in Malaysia.JM principal partner,HICOM in which the Malaysian Government has a substantial interest,is a leading shareholder in Proton,the nation car manufacturer in Malaysia.The new plant ,with a capacity to produce one million autocatalysts per year,will start production in 1995 and will supply the rapidly growing markets of South East Asia.This will be first autocatalyst facility to be located in an ASEAN country and further reinforces Johnson Matthey's commitment both to its worldwide autocatalyst business and to growth in Asia.

The year has seen continued investment in other parts of JM autocatalyst business.The first phase of 5 million sterlin expansion of refurbihment of JM European Technical Centre at Royston,UK was completed. We also recently announced that we are starting to build a new autocatalyst plant in Mexico.It will have annual capacityof one million units supporting the rapidly growing Mexican automobile industry and will be in production before the end of the year.Technical facility in Sweden completed,marking a major step in JM strategy for the emerging diesel catalyst market.

The announcement of JM intention to form a joint venture with Cookson Group plc in ceramic materials was a major step in JM strategy for the growth of this business globally.The combination of JM Colour and print Division with Cookson's Ceramic Supplies and Minerals businesses will create a new enterprise with both the management and financial resources to become the world leader in ceramic materials.It will be able to offer a complete,world class product range to its customers and will set new industry standardsfor technoligical innovation.Agreements on the merger have now been signed and Cookson Matthey Ceramics is scheduled to commence operat›on on 1st July 1994.Expect well above avarege growth from the joint venture. Operating efficiency will be improved through rationalisation and reorganisat›on and there are significant opportunities in the rapidly growing markets of Asia.

During this past year(1993) JM has sold our UK and Irish Jewellery business and agreed to sell our Italian silver products business,Metalli Preziosi both of which were peripheral to our global strategy for growth.Taken together these two operations only just broke even at operating profit level in 1993/94 and their disposal will reduce borrowings by over 50 million sterlin.

JM strategy for growth has necessitated a continued high level of investment in new facilities.Accordingly capital expenditure in the year amounted to 65.4 million sterlin,well above the depreciation charge of 30.7 million sterlin.

MATERIALS TECHNOLOGY

The companys precious metals fabrication and general chemicals businesses, platinum group metals and UK gold and silver refining operations, and the electronic materials and biomedical products businesses.

MATERIALS TECHNOLOGY DIVISION

The companys precious metal fabrication and general chemical businesses ,platinum group metals and UK gold and silver refining operations and the electronic materials and biomedical products businesses.

MTD Europe

Following the major rationalisation programme carried out during the past four years,the region has this year been able to capitalise on its lower cost base,which together with greatly enhanced customer service has resulted in an improved financial performance.The region is now also beginning to benefit from the early stages of economic recovery in the UK, and is set to capitalise on its strengh in global markets,as the world's major economies recover.

Chemicals

In the first full year of operation since the completion of the restructuring of the UK refining and chemicals business continued to gain market share. The refining of high grade gold and the platinum group metals was particulary active.Chemical products business performed satisfactorily despite continued recession in the chemical industry,and lower demand for platinum group metal salts which reflected the depressed state of the European car industry Sales of electronic materials and silver salts increased as a result of winning new business in Europe.

Noble Metals

The past year has seen continuing focus on enhancing customer service and improving quality.The business added to its quality achievements during the year with the prestigious Ford Q1 accreditation.Effort to expand sales in Eastern Europe and the countries of the former Soviet Union are also proving successful.The new knitted gauze catalysts for the nitric acid industry. introduced just two years ago ,already account for more than %80 of the total catalyst gauze sold.This year saw the successful launch of a further new range of products known as ACT (Advanced Coating Technology).These new products employ a novel,patented technique for depositing platinum group metal and also alloys onto a variety of ceramic materials and refractory metals The technology is particularly exciting because it expands the use of platinum to applications for which hithetro it has been too expensive.

Rare Earth Products

This operation specialises in the production of rare earth alloys for high performance application including permanent magnets and data storage. The business has performed particulary well during the last two years consilidating a leading position in Europe and gaining significant market share in North America.Plans for the future include doubling the production capacity on the widnes site to meet demand.

Eoropean Selling Operations

The new sales organisation ,centre in Paris and Zurich with customer services centre in most European countries,have enjoyed significant growth in sales recession throughout the region.Increased operating profits were derived from higher sales in key market segments and the reductions in administration costs achieved from rationalisation during the preciding year.

Jewellery

As part of the groups global strategy for growth the division has not only been strengthening it is position in key markets but also has divested itself of its under-performing operations in peripheral activities.At the end of January 1994,the divisions UK and Irish Jewellery business was sold to Cookson Group plc.This was in keeping with the company corporate strategy to focus its resources on the development of its high technology high added value businesses in global growth markets.

MTD North America

Overall,North America had an outstanding year with good revenue and profit growth in almost all businesses.The US economy started 93/94 with modest growth but finished the period strongly,bringing increased demand across all market sectors.In particular ,double digit growth in the semiconductor market has benefited our electronic materials business. Biomedical also had a record year as continued product growth was enhanced by special licence payments.

NEAR EAST UNIVERSITY LIBRARY LEFKOŞA

Electronic Materials

Electronic materials business has continued its excellent growth of recent years.In 93/94 speciality metal products such as sputtering targets and metal seal lids for semiconductor packages continued to gain market share.Company launched our new Omega range of sputtering targets, specifically tailored for use in metallising 8 inch wafers for advanced microprocessor and memory chip production.These products are unique to Johnson Mattheyand were developed in conjuction with the sputtering equipment manufacturer,applied materials and major customers such as Intel, Motorola and IBM. In order to meet increasing customer demand ,seal lid manufacturing capacity at the Spokane site,in Washington State,was increased substantially during 1993. This included the addition of 10000 square feet of Class 1000 clean room manufacturing space.

JM7000,new die attach paste from company San Diego,is proving to be breakhrough product for attaching semiconductor chips in ceramic packages and company are currently adapting this unique technology for use in the larger plastic packaging market.These product complement our (company) successful range of AuSub silver glass die attach pastes.

Early in 93/94 the companys operations in Korea, Singapore and Taiwan became part of the Electronic Materials business because: of the key focus on electronics in those markets.

In Korea, company business continues to show rapid growth as we successfully build a core manufacturing base to augment the well-established trading operation for JM products.Key locally made products are aimed at supporting the Korean electronics ,automobile ,galss and chemical industries. Significant exports of Korean factory products are sold into Japan,China, Taiwan,Indonesia,Singapore and Thailand.

Singapore continues to be main sales office for Johnson Matthey products in South East Asia,although it sales to be many semiconductor manufacturing operations in the ASEAN region are now further supported by the local manufacturing.

Biomedical

Investment in new product development and expanded manufacturing capacity in company West Deptford,New Jersey facility has yielded good result in company organic pharmaceutical range which represents the fastest growing segments of manufacturing revenues.The platinum drugs,carboplatin and cisplatin,reman among the worlds leading anti-cancer treatments and continue to make a substantial contribution to profits.

1993 was exciting year of progress for our drug research programmes. After a successful two year joint collaboration,Johnson Matthey signed an exclusive worldwide licence agreement with Sandoz Pharma for a new class of anti-viral compounds which have a novel mechanism of action against HIV, the virus that caused AIDS. In addition JM 216, Johnson Matthey orally administrable platinum anti-cancer drug, which is beign developed in conjuction with Bristol-Myers Squibb,has continued to progress well in clinical testing.Licence payments from these programmes made a significant contribution to revenues in the Biomedical sector.

Chemical

Business rationalisation activities yielded major cost reductions which more than offset the impact of a highly competitive marketplace.Also further advances were made in lead time reductions. Company supported catalyst business had a good year with several new product introductions into the chemical and pharmaceutical industries.

Noble Metals

The US Noble Metal business turned in a flat performance compared to the prior year largely due a poor first half.Medical product sales were particularly slow early in the year due to uncertainty over possible healthcare reforms.However business has now impoved substantially and the addition of new wire products to our existing range of machined parts for heart pacemakers ,defibrillators and angioplasty catheters, augurs well for the future. While competitive pressures are depressing revenues our traditional product lines,new gauze products for the nitric acid industry have yielded improved market share and unit revenues.Platinum sputtering targets and spheres for automotive spark plug tips are poised for significant growth 1994.

Japan

1993/94 was an important year in the development of Johnson Matthey's presence in Japan.

In October 1993 Johnson Matthey formally opened its new tachnology centre in Japan.The new technology centre plays a major part in Johnson Matthey strategy for growth ,enabling the company to work closely with its customers in Japan and with Japanese companies around the world.

Kitsuregawa Technical Centre (Kitec) is Johnson Matthey 's biggest single investment in Asia and reflects the company 's commitment of major human and financial resources to the development of its business in the region.

Kitec incorporates a decicated engine test and autocatalyst evaluation facility: a fuel cell development laboratory and pilot plant :an electronic mater›als appl›cat›ons laboratory and manufactur›ng facility : and a small fabricated products manufacturing unit .Significant expansion in these key areas in anticipated in the coming years.

On 19th May 1994,the company announced a majot joint venture with Mitsubishi Kasei, a member of the Mitsubishi group,that will supply sputtering targets to the Japanese semiconductor industry. The new company which will be called Ryoka Matthey,will combine Mitsubishi Kasei's established position as a leader in the Japanese market and Johnson Matthey's technological strength to provide a powerful force for growth.

The formation of Ryoka Matthey is a most important step in key elements of Johnson Matthey's corporate strategy , firstly the development of our business in the far East and secondly, the expansion of our worldwide Electronic Materials business.By joining forces with Mitsubishi Kasei, Johnson Matthey will both obtain an important industry position in Japan and become market leader in sputtering targets worldwide.

PRECIOUS METALS

The companys worldwide platinum group metals marketing activities and the gold and silver refining and marketing operations/

PRECIOUS METALS DIVISION

Platinum Group Metals

Physical demand for platinum grew by %6 in 1993, equalling the previuos record of 1991 despite the generally recessive world economic climate.Growth in autocatalyst usage was again a key factor as European emissions legislation came fully into effect there was a recovery in vehicle sales in Unites States, particularly in the light duty trucks sector.Demand for platinum jewellery in Japan was remarkably buoyant and ignoring the general Japanese economic gloom,platinum gained market share at the expences of gold.Industrial demand continued to decline as traditional user industries struggled with over-capacity and weak order books.

Despite the encouraging trends in demand for platinum ,greatly increased supply of the metal from South Africa ensured that market stocks were more than adequate.This had a dampering effect on price levels in the third quarter of the year.However the sustained improvements in US manufacturing output and the threat of supply disruption posed by political uncertainty in South Africa and Russia ,resulted in a steady recovery in platinum fortunes in the fourth quarter.The price of platinum avaraged 383 dollars per ounce in the year compared with 360 dollars in 1992/93, a %6.4 increase.When expressed in sterling the increase in the avarage price was %18.6 due to the appreciation in the US dollar.

With no terminal market, rhodium reacted further to fundamentals of supply and demand and the price fell by almost %50 to end the year 680 dollars per ounce as producer sales exceeded demand.

Autocatalyst demand for the platinum group metals is forecast to rise sharply as emissions legislation is extended and strengthened around the world.Vehicle sales are also set to recover from their recent lows.The close and highly effective working relationship between Johnson Matthey's Precious Metals and Catalytic Systems Divisions was recognised by Chrysler Corporation when it awarded Johnson Matthey the prestigious 1993 Platinum Pentastar Award for exceptional quality performance as a multi group supplier.During the year the division was very active in market and product development .Promotion of platinum for jewellery has attracted strong interest from currently small ,but potentially significant new markets in Asia ,particularly in China,and in the United States.

Clean Air legislation is the driving force for the Division's fuel cell research and development and marketing programmes.The application of fuel cell technology in both mobile and stationary power generation offers exciting potential for growth of our business.Zero emission reguletion start to apply from 1997 in California and thirteen North Eastern states wh›ch together represent some %35 of the US car market.There is a growing realisation ,however that battery powered electric cars actually generate more total pollution from the cars tail pipe to the stack of the power station that makes the electricity that recharges the batteries.This has stimulated interest in fuel cells for use ›n cars,buses and other transport applications because hydrogen powered fuel cells are the only zero-emission alternative to batteries.

Johnson Matthey has a joint fuel cell research programme with Rustenburg Platinum Mines and this year announced a collaborative development programme with Ballard Power Systems inc. of Canada,the leading developer of Proton Exchange Membrane fuel cell for transportation and stationary power applications.Significant progress has been made during the year in improving the efficiency and cost -effectiveness of the platinum catalyst electrodes at the heart of fuel cell.In April 1994,Daimler Benz demonstrated to the press a van powered by a ballard fuel cell as part of major project to develop fuel cell powered cars jointly with Ballard and using Johnson Matthey's catalyst electrodes.The demonstration programmes of stationary fuel cell in Japan, USA and Europe continued to attract widespread private and public interest with Johnson Matthey the major supplier of platinum catalyst to this market.Fuel cell represent an exciting growth opportunity for platinum in future years.

Gold and Silver Operations

Conditions within the gold and silver markets changed quite dramatically in 1993/94 with gradually rising prices and high volatility.Major regions of consumption are sensetive to such fluctuations and physical demand for gold in the Middle and Far East reduced by about %24 compared to the prior year.Physical demand for silver however was buoyant.This was mainly due to demend from India which was stimulated by partial relaxation of import regulations and a low internal price for silver.Although demand for our gold bullion products was lower,this was more than compensated for by high levels of primary feed from the mining industry,significantly larger amounts of secondary scrap and a very active upgrading business from financial organisations around the world.

Company US refinery at Salt Lake City had another record year for gold output.Measures were also taken to further increase efficiency in processing and emission control.The facility at Brampton ,Canada also had a record gold refining year.Company continued to produce gold blanks for the US Mint Eagle coin programme and good progress was made in the semi-manufactured gold jewellery alloy business ,particularly in the US. In Melbourne,Australia company gold refining business held up extremely well despite stiff price competition.Difficult market conditions depressed sales of jewellery materials ,but company Australian industrial products business showed some signs of improvement prospects look brighter for 1993/94 .Company enlarged operations in Hong Kong made a useful contribution in the year and is an important conduit for product sales into the emerging Chinese markets.The region is an avid consumer of precious metals and company expect to develop further opportunities for growth.

