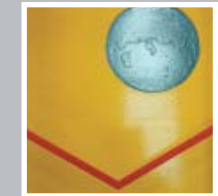
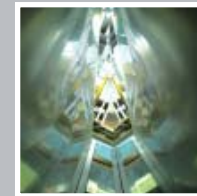


EISENMANN

JOURNAL



Surface Finishing · Material Flow Automation · Environmental Technology
Ceramics Technology · Thermal Process Engineering

Art Photography Meets Technology

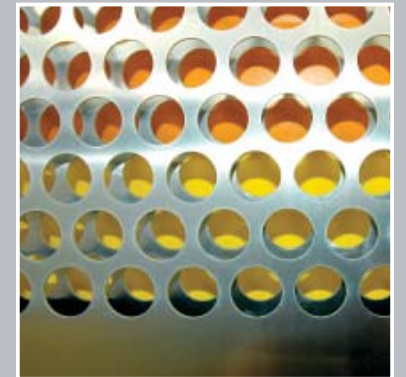
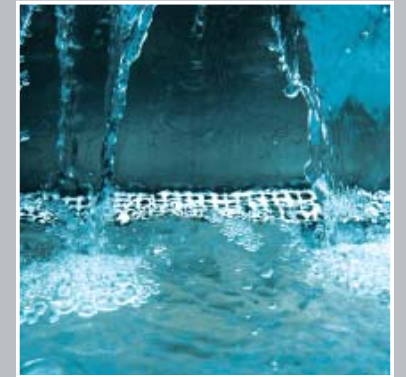
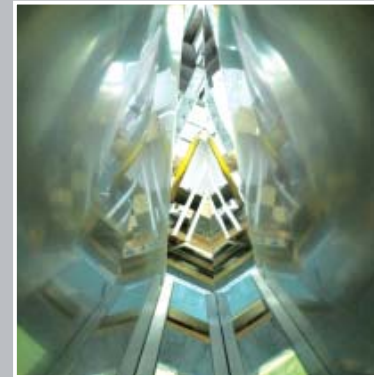
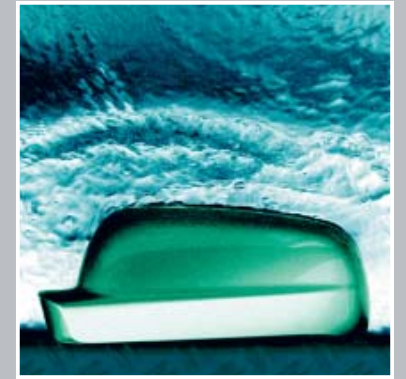
This journal not only shows our latest engineering achievements, but also gives unique insights into our plants in Böblingen and Holzgerlingen.

Bernd Uhde has used his camera to capture completely new aspects of the industrial environment - things and situations which often are not noticed when passing through the production and assembly halls.

Bernd Uhde experiments with unique themes and materials, which through the medium of photography take on a new semantic content. Punched sheet metal transforms into visually attractive compositions, packaged system parts mutate into mystical landscapes, and steel plate channels become redolent of futuristic spaces. Always included is the subject of water, forming a contrast to the painted high-gloss surfaces.



Bernd Uhde, born in 1950, resides in Eitzen near Lüneburg and works as a filmmaker, freelance artist and photographer. For information visit: www.airrealart.de



EISENMANN Journal

This journal documents the performance and capabilities of the EISENMANN organization. As an engineering partner and high-tech supplier, we support nearly all types of industries worldwide. The single most important purpose of our business is your economic success. Regardless, whether it is your goal to increase your competitive edge worldwide, or you are just looking for efficient alternatives for your current production and logistics processes, with us on your side, you are able to break new ground and explore engineering innovations to improve quality and to increase your economic efficiency. With the following examples from our broad performance spectrum, we want to encourage you to contact our engineers.

Page 2 - 4 This is EISENMANN

Page 6 - 28 Surface Finishing

Page 29 Lumber Kilns

Page 30 Thermal Process Engineering

Page 32 - 34 Environmental Technology

Page 36 - 38 Ceramics Industry

Page 40 - 46 Material Flow Automation

Page 48 - 49 Service and Maintenance

Page 50 B.O.T. Models



EISENMANN Headquarters, Böblingen



EISENMANN Crystal Lake, Illinois, USA



EISENMANN Education Center, Böblingen



EISENMANN Central Assembly Facility, Holzgerlingen



EISENMANN Technology Center, Holzgerlingen



The generous layout of the Holzgerlingen central facility allows the assembly and startup of small and large-sized systems.

Innovations and strategies for the optimization of production, process technology and in-house logistics are what we do best, as evidenced by our extremely extensive line of products. EISENMANN builds facilities for surface finishing technology, material flow automation, environmental technology and ceramics firing lines, as well as special facilities for energy recovery, coating, thermal processing and recycling.

A staff of more than 2,800 employees – half of them engineers and technicians – is busy all around the world, developing new ideas for manufacturing, assembling, painting and distribution processes. They include experts and specialists with solid expertise in various disciplines and industries. This is a big plus, which is reflected in the customized designs coupled with perfect engineering. Just like our strategies for efficient production and exemplary installations, all EISENMANN manufacturing facilities are designed in response to the customers' indivi-

dual requirements. They enable us to supply our customers with tailored system configurations meeting their needs and ensuring high profitability.

Add to that our unique installation plan. It is designed to contribute significantly to increased quality and adherence to delivery times. When delivering complete systems, we assemble the entire system at our facility before dispatchment in order to conduct a thorough system check. The individual pre-assembled functional units are delivered to the customer only after they have passed our stringent tests. The advantage: The installation effort is reduced to the absolutely necessary minimum. As a result, the customer saves time and money, and installation can proceed without production downtimes.

Needless to say, once the system has been put into operation, we are there to provide you continued support: our after-sales service provides professional maintenance, speedy repairs, and immediate supply of spare parts. By the way, EISENMANN does not only offer the most systems technology, we also offer new business models. After all, it was none other but EISENMANN who

implemented the first B.O.T.-model for automotive painting. Today, we operate many more B.O.T.-models in other areas as well.

The Program

Surface Finishing Technology

The product division for surface technology designs and builds environmentally friendly paint lines for metal, wood or plastic components. Many times, these solutions turn out to be trend-setters, for example, water-saving purification plants, fully automated powder-coating lines, model spray booths with integrated sludge disposal, real-life technologies for efficient water-based paint recycling, as well as comfortable control and visualization systems.

As one of the pioneers in electrophoretic coating, EISENMANN is currently developing state of the art E-Coat lines with integrated material flow technology interlinking the upstream and downstream zones of the manufacturing process.



As a general contractor, we assume responsibility for the construction of complete painting facilities, including plant engineering and all peripheral systems.

In the area of plastics painting, we are the undisputed leader worldwide. Over 250 painting lines sold - including the largest in the world - speak for themselves.

Environmental Technology

At EISENMANN, environmental protection is always part of the package. This is ensured by our engineering teams with customized prevention and disposal concepts. Depending on the application, these concepts may include exhaust air purification, wastewater treatment and thermal utilization of waste products, or the recycling of resources.

