

# MagicControl 4.0

The pioneering interface for Smart Factory Automation



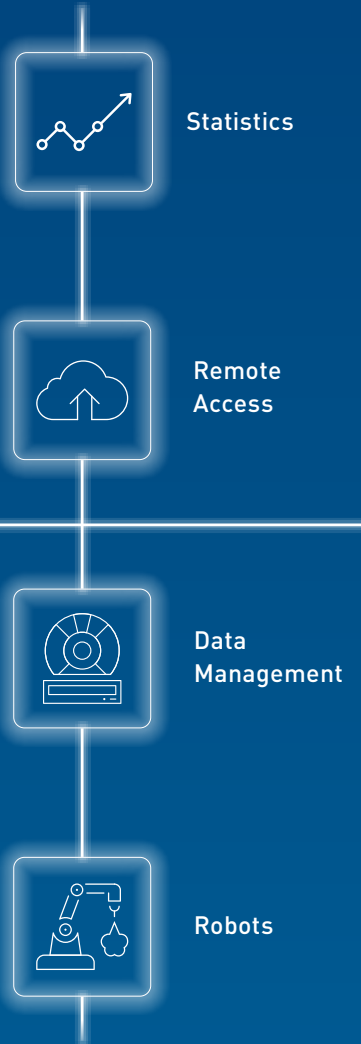
## Automation and process control

MagicControl 4.0 is the central control unit for the powder coating systems. The clear user interface enables full control for all automation aspects of the application process. This allows complete operation of the coating line, enabling consistent process reliability. The MagicControl unit enables simple integration into the production environment.

Your global partner for high quality powder coating

 **Gema**

# Fully integrated automation



## The core of automation

With MagicControl 4.0 all system components of the coating line can be linked and controlled, warnings and error messages monitored, application programs stored and production data generated. The comfortable touch screen interface with its self-explanatory icons is clear and simple to use for every operator. The coating parameters can be individually adapted to different powder types or applications. The result is constant coating quality and minimal powder consumption.

### Ergonomic handling

All parameters can be viewed and directly edited for the entire coating system via the screen. The self-explanatory icons and operation messages enable an easy and user-friendly use for every operator.

### Application areas

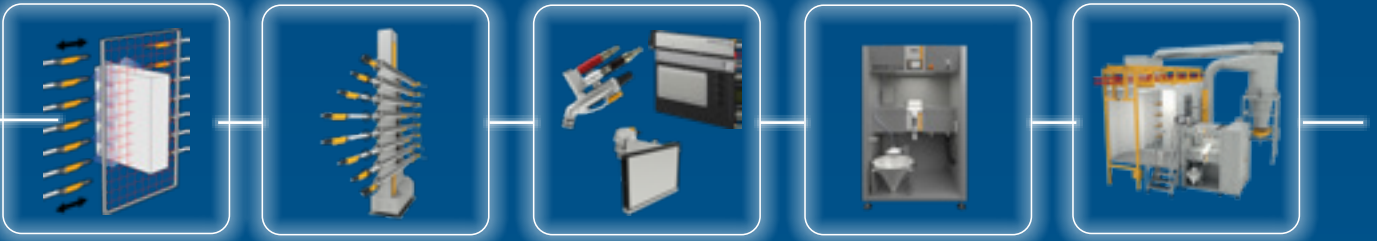
MagicControl offers extensive functions for applications that require an outstanding and reproducible coating quality and where a fully automated and replicable application is required.



### Vertical and horizontal integration

MagicControl 4.0 can be vertically integrated into existing systems and production infrastructures, allowing a bidirectional data exchange for an effective production process.

Horizontally, the MagicControl unit is linked with all components of the coating process and allows a high degree of automation.



### Product Highlights

- Clear touch display for simple control of booth, guns, reciprocators, axis and powder supply
- Large 15" display with descriptive icons
- Robust CAN-Bus-Technology for horizontal networking
- Data exchange with higher level plant control systems
- Storage of application parameters and coating programs on SD cards
- Flexible integration into a control cabinet or as a remote column
- Graphically processed operating data acquisition, wear part monitoring, maintenance planning, coating overview of batches
- Energy consumption measurement
- Recording of ambient conditions



# Centralization of all parameters

## One control unit for all functions

With MagicControl 4.0 all essential functions and application parameters for the application are centrally controlled. Thus, the guns, axis and the complete coating system can be easily parameterized and programmed. Individual programs can be retrieved at any time providing repeatable and precise coating results.