CATALYTIC SYSTEM

Johnson Mattheys autocatalyst and environmental pollution control businesses in North America, Europe South Africa and the Pacific and the groups chemical and metallurgical businesses in South Africa/

CATALYTIC SYSTEM DIVISION

Autocatalysts

The car markets, in which Johnson Matthey autocatalysts are used enjoyed very mixed fortunes during the year.The US continued the recovery from recession reported last year and light vehicle sales were %8 higher in calendar year 1993 than in 1992.The Big 3 automakers continued to increase their share of the US market.These factors led to very high demand for autocatalysts in North America.With the exception of the UK,where car sales increased by %11.6 .European car market declined by %15.2 .Since all new petrol cars were equipped with autocatalysts,total sales in Europe were less than excepted although they still showed growth over last year. Japanese car sales were also down by %7.

Johnson Matthey continues to be the world's largest supplier of autocatalysts that are fitted to new cars reduce levels of harmful pollutants in our atmosphere .The year has again seen an increase in the number of countries setting limits on levels of emission from cars and other vehicles which result in the fitment of our products.

During the year 13 states in the North East of the USA took steps to adopt the California emission standards that are the strictest in the world and which require cars to emit diminishing quantities of pollution as we move into the next century.When approved by the US Environmental Protection Agency this will mean that over one third of US cars will use increasing quantities of higher technology autocatalysts over the next 8 years.

In Europe the Council of Ministers of the European Union agreed new tighter emission standards to come into effect during 1996-97. These standards will further reduce the levels of allowed pollution from cars by %50 bringing European Union standards fully in line with those of the USA. Johnson Matthey continues to invest in the technology and production capacity that these tougher standards will demand. A new European Union directive was introduced during the year that will require the fitment of catalysts on light duty commercial vehicles from 1995.

Johnson Matthey continues to make a substantial investment in the technology and resources necessary for the long term growth of its autocatalyst business.In October 1993 a new technical centre was opened at Kitsuregawa, Japan,some 170 km from Tokyo.This important new centre incorparates a dedicated engine test and autocatalyst evaluation facility and provides a world class base from which to service the vitally important Japanese automotive industry .The first phase of expansion and refurbishment of the Divisions European Technical Centre in Royston ,UK, was also completed during

the year.Additional technical facilities will be constructed during 1994.Th›s centre now includes the latest technology for testing the performance of catalysts on cars.During 1993/94 we complated the initial investment in our diesel catalyst development centre in Sweden and are already seeing increased levels of diesel catalyst sales as a result.

The standards for Ultra Low Emission Vehicles that California and the thirteen North Eastren states plan to introduce from 1997 will require a ten fold reduction in hydrocarbon emissions .This together with increased focus on cold starting performance has led to the introduction of new palladium catalyst technology which gives significantly lower hydrocarbon emissions and will allow our customers to meet future emissions standards cost effectively.A joint paper with Ford was presented on this work at the US Society of Automotive Engineers Conference in March 1994.

Good progress has been made during the year towards the commercialisation of ' lean NOx ' catalysts which will for the first time allow catalysts to reduce levels of nitrogen oxide emissions on diesel and other lean burn enginers, including two-strokers.This majot achievement will offer the benefit of improved fuel economy,and hence lower emissions of the greenhouse gas carbon dioxide, along with lower levels of other key pollutants.

In Europe,Johnson Matthey increased the level of autocatalyst supply to the new Japanese car plants.We added the Jaguar business to that of Rover Peugeot and Citroen supplied out of our Australian plant.The transfer of business to Australia earns our customers valuable export credits that help them to sell more vehicles in Australia and ,consequently this increases Johnson Matthey autocatalyst sales.In South Africa,Ford,Honda and Volkwagen have approved the supply of product and deliveries have now commenced.The export of complete catalytic converters by our South African customers reduces the amount of duty they pay on imported components.We increased our sales of autocatalysts to Japanese car makers by over %50 during the years as a result of increased business share.

Johnson Matthey announced during the year that it will build new production plants in Mexico and Malaysia.The Mexican plant will start production at the end of 1994 and will serve our US,European and Japanese customers in Mexico.The Malaysian plant will commence manufacturing in 1995 in line with the introduction of Malaysian emission regulations and will supply the ASEAN markets,including Thailand which has already introduced emission regulations requiring autocatalysts.These plants will increase Johnson Matthey business potential in the fast growing Latin American and South East Asian markets.

Diesel car sales have continued to grow in Europe and reached a total of 2.3 million vehicles and %20 of the total market.In the UK,diesel sales

have reached as high as %25 of total cars sales in some months.Some of the growth in diesel sales has undoutedly been due to the widely held belief that better fuel consumption and lower levels of carbon dioxide emissions will help reduce global warming.However recent reports commissioned by the UK Government have highlighted the need to control other pollutants from diesel engines.As a result of this and the introduction of tougher emissions standards in 1996/97 we expect further growth in the fitment rate of catalysts on diesel cars leading to %100 fitment in 1996.Johnson Matthey with its new diesel catalysts production palnt and the diesel development centre in Sweden is now well positioned in this growing market.Sales of diesel catalysts have already commenced for the newly legislated US heavy duty truck market. Sales of complete catalytic converters to the Scandinavian bus market have continued to grow and some 600 buses have now been fitted in Gothenburg and Copenhagen.The Danish Technical Institute has published a report showing the clear environmental benefits to be obtained by retrofitting catalysts onto urban buses.

Catalyt›c Systems Division strives to maintain the highest quality standards and these have been recognised by our customers.In 1993 Johnson Matthey was one of only 23 suppliers to receive the new Chrysler Platinum Pentastar Award and we continue to be one of only 15 Ford suppliers to receive their top quality award.Total Quality Excellence .Honda Motor Co Ltd,Japan,presented their prestigious Supplier Award ,Development Catogory ,to our US operation.This is the first time that Honda has presented this category of the Award to an Overseas supplier.Quality Awards were received from Toyota and Honda for our US business and from BMW for our South African business.Both our European plants together with our US and Australian plants are accredited to ISO 9002, the international quality standard for manufacturing which has gained global acceptance in the auto industry.

Environmental Products

Johnson Matthey's business of providing catalytic solutions and eng›nereed systems to control noxious emissions from industrial plants and stationary engines continues to grow.

Technological advancements in pollution control catalysts coupled with licensing arrangements for alternative emission control technologies have enabled the business to expand its product range.We have developed and sold new catalysts for the destruction of halocarbons in low temperature applications and have supplied thermal regenerative oxidisers and concentrators for the control of volatile organic compounds.The increasing commitment of governments to implement emission control regulations as markets come out of recession ,offers opportunities for growth of this business throughout the world.We are developing new markets for company products in Asia/ Pasific with sales starting in Japan and Korea and with new opportunities in Australia on water treatment plants and stationary generators.

COLOUR & PRINT

Johnson Mattheys worldwide production and marketing of pigments, dispersions, ceramic colours, transfers and liquid precious metals.

COLOUR AND PRINT DIVISION

COLOUR:

1993/94 has been a year of continuing sales expansion in markets around the world.Company global manufacturing sales and service operations have succeeded in the further penetrating the markets of Asia,Europe,North America,South Africa and Australasia.This brings exciting growth prospectes for all sectors of Colour business.

There has been a rapid growth in sales of transparent iron oxide dispersions for wood finishes in Germany.New ceramic colour business with significant growth potential has been secured around the world ,most notably in the rapidly growing markets of the Far East.Company particularly encouraged by the expansion of company business in China.The year has also seen continued growth in trade with TURKEY and Middle East.The South American markets of Ecuador,Brazil and Argentina offer a great deal of potential for company products.Company early successes in securing a share of these markets provide us with good potential for further expansion.

The Division's Decorative Ceramic business has successfully introduced new product driven by environmental considerations in both the tableware and flat glass market sectors.The palette of unleaded decorative products for use in the production of tableware has been further extended during the year by the launch of new ranges of unleaded ,fast fire, inglaze colours, and lead - and cadmium-free glazes.

During 1993/94 ,Decorative Ceramics released new decorative precious metal products that are free from ozone-depleting solvents ,including burnish gold and improved transfer golds for china porcelain .A new range of advanced water miscible decorative golds is being tested worldwide and is due to be launched during 1994.Johnson Matthey position as a leader in innovative technology is further highlighted by the development of new range of unleaded enamels for applications in the decoration of architectural glass and glass panels for a wide range of domestic appliances.

In 1994 increased in Johnson Matthey market share of products for automotive glass,which has enabled us to become a world leader in the supply and servicing of technical glass enamels for automotive applications.Major supplier of silver based conductor pastes used to manufacture heated windscreens.

The success of the colour operation worldwide has been achieved by having the right product, the right policies and by making an investment in people in fundamental areas of the business.Stocking policy has been a key factor in increasing sales of decorative colours and investments in new equipment and improved process engineering have resulted in greatly

enhanced product quality and reduced costs.The year ahead provides us with the challange of making further improvements in customer service through ex-stock availability and other lead time reduction initatives.New product launches will continue to be driven by environmental considerations, specifically in the tableware sector,thereby enhancing company objective of becoming the world's number one supplier of decorative ceramic and glass products.

As leading international manufacturer and supplier of complex inorganic pigments,Johnson Matthey has expanded its markets share ,particularly in a Far East ,through sales of high performance durable pigments for the paint, plastics and building materials industries.

1994/95 will see launch of new products for autumotive finishes and the installion of new production facilities for novel PVC pigment elaboration for use in the manufacturing of window profiles,cladding panels and rainwater systems.These together with further further improvement in technical support and a continued focus on delivery performance are the initiatives which will drive us towards our strategic intent of world leadership in the manufacture and supply of speciality pigments and dispersions.

PRINT

Johnson Matthey Print operations is the worlds largest manufacturer of transfers for the decoration of ceramics and glass.It has very goog share of the markets for these products in the UK,France and the USA and the last year has seen substantial progress in expansion into regions where it has lower market share ,particularly in the Far East and Germany.

Full advantage has been taken from the improvement in the UK and US economies and recent technical developments have contributed to a sharply improved business outlook.After a difficult first six months,the second half of 1993/94 saw sharp pick up in the performance of pr›nt UK.Its reputation as a supplier of the highest quality transfers for tableware was once again recognised by the award of the prestigious Bert Vandenoever Award at the 1993 American Society of Glass and Ceramic Decorators Convention.

Matthey Beyrand in France had a challenging year and responded well to the highly competitive situation in the collectors plate business in the USA,its major market area.Further investment to improve customer service enabled increased market shares to be gained and this performance was crowned when Matthey Beyrand produced the transfer for the winner of the 1993 Collectors Plate of the year Award.

Company new joint venture printing facility in Indonesia commenced manufacture in April 1994.The market reaction to company move into the

Asia has been extremely positive and has led to an acceleration of company future expansion plans.This marks a key milestone in the globalisation of print ,espicially in the important and rapidly expanding markets of the Far East.

COOKSON MATTHEY CERAMICS

On 17th March 1994, Johnson Matthey and Cookson Group plc announced that they had reached agreement in principle to form a joint venture that will combine JM's Colour and Print Division and Cookson's Ceramic Suppliers and Minerals businesses.The new company will be called Cookson Matthey Ceramic plc and will be owned 50;50 by the Johnson Matthey and Cookson.

Cookson Matthey Ceramic will be one of the world's largest integrated ceramic supplies companies ,with a leading market position and the resources to become the world leader in its field.It will combine two strong and largely complementary,product ranges and built upon the synergies of the combined product range to provide exciting opportunities for growth. The joint venture will have the critical mass and resources to compete on equal terms with the largest competitors in its markets and to promote ambitious expansion plans ,particularly in the Far East.

RESEARCH & DEVELOPMENT

Refining
Biomedical
Colour and Print
Autocatalysts
Materials Technology
Fuel Cells

RESEARCH AND DEVELOPMENT

In 1993/94 Johnson Matthey spent 28.5 million sterlin gross on Research and development ,compared with 25 million sterlin in the previous year .This continuing investment reflects Johnson Matthey's commitment to innovative research as a vital element in its strategy for future growth and profitability .Many of our most successful products and process are based on technology originally developed in research.

Johnson Matthey maintains its position as one of the most innovative companies in the UK. Nationally the need for innovation has never been greater.Companies are having to bring new products to market ever more quickly to keep ahead of increasingly fierce international competition.

In Johnson Matthey, we recognise the vital role of people in the innovation process.Scientists are encouraged to move from our research centres into the Divisions to ensure that new technology is transferred successfully from research into development and production. This creates a flow of new graduates from the Universities into research ,thereby maintaining high levels of creativity.To ensure that our research and development effort is maximised ,company actively seek collaborators who can complement company own research expertise.Company biomedical research programmes on platinum -based anti-cancer drugs involve several collaborators including: Bristol-Myers Squibb (USA). The Royal Marsden Hospital and The Institute of Cancer Research.This collaborative approach has also been adopted in anti-viral drug development with Sandoz Pharma of Switzerland and in the fuel cell area with the Canadian company,Ballard Power systems inc.

Company research and development is organised globally.Laboratory facilities include the Corporate Technology Centre at Sonning Common in the UK. The Pharmaceutical Research Group in the USA. and a number of development groups within the operating Division,in addition ,the Technical Centres at Devon,USA, Royston,UK and Kitsuregawa, Japan are promoting close technical liasion with customers around the world.The creation of such centres of research and development excellence close to the marketplace is a key part of the strategy to grow Johnson Matthey's worldwide businesses.

This year saw a continued commitment to environmentally- related research and development.Company programmes include low or pollution free replacements for existing products and processes,air pollution control technology and the development of clean power sources.Protection of the environment is a prime area for developing new applications for the platinum group metals.

REFINING

* A major R&D contribution was made to the new Modified Rhodium Sidestream (MRS) refinery,which was completed at Royston in 1994.

BIOMEDICAL

* JM 216 an orally administered platinum anti-cancer agent is making good progress in clinical trials.

* An exclusive worldwide licence agreement has been signed with Sandoz Pharma of Switzerland for a class of anti-viral compounds which have a novel mechanism of action against HIV, the virus that caused AIDS. Research and development effort on these compounds continues.

COLOUR AND PRINT

* A patented water-miscible gold compound has been developed.This is forming the basis of a new range of decorative gold products free from harmful organic solvents.

* Developments continues on heavy-metal-free pigments and base colours to meet increasingly stringent legislative requirements on existing products.

* Work on second generation automotive glass enamels is further enhancing Johnson Matthey's reputation for these advanced products.

AUTOCATALYSTS

* Extensive research on improved low temperature performance and high temperature durability catalysts further reinforces Johnson Matthey position as the world's leading producer of autocatalysts.

* New catalysts are in development for application in light and heavy duty diesels, a rapidly growing market sector.