Material Flow Automation

Complete logistics systems for the streamlining and automation of your manufacturing processes or distribution of goods complete the EISENMANN range of products. Key items are warehouse technology, in-house material flow with state-of-the-art conveyor and control technology, as well as automatic conveying systems for

assembling, manufacturing and distributing.

In addition, we deliver handling equipment and gantry robots for various applications, including material flow linkage, palletizing, commissioning, moving or stacking.

Firing Systems for Ceramics

We provide products to customers in all areas of the ceramics industry: tableware, sanitary ware, architectural clay and technical ceramics. We build state-of-the-art roller hearth kilns, shuttle kilns and tunnel kilns with intelligent controls and efficient material flow links from design to shipping dock.

Thermal Process Engineering

This title covers a series of different products. Their range includes heat treatment for aluminum products, powder-coating technology, and specific furnaces for special processes in various industries.

Photo right: Perfected manufacturing methods and a large degree of automation in the new Coil Center in Böblingen allow the efficient manufacture of high-quality products.



In Holzgerlingen, EISENMANN produces and tests VarioShuttle carriers for automotive painting applications.



Our own paint line is an environmentally friendly and economical paradigm for the entire field of mechanical engineering: solvent-free, water-based enamels, water circulation, as well as maximum heat recovery and energy savings.



Surface Finishing Technology Automotive Painting

As one of the international top suppliers of automotive painting systems, EISENMANN is one of the major trailblazers in the field of modern surface finishing technology. A large number of technical innovations, which initially were developed for this segment, are now also being utilized in other sectors of the industry, allowing smaller manufacturers and third-party painters to also benefit from these new developments.

Moving Right Along: VarioShuttle for Pretreatment and E-Coat

The best thing since the development of electro-coating, the VarioShuttle provides ideal pretreatment and E-Coat with individually controllable decline and incline curves, variable treatment timing, and model type-adjusted chassis movement inside the tanks.

Better Coating Quality with VarioShuttle

This automotive manufacturer ordered not one but two VarioShuttle pretreatment and E-coat lines operating in parallel for its main plant in northern Germany. Success: better coating quality, higher flexibility, and less chemicals and wastewater.





Complete Paintshop

The new generation of vans at this automotive plant receives high-quality paint coverage with state-of-the-art paint lines from EISENMANN - from pretreatment to primer and top coat all the way to the finish.

Paint Systems in South Africa

Bottom left: This paintshop in South Africa was delivered by EISENMANN as a turnkey project. Here, the premium vehicles receive a first-class surface finish according to the highest quality standards.

Powder Coating for Coupés and Convertibles

Below: This coupé as well is being painted on EISENMANN paint systems with VarioShuttle for E-Coat, with VarioRobot and new application equipment for the topcoat with powder.





The New VarioRobot for Outer Body Paint

Instead of using the entire body, the VarioRobot reaches only with one arm into the sensitive painting area. All axles and drives are outside the booth.

EISENMANN delivered the complete top coating facility for this automotive plant in Spain: spray booths, VarioRobot, application and paint supply, as well as the systems for underbody protection and the finishing lines.



Paint Supply

EISENMANN also plans and delivers the complete paint supply: color supply for standard colors, special colors and exotic colors with automatic valve systems for quick and clean color changes without paint loss.



Above: Complete paint supply with valve system in the paint-shop of a German commercial vehicle manufacturer.

Left: Paint supply in the paint-shop of an automotive plant in southern Germany.

LASD, CW and UBS

All three of these abbreviations stand for the same purpose: protection against corrosion! In particular: seam sealing (LASD), cavity conservation (CW), and underbody protection (UBS). While in the past workers had to deal with spray guns and overhead lances in aggressive environments, today the process is dominated by robots hitting their application targets precisely, continually and consistently.

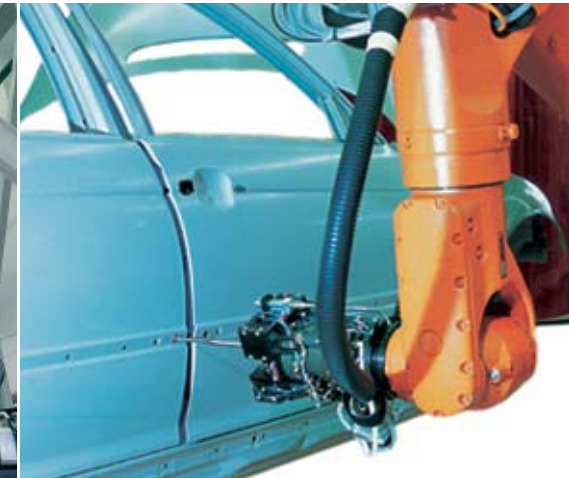
Seam Sealing

The robot moves automatically along its track with alternate spray jets for wide or narrow seams. Thus, regardless if inside or outside, seam sealing is always even and absolutely perfect. EISENMANN develops the complete station, including robot and controller - with options available as required.



Underbody Protection

These days, underbody protection requires the use of a robot. EISENMANN has delivered a large number of systems for various types of vehicles and continues to develop new application methods for better quality and higher flexibility.



Cavity Conservation

Optimum solutions for conventional wax flooding or individual wax application by robot with automatic nozzle rotation systems for all cavities that require sealing.



Surface Finishing Technology Metal Painting

Our paint lines for metal surfaces are investments for the future. They provide latest painting technology coupled with state-of-the-art controls and smart material flow and, as far as possible, zero emissions! To us, the most important aspect is the consequential costs – because this is where true savings can be realized. Our engineers work with you starting in the planning stage, showing you the best method for easy maintenance, low operating costs and low personnel requirements. Our experience from a large number of systems already delivered is a priceless asset.

