



**RUBBER  
CONFERENCE**

**G-Mex Centre  
Manchester**  
June 7/8/9 and 10

***The International  
Rubber Exhibition and  
Conference***

**Conference Book  
of Papers**

Organised by  
Crain Communications Limited



Welcome to the IREC '99 Conference book of papers, a compilation of more than 50 presentations detailing recent developments in the rubber industry. This book contains a wide range of papers detailing the latest situation in the global rubber industry, and explaining some of the latest developments in the use of rubber materials and technology from many of the world's leading specialists.

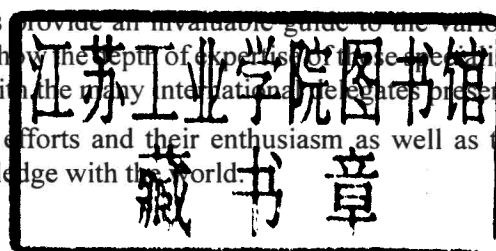
This conference follows in a long tradition of international events housed in Europe, but attracting visitors from all around the world. The conference has been organised by European Rubber Journal, while the accompanying exhibition is organised jointly by IPI Promotions BV and Crain Communications Ltd.

The papers at IREC '99 detail some of the massive strides the industry has made in meeting the exacting commercial and technical demands of its wide range of industrial customers in all the key applications sectors notably, of course, the automobile industry. One session is devoted to the requirements of the automotive sector, another to environment, and more to materials and to machinery which contribute so much to the development of this sector.

Taken together, the presentations in these and the other sessions provide an invaluable guide to the various commercial and technical advances in this dynamic industry, and show the depth of expertise of those specialists as well as a willingness to share their often hard-won expertise with the many international delegates present.

I would take this opportunity to thank these speakers for their efforts and their enthusiasm as well as the willingness of their companies to allow them to share their knowledge with the world.

Sincere best wishes for your future endeavours.



**Paul Mitchell, David Shaw, Carmen Marcantonio**

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## CONTENTS

### MONDAY JUNE 7TH

#### Introduction and Global

- Paper 1 Recent Trends and Changes in the Rubber Industry**  
*Maurice Cain, International Rubber Study Group UK*
- Paper 2 The Rubber Industry - Thinking Globally, Acting Locally**  
*Fazilet Cinaralp, BLIC, Belgium*
- Paper 3 The Impact of Quality on Business Growth in Automotive Markets**  
*John Sharpley, Gates Rubber, Europe*
- Paper 4 Global Rubber Demand and Availability in the New Millennium Any Winners or Losers?**  
*Rolf Peter, Bayer AG, Germany*
- Paper 5 The Global Tyre Market: The Next 4 Years**  
*Tim Hunt, LMC International, UK*
- Paper 6 The European Tire & Rubber Industry Moving into the Next Millennium**  
*Robert L. Culp, Smithers Scientific Services, Inc., USA*
- Paper 7 Factors Driving the Shape of the Rubber Industry**  
*David A. Booth, Belgian Plastics & Rubber Institute, Belgium*
- Paper 8 INRO and Price Stabilisation**  
*Nigel Hare-Scott, Guthrie Symington Ltd., UK*
- Paper 9 The Synthetic Rubber Industry Acting Responsibly in the Past for Our Future**

*James L. McGraw, International Institute of Synthetic Rubber Producers, Inc., USA*

- Paper 10 Improving the Competitiveness of the Rubber Manufacturing Industry: A National Perspective**  
*John Dorken, British Rubber Manufacturers' Association (BRMA), UK*

### TUESDAY JUNE 8TH

#### Environment

- Paper 1 Natural Rubber Latex Allergy - A Problem in Perspective**  
*Haydn Williams, London International Group, UK*
- Paper 2 Latex Allergy**  
*Dr. Ian White, St. Thomas Hospital, UK  
(Paper unavailable at time of print)*
- Paper 3 Nitrosamines: A Regulatory Update and an Analyst's Perspective on the Industry Response**  
*Sue Stephens, Tun Abdul Razak Research Centre, UK*
- Paper 4 Nitrosamine Free Curing Systems for Modern Rubber Compounds**  
*A. Schuch and T. Früh, Rhein Chemie, Germany*
- Paper 5 Exposure to Rubber Fume and Rubber Process Dust in the General Rubber Goods, Tyre Manufacturing and Retread Industries**  
*A.A. Dost, D. Redman and G. Cox, Health and Safety Executive, UK*

- Paper 6 Customer Service: From Production Waste to a Raw Material**  
*Wilma Dierkes, Vredestein Rubber Resources, Netherlands*
- Paper 7 The Challenge of Recovery of End-of-Life Vehicles - A European Perspective for Polymers**  
*Dr. Neil Mayne, Association of Plastics Manufacturers in Europe, Belgium*
- Paper 8 Energy Management in the Rubber Industry: The Future**  
*Derrick Sharps, ETBPP*
- Paper 9 Enichem Solution SBR Range to Meet "Green Tyre" Market Demand**  
*Enrico Lucchese, Ian Bowman and Sonia Buseti, Enichem*

