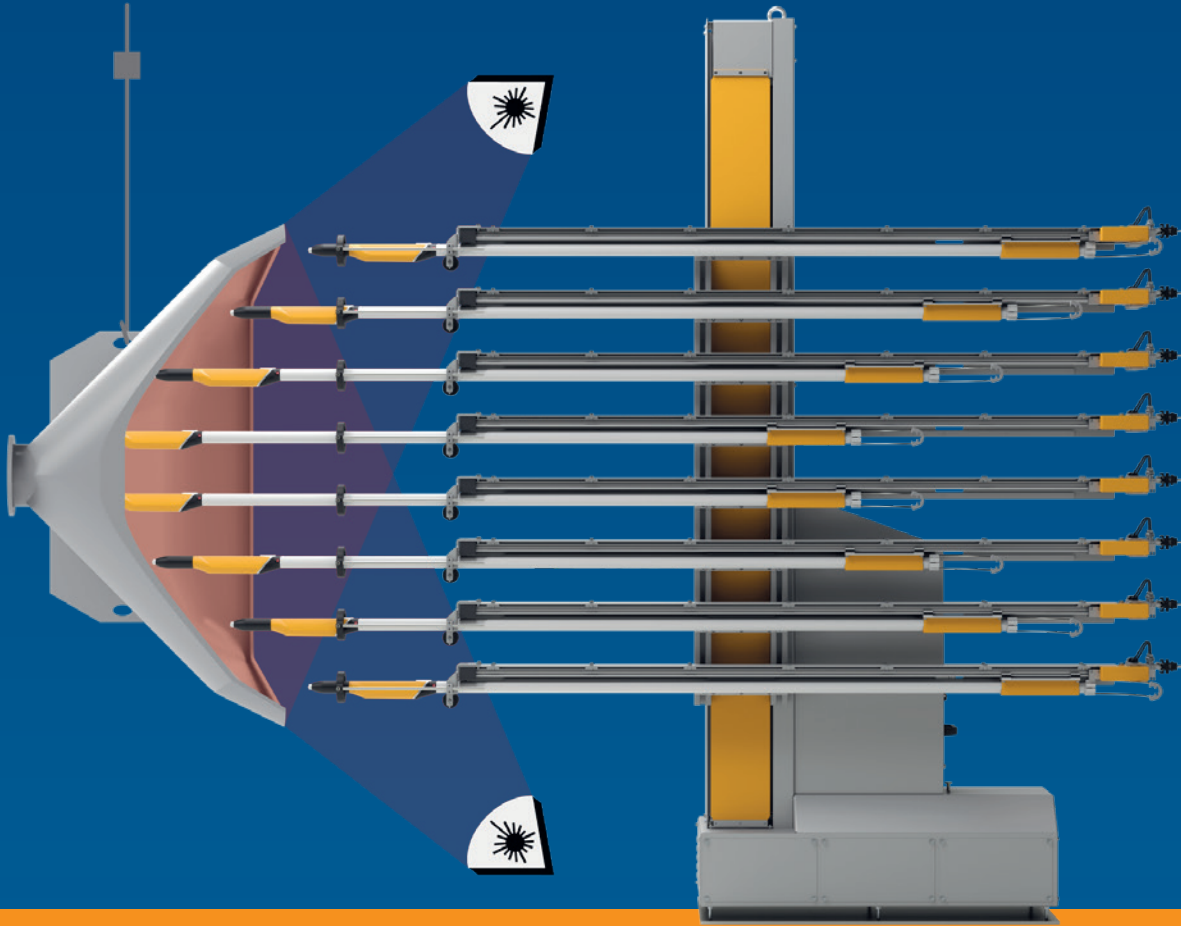


# Dynamic Contour Detection

Scan & Spray – programming-free coating of any shape



## Hang any product and automatically coat at optimum quality

The second generation of Dynamic Contour Detection includes the advanced laser scanner technology paired with the enhanced generation of vertical reciprocator and gun axes.

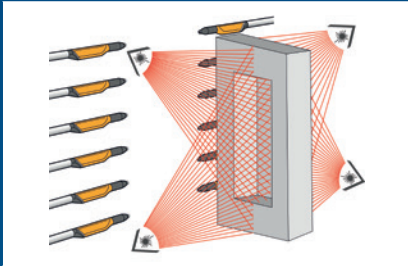
The solution significantly extends the application range, improves the coating quality and consistency, increases first pass transfer efficiency and reduces the risk of human errors.

The application is extended to the most complex of components and geometries.

Your global partner for high quality powder coating

**Gema**

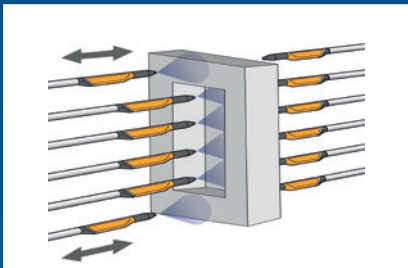
# Scan & Spray



## Automated object scanning process and application program selection

### Scan: Dynamic shape detection

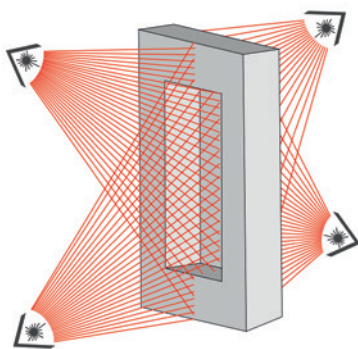
The laser scanners, installed near the booth entrance, provide a digital image of the contour of the application area. This data combined with precise line speed tracking from a dedicated encoder creates an exact 3-dimensional outline of the object.



