

### Suppliers are drawn to Eastern Europe

# Discreet flight of secret stars?

As many as 40 per cent of the around 1,300 German automobile suppliers are already producing in Eastern Europe. This is the conclusion of a current study carried out by the Gelsenkirchen-based Center Automotive Research (CAR). The issue of ghost shifts is thus becoming more topical than ever.

Almost unnoticed by the public, many suppliers have long since come to terms with this reality. According to the estimations of CAR head Professor Ferdinand Dudenhöffer, around 100,000 jobs have already migrated to the East in the past few years. It is the labour costs in Eastern Europe in particular that prove to be far more than a temptation even for small to medium-sized companies. In Poland, one



VW produces in Bratislava since 1991, many suppliers followed.

man-hour costs 5.40 Euro, in Slovakia, 3.30 Euro, and in Romania, a mere 1.70 Euro. For the same services in West Germany, employers have to fork out 28.50 Euro. "These are irreconcilable differences in the supply business," assesses Dudenhöffer.

However, it is also true in principle that these basic conditions are the same for every company. "In individual cases, it may certainly be necessary to relocate. But low wage costs can also lead to neglecting innovations," warns Professor Klaus Brankamp.

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## Worldwide cooperation between BRANKAMP and Service Tool International

The global market leader for sensor-based in-process quality control, Dr.-Ing. K. Brankamp System Prozessautomation GmbH, headquartered in Erkrath, and the American tool manufacturer Service Tools International from Illinois have agreed on a strategic cooperation in the metal packaging area.

Service Tool is one of the world's leading suppliers of tools for the can manufacturing sector. BRANKAMP presents a comprehensive process monitoring concept based on integrated real-time measurements. The integration of sensors in the tools produced by Service Tools enables the direct and im-

mediate assurance of product quality, particularly in the production of pull-tab lids.

This BRANKAMP technology is already successfully used by leading can manufacturers such as Impress, Cebal, Crown Cork & Seal.



Device with sensor (PK 5000)

## News

### PSA BACKS BRANKAMP

The French automobile manufacturer, PSA Peugeot Citroen, now works exclusively with BRANKAMP. The process monitoring systems of the Erkrath-based company can be ordered for all PSA plants via its Central Buying Office in France. PSA is the sixth largest automobile manufacturer in the world and the number two in Europe.

### NANO PAINT PROTECTS AGAINST SCRATCHES

As the first automobile brand in the world, Mercedes Benz is using a nanotechnology paint for its models in serial production. This paint contains micro-



scopically small ceramic particles that help protect cars against scratches. The company intends to introduce further nanotechnology applications.

### RENAULT: GO AHEAD FOR BRANKAMP



In terms of its bid submitted to the French automobile manufacturer, Renault, BRANKAMP has prevailed against its competitors.

The group has now given the go ahead to use the BRANKAMP process monitoring systems in its factories. This release is the basic requirement for a cooperation.

### QUOTE OF THE MONTH:

**»You see things; and you say 'Why?'. But I dream things that never were; and I say 'Why not?«**

*George Bernard Shaw,  
Irish writer*

The special issue

page 3

"Absolute force measurement during thread rolling (part 2)"

## News

### OIL PRICE CURBS AUTOMOBILE BOOM

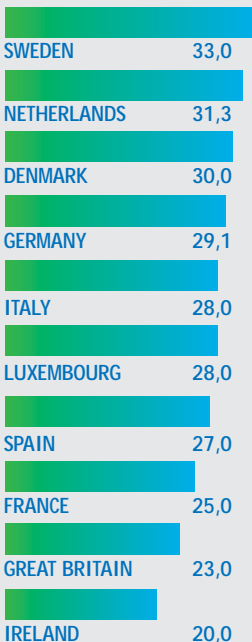
After a five-month growth period, automobile sales in Western Europe declined in July: With 1.23 million new registrations, this figure is five per cent down on the previous year: According to the German Association of the Automotive Industry (VDA), one of the predominant factors contributing to this decline was the lower number of working days and the state of uncertainty due to a renewed rise in crude oil prices.

### GILDEMEISTER REPORTS INCREASE IN ORDERS

The Bielefeld-based mechanical engineering group, Gildemeister, was able to increase its inflow of orders in the first half of 2004 by 15 per cent as against the prior-year figure. On the whole, the company turned over 490.5 million Euro in the first six months—this being an increase of 4 per cent compared with the previous year.

### FIGURE OF THE MONTH:

Germany amusement park  
Average agreed holidays in  
European countries (2003)



(Source: IW Cologne)

Germany is one of the countries in Europe to top the list of collectively agreed holidays. When adding on its public holidays, the Federal Republic actually comes out as the unchallenged leader, recording 43 days.