### Automotive/Manufacturing

- Paper 1 Purchasing and Supply Strategy in a Changing World**  
*Geoff B Smith, Nissan Motor Manufacturing (UK) Ltd., UK*
- Paper 2 Requirements on Global Tyre Suppliers**  
*Matthias Hatzmann and Hans-Rudolf Hein, BMW AG, Germany*
- Paper 3 Developments in Simulation Technology for Complex 3D Elastomeric Components**  
*Alex Ramsay, MARC UK Ltd., UK*
- Paper 4 Nonlinear Finite Element Analysis of Synchronous Belts**  
*Les Brown, The Gates Rubber Company*
- Paper 5 Vehicle Engine Suspensions - Solutions Without Prototypes**  
*Bill Mortel and Stuart Bradley, Metalastik Limited, UK*
- Paper 6 Automatic Shape Optimization of Elastomeric Products**  
*M. Friedrich, Freudenberg Forschungsdienste KG, Germany*
- Paper 7 TPE's Usage in the Automotive Industry**  
*Tony Carroll, MA Hanna Engineered Materials, UK*
- Paper 8 A New, Unique Fluoroelastomer with Expanded Fluids Resistance**  
*Ronald D. Stevens, DuPont Dow Elastomers, USA*

- Paper 9 A Technological Interpretation of the Calendering Process**  
*Gerard Nijman, Vredestein Banden BV, Netherlands*
- Paper 10 Strategic Compounding: Logistics and Security**  
*Dr. Kevin Fisher, Forsheda Ltd.*
- Paper 11 Enter the Internet: Compounding by Remote Access**  
*Duke Urbanik, ECLIPSE Technical Software Service BV, Netherlands*
- Paper 12 Closing the Gap Between Business Systems and the Manufacturing Process**  
*Paul Myers, Pantek Co., UK*
- Paper 13 Statistical Analysis - A Clue to Improved Quality and Lower Cost**  
*S.H. Coulson, recently retired from Exxon Chemical Ltd., Fawley, UK*

## WEDNESDAY JUNE 9TH

### Materials

- Paper 1 Benefits of Silicone Elastomers in Automotive Applications**  
*Dr. John Youren, Dow Corning Limited, UK*
- Paper 2 Improved Rubber Properties by Using N-t-Butyl-2-Benzothiazole Sulfenimide**  
*A.J. de Hoog and R.N. Datta, Flexsys B.V., The Netherlands*
- Paper 3 Process Additives for the Modern Rubber Industry**  
*C.R. Stone, Dr. K.-H. Menting and Dipl.-Ing. M. Hensel, Schill & Seilacher GmbH & Co. KG, Germany*
- Paper 4 The Influence of Mineral Processing Oils on the Peroxide Curing Efficiency of EPDM**  
*H.G. Dikland and R. Wommelsdorff, DSM Research, The Netherlands and BP Schmierstoff GmbH, Germany*
- Paper 5 "Black Scorch" in EPDM Compounds**  
*C. Daniel and J.G. Pillow, DuPont Dow Elastomers, Switzerland*
- Paper 6 New Development in Polymerization Technologies and Curing. Fluorinated and Perfluorinated Peroxide Curable Elastomers with Improved Processability and Outstanding Physical Properties for**

### Applications in a Wide Range of Temperatures

*R. Ferro, V. Arcella, M. Albano, M. Postolo, I. Wlassics, AUSIMONT SpA, Italy*

### Paper 7 New Developments in Silicone Rubber Technology - Properties, Processing and Applications

*Dr. Peter Jerschow, Wacker Chemie GmbH, Germany*

### Paper 8 Hot Carbon Black - Its Effects on Mixing Quality and Rubber Compound Final Properties

*A. Abbasy Abyaneh and A. Eftekhary, Kerman Tire & Rubber Co., Tehran, Iran*

### Paper 9 The Use of Chemical Additives to Protect SBS Rubbers Against Ozone Attack

*C.A. Moakes, Bayer AG, Germany*

### Paper 10 High Temperature Curing of Passenger Tires by Using 1,3

**bis-(Citraconimido-Methyl)Benzene**  
*F.A.A. Ingham and R.N. Datta, Flexsys BV, The Netherlands*

### Paper 11 A New Apparatus for Measuring the Thermal Conductivity of Rubbers, Foams and Composite Materials

*John Gearing, Gearing Scientific, UK*

### Paper 12 Comparison of Results and Test Methods Using the Micro IRHD and the Micro Shore Rubber Hardness Measurement Instruments

*R. Morgans<sup>1</sup>, S. Lackovic<sup>2</sup> and P. Cobbold<sup>2</sup>, <sup>1</sup>School of Engineering, University of Greenwich, UK and <sup>2</sup>H W Wallace & Co.Ltd., UK*

### Paper 13 Surface Structure and Associated Tribological Properties of NR/TOR Blends

*<sup>#</sup>Dariusz M. Bielinski, <sup>#</sup>Ludomir Slusarski and <sup>\*</sup>Teresa Kelps & <sup>\*</sup>Wanda Parasiewicz, <sup>#</sup>Technical University of Lodz, Poland and <sup>\*</sup>Institute of Rubber Industry, Poland*

## Machinery

### Paper 1 Design Low Maintenance Conveyors Using Modular Plastic Belts

*Joseph M. DePaso, Intralox Inc., USA*

### Paper 2 Improved Productivity with Rubber Injection Moulding

*Ewald Lichtenegger, Maplan Maschinen u. tech. Anlagen, Planungs- und Fertigungs GesmbH, Germany*

### Paper 3 Machines and Processes for Manufacturing of Multi-Component Products Including at Least One Elastomeric Material

