

FUCHS *Info*

The FUCHS Group · News, Views, Posts & People

May

2004

Topical

The new laboratory for the research and development of lubricant greases at FUCHS in Mannheim provides the R&D team with state-of-the-art equipment and thus optimum conditions for their scientific work.



- **Focus:**
FUCHS sponsors cultural highlights in the Palatinate region



- **Successful future:**
Consolidation of FUCHS business activities in the Special Lubricants Division

- **Quality control:**
FUCHS develops rape-oil based high-tech lubricants featuring an "electronic nose"



Partner for

MANNHEIM²

FUCHS Annual General Meeting on 9 June in Mannheim

FUCHS PETROLUB invites its shareholders to the Annual General Meeting and the subsequent Extraordinary General Meeting of the preference shareholders on Wednesday 9 June in the Rosengarten Congress Centre in Mannheim. Doors open at 9.00 a.m. At the AGM, the shareholders will decide the profit distribution – in addition to raising new authorised capital – amongst other issues. The Executive Board and the Supervisory Board have proposed to increase the dividend by €0.10 to €1.56 per ordinary share and €1.73 per preference share. Following the general meetings, it will be possible to visit the Mannheim plant.

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FUCHS PETROLUB AG

Public Relations

Friesenheimer Straße 17

D-68169 Mannheim

www.fuchs-oil.com

Design: Wurth Werbeagentur, Mannheim

Dear Employees,

In challenging economic conditions – a worldwide fall in demand for lubricants, a ten-year peak for oil prices and an average decline of the dollar by 20% compared with 2002 – FUCHS is able to report very positive business developments.

Our strategic concept combining growth with focus and specialization has paid off. Through our strategies of innovation and specialization, we supply a high-value and balanced product mix in mature markets offering solutions to our customers’ specific needs. Furthermore, because of early entry, we also participate in the growth of new markets.

Once again, we achieved the best earnings in the history of the company. In the 2003 financial year, we increased our net profit by 28% over the prior year to €30.9 million. Overall, our companies demonstrated that they are able to deliver an impressive performance under difficult circumstances.

Although in absolute terms sales revenues decreased by 2.2% to €1,041 million, we achieved internal growth in sales revenues of 3.8%, which was in line with our expectations. Negative effects of currency translation and of acquisitions and disposals offset that growth.

We boosted our return on capital employed (ROCE) to 17.4% last year, thus creating substantial company value.

The development of our free cash flow is once again very positive. After deducting the funds used for investing activities, it reached a level of €77.6 million – a new record for FUCHS. A sustained positive free cash flow opens up the entrepreneurial scope essential to provide a vital competitive advantage in these uncertain times.

After years of high investment, our tangible and intangible asset investments decreased to €18.7 million in 2003. This is a reflection of the successful measures aimed at achieving rationalization and leaner management within the Group. Such measures are necessary at regular intervals to ensure the company remains prepared for future market conditions and to promote our competitiveness and profitability.

We have reduced our debts and improved our balance-sheet structure significantly. This was partially due to the capital increase of nearly 10% which we carried out in December to finance our acquisition. The ratio of net financial liabilities to shareholders’ equity was around 1.5 at the end of the year, so we actually achieved our target for 2005 well ahead of schedule.



Our worldwide workforce expanded last year to 4,220 employees, primarily due to consolidation effects.

FUCHS PETROLUB AG posted a net profit after minority interests of €28.5 million for 2003. A proposal will be made to the shareholders that dividends of €1.56 per ordinary share and €1.73 per preference share are distributed, representing increases of €0.10 for each type of share.

The current financial year started well. Internally, the group increased its first-quarter revenues by 5.5%. Due to currency-translation effects, however, absolute revenues increased by just 1.3%. We acquired the industrial business of WYNN'S France. The acquisition took place on February 1, 2004 and led to a significant strengthening of our industrial specialty lubricants in France, and further extended our position as market leader in the field of metalworking fluids.

For full-year 2004, we anticipate more favorable conditions than in the previous years. For this reason, we see a good chance of a repeated increase in earnings. As a result of our reduced Group debts, our financial result will be significantly better than in prior years. Net profit could even rise at a double-digit rate. Revenues measured in euros may well remain affected by hard-to-assess exchange-rate developments. The budgeted values for capital expenditure on property, plant and equipment are above the levels of 2003.

All of our efforts are directed towards a further increase of company value.

The stock exchange rewarded the positive developments in the year 2003 with an increasing share price. The FUCHS ordinary shares doubled in value and the price of the FUCHS preference shares rose by more than 80%. Our share price increases have also continued this year.

Dear Employees, thank you for your commitment, your trust and your support, which you have placed in me in my new role. I look forward to continue our excellent cooperation and to a mutual, successful future in our company. I express my special thanks to my father, our previous Chairman, Dr. Manfred Fuchs, for the sound state in which he handed over the company, providing solid foundations for future profitable growth.

Yours

Stefan Fuchs,
Chairman of the Executive Board

Mannheim, May 2004



Stefan Fuchs, Chairman of FUCHS PETROLUB
being interviewed by the largest regional TV
channel, Südwestdeutscher Rundfunk (SWR).



The 2004 Accounts Press Conference was
characterised by a great deal of media interest
and an excellent number of representatives
from the media.

