

Ever more US companies relocate production:

## Ghost shift™ can stop long trek to China

China is gaining tremendous ground. One of the signals observed the world over was the manned space flight in October. But the Chinese are even further ahead on earth. The economic growth of that country has topped the list for many years, numerous companies from the USA and Europe have already relocated their production to the Far East. But with ghost shifts, the long trek to China could become unnecessary.

In the past two years alone, three million Americans lost their jobs. Most of them were employed in what is known as the processing trade, i.e. in the supply sector, the textile industry, or in computer construction. The official unemployment rate in June amounted to 6.4 per cent, the highest in eight years.

China, on the other hand, is seen as the main guilty party in this job plight. What Japan was in the eighties, the Middle Kingdom is today: the number one threat to



Ghost shift™: maximum quality at reasonable prices

the economy. The Chinese, however, are not deterred by this. They even intend to increase their growth, which has been world-class for over a decade now, even further. Last year, the Chinese economy grew by 7.8 percent. This year, it is presumed to be even more.

No other country attracts so much foreign capital at the moment and in no other country can companies produce so cheaply and well as in China.

The average hourly rate of a Chinese worker is equivalent to 60

US cent, that is one twentieth of what an hour costs in the USA — and only a fourth of what a worker in the cheap neighbourhood of Mexico earns on average.

Last year, the country became the world's largest recipient of direct foreign investments: 52.7 billion US dollar the Chinese were able to bring in, while the USA only managed 44 billion US dollar, with a gross national product nine times higher.

Nevertheless, there is no reason at all for a premature capitulation.

*continued on page 2*

A glance towards Russia

## New vigour at the Moskva

WTA Werkzeughandels GmbH with its head office in Moscow represents BRANKAMP on the Russian market. In the past, the company specialised in tool and machine trading. In order to sell BRANKAMP Process-

Monitoring systems, WTA agreed to a close cooperation with STANKO-IMPORT, the largest state-owned import and export company in that part of the world. "Thanks to this connection, we now occupy an

excellent position on the Russian market," BRANKAMP authorised officer, Werner Ebeling, says with conviction.



**The special issue:** *page 3*  
"Screws without ears—15 per cent faster"

## News

### VW PHAETON-MANUFACTURE MORE OPTIMAL

A new logistic system supplies PHAETON components in the order



of assembling into the production hall. This is possible due to two new CarGo-Trams, especially designed for VW, that commute between the logic centre and the manufacture shop.

### BRANKAMP-INCREMENTAL-ANGLE-ENCODER IS GREAT

The scan rate of the BRANKAMP incremental-angle-encoder has an accuracy of 0.1 degree. Thanks to this incremental-angle-encoder, the envelope curve monitoring system no longer needs to be switched off, even if the number of machine strokes is progressively adjusted or the machine speed specifically controlled. In terms of continuous ProcessMonitoring, the scan rate of each analogue channel is 80 times higher than the standard.



### RENAULT UND NISSAN: FIRST COMMON PLANT IN EUROPE

Nissan and Renault are now using joint production facilities in Europe too. The Renault Traffic, the Nissan Primastar and the identically constructed Opel Vivaro will now be rolling off the production line together in Barcelona.

**QUOTE OF THE MONTH:**  
"Bureaucracy will continue defending the status quo long after the quo has lost its status."

*Laurence Johnston Peter,  
American  
Management Consultant*

## News

### PROCESS MONITORING DURING CLINCHING

BRANKAMP has fitted the Rastatt works of a major car manufacturer with ProcessMonitoring systems used in the production of the bodywork of its new middle-range model. The 15 PK400 type systems with data storage, special housing, profibus and Ethernet connections monitor the clinching processes during bonnet production.

### INNOVATION FOR THE PRODUCTION OF RUBBER-METAL BUSHINGS

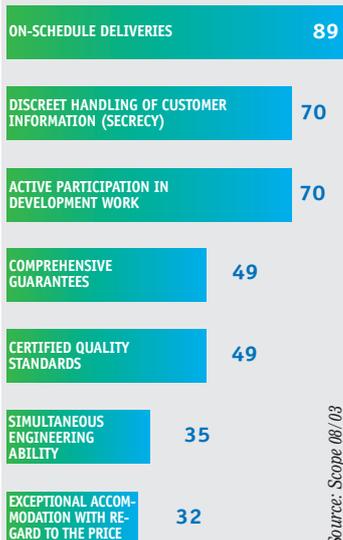
As the first supplier world-wide, ZF Boge GmbH has managed to automatise its rubber-metal connection production. This innovation



became possible when former competitors Boge and Elastmetall consolidated their know-how under the umbrella of the ZF group.