*Manfred Arning, Engel MbH, Austria*

### Paper 4 Determination of the Optimum Processing "Window" for Silica Mixing

*E.R. Rodger and H. Burhin, Alpha Technologies, UK*

### Paper 5 Testing of Stress Relaxation

*Göran Spetz, Elastocon AB, Sweden*

### Paper 6 PRESSMIXER for Rubber Compound

*Achim Holzmüller, Walter Hoffmann, Thomas Rittner, and Brigitte Hatvan, VOITH Verfahrenstechnik GmbH & Company KG, Austria*

### Paper 7 New Manufacturing Process for Elastomeric Products by Implementing the Gas-Assisted Moulding Technology

*Manfred Arning, Engel MbH, Austria*

### Paper 8 Practical Aspects of Comparing Tangential and Interlocking Rotor Batch Mixers

*John S. Pollitt, Farrel Ltd., UK*

### Paper 9 Modern Extruders - From the Mixing Room to the Final Product

*Walter Häder, Krupp Elastomertechnik GmbH*

### Paper 10 Temperature Control Systems for Internal Mixers

*Richard Wall, Carter Bros., UK*

### Paper 11 The Automation of QS9000 by Process Computers

*Peter Brennan, Chronos Richardson Ltd., UK*

### Paper 12 Gear Pumps for The Rubber Industry

*W. Schiesser, Schiesser Rubber Technology, Switzerland*

### Paper 13 New Injection Moulding Machines for High Precision Components Requiring Very Small Shot Volumes/Applications

*M. Claudio Bertolini, RUTIL S.R.L., Italy*

### Paper 14 Tooling Up For Higher Productivity and Better Quality

*Brian Painter, Wyko Equipments Ltd., UK*

# Recent Trends and Changes in the Rubber Industry

Maurice Cain

*International Rubber Study Group, UK*

## ABSTRACT

### Introduction

This paper discusses the origins of demand for elastomers and examines recent trends in the location of world elastomer consumption and production. It looks at the most recent changes in the world economy and their effect on elastomer consumption, and considers the present position of both natural and synthetic rubber. The statistical data is based on figures agreed at the 39th Assembly of the International Rubber Study Group (IRSG) held in Bali, Indonesia in October 1998. The views expressed in this paper are those of the author and do not necessarily represent the views of the Member Governments of the IRSG.

### World Elastomer Consumption

The rubber industry is demand-led, and the demand for rubber comes essentially from the automotive industry. This consumes the majority of world rubber supplies, with perhaps 70% of world rubber production going into tyres. The driving forces for elastomer demand are thus population growth and the achievement of economic development, both of which increase the world demand for tyres and other products for the automotive industry. Thus the recent pattern of demand for rubber has been one of continuous growth, from 4.4 million tonnes in 1960 to 16.6 million tonnes in 1997, an annual average of about 3.5%. The production of tyres is currently over 1.1 billion annually.

Synthetic rubber is produced by large multinational or national companies, and world capacity is controlled by the investment decisions made by these companies. When demand is reduced or economic circumstances seem unfavourable, plant utilisation can be decreased and investments deferred. In contrast, over 80% of the world's supply of natural rubber is produced by small farmers who typically own less than 4ha of land. They depend on the daily sale of rubber to support their families. When the world economy is in decline, usually leading to lower commodity prices, they need to produce more rubber to maintain their incomes.

### Pattern of Rubber Consumption

The centre of gravity of the elastomer industry has thus shifted significantly from the west towards the east. Asia/Pacific contains three of the world's five most populous nations, namely China, India and Indonesia. By 1998, Asia had 64% of the world's population but accounted for only 41% of total elastomer consumption, using 33% of all natural rubber and 52% of all synthetic rubber. The major share of

consumption will obviously continue to move into this region as its economic progress continues.

### Trends in Rubber Production

In 1998, the largest natural rubber producer was Thailand with 2 million tonnes, with Indonesia in second position with 1.5 million tonnes. Malaysia, in third position, produced 970,000 tonnes, but also imported almost 300,000 tonnes from other countries and is the world's largest latex importer. These three countries produced 68% of the world's total natural rubber supply. Synthetic rubber production in North America was 2.8 million tonnes, almost back to the level of 1979, and represented 27% of the world total. In the former USSR, synthetic rubber production has fallen from over 3 million tonnes, 27% of the world total, in 1989 to under 700,000 tonnes (6.9%). In Asia/Pacific, Indonesia and Thailand have joined Australia, China, India, Japan, Republic of Korea and Taiwan as synthetic rubber producers, and the region now provides 33% of all synthetic rubber, 92% of all natural rubber and 57% of total world elastomer production.

### Recent Events

The Thai baht was devalued by about 20% on 2 July 1997, and this was quickly followed by the devaluation of six other currencies in the region. As Asia is a major player in the rubber industry, this has been greatly affected. The automotive industry has been severely cut back. The effect on world rubber consumption has been made worse by the economic problems encountered in Russia and Latin America, where Brazil, a major vehicle producer, has experienced severe difficulties. The most recent figures suggest a levelling off of total elastomer consumption and a further fall in the world market share held by synthetic rubber to just under 59%.

### Present Position

The currency crisis in Southeast Asia and the consequent dramatic fall in prices have not led to a reduction in natural rubber output. However, for Malaysia, exports have decreased very considerably while imports of raw rubber have increased. The buffer stock mechanism existing under the International Natural Rubber Agreement 1995 has collapsed because of the failure of exporting countries to provide the necessary financial support to buy rubber. Therefore, there is now no effective floor to the price of natural rubber.

