



Coating Lines



Coating Lines with
an Intelligent Heart



We are at home in Brno (CZ)
and Trenčín (SK). Our company
is a member of the ITS Group.



ITS Group

ITS

HESTEGO

KSK

**nexis
fibers**

www.its-group.cz/en/

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Coating lines from professionals

We are a Czech producer of coating lines operating on the market since 1993. Our knowledge of the industry is excellent and we will develop the best solution for you. Innovation is a fundamental element of our strategy.

We believe in the technologies we offer and consider them second to none on the market. To remain at the forefront in the industry, we must show diligence, perseverance and a great effort. It's not always easy, but that is the reason why we enjoy it.



Quality



Expertise



Effectivity



Automation



Controls



Support



Industries

Our company boasts wide-ranging experience in the implementation of customised technologies covering many branches of industry. Regardless of whether your business is in engineering or construction or if you run a custom paint shop - we are here for you.

Our many years of experience allow us to take an individual approach to your needs and propose optimal solutions that will satisfy all your requirements.

- Automotive industry
- Agricultural machinery
- Products for the construction industry
- White goods and household products
- Aluminium processing
- Engineering
- Energy industry
- Commercial coating shops



Our clients



Services



Online support

We know the process and control software like the back of our hand - because we have developed both 100% - which is why we can provide optimal online support to our customers. We identify possible problems 24/7 and advise you immediately on how to proceed.



Technology audits

We perform review audits of existing technologies for surface treatment and paint shops that help uncover shortcomings in equipment and processes. We have extensive diagnostic possibilities available to us, even using instrumentation that we have developed ourselves.



Training

We specialise in surface finish training for operators of both powder painting shops and anodizing shops. The educational training is suitable for technological operators, paint shop managers, quality inspectors, and painters. We train the operators in equipment operation and maintenance, chemical substance handling and in environmental protection.



Consultancy

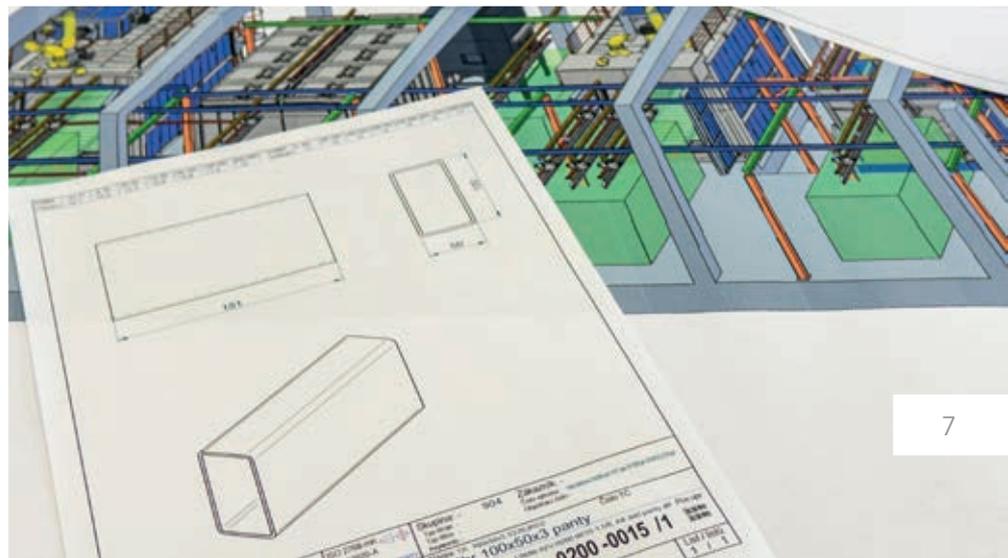
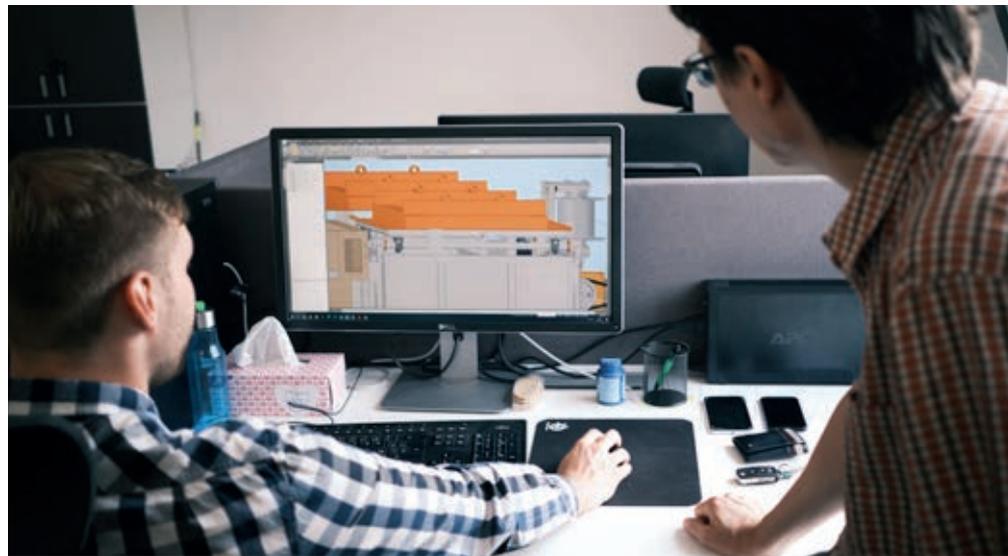
Thanks to a team of experienced experts and state-of-the-art technical equipment, we are able to develop new solutions and implement them in operation. We will gladly advise you when it comes to the perfect choice of technologies for your specific requirements in your business.

Individual design engineering and production

A large team of experts, design engineers and experienced assembly teams work together on the concept, planning and production.

Our specialists take advantage of modern tools such as virtual technology models that take the laws of physics, technical standards, legislative limits and performance requirements into consideration and fully simulate complex operations.

We can custom-build your technology for you thanks to our own production.



Research and development



We follow current trends and strive for maximum automation in accordance with the Industry 4.0 concept. Our focus is on process optimisation, collaborative robotics and the development of new methods.

We test all known coating methods and processes under real conditions at our Research Centre. This state of the art facility is constructed as a line with a painting booth, from manual painting to robotic application, with conveyors and complete chemical pre-treatment of all kinds. It also allows curing at high temperatures.