* Autocatalysts that are active in reducing NOx under the lean conditions found in into-stroke ,diesel and lean-burn engines are being developed and will ensure Johnson Matthey's technology leadership in engine emission control.

MATERIALS TECHNOLOGY

* Company has recently launched an entirely new and revolutionary method of coating ceramic substrates with a thin protective film of platinum. Known as ACT (Advanced Coating Technology) the system provides new

opportunities in glass production technology ,where the cost of bulk precious metal has been prohibitive.The ACT system is also suitable for applications in other industrial and nuclear sectors where high temperature or corrosion resistance is required.Company R&D effort is continuing in order to expand ACT applications and to apply the technology to alternative substrates.

* The development of advanced sputtering targets in aluminium and titanium continues to be major focus of research within our electronic materials programmes.

* Silver based die attach pastes are being researched at several of company operations for use in smart cards and semiconductor chip packaging. The latest generation of these materials has already revolutionised the packaging of high reliability devices.

FUEL CELLS

The predicted growth in demand for hydrogen both as a clean fuel and as a utility chemical has stimulated worldwide interest in new methods for its generation, processing and use .Indeed some scientists predict that by the year 2020 ,the world economy will be dominated by hydrogen rather than by fossil fuels.The fuel cell, a device for generating electrical power via the chemical combination of hydrogen and oxygen is a very important part of this 'hydrogen economy'.

Johnson Matthey and Ballard Power Systems inc. of Canada have recently announced a collaboration on the joint development of fuel cell catalysts ,electrodes and manufacturing progresses.The programme will advance the commercialisation of the Ballard Proton Exchange Membrane (PEM) fuel cell which offers great potential for clean electricity generation and ' zero - emission ' vehicles.

Johnson Matthey is already the world's largest manufacturer of platinum - based fuel cell catalysts, which provides an excelent platform from which to move into the manufacture of gas diffusion electrodes. Company's R&D programmes of recent years have given us the ability to manufacture electrodes, which allows access not only to the fuel cells market but also to industrial applications in electrochemical synthesis and sensor system.

A critical requirement in the commercialisation of PEM fuel cells for transportation systems is the development of a pure hydrogen feedstock. Johnson Matthey has patented a novel means of generating hydrogen from menhanol in a compact and inexpensive package.

FINACIAL REVIEW

Profits for the Year

Operating profit grew by 10.1 million sterlin in 1994 to 81.7 million sterlin. The improvement in operating profit included a benefit of 3.5 million sterlin arising from more favourable exchange transaction. The interest charge for the year increased by 3.1 million sterlin to 4.6 million sterlin. This increase reflected lower sterling deposits rates and higher avarage borrowing.

In order to eliminate price exposure on precious metal stock JM either borrow the precious metal or hedge the price by forward sales. This hedging gives rise to interest income which reflects the difference between metal interest rates and sterling interest rates. In 1994 the benefit from hedging was less than 1993 as the gap between sterling deposits rates and precious metal rates narrowed.

The group's tax charge for the year of 20.7 million sterlin included a saving of 3.7 million sterlin on advance corporation tax(ACT) as a result of the 96% take up of the 1993 enhanced scrip dividend. The group's avarage tax rate for 1994 was 32.4% (1993 32%) excluding the ACT saving and exceptional items.

Earnings per share for the year increased 25.8p to 27.6p

Cash Flow and Investment

The groups net borrowings fell by 22 million sterlin in 1994. The major asset disposal in 1994 was the sale of the UK and Irish Jewellery business at the end of January for 16.4 million sterlin in cash and 18.9 million sterlin of precious metal loans repaid. The increase in retained earnings included a benefit of 12.6 million sterlin from the 1993 enhanced scrip dividend.

Capital Expenditure of 65.4 million sterlin more than twice depreciation. Major projects included completion of the new technical centre and manufacturing facility at Kitsuregawa in Japan 14 million sterlin,expansion of electronic materials production facilities in the US 4.1 million sterlin, construction of a new autocatalyst technical centre at Royston 1.9 million sterlin and new refining production facilities at Royston and Brimsdown 3.3 million sterlin. Stronger platinum and gold prices at the end of the financial year accounted for 12 million sterlin of the increase in working capital.

Capital Structure

Shareholders' funds increased by 39 million sterlin to 371 million in 1994 while borrowing fell by 22 million sterlin to 93.6 million sterlin. Gearing (net borrowing as a percentage of shareholders funds) fell to 25%. Johnson

Matthey 's net borrowings are in the form of precious metal leases(to finance inventory) and foreign curreny borrowings(mainly US dollars).The group not sterling borrowing.Currently most of the loans are borrewed on a floating rate basis. JM has over 200 million sterlings of facilities from a group of high quality international banks with maturities of up to five years under which most of the borrowings are drawn.

Treasury Hedging Policy

JM policy for all our manufacturing businesses is to limit this exposure by the hedging wherever possible against future price changes where such hedging can be done at acceptable cost.The group doesn't take speculative foreign exchange position or material exposures on metal trading and our treasury is run as service centre not a profit centre.

All the groups stocks of gold,silver and platinum are fully hedged either by borrowing or forward sales.The group only has a price exposure on stocks of those metals such as rhodium ,where no forward markets exist and which can not be fully hedged.Out of the groups total precious metal stocks of 88 million sterlings at 31st March 1994,only 6.3 million sterlings was unhedged.

Employment Policies

Johnson Matthey recruit, train and manage our employees regardless of sex,ethnic origion or religion.Employees who become disabled and disabled people are offered employment consistent with their capabilities. Team briefing is our main vehicle for communicating information about the company and for obtaining feed - back through the organisation. 39.4% of employees worldwide are shareholders in Johnson Matthey through the company's employee share participation schames which held 2,937,466 shares (1.54%) at 31 st May 1994. 172 current and former executives hold options over 2,073,536 shares through the company's executive share option schemes.

FINANCIAL HIGHLIGHTS

	1993 **million sterling**	1994 **million sterling**
NET REVENUES	333.7	391.0
OPERATING PROFIT	71.6	81.7
PROFIT BEFORE TAXATION AND EXCEPTIONAL ITEMS	70.1	77.1
EXCEPTIONAL ITEMS	3.7	(11.7)
PROFIT BEFORE TAX - FRS3	73.8	65.4
	pence	**pence**
EARNINGS PER SHARE-FRS3	27.1	23.7
DIVIDEND PER ORDINARY SHARES	10.3	11.4
	million sterling	**million sterling**
NET BORROWING	115.6	93.6
SHAREHOLDERS' FUNDS	332.6	371.6

SUMMARY

Materials Technology Division had on outstanding year and made a major contribution to the growth in group profits.The marked improvement in the divisions performance :operating profit increased by 35% from 20.8 million sterlin to 28 million sterlin. The division North America Electronic Materilals business achieved excellent results,with profit up 60% on the previous year(1994).Biomedical performed well both in terms of growth in manufacturing as well as new product development.The favorable effects of JM rationalisation programme enabled MTD Europe to increase profits despite continued recession in many of its key markets.

Precious Metals Divisions performance was once again adversely affected by the fall in the price of rhodium.The avarage price of platinum for the year strengthened to 225 sterlin per ounce compared to 215 sterlin in 1992/93,but the avarage price of rhodium again declined ,from 1253 sterlin to 625 sterlin.The depressed rhodium price broadly offset the gains from the improvement in the price of platinum and the division did well to achieve a small increase in operating profits from 20.5 million sterlin to 20.8 million sterlin.Strengthening gold prices during the year had a positive effect on JM gold refining businesses around the world which all performed well.

Catalytic System Division recorded a satisfactory performance , increasing its operating profits by 4% from 27.1 million sterlin to 28.2 million sterlin.The division benefited from very strong demend for aotucatalysts in North America in what was a record year for the sale of cars and light tructs in the USA .This helped to offset the effect of continued recession in European car markets where sales of passenger vehicles were down 15%. JM Australian autocatalyst facility had a successful year producing record output mainly for export customers.In august 1993 General Motors issued proceedings against Johnson Matthey in the United States alleging breach of contract and various other matters.Johnson Matthey vigorously rejects all General Motors allegatons which it doesn't believe have any substance.

Colour and Print Division continued the strong performance :operating profits up 15% from 11.3 million sterlin to 13 million sterlin.The business performed well,benefiting from recent rationalisation and focused management. Colour was able to grow its business through exports,particulary to the Far East and Print benefited from an upturn in the UK tableware market.

REFERENCES

Mr CAN KIRAC..... KOC HOLDING VICE PRESIDENT
Mr AHMET SAVALAS..... RETIRED ENGLAND CONSUL
Mr GRAHAM TITCOMBE..... MANAGING DIRECTOR
Mr CHRIS CLARK..... MANAGING DIRECTOR

JOHNSON MATTHEY

HEAD OFFICE ; Johnson Matthey Public Limited Company
2-4 Cockspur Street Trafalgar Square
London SW1Y 5BQ

Telephone; 071 269 8400

REGISTERED
IN ENGLAND ; number 33774

REGISTERED
OFFICE ; 78 Hatton Garden London EC1N 8JP

LEFKOŞA — NEAR EAST

BUS 400

' JOHNSON MATTHEY'

BA

M.BAKI ATILAL
BUS -4 90184

Conclusion ?
Signature ?
Source ?

NEAR EAST UNIVERSITY — 1988 — LIBRARY — LEFKOŞA

JOHN MATHESON

Contents

INTRODUCTION

I analysis with this project Johnson Matthey world leader in prec›ous metal and other specialised marterials.

I analysis the Johnson Matthey that is producing precious metals and other specialised materials.I give all information about the information about the production and profability of the corporate.Which kind of produces, Which kind of technology they are use, the structure of the corporate organization of the corporate, target market of the corporate, corporate policies, exploitation, board of staff, activities,are offered by these project.

1-- General Information

A) *Name Of The Firm;*
Johnson Mattley

Date Of Establishment: 1908

Kind Of Business;
Production of precious metal and other specialised materials.

B) *Capitol Of Business;*
The establishment capitol was 15,000,000 sterlings

Board of Directors

DJ Davies	Chairman & Chief Executive
DG Titcombe	Managing Director Precious Metals and Catalytic System
JN Sheldrick	Executive Director Finance and Technology
CRN Clark	Managing Director Materials technology
GH Wilson	Deputy Chairman
PC Burnell	Non - executive directors
HE Fitzgibbons	Non - executive directors
MP Milies	Non - executive directors
PF Retief	Non - executive directors
JA Stevenson	Non - executive directors
IG Thorburn	Non - executive directors

Other Senior Management

Catalytic System

KE Arnold	Division Director
MR Barter	Vise President and Managing Director,North America
PG Emmel	Managing Director,South Africa
WD Evans	Managing Director,Europe
JM Shares	Finance and Planning Director

Materials Technology

MJ Cleare	President,North America
RL Leubner	Managing Director,Europe
DW Morgan	Finance Director
Y Katoh	Executive Chairman,Japan

Colour and Print

EE Kuhn	Finance Director
DW Lloyd	Managing Director,Colour
AJ Parton	Operations Director,Print

Precious Metals

K Green	Operations Director,Marketing
PE Tape	Finance and Administration Director
KT Burgo›ne	General Manager,Canada
BJ Doherty	Managing Director,Australia
DW Perkins	Vice President and General Manager,USA

Corparate

GJ Coates	Group Treasurer
MJ Henkel	Group Taxation Manager
DB Macdermot	Group Accounting Controller
G Mcguire	Director,Technology Centre
IF Stephenson	Group System Controller and Head of Environment,Health and Safety

Corporate Statement

Johnson Matthey is the world leader in precious metal technology using advanced technical skills to add value to precious metals and other specialised materials.

The group' s principal businesses include the refining,marketing and fabrication of precious metals and rare materials: the manufacture of catalysts and pollution control system: the formulation of speciality chemicals,pharmaceu_ tical compounds and electronic materials: and the production of pigment, ceramic colours, transfers and liquid precious metals

The Johnson Matthey group employs 6100 employees working in 29 contries.

Operations Overview

Catalytic system:

Principal products:

* automotive exhaust emmission control catalysts for petrol and diesel fuelled vehicles
* catalytic industrial air pollution control systems
* chemical and metallurgical products

Materials Technology

Principal products and services:

* fabricated precious metals
* precious metal chemicals and refining
* process catalysts
* electronic materials
* pharmaceutical compounds
* fuel cell catalysts
* rare earth products
* engineering materials and metal joining products

Precious Metals

Principal products and services

* sole marketing agency for Rustenburg Platinum Mines
* pure platinum , palladium,rhodium,ruthenium, iridium,and osmium metal
* gold and silver refining
* platinum investment bars
* gold and silver high purity bars and grain for industrial applications and investment
* platinum,gold and silver pricing and metal account services

Colour & Print

Principal products:

* colour and stains for ceramics and glass
* enamels and conductive pastes for automotive glass
* pigments and dispersions for platics and surface coatings
* liqiid precious metal preparations for pottery and glass
* lithographic and screenprinted ceramic transfers

Activities

Autocatalysts..: Johnson Matthey is the world's leading producer of autocatalysts, supplying more than one third of total world demand.

Precious Metals Refining and Marketing..: Johnson Matthey is the sole marketing agent and joint refiner for Rustenburg Platinum Mines,the world's largest source of platinum groups metals,and is world leader in the sales and marketing of these metals.Johnson Matthey is the worlds's largest of gold outside South Afr›ca: it is also the world's largest producer of high purity small gold bars for jewellery manufacture and investment.

Electronic Materials..: Johnson Matthey is the world leader in die attrach materials for ceramic packaged integrated circuits and sputtering target materials for electronic applications.

Platinum Anti-cancer Drugs..: Johnson Matthey is the supplier of the metal-based bulk pharmaceuticals used in the world's top selling platinum anti-cancer drugs.

Fuel Cell Catalysts..: Johnson Matthey is the world's largest manufacture of precious metal fuel cell catalysts and world leader in the development of fuel cell catalyst technology.

Catalyst Gauzes..: Johnson Matthey is the world's leading producer of platinum alloy catalysts for fertiliser and chemical production.

Ceramic Transfers..: Johnson Matthey is the world's biggest manufacturer of decorative ceramic transfers.

Corporate Policies

Johnson Matthey continues to place a high emphasis on its responsibilites for the environment and the health and safety of its employees ,customers and the community.During the year an environmental ,health and safety sub-committee of the board was established to ensure that these responsibilities are effectively discharged.The Committee is chaired by Gordon Thorburn as Executive Director responsible for environmental healht and safety matters and also includes the Groups two Managing Directors and the head of group environment,health and safety. Its one of the first recipients of the Energy Efficiency Accreditation Schame Award for Achievement in Energy Efficiency during year.