The synthetic rubber industry is also in a very difficult position. Thailand and Indonesia have added to the surplus synthetic rubber capacity, which has been estimated at some

500,000 tonnes for SBR and 200,000 tonnes for BR in Asia alone.

## Outlook

The world economic situation presents a very mixed picture of growth in the major developed countries, *ie* North America and the EU. The Peoples' Republic of China and Taiwan have continued their economic growth. Eastern Europe continues to grow steadily from a relatively small base, but there is a real threat of recession in the Russian Federation. South America is maintaining patchy growth, and Africa continues to show encouraging signs in some countries. In Asia, the once fastest growing economies still have some way to go to reach the recovery point from their recent disasters, but in some cases this now seems more certain. Japan continues to struggle to find a way out of recession.

There is little agreement on the extent to which rubber production and consumption will change in the next few years. The general expectation is for consumption to grow at about 2%/year, although the International Institute of Synthetic Rubber Producers, Inc, is noticeably more bullish about the prospects for synthetic rubber than other forecasters.

The outlook for prices is, in my view, even less encouraging. The Association of Natural Rubber Producing Countries has a plan to raise the natural rubber price by reducing production and withholding stocks, while Malaysia has joined Thailand in announcing proposals for direct financial support of smallholders. None of the schemes proposed appears any more likely to succeed than the International Natural Rubber Agreements. For synthetic rubber, despite the figures of over-capacity, plans for additional plants are still being announced. There appears little prospect that the prices of either polymer will recover very quickly from the almost continuous downward trends of the last few years.

## Conclusions

The world economic situation appears to be improving slightly. The real economic power in Asia in the future may have to come from the two largest populations in China and India. Both will contribute substantially to the increase in world demand for elastomers for the foreseeable future. The establishment of tyre production facilities by the major multinational companies will increase if appropriate political and financial conditions exist. China and India both produce natural and synthetic rubber, and a significant share of the very substantial investments expected in synthetic rubber production facilities in Southeast Asia will be made in these countries as the balance of the world rubber industry continues to shift towards the Pacific Rim. They will continue to import large quantities of both natural rubber and synthetic rubber in the medium term, and neither will ever be self-sufficient in natural rubber.

There is no doubt that the demand for both natural rubber and synthetic rubber will continue to increase steadily for the foreseeable future, and that Asia/Pacific region's share of both production and consumption of rubber will also continue to grow. However, all the economic indicators still point to increasing failure of natural rubber supplies to meet potential demand towards the end of the first decade of the next century. If this results in a steep rise in price it may stimulate further production of natural rubber, as it has done in the past. Alternatively, it could finally lead to the gradual replacement of natural rubber by synthetic rubbers in tyre applications. For synthetic rubber, the short-term outlook is for over-capacity, low prices and low profit margins despite low feedstock costs. This suggests the possibility of more supply rationalization with changes in the structure of the manufacturing industry through mergers and acquisitions.

## Acknowledgement

I would like to express my thanks for the assistance provided in the preparation of this paper by the staff of the Secretariat of the International Rubber Study Group, particularly Dr Prachaya Jumpasut, the Chief Economist, and Mr Philip Watson, the Chief Statistician.

## BIOGRAPHICAL NOTES

### Maurice Cain

Mr Cain has spent over 48 years in the rubber industry, initially as a research chemist, publishing 17 scientific papers and seven patents. Later, as Head of a Publications and PR Group he edited technical publications and wrote widely on the industry. From 1989–1992, he led a UNIDO-funded project on natural rubber-based truck tyre retreads, involving the testing of over 2000 truck tyre retreads in six countries.

As Secretary-General of the International Rubber Study Group (IRSG) since February 1994, Mr Cain is responsible to its Member Governments for publishing the authoritative world-wide statistics on natural and synthetic rubber production, trade and consumption, and on related manufacturing industries. The IRSG also publishes statistical, economic and techno-economic studies on matters relating to the rubber industry. Its holistic approach enables it to comment on the overall development of the industry, and Mr Cain has regularly presented assessments of the current situation at international conferences. Mr Cain organizes the International Rubber Forums held with the IRSG Annual Meetings, providing a platform for discussions between governments and between government and industry. Two joint International Workshops have also been held with UNCTAD on the environmental impacts of the rubber industry. Contacts with industry are maintained through the Panel of Associates, which includes the leading players in the rubber producing, consuming and supplier industries.

# The Rubber Industry - Thinking Globally, Acting Locally

Fazilet Cinaralp

*BLIC, Belgium*

## INTRODUCTION

In the conference invitation folder, in the large red box on the left of the page, were a number of very good reasons for attending this three-day event. One in particular impressed me. It was "the key benefit is that everyone who is anyone in Europe's rubber industry will attend".

Feeling myself as anyone - or maybe someone, I was honoured when Crain Communications contacted me with a view to me presenting this paper. I am indeed very pleased to be able to address this important gathering which will look at many aspects of the rubber business over the coming three days.

## THEME

My theme, "The Rubber Industry - Thinking Globally, Acting Locally", would have been an excellent thesis for any student or graduate. At the same time, the theme is so broad that I could have had the choice to talk about almost anything that took my fancy.

In fact, I will try to confine myself to giving you the Brussels perspective of how I see the rubber industry behaving in the future with respect to policy makers and coming legislation in Europe.

## WHAT IS BLIC ?

Let me first explain what is the nature of the organisation standing behind the four letters BLIC, and our objectives.

Bureau de Liaison des Industries du Caoutchouc (the liaison office of the rubber industry of the EU) has been a long-standing player on the European scene. It was set up in 1959, and this year will celebrate its 40th anniversary.