### Looking towards Asia

# Great demand at the Wire China



“The end result is in every way positive,” says Hans-Peter Schneider, authorised signatory of BRANKAMP, in view of the Wire China in Shanghai, which ended on 25 September. “This is the key trade fair for the Asian region, and we managed to establish quite a number of promising contacts.” As a consequence, the BRANKAMP representative now anticipates excellent post-fair business. The Wire China saw 683 exhibitors from 28 countries presenting their products and services.



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## Discreet flight of secret stars?

After all, one can tell even today that the new EU countries will not, in the medium term, be exempt either from a rise in the wage costs. Thus, for example, in Poland alone, the wage rate has increased be two

thirds in the past five years. “Therefore, whatever their locations, the companies need to make sure in particular that they further increase their degree of capacity utilisation in production,” explains Brankamp. Required here are intelligent strategies. Once the technical requirements are met—such as by way of ProcessMonitoring—the ghost shift has enormous potential.

This means that the machines can be kept running even during break times or at the end of a shift, without any risk to the machines themselves or cutbacks in the product quality. “Whether in Slovenia or in Germany—in the end, the companies being one step ahead will be those that also take advantage of this opportunity,” says Professor Brankamp.

### Real-life examples

## In-process control in the packaging industry



**Cans, lids, and tops are manufactured today ensuring the highest degree of precision, at times at a tremendous production speed.**

In order to meet the stringent quality requirements, the packaging industry needs to ensure absolute quality control. Leakages in cans, lids, and tops lead to spoilage of the goods to be packaged. And: Faulty

goods reaching the customer result in a substantial cost burden due to complaints and sorting.

Typical process faults in the production of metal packaging include:

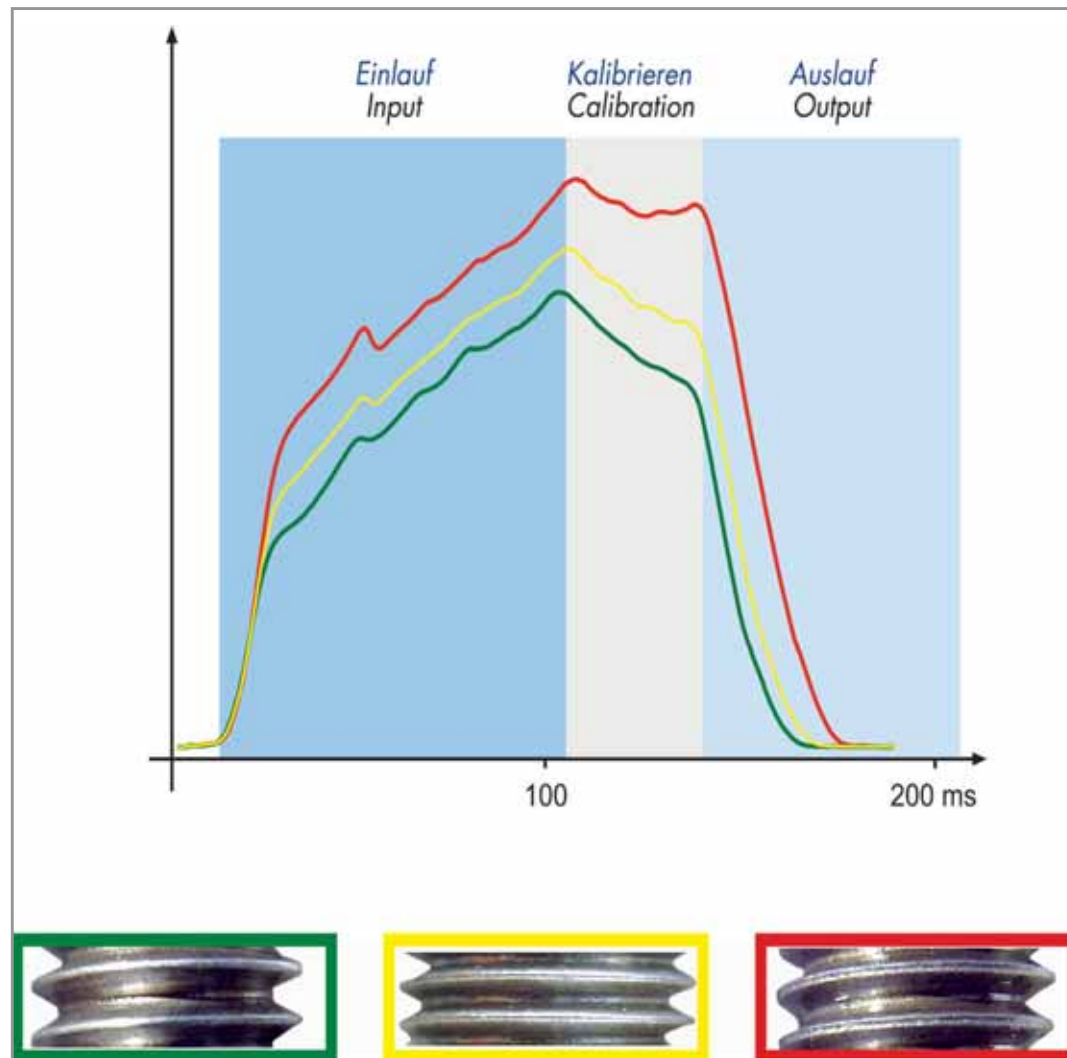
- Feed and ejection faults (partial sections and double lids)
- Cracks and creases in cans (base fractures)
- Rivet head cracks and missing rivet heads on pull-tab lids
- Crimped edges and stamping error on tops
- Chips and compound residue leading to marks on the part.