Consolidation of FUCHS business activities in the specialist lubricants sector secures successful future in a profitable niche market

In view of the ever-increasing global scope of the operations of its major customers, the FUCHS PETROLUB Group has decided to consolidate the activities of its specialty lubricants operations, worldwide, into a single, global entity. The global division will be known as FUCHS LUBRITECH and will incorporate the present operations of FUCHS LUBRITECH GMBH of Weilerbach, Germany, and its subsidiaries in the U.K., France, and Australia; BREMER & LEGUIL of Duisburg, Germany; and the LUBRITECH Division of FUCHS LUBRICANTS CO. of the United States. Management of the newly formed division will comprise Bernhard Biehl, who will head up the new global FUCHS LUBRITECH Division, Klaus Heinlein, and Dr. Christian Busch, all three managing directors of FUCHS LUBRITECH GMBH.

FUCHS LUBRITECH is a world leader in specialized lubricants and its product offerings include, Ceplattyn high-performance gear lubricants, Lubrodal industrial forging and forming compounds, a full range of special greases and fluids, gleitmo pastes and coating systems, Rivolta specialized cleaning agents and lubricants as well as NSF H1 approved food grade lubricants.

Both a strong customer focus and skilled technical services fulfill superior customer requirements in tribology applications.

The newly formed division, which employs 485 people around the globe, will generate annual revenues in excess of €90 million and is expected to continue its track record of above-average sales and profit growth.

With the consolidation of its specialty operations, the FUCHS PETROLUB Group has strengthened its position as a world leader in producing engineered specialty lubricants and has taken an important step in securing a successful future in this profitable niche area.

Home cooking at its best



A special kind of kitchen is the attraction at the Mannheim site of FUCHS EUROPE SCHMIERSTOFFE. Yet, its cooking does not intend to satisfy culinary pleasures but aims to meet the special demands of FUCHS customers. As a lubricant connoisseur, you probably already guessed it right: cooking requires good grease.

Research and development for special lubricants is an indispensable factor for success on the market of lubricant suppliers. In the research and development lab for lubricating greases at FUCHS Mannheim, eleven employees, and their leader Thomas Litters concoct new findings or modifications of existing recipes or develop new lubricating greases, particularly tailored to the needs of the customer. Temperature is the crucial factor in the chemical process of creating a lubricant grease or influencing its properties. "Up to approximately 200°C may be necessary for the chemical reaction. Even the heating profile can play an important role in the subsequent properties of the lubricant," says Thomas Litters. Other parameters, apart from the temperature, play an important role when creating a grease. Each of these parameters can be modified and contribute to the large bandwidth of possible properties of the final lubricant.

Topical

The modern exterior design of the lab building characterizes the state-of-the-art of the newly built facility.



In the year 2003, the corporate management drew the obvious conclusions from the increasingly complex requirements for research and development of lubricating greases. The R&D moved into a considerably roomier lab, outfitted with state-of-the-art equipment. Special attention was paid to the appearance of the building exterior. We observed, that, for customers visiting FUCHS, it reflects the professionalism with which our products are developed and brought to commercial viability.

The lab is not only an experimental kitchen but also a simulation of reality

It is this commercial viability, that Thomas Litters and his team are focusing on. "Every single one of our developers not only develops lubricant greases under

lab conditions, he must also verify them under real production conditions at the lubricant manufacturing plant. In order to simplify our work, produce scalable results and offer good quality, we must be able to exactly simulate the circumstances of production and application at the customer in the lab," explains Litters to describe the distinctiveness of the new FUCHS lab. For that purpose, a small-scale lubricant plant was installed in the new lab building. Due to little fluctuation, Thomas Litters' team of developers excels with a high degree of experience. "Most of my staff, including myself, have been working for FUCHS for many years and learnt their job from scratch. That way, they are capable of quickly understanding the reasons behind complications occurring in the field and can come up with practical solutions. It even happened, that

we people from the lab had to tell the production people which cock to shut," says Thomas Litters grinning.

The lubricant grease lab in Mannheim is not an ivory tower

The research team at the Mannheim lab only works with appropriated funds. It is the hub between universities, customers and production and thus ensures the usability of research projects. In order to include all stakeholders into this process, FUCHS is a member in numerous research organizations. In cooperation with partners in industry and science, research projects are launched and implemented. "They are crucial for the innovative power and eventually for the future of FUCHS. Conflicting interests must not jeopardize the project outcome. That is why we invest such a large portion of our efforts into this research cooperation," says Thomas Litters. Freely adapted from the motto: Too many cooks spoil the greasy broth.



At the lab, employees examine lubricants according to their mechanical properties.

The FUCHS LUBRICANTS (INDIA) concerts – an outstanding cultural media event



Press conference (from left to right): Kersi Hilloo, Dr. Manfred Fuchs, Friedemann Eichhorn and Alexia Eichhorn.