Environmental Policy

JM committed to conducting our business ›n a mannner which avoids adverse effect on the environment and public health.The care of the environments is of prime importance to our business and is the responsibility of all employees. JM organise reviews and evaluation to ensure compliance with statutory obligatons and group and local policies,although it is JM aim to work to higher standards.Each operating division formulates its own detailed arrangements to meet the following goals:

* Design and manufacture products so as to optimise their enviromental performance,including considering the environmental effects when sourcing raw materials.
* Train all employees to identify and achieve their environmental responsibilities
* Promote the efficient usage of all forms of energy to reduce consumption.
* Recover and recycle surplus and waste process materials.

* Eliminate or reduce polluting releases and all forms of waste for disposal to ensure the minimum interfrence with the environment.
* Provide waste management programmes for the safe disposal of waste so that it does not adversely affect the health and safety of employees,the public,or the environment.
* Minimise the environmental effects of new developments and projects through forward planning.Facilities are to be environmentally efficient and visually attractive.
* Commun›cate JM environmental policy to employees, customers and the community.

Health and Safety Policy

JM comm›ited to applying the best practicable health and safety standards in JM business to protect JM employees,contractors,visitors, customers,shareholders and the community.Its JM aim to prevent all accident injuries and occupational health problems.

Health and safety is a major management function ranking in importance with others that lead to efficient operation.Line managers are responsible for health and safety and have a duty to implement statutory obligations and group and local policies.They are also responsible for endeavouring to eliminate or safely manage the risk inherent in JM business.This is achieved by the effect›ve implementation of the group health and safety policy and by formulating and appliying a local health and safety policy to meet the following goals:

* Organise and establish controls for effective compliance with health and safety policies and work closely with official authorities responsible for health and safety.
* Design and maintain process,facilities and equipment to ensure a safe working environment.
* Train all employees to perform their duties in a safe and competent manner in order to protect themselves the companys property and the community.
* Advise all employees ,contractors and visitiors of their responsibility for safety .Employees must comply with statutory obligations and with company health and safety requirements.
* Organise reviews and evaluations to ensure compliance with the aim of steadily reducing accidents.
* Design,manufacture and market products ,which when used in accordance with the relevant safety communications,will not present unacceptable risks to JM customers.
* Provide immediate and effective response to all accidents and emergencies.

FUTURE

JM has successfully completed the major programme of rationalisation remits that they embarked on shortly after DJ Davies became chairman four years ago. These remits enabled the company to maintain growth in profits during a long and deep worldwide recession. They are now well positioned for the future as management turns its emphasis from cost reduction to positive growth. The new financial year has starded well for all JM divisions.

Vision for Johnson Matthey.

1_ Company shall concentrate on the development of JM high value added, high technology products and services where out proven expertise in precious metals provides a competitive edge_in particular precious metal catalysis,electronic materials,biomedical products and fuel cells.JM spend on research and development is about one third of JM operating profits. JM spend on capital investment is approximately double JM depreciaton.

2_ Company insist on a return on net assets of over 20%. JM aim higher.

3_ JM shall work closely with our customer to ensure that their requirements are met to their total satisfaction.

4_ JM markets are global and we shall define market share in terms of global performance.It is no longer good enough to be the top player in the UK,or even in the European Un›on. 50% profits came from North American businesses last year.

5_ JM shall expand our businesses not just from internal growth,but also through acquisitions and joint ventures as appropriate.In this respect . Company has in the past year formed a joint venture with HICOM in Malaysia to create the first autocatalyst fac›lity in South East Asia: with Mitsubishi Kasei in Japan to give us an immediate 40% share of the Japanese sputtering target market: and most importantly with Cookson to create Cookson Matthey Ceramics which will give us the critical mass needed to compete head on with the leading American and German companies worldwide.

6_ Size is an important ingredient for a company with our ambitions.Company aim to become a constituent member of the FTSE 100.

STRATEGY

Johnson Matthey's corporate strategy is to focus on the development of its high technology,high added value businesses in global growth markets. The achievement of a 20% return on net assets is also a key management objective.In 1993/ 94 company embarked on a number of important initiavites that will substantially enlarge the scale of JM operations in Asia and ensure the continued growth of key worldwide Business.

In October 1993,Company was opened new technology centre located at Kitsuregawa in Japan.This was important step in Company strategy for Asia and represents 25 million sterlin investments in the very latest technical and manufacturing facilities.The centre is fundemental to the development of our autocatalyst,electronic materials,fuel cells and other businesses both in Japan and the rest of Asia.Another important strategic move in Japan ,wh›ch we announced in may 1994,is the formation of a joint venture with Mitsubishi Kasei,the Mitsubishi Groups chemical company.The new company,to be called Ryoka Matthey,w›ll manufacture high technology sputtering targets in Japan.The joint venture will compete effectively in the vitally important Japanese semiconductor market.Together with JM substantial business in the Un›ted States, the new venture will establish Johnson Matthey as a number one in sputtering targets worlwide.Ryoka Matthey will be profitable from inception and is a significant addition to our rapidy growing Electronic Materials business.

Elsewhere in Asia,our ceramic transfers joint venture in Indonesia commenced production in April 1994,and a few months earlier we announced we had reached agreements to from a joint venture to build a new autocatalyst plant in Malaysia.JM principal partner,HICOM in which the Malaysian Government has a substantial interest,is a leading shareholder in Proton,the nation car manufacturer in Malaysia.The new plant ,with a capacity to produce one million autocatalysts per year,will start production in 1995 and will supply the rapidly growing markets of South East Asia.This will be first autocatalyst facility to be located in an ASEAN country and further reinforces Johnson Matthey's commitment both to its worldwide autocatalyst business and to growth in Asia.

The year has seen continued investment in other parts of JM autocatalyst business.The first phase of 5 million sterlin expansion of refurbihment of JM European Technical Centre at Royston,UK was completed. We also recently announced that we are starting to build a new autocatalyst plant in Mexico.It will have annual capacityof one million units supporting the rapidly growing Mexican automobile industry and will be in production before the end of the year.Technical facility in Sweden completed,marking a major step in JM strategy for the emerging diesel catalyst market.

The announcement of JM intention to form a joint venture with Cookson Group plc in ceramic materials was a major step in JM strategy for the growth of this business globally.The combination of JM Colour and print Division with Cookson's Ceramic Supplies and Minerals businesses will create a new enterprise with both the management and financial resources to become the world leader in ceramic materials.It will be able to offer a complete,world class product range to its customers and will set new industry standardsfor technoligical innovation.Agreements on the merger have now been signed and Cookson Matthey Ceramics is scheduled to commence operat›on on 1st July 1994.Expect well above avarege growth from the joint venture. Operating efficiency will be improved through rationalisation and reorganisat›on and there are significant opportunities in the rapidly growing markets of Asia.

During this past year(1993) JM has sold our UK and Irish Jewellery business and agreed to sell our Italian silver products business,Metalli Preziosi both of which were peripheral to our global strategy for growth.Taken together these two operations only just broke even at operating profit level in 1993/94 and their disposal will reduce borrowings by over 50 million sterlin.

JM strategy for growth has necessitated a continued high level of investment in new facilities.Accordingly capital expenditure in the year amounted to 65.4 million sterlin,well above the depreciation charge of 30.7 million sterlin.

MATERIALS TECHNOLOGY

The companys precious metals fabrication and general chemicals businesses, platinum group metals and UK gold and silver refining operations, and the electronic materials and biomedical products businesses.

MATERIALS TECHNOLOGY DIVISION

The companys precious metal fabrication and general chemical businesses ,platinum group metals and UK gold and silver refining operations and the electronic materials and biomedical products businesses.

MTD Europe

Following the major rationalisation programme carried out during the past four years,the region has this year been able to capitalise on its lower cost base,which together with greatly enhanced customer service has resulted in an improved financial performance.The region is now also beginning to benefit from the early stages of economic recovery in the UK, and is set to capitalise on its strengh in global markets,as the world's major economies recover.

Chemicals

In the first full year of operation since the completion of the restructuring of the UK refining and chemicals business continued to gain market share. The refining of high grade gold and the platinum group metals was particulary active.Chemical products business performed satisfactorily despite continued recession in the chemical industry,and lower demand for platinum group metal salts which reflected the depressed state of the European car industry Sales of electronic materials and silver salts increased as a result of winning new business in Europe.

Noble Metals

The past year has seen continuing focus on enhancing customer service and improving quality.The business added to its quality achievements during the year with the prestigious Ford Q1 accreditation.Effort to expand sales in Eastern Europe and the countries of the former Soviet Union are also proving successful.The new knitted gauze catalysts for the nitric acid industry. introduced just two years ago ,already account for more than %80 of the total catalyst gauze sold.This year saw the successful launch of a further new range of products known as ACT (Advanced Coating Technology).These new products employ a novel,patented technique for depositing platinum group metal and also alloys onto a variety of ceramic materials and refractory metals The technology is particularly exciting because it expands the use of platinum to applications for which hithetro it has been too expensive.

Rare Earth Products

This operation specialises in the production of rare earth alloys for high performance application including permanent magnets and data storage. The business has performed particulary well during the last two years consilidating a leading position in Europe and gaining significant market share in North America.Plans for the future include doubling the production capacity on the widnes site to meet demand.

Eoropean Selling Operations

The new sales organisation ,centre in Paris and Zurich with customer services centre in most European countries,have enjoyed significant growth in sales recession throughout the region.Increased operating profits were derived from higher sales in key market segments and the reductions in administration costs achieved from rationalisation during the preciding year.

Jewellery

As part of the groups global strategy for growth the division has not only been strengthening it is position in key markets but also has divested itself of its under-performing operations in peripheral activities.At the end of January 1994,the divisions UK and Irish Jewellery business was sold to Cookson Group plc.This was in keeping with the company corporate strategy to focus its resources on the development of its high technology high added value businesses in global growth markets.

MTD North America

Overall,North America had an outstanding year with good revenue and profit growth in almost all businesses.The US economy started 93/94 with modest growth but finished the period strongly,bringing increased demand across all market sectors.In particular ,double digit growth in the semiconductor market has benefited our electronic materials business. Biomedical also had a record year as continued product growth was enhanced by special licence payments.

NEAR EAST UNIVERSITY - LIBRARY - LEFKOŞA - 1988

Electronic Materials

Electronic materials business has continued its excellent growth of recent years.In 93/94 speciality metal products such as sputtering targets and metal seal lids for semiconductor packages continued to gain market share.Company launched our new Omega range of sputtering targets, specifically tailored for use in metallising 8 inch wafers for advanced microprocessor and memory chip production.These products are unique to Johnson Mattheyand were developed in conjuction with the sputtering equipment manufacturer,applied materials and major customers such as Intel, Motorola and IBM. In order to meet increasing customer demand ,seal lid manufacturing capacity at the Spokane site,in Washington State,was increased substantially during 1993. This included the addition of 10000 square feet of Class 1000 clean room manufacturing space.

JM7000,new die attach paste from company San Diego,is proving to be breakhrough product for attaching semiconductor chips in ceramic packages and company are currently adapting this unique technology for use in the larger plastic packaging market.These product complement our (company) successful range of AuSub silver glass die attach pastes.

Early in 93/94 the companys operations in Korea, Singapore and Taiwan became part of the Electronic Materials business because: of the key focus on electronics in those markets.

In Korea, company business continues to show rapid growth as we successfully build a core manufacturing base to augment the well-established trading operation for JM products.Key locally made products are aimed at supporting the Korean electronics ,automobile ,galss and chemical industries. Significant exports of Korean factory products are sold into Japan,China, Taiwan,Indonesia,Singapore and Thailand.

Singapore continues to be main sales office for Johnson Matthey products in South East Asia,although it sales to be many semiconductor manufacturing operations in the ASEAN region are now further supported by the local manufacturing.

Biomedical

Investment in new product development and expanded manufacturing capacity in company West Deptford,New Jersey facility has yielded good result in company organic pharmaceutical range which represents the fastest growing segments of manufacturing revenues.The platinum drugs,carboplatin and cisplatin,reman among the worlds leading anti-cancer treatments and continue to make a substantial contribution to profits.

1993 was exciting year of progress for our drug research programmes. After a successful two year joint collaboration,Johnson Matthey signed an exclusive worldwide licence agreement with Sandoz Pharma for a new class of anti-viral compounds which have a novel mechanism of action against HIV, the virus that caused AIDS. In addition JM 216, Johnson Matthey orally administrable platinum anti-cancer drug, which is beign developed in conjuction with Bristol-Myers Squibb,has continued to progress well in clinical testing.Licence payments from these programmes made a significant contribution to revenues in the Biomedical sector.

Chemical

Business rationalisation activities yielded major cost reductions which more than offset the impact of a highly competitive marketplace.Also further advances were made in lead time reductions. Company supported catalyst business had a good year with several new product introductions into the chemical and pharmaceutical industries.

Noble Metals

The US Noble Metal business turned in a flat performance compared to the prior year largely due a poor first half.Medical product sales were particularly slow early in the year due to uncertainty over possible healthcare reforms.However business has now impoved substantially and the addition of new wire products to our existing range of machined parts for heart pacemakers ,defibrillators and angioplasty catheters, augurs well for the future. While competitive pressures are depressing revenues our traditional product lines,new gauze products for the nitric acid industry have yielded improved market share and unit revenues.Platinum sputtering targets and spheres for automotive spark plug tips are poised for significant growth 1994.

Japan

1993/94 was an important year in the development of Johnson Matthey's presence in Japan.

In October 1993 Johnson Matthey formally opened its new tachnology centre in Japan.The new technology centre plays a major part in Johnson Matthey strategy for growth ,enabling the company to work closely with its customers in Japan and with Japanese companies around the world.

Kitsuregawa Technical Centre (Kitec) is Johnson Matthey 's biggest single investment in Asia and reflects the company 's commitment of major human and financial resources to the development of its business in the region.

Kitec incorporates a decicated engine test and autocatalyst evaluation facility: a fuel cell development laboratory and pilot plant :an electronic mater›als appl›cat›ons laboratory and manufactur›ng facility : and a small fabricated products manufacturing unit .Significant expansion in these key areas in anticipated in the coming years.

On 19th May 1994,the company announced a majot joint venture with Mitsubishi Kasei, a member of the Mitsubishi group,that will supply sputtering targets to the Japanese semiconductor industry. The new company which will be called Ryoka Matthey,will combine Mitsubishi Kasei's established position as a leader in the Japanese market and Johnson Matthey's technological strength to provide a powerful force for growth.