## Gun Control

A constant powder output and even film thickness distribution are ensured by optimal gun settings. With just a few steps all pneumatic and electrostatic parameters for every single gun are optimally set, individually controlled and stored with MagicControl.

The stored values can be adapted simultaneously for all guns or in groups. The simple storage of the values takes place with the touchscreen of the MagicControl.

## Axis Control

The object dimensions, which have been identified with the part detection system, are translated into smooth movements and precise positioning of all axes. Thus, for all object dimensions the guns are always in the correct position for coating of the object. The stroke movements are adjusted to the conveyor speed and ensure optimum coating results.

For complex components, individual movements with synchronized and rotating axis are easily programmed and managed with the MagicControl screen.



### **System Control**

The MagicControl control unit allows optimal adaption and monitoring of the complete coating system with just one unit. Different programs for coating, color change, automatic and manual coating, cleaning and maintenance enable an optimized application process. Therefore, an accurate and perfect automation of the coating process is achieved. The system control guarantees the data exchange with the higher level plant systems and offers individual integration into the complete production process.

### **Part Detection**

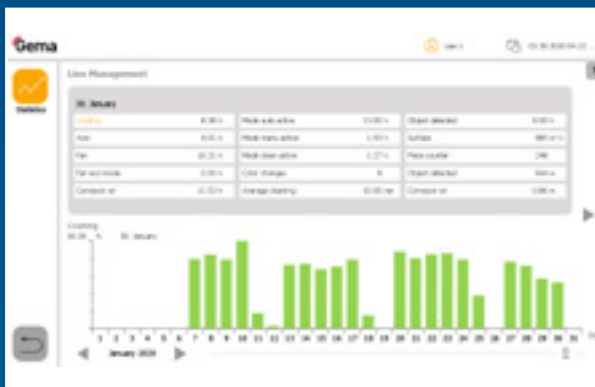
With the part detection the guns are automatically triggered on and off, achieving the highest quality coating and minimising powder consumption. MagicControl in combination with part detection enables programming of the optimal gun configuration for different part sizes with just a few steps. For complex geometries, the new object contour detection with laser scanner positions the axes and guns optimally based on the scanned contour. This technology improves the quality and saves powder.

# Data Management

## Operating data acquisition and access

With its integrated statistics, trend tools and wear part monitoring, the MagicControl gives the user the possibility to analyze crucial production information to support plant optimization.

The MagicControl controller offers convenient access directly on the device or via remote client for service and support.



### Line Management

Production analysis visually structured through continuously updated operating data

### System diagnosis

Optimum maintenance due to wear indicator for the most important application components

### Machine data

Up-to-date information on the individual functions and components of the system

### Batch Management

Tracking of powder consumption per order with or without scales

### Energy and environmental data

Visual display of energy and compressed air consumption as well as the course of temperature and humidity

### Data Storage and Export

Your individual coating data and programs are valuable. This is why we give you the opportunity to store them on an SD card of the MagicControl unit and to retrieve and use them at any time as required. Optionally, you can export the application programs, machine data and plant statuses from a data collection to meet the future requirements of your industry 4.0 environment.

MagicControl also offers the possibility to read out the error history and thus provides valuable information to point out system adjustments.

# Flexible Integration

## Set up the coating system to meet specific demands!

With MagicControl 4.0 a flexible integration into the coating system is achieved. The control unit can be installed into a master control cabinet, or as a remote column enabling MagicControl to be used directly where the application takes place providing a high degree of ergonomics.

Based on the standard configuration, the system can be easily extended with additional components, such as axis and guns, at any time.



### System Access with Remote Client

The Gema service department and software engineers access your system control quickly and easily from the PC via Remote Client. The mirrored image of the original screen allows us to easily view your plant parameters and offer direct online support from the headquarters if required.