In March this year, FUCHS LUBRICANTS (INDIA) hosted an exceptionally high-profile cultural event. With a classical concert, outstandingly instrumentated, Kersi Hilloo, CEO of the Indian subsidiary, aimed to enhance presence and image of FUCHS INDIA, especially with its institutional customers. "It had to be an event, that could be appreciated and enjoyed by the audience. Therefore, we decided for a program with occidental classical music," says Kersi Hilloo. The concert was cast with the Germany-wide renowned violinist Friedemann Eichhorn, who had already performed at the FUCHS management conference in 2002, and the well-known Indian concert pianist Mehroo Jeejeebhoy, who accompanied Eichhorn on the piano. As guests of honour,

Dr. Manfred Fuchs and his wife travelled all the way from Germany to attend this special event. The extensive PR program started with a press conference in Bombay, the first of two concert venues, where many representatives of press and television had gathered. The conference was sparked by a short rendition performed by violinist Friedemann Eichhorn and his wife. The first concert at the Tata Theatre had an audience of more than 700 guests, among them diplomats and leading industrialists from various countries. Dr. Fuchs opened the concert with a warm welcome and then introduced both artists. In a surprise appearance, Alexia Eichhorn, a talented concert violinist herself, enthralled the audience together with her husband and Mehroo Jeejeebhoy. All of the guests not only praised the quality of the rendition but also the selection of music and the fact, that FUCHS INDIA had organized the concert with a German violinist and an Indian pianist.

The second concert was held in Pune, an industrial base, where many reputable international groups operate production sites. Again, a press conference was held with Dr. Fuchs participating and Friedemann Eichhorn playing. The press representatives had plenty of opportunities to take photos. Following the press conference, the concert took place at the Mazda Hall before an audience of 200 guests, among them representatives from the industry, and, naturally many music lovers.

With this PR event, FUCHS INDIA could position itself as an outstanding company. The press not only focused on the concerts but also published articles on FUCHS INDIA in the specialized press. Many Indian television channels have also broadcasted reports about the event.

The tremendous success earned the company a lot of sympathy – many friendships and business relations were formed or deepened.



Numerous representatives of press and television channels attended the press conferences...



...which were sparked by a short rendition performed by violinist Friedemann Eichhorn and his wife.

Canadian ambassador visiting FUCHS in Mannheim



In February, the Canadian Ambassador in Germany, Robert Vanderloo (second from the left), visited the FUCHS Group Headquarters in Mannheim, accompanied by the Senior Investment Officer, Detlef Engler (second from the right). The conversation with the Vice Chairman of the Board, Dr. Manfred Fuchs (left) served as an information exchange for the promotion of FUCHS business activities in Canada. To the Canadian Embassy, the 650 German companies in Canada are customers, who they offer extensive support for new or follow-up investments. The visit at FUCHS was one station of the Ambassador on a round trip through southern Germany, where most medium-sized companies operating branches in Canada are based. On the right, Hubertus Stärk, head of the PR department.

Successful expansion of commitment in China

Since 1 March 2004, FUCHS PETROLUB has held 100% of the shares in FUCHS-KEWEI SPECIALTY LUBRICANTS (HEFEI), which has been renamed FUCHS LUBRICANTS (HEFEI). The Jiang family, who previously owned 35.5% of FUCHS-KEWEI, has decided to exchange the purely Chinese interests for a global interest in the FUCHS PETROLUB group in favour of the synergy effects opened up in China as a result. To this end, the Jiang family has purchased FUCHS ordinary shares. With this commitment, it has become possible to unite all the Chinese companies under the FUCHS CHINA umbrella as a virtual holding.

FUCHS PETROLUB hosts Chinese delegation from Hefei



Representatives of the Chinese delegation with their host Klaus Hartig (fifth from the left).

Chaired by Che Jun, Member of Standing Committee of the Communist Party of China (CPC) of the Province Anhui and Party Secretary of the City Administration of Hefei, a high-ranked delegation of representatives of the City of Hefei and the Province of Anhui visited FUCHS in Mannheim during their tour through Germany. Che Jun and his colleagues have previously supported FUCHS in the establishment and development of business activities in the City of Hefei.

In Mannheim, FUCHS and the official delegation have signed a declaration of intent, which will safeguard the growth and development of the mutual business activities.

During their tour of the Rhine-Neckar region, the delegation also visited Speyer and Schwetzingen, where they could gain insight in German history.



The sponsorship of cultural, scientific and social institutions in the Rhine-Neckar region in the year 2003 shows a representative cross section of the cultural involvement of FUCHS PETROLUB.

The events range from the International Schiller Festival in Mannheim, a special concert of the Kurpfalz Chamber Orchestra, the Speyer Music Festival all the way to the Academy of Pop Culture, "Campus TV" and myriads of visual art activities. For many FUCHS employees, vernissage and exhibition of works by the Swiss sculptor Renato Oggier in the foyer of the Mannheim administration building were the visual highlight of the FUCHS culture sponsoring program.

The Schiller Festival at the Nationaltheater was definitely one the most acclaimed events on the agenda of cultural events in the year 2003. For the festival premiere, FUCHS sponsored the play "Die Räuber", donated a considerable sum to the Nationaltheater and proved again their outstanding commitment to this renowned theatre in Mannheim.

Enthusied concert-goers

A crucial element in culture budget was the sponsorship of various series of concerts aiming to entice many enthusiastic concert-goers. The sophisticated performance of the Palatinate Chamber Orchestra and their guest pianist Rudolf Buchbinder, both well-reputed far beyond the Rhine-Neckar region, was definitely the culmination of this concert series. More than 800 visitors celebrated soloist and orchestra in the completely filled "Musensaal" (hall of the muses) of the Rosengarten Convention Center in Mannheim.