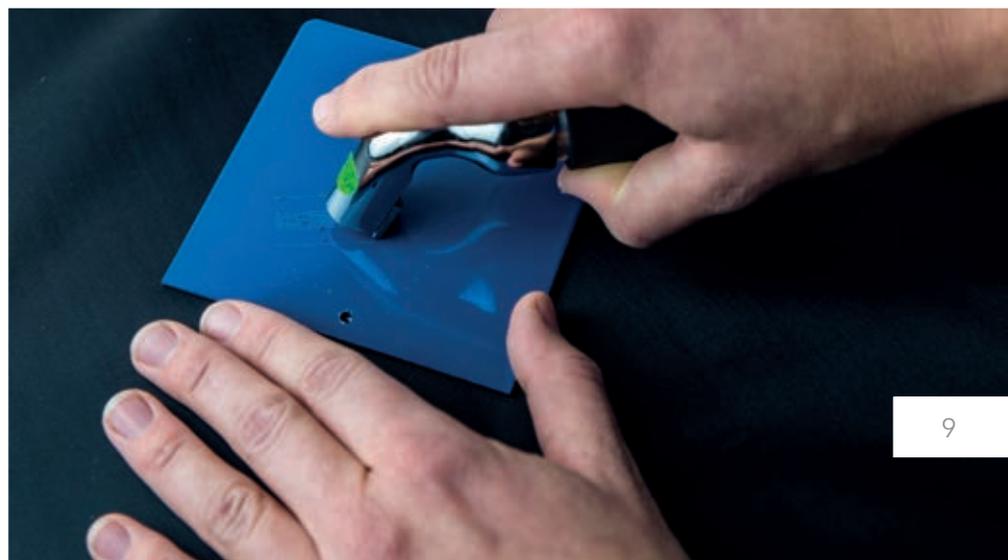


SQI Laboratory



We have our own modernly equipped SQI Laboratory which focuses on the quality control of products and the surface treatment process itself. We perform tests according to ISO, GSB International, Qualicoat, ASTM and Qualanod standards.

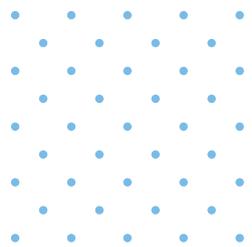
- ✓ Exposure tests (e.g. corrosion tests)
- ✓ Tests of the mechanical and protective properties of coatings
- ✓ Microscopic identification of defects
- ✓ Thickness
- ✓ Analyses of functional and rinsing baths
- ✓ Analyses of waste water



Service center

We have an extensive service department and a team of top trained local technicians on site. Warranty and post-warranty service of coating lines is one of our strong points.

- ✓ Warranty and post-warranty service of coating lines
- ✓ Reconstruction
- ✓ Modernization
- ✓ Moving of coating lines



Respect for the environment



We pay great attention to environmental protection during the design, implementation and operation of our technologies. These include e.g. heat recovery from line operation.

Our coating lines are designed with an emphasis on the efficient use of energy and minimisation of consumption which reduces emissions during energy generation.

We use biofiltration technology, "BAT technology", removing 100 % of odours and harmful substances, to clean waste air from paint shops.

We ensure that all discharged water meets strict limits for drainage when designing neutralisation stations.

We are part of "The Green Company" project that focuses on the ecological recycling of electrical waste and used batteries.



Customized powder coating lines

Powder coating lines are complex technological devices for the final surface treatment. Most common is the surface treatment of metal products, but under certain conditions it is also possible to powder coat plastic products or wood-based materials.

Depending on the operation requirements, it is possible to choose from several types of coating lines. Technology can be **manual or automatic, loading or continuous.** All coating lines can be equipped with **robots on different nodes.** There are several options and combinations.

The implementation of turnkey projects is a great responsibility for us for the wide range of equipment and systems. We are aware of the high demands of our customers; therefore, we respond quickly and professionally. **Our team will help you choose the optimal solution for your operation.**



Basic overview

Chamber line with manual conveyor

- ✓ Variability
- ✓ Easy operation
- ✓ Quick color changes
- ✓ Maintenance
- ✓ Favorable price



Price/Performance ratio
Controls

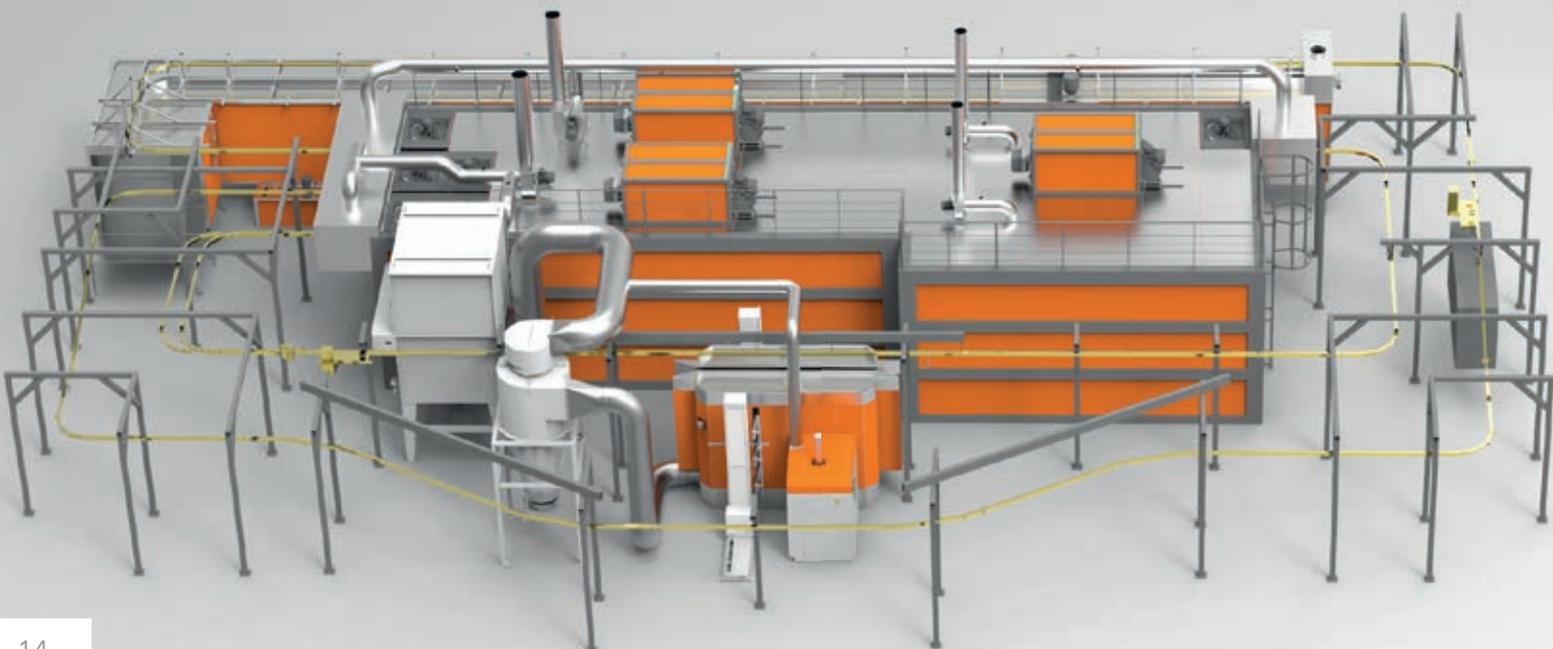


Continuous line with automatic painting booth

- ✓ Capacity
- ✓ Cost per m² of coated surface
- ✓ Possibility of Cataphoresis
- ✓ Achievable quality
- ✓ Maintenance



