

## PRESS INFORMATION

2nd Green Technologies Day at LEWA

### **Energy Efficiency: a glance beyond one's own nose is worthwhile**

**In the course of the "Green Technologies Day" series, in April LEWA once again invited experts to exchange thoughts and experiences, this time on the topic of "Energy efficiency - a competitive advantage in the process industry?". The speakers and participants from the industrial and scientific worlds shed some light on current research activities and they discussed technologies that have been proven in practice. The look beyond one's own nose at today's business clearly showed: in any case, the system approach promises the greatest energy savings potential.**

The question of whether "energy efficiency is a competitive advantage in the process industry" can be answered quickly in principle: of course it is an advantage to be able to produce with lower energy costs. Therefore, behind the topic selected for the 2nd Green Technologies Day in April of this year by the patron lies an expanded question: How high is the true total energy savings potential? How can it be realized with the lowest costs? And - is there previously unidentified savings potential?

Depending on how one grapples with the topic, the answer can vary a great deal.

A quick approach is to examine an individual component (pump, armature, heat exchanger, compressor) or a defined part of a system (compressed air supply, cooling water supply) and to optimize it. For many operators this is surely an important first step, as a study by the Fraunhofer Institute for Systems and Innovation Research (ISI) shows: according to this study, flow machines such as pumps, ventilators, and air compressors are among the especially "energy hungry" components of a system.

It takes much more effort to regard a system as a whole and to optimize it as a system. However, this system approach offers the greatest energy savings as a reward. Last but not least, the operator profits in many cases from the additional bonus of more stable processes and product qualities.

### **Ionic Liquids: still expensive, but very advantageous**

The influence of grease liquidity may not be underestimated; specialists see additional optimization potential with the use of ionic liquids. What are ionic liquids?

Ionic liquids are salts built on cations and anions. Their particularity is a melting point below 100°C. All ionic liquids have an exceptionally low fugacity due to their "salt-like" character. The other physicochemical properties (e.g. solubility behavior, viscosity, electrical conductivity, stability) can vary widely depending on the type of ions.

Due to their special properties, ionic liquids open up many possibilities for optimizing technical processes.

Two examples with a view of displacement pumps: with a test gear (medium gear size, spur-toothed, normal degree of efficiency at approx. 85% with gear oil), an increase in the degree of efficiency of approximately 4% could be measured. With a hydraulic diaphragm pump, a volumetric increase in the degree of effectiveness of up to 5% per 100 bar is possible - at 1,000 bar, this amounts to 40%! And this too is an advantage: "ionic liquids" release less air - they thus guarantee better suction and higher metering precision.

This has also been discussed: the increasing time pressure in the area of system planning makes it indispensable to order components such as pumps on the basis of more or less estimated parameters. Urgent advice: as soon as there is better data, estimates and assumptions should be replaced by current values and the pump design should be checked. In addition, a system develops further and is

## PRESS INFORMATION

driven later on by other operating points than at the time of its design. If deviations exceed particular limits, the design should be adapted.

### **Acceptance of longer amortization times required**

The initial question "Does energy efficiency offer a competitive advantage for the process industry?" can be answered clearly with "yes." And: the advantage is clearer the more complete systems and not just individual components are optimized.

The discussion brought an insight common to all industries: sustainable energy efficiency is not to be had for free. Investors must release the necessary financial means so that planners can also design and implement energy-efficiency systems for pumps with smaller output. The current amortization times of two to three years accepted by the management of many companies are clearly too short. Adapted ROI requirements are needed. And thus it becomes even clearer: the more complete systems and not just individual components are optimized, the more energy-efficiently a company can work.

Another insight: Anyone who offers energy-efficient systems earns 10% more in sales, but must invest 30 to 40% more effort in project work.

A pump manufacturer that sells an operator only individual pumps can clearly rejoice over better profits. However, whether he can be successful on the market in the long term with such a business model is doubtful.

Conclusion of the LEWA CEO for Technology Dr. Andreas Höhler: "The 2nd Green Technologies Day showed once again: nothing can replace a personal conversation. Only the dialogue between operators and planners and not least with the world of science brings to light what is practically necessary and theoretically possible. It has also become clear to all of us: when it comes to the topic of "energy efficiency," it is worthwhile to look beyond one's own nose."

### **About LEWA:**

LEWA is a leading supplier of precise metering pumps, high-performance process diaphragm pumps, and complete metering systems. The company is among the expertise leaders worldwide when it comes to fluid handling. LEWA's technically-demanding metering and process diaphragm pumps are used especially in critical processes and safety-relevant applications. The company has identified seven industries as its market focal points: oil & gas (especially upstream) / chemical & petrochemical / pharma & personal care / food & beverages / plastic processes / cleaning & detergents / energy & environment / special applications (e.g. gas odoring).

LEWA's core expertise also includes many years' experience in international project management, worldwide presence on-site, first-class service, and customer support in the after-sales sector.