Highlights in the cultural life of the Palatinate region



FUCHS culture sponsoring 2003 reviewed

But also the Speyer International Music Festival have become indispensable ingredients of the cultural life in the Palatinate region. The performance of the German Requiem by Brahms, sung by three exceptional choirs from St. Petersburg, Speyer and the Saar and conducted by cantor Professor Leo Krämer in the breath-taking scenery of the Speyer cathedral, was an unforgettable experience for all the customers and employees FUCHS had invited.

FUCHS is not only involved in the world-famous Schwetzingen Castle Festival and the "Mozart Days" in Mannheim but also in numerous other music institutions in Mannheim, which enrich the life in all cultural niches of the city, among which are the Bach choir of the Christ church, the music events of the beautifully restored, baroque Jesuit church or the concerts of the Melancton church choir. FUCHS cultural activities also include individual soloist sponsoring, e.g. for the talented violinist Friedemann Eichhorn or the promising pianist Viktor Emanuel von Montefon.

Sponsoring pop music newcomers

In addition to its classical music sponsoring, FUCHS is making sure, the popular music scene is not missing out. In cooperation with other Mannheim based companies, community and state, FUCHS PETROLUB, as associate, supports the foundation of an academy for pop music, an institution unique in Germany, proving both the solidarity with city and region



and the responsibility for music newcomers. With the establishment of the competence centre for pop culture and music economics and the academy under construction in "Jungbusch" (a neighbourhood of special focus in the city's development program), the dream of qualified and sophisticated musical education will become reality for Germany's pop music newcomers.

After significant efforts in previous years, particularly at the University of Mannheim, the science sector may have been a little sidetracked in the year 2003. Yet, FUCHS is still committed to the ongoing "Campus TV" project. Campus TV is the first university television program featuring news from the universities of Mannheim, Heidelberg and the College for Engineering and Design in the format of a TV magazine. Campus TV presents current topics of research and education – an important medium to communicate new scientific findings to an interested audience. The support of upcoming journalists at the "Mannheimer Morgen" (Mannheim's biggest daily newspaper) who compile a weekly page with up-to-date information the universities of the region is rounding off the FUCHS science sponsoring activities for the year 2004.

In that context, the FUCHS promotion of the Children's Academy Mannheim must be mentioned. In addition to their regular class, highly gifted children from all social environments of Mannheim receive an education that is tailored to their technical, artistic and practical talents. Here again, FUCHS contributes to the support of promising young children and thus safeguards the sustainability of the site Mannheim. This successful project, jointly supported, amongst other companies, by FUCHS and the major political parties of the community, reflects the proverbial openness of Mannheim citizens for the unconventional but socio-politically important projects that FUCHS is involved in.

F O C U S



Visual arts and craftsmanship must not be neglected

Visual arts, exhibited in Mannheims's museums and especially at the "Kunsthalle" exhibition hall, play an outstanding role in the FUCHS sponsoring program. Due to FUCHS financial contribution to the purchase of the valuable painting "Herbert Tannenbaum geht nach Amerika" (Herbert Tannenbaum goes to America) by Max Beckmann, the masterpiece collection of sculptures, paintings and graphic art at the Kunsthalle could be enhanced.

At the end of 2003, the FUCHS visual art sponsoring was revealed to FUCHS employees by an exhibition of sculptures and works by Renato Oggier, displayed in the foyer of the administration building and officially opened in a vernissage. The Swiss artist is a scholarship holder of the "Herrenhaus Edenkoben", an art academy also sponsored by FUCHS. With his impressive series of wooden stelae and oil paintings depicting heads with "bizarre faces", he "transformed" the foyer into a veritable exhibition hall for several weeks.

A rather unusual project was the FUCHS contribution to the purchase of portions of the silverware once owned by the Baden court and offered for sale by the margrave of Baden in 2003. With public and private funds, it could be prevented, that the silverware was scattered to the four winds. Even though some of the precious heirlooms were converted into cash to buy canons during the post-Napoleonic wars, a significant part of the valuables, manufactured in Paris between 1823 and 1835 by Napoleon's silversmith, will return to their historical origin, where the grand duchess Stephanie used to show them off to her noble guests. The silverware will be exhibited in the restored historical dining hall of the renovated Mannheim castle in 2007.

Committed to the common welfare

Embracing all these cultural activities, it is obvious, no matter how diverse the individual involvements may seem, that FUCHS PETROLUB is living up to the socio-political expectations of a modern company. Purposefully, cultural projects were selected to satisfy those needs, that are clearly socio-politically motivated. These joint projects express the strong bond between FUCHS PETROLUB, city and community. Consequently, the FUCHS social grant 2003, posted for proposal for the fourth time, is an essential ingredient of this cultural program. The fact that the head of the city, mayor Gerhard Widder, has not only patronaged the grant over all those years but has always been personally present at all of the award ceremonies, is significant for the high esteem of the grant in the social texture of Mannheim.



