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Practical storage system for tools and accessories Compact, easy to use and connected to the ERP system

In modern production departments that are equipped throughout with IT connections to the machines, those responsible have a constantly updated overview of the most important processes in production. A central, IT-supported management of operational resources and processes (Enterprise Resource Planning, ERP) optimises the process. However, there are often still shortcomings in the management of tools. They are often scattered throughout production in various drawers and containers. Due to the insufficient overview, order processes are partly random. A storage system such as UNIBASE-S can redress this situation.



The compact UNIBASE-S units can be set up in production in close proximity to the machines.

"We are a European technology and market leader in the manufacture of sophisticated electric drive systems for wheelchairs, stair lifts and push aids and even for agriculture", explains Dr Ing. Alexander Ludwig, Managing Partner of AMT Schmid GmbH & Co. KG in Sauldorf-Krumbach. As is often the case in this region, a resourceful entrepreneur founded a workshop here in what was formerly a farm forty years ago which has since developed

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into a high-tech company with around 150 employees. The basis of this success story is the perfectionism with which the founding family, Schmid, kept pushing the development of their products. They produced drive systems with properties that are perfectly adapted to the very specific requirement profile of the respective fields of application. In the case of wheelchairs, criteria such as speed, range and power reserves for overcoming obstacles, such as kerbs, play an important role, not to mention other aspects such as robustness, space requirements, weight and noise. This means there are differently designed wheelchair drives for specific user groups such as young people or the elderly which are precisely adapted to the respective requirement profile. These kinds of customised solutions are what the wheelchair manufacturers are looking for for their end customers. The systems produced in Sauldorf-Krumbach are therefore in demand all over the world.

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AMT Schmid is a technology leader in drive systems for assistance systems such as wheelchairs, stair lifts or push aids as well as for means of transport in fields such as horticulture and agriculture (Photo: AMT Schmid)

Perfection leads to more in-house production

"The uncompromising optimisation of our drive systems means that nearly all essential components are custom-made", adds Dr Ludwig. Apart from a few standard parts such as screws and washers, everything is constructed



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and also manufactured in-house, with a few exceptions such as cast parts. In this area, around 40 employees operate around 20 modern, CNC-controlled machine tools such as gear-milling machines, milling machining centres, automated lathes as well as grinding and honing machines. On the one hand, the high level of in-house production is cost-intensive. On the other hand, the comprehensive competence on the design and manufacturing process side gives rise to cost advantages, for example through the integration of functions in component design. This also benefits the customers as AMT Schmid can almost always respond to enquiries with suggestions of technical improvements that have significant advantages in terms of function and product features compared to the originally requested design. Customers very much appreciate this consulting expertise.

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"I'm very satisfied with the progress made with UNIBASE-S. For the future, even further expansion is conceivable by adding a larger drawer system for tools with tool holders" Dr Alexander Ludwig.



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Cost optimisation regardless of small lot sizes

"As far as our manufacturing costs are concerned, we have the disadvantage of small lot sizes because of the high number of around 1,000 different products or product variants", Dr Alexander Ludwig explains. In accordance with the company's philosophy, they only manufacture what is ordered by the customer. This means that on the machines, the lot sizes typically get into a mid-range of two or three figures. This entails a correspondingly high changeover requirement. In order to still be able to produce at reasonable costs, the entire area was optimised with iron consistency. This also includes the efficient use of space and the workflow. In doing so, the company is guided by the world's very best forms of organisation after having carefully adapted them to its own conditions. Quality assurance is also an integral part of this strategy.



There are numerous CNC-controlled systems such as automated lathes, milling machining centres, gear cutting machines or cylindrical grinders in the machine hall.

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The "black hole" of tools

"Our production with its complex machining and frequent changeovers requires the use of a very large number of different tools, right down to the indexable insert", reveals the AMT-Schmid Managing Director. Precisely such components are often stored directly at the machine by the employees after collection from the central distribution point. This saves lots of walking and workers have the material quickly at hand again when needed. However, if another worker requires the same tool in the meantime, it's not there and they have to take a new one out of the package. This can quickly get on top of you, so you're unclear about the stock situation. Although individual employees are aware of what's happening, the situation was confusing from the point of view of those responsible for ERP. It was also contrary to the company's strict optimisation philosophy and led to the search for a suitable solution.



Drives with optimum properties require special designs, meaning a high level of inhouse production. Pictured here are brass gears for worm gears.

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The decisive human factor

"In 2019, Dr Ludwig came to our stand at a trade fair and saw the UNIBASE-S tool dispensing system", recalls Alexander Schuh, responsible for Business Development Machines and Services at MAPAL. The customer was particularly impressed by the fact that this compact, easy-to-use storage unit for tools, indexable inserts and small parts such as clamping screws can be set up near the workstation in a decentralised manner. This saves employees unnecessary trips. The units only require a 220V connection and communicate with the master system either via data connection or wirelessly via WiFi. Another advantage is the option to re-log tools after use, therefore making them available to others. This is an important factor in establishing confidence that there will always be sufficient availability. It also means workers can resist the urge to hoard a certain "emergency supply" of tools at the machine. Therefore, the management pursues the goal of minimising stocks without there being shortages. To achieve this, however, the employees must first be convinced of the new solution. The user-friendliness of UNIBASE-S is very helpful in winning over employees.

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"The proximity of the UNIBASE-S system to the workstation saves staff inconvenient trips, and re-logging the tools after use reduces the tendency of hoarding tools in drawers" Alexander Schuh, Business Development Manager Machines & Services at MAPAL.



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Step-by-step optimisation

"After appropriate consultation and clarification of any remaining questions, in spring 2020 we acquired two UNIBASE-S units together with the associated master system for our production", explains Dr Alexander Ludwig. Following installation and staff training, the learning and start-up phase began. A few "teething" problems were resolved through remote control software updates. The system was then gradually started up. During the process, the experiences gained in operational practice as well as resulting suggestions for improvement were addressed to the MAPAL developers and gradually integrated into the software. The data of all transactions land centrally in the ERP system and enable stocks to be properly tracked and optimised. Access is enabled with the same chip that staff use to record attendance time or to pay for food in the canteen. Each employee can be assigned certain authorisations. The aim is to have no tool left at the machines once a job has been completed. Now, the staff are happy with the system. "I'm very satisfied with the progress made with UNIBASE-S in tool management. For the future, even further expansion is conceivable by adding a larger drawer system for tools with tool holders", Dr Alexander Ludwig sums up.



Easy to use: After the desired transaction has been selected, the drum position is shown. After turning the drum by hand, the compartment is marked with a blue light bar and can be opened. Finally, the transaction must be acknowledged.

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Short profile MAPAL Dr Kress KG

MAPAL - tooling the customer's success

MAPAL Präzisionswerkzeuge Dr. Kress KG is one of the leading international suppliers of precision tools for the machining of practically all materials. The company founded in 1950 supplies leading customers from the automotive and aerospace industries and from machine and plant engineering. With its innovations the family-owned company sets trends and standards in production and machining technology. MAPAL sees itself as a technology partner, supporting its customers with the development of efficient and resource-conserving machining processes using individual tool concepts. The company is represented with production facilities, sales subsidiaries and representatives in 44 countries worldwide. The MAPAL Group generated sales of EUR 460 million in 2020 and has around 5,000 employees.

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