Precision finish demands

News

MARCH 2014

2013: Increased turnover bucks the trend

With a 15% increase in revenue, OTEC strengthened its market position in 2013. This result is especially impressive since German mechanical engineering companies as a whole recorded an increase of only around 3% over the past year.
OTEC Managing Director Helmut Gegenheimer attributes this successful trend in part to the considerable interest shown in the stream finishing machines developed and launched by OTEC two years previously, a rise in exports and growing demand on the domestic market.
OTEC plans to continue on course with the successful strategy of „growth through ongoing innovation". At the core of this strategy are the company's 85 employees, 12 of whom work in R & D alone.

One of the key short-term goals is to build machines that can be integrated into production lines. In addition, solutions tailor made to individual customer requirements are to be optimized, and lead times for standard machines shortened still further.
Hand in hand with a close focus on customer care go the company's dynamic in-house processes. With the consistent ongoing development of lean management processes, including lean production, the company considers itself to be well placed to meet the challenges of the market and plans to expand its workforce still further, above all in the areas of mechatronics, information technology and project engineering.

OTEC trade fairs

Further trade fairs can be found here:

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At GrindTec: SF for series production

OTEC has developed a new immersion finishing unit (Type SF 3/105) with a pulse drive system specifically intended for integrating into production lines, thereby opening up new possibilities for the automotive industry, among others. This machine enables workpieces to be deburred, rounded, burnished or polished in a matter of seconds and incorporated into the production line as an integrated element. This provides considerable potential for rationalization in the manufacture of items such as worm shafts, cog wheels or even camshafts.
The modular design of the machine makes it easy to adjust the cycle time, which is often only a few seconds.
In addition to its incorporation into production lines, the SF 3 system as a whole offers many different ways in which parts for extremely sensitive areas of application such as hydraulics, complex tools, thread-cutting taps and fuel injection systems can be finished with absolute precision in extremely short times. Loading and unloading can – depending on the ancillary equipment chosen – be carried out manually, by a robot or via a handling system.
One of the technical highlights of the SF 3 is the pulse drive system developed by OTEC in which a rapid change of rotary speed delivers high-precision grinding by harnessing the difference in speeds of the workpiece and the media. This results in relative velocities of up to 30 m/s and accelerations of up to 40 g. During this process the clamped workpiece is immersed in a flowing stream of grinding or polishing medium whilst the direction of rotation alternates rapidly. It takes a mere 0.5 seconds to decelerate the medium completely and accelerate it again to a speed of 2,000 rpm.

Suction nozzle for extracting process water

The angle can be adjusted by means of a servomotor.

Introducing: Our process development department

This department is one of the centerpieces of our company. This is where samples are received from customers and are finished according to the customer's requirements. For each workpiece, the recommendations for the machine and process parameters are worked out and provided with the corresponding measurement documentation.

The initial and final state of the surfaces and cutting edges are recorded by means of state-of-the-art optical and analytical measuring equipment (µserf from Nanofocus and Infinite Focus SL from Alicona). Every week some 30 or so customer samples are received for processing at the company's head office in Straubenhardt, others are received by the OTEC agents abroad, who currently have smaller labs at their disposal. Complex workpiece are in all cases processed and documented at the corporate headquarters in Germany.
Ever since the company introduced its own documentation software some 12 years ago, over 25 000 process logs have been generated and issued in 13 languages. The workpieces to be finished came, and still come from, various branches of industry, ranging from automotive engineering to dental restorations.
Customers come and go in the process development department on an almost daily basis and are served mainly by four key members of staff. This means that solutions are often arrived at in a spirit of cooperation, an aspect appreciated not only by many customers but also by OTEC. Managing Director Helmut Gegenheimer sees this as a bonus for both sides. „This repeatedly inspires us to get closer to the needs of our customers in a number of ways, to develop new ideas and to drive innovation forward."