### FIGURE OF THE MONTH: On-schedule delivery the „be-all and end-all“

What customers expect from suppliers, as a percentage



Source: Scope 08/03

On the list of priorities of the 500 polled companies in every industry, on-schedule delivery is on top. The second place is shared by the requirement of discretion and the active participation in development work. The least interest is shown in a transparent pricing policy.

### ElringKlinger Ultra Emission used in Mexico

## ElringKlinger opts for BRANKAMP



BRANKAMP PK 550

The ElringKlinger group has now opted to use ProcessMonitoring even at its Toluca production plant in Mexico, where a BRANKAMP team fitted a 315-ton hydraulic press with a PK 550

system with ultra-emission sensor technology. ElringKlinger is an internationally operating development partner and initial supplier of cylinder head and special gaskets, housing modules,

and shielding parts for motors, gearing and exhaust gas systems.

With a world-wide workforce of almost 3,000, the company generated just under 370 million Euro in 2001.



A 315-ton hydraulic press monitored with Brankamp PK 550 monitoring system

continued from page 1

## Ghost shift™ can stop long trek to China

„It is just that today, it is more important than ever to rigorously use every bit of potential in production,“ thus the almost unanimous analysis of experts such as Professor Klaus Brankamp. „Then, even Europe or the USA will be able to produce at competitive prices.“

Probably the best instrument for this is the ghost shift — that is, the hardly manned or even unmanned production. For over 20 years,

BRANKAMP has supported companies world-wide in the introduction of the ghost shift. In practice, the most important thing here is to increase the degree of utilisation gradually but steadily, for example, by keeping the machine running with a minimum of staff during breaks or at the end of shifts.

In any case, the requirement for the smooth introduction of the ghost shift is a process monitoring

system that protects both the machine and the tool at any time while at the same time ensuring a constant quality of the produced parts. As a rule, ProcessMonitoring systems pay for themselves after only three to six months. Above all, however, in the long run, they create the basis for keeping the USA as a production location in the future — at prices that are attractive even in the international competitive environment.

### Experienced team

## Gebrüder Spiegel AG represents BRANKAMP in Switzerland

Resident in Kreuzlingen near Lake Constance, Gebrüder Spiegel AG has been a BRANKAMP sales partner for Switzerland for well over a year.

The ten-strong team of this company with its tradition spanning almost 120 years specialises in trading machinery and tools for the sheet-metal working industry. „The ProcessMonitoring systems from BRANKAMP are an excellent addition to our offer,“ claims Luigi Greco Spiegel, who, together with Daniel Spiegel,

heads the company in the fourth generation. The plans of Gebrüder Spiegel AG for the future



Luigi Greco-Spiegel, Executive chairman of Spiegel AG



Head office of the Spiegel AG in Kreuzlingen

include a consolidation of its position as the leading supplier of machinery and tools for improved profitability in sheet-metal working in the plumbing industry.

New "Brankamp Rotator" prevents hexagon rotation:

# Screws without ears— 15 per cent faster



*Do your screws have ears?*

**An increase in productivity of 15%? With "zero faults"? Today, this is feasible even in the most modern production facility, such as at ESKA GmbH in Chemnitz. The secret of their success is found in the clever use of a ProcessMonitoring system—the "BRANKAMP Rotator"—for a once seemingly insolvable problem.**

Pressing collar screws with hexagon heads often leads to material projections—the characteristic "ears". "This problem is absolutely typical in the entire industry, and yet often it is totally ignored," explains Manfred Hartmann, department manager at ESKA GmbH in Chemnitz.

Yet the causes of these "ears" on screws have long since been known. When the screws are produced, they must be passed from one forming stage to the next in the right position. High speed and centrifugal forces, however, cause the position retention device of the press ejector to loosen or the hook fingers to be misadjusted.

Previously, one of the proven solutions to ensuring the required

quality was by way of lowering the number of strokes per minute. ESKA, however, opted for another way. The well-established Saxon company currently employing a workforce of 280 at its Chemnitz and Bärenstein locations is a much sought-after supplier of the automobile industry and other industrial-scale processors. The demands on the quality of the joining elements and metal-forming parts produced by ESKA, but also on the cost management, are correspondingly high.

**Fight the ears: "Why should it not be measurable"**

And since asking does not cost anything, the first step in the fight against "ears" was to seek expert advice. "We simply approached our ProcessMoni-

toring expert because we were interested to know whether there wasn't a better solution to production than fewer strokes per minute or time-consuming piece-by-piece checks," says Jörg Klawikowski, production technologist at the Chemnitz company. For more than 20 years now, the Saxon screw company has been using ProcessMonitoring systems from BRANKAMP. Today, 30 presses and rollers in the Chemnitz works are fitted with one. "Because of that, we knew from experience that this technology had great potential," explains 31-year-old Klawikowski, who is responsible for the use of ProcessMonitoring systems. "Why, of all things, should the "ears" of hexagon screws not be measurable?"

