

## High-tech injection-moulded parts finished to a high quality Toolcraft concludes cooperation agreement with Wohlrab Aufdampftechnik GmbH

**Georgensgmünd (Germany):** Toolcraft has been active in the area of injection moulding and mould making since 2005, covering every step of the supply chain. The company's fields of expertise range from standard thermoplastics and high-temperature materials (PEEK) to insert moulding and multi-material injection moulding. The total solutions offered have now been extended, as thanks to its collaboration with Wohlrab Aufdampftechnik GmbH, toolcraft is able to provide high-quality finishing of high-tech injection-moulded parts.

### A versatile partner

Wohlrab Aufdampftechnik finishes the surfaces of sophisticated technical and decorative plastic parts. The company's robot-controlled finishing systems enable components used in the medical technology industry to be finished precisely and in a completely reproducible manner. During this process, the company uses a variety of biocompatible finishes and colourants. In addition to performing pad printing with up to six colours for photo-quality images, gold plating is also available on request. This is not only visually attractive, but also allows sensors to reflect infrared light. The anti-reflective and scratch-resistant coatings offered fulfil the stringent requirements of the automotive industry and are widely used in the optical industry as well.

### Success in exceptional methods

A PVD coating protects electronic components and shields them from electromagnetic radiation. Wohlrab coats metals using a sputtering process performed in its own specially developed systems. In contrast to conventional evaporation, this type of coating can be applied in a fully reproducible manner. "While evaporation involves pure metal being evaporated using heat and being condensed onto the pre-treated plastic components, sputtering bombards solid metal sheets (known as targets) with ions, which causes high-energy particles to be released," explains Christian Wohlrab, managing director of Wohlrab GmbH. "These particles concentrate in front of the target in the form of a cloud, through which the parts to be coated can then be moved. The coatings created in this way not only adhere considerably better to the pre-treated parts, but the process can also be used to apply metal alloys." The company also specialises in ITO coating – a conductive coating which, unlike metal layers, is transparent.

### Collaboration to bring mutual success

The benefits of the partnership are particularly clear in the field of hearing aids, as here the processes offered by the two companies are being expanded by each other's portfolio. Toolcraft can now finish high-tech plastic components for use in the medical industry to a high quality – by means of either a decorative finish or by a nanocoating which makes them resistant to environmental factors. In return, Wohlrab can from now on draw on toolcraft's expertise in the plastic injection moulding of extremely small parts. The partnership is bringing a host of benefits in other areas as well.

**Pressemitteilung / Press release****Advantages beyond the processing of plastics**

The companies derive particular benefits from each other in the research and development of plastic components and the finishing of these parts. Further points of contact are in the field of robotics, the control and automation of production steps as well as regarding 3D prototyping. Toolcraft already uses a 3D printing process to manufacture high-tech metal precision components which are ready for the production line – and is able to reproduce the entire process chain in house. Wohlrab uses this technology to produce plastic masks and mechanisms. The masks are used to cover areas of the plastic components that should not be refined, while the mechanisms are used to fix parts during the coating and finishing process. The partnership has also helped the two companies to work on a more international scale.

**Joint venture in Singapore**

Increasing internationalisation can be observed in the area of injection moulding in particular. Since Wohlrab already has offices in Singapore and Indonesia, a joint project in Singapore could be set up relatively quickly. Toolcraft exports nearly one-third of its products abroad to countries like Switzerland, the UK, the United States, Singapore and South Africa. This share will continue to grow in the coming years. In order to gain a foothold in the Asian market, toolcraft has now established a company in Singapore in collaboration with Wohlrab – Toolcraft Wohlrab Technologies Pte. Ltd.. In the future, its production site in Indonesia is due to be used for plastic parts production, surfaces coating, as well as the assembly of complete units. The parts will be specially produced to meet the needs of the Asian market. The aim of opening an additional toolcraft facility in the heart of Asia is to reduce the need for wasteful and costly logistics activities and, in turn, to safeguard jobs in Middle Franconia, Germany.

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**About Wohlrab**

Wohlrab offers the complete process chain for the surface finishing of plastic components. Its processes are used in a wide range of industries – from the medical technology and automotive sectors to the optical industry. State-of-the-art measurement technology ensures premium quality.

Besides refining processes such as finishing, pad printing and laser labelling, Wohlrab offers numerous other coating techniques. To name just a few, these include high-quality PVD coating for the metallisation of materials using sputtering, precious metal coating, dirt-repellent nanocoatings and transparent conductive ITO coatings.

Since being founded by Johann K. Wohlrab in 1976, the family company has continuously grown, with Wohlrab Asia Pte Ltd. and PT Wohlrab Indonesia being established in Singapore and Indonesia respectively in 2012.

**About toolcraft**

As a partner of engineers of almost all industrial sectors toolcraft manufactures precision parts, assemblies, moulds and injection moulded parts. Industries are for example the semiconductors, aerospace, medical technology, optical industry, special machinery manufacturing as well as motor sports and automotive.

Thereby toolcraft relies on innovations and invests in future technologies like 3D printing in metal as well as construction of individual robotic solutions. Part of the corporate philosophy is also an intensive cooperation with partners, such as Unicam Software GmbH, YPTI Indonesia, CONCEPT Laser GmbH.

The medium-sized family-owned company, located in Georgensgmünd and Spalt, was founded in 1989 by Bernd Krebs.