Process
Capacity

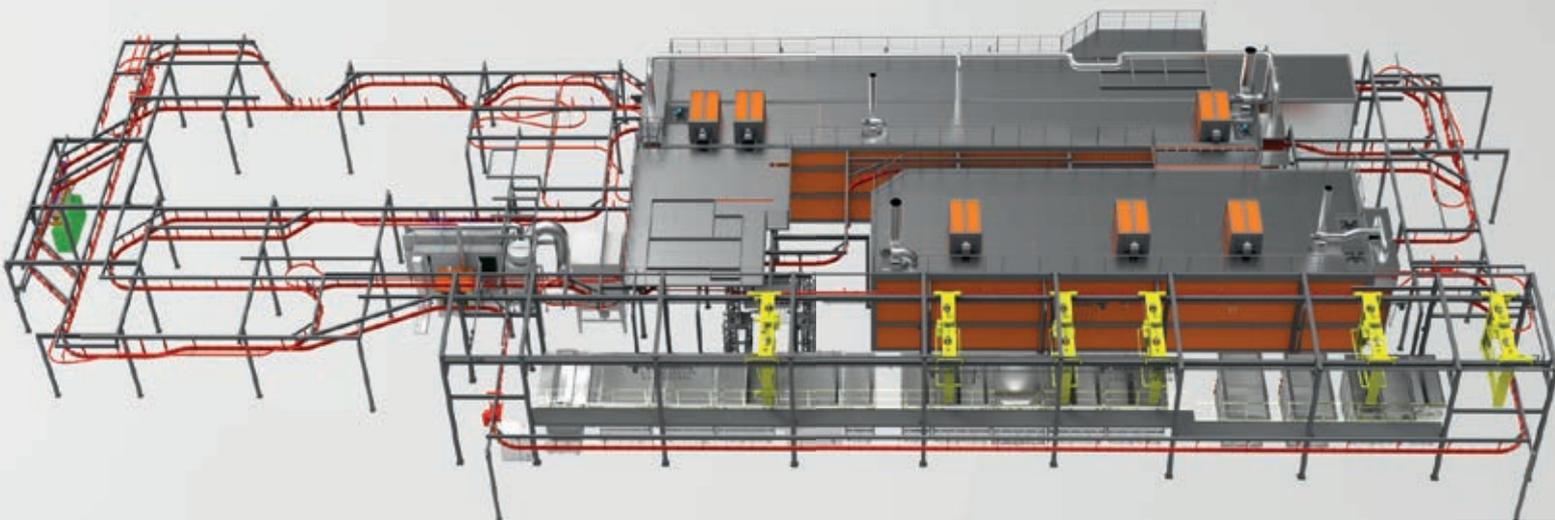


Tact line with automatic painting booth

- ✓ Quick color changes
- ✓ Possibility of more painting booths
- ✓ Possibility of Cataphoresis
- ✓ Conveyor load capacity
- ✓ Achievable quality



**Controls
Automation**



Surface pre-treatment

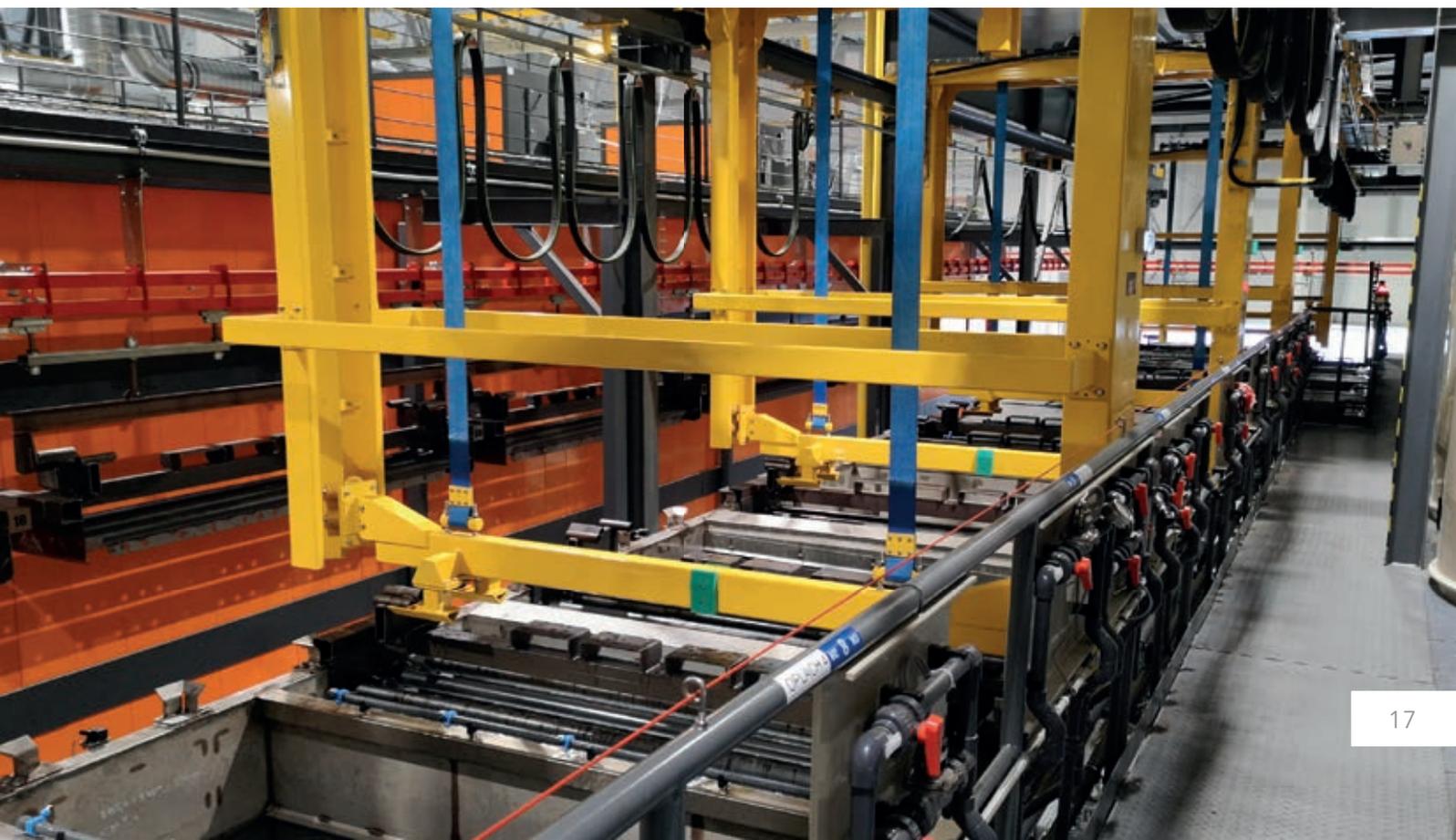
Depending on the processed material and the way of using the product we will propose the most suitable method of cleaning before painting. The surface is treated by manual high-pressure spraying in a loading washing box, continuously in a tunnel or by immersion.