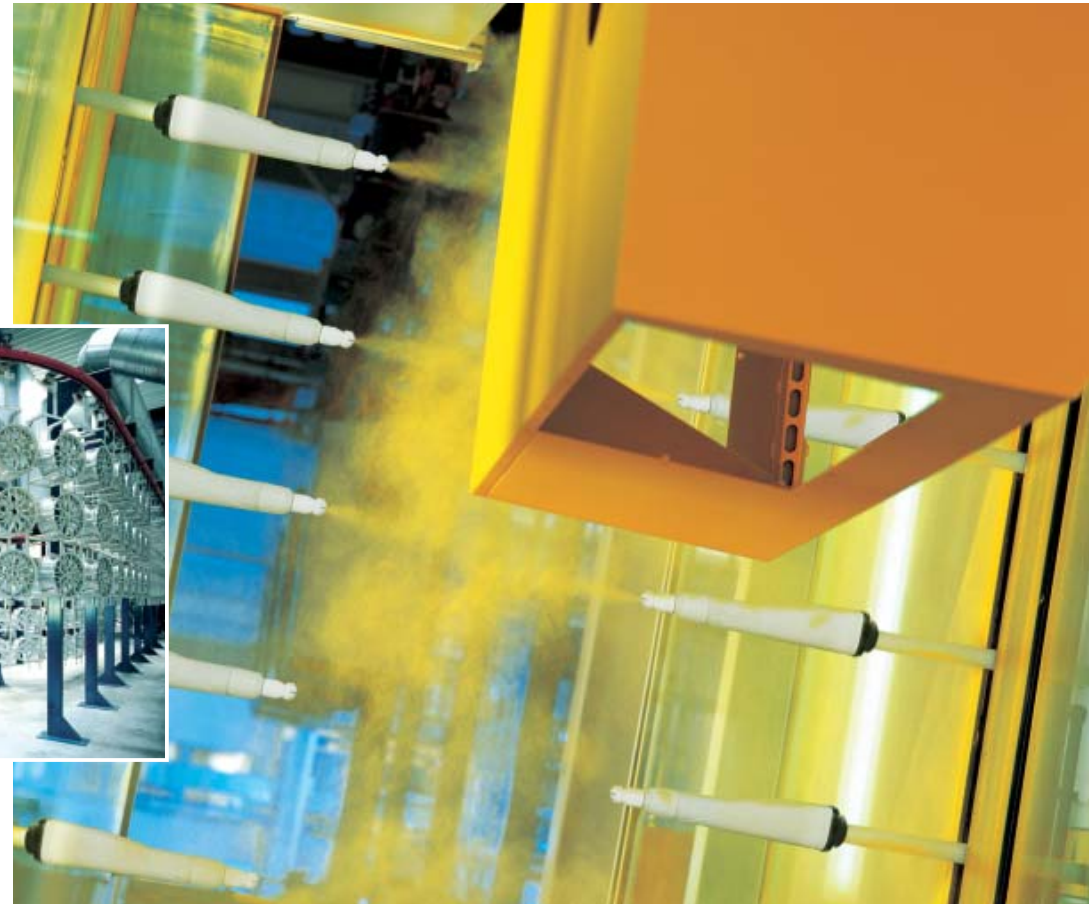


The Program

- Pretreatment facilities
- Paint lines for powder and wet paint applications
- Dip coating facilities
- Dryers and enamelling furnaces
- Material flow automation
- Control systems
- Environmental technology
- Paint recycling

Environmentally Friendly Pretreatment Options

Circulation, recycling and perfect bath maintenance turn modern pretreatment facilities into long-term producers. Operating life increases, and wastewater and scrap are drastically reduced.



Emission-Free Powder Coating

Powder coating does not generate solvent-related emissions. Excess powder overspray is recovered with high efficiency and returned to the painting process. Other benefits of powder coating: first-rate quality, easy automation and high cost effectiveness.



Powder Coating Facilities

EISENMANN significantly advanced the powder coating process. For example, we were the first systems supplier who, depending on the requirements, was able to provide booths made of plastic, stainless steel or glass. Additional advancements accelerated the color change-over, improved the powder recovery and shortened the curing time of the powder.

Electric Household Appliances

EISENMANN delivered several powder coating lines for washing machines and refrigeration equipment to a manufacturer in Slovenia. State-of-the-art powder booths made of plastic as well as a combination of glass and stainless steel are utilized.

Ceiling Heaters

Far left: In this painting facility with target-controlled Power&Free conveyor system, ceiling heaters are powder coated in different colors, fully in line with the customer's specifications.



Powder Coating for Forklifts

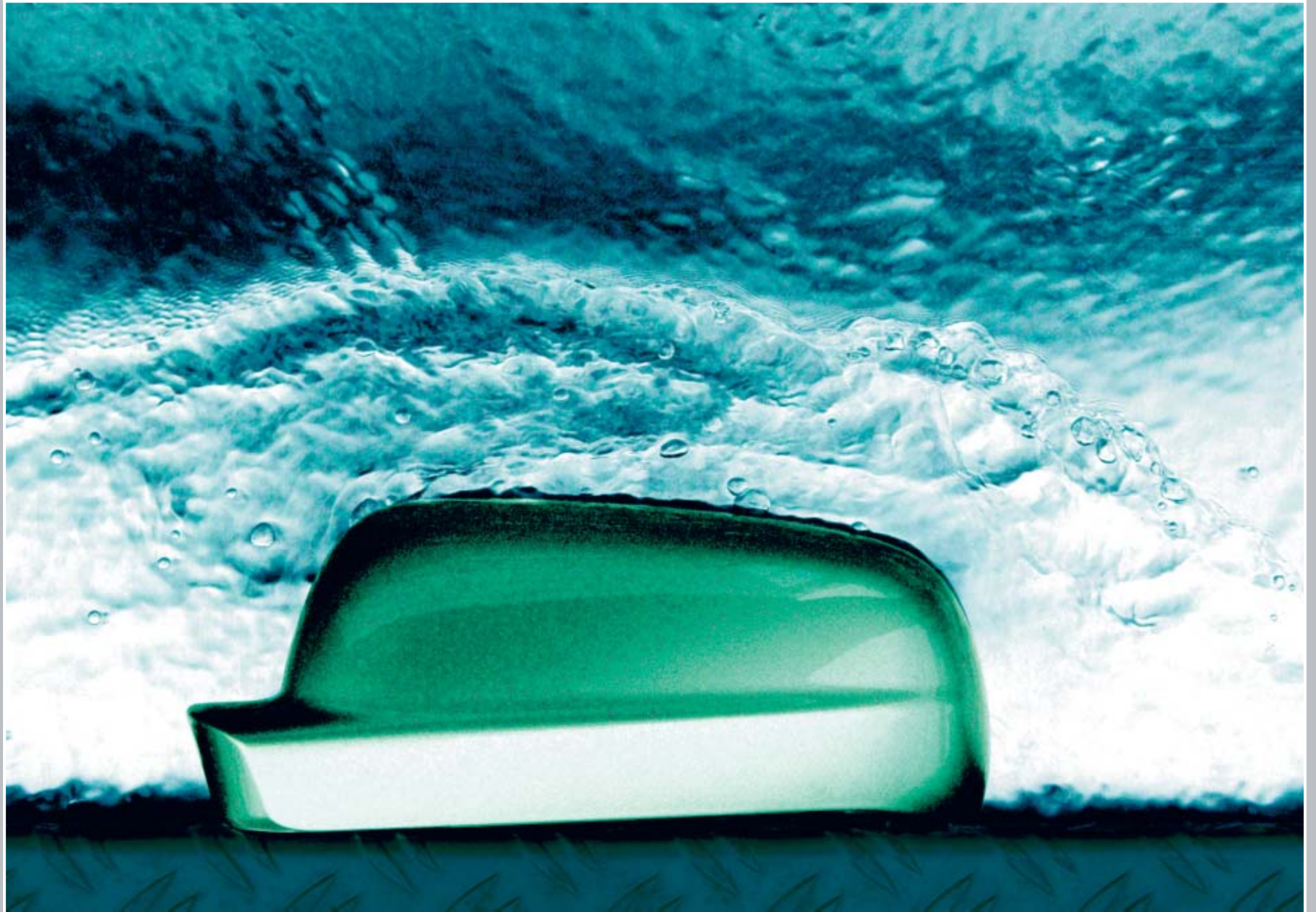
Left: For this ground conveyor manufacturer, environmental protection is of highest importance. Thanks to the sophisticated recycling technology in the pretreatment zone and solvent-free powder coating, the days of emissions in exhaust air and wastewater are over.