Finally, the involvement of FUCHS PETROLUB as co-associate of the Stadtmarketing Mannheim GmbH symbolizes the close co-operation between community administration and industry and shows how they are both striving for a sustainable improvement of the site Mannheim. Rightly so, FUCHS belongs to the small circle of those Mannheim based companies, which are particularly committed to the public welfare, and, therefore deserve the high level of public appreciation.

Hubertus Stärk

Head of the Public Relations department of FUCHS PETROLUB AG



New catalog of advertising materials with many attractive offers

The long anticipated, new catalog of advertising materials 2004/2005 has been completed and appeals with a new look. FUCHS Silkolene advertising materials have been incorporated in the general assortment.

The catalog offers free gifts suitable for every occasion at attractive prices. In addition to the well-proven items, many new ones and newly designed items have been included.

New to the program is the Braun travel kit, that will fit in every manager's carry-on. The handy tool sheath is a must for craftsmen and automobilists. But the catalog does not only offer the adequate

present for men. The new, soft velvet shawl would be the perfect gift for a lady.

We have also extended our assortment with high-value gifts. These items are attractive free gifts for women and men, with which you certainly will please your long-time business partners.

Silkolene advertising materials have been included in the catalog for the first time and make the separate Silkolene folder obsolete. The new selection of advertising materials can also be used for this year's exhibitions or other presentations. The low-cost advertising materials ranging from ballpoint pen to jacket, were

up-dated and can be ordered from the advertising material catalog at FUCHS Communication Service or via the Intranet (www.fpint.com).



Business report 2003



Since mid May, the FUCHS PETROLUB 2003 business report has been available in the German language. The English version will be finished soon after. This report's special topic focuses on the

perspectives of our special customer relation reviewed by detailed observations. The reports can be ordered at FUCHS Communications Service or via the intranet (www.fpint.com).

FUCHS International Company Directory 2004

The updated 2004 issue is now available.

After numerous FUCHS company addresses have changed last year, we have released a new edition of the FUCHS International Company Directory 2004. It can now be ordered at the FUCHS Communication Service or via the intranet (www.fpint.com).





Rape seed is the Europe's most important oil-producing plant. Rape seed oils are mostly used for animal feeds, human nutrition (vegetable oil, margarine), and, after chemical processing, for fuels and lubricants.

FUCHS develops rape seed oil-based high-tech lubricants together with an “electronic nose” for their dynamic quality control

The potentials of rape seed oil are illustrated by the results of a project, jointly conducted by FUCHS PETROLUB, the Bergische Universität Wuppertal and the Institute for Fluid Power Drives and Controls (IFAS) of the Rheinisch-Westfälische Technische Hochschule (RWTH) Aachen.

Since 1999, the project partners have jointly worked on a project aiming to improve the performance and aging stability of virgin vegetable oils by means of chemical processing in order to use them in environmentally compatible lubricants. For this project, rape seed oil was in the centre of attention. By means of selective chemical modification, synthesis ester for environmentally compatible high-performance hydraulic oils could be obtained. Within the framework of the project, the RWTH Aachen and FUCHS PETROLUB also developed a sensor, the so-called “electronic nose”, which can determine quality and aging condition of the lubricant online, i.e. while it is used in the machine.

Rape – the most important oil-producing plant

Rape is now Europe's most important oil-producing plant. Rape oils are mostly used for animal feeds, human nutrition (vegetable oil, margarine), and, after chemical processing, for fuels and lubricants. Due to their good biodegradability, rape oil-based lubricants are particularly well suited for the use in environmentally sensitive areas. Farming and forestry preferably use rape oil-based products as hydraulic, gear, chain saw and lubricant oils. Compared to mineral oil-based products, they also excel with outstanding lubrication characteristics. Nevertheless, compared to mineral-based oils, virgin vegetable oil products have their drawbacks, such as deficiencies in terms of hydrolysis resistance, low temperature characteristics, aging stability and a higher raw material price. All those unfavourable properties stigmatize almost all vegetable oils as being unable to serve as the basis for high-performance lubricants.

Objectives and achievements

It was the objective of FUCHS and their project partners to research and tap the full potentials of the raw material rape seed. All project partners came to following agreement: A successful outcome of the project would be an important impetus to significantly increase the acceptance of bio-based lubricants on the market. Consequently, research and development efforts were focusing on maintaining the benefits of the raw material and eliminating its drawbacks using suitable chemical modifications. For FUCHS it was also important to obtain general findings and results on oil aging mechanisms that could lead to improved high-performance oil formulations.

Within several years of joint research and development work, the project partners managed to get a grip on the drawbacks of rape seed oil. Chemical modifications of the oil could significantly improve problematic properties, such as aging stability, hydrolysis resistance and low temperature characteristics. In order to illustrate this, let's take a closer look at the aging characteristics of rape seed oil: Compared to mineral oils, natural vegetable oils age much quicker. Therefore, oil change intervals are shorter and make the use of rape seed oil unattractive for the operator because every oil change causes high costs – one of the major reasons why most operators still prefer mineral oils. With a combination of various technical processes, it was possible to reduce the content of polyunsaturated fatty acids, which significantly prolonged the oil life without compromising other properties, such as the performance at low temperatures.

The "electronic nose" plays a major role

Initially, it seemed surprising, that supervising the oil condition would play a central role in the research and further use of rape seed oil. The idea behind it was to provide the user with maximum operational safety – a feature particularly important for acceptance by customers who used to consider bio-based hydraulic oils as quickly aging.