Processes like iron phosphating, zinc phosphating, chromating and others are applied in consideration with the environment in which the product will be exposed, material structure and desired corrosion resistance.



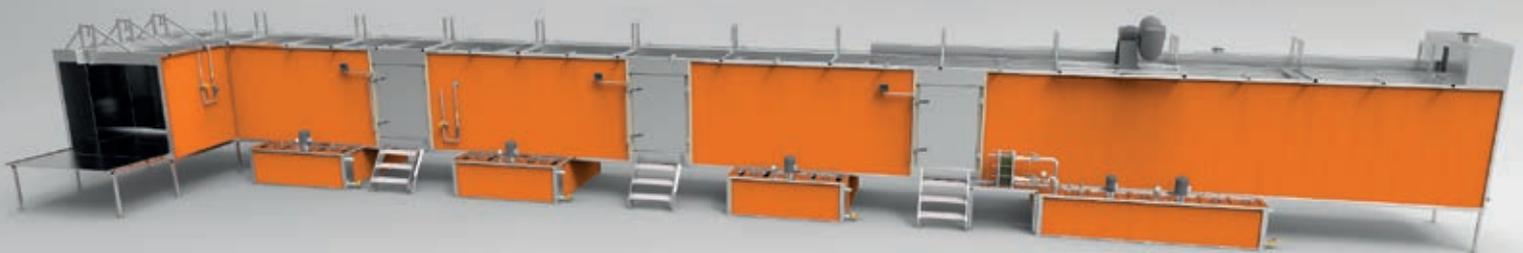
Pre-treatment by immersion

- ✓ Oversized parts
- ✓ Small parts in large series
- ✓ Parts with complex shapes
- ✓ Variable number of stages



Tunnel pre-treatment

- ✓ Spray application
- ✓ Capacity
- ✓ Continuous operation
- ✓ Number of stages depends on technology



Chamber pre-treatment

- ✓ Space saving
- ✓ Spray application
- ✓ Up to 12 stages
- ✓ Best for small series



E-coat

The cathaphoretic method is based on the principle of accumulation of paint by electric current. It is an unrivaled way of surface treatment in terms of quality and durability.

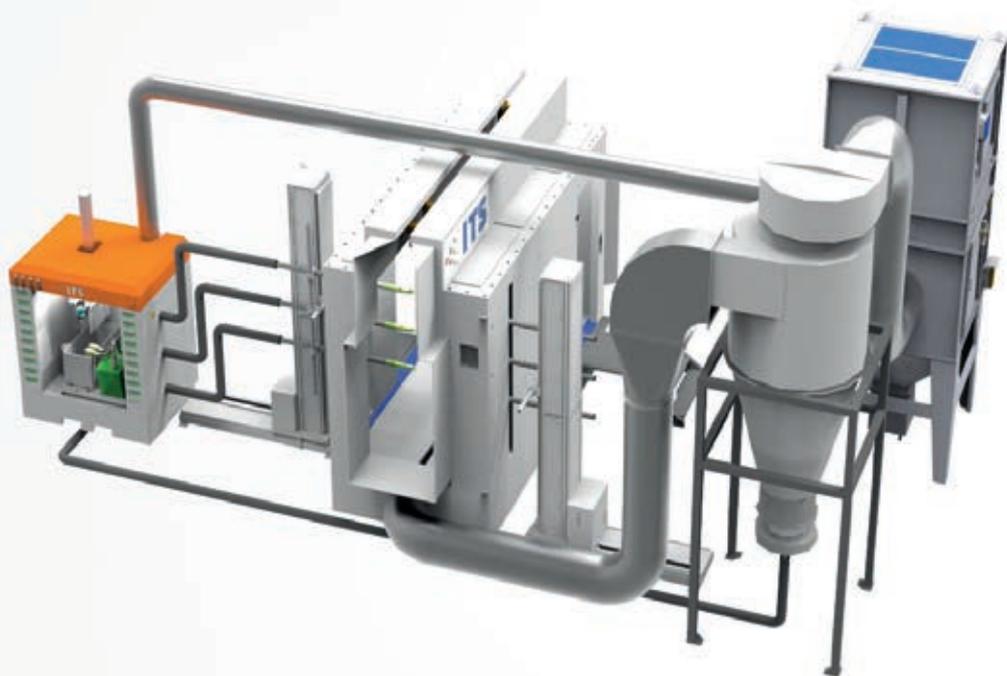
Ensuring high corrosion resistance, excellent efficiency with the regeneration system, low environmental pollution due to a water-based system, as well as low fire risk make this application desirable due to its excellent technological properties.

- ✓ For steel, aluminum and galvanized products
- ✓ For complex parts and assembled products
- ✓ Immersion system
- ✓ Capacity



Coating booths

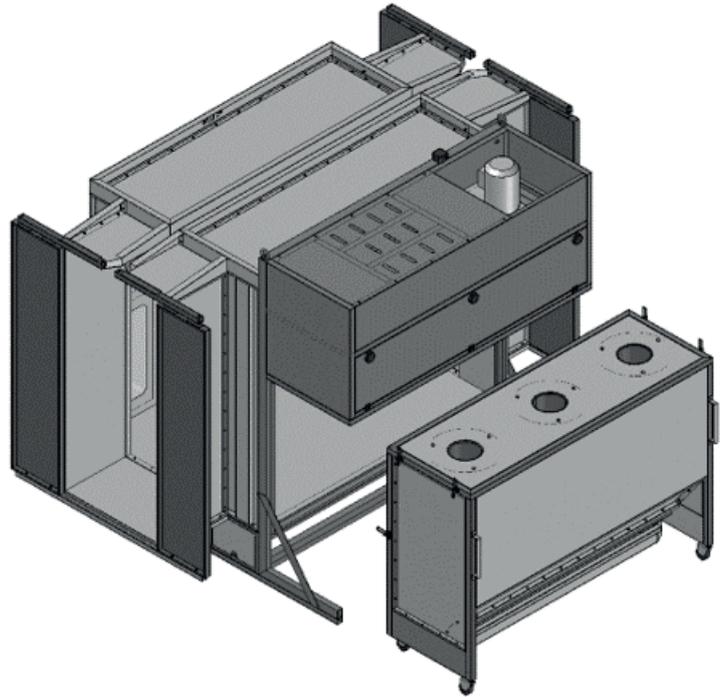
As in the case of surface pre-treatment, there are several types of coating booths. The determining parameters include whether a quick change of color, paint recirculation or the quick cabin cleaning is required. An important role in choosing a suitable type of coating booth is whether the application of powder paint will be proceeded automatically or manually. Our experts will help you to choose the best solution for your operation.