Wheel Painting

This is one of EISENMANN's strongest domains. In the last years alone, we delivered 25 paint lines to international wheel manufacturers from Stuttgart all the way to China. They all share high-level automation as well as sophisticated technology with different conveyor systems and transfer robots. Once again, everything comes from one source: pretreatment, painting facility, transportation and handling equipment - complete from EISENMANN.

However, this is not all: EISENMANN is the world leader in the field of roller hearth kilns for the annealing of aluminum wheels (see page 30).





This sheet metal processor has switched the painting process in his job shop despite frequent special designs to powder coating. The EISENMANN painting line with zinc-phosphating stands out with superior quality and perfect environmental protection.

Right: Powder coating facility at a manufacturer of factory equipment in many colors.



Powder Coating for Agricultural Machinery

This EISENMANN painting line powder coats parts for farm machinery. The pretreatment with zinc phosphate is exemplary in the industry.

E-Coating Facilities

Complete from EISENMANN: Cathodic or anodic dip painting, continuous flow or indexing systems all inter-linked via Power&Free, chain conveyors or automatic feed. Perfectly synchronized and fully automated.

Indexing E-Coat for Automotive Components

Right: Heavy and complex parts in large sizes - a clear case for cycled dip coating with automatic loading. At this manufacturer's location, the E-Coat facility and the manufacturing area are linked by a target-controlled Power&Free conveyor.

Multicolor-Electrophoresis in Continuous Pass Plant

Below: This shelf manufacturer is able to coat four colors parallel with the highest quality on their autophoretic coating system from EISENMANN. And this at a surface performance of 600 m²/hr and huge numbers of tiny parts.





E-Coat for Automotive Components

This fixed-cycle dip coating facility uses the E-Coat process to paint automotive hoods, trunk lids and side panels at top quality. The workpiece carriers with a weight of up to 1.5 tons are handled at a unique load and unload station. A superfast dual shuttle performs not only loading services but also a substantial number of sorting and buffering tasks.





Spray Paint Facilities

Airplanes, Formula 1 racing cars or pump housings – our list of references for spray paint facilities includes many different types of industries and system sizes. Our advantages: top quality in-house manufacturing, easy maintenance and high economic efficiency. And the most important part – everything from a single source, everything from EISENMANN: painting facility, paint recycling, conveyor equipment, controls and environmental technology.

Large Spray Booths

EISENMANN builds customized painting facilities for rail vehicles, airplanes, construction equipment and farm machinery, as well as other large workpieces. All with alternative paint overspray exhaust and highly effective scrubbers, in tandem with the appropriate dryer.



Paint Recycling with Ultrafiltration

Far left: Painting line for temperature-sensitive chillers. The utilized water enamel is recovered through ultrafiltration and directly reintroduced into the painting process.

Painting in Machine Construction

Left: In addition to their powder coating line, this manufacturer of roll grinders ordered a separate wet paint line from EISENMANN. This line is used to paint oversized and super-heavy workpieces or workpieces with temperature-sensitive fittings. They are transported by Power&Free conveyors or special carriers.

Resin Coating

Technologies for the resin coating of electrical parts like rotors, stators and starters are part of EISENMANN's permanent repertory. Our long list of references includes facilities for vacuum-dipping and trickling, as well as special applications.

Wind Power

Huge dimensions and complicated process steps with exactly defined saturation parameters place great demands on this dip facility from EISENMANN at a well-known wind turbine manufacturer.



Whirl Sintering

This procedure can be used to apply very thick coats in one step. The workpieces are heated and dipped in fluidized powder. EISENMANN has extensive experience with whirl sintering systems and many references from different industries.

Right: In this whirl sintering facility, drive shafts are coated with a functional layer, which not only serves as a protection against corrosion, but also must meet clearly defined sliding specifications.



Electric Motors

Left: Resin coating facility for electric motors with fully automated handling via robotic palletizers. This work requires precision; the subsequent dipping process must be performed to exact specifications.



Surface Finishing Technology

Plastics Painting

EISENMANN is the worldwide leader in painting lines for large plastic parts like bumpers, spoilers, rocker panels or other automotive components. Our outstanding international references also include various areas of specialization, for example, scratch-resistant coatings or film lamination.





Robots Paint Mirror Casings

Despite large differences in the geometry of their workpieces, this Belgian plastics processing plant insists on robot application. On the same line, they first paint various small parts followed by huge bumpers and mirror casings.

Cleanliness is Money

Anyone who ensures the highest degree of cleanliness achieves nearly 100 percent "First Runs." We deliver painting lines with clean-room technology: spray-booths in "Clean Wall" design with special personnel locks and ingenious air circulation.



Twice as Good

The skids in Europe's largest state-of-the-art plastics paint shop are fully loaded on both sides with up to eight parts. After all, more than 8,000 workpieces must be painted fully automatically in a large range of different colors every day.



Painting in a New Dimension

This manufacturer of plastic parts for the automotive industry received one of the first new generation painting facilities with program-controlled constant operating parameters. The quality continues to increase, maintenance is getting easier and operation is more ergonomic.



That's How They Paint in Russia

Bumpers for different types of vehicles are coated with highest quality on what is most likely Russia's largest plastics painting line.

Surface Finishing Facilities

Enamelling Systems

Here, EISENMANN's advantages as a single-source supplier are being fully utilized. According to the motto "Enamel for every Panel" we plan and design customized enamelling lines with alternative application processes: conventional wet-enamelling, powder-enamelling, or electro-porcelain-enamelling (EPE) with individual pretreatment and energy saving furnaces.



Powder-enamelling for baking cavities. Robots automatically transfer the powder-coated workpieces from the chain conveyor to the firing line.

In four robot-operated spray booths, catalysis and supercatalysis are used for the wet-enamelling of stove parts. This manufacturer in southern Germany also received two powder booths for flat parts.



Complete Enamelling Line for Kitchen Ranges

EISENMANN supplied this manufacturer of electric appliances with a fully automated enamelling line for a new type of baking cavity. Pretreatment, powder-enamelling and furnaces are integrated with target-controlled material flow between welding line and assembly line; robots transfer the workpieces.



High Speed for Copper Strip Pickle

Superfast pickling facility for wide copper strips with a vertical guide. Just as super are the measures to increase the lifecycle of the treatment baths through circulation, recycling and cascade-rinsing. Positive results: less fresh water, less wastewater, lower costs.

