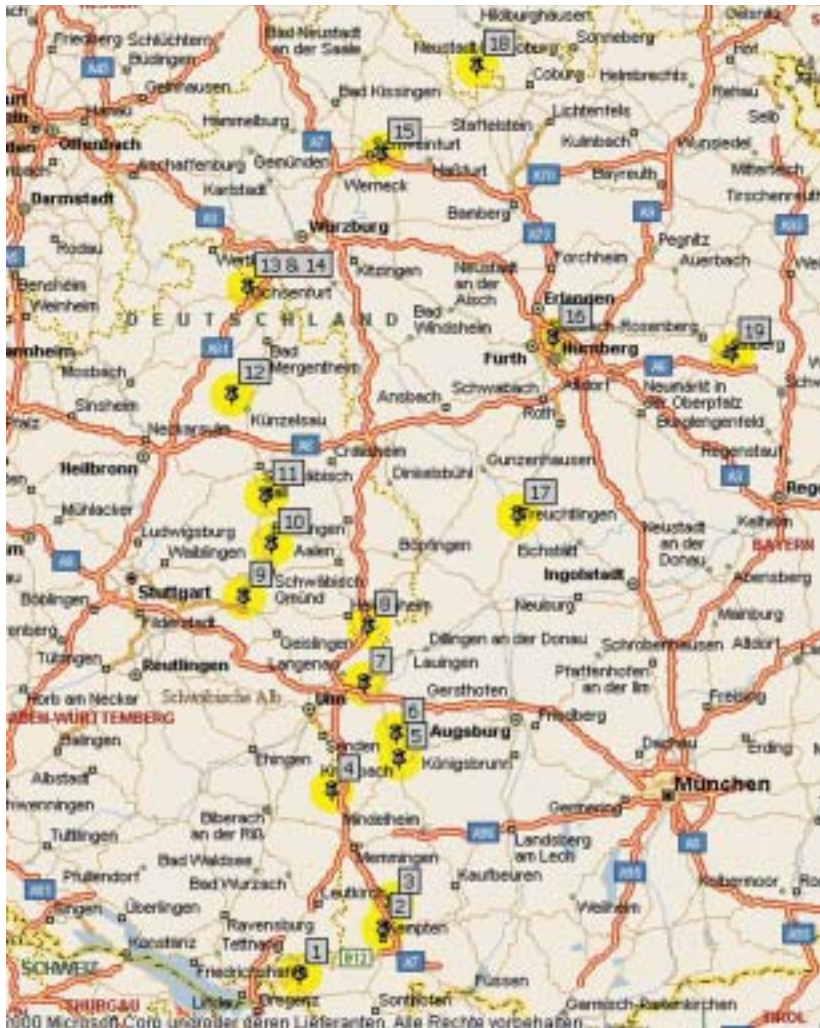


Germany's "Magic Route"



We make a total of 19 stops on our journey along Germany's "Magic Route".

1. Schmid Montage: Metal Panels

In Simmerberg in the attractive Allgäu area, the company Schmid Montage GmbH produces high-quality metal panels. Approximately 220 employees manufacture various components for high-grade interior design. Schmid Montage GmbH has been powder coating on a MagicCylinder for about 3½ years. Parts up to a maximum height of 2000 mm and a maximum width of 800 mm can be coated on the unit. What is more, the aluminium profiles can be up to 7 metres long. For the trouble-free coating of more complex parts, the MagicCylinder was equipped by Schmid Montage GmbH with one precoating and one touch-up coating station. This MagicCylinder booth was one of the first to be fitted with openings for manual coating, and this solution has proven to be ideally suited for this application.

2. Haslach: Machine Covers

As we travel further in a north-easterly direction, we arrive in Kempten, where the company Haslach GmbH, a family business, specialises in the production of machine covers, using one of the largest MagicCylinders. Parts up to 2400 mm high and 1500 mm wide (with a maximum length of up to 7000 mm) required an exhaust air extraction power that had not been previously achieved with this booth type. The unit was designed for 24,000 m³/h of exhaust air. The air circulation had to be adapted accordingly for this gigantic amount of suction power. The result was the first oval MagicCylinder booth. For manual coating, a height-

In the south of Germany, on the route from Lake Constance to Nuremberg, a large number of "Magic Cylinder" powder coating booths are now in operation – a demonstration of the impressive versatility of powder coating. Come with us as we take you on a trip along Germany's "Magic Route".