The formation of Ryoka Matthey is a most important step in key elements of Johnson Matthey's corporate strategy , firstly the development of our business in the far East and secondly, the expansion of our worldwide Electronic Materials business.By joining forces with Mitsubishi Kasei, Johnson Matthey will both obtain an important industry position in Japan and become market leader in sputtering targets worldwide.

PRECIOUS METALS

The companys worldwide platinum group metals marketing activities and the gold and silver refining and marketing operations/

PRECIOUS METALS DIVISION

Platinum Group Metals

Physical demand for platinum grew by %6 in 1993, equalling the previuos record of 1991 despite the generally recessive world economic climate.Growth in autocatalyst usage was again a key factor as European emissions legislation came fully into effect there was a recovery in vehicle sales in Unites States, particularly in the light duty trucks sector.Demand for platinum jewellery in Japan was remarkably buoyant and ignoring the general Japanese economic gloom,platinum gained market share at the expences of gold.Industrial demand continued to decline as traditional user industries struggled with over-capacity and weak order books.

Despite the encouraging trends in demand for platinum ,greatly increased supply of the metal from South Africa ensured that market stocks were more than adequate.This had a dampering effect on price levels in the third quarter of the year.However the sustained improvements in US manufacturing output and the threat of supply disruption posed by political uncertainty in South Africa and Russia ,resulted in a steady recovery in platinum fortunes in the fourth quarter.The price of platinum avaraged 383 dollars per ounce in the year compared with 360 dollars in 1992/93, a %6.4 increase.When expressed in sterling the increase in the avarage price was %18.6 due to the appreciation in the US dollar.

With no terminal market, rhodium reacted further to fundamentals of supply and demand and the price fell by almost %50 to end the year 680 dollars per ounce as producer sales exceeded demand.

Autocatalyst demand for the platinum group metals is forecast to rise sharply as emissions legislation is extended and strengthened around the world.Vehicle sales are also set to recover from their recent lows.The close and highly effective working relationship between Johnson Matthey's Precious Metals and Catalytic Systems Divisions was recognised by Chrysler Corporation when it awarded Johnson Matthey the prestigious 1993 Platinum Pentastar Award for exceptional quality performance as a multi group supplier.During the year the division was very active in market and product development .Promotion of platinum for jewellery has attracted strong interest from currently small ,but potentially significant new markets in Asia ,particularly in China,and in the United States.

Clean Air legislation is the driving force for the Division's fuel cell research and development and marketing programmes.The application of fuel cell technology in both mobile and stationary power generation offers exciting potential for growth of our business.Zero emission reguletion start to apply from 1997 in California and thirteen North Eastern states wh›ch together represent some %35 of the US car market.There is a growing realisation ,however that battery powered electric cars actually generate more total pollution from the cars tail pipe to the stack of the power station that makes the electricity that recharges the batteries.This has stimulated interest in fuel cells for use ›n cars,buses and other transport applications because hydrogen powered fuel cells are the only zero-emission alternative to batteries.

Johnson Matthey has a joint fuel cell research programme with Rustenburg Platinum Mines and this year announced a collaborative development programme with Ballard Power Systems inc. of Canada,the leading developer of Proton Exchange Membrane fuel cell for transportation and stationary power applications.Significant progress has been made during the year in improving the efficiency and cost -effectiveness of the platinum catalyst electrodes at the heart of fuel cell.In April 1994,Daimler Benz demonstrated to the press a van powered by a ballard fuel cell as part of major project to develop fuel cell powered cars jointly with Ballard and using Johnson Matthey's catalyst electrodes.The demonstration programmes of stationary fuel cell in Japan, USA and Europe continued to attract widespread private and public interest with Johnson Matthey the major supplier of platinum catalyst to this market.Fuel cell represent an exciting growth opportunity for platinum in future years.

Gold and Silver Operations

Conditions within the gold and silver markets changed quite dramatically in 1993/94 with gradually rising prices and high volatility.Major regions of consumption are sensetive to such fluctuations and physical demand for gold in the Middle and Far East reduced by about %24 compared to the prior year.Physical demand for silver however was buoyant.This was mainly due to demend from India which was stimulated by partial relaxation of import regulations and a low internal price for silver.Although demand for our gold bullion products was lower,this was more than compensated for by high levels of primary feed from the mining industry,significantly larger amounts of secondary scrap and a very active upgrading business from financial organisations around the world.

Company US refinery at Salt Lake City had another record year for gold output.Measures were also taken to further increase efficiency in processing and emission control.The facility at Brampton ,Canada also had a record gold refining year.Company continued to produce gold blanks for the US Mint Eagle coin programme and good progress was made in the semi-manufactured gold jewellery alloy business ,particularly in the US. In Melbourne,Australia company gold refining business held up extremely well despite stiff price competition.Difficult market conditions depressed sales of jewellery materials ,but company Australian industrial products business showed some signs of improvement prospects look brighter for 1993/94 .Company enlarged operations in Hong Kong made a useful contribution in the year and is an important conduit for product sales into the emerging Chinese markets.The region is an avid consumer of precious metals and company expect to develop further opportunities for growth.

CATALYTIC SYSTEM

Johnson Mattheys autocatalyst and environmental pollution control businesses in North America, Europe South Africa and the Pacific and the groups chemical and metallurgical businesses in South Africa/

CATALYTIC SYSTEM DIVISION

Autocatalysts

The car markets, in which Johnson Matthey autocatalysts are used enjoyed very mixed fortunes during the year.The US continued the recovery from recession reported last year and light vehicle sales were %8 higher in calendar year 1993 than in 1992.The Big 3 automakers continued to increase their share of the US market.These factors led to very high demand for autocatalysts in North America.With the exception of the UK,where car sales increased by %11.6 .European car market declined by %15.2 .Since all new petrol cars were equipped with autocatalysts,total sales in Europe were less than excepted although they still showed growth over last year. Japanese car sales were also down by %7.

Johnson Matthey continues to be the world's largest supplier of autocatalysts that are fitted to new cars reduce levels of harmful pollutants in our atmosphere .The year has again seen an increase in the number of countries setting limits on levels of emission from cars and other vehicles which result in the fitment of our products.

During the year 13 states in the North East of the USA took steps to adopt the California emission standards that are the strictest in the world and which require cars to emit diminishing quantities of pollution as we move into the next century.When approved by the US Environmental Protection Agency this will mean that over one third of US cars will use increasing quantities of higher technology autocatalysts over the next 8 years.

In Europe the Council of Ministers of the European Union agreed new tighter emission standards to come into effect during 1996-97. These standards will further reduce the levels of allowed pollution from cars by %50 bringing European Union standards fully in line with those of the USA. Johnson Matthey continues to invest in the technology and production capacity that these tougher standards will demand. A new European Union directive was introduced during the year that will require the fitment of catalysts on light duty commercial vehicles from 1995.

Johnson Matthey continues to make a substantial investment in the technology and resources necessary for the long term growth of its autocatalyst business.In October 1993 a new technical centre was opened at Kitsuregawa, Japan,some 170 km from Tokyo.This important new centre incorparates a dedicated engine test and autocatalyst evaluation facility and provides a world class base from which to service the vitally important Japanese automotive industry .The first phase of expansion and refurbishment of the Divisions European Technical Centre in Royston ,UK, was also completed during

the year.Additional technical facilities will be constructed during 1994.Th›s centre now includes the latest technology for testing the performance of catalysts on cars.During 1993/94 we complated the initial investment in our diesel catalyst development centre in Sweden and are already seeing increased levels of diesel catalyst sales as a result.

The standards for Ultra Low Emission Vehicles that California and the thirteen North Eastren states plan to introduce from 1997 will require a ten fold reduction in hydrocarbon emissions .This together with increased focus on cold starting performance has led to the introduction of new palladium catalyst technology which gives significantly lower hydrocarbon emissions and will allow our customers to meet future emissions standards cost effectively.A joint paper with Ford was presented on this work at the US Society of Automotive Engineers Conference in March 1994.

Good progress has been made during the year towards the commercialisation of ' lean NOx ' catalysts which will for the first time allow catalysts to reduce levels of nitrogen oxide emissions on diesel and other lean burn enginers, including two-strokers.This majot achievement will offer the benefit of improved fuel economy,and hence lower emissions of the greenhouse gas carbon dioxide, along with lower levels of other key pollutants.

In Europe,Johnson Matthey increased the level of autocatalyst supply to the new Japanese car plants.We added the Jaguar business to that of Rover Peugeot and Citroen supplied out of our Australian plant.The transfer of business to Australia earns our customers valuable export credits that help them to sell more vehicles in Australia and ,consequently this increases Johnson Matthey autocatalyst sales.In South Africa,Ford,Honda and Volkwagen have approved the supply of product and deliveries have now commenced.The export of complete catalytic converters by our South African customers reduces the amount of duty they pay on imported components.We increased our sales of autocatalysts to Japanese car makers by over %50 during the years as a result of increased business share.

Johnson Matthey announced during the year that it will build new production plants in Mexico and Malaysia.The Mexican plant will start production at the end of 1994 and will serve our US,European and Japanese customers in Mexico.The Malaysian plant will commence manufacturing in 1995 in line with the introduction of Malaysian emission regulations and will supply the ASEAN markets,including Thailand which has already introduced emission regulations requiring autocatalysts.These plants will increase Johnson Matthey business potential in the fast growing Latin American and South East Asian markets.

Diesel car sales have continued to grow in Europe and reached a total of 2.3 million vehicles and %20 of the total market.In the UK,diesel sales

LEFKOŞA — NEAR EAST

BUS 400

' JOHNSON MATTHEY'

BA

M.BAKI ATILAL
BUS -4 90184

Conclusion ?
Signature ?
Source ?

NEAR EAST UNIVERSITY — 1988 — LIBRARY — LEFKOŞA

JOHN MATHESON

Contents

INTRODUCTION

I analysis with this project Johnson Matthey world leader in prec›ous metal and other specialised marterials.

I analysis the Johnson Matthey that is producing precious metals and other specialised materials.I give all information about the information about the production and profability of the corporate.Which kind of produces, Which kind of technology they are use, the structure of the corporate organization of the corporate, target market of the corporate, corporate policies, exploitation, board of staff, activities,are offered by these project.

1-- General Information

A) *Name Of The Firm;*
Johnson Mattley

Date Of Establishment: 1908

Kind Of Business;
Production of precious metal and other specialised materials.

B) *Capitol Of Business;*
The establishment capitol was 15,000,000 sterlings

Board of Directors

DJ Davies	Chairman & Chief Executive
DG Titcombe	Managing Director Precious Metals and Catalytic System
JN Sheldrick	Executive Director Finance and Technology
CRN Clark	Managing Director Materials technology
GH Wilson	Deputy Chairman
PC Burnell	Non - executive directors
HE Fitzgibbons	Non - executive directors
MP Milies	Non - executive directors
PF Retief	Non - executive directors
JA Stevenson	Non - executive directors
IG Thorburn	Non - executive directors

Other Senior Management

Catalytic System

KE Arnold	Division Director
MR Barter	Vise President and Managing Director,North America
PG Emmel	Managing Director,South Africa
WD Evans	Managing Director,Europe
JM Shares	Finance and Planning Director

Materials Technology

MJ Cleare	President,North America
RL Leubner	Managing Director,Europe
DW Morgan	Finance Director
Y Katoh	Executive Chairman,Japan

Colour and Print

EE Kuhn	Finance Director
DW Lloyd	Managing Director,Colour
AJ Parton	Operations Director,Print

Precious Metals

K Green	Operations Director,Marketing
PE Tape	Finance and Administration Director
KT Burgo›ne	General Manager,Canada
BJ Doherty	Managing Director,Australia
DW Perkins	Vice President and General Manager,USA

Corparate

GJ Coates	Group Treasurer
MJ Henkel	Group Taxation Manager
DB Macdermot	Group Accounting Controller
G Mcguire	Director,Technology Centre
IF Stephenson	Group System Controller and Head of Environment,Health and Safety

Corporate Statement

Johnson Matthey is the world leader in precious metal technology using advanced technical skills to add value to precious metals and other specialised materials.

The group' s principal businesses include the refining,marketing and fabrication of precious metals and rare materials: the manufacture of catalysts and pollution control system: the formulation of speciality chemicals,pharmaceu_ tical compounds and electronic materials: and the production of pigment, ceramic colours, transfers and liquid precious metals

The Johnson Matthey group employs 6100 employees working in 29 contries.

Operations Overview

Catalytic system:

Principal products:

* automotive exhaust emmission control catalysts for petrol and diesel fuelled vehicles
* catalytic industrial air pollution control systems
* chemical and metallurgical products

Materials Technology

Principal products and services:

* fabricated precious metals
* precious metal chemicals and refining
* process catalysts
* electronic materials
* pharmaceutical compounds
* fuel cell catalysts
* rare earth products
* engineering materials and metal joining products

Precious Metals

Principal products and services

* sole marketing agency for Rustenburg Platinum Mines
* pure platinum , palladium,rhodium,ruthenium, iridium,and osmium metal
* gold and silver refining
* platinum investment bars
* gold and silver high purity bars and grain for industrial applications and investment
* platinum,gold and silver pricing and metal account services

Colour & Print

Principal products:

* colour and stains for ceramics and glass
* enamels and conductive pastes for automotive glass
* pigments and dispersions for platics and surface coatings
* liqiid precious metal preparations for pottery and glass
* lithographic and screenprinted ceramic transfers

Activities

Autocatalysts..: Johnson Matthey is the world's leading producer of autocatalysts, supplying more than one third of total world demand.

Precious Metals Refining and Marketing..: Johnson Matthey is the sole marketing agent and joint refiner for Rustenburg Platinum Mines,the world's largest source of platinum groups metals,and is world leader in the sales and marketing of these metals.Johnson Matthey is the worlds's largest of gold outside South Afr›ca: it is also the world's largest producer of high purity small gold bars for jewellery manufacture and investment.

Electronic Materials..: Johnson Matthey is the world leader in die attrach materials for ceramic packaged integrated circuits and sputtering target materials for electronic applications.

Platinum Anti-cancer Drugs..: Johnson Matthey is the supplier of the metal-based bulk pharmaceuticals used in the world's top selling platinum anti-cancer drugs.

Fuel Cell Catalysts..: Johnson Matthey is the world's largest manufacture of precious metal fuel cell catalysts and world leader in the development of fuel cell catalyst technology.

Catalyst Gauzes..: Johnson Matthey is the world's leading producer of platinum alloy catalysts for fertiliser and chemical production.

Ceramic Transfers..: Johnson Matthey is the world's biggest manufacturer of decorative ceramic transfers.

