



Denmark

# A technological step forward

By upgrading its powder coating equipment with the latest technology in the field, Denmark's biggest iron foundry in Holstebro has achieved both a better coating result and reduced manual work. At the same time colors change now takes less than 15 min, whereas it used to take 90 min with the old equipment. By doing 2 color changes per day Birn is saving 12½ hours of production time each week. This is a major step forward in terms of quality, environment and productivity.

by Dan Borup Iversen

The nation's largest iron foundry, Vald. Birn A/S in Holstebro, upgraded its powder coating equipment in late summer 2011 with GEMA's latest technology in the field. The effect has been impressive. The new Magic compact powder coating system with the new powder management system OptiCenter replaced the existing steel booth. The goal of the upgrade was to achieve greater flexibility as well as better utilization of production time. On the new equipment, color changes can currently be made in 15 min, and the goal is to further reduce to the

desired 12 min. On the old equipment color changes took 90 min. Vald. Birn often runs long series and two color changes per day are made. The time saving of 75 min per color change is really noticeable. "We gain 2½ hours of production time each day. We produce 24 hours a day Monday through Friday, so we have more than 12 hours of additional capacity at our disposal. This means a great deal in terms of ROI, productivity and our competitive edge" says PTA head Henrik Telling, Vald. Birn and continues "Production can be organized with a constant conveyor

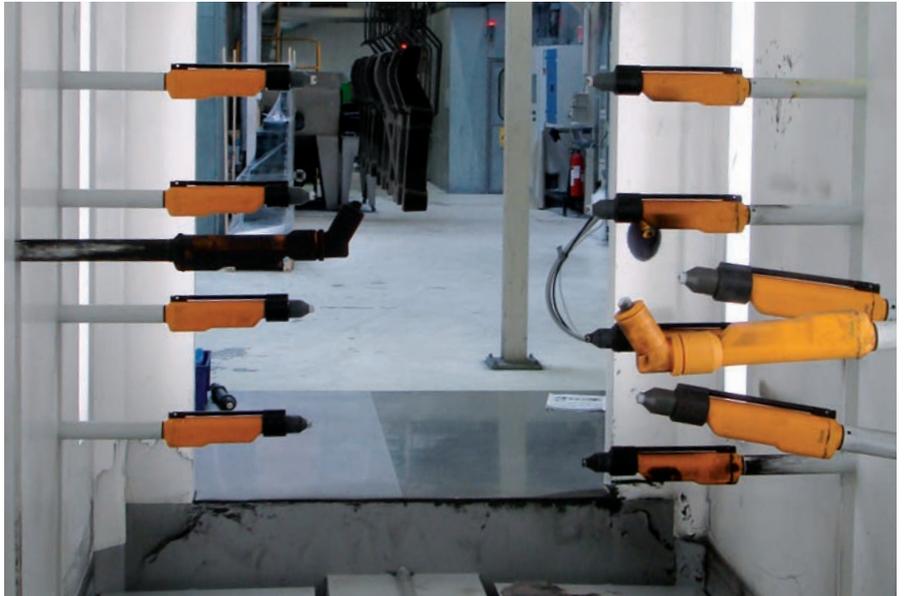
speed and we can fill it up and let production fly.

### Newly developed powder management center

The new OptiCenter is also better in terms of clean working conditions. The amount of powder circulating in the system is very small. The newly developed powder management center circulates only about 2 to 3 kilograms of powder, compared to 50 kilograms in the old equipment. The smaller amount of powder in circulation means easier cleaning and less waste. Overall we have already achieved a reduction in powder consumption due to a better coating quality, less waste and better powder efficiency. "We expect further optimization of the new equipment – it has only been in operation for nearly four months" says Henrik Telling. "Additionally, the working condition has been improved. We have less dust and powder in the surroundings" he adds. The new equipment is supplied with the powder management center OptiCenter, a system that monitors and controls the amount of powder delivered to the guns. Moreover, the fresh powder is continuously mixed with the recirculated powder from the cyclone. Everything is almost dust-free and the process limits the contamination risk of the sprayed powder. Color changes are made almost automatically.

### Better coating results, reduced manual work

The guns are also improved. Charging of the powder is controlled automatically and ensures better coverage – even in difficult areas such as inside corners and bends. "Previously we had to adjust the gun/nozzles manually for each product in order to achieve the correct quality. The gun controls purchased together with the new guns have reduced the manual work considerably and ensure a nice finish and even film thickness distribution. The new equipment is a major step forward" says Henrik Telling.



### Complete system with advantages

Vald. Birn switched to a completely new system including controls. New automatic guns are installed in the booth. The gun distance to the object is continuously adjusted and the spray guns are switched on/off automatically. The powder output is set by stored programs. The plastic booth has a central suction slot and a flat floor automatically cleaned by air knives. Color Changing is simple and safe. Pumps, injectors and powder hopper, hoses and guns are cleaned automatically. The booth and cyclone can be cleaned easily. The operator activates the cleaning process via touch panel PLC.

### First equipment in Denmark

"Vald. Birn is our first installation of the new OptiCenter powder management system" says technical director Finn Christensen, GA Hansen, official distributor for Denmark, Sweden and Norway. "We are highly satisfied with Vald. Birn's results" continues the director. The system runs like a Swiss clock and presents a major technological step forward. GA Hansen installed the equipment and was responsible for training of the operators. The start up was completed in 2 days.  
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