Germany has a wealth of interesting routes – for example the Romantic Route, the Wine Route or the Castle Route. But one that you won't find in any travel guide is the "Magic Route". The naming of this route was the idea of ITW Gema AG from St. Gallen in Switzerland – and is attributed to the fact that between Lake Constance and Schweinfurt there are no less than sixteen Magic-

Cylinder powder coating units. And with a small detour to Nuremberg, the number could even be extended to nineteen, over a distance of almost 1000 kilometres. In the following article, we would like to briefly present these MagicCylinder units and their users, who can all be found (roughly speaking) along the A7 motorway. The journey starts in the south, directly behind Lake Constance.



Impressive dimensions: the coating line at the company Haslach was designed for parts measuring up to 2.4 metres wide and 7 metres long.

adjustable pedestal was installed at each entrance and exit of the booth to ensure that the workers are able to coat such tall parts without having to perform gymnastic exercises. The new control system and the powder centre are also located in a very user-friendly position.

The owner, Mr. Haslach, is absolutely convinced of the benefits of the new quick colour change system. "I couldn't imagine a better solution! Comfortable operation, quick colour changes and the coating results achieved are all first-class. The latter is due to the new control system, which shows the coating parameters that have been set and includes a hose length correction facility. Together with ITW Gema AG, we found a solution that is precisely matched to our requirements and brings us maximum benefit."

3. Maha: Vehicle Testing Equipment

The next stop is Maha GmbH in Haldenwang, a manufacturer of testing equipment for vehicles, as well as lifting platforms, engine diagnostic equipment, brake test stands and much more besides. In the next few weeks, the company plans to install a quick colour change system with 8 powder guns.

4. Karl Miller: Housings

Karl Miller GmbH has 280 employees producing control cabinet housings, linings, booths, machine racks

and desks at three locations. Kirchberg on the Iller is the company's powder coating competence centre. Since the end of last year, a new MagicCylinder quick colour change system has been in operation alongside the proven MFR booths. To support the 12 automatic powder guns, the unit is also equipped with height-adjustable pedestals for manual coating, thus permitting fatigue-free precoating and touch-up coating of parts up to 2300 mm high.



Height-adjustable pedestals for manual coating at Karl Miller avoid fatigue during precoating and touch-up coating.

The booth illustrates how the manual coating stations are optimally integrated into the MagicCylinder booth. The powder is fed directly into the suction channel by the manual coater.

We asked Mr. Utz, production manager at Karl Miller GmbH, what the main advantage of the new quick colour change system is. He said: "The main advantage is certainly the uniform coating result. The control system offers a level of precision that was previously inconceivable. This in turn provides better results, less waste and therefore better cost-effectiveness for us".

5. Faist Anlagenbau GmbH: Acoustic Technology

With its 165 employees, Faist Anlagenbau ranks among the world's market leaders in the field of industrial noise control units and acoustic measuring rooms. An ultra-modern powder coating unit for the fully automatic coating of components up to 7 metres long was recently installed at the



Faist, manufacturers of noise insulation systems, demonstrated their expertise in this field by encapsulating the cyclone to provide virtually silent operation.

Krumbach site. Faist invested EUR 2.5 million to extend capacity by 3600 m². In order to prove its expertise in the field of industrial noise protection systems, the company simply encapsulated the cyclone of the quick colour change system, with the result that the unit now runs almost silently!

Parts 800 mm wide and 2300 mm high can be coated in the unit, and the pretreatment and oven can deal with parts up to 7 m long. This means that FAIST can offer a total coating capacity of some 120,000 m² a year in single-shift operation. Normal operation is fully automatic with 11 automatic powder guns. In addition, the quick colour change system is equipped with manu-



At Megamat, one quick-change booth is used in the classic manner for colour changes and a second is used mainly as a single colour system.

al coating stations to allow special parts to be coated. In order to fully utilize the capacity of a second shift, the new powder coating unit will also be used for subcontract coating in the future.

6. Megamat: Logistics Systems

Megamat GmbH in Neuburg on the Kammell, which is part of the Kardex group, specializes in the development and creation of intelligent logistics solutions on the basis of innovative, dynamic storage systems. Megamat uses two MagicCylinder units in parallel. One booth is used in the classic manner for colour changes. As it enters the booth, the parts hanger logs "its" colour onto a large numerical display attached to the booth. The second line is used mainly as a single colour system. Both lines are equipped with precoating and touch-up coating stations. This means that Megamat has the benefit of a highly flexible powder



At Wanzl, the two automatic booths and one manual booth were arranged at an angle to each other. The chain speed is 4 metres per minute.