In order to avoid these typical errors during the production of lids, cans, and tops, BRANKAMP provides an in-process monitoring system that ensures a considerably improved production method compared with conventional processes. Detailed information on the quality of the product is available even during the shaping stage, thus preventing the production of rejects. Based on the process signals recorded by the BRANKAMP systems, the location and cause of errors can be established instantaneously, making machine downtimes a thing of the past.

Continuation of the BRANKAMP Journal edition Int. 3

# Absolute force measurement during thread rolling (part 2)

Dipl.-Ing. Ferdinand Oppel, Prokos Produktions-Kontroll-System GmbH, Hannover and Dipl.-Ing. Franz Saliger, Dr. Ing. K. Brankamp System Prozessautomation GmbH, Erkrath



**BRANKAMP has developed a method that measure absolute force on flat die rolling. This is more than just a help for the operator to setup the machine.**

The characteristics of these component forces are added up profitably to obtain a total force characteristic. This is only recommendable with calibrated measurements. The total force characteristic reveals the total load of the system and shows the individual phases of the rolling process (inlet, sizing, outlet) in a correct

quantitative manner: Thus, the illustration of total force characteristics is useful for the operator during setup. In any case, the objective should be to produce a conforming part with a minimum of force applied.

Herein, the production of conforming parts does not require

the points of the screw profiles to be fully rolled. It is quite likely for a screw with open thread and/or open profile points to meet the quality requirements specified. The production of such screws offers economic benefits. A comparison of total force characteristics measured at different degrees of rolling will

show that there is no linear increase of the forming force as a function of the feed of the adjusting screw and/or the degree of rolling. When a thread is almost closed, any further feeding of the die will result in an excessive increase of the forming force. The load on the tools and the resulting wear would be correspondingly high. The total force characteristics also show that such a feed of the adjusting screws will not result in a further deformation of the blank but rather cause a spring-back of machine and tool. Such a spring-back of the machine results in total force characteristics to be developed and maintained for a clearly longer period of time. While the blank passes through the sizing section, a spring-back of the machine causes a delay in the release of the blank.

The indication of absolute forces also shows the operator that the production of "nice" closed threads leads to over-proportionately high costs and should therefore be avoided. Unsuitable machine settings with a considerable impact on the tool life thus are immediately obvious.

Absolute force parameters that indicate an optimal die setting should be available as a reference for the repeat production of a product. Comparing the current force curves with the reference curve makes it easy for the operator to ensure the same optimal setting for the adjusting screws in repeat processes. The combination of the new absolute force sensor with modern Process-Monitoring devices under one product number allows a saving of adjustment data down to complete characteristics of the reference forces determined.

**Part 1 of the article can be ordered.**

Machine protection in the pressroom

# Easy Vision –

## Stamping machines show 30% increase in number of strokes at lower piece cost!



Ideal protection in the pressroom

This new equipment generation enables you to optimise your stamping machine by visualising the operating process.

Its improved surveillance option facilitates a more accurate adjustment of the ram. Even asymmetrical tool loads can be detected and corrected simply by way of readjust-

ments. Due to the visual representation of the production process and the observation of the machine behaviour, the number of strokes and the production can realistically be increased by 30%.

With Easy Vision machine protection, your stamping machine switches off as soon as the safety limit is ex-

ceeded, thus avoiding consequential damage and the costs involved.

**Easy Vision pays for itself in only three months.**

This new highlight of the production optimisation process is rounded off by its easy handling, simple installation, and attractive price.

Preventing stops

## Sorting more cleverly

Impeccable quality is an attainable goal—thanks to ProcessMonitoring. A key step on the way is the intelligent sorting of defective parts while your machine continues producing.

For this, every BRANKAMP system has been provided with a sorting function, which the operator can easily activate in three simple steps—via the main menu, the “Counter” menu, and the “Sorting counter” submenu. There, the operator can specify the sorting quantity, i.e. the



number of parts to be sorted out. The objective: When a (tolerable) fault is detected, the reject can be sifted out, where necessary even including a number of correctly produced parts for absolute quality assurance. In practice, this means that your machine can continue running despite possible faults, increasing its productivity without losing out on quality.

In addition, the “Sorting counter” submenu shows the operator the number of correctly produced parts and rejects sorted out, and the total number of parts sorted out. Depending on the case, the rejects among the parts sorted out can be sifted manually or the machine setting be further optimised.

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