Its essential mission is to defend the interests of the European rubber manufacturing industry on relevant matters at European and International levels. I joined the organisation in 1991.

## WHAT IS GOING ON IN EUROPE ?

I do not need to recall to this audience that whatever is decided in Brussels will have growing relevance in board rooms and in offices around the world - just as decisions made in North America have shaped our industry over the past 40 years.

One of the BLIC main goals is to act as the interface between the rubber industry and the European government. This is of course what makes it so interesting and challenging to those of us in the European representational business. The interface at which we work in the Community is characterised above

all by its complexity ! It is a region rather than a place, and a playground rather than a chessboard.

Indeed, one may be dealing simultaneously with all the various organs of the Community; the Commission (for the proposal and drafting of legislation), the European Parliament (having since May 1st this year some decision powers), the Council (the major decision maker), the National Delegations, and also at the same time with National Governments.

Recently I came across a report of a Committee of the British House of Lords published in June 1976 (now 25 years old). It is interesting to quote a warning contained in this report :-

"Once a Directive has been enacted by the Council, a Member State that discovers, from practical experience of its operation, that the effects of a particular provision of the instrument within its territory are harmful, is powerless to obtain any amendment of the provisions except with the unanimous consent of all the other member states. So it is much more important to get a legislation right in all its details first time, than it would be in the case of an Act of Parliament in the UK".

Stripped of the cautious parliamentary language, it means that no matter how slow the EC decision making process may be, you had better make the big effort to ensure that they get it right where it affects you, otherwise you are going to end up with a very heavy millstone hung around your neck - and by then your own national government cannot do much to release you from it !

Therefore, European representation, with effective national links to relevant authorities, is crucial in the development of European legislation.

The other aspect of European Directives is that they are minimum requirements for member states. Any government willing to go further on the provisions of a European Directive may do so. Therefore, effective national representation is also crucial in the implementation of the European legislation.

It is interesting at this stage to take a concrete example : In 1991 the Commission launched an ambitious programme to reduce the emissions of volatile organic compounds (VOC's)

from solvent using industries by roughly 65 % by 2007, compared to 1990 levels. According to a survey carried out by an independent consultant on the impact of the first draft of this legislation on the main industry sectors, the total cost would have been in the range of 70 billion Euro's, with peak spending years at the beginning of the implementation in the region of 6 billion Euro's per year. Costs so large are comparable with the total profitability for many of the sectors

involved : the social consequences would have been very great in terms of huge losses of manufacturing capability, and vastly decreased industrial employment.

We have all worked very hard with the European Commission on this one over the past eight years, and the Directive was adopted in March 1999. We were able to reduce the demands on small and medium-sized companies in the rubber sector by getting agreement to limit the legislation only to those using more than 15 tonnes of VOC's per year, thus eliminating the need for compliance for many of our smaller members. Otherwise it would have crippled them.

This Directive sets ambitious objectives for European industry. However, European policy-makers have recognised its potential cost impact upon industry and have built flexibility and time into the Directive to enable easier compliance. It provides EU industry with a clear legislative framework to plan investments on a sound basis and to find the most efficient way to meet environmental objectives through responsible solvent use and management. Combined with other key measures undertaken by the EU, such as the Auto-Oil and Integrated Pollution and Prevention Control (IPPC) Directive, the Solvents Emission Directive will make an important contribution to overall EU air quality objectives.

This Directive will be implemented at national level (translated into national law) over the next two years. We hope to see the flexibility allowed by the Directive used at the national level to avoid an excessive cost burden upon solvent using industries. National trade associations must ensure that the new legislative requirements are both understood, communicated, and efficiently met. Member States may adopt the requirements exactly as they are set out in the Directive, or they may adopt more stringent requirements. They can also opt for national plans ! Therefore, there is a very important role here to be played by the national trade associations.

## GLOBALISATION

Moving on from policy-makers to industry, I feel obliged to mention globalisation. I will listen this afternoon with pleasure and some curiosity to the papers that will be given by two of my colleagues in the industry : Tim Hunt and David Booth.

When we talk about the effects of globalisation, and economies of scale on industrial structure, there is but one industry that first comes to mind - the car industry. This is, above all, where the advantages of economies of scale, and of global manufacturing and sourcing, are leading inexorably to the concentration of output into the hands of fewer and fewer companies. For the car industry this is a reality. For other businesses, this is to be the future. Over the past few months we have seen a number of consolidations, and technical and/or commercial alliances in the tyre industry.

As Samir Gibara (Chairman of Goodyear) sees it- "the endgame for consolidation of the world's 75 billion dollar tyre industry is rolling into sight". In seven to ten years time he believes that the tyre industry will be in the hands of three to four global players. He was speaking in New York in an interview with the Financial Times, after cementing a deal with Sumitomo Rubber.

No matter how quickly the tyre industry is going global, the markets are still different. One must recognise from the outset that products should be designed with global markets in view.

Greater priority should therefore be given to negotiating and using international standards. The most striking example is the effort of the tyre industry to develop and promulgate all around the world Global Tyre Standards, in order to harmonise the testing procedures and labelling criteria, a process that should reduce the needless burdens of unnecessary and duplicative testing.

The proposed standards suggest ways to harmonise America's FMVSS standards with equivalent standards in Europe and in Japan. Their promulgation will be a matter for governments, with effective lobbying from the industry.

Again, industry is thinking globally, but still has to continue to act locally.