FUCHS and IFAS came up with an innovation to implement this idea. They developed a sensor, the so-called "electronic nose", which can determine the actual state oil condition and thus its aging state.

Physicist Dr. Christian Seyfert (Advanced Development at FUCHS PETROLUB) comments on the benefits of such an oil supervision: "At any time, the operator can gather information on the condition of the oil in use and take the necessary actions. If the oil is too old or if its performance is diminished, he can immediately initiate a change. That way, the oil can be used until the end of its optimum performance. The oil supervision provides additional benefits, e.g. problems, such as water penetrating the hydraulic system can be detected much earlier". The permanent supervision significantly contributes to improved operational safety and cost-effectiveness. Conventional supervision methods, such as taking oil samples in regular intervals and sending them to the appropriate labs, are also more expensive.



In addition to FUCHS PETROLUB and the Institute for Fluid-technical Drives and Controls (IFAS), HKR Sensortechnik GmbH (München) contributed to the prototyping of the "electronic nose" as sensor chip manufacturer.

Conclusion: Bio-based high-performance oils are possible!

By means of selective chemical modifications, high-performance hydraulic oils can be formulated based on rape seed oil. These findings can be applied to many other vegetable oils whose properties are identical or similar to rape seed oil. Bottom line: In comparison with mineral oil-based products, bio-lubricants can hold their own!



The benefits of oil supervision by means of the "electronic nose": The operator is permanently informed about the oil condition.



Seminars offered by the FUCHS ACADEMY in the 2nd half of 2004

General information about the seminars:

The maximum number of participants per seminar is 10. Applicants for seminar participation will be processed in the order of their registrations received and will be contacted as soon as their registration is processed. Registrations will only be processed by the group's human resources department.

The FUCHS PETROLUB AG will bear all seminar costs. The company sending the participant bears the costs for travelling and accommodation expenses. We are happy to consider registrations of guests from your customer base.

Sales training:

"Sales-Excellence® – The Foundation for a Successful Sales Pitch"

with Eugen Erni

The seminar instructor, Eugen Erni, CEO of the Erni Consulting GmbH, is a motivating coach with many years of practical experience in the field of sales and management. His animated presentation of the training contents focuses on day-to-day sales business and can easily be implemented. He is specialized in sales training for technical products, trains international groups and has previously conducted training for the FUCHS Group.

Training contents:

Structure of a sales talk, applied sales psychology, determining the customer expectations, professional reasoning and sales rhetoric, objections and pretence, safe negotiations. Participant preferences for special training contents will also be considered.

Depending on the participants, level 1 or the continuation course/level 2 will be offered.

Planned dates for training seminars:

14 – 15 October 2004 and 2 – 3 December 2004

On request, the seminar can also be conducted in the English language.

If you are interested in a sales training, please contact our group's human resource department!

Technical Seminars:

"Tribology and Lubrication Technology"

by Prof. Dr. Wilfried J. Bartz

Many years the director and head of the Institute of Science at the Technische Akademie Esslingen (Technical College Esslingen/Stuttgart), Prof. Dr. Bartz has comprehensive training experience and is a renowned expert in the field of tribology and lubrication technology.

The following dates are firmly scheduled for the 2nd half of 2004:

Design Element Lubricant

23 + 24 September 2004 in Mannheim
instructor: Prof. Dr. Wilfried J. Bartz

Target group:

Employees with profound previous knowledge of technologies, physics and chemistry.
Consultancy in development and technical application.

Seminar contents:

Tribology: Friction, wear, lubrication – lubricants and their properties.
Designing anti-friction bearings, plain bearings and gear wheel matings under consideration of the lubricant. Product range and corporate structure of the FUCHS Group.

Seminar Topic "Industrial Lubricants and their Application"

7 and 8 October 2004, in Mannheim

Instructors: Prof. Dr. Wilfried J. Bartz and Wolfgang Bock

Target group:

Employees should have previous knowledge of technologies, physics and chemistry. Consultancy for development, sales and technical application.

Maximum number of participants: 10

Seminar contents:

Introduction in tribology – basics of lubricants, hydraulic oils, gear lubricants and compressor oils. Selected chapters: Industrial lubricants
Introduction in the relevant product range of the FUCHS Group.

Seminar Topic "Cooling Lubricants and their Application"

25 and 26 November 2004, in Mannheim

Instructors: Prof. Dr. Wilfried J. Bartz and Dr. Dietrich Hörner

Target group:

Employees with previous knowledge of technologies and/or chemistry and employees from sales, development and technical support for lubricants.

Maximum number of participants: 10

Seminar contents:

Introduction in tribology – basics of lubricants / machining – basics of lubricant requirements – cooling lubricants for machining processes – lubricants required for important forming processes – application-specific aspects and health issues – microbiology – lubricants for metal processing.
Introduction in the product range and corporate structure of the FUCHS Group.

Basics of Tribology: Pre-conditions for the Successful Use of Lubricants

4 November 2004 in Mannheim

instructor: Prof. Dr. Wilfried J. Bartz

Target group:

Employees with little previous knowledge of technologies, physics and chemistry as well as job entrants and new employees of the FUCHS Group.

