

# Rock'n'Roll and Cylinders

Be it at the ATM, at the vegetable scales or in the car park: the bank notes, the price label or the parking card are issued by rollers. TYP AG has specialized in such rollers and cylinders. Their products are used in many other applications – around the world.

**Luca Meister**

**R**ollers are used wherever something needs to be transported. Because more is being moved today than ever before, it is only logical that the precision rollers and cylinders from TYP AG are used around the world and in all conceivable areas of application: from printers to folding machines and even high-tech friction rollers, which – to aid with a tumor treatment – are used to guide a capsule into the skull and guarantee reliable feeding of wire. The main areas of application are, in addition to logistics and materials handling, the pharmaceutical industry and medical technology, where cleanroom requirements must be maintained.

TYP AG is a manufacturer and specialist for rubber, polyurethane, silicone, foam-rubber and CFRP

cylinders, as well as all types of rollers. Prototype construction, pilot series, hybrid components, CNC grinding technology and recycling are among our complementing fields of competence. The company's strengths lie in its great flexibility, the possibility of framework contracts, just-in-time production, customer support and a high quality standard.

## Perfect roller performance

From individually tailored orders to large-scale production, the company offers extensive experience in the transporting of various goods. This is successfully implemented, for example, with "Omni-base", a completely novel drive unit based on Mecanum wheels. While familiar four-wheel drive systems can



Image: Seckler

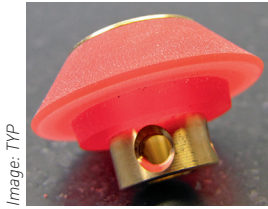


Image: TYP



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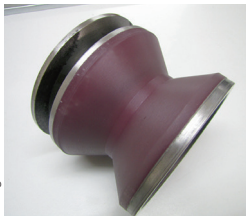


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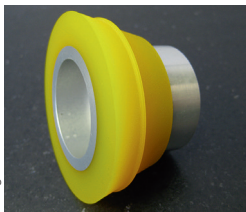


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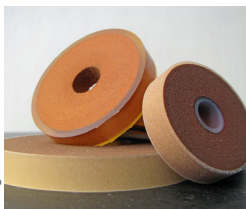


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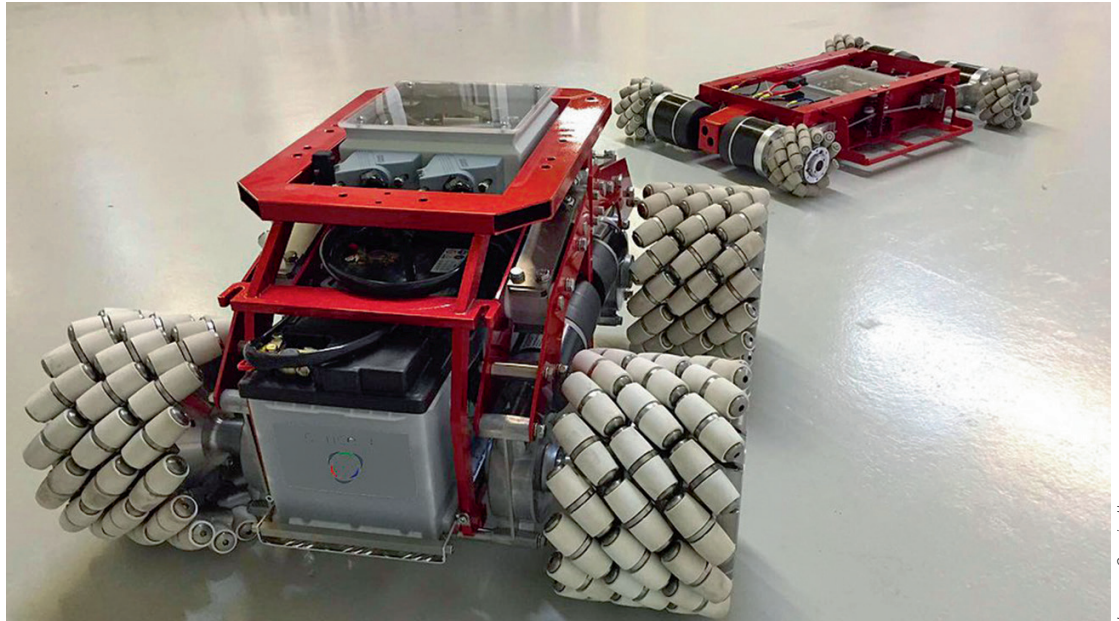


Image: Omniroll

only move in one radius by means of a steered axis, drive systems based on Mecanum wheels are able to move in any direction from standstill: straight ahead, sideways, diagonally or even rotating on the spot – thanks in part to TYP rollers.

Compared to conventional Mecanum wheels, the Mecanum wheels from Omniroll feature nearly perfect rolling geometry and maneuverability. Together with a refined damping system, almost the same smoothness of a normal wheel is achieved. The Omni-base is operated via a joystick, the movements of which are transferred one-to-one to the drive unit, as well as a touch screen for controlling all other functions.

Martin Füg and Pasquale D'Amico, managing directors and members of the TYP AG board of directors, explain nearly in unison: "With the Omni-base project, we defined on the one hand the material and grinding technology of the rollers and, on the other hand, the adhesion and abrasion resistance with a load of 1.5 tonnes between the plastic cores and the coatings. It was a challenge here to achieve highly precise concentricity through CNC contour grinding to allow the vehicle to move smoothly – with toolmaking Made in Switzerland."

### Precise loading through flexible automation

Another application example can be found right in the middle of a current technology trend. One of the greatest challenges at the moment is the implementation of flexible automation solutions for systems that were previously only economical or feasible for large-scale production. Thanks to flexible infeed, loading and unloading systems, as well as customized CNC machines and directly integrated laser controls, small batch sizes can quickly be set up today in just a few simple steps.

In the automation project for manufacturer Seckler as a peripheral to the CNC cylindrical grinding

machines, use is made both of TYP rollers and cylinders, as well as TYP know-how. Martin Füg adds: "In addition to the overall conception, we defined the flexible design and unique, non-contact laser control system to facilitate the use of various cylinders and rollers. With respect to Industry 4.0, short setup and changeover times are now facilitated." Regardless of whether a feed roller made of rubber, a drive wheel made of polyurethane, a non-stick cylinder made of silicone or a pressure roller made of foam is needed – TYP AG is able to flexibly and quickly change over grinding processes for various coating materials thanks to its many years of experience in CNC cylindrical grinding and contour technology.

### What is taken into consideration during the design process?

Increasing requirements require exact clarification with designers and project managers for the production of rollers and cylinders with surface coatings made of rubber or plastic. When selecting the material, harder and/or softer materials must be defined depending on the function and load. Softer rubber, polyurethane or silicone materials have good adhesion characteristics. With harder types, on the other hand, the abrasion resistance and the wear protection are better. Also important are the surface contour and quality. Other important parameters that must be considered also include the chemical and mechanical loading, as well as local environmental influences. The latter can significantly impact the performance characteristics of the coating.

SMM

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