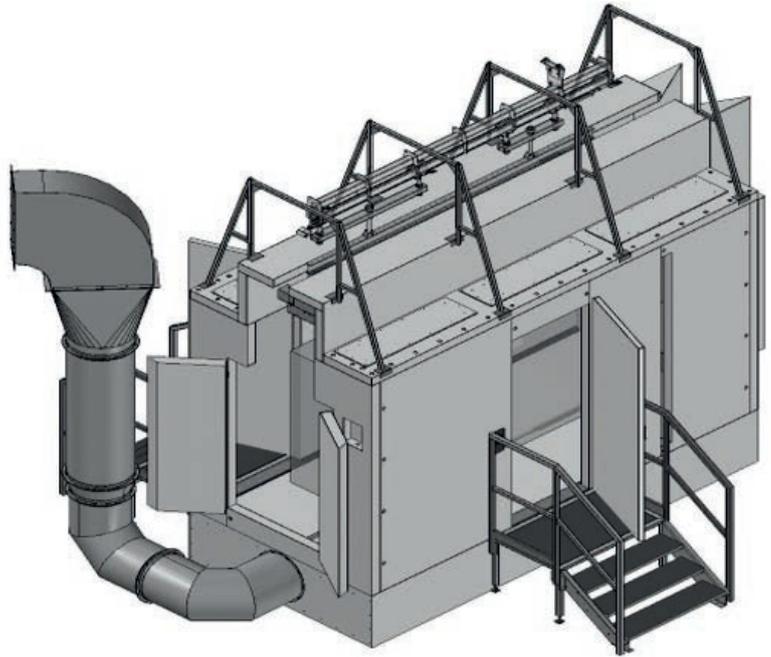
Booth with integrated filter

- ✓ Continuous or chamber
- ✓ Made from stainless steel
- ✓ Integrated filter
- ✓ Easy operation
- ✓ Quick color changes
- ✓ Ready for paint recirculation



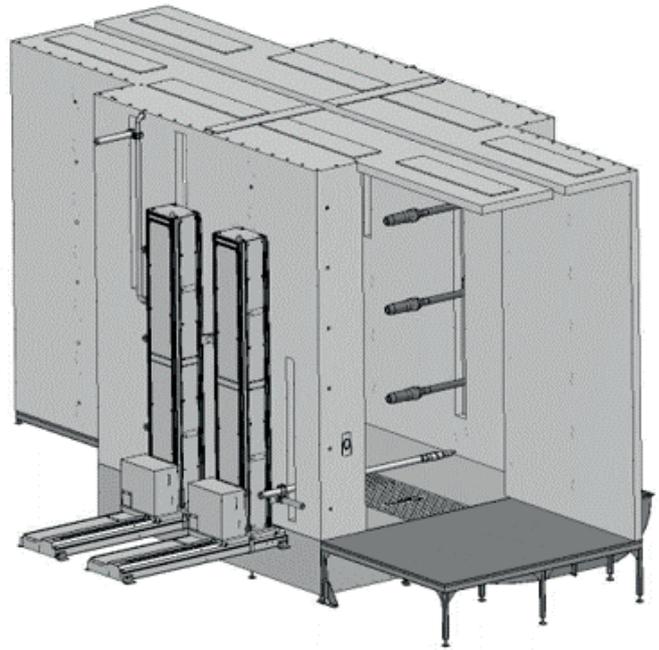
Booth with external suction

- ✓ Continuous
- ✓ Made from stainless steel or plastic
- ✓ Automatic and manual painting
- ✓ Easy operation
- ✓ Quick color changes



Stainless steel automatic booth

- ✓ Suitable for one color
- ✓ External suction
- ✓ Easy maintenance
- ✓ Ready for paint recirculation



Plastic automatic booth

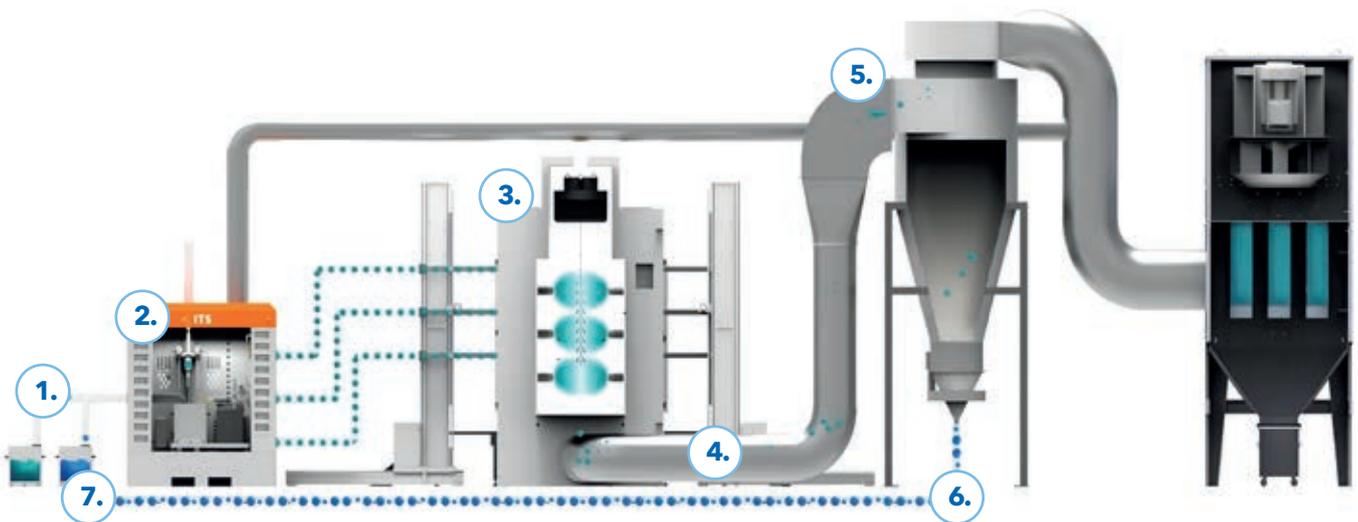
- ✓ Ready for Inobell application technology
- ✓ Quick color changes
- ✓ Easy maintenance
- ✓ Effective paint recycling
- ✓ Quick cleaning



Powder recovery system

Powder paint, which is not effectively applied to the painted product, is sucked out of the painting booth. To reduce the consumption of powder paint, and thus financial savings, it is advisable to return the separated powder in the form of recycled material.