Via its regional sales organizations, LEWA also represents the products of other renowned manufacturers in the European realm. For example, air operated diaphragm pumps, rotating displacement pumps (e.g. rotary piston pumps, gear pumps, screw spindle and eccentric screw pumps) as well as centrifugal pumps of stainless steel and plastic. With 16 subsidiaries and a multitude of authorized representatives, users find LEWA branch offices and LEWA cooperation partners in all important countries.

# PRESS INFORMATION

**Company information:** LEWA GmbH (established: 1952)

**Owners:** NIKKISO CO. LTD.

**Chairman of the Management Board:**

Dipl.-Ing. Dipl.-Kfm. Bernd M. Stütz

**Headquarters:** Leonberg / Germany

**16 subsidiaries worldwide**

**Sales in 90 countries**

**Employees:** 700 worldwide (400 in Leonberg)

**Sales:** approx. EUR 130 million per year



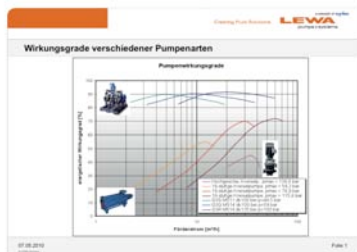
**Picture 1:**

The speakers (from L to R):  
 Matthias Sauter, Head of R&D LEWA GmbH;  
 Hans-Georg Behninger, Evonik Degussa GmbH;  
 Hans-Jörg Linke, Linde-KCA-Dresden GmbH;  
 Ulrich Walter, Moderator, Dr. Andreas Höhler, CTO LEWA GmbH;  
 Helmut Egger, Kohnle GmbH; Prof. Dr.-Ing. Eberhard Schlücker, Universität Erlangen-Nürnberg.



**Picture 2:**

Participants from the industrial and scientific worlds shed some light on current research activities and discussed technologies that have been proven in practice.



**Picture 3:**

With respect to energy efficiency, displacement pumps are clearly superior to rotating displacement pumps.

You will find images and digital text documents at [www.lewa.de/presse](http://www.lewa.de/presse) or at our downloadcenter at [www.lewa.com/press](http://www.lewa.com/press).

## PRESS INFORMATION

<b>Produkte &amp; Leistungen:</b> <ul style="list-style-type: none"> <li>• Dosierpumpen</li> <li>• Prozess-Membranpumpen</li> <li>• Dosier- u. Mischanlagen</li> <li>• On- &amp; Offshore Anlagen &amp; Systeme</li> <li>• Condition Monitoring Systeme</li> <li>• Odorieranlagen</li> <li>• Weltweite After Sales Services</li> </ul>	<b>Products &amp; Services:</b> <ul style="list-style-type: none"> <li>• <i>Metering pumps</i></li> <li>• <i>Process diaphragm pumps</i></li> <li>• <i>Metering and mixing systems</i></li> <li>• <i>On- &amp; offshore skids, systems &amp; packages</i></li> <li>• <i>Condition monitoring systems</i></li> <li>• <i>Odorizing systems</i></li> <li>• <i>Worldwide after sales service</i></li> </ul>
<b>Branchen:</b> <ul style="list-style-type: none"> <li>• Öl &amp; Gas (upstream &amp; downstream)</li> <li>• Chemie &amp; Petrochemie</li> <li>• Pharma &amp; Kosmetik</li> <li>• Lebensmittel &amp; Getränke</li> <li>• Kunststoffe</li> <li>• Wasch- &amp; Reinigungsmittel</li> <li>• Energie &amp; Umwelt</li> <li>• Specials (wie z.B. Gas-Odorierung)</li> </ul>	<b>Key industries:</b> <ul style="list-style-type: none"> <li>• <i>Oil &amp; gas (upstream &amp; downstream)</i></li> <li>• <i>Chemicals &amp; petrochemicals</i></li> <li>• <i>Pharmaceuticals &amp; personal care</i></li> <li>• <i>Food &amp; beverages</i></li> <li>• <i>Plastic processes</i></li> <li>• <i>Cleaning &amp; detergents</i></li> <li>• <i>Energy &amp; Environment</i></li> <li>• <i>Specials (such as gas odorizing)</i></li> </ul>

**Kontakt/Contact:**

Dr. Hans-Joachim Johl, Leiter Marketing/Manager Marketing  
 Telefon +49 7152 14-1376  
 Fax + 49 7152 14-2376  
 hans-joachim.johl@lewa.de

**Kontakt Agentur/Contact Agency:**

Corinna Sauer  
 Telefon +49 5451 93686-0  
 Fax +49 5451 93686-19  
 lewa@schwabe-braun.de

**Belege bitte an die folgenden Adressen/Please send voucher copies to:**

LEWA GmbH, Dr. Hans-Joachim Johl, Ulmer Str. 10, 71229 Leonberg, Germany  
 schwabe+braun GmbH, Mollenbachstr. 6, 71229 Leonberg, Germany