Maximum number of participants: 10

Seminar contents:

Introduction in tribology – basics of lubricants, friction, wear, surfaces, materials and lubrication.

The following seminars can be booked at the FUCHS ACADEMY:

- Basics of Lubricants and their Application
- Design Element Lubricant
- Basics of Tribology: Pre-conditions for the Successful Use of Lubricants
- Basic Oils for High-performance Lubricants
- Lubricant Properties: Classification, Measurement and Evaluation
- High-performance Lubricants: Additives and their Effects
- Damage on Lubricated Machine Elements
- Seminar Topic "Automobile Lubrication"
- Seminar Topic "Cooling Lubricants and Lubricants for Metal Processing"
- Seminar Topic "Industrial Lubricants and their Application"
- Seminar Topic "Lubricating Greases and their Application"

All seminar topics can be offered in the English language, if a sufficient number of participants registered.

If you are interested in any of the aforementioned seminars, please contact:

For queries, further information and registrations please contact :

FUCHS PETROLUB AG
Konzern-Personalressort
Friesenheimer Str. 17
68169 Mannheim

Katja Fischer
Phone: +49-621/3802-163
Fax: +49-621/3802-169
katja.fischer@fuchs-oil.de

Basic Oils for High-performance Lubricants

5 November 2004 in Mannheim

instructor: Prof. Dr. Wilfried J. Bartz

Target group:

Employees should have previous knowledge of technologies, physics and chemistry. Consultancy for development, sales and technical application.

Seminar contents:

Introduction in tribology – basics of lubricants, mineral oil based lubricating oils and lubricating greases, synthetic lubricants, quickly biodegradable lubricants and fluids.

FUCHS Silkolene presents the new Electro-syntec technology in the Czech Republic



For the eighth consecutive time, Prague hosted the "Motorcycle 2004", a large motorcycle show and prelude to the motorcycle racing season. At this increasingly popular exhibition, FUCHS presented its entire range of Silkolene products for motorcycles and particularly emphasized the new Electro-syntec technology. As an additional attraction, two Benelli 900 Tornado models were presented at the FUCHS stand. The motorcycle brand is a newcomer on the Czech market, and its importer recommends FUCHS Silkolene oils. The stand and its showcased motorcycles drew a lot of attention among the visitors and thus increased the recognition of the Silkolene brand.

The two Benelli 900 Tornado bikes were the crowd puller at the "Motorcycle 2004".

FUCHS participation at the "Refrigeration & Deep Freeze" in Moscow

At the end of last year FUCHS PETROLUB and its Russian subsidiary FUCHS OIL participated at this fair for the first time. The exhibit included refrigerator oils and products made by "Cholodmasch", a compressor manufacturer cooperating with FUCHS, whose products are filled with Reniso refrigerator oils by FUCHS. For this fair, jointly organized by the American "International Exhibition Group" and the

Association of Russian Companies, FUCHS OIL designed special posters to introduce the Reniso brand.

Thanks to the FUCHS appearance at the fair, numerous prospects could be contacted and the demand of Russian customers for services could be satisfactorily accommodated.

FUCHS LUBRITECH with BEKARO division at the EUROGUSS 2004

For the first time in March this year, this important fair for die-casting technology was taking place in Nuremberg. Just like two years ago in Sindelfingen, FUCHS LUBRITECH and GERLIEVA Sprüh-technik, Heitersheim, jointly presented a stand with a selection of high-quality mould release agents and auxiliary supplies for die-casting processes. Both the products manufactured under license by GERLIEVA and the technology from

one source were very well received by the industry. The large number of visitors from abroad proves the top-class standing of this event worldwide.

In addition to concrete sales talks, the close contact to customers, suppliers and competitors provided new stimulus, which will be the foundation for targeted product development and customer-oriented services.

FUCHS LUBRITECH FRANCE presents the brand Gleitmo at the "SITS 2004"

Within the framework of the "Industry 2004", the fair grounds in Paris-Villepinte featured the Exhibition for Surface Treatment and Coating (SITS) in March this year. For the second time, FUCHS LUBRITECH FRANCE participated at this fair and presented the surface treatment competence and performance of their products. Compared to the previous year, the number of visitors rose by approx. one third, which proves a growing interest of the target audience. At the SITS, 2,500 suppliers from the automotive, aircraft, building, railway and luxury goods sectors presented their products for surface treatment applications and coating processes.



Members of the FUCHS LUBRITECH team, Johann Weichand (left) and Bernd Buschmann (right).

Successful TITAN GT 1 conference at FUCHS EUROPE SCHMIERSTOFFE in Mannheim

“Der Energy Drink für Ihre Marge“ (The energy drink that will boost your profit margin) – with this slogan, the top-of-the-line engine oil FUCHS TITAN GT 1 0W-20 was introduced to representatives of selected oil change and repair shops throughout southwest Germany on March 10. By means of impressive engine trial results and successful field tests, the technical and commercial potentials of this high-end engine oil were presented and lively discussed. Result: All operators and owners of oil change and repair shops present at the event were deeply impressed. They will introduce TITAN GT 1 0W-20 to their oil change and repair shops and expand their oil



In Mannheim, conference participants (displayed in a group picture) could personally find out about the outstanding qualities of FUCHS TITAN GT 1 0W-20.

assortment with this high-profit, top-of-the-line engine oil by FUCHS. A very positive outcome of this event and

another important step towards more recognition of FUCHS products in the consumer segment.