Corporate Policies

Johnson Matthey continues to place a high emphasis on its responsibilites for the environment and the health and safety of its employees ,customers and the community.During the year an environmental ,health and safety sub-committee of the board was established to ensure that these responsibilities are effectively discharged.The Committee is chaired by Gordon Thorburn as Executive Director responsible for environmental healht and safety matters and also includes the Groups two Managing Directors and the head of group environment,health and safety. Its one of the first recipients of the Energy Efficiency Accreditation Schame Award for Achievement in Energy Efficiency during year.

Environmental Policy

JM committed to conducting our business ›n a mannner which avoids adverse effect on the environment and public health.The care of the environments is of prime importance to our business and is the responsibility of all employees. JM organise reviews and evaluation to ensure compliance with statutory obligatons and group and local policies,although it is JM aim to work to higher standards.Each operating division formulates its own detailed arrangements to meet the following goals:

* Design and manufacture products so as to optimise their enviromental performance,including considering the environmental effects when sourcing raw materials.
* Train all employees to identify and achieve their environmental responsibilities
* Promote the efficient usage of all forms of energy to reduce consumption.
* Recover and recycle surplus and waste process materials.

* Eliminate or reduce polluting releases and all forms of waste for disposal to ensure the minimum interfrence with the environment.
* Provide waste management programmes for the safe disposal of waste so that it does not adversely affect the health and safety of employees,the public,or the environment.
* Minimise the environmental effects of new developments and projects through forward planning.Facilities are to be environmentally efficient and visually attractive.
* Commun›cate JM environmental policy to employees, customers and the community.

Health and Safety Policy

JM comm›ited to applying the best practicable health and safety standards in JM business to protect JM employees,contractors,visitors, customers,shareholders and the community.Its JM aim to prevent all accident injuries and occupational health problems.

Health and safety is a major management function ranking in importance with others that lead to efficient operation.Line managers are responsible for health and safety and have a duty to implement statutory obligations and group and local policies.They are also responsible for endeavouring to eliminate or safely manage the risk inherent in JM business.This is achieved by the effect›ve implementation of the group health and safety policy and by formulating and appliying a local health and safety policy to meet the following goals:

* Organise and establish controls for effective compliance with health and safety policies and work closely with official authorities responsible for health and safety.
* Design and maintain process,facilities and equipment to ensure a safe working environment.
* Train all employees to perform their duties in a safe and competent manner in order to protect themselves the companys property and the community.
* Advise all employees ,contractors and visitiors of their responsibility for safety .Employees must comply with statutory obligations and with company health and safety requirements.
* Organise reviews and evaluations to ensure compliance with the aim of steadily reducing accidents.
* Design,manufacture and market products ,which when used in accordance with the relevant safety communications,will not present unacceptable risks to JM customers.
* Provide immediate and effective response to all accidents and emergencies.

FUTURE

JM has successfully completed the major programme of rationalisation remits that they embarked on shortly after DJ Davies became chairman four years ago. These remits enabled the company to maintain growth in profits during a long and deep worldwide recession. They are now well positioned for the future as management turns its emphasis from cost reduction to positive growth. The new financial year has starded well for all JM divisions.

Vision for Johnson Matthey.

1_ Company shall concentrate on the development of JM high value added, high technology products and services where out proven expertise in precious metals provides a competitive edge_in particular precious metal catalysis,electronic materials,biomedical products and fuel cells.JM spend on research and development is about one third of JM operating profits. JM spend on capital investment is approximately double JM depreciaton.

2_ Company insist on a return on net assets of over 20%. JM aim higher.

3_ JM shall work closely with our customer to ensure that their requirements are met to their total satisfaction.

4_ JM markets are global and we shall define market share in terms of global performance.It is no longer good enough to be the top player in the UK,or even in the European Un›on. 50% profits came from North American businesses last year.

5_ JM shall expand our businesses not just from internal growth,but also through acquisitions and joint ventures as appropriate.In this respect . Company has in the past year formed a joint venture with HICOM in Malaysia to create the first autocatalyst fac›lity in South East Asia: with Mitsubishi Kasei in Japan to give us an immediate 40% share of the Japanese sputtering target market: and most importantly with Cookson to create Cookson Matthey Ceramics which will give us the critical mass needed to compete head on with the leading American and German companies worldwide.

6_ Size is an important ingredient for a company with our ambitions.Company aim to become a constituent member of the FTSE 100.

STRATEGY

Johnson Matthey's corporate strategy is to focus on the development of its high technology,high added value businesses in global growth markets. The achievement of a 20% return on net assets is also a key management objective.In 1993/ 94 company embarked on a number of important initiavites that will substantially enlarge the scale of JM operations in Asia and ensure the continued growth of key worldwide Business.

In October 1993,Company was opened new technology centre located at Kitsuregawa in Japan.This was important step in Company strategy for Asia and represents 25 million sterlin investments in the very latest technical and manufacturing facilities.The centre is fundemental to the development of our autocatalyst,electronic materials,fuel cells and other businesses both in Japan and the rest of Asia.Another important strategic move in Japan ,wh›ch we announced in may 1994,is the formation of a joint venture with Mitsubishi Kasei,the Mitsubishi Groups chemical company.The new company,to be called Ryoka Matthey,w›ll manufacture high technology sputtering targets in Japan.The joint venture will compete effectively in the vitally important Japanese semiconductor market.Together with JM substantial business in the Un›ted States, the new venture will establish Johnson Matthey as a number one in sputtering targets worlwide.Ryoka Matthey will be profitable from inception and is a significant addition to our rapidy growing Electronic Materials business.

Elsewhere in Asia,our ceramic transfers joint venture in Indonesia commenced production in April 1994,and a few months earlier we announced we had reached agreements to from a joint venture to build a new autocatalyst plant in Malaysia.JM principal partner,HICOM in which the Malaysian Government has a substantial interest,is a leading shareholder in Proton,the nation car manufacturer in Malaysia.The new plant ,with a capacity to produce one million autocatalysts per year,will start production in 1995 and will supply the rapidly growing markets of South East Asia.This will be first autocatalyst facility to be located in an ASEAN country and further reinforces Johnson Matthey's commitment both to its worldwide autocatalyst business and to growth in Asia.

The year has seen continued investment in other parts of JM autocatalyst business.The first phase of 5 million sterlin expansion of refurbihment of JM European Technical Centre at Royston,UK was completed. We also recently announced that we are starting to build a new autocatalyst plant in Mexico.It will have annual capacityof one million units supporting the rapidly growing Mexican automobile industry and will be in production before the end of the year.Technical facility in Sweden completed,marking a major step in JM strategy for the emerging diesel catalyst market.

The announcement of JM intention to form a joint venture with Cookson Group plc in ceramic materials was a major step in JM strategy for the growth of this business globally.The combination of JM Colour and print Division with Cookson's Ceramic Supplies and Minerals businesses will create a new enterprise with both the management and financial resources to become the world leader in ceramic materials.It will be able to offer a complete,world class product range to its customers and will set new industry standardsfor technoligical innovation.Agreements on the merger have now been signed and Cookson Matthey Ceramics is scheduled to commence operat›on on 1st July 1994.Expect well above avarege growth from the joint venture. Operating efficiency will be improved through rationalisation and reorganisat›on and there are significant opportunities in the rapidly growing markets of Asia.

During this past year(1993) JM has sold our UK and Irish Jewellery business and agreed to sell our Italian silver products business,Metalli Preziosi both of which were peripheral to our global strategy for growth.Taken together these two operations only just broke even at operating profit level in 1993/94 and their disposal will reduce borrowings by over 50 million sterlin.

JM strategy for growth has necessitated a continued high level of investment in new facilities.Accordingly capital expenditure in the year amounted to 65.4 million sterlin,well above the depreciation charge of 30.7 million sterlin.

MATERIALS TECHNOLOGY

The companys precious metals fabrication and general chemicals businesses, platinum group metals and UK gold and silver refining operations, and the electronic materials and biomedical products businesses.

MATERIALS TECHNOLOGY DIVISION

The companys precious metal fabrication and general chemical businesses ,platinum group metals and UK gold and silver refining operations and the electronic materials and biomedical products businesses.

MTD Europe

Following the major rationalisation programme carried out during the past four years,the region has this year been able to capitalise on its lower cost base,which together with greatly enhanced customer service has resulted in an improved financial performance.The region is now also beginning to benefit from the early stages of economic recovery in the UK, and is set to capitalise on its strengh in global markets,as the world's major economies recover.

Chemicals

In the first full year of operation since the completion of the restructuring of the UK refining and chemicals business continued to gain market share. The refining of high grade gold and the platinum group metals was particulary active.Chemical products business performed satisfactorily despite continued recession in the chemical industry,and lower demand for platinum group metal salts which reflected the depressed state of the European car industry Sales of electronic materials and silver salts increased as a result of winning new business in Europe.

Noble Metals

The past year has seen continuing focus on enhancing customer service and improving quality.The business added to its quality achievements during the year with the prestigious Ford Q1 accreditation.Effort to expand sales in Eastern Europe and the countries of the former Soviet Union are also proving successful.The new knitted gauze catalysts for the nitric acid industry. introduced just two years ago ,already account for more than %80 of the total catalyst gauze sold.This year saw the successful launch of a further new range of products known as ACT (Advanced Coating Technology).These new products employ a novel,patented technique for depositing platinum group metal and also alloys onto a variety of ceramic materials and refractory metals The technology is particularly exciting because it expands the use of platinum to applications for which hithetro it has been too expensive.

Rare Earth Products

This operation specialises in the production of rare earth alloys for high performance application including permanent magnets and data storage. The business has performed particulary well during the last two years consilidating a leading position in Europe and gaining significant market share in North America.Plans for the future include doubling the production capacity on the widnes site to meet demand.

Eoropean Selling Operations

The new sales organisation ,centre in Paris and Zurich with customer services centre in most European countries,have enjoyed significant growth in sales recession throughout the region.Increased operating profits were derived from higher sales in key market segments and the reductions in administration costs achieved from rationalisation during the preciding year.

Jewellery

As part of the groups global strategy for growth the division has not only been strengthening it is position in key markets but also has divested itself of its under-performing operations in peripheral activities.At the end of January 1994,the divisions UK and Irish Jewellery business was sold to Cookson Group plc.This was in keeping with the company corporate strategy to focus its resources on the development of its high technology high added value businesses in global growth markets.

MTD North America

Overall,North America had an outstanding year with good revenue and profit growth in almost all businesses.The US economy started 93/94 with modest growth but finished the period strongly,bringing increased demand across all market sectors.In particular ,double digit growth in the semiconductor market has benefited our electronic materials business. Biomedical also had a record year as continued product growth was enhanced by special licence payments.

NEAR EAST UNIVERSITY - LIBRARY - LEFKOŞA - 1988

Electronic Materials

Electronic materials business has continued its excellent growth of recent years.In 93/94 speciality metal products such as sputtering targets and metal seal lids for semiconductor packages continued to gain market share.Company launched our new Omega range of sputtering targets, specifically tailored for use in metallising 8 inch wafers for advanced microprocessor and memory chip production.These products are unique to Johnson Mattheyand were developed in conjuction with the sputtering equipment manufacturer,applied materials and major customers such as Intel, Motorola and IBM. In order to meet increasing customer demand ,seal lid manufacturing capacity at the Spokane site,in Washington State,was increased substantially during 1993. This included the addition of 10000 square feet of Class 1000 clean room manufacturing space.

JM7000,new die attach paste from company San Diego,is proving to be breakhrough product for attaching semiconductor chips in ceramic packages and company are currently adapting this unique technology for use in the larger plastic packaging market.These product complement our (company) successful range of AuSub silver glass die attach pastes.

Early in 93/94 the companys operations in Korea, Singapore and Taiwan became part of the Electronic Materials business because: of the key focus on electronics in those markets.

In Korea, company business continues to show rapid growth as we successfully build a core manufacturing base to augment the well-established trading operation for JM products.Key locally made products are aimed at supporting the Korean electronics ,automobile ,galss and chemical industries. Significant exports of Korean factory products are sold into Japan,China, Taiwan,Indonesia,Singapore and Thailand.

Singapore continues to be main sales office for Johnson Matthey products in South East Asia,although it sales to be many semiconductor manufacturing operations in the ASEAN region are now further supported by the local manufacturing.

Biomedical

Investment in new product development and expanded manufacturing capacity in company West Deptford,New Jersey facility has yielded good result in company organic pharmaceutical range which represents the fastest growing segments of manufacturing revenues.The platinum drugs,carboplatin and cisplatin,reman among the worlds leading anti-cancer treatments and continue to make a substantial contribution to profits.

1993 was exciting year of progress for our drug research programmes. After a successful two year joint collaboration,Johnson Matthey signed an exclusive worldwide licence agreement with Sandoz Pharma for a new class of anti-viral compounds which have a novel mechanism of action against HIV, the virus that caused AIDS. In addition JM 216, Johnson Matthey orally administrable platinum anti-cancer drug, which is beign developed in conjuction with Bristol-Myers Squibb,has continued to progress well in clinical testing.Licence payments from these programmes made a significant contribution to revenues in the Biomedical sector.

Chemical

Business rationalisation activities yielded major cost reductions which more than offset the impact of a highly competitive marketplace.Also further advances were made in lead time reductions. Company supported catalyst business had a good year with several new product introductions into the chemical and pharmaceutical industries.

Noble Metals

The US Noble Metal business turned in a flat performance compared to the prior year largely due a poor first half.Medical product sales were particularly slow early in the year due to uncertainty over possible healthcare reforms.However business has now impoved substantially and the addition of new wire products to our existing range of machined parts for heart pacemakers ,defibrillators and angioplasty catheters, augurs well for the future. While competitive pressures are depressing revenues our traditional product lines,new gauze products for the nitric acid industry have yielded improved market share and unit revenues.Platinum sputtering targets and spheres for automotive spark plug tips are poised for significant growth 1994.

Japan

1993/94 was an important year in the development of Johnson Matthey's presence in Japan.

In October 1993 Johnson Matthey formally opened its new tachnology centre in Japan.The new technology centre plays a major part in Johnson Matthey strategy for growth ,enabling the company to work closely with its customers in Japan and with Japanese companies around the world.

Kitsuregawa Technical Centre (Kitec) is Johnson Matthey 's biggest single investment in Asia and reflects the company 's commitment of major human and financial resources to the development of its business in the region.

Kitec incorporates a decicated engine test and autocatalyst evaluation facility: a fuel cell development laboratory and pilot plant :an electronic mater›als appl›cat›ons laboratory and manufactur›ng facility : and a small fabricated products manufacturing unit .Significant expansion in these key areas in anticipated in the coming years.