## FUTURE LEGISLATION, AND HOW IT MAY AFFECT OUR BUSINESS ENVIRONMENT

I started by suggesting that in Europe we can no longer consider only national government and industry as being of importance to us. We have to play on the level of the government of the Community in Brussels. I hope that I have demonstrated that even this is too narrow a view, because our present and our future is inevitably influenced by many others - by national governments outside the EU (the USA is a prime example), and by other governing bodies like the UN Economic Commission for Europe.

This consideration applies not just in matters of environment, but in almost every feature of our work - in trade, in marketing and distribution, in innovation, in company organisation, in employee affairs, in our relationship with customers, in hours of work, in health and safety in the workplace .....and so on.

As you know (there is a session tomorrow on environmental affairs) protection of the environment remains by far the highest priority for the European Union and its Member States.

If environmental policy so far could be described as being source-oriented (eg. regulation of enterprises), or substance-oriented (eg. regulation of the use of chemicals), and media-oriented (eg. requirements as to the level of contamination in surface water), it will surely become in the future product oriented.

In order to achieve sustainable development (defined as development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs), it is widely accepted that it will be necessary to "dramatically" reduce our impact on the environment. In this respect, the policy-makers believe that Integrated Product Policy could make a major contribution because the environmental challenges are such that a more integrated and holistic approach is necessary to meet them. This concept differs from the traditional approach in that it covers all product systems and their environmental effects, while taking a lifecycle perspective as the leading principle.

This IPP concept is considered not only as an innovation in terms of environmental protection, but also as a new possibility for integrating environmental policy into other

policy areas. This approach was recently reinforced in the Amsterdam Treaty.

It has to be emphasised that product oriented policy will provide new roles for both the various authorities and for the European Commission. It will also call for a change in the attitudes of other stakeholders, such as industry, consumers, environmental organisations, and the trade unions.

## CONCLUSIONS

Two things must be high-lighted in conclusion.

First : The long term success and survival of any business is conditional on it satisfying current and anticipated future customer needs. The role of management is to achieve this goal profitably whilst integrating the demands of other stakeholders - whether they come from employees, shareholders, or from the general public. This is becoming an increasingly difficult task given the sometimes divergent and incompatible pressures that come into play.

It is reasonable, that in advanced societies, consumers will expect to enjoy products with enhanced performance that are safe, for the public to want to live in a pollution-free environment, and for employees to wish to work in safe and healthy conditions. Consequently, management will have to make balanced choices to ensure that they continue to get a "licence to operate" in society generally.

Second : The relationship with government. Partnership between business and government will be vital. We have to modernise government and legislation through finding the right balance between freedom and regulations for running LOCAL and GLOBAL businesses, using lighter approaches to legislation as a positive tool.

In all this, there is an overwhelming need for our industry to be vigilant, vigorous, and ready at all times to present its case. It has to be well informed and well prepared. Equally important will be the development of strength in bargaining with governments. In the individual member states industries will have to maintain that power, because national governments know that at the end of the day they can be harmed. At the European and International level, industry solidarity will be simply a proper counter-weight to the enthusiasm of the policy-makers and an assurance that society will be able to arrive at a proper balance.

We all agree that industry is changing - becoming more global. Government enthusiasm to over-regulate must be counter-balanced by positive and pro-active industry voluntary initiatives. In tune with the reality of globalisation, but firmly rooted in domestic markets,

industry must make sure that it builds and maintains the bridges between customers, legislators, and all the other stakeholders.

## “WITHOUT LOCAL EXPERTISE, GLOBALISATION WON'T LEAD YOU ANYWHERE”

### Annex 1

## GLOBALISATION - EUROPEAN TYRE PLANTS

### THE BIG SIX

**BRIDGESTONE**  
**MICHELIN**  
**GOODYEAR**  
**CONTINENTAL**  
**PIRELLI**  
**SUMITOMO (1998)**

### PLANTS IN EUROPE

**6 ( 4 COUNTRIES )**  
**35 ( 8 COUNTRIES )**  
**8 ( 7 COUNTRIES )**  
**11 ( 8 COUNTRIES )**  
**8 ( 4 COUNTRIES )**  
**9 ( 3 COUNTRIES )**

**TOTAL (BIG SIX)**

**77 ( ALL OVER  
EUROPE )**

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# The Impact of Quality on Business Growth in Automotive Markets

John Sharpley

*Gates Rubber, Europe*

If you ask different people what quality means, you will get different answers. Does it mean that a product lasts for life? Or that it performs well? That it is reliable? Or that it has extraordinary features?

Nowadays, car manufacturers specify products that outlive the cars they produce. Does this mean that no spare part ever has to be replaced? What is the impact of quality on the dynamics of the business? I would like to demonstrate that an increase in product life does not necessarily have a negative influence on growth. With the development and implementation of a quality management system, a company is able to meet the ever increasing requirements of its customers, especially in the automotive industry, and strengthen its position on the world market. Additionally, through a strategy of added value and product extension, a company can build a profitable business in the automotive aftermarket.

Let's first define what quality means to the automotive industry. Quality and longevity are two different things. I would like to illustrate this through a tyre story. A tyre manufacturer purchased 10 tyres from a competitive brand for benchmarking purposes. The weights of these 10 tyres were exactly the same. The weights being exactly the same is an illustration of quality, it means that the specification "weight" was perfectly met. It demonstrates a total control of the manufacturing process in this respect. Tyres could be specified for 10,000 miles or 100,000 miles. This relates to longevity. Consequently, the definition of quality is "meeting specifications". So one could state that a Nissan Micro is much better quality than a Rolls Royce. The specifications of Rolls Royce are undoubtedly higher, but handmade can never meet modern quality specifications. The definition of quality is "conform to specification" and it goes without saying that in the automotive industry minimising defects will be a substantial part of the specification.