However, many customers still do not reuse the returned powder paint. It's a very effective system for increasing efficiency. In combination with the powder center, ITS offers a comprehensive solution for saving your costs.

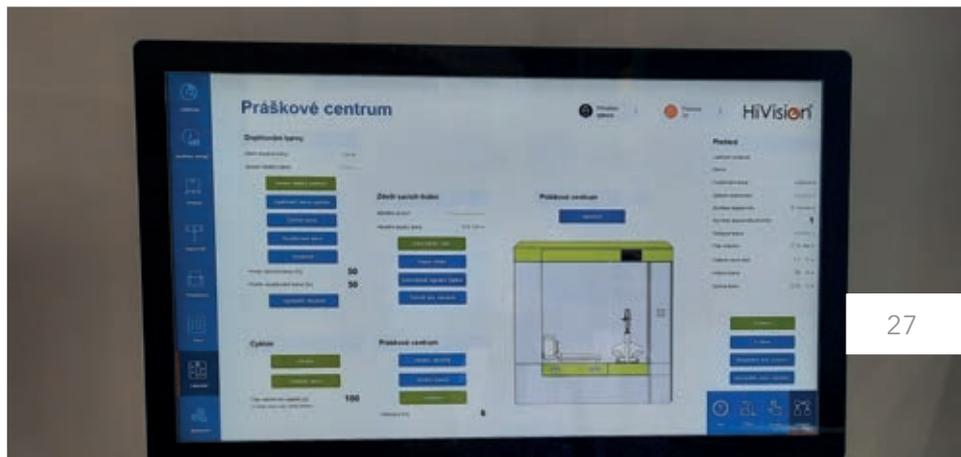
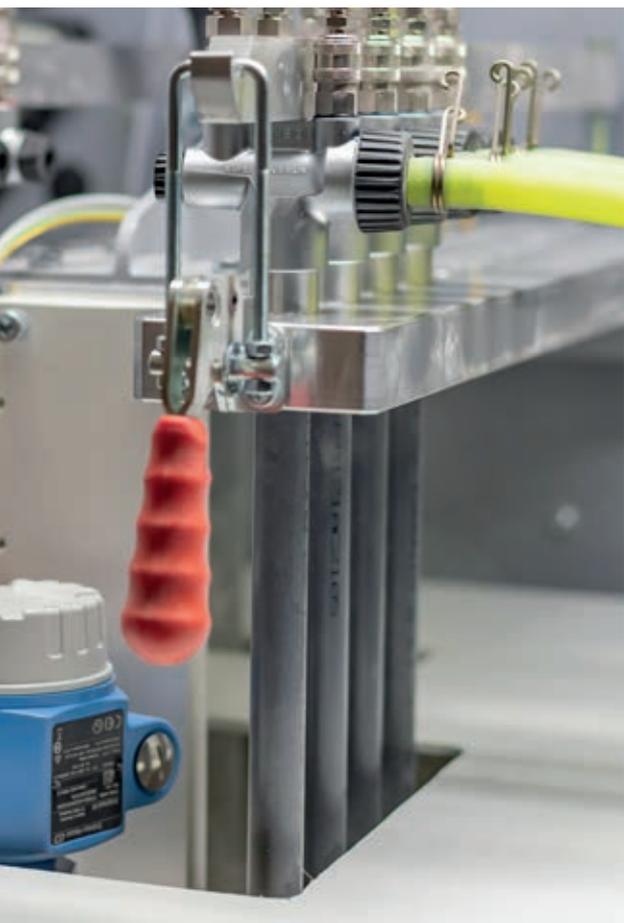


1. New powder paint
2. Powder center
3. Painting process in the powder booth
4. Excess paint extraction from booth
5. Reusable powder separation in cyclone
6. Separated powder returning
7. Recycled powder paint

Powder center ITS

Thanks to our many years of experience, we have developed our own Powder Centre for effective paint management in paint shops. This centre serves as a control unit for managing an entire paint booth or even an entire coating line.

- ✓ Automatic regulation of the ratio of recycled and fresh paint
- ✓ Electronic fluidization settings for each colour in the program
- ✓ An unlimited number of programmes
- ✓ Connection with ERP systems
- ✓ Automatic cleaning of all pathways with powder
- ✓ Continuous regulation of the paint level
- ✓ Intuitive control on integrated terminals
- ✓ Evaluation of painting efficiency in real time

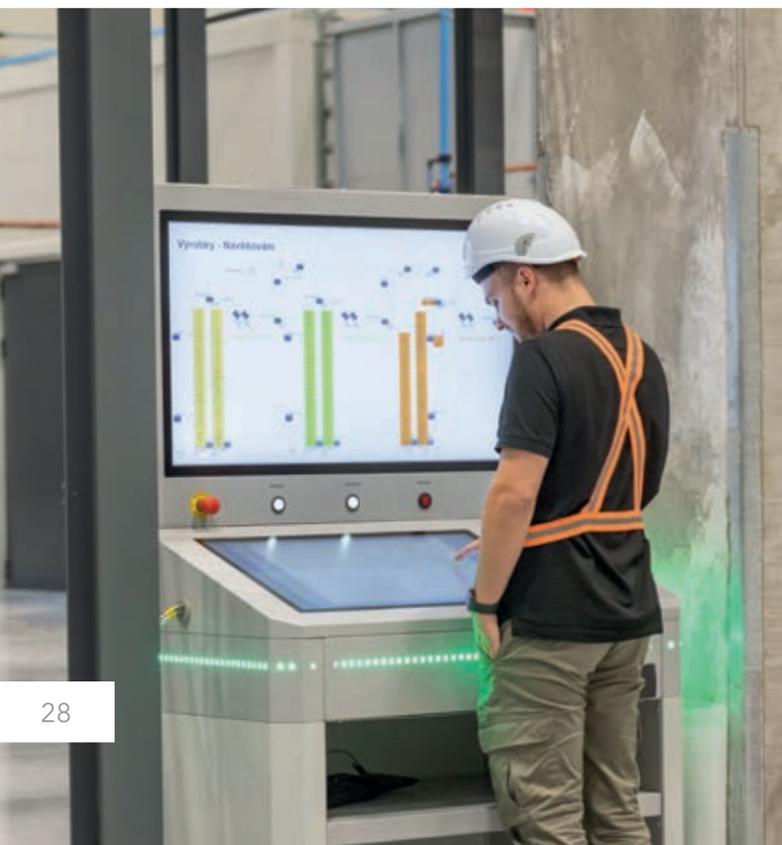


Control system

HiVision®

The HiVision control system that we have developed lies at the heart of our technologies. This system represents cutting-edge technology that monitors and optimises every step of the manufacturing and painting process. Its flexibility is second to none. It allows any combination and extension of control modules with additional functions or system customisation, making it the best available solution on the market. HiVision provides a number of key advantages:

- ✓ Comprehensive monitoring and optimisation of the production process
- ✓ Ensuring the increased capacity of the paint shop and a reduction of the scrap rate
- ✓ Effective control and regulation of the consumption of energy, paint and chemicals
- ✓ Continuous 24/7 remote support and regular technology status checks
- ✓ Integration into corporate ERP and an effective database for data collection enabling comprehensive analysis and optimisation of the production process



Our unique solution

HiVision®DeepControl

Contactless measurement of the powder paint layer before curing takes place immediately after its application. The system adjusts the parameters of the spraying equipment based on the evaluated data so that the layer corresponds exactly to the stipulated requirements. All this while the paint shop is in full operation.