On 19th May 1994,the company announced a majot joint venture with Mitsubishi Kasei, a member of the Mitsubishi group,that will supply sputtering targets to the Japanese semiconductor industry. The new company which will be called Ryoka Matthey,will combine Mitsubishi Kasei's established position as a leader in the Japanese market and Johnson Matthey's technological strength to provide a powerful force for growth.

The formation of Ryoka Matthey is a most important step in key elements of Johnson Matthey's corporate strategy , firstly the development of our business in the far East and secondly, the expansion of our worldwide Electronic Materials business.By joining forces with Mitsubishi Kasei, Johnson Matthey will both obtain an important industry position in Japan and become market leader in sputtering targets worldwide.

PRECIOUS METALS

The companys worldwide platinum group metals marketing activities and the gold and silver refining and marketing operations/

PRECIOUS METALS DIVISION

Platinum Group Metals

Physical demand for platinum grew by %6 in 1993, equalling the previuos record of 1991 despite the generally recessive world economic climate.Growth in autocatalyst usage was again a key factor as European emissions legislation came fully into effect there was a recovery in vehicle sales in Unites States, particularly in the light duty trucks sector.Demand for platinum jewellery in Japan was remarkably buoyant and ignoring the general Japanese economic gloom,platinum gained market share at the expences of gold.Industrial demand continued to decline as traditional user industries struggled with over-capacity and weak order books.

Despite the encouraging trends in demand for platinum ,greatly increased supply of the metal from South Africa ensured that market stocks were more than adequate.This had a dampering effect on price levels in the third quarter of the year.However the sustained improvements in US manufacturing output and the threat of supply disruption posed by political uncertainty in South Africa and Russia ,resulted in a steady recovery in platinum fortunes in the fourth quarter.The price of platinum avaraged 383 dollars per ounce in the year compared with 360 dollars in 1992/93, a %6.4 increase.When expressed in sterling the increase in the avarage price was %18.6 due to the appreciation in the US dollar.

With no terminal market, rhodium reacted further to fundamentals of supply and demand and the price fell by almost %50 to end the year 680 dollars per ounce as producer sales exceeded demand.

Autocatalyst demand for the platinum group metals is forecast to rise sharply as emissions legislation is extended and strengthened around the world.Vehicle sales are also set to recover from their recent lows.The close and highly effective working relationship between Johnson Matthey's Precious Metals and Catalytic Systems Divisions was recognised by Chrysler Corporation when it awarded Johnson Matthey the prestigious 1993 Platinum Pentastar Award for exceptional quality performance as a multi group supplier.During the year the division was very active in market and product development .Promotion of platinum for jewellery has attracted strong interest from currently small ,but potentially significant new markets in Asia ,particularly in China,and in the United States.

Clean Air legislation is the driving force for the Division's fuel cell research and development and marketing programmes.The application of fuel cell technology in both mobile and stationary power generation offers exciting potential for growth of our business.Zero emission reguletion start to apply from 1997 in California and thirteen North Eastern states wh›ch together represent some %35 of the US car market.There is a growing realisation ,however that battery powered electric cars actually generate more total pollution from the cars tail pipe to the stack of the power station that makes the electricity that recharges the batteries.This has stimulated interest in fuel cells for use ›n cars,buses and other transport applications because hydrogen powered fuel cells are the only zero-emission alternative to batteries.

Johnson Matthey has a joint fuel cell research programme with Rustenburg Platinum Mines and this year announced a collaborative development programme with Ballard Power Systems inc. of Canada,the leading developer of Proton Exchange Membrane fuel cell for transportation and stationary power applications.Significant progress has been made during the year in improving the efficiency and cost -effectiveness of the platinum catalyst electrodes at the heart of fuel cell.In April 1994,Daimler Benz demonstrated to the press a van powered by a ballard fuel cell as part of major project to develop fuel cell powered cars jointly with Ballard and using Johnson Matthey's catalyst electrodes.The demonstration programmes of stationary fuel cell in Japan, USA and Europe continued to attract widespread private and public interest with Johnson Matthey the major supplier of platinum catalyst to this market.Fuel cell represent an exciting growth opportunity for platinum in future years.

Gold and Silver Operations

Conditions within the gold and silver markets changed quite dramatically in 1993/94 with gradually rising prices and high volatility.Major regions of consumption are sensetive to such fluctuations and physical demand for gold in the Middle and Far East reduced by about %24 compared to the prior year.Physical demand for silver however was buoyant.This was mainly due to demend from India which was stimulated by partial relaxation of import regulations and a low internal price for silver.Although demand for our gold bullion products was lower,this was more than compensated for by high levels of primary feed from the mining industry,significantly larger amounts of secondary scrap and a very active upgrading business from financial organisations around the world.

Company US refinery at Salt Lake City had another record year for gold output.Measures were also taken to further increase efficiency in processing and emission control.The facility at Brampton ,Canada also had a record gold refining year.Company continued to produce gold blanks for the US Mint Eagle coin programme and good progress was made in the semi-manufactured gold jewellery alloy business ,particularly in the US. In Melbourne,Australia company gold refining business held up extremely well despite stiff price competition.Difficult market conditions depressed sales of jewellery materials ,but company Australian industrial products business showed some signs of improvement prospects look brighter for 1993/94 .Company enlarged operations in Hong Kong made a useful contribution in the year and is an important conduit for product sales into the emerging Chinese markets.The region is an avid consumer of precious metals and company expect to develop further opportunities for growth.

CATALYTIC SYSTEM

Johnson Mattheys autocatalyst and environmental pollution control businesses in North America, Europe South Africa and the Pacific and the groups chemical and metallurgical businesses in South Africa/

CATALYTIC SYSTEM DIVISION

Autocatalysts

The car markets, in which Johnson Matthey autocatalysts are used enjoyed very mixed fortunes during the year.The US continued the recovery from recession reported last year and light vehicle sales were %8 higher in calendar year 1993 than in 1992.The Big 3 automakers continued to increase their share of the US market.These factors led to very high demand for autocatalysts in North America.With the exception of the UK,where car sales increased by %11.6 .European car market declined by %15.2 .Since all new petrol cars were equipped with autocatalysts,total sales in Europe were less than excepted although they still showed growth over last year. Japanese car sales were also down by %7.

Johnson Matthey continues to be the world's largest supplier of autocatalysts that are fitted to new cars reduce levels of harmful pollutants in our atmosphere .The year has again seen an increase in the number of countries setting limits on levels of emission from cars and other vehicles which result in the fitment of our products.

During the year 13 states in the North East of the USA took steps to adopt the California emission standards that are the strictest in the world and which require cars to emit diminishing quantities of pollution as we move into the next century.When approved by the US Environmental Protection Agency this will mean that over one third of US cars will use increasing quantities of higher technology autocatalysts over the next 8 years.

In Europe the Council of Ministers of the European Union agreed new tighter emission standards to come into effect during 1996-97. These standards will further reduce the levels of allowed pollution from cars by %50 bringing European Union standards fully in line with those of the USA. Johnson Matthey continues to invest in the technology and production capacity that these tougher standards will demand. A new European Union directive was introduced during the year that will require the fitment of catalysts on light duty commercial vehicles from 1995.

Johnson Matthey continues to make a substantial investment in the technology and resources necessary for the long term growth of its autocatalyst business.In October 1993 a new technical centre was opened at Kitsuregawa, Japan,some 170 km from Tokyo.This important new centre incorparates a dedicated engine test and autocatalyst evaluation facility and provides a world class base from which to service the vitally important Japanese automotive industry .The first phase of expansion and refurbishment of the Divisions European Technical Centre in Royston ,UK, was also completed during

the year.Additional technical facilities will be constructed during 1994.Th›s centre now includes the latest technology for testing the performance of catalysts on cars.During 1993/94 we complated the initial investment in our diesel catalyst development centre in Sweden and are already seeing increased levels of diesel catalyst sales as a result.

The standards for Ultra Low Emission Vehicles that California and the thirteen North Eastren states plan to introduce from 1997 will require a ten fold reduction in hydrocarbon emissions .This together with increased focus on cold starting performance has led to the introduction of new palladium catalyst technology which gives significantly lower hydrocarbon emissions and will allow our customers to meet future emissions standards cost effectively.A joint paper with Ford was presented on this work at the US Society of Automotive Engineers Conference in March 1994.

Good progress has been made during the year towards the commercialisation of ' lean NOx ' catalysts which will for the first time allow catalysts to reduce levels of nitrogen oxide emissions on diesel and other lean burn enginers, including two-strokers.This majot achievement will offer the benefit of improved fuel economy,and hence lower emissions of the greenhouse gas carbon dioxide, along with lower levels of other key pollutants.

In Europe,Johnson Matthey increased the level of autocatalyst supply to the new Japanese car plants.We added the Jaguar business to that of Rover Peugeot and Citroen supplied out of our Australian plant.The transfer of business to Australia earns our customers valuable export credits that help them to sell more vehicles in Australia and ,consequently this increases Johnson Matthey autocatalyst sales.In South Africa,Ford,Honda and Volkwagen have approved the supply of product and deliveries have now commenced.The export of complete catalytic converters by our South African customers reduces the amount of duty they pay on imported components.We increased our sales of autocatalysts to Japanese car makers by over %50 during the years as a result of increased business share.

Johnson Matthey announced during the year that it will build new production plants in Mexico and Malaysia.The Mexican plant will start production at the end of 1994 and will serve our US,European and Japanese customers in Mexico.The Malaysian plant will commence manufacturing in 1995 in line with the introduction of Malaysian emission regulations and will supply the ASEAN markets,including Thailand which has already introduced emission regulations requiring autocatalysts.These plants will increase Johnson Matthey business potential in the fast growing Latin American and South East Asian markets.

Diesel car sales have continued to grow in Europe and reached a total of 2.3 million vehicles and %20 of the total market.In the UK,diesel sales

have reached as high as %25 of total cars sales in some months.Some of the growth in diesel sales has undoutedly been due to the widely held belief that better fuel consumption and lower levels of carbon dioxide emissions will help reduce global warming.However recent reports commissioned by the UK Government have highlighted the need to control other pollutants from diesel engines.As a result of this and the introduction of tougher emissions standards in 1996/97 we expect further growth in the fitment rate of catalysts on diesel cars leading to %100 fitment in 1996.Johnson Matthey with its new diesel catalysts production palnt and the diesel development centre in Sweden is now well positioned in this growing market.Sales of diesel catalysts have already commenced for the newly legislated US heavy duty truck market. Sales of complete catalytic converters to the Scandinavian bus market have continued to grow and some 600 buses have now been fitted in Gothenburg and Copenhagen.The Danish Technical Institute has published a report showing the clear environmental benefits to be obtained by retrofitting catalysts onto urban buses.

Catalyt›c Systems Division strives to maintain the highest quality standards and these have been recognised by our customers.In 1993 Johnson Matthey was one of only 23 suppliers to receive the new Chrysler Platinum Pentastar Award and we continue to be one of only 15 Ford suppliers to receive their top quality award.Total Quality Excellence .Honda Motor Co Ltd,Japan,presented their prestigious Supplier Award ,Development Catogory ,to our US operation.This is the first time that Honda has presented this category of the Award to an Overseas supplier.Quality Awards were received from Toyota and Honda for our US business and from BMW for our South African business.Both our European plants together with our US and Australian plants are accredited to ISO 9002, the international quality standard for manufacturing which has gained global acceptance in the auto industry.

Environmental Products

Johnson Matthey's business of providing catalytic solutions and eng›nereed systems to control noxious emissions from industrial plants and stationary engines continues to grow.

Technological advancements in pollution control catalysts coupled with licensing arrangements for alternative emission control technologies have enabled the business to expand its product range.We have developed and sold new catalysts for the destruction of halocarbons in low temperature applications and have supplied thermal regenerative oxidisers and concentrators for the control of volatile organic compounds.The increasing commitment of governments to implement emission control regulations as markets come out of recession ,offers opportunities for growth of this business throughout the world.We are developing new markets for company products in Asia/ Pasific with sales starting in Japan and Korea and with new opportunities in Australia on water treatment plants and stationary generators.

COLOUR & PRINT

Johnson Mattheys worldwide production and marketing of pigments, dispersions, ceramic colours, transfers and liquid precious metals.

COLOUR AND PRINT DIVISION

COLOUR:

1993/94 has been a year of continuing sales expansion in markets around the world.Company global manufacturing sales and service operations have succeeded in the further penetrating the markets of Asia,Europe,North America,South Africa and Australasia.This brings exciting growth prospectes for all sectors of Colour business.

There has been a rapid growth in sales of transparent iron oxide dispersions for wood finishes in Germany.New ceramic colour business with significant growth potential has been secured around the world ,most notably in the rapidly growing markets of the Far East.Company particularly encouraged by the expansion of company business in China.The year has also seen continued growth in trade with TURKEY and Middle East.The South American markets of Ecuador,Brazil and Argentina offer a great deal of potential for company products.Company early successes in securing a share of these markets provide us with good potential for further expansion.

The Division's Decorative Ceramic business has successfully introduced new product driven by environmental considerations in both the tableware and flat glass market sectors.The palette of unleaded decorative products for use in the production of tableware has been further extended during the year by the launch of new ranges of unleaded ,fast fire, inglaze colours, and lead - and cadmium-free glazes.

During 1993/94 ,Decorative Ceramics released new decorative precious metal products that are free from ozone-depleting solvents ,including burnish gold and improved transfer golds for china porcelain .A new range of advanced water miscible decorative golds is being tested worldwide and is due to be launched during 1994.Johnson Matthey position as a leader in innovative technology is further highlighted by the development of new range of unleaded enamels for applications in the decoration of architectural glass and glass panels for a wide range of domestic appliances.

In 1994 increased in Johnson Matthey market share of products for automotive glass,which has enabled us to become a world leader in the supply and servicing of technical glass enamels for automotive applications.Major supplier of silver based conductor pastes used to manufacture heated windscreens.

The success of the colour operation worldwide has been achieved by having the right product, the right policies and by making an investment in people in fundamental areas of the business.Stocking policy has been a key factor in increasing sales of decorative colours and investments in new equipment and improved process engineering have resulted in greatly

enhanced product quality and reduced costs.The year ahead provides us with the challange of making further improvements in customer service through ex-stock availability and other lead time reduction initatives.New product launches will continue to be driven by environmental considerations, specifically in the tableware sector,thereby enhancing company objective of becoming the world's number one supplier of decorative ceramic and glass products.