Quality is the friend of the manufacturer because it forces you to control your manufacturing processes. Strict control of each manufacturing phase ensures consistent quality products. Advanced Quality Planning principles used throughout the development and production process ensure products that respond to the car manufacturer's expectations. Car manufacturers force their suppliers to control manufacturing processes by requesting plants to be ISO and QS 9000 accredited and by issuing "Preferred Supplier" or "Supplier of the Year" contests which determine the amount of business one gets.

All important trends in the automotive industry are quality related. Let's have a closer look at globalisation, the need for standardisation of components which results from it, and the rationalisation of the suppliers' base and the system approach.

## Trends in the Automotive Industry

- Globalisation
- Standardisation of components
- System approach

Car manufacturers broke through their former geographic boundaries and invested in new geographical areas. Mercedes and BMW invested to build vehicles in the USA. Ford invested in China and in other countries in Asia-Pacific. About 20% of the world's population, the population of North America, Europe and Japan, buys over 90 percent of the world's automotive production. This implies that the potential for growth lies in the developing markets. Any car manufacturer wishing to be a world-class player, needs to have a significant presence all over the globe. Most car manufacturers do not consider export from established bases as a viable option. Besides problems of balance-of-payments and import duties, the cost of both manufacture and transportation would be too high. Vehicles in emerging markets should not be copies of those produced in traditional markets, but should respond to patterns of consumer demand in those markets. Therefore local manufacturing is considered, whether through direct investment or joint venture. For most car manufacturers local manufacturing means real production, not just screwing some mirrors after transportation. This local manufacturing has significant implications on quality. It places a greater emphasis on consistent component production, on quality as how we defined it earlier. Ford for example, organised its regional automotive groups into a single organisation, Ford Automotive Operations (FAO). Within FAO, five "vehicle centres" would manage the product development on a worldwide basis. Part of Ford's strategy was a 30% reduction in the number of vehicle platforms, and the number of engine and transmission combinations, in Ford use worldwide. At the same time, the visible product offer, the number of models offered to the consumer, would increase by 50 percent through the creation of new variations on each surviving vehicle platform. Examples are GM's Gamma, Delta and Epsilon vehicle platforms. The key technique is standardisation of components and sub-assemblies which are not directly visible, and to create tangible model differences which the consumer can see and feel.

This need for standardisation of components requires for automotive suppliers to have research, development and manufacturing operations in all of the world's major markets,

including North America, Europe, Asia, Australia and South America. Technical centres and manufacturing facilities of automotive suppliers have to complement those of their OEM customers. Product and system design programmes need be linked directly to the customer, the car manufacturers, throughout the world to accommodate simultaneous engineering. Design engineers from various locations need to work together to develop products for global OE customers.

As you all know, a key aspect of the globalisation of the automotive industry is the rationalisation in the worldwide supply base. In the past, the OEM's provided the coordination between the engineering functions and various suppliers. Product development was often undermined by assigning development tasks to a variety of component suppliers. Separate development of components results in problems between the interfaces of components, decreased efficiency and delays. System engineering is one solution to this problem. The system engineering approach consists of combining all components sharing the same function into one single system, which leads to faster performance increases during development on one hand, and earlier detection and solving of functional problems on the other. The system engineering approach in the vehicle engine development stage has the following objectives:

1. improving product quality and reliability
2. shortening development lead time (time to market), and
3. lowering total costs.

Examples of these systems are complete seat systems, exhaust systems, fluid carrying systems, engine emission systems. The trend to assign the engineering and manufacturing of the systems to suppliers, will continue in the future and even expand. Car manufactures such as GM even talk to their suppliers about warranty. This puts more pressure on the first tier suppliers who deliver complex components because in fact they are made responsible for quality of the second and third tier suppliers. Suppliers will be responsible for design, development and validation of the system and car manufacturers for vehicle integration. This means higher volumes for the supplier, but also increased responsibility.

We shouldn't be afraid of the impact of longevity, because we use innovation to respond and provide additional benefits. We should ask ourselves how we could reduce fuel consumption and lower emission, the great challenges of the car manufacturers. We should ask ourselves how we can contribute to the next generation of technology which will give car manufacturers an edge in the market: passenger protection and comfort systems, vehicle stability and driving enhancement systems, fully integrated electronic systems, etc. System suppliers have the knowledge, the expertise and car manufacturers will have to rely on them. Innovation for the sake of innovation, however, is not what a car manufacturer is after. Innovations will have to produce additional benefits for the car manufacturer and the ultimate judge of any innovation will be the consumer. System suppliers will have huge opportunities provided they bring innovations that add real value to the customer, and provided they are able to supply these systems in a cost-effective way. The opportunities are huge because we are talking about global supply for vehicle platforms. For GM's Gamma vehicle platform for example - which is the vehicle platform

of the Corsa — we are talking about volumes of more than a million.

Gates supplies Front End Accessory Drive (FEAD) systems to the automotive industry. The crankshaft drives a number of aggregates such as the generator, the power steering pump, the water pump and the air-conditioning compressor via a V-ribbed belt. This system comprises the V-ribbed belt, pulleys, idlers and bracket and the belt tensioner. Examples are the FEAD system for the V6 and V8 engines to Mercedes, for the Peugeot 2000 cc engines and for the Zetec gasoline engine which is the vehicle platform for the Ford Focus, the "car of the year".