WISURA lubricants prove their high quality even under the most adverse conditions

The German Association for the Rescue of Shipwrecked Persons, salvaging distressed persons with their maritime salvage cruiser “Hermann Rudolf Meyer”, has opted for the quality and reliability of products made by WISURA, a subsidiary of FUCHS PETROLUB. Two Diesel engines with each a power of 990 kW are the heart of this vessel, designed particularly for the adverse conditions of rough seas. WISURA engine and gear oils provide frictionless lubrication for these engines and transmissions. The successful use of the vessel “Hermann Rudolf Meyer” for tasks ranging from lifesaving to fire extinguishing requires reliability and a high level of technical sophistication from both the crew of eight and the elaborate rescue and salvaging equipment. In order to permanently meet these requirements, the German Association for the Rescue of Shipwrecked Persons has opted for a partnership with WISURA. The company has been producing and distributing specialized lubricants for more than 90 years at their site Bremen, right next to port of registry of the “Hermann Rudolf Meyer”.



The association's trust in the reliability of WISURA lubricants in such a delicate and life-saving environment clearly proves the standing and quality of these products.

(For those interested in further information on the duties and the technology standard of the German Association for the Rescue of Shipwrecked Persons please consult www.dgzrs.de)

Participants, invited by FUCHS from many different European countries, pose for the group photograph with Chairman Stefan Fuchs.



4th Sales Executive Conference of FUCHS EUROPE and FUCHS EUROPE SCHMIERSTOFFE

The fourth Sales Executive Conference took place in mid-March 2004 in Asselheim. 25 leading sales managers participated in the event under the direction of Dr. Lutz Lindemann and Dr. Ralph Rheinboldt. Representatives from Poland and the Czech Republic were also invited for the first time.

The winners of the European Sales Contest were also honoured this year. First prize was won by Ramón Gallifa (Industrial Lubricants, Spain). Among his 24 "colleagues", he achieved the greatest increase in raw income compared to the previous year. Second prize was awarded to Reinhard Schönfeld (OEM Germany). Erich Schmid (Central Sales, Germany)

received joint third prize together with Eddy Robyns from Belgium. R. Schönfeld and E. Schmid are the first German winners since FUCHS EUROPE SCHMIERSTOFFE began taking part in this Sales Contest. Paul Cezanne (Managing Director of FUCHS LUBRIFICANTES, Portugal) received the award for largest percentage increase in raw income.

The successful business year was celebrated at the conference. Stefan Fuchs, Chairman of FUCHS PETROLUB, stressed that the increase in the consolidated results for 2003 had mainly been achieved by FUCHS EUROPE and FUCHS EUROPE SCHMIERSTOFFE.

New design for extensive worldwide packaging range

FUCHS PETROLUB has merged its activities in the area of high performance and specialist lubricants within the FUCHS LUBRITECH group. The company group, with head offices in Weilerbach/Kaiserslautern, employs more than 400 people worldwide. Alongside the sites in Germany, the company's international credentials have been increased in the last few years with acquisitions and investments in England, France, the USA and Australia. In addition, distributors and partners in more than 60 countries ensure the availability of FUCHS LUBRITECH products.

FUCHS LUBRITECH developed a new product design in Summer 2003, in



The front of the new packaging gives the product an unmistakable "face".

order to create a visual image of global group operations for customers. The aim was to create a uniform appearance,

linking the highest level of product quality with attractive visuals. The draft and implementation were realised by an international project team from the marketing departments of the group. The clear form and colours are new, ensuring a high level of recognition. The company colours of blue, white and red are now used throughout the product visuals. Pictograms simplify the product search for the user: the typical areas of use are covered at a glance. FUCHS LUBRITECH is supporting the market debut of the new packaging design with an extensive advertising campaign.

National Sales Meeting 2004 of FUCHS LUBRICANTS in the USA



L. Frank Kleinman, Dr. Manfred Fuchs and Stefan Fuchs (from left to right).



David Hughey, President, FUCHS LUBRICANTS; Mark von Duhn, Regional Manager, FUCHS LUBRICANTS; Stefan Fuchs (from left to right).

FUCHS LUBRICANTS held its annual National Sales Meeting February 6-8 in Oak Brook, IL. International guests included Stefan Fuchs and Franz Kubicki from FUCHS PETROLUB, Dr. Christian Busch from FUCHS LUBRITECH, Dr. Alexander von Griesheim and Jorge Meymar from LUBRICANTES FUCHS DE MEXICO, Antonio Oliveria and Dario Buriasco of FUCHS ARGENTINA and Ron Gelens and Daniel Woo from FUCHS LUBRICANTS CANADA. This year's meeting focused on honouring Dr. Manfred Fuchs upon his retirement as the Chairman of the FUCHS Group. The top sales performers and managers of 2003 were also honoured at this year's meeting which ended on an optimistic note with the entire Americas team determined to post another record sales year.



Chris Bigelow, Corporate Secretary, FUCHS LUBRICANTS; Daniel Woo, Vice President, Canada; Chris Licursi, Regional Manager, FUCHS LUBRICANTS (from left to right).