Alexandra Reuther, Mauro Ferdinandi, Walfried Wölk, Nico Biotto

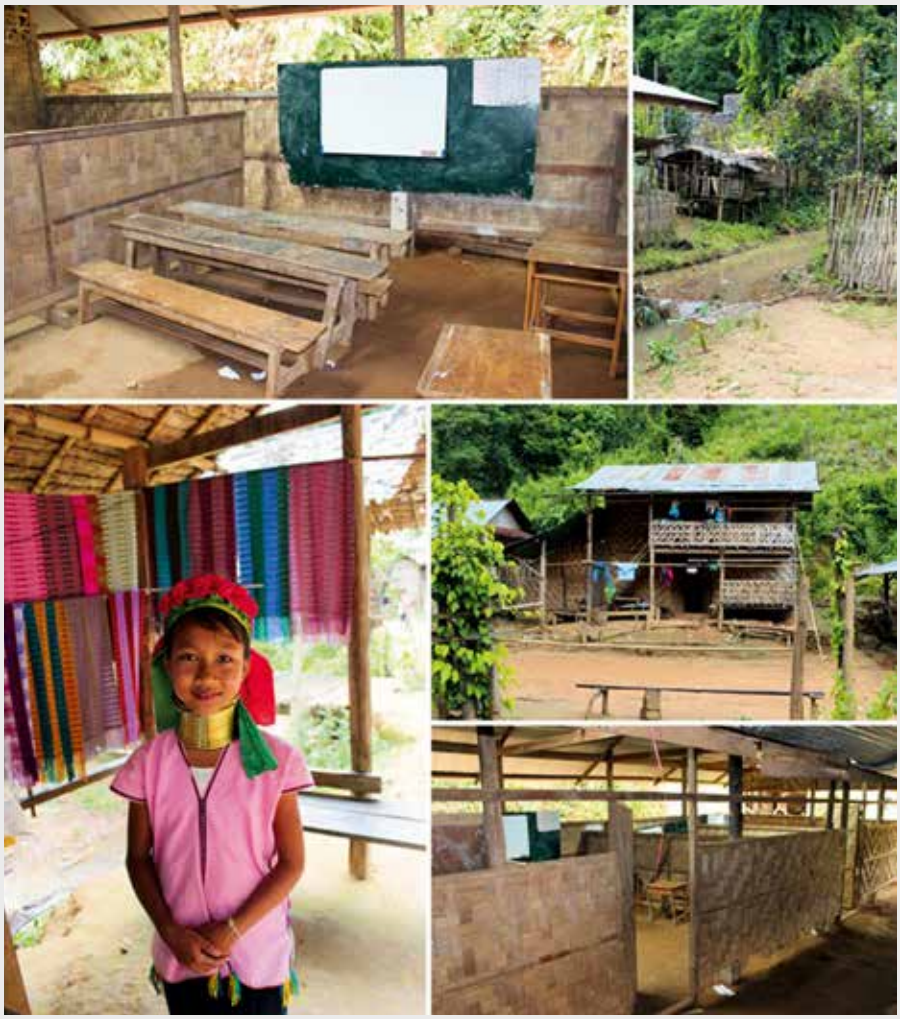
Technological leader in surface finishing for ceramics

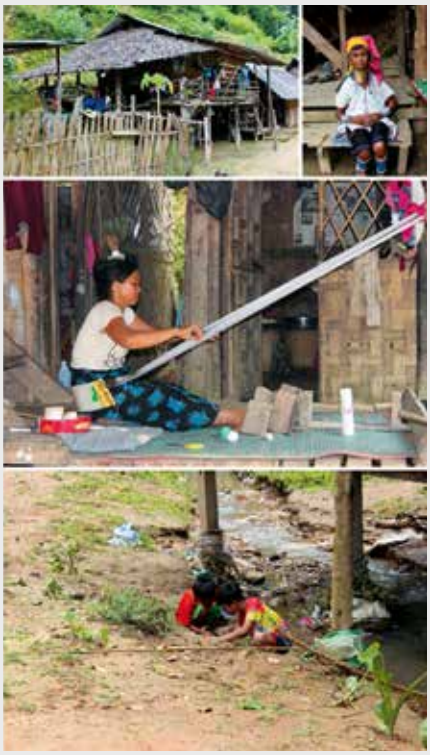
The surface finishing of ceramic workpieces presents one of the greatest technical challenges since this material is amongst the hardest there is. OTEC can rightly claim to be a technological leader in this sector.
The process developed in house by OTEC is based on the use of disc finishing machines together with the careful selection of suitable, highly efficient abrasive media. This enables very short process times to be achieved and produces extremely smooth surfaces for work-pieces intended for use in the medical and dental (implant) areas and for decorative parts (e.g. plumbing fittings), for threading elements (e.g. looms) and for some other areas in which technical ceramics play a key role.

before

after

Playground for children in long neck village





For many years now, OTEC has been supporting the German charity Thai Care which operates in Thailand and is dedicated to helping needy children. This includes helping in the familiar long neck villages in the north of Thailand. These villages, which are inhabited by refugees from Myanmar and in which women wear a number of rings around their neck and are therefore known as long necks or giraffe women, are major tourist attractions but often decried as human zoos. The people there eke out a meagre living by selling craftwork such as cloth, scarves, bracelets, etc. A major step forward was the school built by donations in order to give the children a better start in life. Now a playground is on the drawing board, together with playground equipment for the children. OTEC is pleased to have been able to assist in this project by donating a large part of its annual Christmas donation to Thai Care e.V.

IMPRINT

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