Car manufacturers want to add new technology or equipment to the vehicle to exceed customer expectations. Customers are looking for the best value possible when purchasing a car, and in this respect a cost-effective way of delivering a belt drive system that reduces noise and vibration while driving accessories such as power steering and airconditioning, is important. A substantially lowered noise level had to be one of the main assets of the new Ford Focus engine range. That is why Gates engineers developed a noise-free accessory drive system. The system's oil pump is driven directly from the front of the crankshaft. The water and power steering pumps, alternator and optional airconditioning compressor are driven by a durable and maintenance free belt. Gates also supplies timing belts for the 1.4 and 1.6 Zetec SE engines, and oil cooler supply and return hoses for the Ford Focus diesel engines. The Ford Focus development engineers are based in Germany and the UK. The assembly is done in Saarlouis (Germany) and Valencia (Spain). Gates has facilities in the same areas, which results in a smooth co-operation especially when it comes to research and product supply. Zetec engines are also used in the Ford Focus models produced in North America and there the product is supplied from Gates facilities located in Elizabethtown in Kentucky, Windsor in Ontario and Moncks Corner in South Carolina. Moreover, Gates facilities in Germany, Spain, Belgium and the UK received the Ford-Q1 quality rating. This places Gates in the group of Ford's Preferred Suppliers, which opens excellent business opportunities for the future.

Let's now have a look at the automotive aftermarket. If managed well, replacement markets can be much more profitable than Original Equipment as car manufacturers continue to squeeze costs down. The automotive aftermarket consists mainly of car dealers, independent garages and chains. Distribution of automotive spare parts is done through the OES, independent distributors, buying groups and private brand label. Car dealers specialise in a particular brand or make, for example Toyota, Opel, Volkswagen. Independent distributors, buying groups and private brand label customers form what we call "the independent market" and sell products for a variety of makes and brands.

#### European Automotive Aftermarket

- Dealers
- Independent distributors
- Buying Groups
- Private Brand label customers.

In general, selling prices to private brand label customers are not very high. The interest of having them in your customer base is that they allow you to increase production capacity and reduce overheads in your plants. Buying groups become increasingly important. We see more and more independent distributors adhere to them. Buying groups become also more and more international. Examples are Auto Distribution International, Groupe Auto Union and the Temot Group.

Some buying groups will carry their own private label for some product lines (for price sensitive products), but the tendency is to carry products from the market leader. This is not surprising, as it is maybe the only strategy to compete with OES. For the independent distributor the major competition comes from dealers who now also focus on car maintenance and service. As the profit margin car dealers have on car sales became more and more narrow, car maintenance and service become more important to maintain or grow the business. To answer a question I asked right at the beginning of this presentation, most spare parts indeed have to be replaced in the life of a car. The time span between two service intervals may have increased over the years — thanks to a better control of manufacturing processes — but car manufacturers will recommend replacement at certain intervals, especially when the parts are safety related or if the consequences of failure are catastrophic. Car dealers have an edge over their colleagues in the independent market because they have the technical support of the car manufacturer and because they have access to original spare parts. The spare parts being original is an argument that is widely used by car dealers to end-users. Often it is even stated that the guarantee will not be given if car maintenance is not done with original spare parts or through an official dealership.

#### **The Key to Success in the Automotive Aftermarket**

- OE-equivalent quality

Also important is to have full-line coverage, and the better your position in OE, the easier it is to offer the appropriate products to the aftermarket. Every product that is missing in your product line, represents a missed sales opportunity for your customer.

#### **The Key to Success in the Automotive Aftermarket**

- OE-equivalent quality
- Full-line coverage

And last but not least, you have to make it easy to the market to sell your product. This can be achieved by adding value. All technical support you give adds value. Catalogues and up-to-date application data add value, because they make it easy for the mechanic to select the right product. Increasing brand awareness through advertising and marketing communications adds value, because it is much easier to sell a well known product than a product nobody knows about. A dedicated and professional sales force adds value, because it helps your customer to sell and to go deeper into the distribution channel. Attractive Point-of-Sales materials add value, because they attract the attention of the end-user to the product. Merchandisers add value, because they decrease the time a salesman has to spend to sell the product.

#### **The Key to Success in the Automotive Aftermarket**

- OE-equivalent quality
- Full-line coverage

##### **Added value:**

- Technical support
- Catalogues and up-to-date application data
- Brand awareness
- Competent sales force
- P-O-S materials
- Merchandisers

Thanks to its position in OE, its quality image and a strategy of added value, Gates was able to build a profitable business in the automotive aftermarket. We now sell belts and hose in more than 30 European countries, and enjoyed continuous sales growth despite a difficult economic environment.

The Stant companies and Trico, which joined Gates in 1997, manufacture a variety of products, including thermostats, hose clamps, power steering hose assemblies and wiper blades for the automotive original equipment and replacement markets. We intend to add some of these products to our portfolio, starting with Trico wiper blades, and utilise our sales force and distribution network to continue to grow our aftermarket business.

Gates demonstrated that, despite improvements of quality, longevity and product specifications, it has been possible to generate growth for itself and its customers by extending product ranges and developing new products to meet customer needs. The formula of geographic expansion, range expansion and new product development has achieved growth in the face of longevity, built on a solid platform of quality.

## Notes