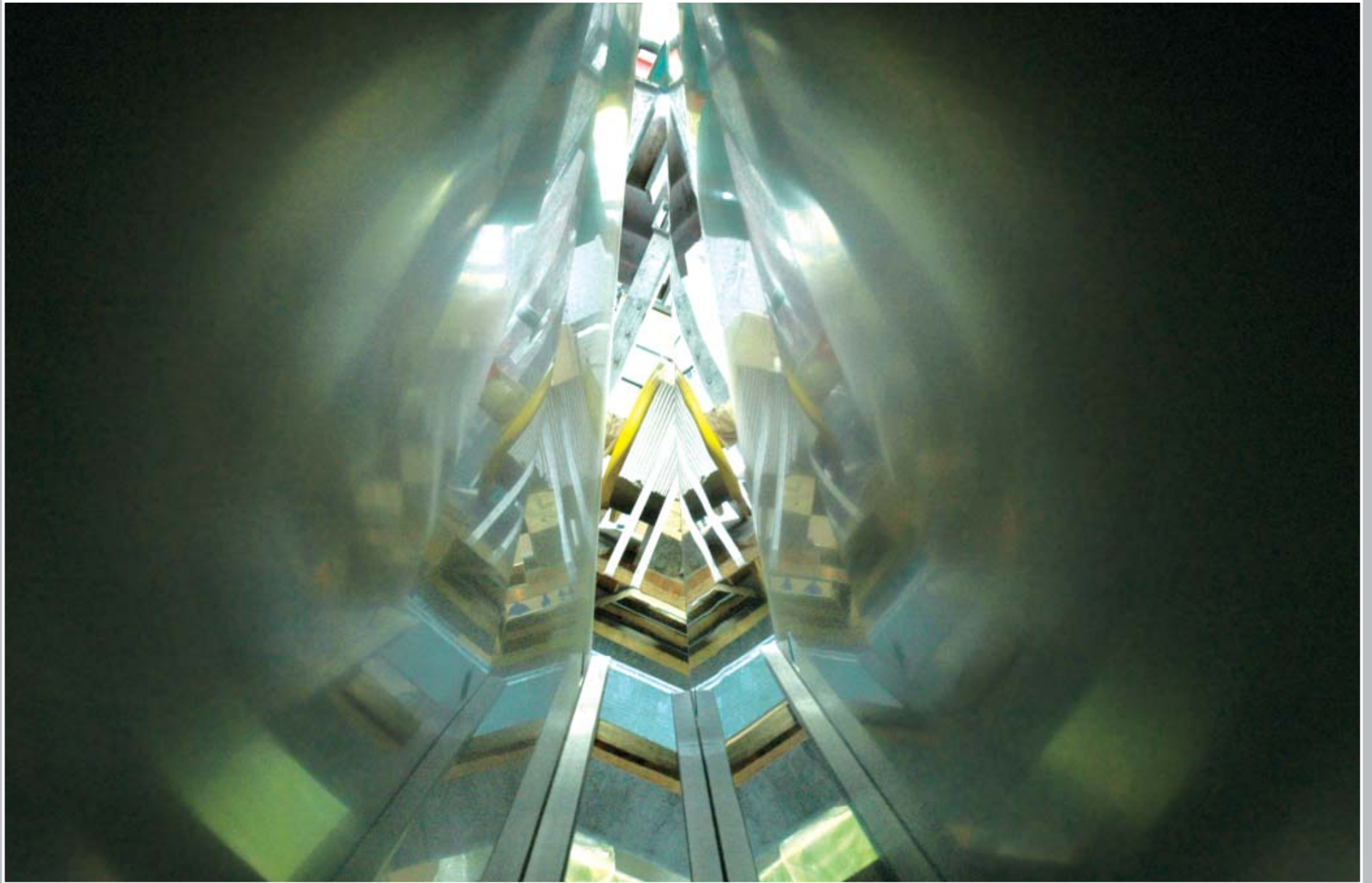
Coil Coating

Coil coating facilities from EISENMANN are being utilized worldwide in different industries: in the steel and aluminum industry, in packaging plants, plants for pressure plate coating and various sheet metal processors, as well as manufacturers of storefront veneers and blades for Venetian blinds all the way to musical instruments. They include superfast systems for extremely thin materials and innovative methods, for example radiation curing using NIR-technology.



Above: Paint on a sheet metal board being dried with Near Infrared Technology (NIR).

Left: Coil coating facility for the bona zinc coating of steel panels for the automotive industry. This type of coating provides the best protection against corrosion and makes the subsequent sealing of cavities obsolete.



Surface Finishing Technology

Wood Painting

The coating of furniture, windows and other products made of wood today is dominated by slim sequences and increasingly efficient methods – EISENMANN has been providing turnkey systems for this industry for more than 50 years.



Surface Finishing Center for Windows

The complete customized package: spray painting with paint recycling via cooling wall, dipping plus flooding and automatic material flow via Power&Free conveyor. The efficient way to paint windows.



Photo below: This Russian wood combine already operates nine EISENMANN lumber drying kilns with a capacity of 170 m³ each. The plant processes different types of wood for doors, window frames and glue binder.



Three high-performance kilns with central control system, peripheral computers and modem for remote troubleshooting were delivered by EISENMANN to this Norwegian sawmill.

Lumber Drying Kilns

The new generation of EISENMANN lumber drying kilns is loaded with high-tech equipment: consistent modular design, radio-controlled gates, sophisticated power management, wireless humidity measurements and a high-pressure spray system for quicker climate generation are considered standard in our house.

Large Photo: This sawmill operates a total of seven kilns from EISENMANN with a total capacity of 900 m³.



Thermal Process Engineering

Heat Treatment and Powder Metallurgy

This division develops drying facilities and kilns for heat treatment of aluminum and sintering of powder metal. The modular design of the process steps and the development of systems for high-performance aluminum alloys are the results of new developments.

Automotive Parts and Car Bodies

EISENMANN also developed the heat treatment facility for the first automobile made completely of aluminum. An additional, separate line at the same manufacturer is utilized for the hardening of aluminum components such as hoods and doors.



