

**EMO Hannover 2005**

## Going strong. Going stronger. Be innovative.

**Much R & D = much innovation? Wrong. Even small to medium-sized companies without their own research and development departments can be highly innovative. After all, in practice, it is results that count. Not every innovation has to be your own work. Those, for example, who use innovative technologies such as ProcessMonitoring systems from BRANKAMP, optimise their processes and, therefore, are themselves innovative.**



*Over 50,000 installed applications worldwide: BRANKAMP innovations are in demand around the globe.*

BRANKAMP is a pioneer and, to date, the global market leader in the area of ProcessMonitoring, with worldwide more than 50,000 BRANKAMP applications currently in use. Providing innovative products, the company actively supports its customers in optimising their processes and improving the quality of their products. Based on an extensive

service network and innovative services such as remote maintenance via the Internet, BRANKAMP maintains close contact to its customers while ensuring that their daily tasks are taken into account in further developments at BRANKAMP. The following pages will provide you with an overview of the many potential areas of use of BRANKAMP

products—specifically in the **Metal-cutting (page 2)** and **Punching (page 5)** sectors. Furthermore, you can see for yourself that BRANKAMP systems are now used with virtually any type of machine (**pages 3-4**). All this makes for the ideal basis for progress. The fact is that in the past three years, every other small to medium-sized company (with a

workforce of up to 500) has launched innovative products, while almost one in three companies have optimised their processes and, consequently, reduced their costs or improved their quality. This was revealed by the current study, "Mittelstandsmonitor 2005". Small to medium-sized companies play a special role in the innovation process: due to their streamlined organisational structures, they are much more likely to react quickly to new technological trends. Furthermore, they often occupy market niches that are of no interest to larger enterprises. They are also much quicker in adjusting products to the individual requirements of their customers. And this pays off: On average, innovative products generate almost five per cent of sales, while quality improvements make for an additional 2.2 per cent, and process optimisation measures reduce the costs by an average 2.3 per cent.

### BRANKAMP TRADE FAIR INNOVATIONS

#### Metal-cutting

ProcessMonitoring

- at grinding machines
- in machining centres
- in unit and small-batch production
- at multispindle machines
- at N/C machines
- for robots
- at transfer and revolving machines

FactoryNet

Machine protection

Teleservice

Tool protection

#### Punching

Absolute power calibration

Acoustic emission sensors

Binary functions

eR5

FactoryNet

Machine protection

New Up Kit

Teleservice

Tool protection

Ultraemission sensors



### Process optimisation in the metal-cutting sector

**At the EMO, the metal-cutting sector alone is represented by 768 companies as exhibitors. The focus: new machinery and production processes.**

BRANKAMP will present its Process- and ProductionMonitoring systems for machining centres, multispindle machines, etc. Innovative systems ensure optimal machine and tool protection. Current state-of-the-art software guarantees transparency and professional production control. Read more on **page 2** of this BRANKAMP Journal.

### Process monitoring in the punching sector

**Punching will be one of the key topics at the EMO in Hannover. At this year's industry trade fair, both manufacturers and buyers will be discussing the latest product and process innovations.**

Whether for machine setup, to increase the number of strokes per minute, or for tool protection—the BRANKAMP ProcessMonitoring systems actively help machine operators ensure safe and economical punching processes. **Page 5** of this BRANKAMP Journal introduces innovative solutions for modern punching businesses.



BRANKAMP ProductionMonitoring eR5

**ProcessMonitoring in the metal-cutting sector**



BRANKAMP ET

For decades, BRANKAMP ProcessMonitoring systems have been successfully used in metal processing. Reducing to a minimum the damage caused by collisions, they also help detect process faults at an early stage. When setting up the machine, these systems provide reliable real-time data to accelerate the process. Consequently, they reduce stoppage and setup times

and prevent time-consuming and costly repair work. And BRANKAMP boasts experience in all types of production. In the event of a process fault, the BRANKAMP CMS machine protection device and the universal tool and machine safety system, BRANKAMP B100, for example, protect **machining centres** from substantial damage. Both sys-



BRANKAMP CMS

tems are also ideal for use in **unit and small-batch production**, here guaranteeing optimum parts quality from the