HiVision®ThermoControl

HiVision ThermoControl electric curing oven control eliminates the need for manual setting of the curing process by the operator and provides a greater level of automation. The temperature of the product is monitored by a thermal camera. The curing time is controlled precisely in accordance with the parameters set thanks to the ability to search for a piece in the oven and send data about its actual temperature to the PLC system.



Application technology

Our paint shops are equipped with the Sames process as standard. However, it is also possible to integrate the application process of other renowned manufacturers.

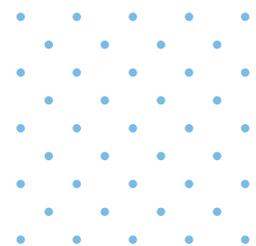
- ✓ Automatic guns
- ✓ Automatic bells
- ✓ Manual guns
- ✓ Manual powder package



Robotic coating

The use of robotic powder paint applications is put to particularly good use in the painting of complex products in large series. Other possibilities for automating the entire paint shop include the use of a robot for the automatic uploading and downloading of products and the deployment of a mobile robot for the trouble-free supply of material to the paint shop.

We not only simulate the use of robots in virtual reality but also test the effectiveness of their deployment in real conditions at our Research Centre - which you are welcome to visit!

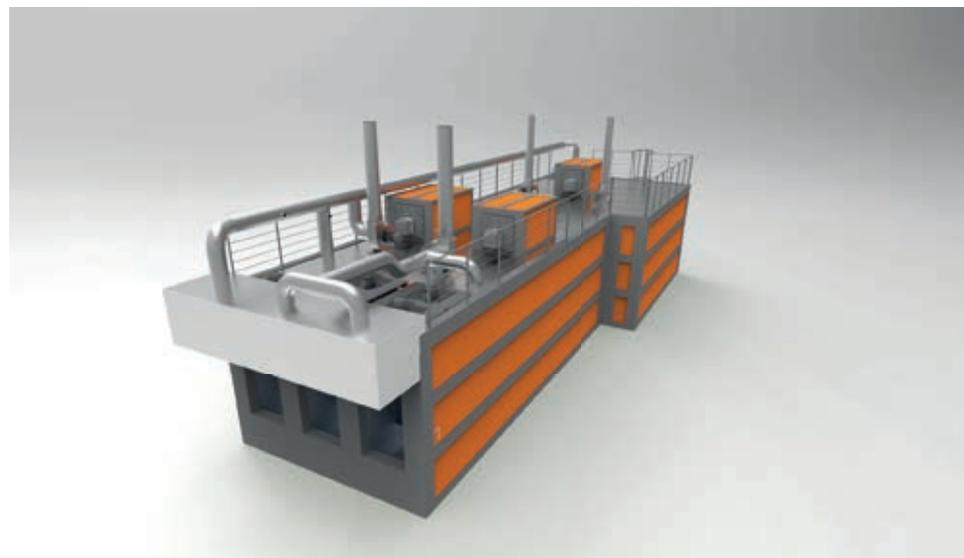


Drying and curing ovens

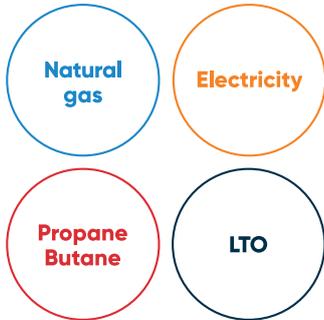
When we are designing and implementing all ovens, we pay attention to optimal performance and heat distribution throughout their inner space. Thanks to this, we achieve a constant temperature in the range of few degrees.

We design ovens as chambers or continuous. These can be divided into different temperature zones. This solution ensures that the optimal drying / curing curve is achieved even for complex parts.

- Heating method:**
- ✓ Direct or indirect gas heating
 - ✓ Hot air
 - ✓ Light fuel oil
 - ✓ Infrared
 - ✓ Combined heating