Figures: ITW Gema

coating plant that meets all requirements. The parts can be up to 1800 mm high and up to 900 mm wide.

7. Wanzl: Shop Fittings and Furnishings

Wanzl GmbH, based in Leipheim, is the leading manufacturer of shopping trolleys and shop display equipment for the presentation of goods. 2000 employees produce over 1000 products at seven production plants. Design is a major priority at Wanzl, so it comes as no surprise that even the arrangement of the two MagicCylinders and the manual coating booth is somewhat out of the ordinary. The booths are set at an angle to each other and the parts to be coated are supplied fully automatically by a 450-metre-long chain conveyor system. A total of 40 automatic powder guns coat the parts in all colours on the MagicCylinders. A central PLC unit controls the process – an absolute necessity at a chain speed of 4 m/min.

8. Bosch Siemens HG: Refrigerators

In Giengen, Bosch Siemens produces domestic appliances, including such items as flat refrigerator evaporators. At the moment, these components are produced exclusively in white. But Bosch Siemens has kept the option open for future colour changes by installing a MagicCylinder quick colour change system. The system has 16 powder guns.

9. MPL: Subcontract Coating

This subcontract coating company MPL GmbH in Göppingen has been using a MagicCylinder quick colour change system for some time now. MPL was one of the first to use such a booth with manual coating stations. The whole bandwidth of customer parts, up to a height of 1600 mm and a width of 1000 mm, can be coated using this unit. Because the opportunity to

perform manual coating is a substantial benefit for subcontract coaters, they are particularly happy about the perfectly integrated manual coating openings. The flexibility of the unit is exploited every day, and (almost) all of the customers' requests can be fulfilled.

10. Steelcase: Office Furniture

Steelcase is one of the largest manufacturers of high-quality office furniture in the world. The name Steelcase also unites the companies Waiko and Werndl, both notable manufacturers of office furniture. Exclusive office furniture is produced in Durlangen, origi-

ers of industrial and vehicle equipment. Bott offers a wide range of professional equipment for industry and handicrafts. Since the desire to have parts coated in various colours has also become apparent in this sector, Bott GmbH decided to acquire a MagicCylinder quick colour change system. The system can handle parts with a maximum height of 1500 mm and a width of 1100 mm. Eight automatic powder guns and one pre-coating and one touch-up station allow all kinds of equipment cabinets and parts to be coated. Due to the extremely large variety of parts manufactured, the possibility of storing up to 255 coating programmes in the state-of-the-art control unit is particularly useful



Bott, manufacturers of industrial and vehicle equipment, use their quick-change booth to deal with an extremely wide range of parts.

nally the headquarters of Waiko. Here we encounter a very special MagicCylinder. This booth is used for purely manual operation, but is already prepared for conversion to automatic application at a later date. One pre-coater and one touch-up coater manually coat racks, table legs and other small parts.

11. Bott: Vehicle Equipment

Wilhelm Bott GmbH & Co. KG is one of the world's leading manufactur-

ers and much appreciated. It allows the same coating parameters to be recalled at any time, even for those parts that are only rarely coated.

12. MWN: Shelf Parts

The company Maschinewerke Niederhall (MWH) specializes in the powder coating of shelf parts and display racks. Modern racks are becoming more and more colourful. The common brown shelves have long since been discarded, and the fashion now is to

have sales racks in colours such as red, orange, green, blue, etc. MWN decided to acquire a MagicCylinder quick colour change system with 20 powder guns in order to continue dealing with this variety of colours in the future, too.

13. Mott: Stages

In the medieval town of Tauberbischofsheim, the company Mott GmbH has been manufacturing mobile stages for more than 75 years. Its range includes mobile standing and seating facilities as well as the corresponding components for meetings, events and shows. A few years ago, Mott replaced its old filter belt booth and invested in a modern powder coating unit in order to increase capacity and quality and to adapt to customer demands. Due to the limited space available, the unit had to be made as compact as possible, and the result was a solution specially designed for installation in tight spaces. In the end, the round MagicCylinder powder coating booth became a square one – without losing any of the benefits of the MagicCylinder. Flap openings for the exhaust air and manual coating stations are still available.