BRANKAMP C100

process stage. The ProcessMonitoring systems B100 and CMS have also been field-tested for use with N/C **machines, robots, and grinding machines**. Ease of use and optimal **machine and tool protection** are ensured by the BRANKAMP C100 process monitoring system for **multispindle machines**. The large display showing the precise process parameters provides the machine operator at all times with an overview of the essential parameters. Lower cycle times and a high degree of accuracy—these are two characteristics distinguishing **revolving machines and transfer**



BRANKAMP B100

amount of production-related data must be recorded and analysed. The BRANKAMP ProductionMonitoring system, eR5, provides the key production figures in a clear format, thus making it possible to take decisions based on valid data. The production manager can call up the data at any time either via intranet or Internet. The innovative eR5 sys-



Innovative concept for the production: BRANKAMP FactoryNet

**lines**. As they handle several production stages at the same time, these machines face a higher potentiality of possible process faults. The BRANKAMP terminals ET and GT make it easier for the machine operator to keep an eye on the process and access each station individually using a central module. This makes it possible to operate several machines simultaneously even when involving the most complex production processes. Time savings equal cost savings. This is true, specifically, for the management of the production process, where a substantial

tem is an elementary component of the **FactoryNet** concept developed by BRANKAMP, which opens up new potentials due to the systematic networking of the value-added area. The retrieval of relevant key figures on the intranet or in a secure section of the Internet is only one of the upshots here. Even the remote maintenance of systems and machinery, such as offered by the innovative **BRANKAMP tele-service**, is now possible without a problem. Professional **machine and tool protection** is thus effectively enhanced by new possibilities.



+++

BRANKAMP IN USE IN THE PUNCHING SECTOR

+++





BRANKAMP PK 6000

### ProcessMonitoring in the punching sector

In EasyVision, BRANKAMP has developed the ideal system for **machine and tool protection** for punching machines. The system aids the setup and ensures a consistently high quality while increasing the number of strokes per minute. A particular advantage of this innovative measuring instrument: the specially developed **New Up Kit** simplifies the retrofitting of the machine. The load monitor and electronics can be plugged-in as easily as the existing sensors. For the punching sector, BRANKAMP also provides various high-capacity sensor packages. Thus, for example, the BRANKAMP PK 4000 all-pur-



BRANKAMP PK 4000

pose ProcessMonitoring system can be used with the special **acoustic emission sensor**. The ideal solution for the detection of die breakage, slipping slugs, and mould cracks. Another variant is the sophis-

ticated **ultraemission sensor** which detects annoying slugs caused by punchings. The BRANKAMP system thus not only prevents the delivery of faulty parts to the customer but also detects tool breakage at an early stage and thus prevents costly repairs. With the ProcessMonitoring systems BRANKAMP PK 5000 and BRANKAMP PK 6000, operators can ensure that potential machine, tool, and parts damage to all punching machines, presses, and rolls is reduced to a minimum and setup times are optimised. As a measuring instrument for multisensor monitoring, the BRANKAMP PK 4U system monitors the production processes in the massive forming and sheet metal working sectors. Optionally, all premium-class PK systems can

also be fitted with a **binary** sensor for tool protection. The BRANKAMP system produces a binary diagram of the signals and thus facilitates a simple and precise adjustment of the feed and ejection controls. The punching machines can also be