At BRANKAMP, this job was quickly taken up. "For a long time now, we have seen ourselves as more than just a manufacturer", comments BRANKAMP's authorised officer, Franz Saliger. "The range of performances of our

systems as a measuring device is immense. Often, it is crucial to use it specifically for a pinpointed problem, and of course, that is where we as a service-provider come in, happy to help."

In autumn 2002, the Saxon company cooperated with BRANKAMP to start its first test on a 4-stage press from Hatebur (BKA 2) which had already been fitted with a process monitoring system. The result clearly recorded in the report was that "The rotation first produced by hand—which was to simulate the typical cause of this process error—resulted in a clear deviation in the signal sequence and in the machine being switched off."

With that, however, the most important question had already been answered. The modern process monitoring systems from BRANKAMP help detect far more signals and errors than is possible in the busy day-to-day production routine. In principle, what mattered now was to find the best configuration for this particular problem.

*continuation in the next BRANKAMP Journal international*



*BRANKAMP authorised officer, Franz Saliger and Manfred Hartmann, department manager, at ESKA GmbH in Chemnitz. (of left)*

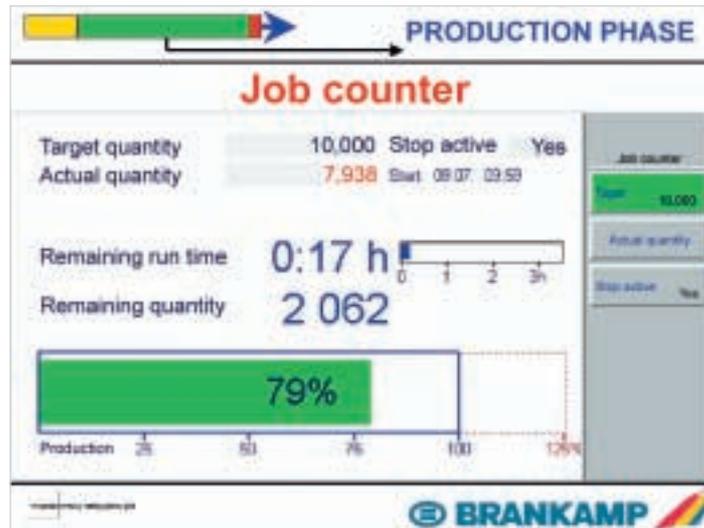
Today's counting

# The intelligent job counter from BRANKAMP

The job counter from BRANKAMP provides a simple overview of the production process. Thanks to the clear colour display, important production steps are instantly recognisable.

Contrary to the preinstalled counters on machines, the job counter from BRANKAMP only counts the correctly produced parts, thus saving time as it no longer is a problem if the operator happens to forget to reset the counter to zero prior to production.

The display is yet another advantage. The data on the run time and on the quantity remaining and on the quantity produced so far are shown in clear figures and in a bar graph.



At the same time, the bar graphs are displayed in different colours to distinguish between the individual production phases. Thus, the green graph stands for the current production phase. The length of the bar and the per-

centage given show how much has already been produced. This information is clearly visible even from further away.

An orange-coloured bar indicates that the order volume is

nearing 100 per cent. Once this limit is reached, the bar turns red.

If the counter is set to "stop active", the production stops at 100 per cent.

User-friendliness

# C100— Plug in and start producing

In the past 25 years, BRANKAMP as a ProcessMonitoring pioneer has always understood how to provide the market with important stimuli by supplying innovative new developments.



The heart of this has always been user-friendliness. Thus, for example, the C series ProcessMonitoring systems are provided with a quick start mode. Simply plug it in, press a button, and start producing—the set-up of these devices could not be easier. This initially starts part counting and protects the tools from collision.

Step by step, the parameters can then be adjusted to individual conditions in order to use the wide variety of functions of the ProcessMonitoring systems as optimally as possible.

Dr.-Ing. K. Brankamp System Prozessautomation GmbH, Max-Planck-Str. 9, D-40699 Erkrath

BRANKAMP GMBH, GERMANY

Phone +49/ 211/ 25 07 60  
Fax +49/ 211/ 20 84 02  
eMail bpd@brankamp.com

BRANKAMP ITALIANA S.R.L.

Phone +39/ 039/ 68 99 730  
Fax +39/ 039/ 60 91 895  
eMail bpi@brankamp.com

BRANKAMP INC., USA

Phone +1/ 617/ 492 16 92  
Fax +1/ 617/ 497 56 75  
eMail bpa@brankamp.com