### Spray: Dynamic coating of complex geometries

Based on the exact digital detail of each part, each individual gun's target position and triggering gets dynamically adjusted automatically. Depending on part geometries and actual gun arrangements, the guns may reciprocate or remain in a fix position.

## System components



Laser scanner



MagicControl 4.0



Vertical reciprocator ZA16 /  
Gun axes UA05

### Intelligent multi-angle technology

The advanced scanner technology detects even the thinnest object contours using multi-angle technology. This enables reliable object detection with high resolution down to 5 mm and at line speeds of up to 5 m/min. Utilizing this technology virtually any component may be hung, its contour automatically detected and coated while maintaining optimum application quality.

<b>Number of gun axes per reciprocator</b>	up to 8
<b>Gun position accuracy</b>	$\pm 1$ mm
<b>Min. edge resolution in conveyor travel direction</b>	down to 5 mm at up to 5 m/min line speed*

*\* improved resolution accuracy at reduced line speeds, with no limitation on the maximum speed*

### Seamless integration with MagicControl 4.0

The Dynamic Contour Detection solution is seamlessly integrated into the master control MagicControl 4.0. The MagicControl 4.0 software automatically translates object geometries into optimized gun coating parameters and adjusts each gun axis individually to achieve outstanding coating results on complex geometries.

### Every axis provided for complex application demands

The enhanced axes technology complements the Dynamic Contour Detection solution. The advanced configuration and design allow for more guns, faster, precise gun positioning and movement than previously available.

The ZA16 unit is the most powerful robust reciprocator available today providing high load capacity and precision movement. It provides a space-saving, versatile application solution for up to 8 individual UA05 gun axes.

The individual UA05 gun axis automatically positions each gun horizontally during the coating of complex objects. The UA05 may be mounted on a vertical reciprocator ZA16 as close together as 110 mm. This improves the coating performance and results for parts with complex geometries.



### Highest application flexibility

The second generation of Dynamic Contour Detection enables the automated coating of difficult component geometries and most complex and demanding application requirements. Part size is virtually unlimited and allows coating for all complex application challenges, automatically!

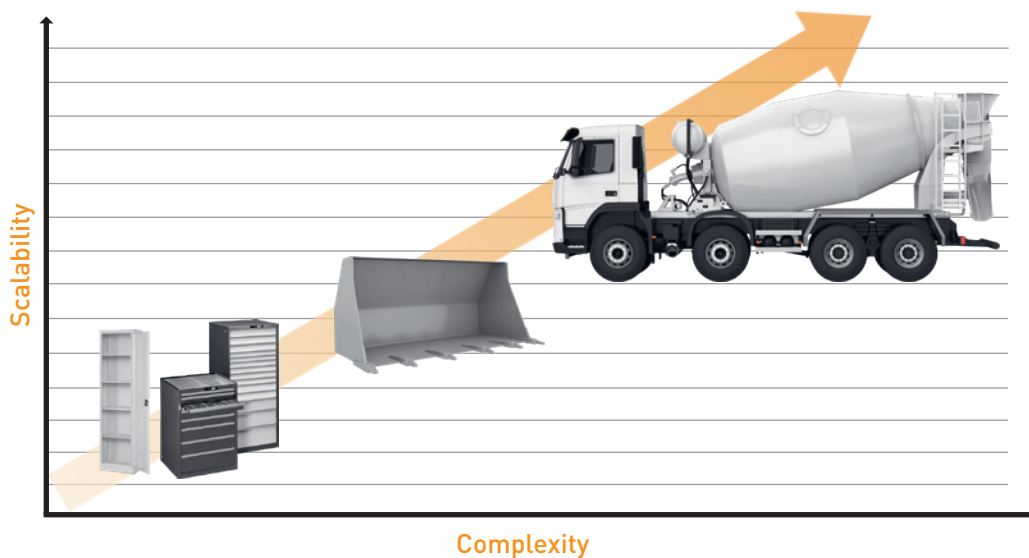
From small to XXL large parts, the solution is fully scalable. It allows multipliable gun stations to be operated simultaneously, resulting in the highest application flexibility, increased productivity and improved production efficiency.

### Unlimited application possibilities

Every single part is automatically recognized and coated without the need for teaching or programming.

Dynamic Contour Detection is the fully automatic alternative solution to conventional and robot powder coating applications.

### The solutions for a wide variety of product geometries and sizes



# Fully automated detection of complex geometries and thin parts

## Programming-free coating of any part

Dynamic Contour Detection eliminates the requirement for programming, extending automated coating capabilities and process improvement to new levels.

Dynamic Contour Detection utilizes intelligent scan technology, enabling reliable object detection as low as 5mm at high conveyor speeds.

Unrivalled coating repeatability, quality and consistency are achieved with significant reduction in manual touch-up.

The solution meets the most demanding customer product diversity challenges without the complexity of developing unique application programs or manual adjustment of guns. Regardless of the product size and complexity, the system delivers unequaled application consistency and quality, automatically.



## Customer benefits Dynamic Contour Detection

- Improved coating quality and consistency with automatic (programming-free) adaption of all relevant setting parameters driven by each object's individual geometry
- Improved application efficiency resulting in powder savings with optimized and automatically adjusted spraying distance
- Significant reduction of human errors and manual touch-up due to repeatable application process
- Minimal operator training required
- Scalability: Full application flexibility for coating of small up to XXL large parts



## 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!

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