BRANKAMP eR5

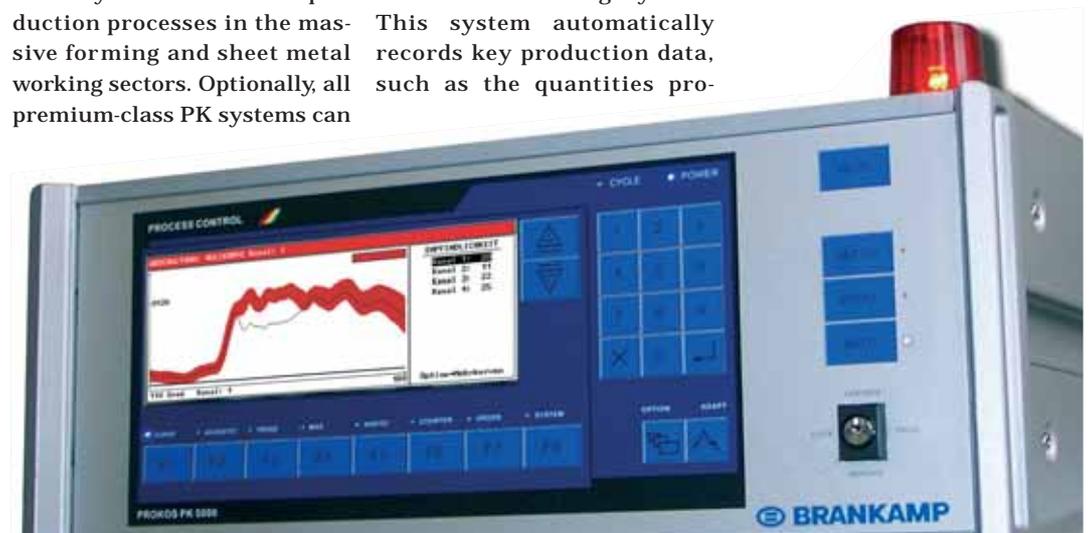
networked with the **eR5** production monitoring system. This system automatically records key production data, such as the quantities pro-

duced, and thus helps save valuable time and optimize the production processes. Further improvement is possible when combined with the **FactoryNet** concept, the networking of the production halls, including remote maintenance using the **BRANKAMP teleservice**. The latest offer of the BRANKAMP crew: **absolute power calibration**. This compares the value displayed with the actu-



BRANKAMP PK 4U

al power applied by a maximum of four calibration sensors. This BRANKAMP service enables the calibration of presses of up to 20,000 kN. **Absolute power calibration**, for example, ideally enables the monitoring of hydraulic overload protection devices and other machine safety equipment. This means: up-to-date absolute power values rather than relative readings. **Absolute power calibration** is also possible with pressure capacity measuring systems originating from manufacturers other than BRANKAMP.



BRANKAMP PK 5000



# EasyVision prevents damage to tools and machinery

EasyVision for the first time allows you to see instantly how your machine is set up, whether any of the tools are adjusted incorrectly, or whether the machine is subject to an unsymmetrical load. Use Easy Vision to optimise your machine, increase the number of strokes per minute, and manufacture an additional 30% or more. And as an added benefit, EasyVision monitors the production process and protects the machine by stopping in case of overload.

Measurements have shown that many machines are set up incorrectly due to a lack of measuring equipment. With the current setup of the ram, the tool comes down unnoticed on the stop block after the cutting process, thus putting unnecessary stress on the machine. EasyVision reveals the curve trend on the display. Now the ram can be readjusted. By displaying the curves on the monitor, EasyVision helps optimise the adjustment and thus prevent damage to the tool. An incorrectly adjusted tool can also cause unbalanced stress on the machine and

the tool. During punching, the tool comes down unevenly, the force is transferred to the connecting rod bearing and the ram guide, thus putting stress on the machine. EasyVision always shows the current curve trend, so that any unsymmetry can be corrected and the machine and tool are protected from damage. EasyVision also increases your output. Previously, any increase in the number of strokes per minute without the use of measuring equipment could have unforeseeable consequences for the tool. Now, you can easily increase the number of strokes

and monitor any changes with EasyVision. Despite the increase in strokes you will notice that the quality of the process remains constant. And this also increases your output.



## User-friendliness

# Innovative single-button operation

Complicated devices with a multitude of buttons have long since become a thing of the past. Whether it be navigation equipment in the vehicle or washing machines, the trend is increasingly toward single-button operation. BRANKAMP was one of the first companies also to adapt technology for the production process. The EasyVision setup help, for example, is conveniently operated using a single button.



This innovative function aims at making the operation of the BRANKAMP measuring device as simple as possible for the machine operator. Thus, EasyVision makes complex and costly measuring technology easy to operate and use. The machine operator can navigate through different masks and menus by turning and pressing a single button. Consequently, he can easily and reliably ensure that both tool and machine are set up correctly or quickly readjust the ram.

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 S.R.L., ITALY

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