14. Vereinigte Spezialmöbel: School and Office Furniture

Also in Tauberbischofsheim, the company VS Vereinigte Spezialmöbel GmbH manufactures high-quality school and office furniture with a workforce of 1300 employees. A MagicCylinder has been in continuous operation here for six years now, at a conveying speed of up to 6 m/min. Each booth is equipped with 18 automatic powder guns as well as two manual coating stations. In this unit too, the booths are arranged at an angle to each other in order to use the space available as efficiently as possible.

15. Punitec: Subcontract Coating

An interesting plant configuration can be found at the subcontract coating



Due to the limited space available, the round cylinder in this application example was transformed into a square booth.

company Punitec GmbH, based in Gochsheim near Schweinfurt. The old powder coating unit was replaced by a completely new MagicCylinder quick colour change system as well as a new pretreatment unit including an oven. The plant manager, Mr. Hamm, says: "It's a great thing to be able to plan a new production line on a 'green field' site. Far fewer compromises have to be made than if we had to integrate the line into existing space conditions." The new unit has become much more flexible as far as part size is concerned. Today, parts up to 2 metres high and 1 metre wide can be coated. During our visit, we saw five-metre-long green-coated aluminium profiles being coated over with silver metallic powder. "It's amazing what results we get with the new powder gun control system," said Hamm. "The possibilities for setting the voltage and the spraying current mean that coat-

ing-over is no longer a problem. We couldn't even think of doing that with the old unit."

16. Riedel & Sölch: Subcontract Coating

The subcontract coating company Riedel & Sölch GmbH is a specialist in the optimum utilization of space. The powder storage warehouse is fully automated with a horizontal 'paternoster' storage system, and the pretreatment system is a model of compactness. Since there was by no means enough space for normal pretreatment, Riedel



The coating booths were also arranged at an angle at the special furniture manufacturers VS in order to make optimum use of the space available. The unit has a conveying speed of six metres per minute.



The subcontract coating company Punitec built a new powder coating plant on a 'green field' site, which meant that no compromises had to be made with regard to space planning.

& Sölch invented and built a pretreatment system that separates the individual pretreatment zones from each other using automatic plastic curtains. Today, Riedel & Sölch also successfully sells this system on the market. Installation of the MagicCylinder powder coating unit was not a simple matter either, and a few tricks were called for. For example, a two-metre-thick wall was quickly demolished to allow the cyclone and filter to be assembled on the spot. "We've never regretted the purchase for one second", said Riedel & Sölch's managing director Mr. Merken-schlager, "even though we would have had less rebuilding work with a standard unit because of the cramped space conditions. The concept is just perfect

for us, particularly because of the possibility to carry out manual coating."

17. KB Kunststoffbeschichtung: Aluminium Profiles

The subcontract coating company KB Kunststoffbeschichtung GmbH in Treuchtlingen, which specialises in the coating of aluminium profiles, also uses a MagicCylinder quick colour change system. The ten-gun unit opens up all possibilities for the demanding coating of the aluminium profiles.

Incidentally, KB Kunststoffbeschichtung was faced with a similar problem to Riedel & Sölch: they had to radically create space to house the new

unit! The problem was solved by extending the storage hall, increasing the height of the roof and adapting a few other details

18. Höhn: Subcontract Coating

For two years now, the subcontract coating company Höhn in Heidelberg has been using a MagicCylinder unit that corresponds technically to the one in operation at MPL. Eight powder guns are used to coat parts with a maximum height of 1600 mm and a width 1000 mm. The maximum throughput rate for the parts is 2 m/min.

This plant marks the northernmost point of our "Magic Route". From here, we set off again in a southerly direction.

19. Grammer: Seat Systems

Finally, we make a short detour to Amberg, where we find the company Grammer. Grammer is a world leader in the development and production of driver's and passenger's seats, as well as products for automotive interior equipment. Every day, the company delivers 2000 driver's seats for tractors, construction machinery and fork lift trucks in a variety of versions "just in time", as well as 400 passenger's seats for trains. This means that the quick colour change system for the powder coating line has to be equally flexible. Between eight and ten colour changes are necessary every day (two shifts). The main unit, the "MagicCylinder", was equipped with a precoating station and a touch-up coating station to allow difficult parts to be coated manually if necessary. The booth can take parts up to 1500 mm high and up to 1000 mm wide, and parts up to 2800 mm long can be pretreated, all at a maximum chain speed of 4 m/min. A manual coating booth that was already installed will continue to be used for very small batches.

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