### Status monitoring

The extensive MagicControl diagnostic functions enable monitoring of all areas of the coating system. This monitoring allows the control of single system components, of the CAN-Bus participants, sensors and actuators. Status deviations can be detected early and communicated. With the clear overview of individual conditions, variations can be quickly detected.

### Robot Integration

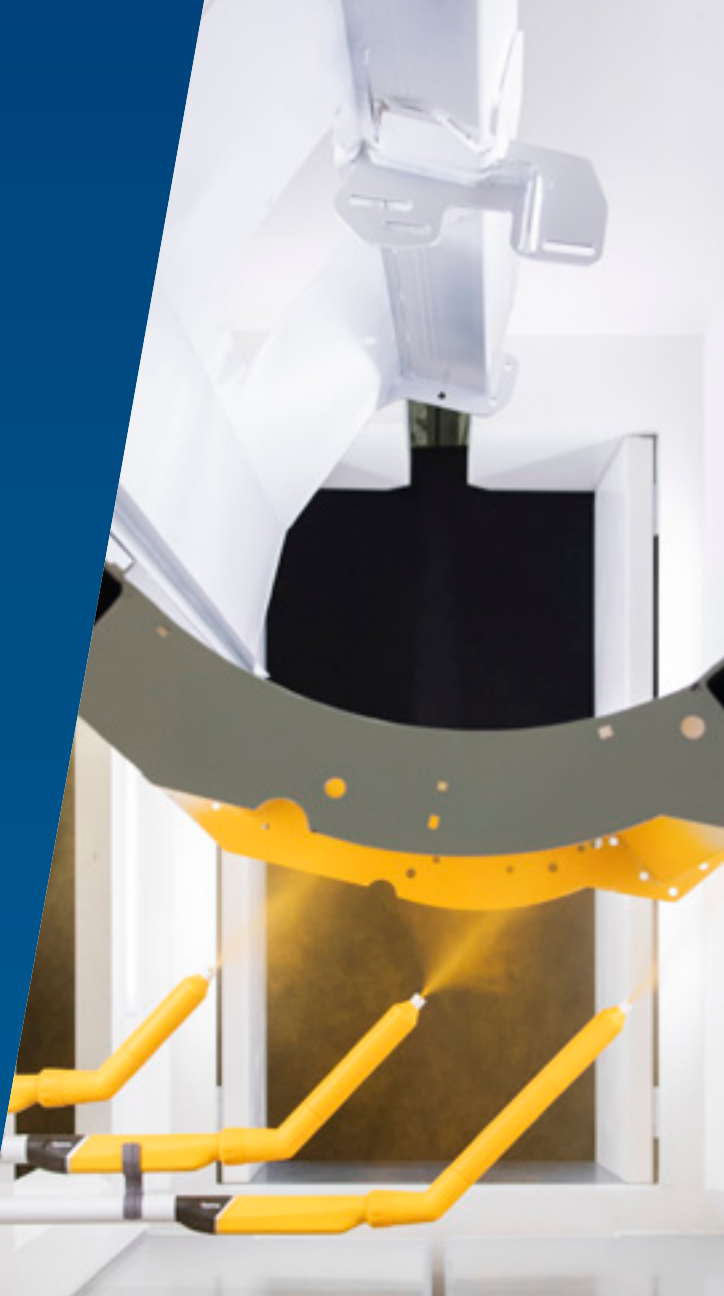
If maximum flexibility and limited programming are required, the usage of a robot is the right solution. The programming of the robot is carried out with different «Teach-in» procedures. For example, the gun is moved according to the geometry and the motion sequence, with the coating process parameters saved by the robot. Gema provides the necessary adaptors to connect the robot applicator to the robot arm. Additionally, providing the necessary signal communication to accurately define the coating start and stop points. As well as data exchange of the application parameters.

## Gema Switzerland

### Your global partner for high quality powder coating

Take advantage of our expertise and experience from more than 50 years of electrostatic powder coating applications. From simple hand coating through to fully automated powder coating, we offer solutions that meet the demands and requirements of customers around the world in a wide range of industrial sectors. A global service network ensures you always get professional support, at any time and any place!

Gema is part of Graco Inc. Our goal is to help our customers to increase their productivity while creating attractive, long-lasting products. Our experts continually set new standards in the surface coating industry.



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