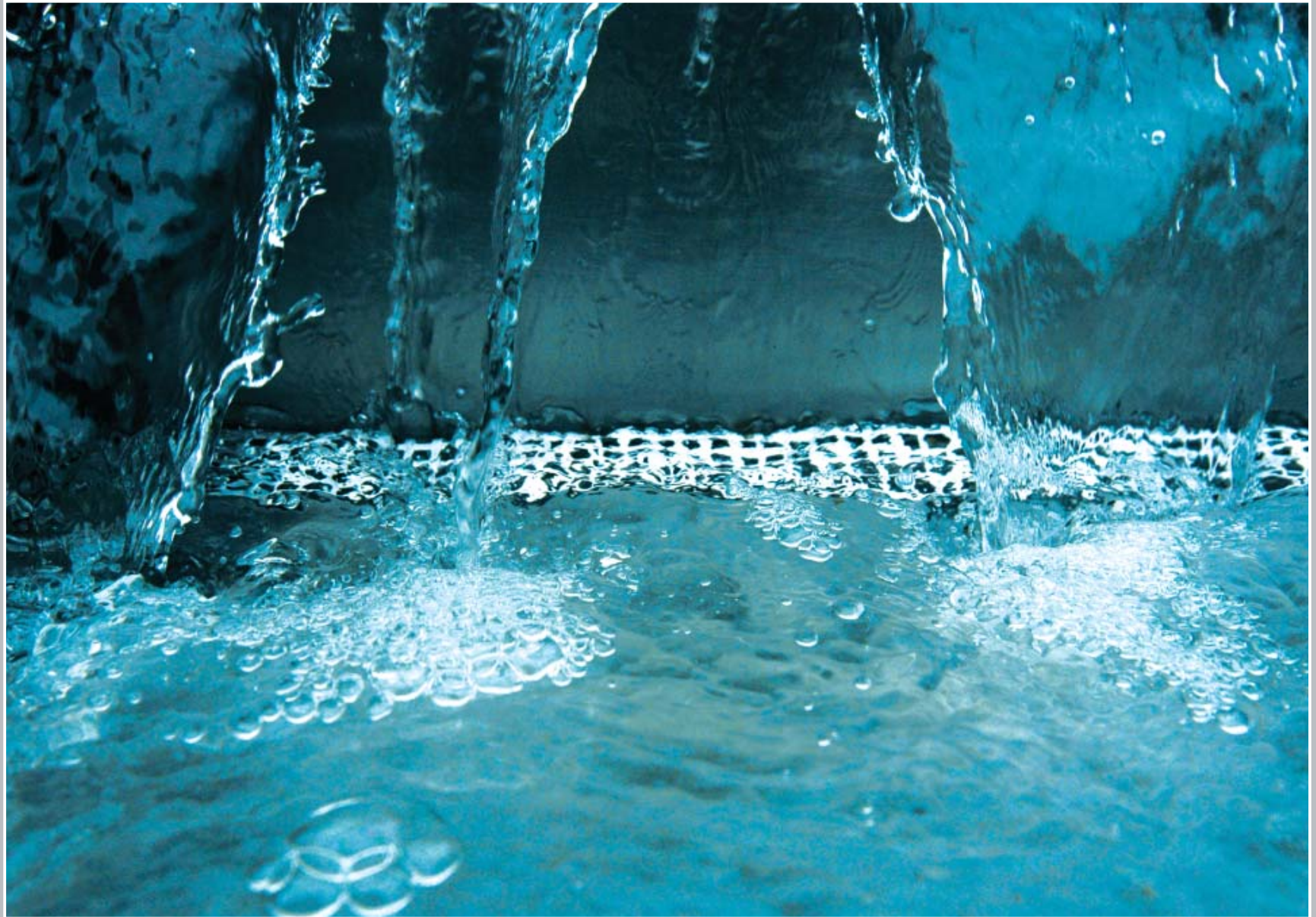
Heat Treatment of Aluminum Wheels

Annealing - Quenching - Tempering. These are the three process steps that ensure high mechanical stability aluminum. A new kiln design from EISENMANN has at once eliminated the laborious intermediate handling of the wheels, which may weigh up to 65 lbs. Now, as part of an overall system, the wheels pass on roller conveyors directly through all of the processing stages - from the annealing furnace to the quenching tank to the aging furnace.



Sinter Furnace for Highest Performance

Roller hearth kilns for the sintering of powder-metallic moldings made of high-performance aluminum alloys for automobile transmissions. Continuous flow-through system with optimal lockage design for a total protective gas environment.



Environmental Technology

A clean environment and modern production are not inconsistent with each other. Quite the opposite - they go hand in hand. Thanks to sophisticated technologies allowing you to design your manufacturing steps in concert with ecology. For this purpose, EISENMANN offers a broad range of customized equipment to meet your specific needs.



Exhaust Air

Regenerative Thermal Oxidation (RTO)

Top: Regenerative Thermal Oxidation for the continuous purification of exhaust air from ring ovens for graphite electrode production.

Adsorption plus Thermal Oxidation

Right: EISENMANN delivered to this international chemical corporation the worldwide first adsorption system for the disposal of isobutan.





Water

Wastewater Treatment

Photo left: Total wastewater management at the Eastern European plant of an electronics corporation with systems for detoxification, neutralization, thixotropy and final purification.

Water Purification

Photo below: Ion exchange system to generate ultrapure water in the power plant.



Waste

Recycling of resources and energy recovery from waste? With EISENMANN's innovative technologies, no problem: recycling reactor, pyrolysis, multi-stage combustion, turactor and pyrobustor are alternative methods. They turn waste into a profitable business. But EISENMANN also provides the right minimization, decontamination and management solutions for the thermal disposal of non-reusable waste products.

As a general contractor, EISENMANN delivered this large system for the thermal disposal of explosive problem materials as a turnkey project.

High-tech rotary furnace for the disposal of sludge using pyrolysis and incineration.

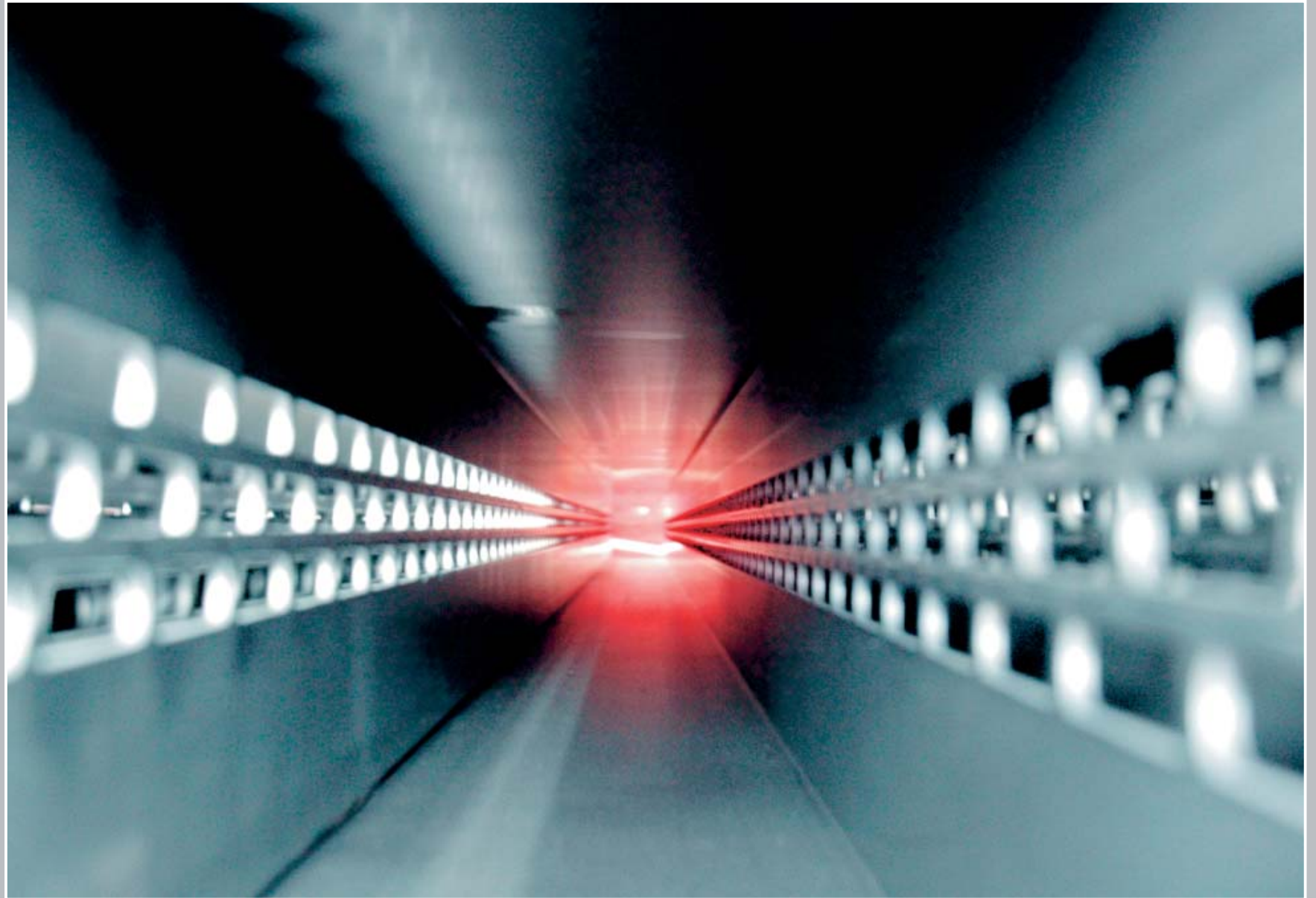


Renewable Energy

Turning manure into money used to be the stuff of fairy tales. With our facilities for the fermentation of agricultural waste products and self-renewing resources, we are coming pretty close to this long-time dream of mankind. That's because in the co-generation plant, a power-to-heat coupling can be used to generate electric energy from the recovered bio-gas. In other words: EISENMANN bio-gas facilities are not only a source of ecologically sound electric power, but also an effervescent source of income for farmers, who have found an economical alternative for their operations.