As leading international manufacturer and supplier of complex inorganic pigments,Johnson Matthey has expanded its markets share ,particularly in a Far East ,through sales of high performance durable pigments for the paint, plastics and building materials industries.

1994/95 will see launch of new products for autumotive finishes and the installion of new production facilities for novel PVC pigment elaboration for use in the manufacturing of window profiles,cladding panels and rainwater systems.These together with further further improvement in technical support and a continued focus on delivery performance are the initiatives which will drive us towards our strategic intent of world leadership in the manufacture and supply of speciality pigments and dispersions.

PRINT

Johnson Matthey Print operations is the worlds largest manufacturer of transfers for the decoration of ceramics and glass.It has very goog share of the markets for these products in the UK,France and the USA and the last year has seen substantial progress in expansion into regions where it has lower market share ,particularly in the Far East and Germany.

Full advantage has been taken from the improvement in the UK and US economies and recent technical developments have contributed to a sharply improved business outlook.After a difficult first six months,the second half of 1993/94 saw sharp pick up in the performance of pr›nt UK.Its reputation as a supplier of the highest quality transfers for tableware was once again recognised by the award of the prestigious Bert Vandenoever Award at the 1993 American Society of Glass and Ceramic Decorators Convention.

Matthey Beyrand in France had a challenging year and responded well to the highly competitive situation in the collectors plate business in the USA,its major market area.Further investment to improve customer service enabled increased market shares to be gained and this performance was crowned when Matthey Beyrand produced the transfer for the winner of the 1993 Collectors Plate of the year Award.

Company new joint venture printing facility in Indonesia commenced manufacture in April 1994.The market reaction to company move into the Asia has been extremely positive and has led to an acceleration of company future expansion plans.This marks a key milestone in the globalisation of print ,espicially in the important and rapidly expanding markets of the Far East.

COOKSON MATTHEY CERAMICS

On 17th March 1994, Johnson Matthey and Cookson Group plc announced that they had reached agreement in principle to form a joint venture that will combine JM's Colour and Print Division and Cookson's Ceramic Suppliers and Minerals businesses. The new company will be called Cookson Matthey Ceramic plc and will be owned 50;50 by the Johnson Matthey and Cookson.

Cookson Matthey Ceramic will be one of the world's largest integrated ceramic supplies companies ,with a leading market position and the resources to become the world leader in its field. It will combine two strong and largely complementary,product ranges and built upon the synergies of the combined product range to provide exciting opportunities for growth. The joint venture will have the critical mass and resources to compete on equal terms with the largest competitors in its markets and to promote ambitious expansion plans ,particularly in the Far East.

RESEARCH & DEVELOPMENT

Refining
Biomedical
Colour and Print
Autocatalysts
Materials Technology
Fuel Cells

RESEARCH AND DEVELOPMENT

In 1993/94 Johnson Matthey spent 28.5 million sterlin gross on Research and development ,compared with 25 million sterlin in the previous year .This continuing investment reflects Johnson Matthey's commitment to innovative research as a vital element in its strategy for future growth and profitability .Many of our most successful products and process are based on technology originally developed in research.

Johnson Matthey maintains its position as one of the most innovative companies in the UK. Nationally the need for innovation has never been greater.Companies are having to bring new products to market ever more quickly to keep ahead of increasingly fierce international competition.

In Johnson Matthey, we recognise the vital role of people in the innovation process.Scientists are encouraged to move from our research centres into the Divisions to ensure that new technology is transferred successfully from research into development and production.This creates a flow of new graduates from the Universities into research ,thereby maintaining high levels of creativity.To ensure that our research and development effort is maximised ,company actively seek collaborators who can complement company own research expertise.Company biomedical research programmes on platinum -based anti-cancer drugs involve several collaborators including: Bristol-Myers Squibb (USA). The Royal Marsden Hospital and The Institute of Cancer Research.This collaborative approach has also been adopted in anti-viral drug development with Sandoz Pharma of Switzerland and in the fuel cell area with the Canadian company,Ballard Power systems inc.

Company research and development is organised globally.Laboratory facilities include the Corporate Technology Centre at Sonning Common in the UK. The Pharmaceutical Research Group in the USA. and a number of development groups within the operating Division,in addition ,the Technical Centres at Devon,USA, Royston,UK and Kitsuregawa, Japan are promoting close technical liasion with customers around the world.The creation of such centres of research and development excellence close to the marketplace is a key part of the strategy to grow Johnson Matthey's worldwide businesses.

This year saw a continued commitment to environmentally- related research and development.Company programmes include low or pollution free replacements for existing products and processes,air pollution control technology and the development of clean power sources.Protection of the environment is a prime area for developing new applications for the platinum group metals.

REFINING

* A major R&D contribution was made to the new Modified Rhodium Sidestream (MRS) refinery,which was completed at Royston in 1994.

BIOMEDICAL

* JM 216 an orally administered platinum anti-cancer agent is making good progress in clinical trials.

* An exclusive worldwide licence agreement has been signed with Sandoz Pharma of Switzerland for a class of anti-viral compounds which have a novel mechanism of action against HIV, the virus that caused AIDS. Research and development effort on these compounds continues.

COLOUR AND PRINT

* A patented water-miscible gold compound has been developed.This is forming the basis of a new range of decorative gold products free from harmful organic solvents.

* Developments continues on heavy-metal-free pigments and base colours to meet increasingly stringent legislative requirements on existing products.

* Work on second generation automotive glass enamels is further enhancing Johnson Matthey's reputation for these advanced products.

AUTOCATALYSTS

* Extensive research on improved low temperature performance and high temperature durability catalysts further reinforces Johnson Matthey position as the world's leading producer of autocatalysts.

* New catalysts are in development for application in light and heavy duty diesels, a rapidly growing market sector.

* Autocatalysts that are active in reducing NOx under the lean conditions found in into-stroke ,diesel and lean-burn engines are being developed and will ensure Johnson Matthey's technology leadership in engine emission control.

MATERIALS TECHNOLOGY

* Company has recently launched an entirely new and revolutionary method of coating ceramic substrates with a thin protective film of platinum. Known as ACT (Advanced Coating Technology) the system provides new

opportunities in glass production technology ,where the cost of bulk precious metal has been prohibitive.The ACT system is also suitable for applications in other industrial and nuclear sectors where high temperature or corrosion resistance is required.Company R&D effort is continuing in order to expand ACT applications and to apply the technology to alternative substrates.

* The development of advanced sputtering targets in aluminium and titanium continues to be major focus of research within our electronic materials programmes.

* Silver based die attach pastes are being researched at several of company operations for use in smart cards and semiconductor chip packaging. The latest generation of these materials has already revolutionised the packaging of high reliability devices.

FUEL CELLS

The predicted growth in demand for hydrogen both as a clean fuel and as a utility chemical has stimulated worldwide interest in new methods for its generation, processing and use .Indeed some scientists predict that by the year 2020 ,the world economy will be dominated by hydrogen rather than by fossil fuels.The fuel cell, a device for generating electrical power via the chemical combination of hydrogen and oxygen is a very important part of this 'hydrogen economy'.

Johnson Matthey and Ballard Power Systems inc. of Canada have recently announced a collaboration on the joint development of fuel cell catalysts ,electrodes and manufacturing progresses.The programme will advance the commercialisation of the Ballard Proton Exchange Membrane (PEM) fuel cell which offers great potential for clean electricity generation and ' zero - emission ' vehicles.

Johnson Matthey is already the world's largest manufacturer of platinum - based fuel cell catalysts, which provides an excelent platform from which to move into the manufacture of gas diffusion electrodes. Company's R&D programmes of recent years have given us the ability to manufacture electrodes, which allows access not only to the fuel cells market but also to industrial applications in electrochemical synthesis and sensor system.

A critical requirement in the commercialisation of PEM fuel cells for transportation systems is the development of a pure hydrogen feedstock. Johnson Matthey has patented a novel means of generating hydrogen from menhanol in a compact and inexpensive package.

FINACIAL REVIEW

Profits for the Year

Operating profit grew by 10.1 million sterlin in 1994 to 81.7 million sterlin. The improvement in operating profit included a benefit of 3.5 million sterlin arising from more favourable exchange transaction. The interest charge for the year increased by 3.1 million sterlin to 4.6 million sterlin. This increase reflected lower sterling deposits rates and higher avarage borrowing.

In order to eliminate price exposure on precious metal stock JM either borrow the precious metal or hedge the price by forward sales. This hedging gives rise to interest income which reflects the difference between metal interest rates and sterling interest rates. In 1994 the benefit from hedging was less than 1993 as the gap between sterling deposits rates and precious metal rates narrowed.

The group's tax charge for the year of 20.7 million sterlin included a saving of 3.7 million sterlin on advance corporation tax(ACT) as a result of the 96% take up of the 1993 enhanced scrip dividend. The group's avarage tax rate for 1994 was 32.4% (1993 32%) excluding the ACT saving and exceptional items.

Earnings per share for the year increased 25.8p to 27.6p

Cash Flow and Investment

The groups net borrowings fell by 22 million sterlin in 1994. The major asset disposal in 1994 was the sale of the UK and Irish Jewellery business at the end of January for 16.4 million sterlin in cash and 18.9 million sterlin of precious metal loans repaid. The increase in retained earnings included a benefit of 12.6 million sterlin from the 1993 enhanced scrip dividend.

Capital Expenditure of 65.4 million sterlin more than twice depreciation. Major projects included completion of the new technical centre and manufacturing facility at Kitsuregawa in Japan 14 million sterlin,expansion of electronic materials production facilities in the US 4.1 million sterlin, construction of a new autocatalyst technical centre at Royston 1.9 million sterlin and new refining production facilities at Royston and Brimsdown 3.3 million sterlin. Stronger platinum and gold prices at the end of the financial year accounted for 12 million sterlin of the increase in working capital.

Capital Structure

Shareholders' funds increased by 39 million sterlin to 371 million in 1994 while borrowing fell by 22 million sterlin to 93.6 million sterlin. Gearing (net borrowing as a percentage of shareholders funds) fell to 25%. Johnson

Matthey 's net borrowings are in the form of precious metal leases(to finance inventory) and foreign curreny borrowings(mainly US dollars).The group not sterling borrowing.Currently most of the loans are borrewed on a floating rate basis. JM has over 200 million sterlings of facilities from a group of high quality international banks with maturities of up to five years under which most of the borrowings are drawn.

Treasury Hedging Policy

JM policy for all our manufacturing businesses is to limit this exposure by the hedging wherever possible against future price changes where such hedging can be done at acceptable cost.The group doesn't take speculative foreign exchange position or material exposures on metal trading and our treasury is run as service centre not a profit centre.

All the groups stocks of gold,silver and platinum are fully hedged either by borrowing or forward sales.The group only has a price exposure on stocks of those metals such as rhodium ,where no forward markets exist and which can not be fully hedged.Out of the groups total precious metal stocks of 88 million sterlings at 31st March 1994,only 6.3 million sterlings was unhedged.

Employment Policies

Johnson Matthey recruit, train and manage our employees regardless of sex,ethnic origion or religion.Employees who become disabled and disabled people are offered employment consistent with their capabilities. Team briefing is our main vehicle for communicating information about the company and for obtaining feed - back through the organisation. 39.4% of employees worldwide are shareholders in Johnson Matthey through the company's employee share participation schames which held 2,937,466 shares (1.54%) at 31 st May 1994. 172 current and former executives hold options over 2,073,536 shares through the company's executive share option schemes.

FINANCIAL HIGHLIGHTS

	1993 **million sterling**	1994 **million sterling**
NET REVENUES	333.7	391.0
OPERATING PROFIT	71.6	81.7
PROFIT BEFORE TAXATION AND EXCEPTIONAL ITEMS	70.1	77.1
EXCEPTIONAL ITEMS	3.7	(11.7)
PROFIT BEFORE TAX - FRS3	73.8	65.4
	pence	**pence**
EARNINGS PER SHARE-FRS3	27.1	23.7
DIVIDEND PER ORDINARY SHARES	10.3	11.4
	million sterling	**million sterling**
NET BORROWING	115.6	93.6
SHAREHOLDERS' FUNDS	332.6	371.6

SUMMARY

Materials Technology Division had on outstanding year and made a major contribution to the growth in group profits.The marked improvement in the divisions performance :operating profit increased by 35% from 20.8 million sterlin to 28 million sterlin. The division North America Electronic Materilals business achieved excellent results,with profit up 60% on the previous year(1994).Biomedical performed well both in terms of growth in manufacturing as well as new product development.The favorable effects of JM rationalisation programme enabled MTD Europe to increase profits despite continued recession in many of its key markets.

Precious Metals Divisions performance was once again adversely affected by the fall in the price of rhodium.The avarage price of platinum for the year strengthened to 225 sterlin per ounce compared to 215 sterlin in 1992/93,but the avarage price of rhodium again declined ,from 1253 sterlin to 625 sterlin.The depressed rhodium price broadly offset the gains from the improvement in the price of platinum and the division did well to achieve a small increase in operating profits from 20.5 million sterlin to 20.8 million sterlin.Strengthening gold prices during the year had a positive effect on JM gold refining businesses around the world which all performed well.

Catalytic System Division recorded a satisfactory performance , increasing its operating profits by 4% from 27.1 million sterlin to 28.2 million sterlin.The division benefited from very strong demend for aotucatalysts in North America in what was a record year for the sale of cars and light tructs in the USA .This helped to offset the effect of continued recession in European car markets where sales of passenger vehicles were down 15%. JM Australian autocatalyst facility had a successful year producing record output mainly for export customers.In august 1993 General Motors issued proceedings against Johnson Matthey in the United States alleging breach of contract and various other matters.Johnson Matthey vigorously rejects all General Motors allegatons which it doesn't believe have any substance.

Colour and Print Division continued the strong performance :operating profits up 15% from 11.3 million sterlin to 13 million sterlin.The business performed well,benefiting from recent rationalisation and focused management. Colour was able to grow its business through exports,particulary to the Far East and Print benefited from an upturn in the UK tableware market.

REFERENCES

Mr CAN KIRAC..... KOC HOLDING VICE PRESIDENT
Mr AHMET SAVALAS..... RETIRED ENGLAND CONSUL
Mr GRAHAM TITCOMBE..... MANAGING DIRECTOR
Mr CHRIS CLARK..... MANAGING DIRECTOR

JOHNSON MATTHEY

HEAD OFFICE ; Johnson Matthey Public Limited Company
2-4 Cockspur Street Trafalgar Square
London SW1Y 5BQ

Telephone; 071 269 8400

REGISTERED
IN ENGLAND ; number 33774

REGISTERED
OFFICE ; 78 Hatton Garden London EC1N 8JP