EISENMANN bio-gas facility in Ottendorf, Saxony. It uses cut grass, manure and silo corn to produce electric power for more than 300 households.



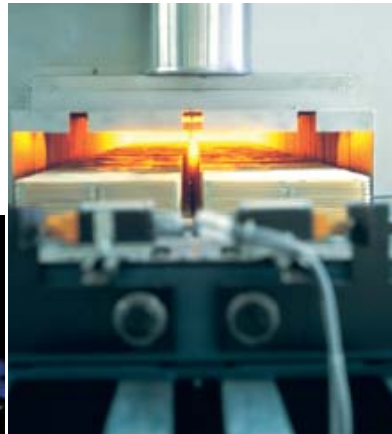
Firing Lines for Ceramics

Our firing lines for chinaware, architectural ceramics, sanitary and technical ceramics revolve around state-of-the-art roller hearth kilns, tunnel kilns, elevator kilns and mesh belt kilns. They are intelligently linked with styling and packaging via individually designed automation, customized conveyor technology and robotics. As a general contractor, we plan and deliver turnkey systems and complete factories, but we also provide individual kilns and material flow components.



Tableware Ceramics

EISENMANN can list a number of examples from prominent international fine china manufacturers, including orders for individual kilns all the way to complete, fully automated porcelain factories.



Technical Ceramics

Our customer base includes nearly all types of industries: electronics, automotive suppliers, surgical implants, catalytic converters, magnets and many more.



Architectural Ceramics

With energy saving, fast firing kilns and creative material flow concepts, EISENMANN has brought fresh ideas to this area of production.



Sanitary Ceramics

EISENMANN has the complete know-how for automatic firing lines for sanitary ceramics. Also from EISENMANN: glazing facilities and total in-house logistics.

Dinnerware Production

EISENMANN provided state-of-the-art production facilities to a well-known manufacturer in Merzig, Torgau and Luxemburg. Included were an automated dinnerware factory with state-of-the-art glost and decorative firing lines and glazing lines in between, linked to different conveyor systems, with robotic palletizers and buffer zones and a separate warehouse for white goods with automatic guided vehicles serving as high-bay storage and retrieval units.

Right: Automatic guided vehicles are the intelligent conveyor solution flexibly linking all manufacturing areas.



In the warehouse automatic guided vehicles with high lifting forks serve as high-bay storage and retrieval units.



Robotic palletizers stack glazed ware on firing shelves. Automatic guided vehicles in the staging area.



Complete Ceramics Factory from One Source

EISENMANN designed and built one of the most modern factories for dinnerware for this manufacturer in Portugal. EISENMANN delivered the complete facility with target-controlled material flow, from moulding to drying and glazing, all the way to the glaze and decorative firing kilns.



High-Precision Stoneware Pipes

A fully automated factory for sewage pipes with minimum tolerances for straightness and roundness sets new standards in the stoneware industry. The complete facility from EISENMANN shines with a high degree of automation and precise processing parameters.



Technical Ceramics

Kiln technology and material flow concepts go hand in hand. In this case, the telescope conveyor (photo above) serves simultaneously as storage and retrieval vehicle in the buffer zone and loading equipment for the firing cycle.



Material Flow Automation

Getting at the Right Time to the Right Place

Anywhere a large number of complex sequences must be synchronized, intelligent design and innovative systems with perfect control technology are needed. In order to ensure the performance of the overall system, EISENMANN provides engineering for extensive planning, simulation and system development for project management and coordination. As a general contractor, EISENMANN designs and builds complete logistics systems for manufacturing, assembly, warehousing and distribution.



Assembly Systems

From skidlet conveyor systems, belt conveyors, electric monorail systems and skid conveyors all the way to complete assembly plants.



Total Logistics

Complete in-house material flow systems, including overall planning, simulation, project management, software development, control engineering and all peripheral systems.



Warehousing Technology

Automatic guided vehicles (AGV's), electric monorail systems, roller conveyors, Power&Free conveyors, pallet conveyors, in-floor conveyors, staging systems, high-bay storage and retrieval equipment, control engineering, software development.



Handling Technology

Gantry robots for palletizing, commissioning and the inter-linking of the material flow.



AGV's in the Body Shop

Automatic guided vehicle system for an underground connection between press shop and unfinished parts warehouse. This system was designed especially for use in tunnels and commands an impressive intelligent energy management.



Final Assembly Conveyor Systems

Skillet conveyors are state-of-the-art in all assembly areas these days. In the final assembly (photo above), they are the "red thread" to which all parts must be brought to the right place in due time.

Final Assembly Lines for Russian Automobiles

Below: The “Marriage Station” is the heart of the brand new final assembly lines at this Russian automotive company. As a general contractor, EISENMANN delivered the entire facility “lock, stock and barrel.”



Final Assembly Linked to Supplier Park

Photo right: The electric monorail system is the universal conveyor for long distances, high speed, off-ground transportation and integrated intelligence. In this automotive plant, the monorail connects the supplier park with the final assembly facility - at different destinations, with different types of carriers and workpieces. Another electric monorail system transports the car bodies off the skillet conveyor lines.





Material Flow Automation

Overall Logistics

Our motto is "Everything from one source." This keeps your logistics investment safe and secure. As a general contractor, we are responsible for planning, project management and delivery schedules. You receive the best solution for your individual application. Whether it's automatic warehousing and commissioning systems, intra-logistics or assembly conveyor technology – EISENMANN always provides innovative solutions.

In-House Logistics for Machine Construction

The use of overhead electric monorails by EISENMANN was twice as useful for this manufacturer of injection moulding machines as new staging equipment. It handles the congestion-free flow of goods from the high bay storage. As a transport link, it connects assembly, manufacturing and distribution in a quick and intelligent way.

Warehousing and Conveyor Technology

Our systems stand for intelligent equipment, state-of-the-art controllers and high availability. They handle all manufacturing and assembly tasks in the warehouse and the staging area with maximum efficiency. Our strength is the broad range of our products, and therefore the available planning options. The resulting synergy effects lead to new manufacturing solutions and better logistics designs.



Inverted Electric Monorail in the Warehouse

The inverted electric monorail as pallet conveyor turned out to be the best solution for the staging area in the central warehouse of this department store company.



Quick Storage for Printed Matters

With superfast high-bay storage and retrieval equipment, EISENMANN increased the overall performance of this publisher's distribution center. EISENMANN also expanded the commissioning area with a new conveyor system for trays and boxes.



A Warehouse of Superlatives

As a general contractor, EISENMANN supplied this logistics service provider with the largest high-bay storage area in Europe. Highlights of the logistics center are 22 storage & retrieval systems with a mast height of up to 40 m and a throughput of 400 pallets/hr.



Flower Rail

For a Dutch flower auctioneer, EISENMANN developed what is most likely the world's fastest overhead electric monorail system. In groups of six at a speed of 180 m/min, this monorail meets the extreme transportation requirements across the huge area (more than 200 football fields) from the auction hall to the shipping area.



Milk Transporter

This laser-guided AGV system with radio communication links the processing stations of the milk production.



Electric Monorail in Department Store Warehouse

This electric monorail system completely handles the arrival of goods in the central warehouse, and it distributes the items across different conveyor modules from warehouse to picking to distribution.

AGV's as Automated Picking Machines in High-bay Storage Areas

This warehouse concept with automated picking system instead of forklifts or storage retrieval equipment has become the standard. The new solution makes the warehouse processing even more efficient: better utilization through narrow aisles, flexible for future expansions, good accessibility without floor rails and a simple but comfortable control design using off-the-shelf hardware!

Handling Technology

Automation requires fast and precise “Handymen.” This is the “job description” for the handling systems and palletizing robots from EISENMANN. Their broad line of utilization ranges from palletizing and commissioning to the complex interlinking of different production lines.

Robots in Fine China Shop

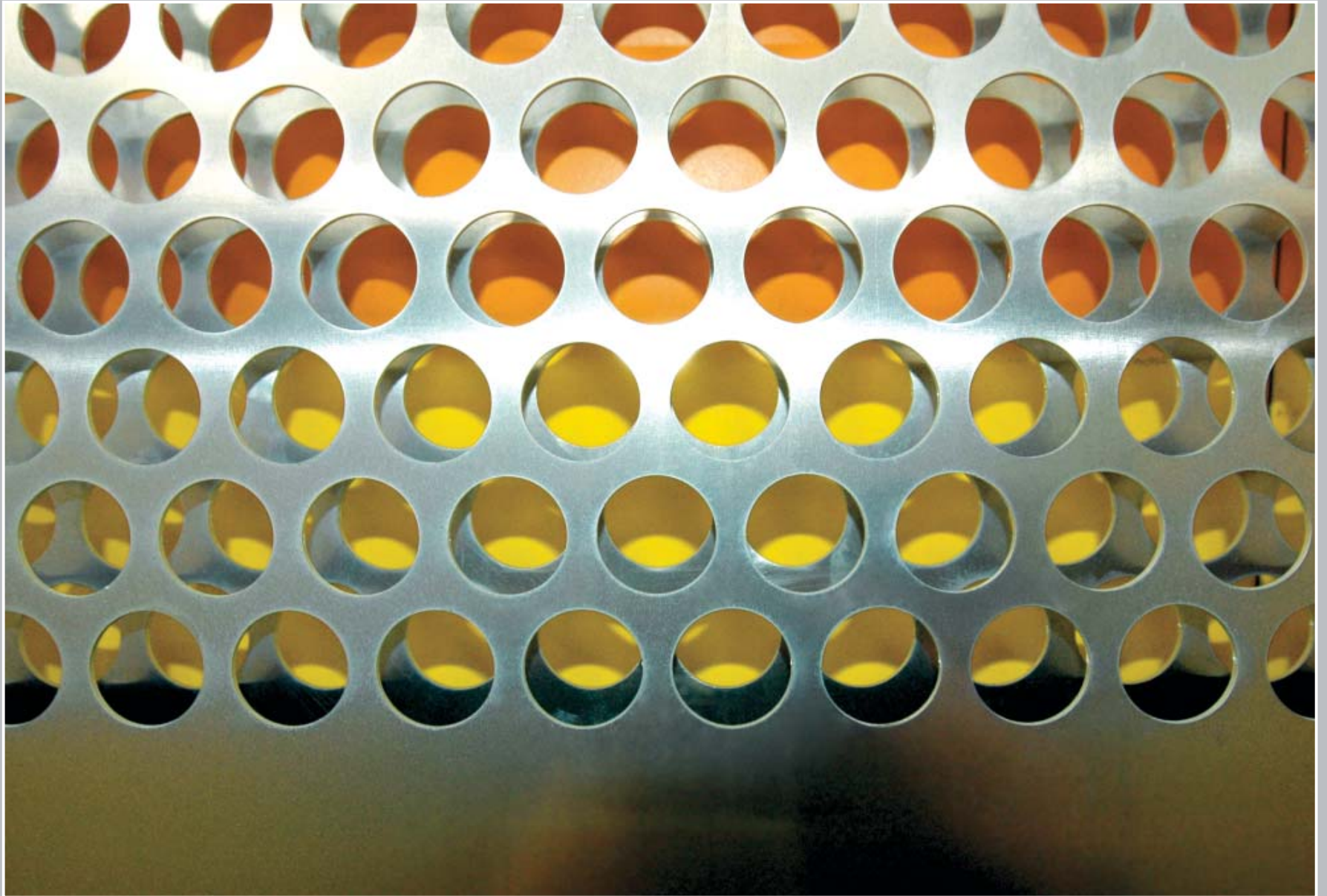
Palletizing robots provide porcelain manufacturers with a range of completely new options. They load furnace conveyors, stack plates in specified patterns and pick shipping items.



Perfect Wheel Handling

The ideal utilization of palletizing robots: the interfacing of different conveyor systems like this one for the painting of aluminum wheels. Pictured is the transfer of the wheels from the powder coating line to the conveyor systems of the powder curing oven.







On-screen diagnostics: our service analyzes problems immediately and provides on-site support for maintenance personnel.

Service & Maintenance

Totally global: We are the Professionals

Smooth operation and highest availability are essential requirements for every manufacturer. Therefore, preventive maintenance and continuous system optimization are simply part of the deal. Both steps secure your valuable investment and keep it continuously in step with the latest technology. Experts who know your equipment like "the back of their hand" are here to help you. Our qualified service technicians are available to you around the clock.

Upon request, we will also train your personnel. This enables your own crew to deal with small problems immediately.

Customized Service Packages

The maintenance of the optimum availability and performance of the delivered system is affordable. EISENMANN offers individually customized service packages for every type of system and every size of operation:

- Interval Service
- Fulltime Service
- Full Service
- General Overhaul
- System Optimization
- Modifications
- Expansions
- Operational Support
- Training
- Spare Parts
- Spare Parts Inventory Management





B.O.T. Models

EISENMANN is one of the pioneers of innovative business models. Already in 1994, we developed the first Build-Operate-Transfer (BOT) model for automotive painting (photo left). In doing so, we didn't just plan, build and install the systems, but we also assumed complete responsibility for the operation after the start of production. By now, many production facilities worldwide are operating very successfully based on this principle.



World Class Performance

For their superior performance, our operator companies received praise and recognition in the form of special awards. Quality and reliability are our keys to a smooth manufacturing process. Our professionals are committed to world class products, efficient production and continued development.

EISENMANN

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