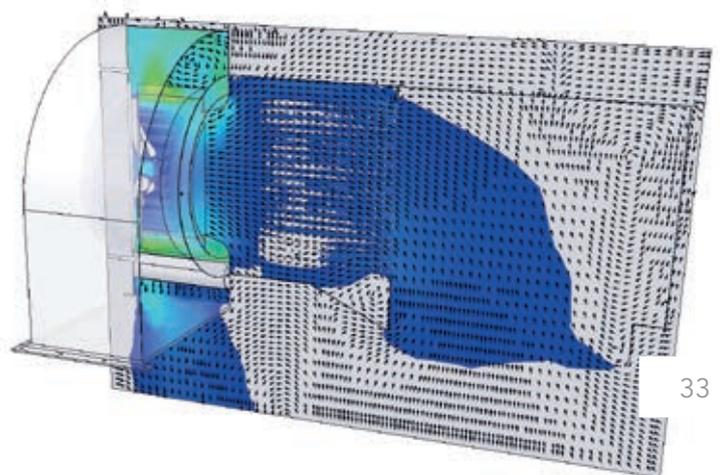
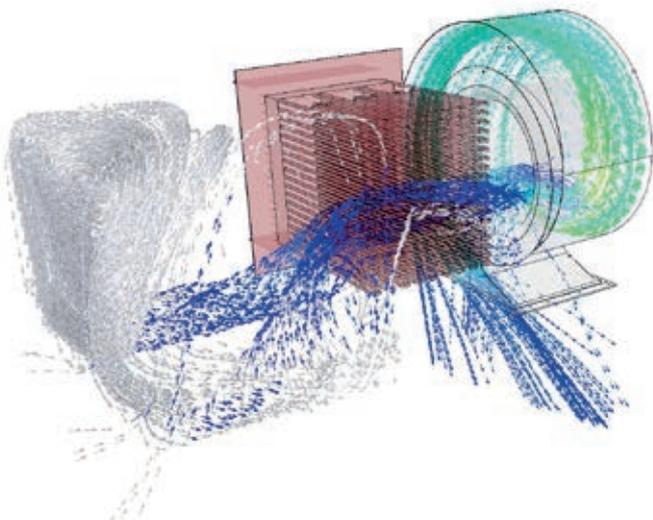
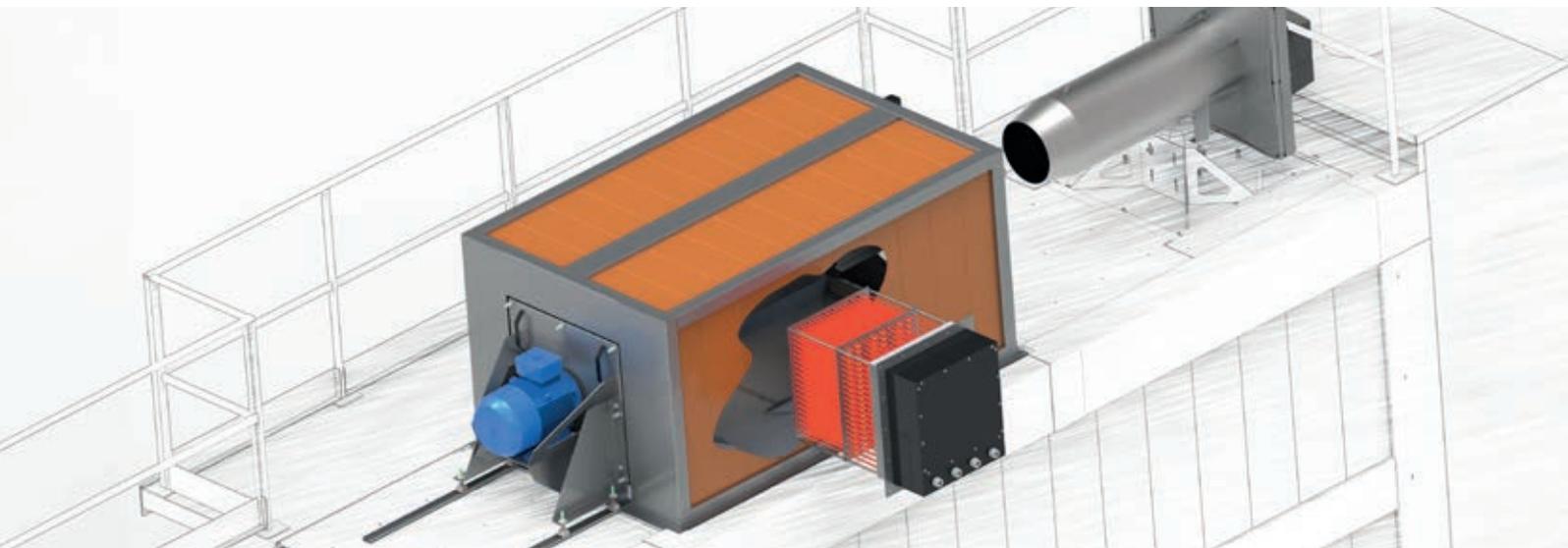


Combined oven heating



ITS dual ovens allow the use of both natural gas and an alternative medium for heating using electricity, propane butane or LTO according to the customer's needs.

- ✓ Flexibility of energy source selection
- ✓ Independence
- ✓ Savings
- ✓ Assurance of production continuity
- ✓ Minimal investment
- ✓ Quick return
- ✓ Simple implementation





Cooling tunnels

Cooling tunnels are recommended when it is needed to manipulate the product as soon as possible after the curing process. They are divided by technologies on cooling with external intake and outtake of air for climatized closed circuits as well as clima controled internal circuits. Cooling tunnels are not suited only for safely manipulating but even for staff comfort in coating lines. Basic coating lines without cooling tunnels are also designed to conduct the heat out of the coating system.

- ✓ Cooling by exterior air
- ✓ Climatized closed circuit
- ✓ Safe manipulation of products
- ✓ Staff comfort enhancement



Conveyors

We supply conveyors from the world's leading manufacturers with many years of experience. The range of overhead conveyor systems includes simple manual solutions, powered single lines and complex Power&Free systems.

Manual:

- ✓ Trolleys
- ✓ Conveyor with shifter
- ✓ Conveyor with junctions

Continuous:

- ✓ Overhead continuous conveyor
- ✓ Power&Free



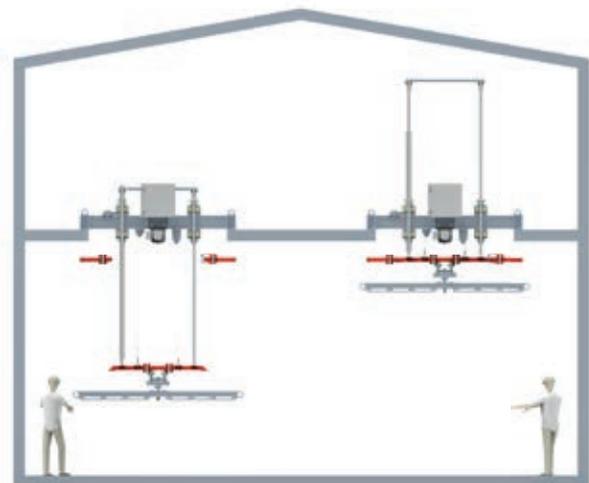
Lift stations ITS

Lift stations represent the basis of modern lines. They enable the automatic movement of the product in the vertical direction and ensure its transfer between the operator and the conveyor. The lift stations we have developed improve the ergonomics of parts handling, enable compliance with hygiene limits and represent an important prerequisite for the optimal productivity of the entire coating line.

Standard range of manipulators:

- ✔ Load capacity 400 kg*, maximum lift speed 10 m/min, maximum lift 2,800 mm
- ✔ Load capacity 1,000 kg, maximum lift speed 10 m/min, maximum lift 2,800 mm

** depending on the construction of the traverse*



Neutralization stations

Whenever chemical pretreatment is part of the technology, it is necessary to neutralize these precisely defined rinsing waters. ITS neutralization stations can be delivered partially or fully automated, including automatic calibration of pH sensors. Operators are only responsible for monitoring the technology and refilling the operating media.



Vacuum evaporating systems

An alternative for neutralizing of rinsing waters are vacuum evaporators. The final product is distilled water, suitable for reuse or discharge into drains on the one hand and on the other hand a concentrate intended for professional disposal. This solution is especially suitable for operations with difficult to reach limits for discharge sewer.



Other company divisions



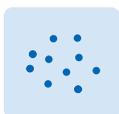
Chemistry

Our experts can advise you about how to treat the surface of your products properly using chemical means. We focus on comprehensive solutions for powder painting, anodic oxidation (**Alufinish**), paint removal (**Alit**) and galvanic processes (**Pavco**). Furthermore, we also supply cooling and lubricating emulsions of the **unitech Kühlschmierstoffe** brand.



Technology of hanging & masking

We represent **HangOn**, a company that develops and manufactures smart solutions for hanging, masking and handling for coating process. We design the most suitable hanging method for your conveyor or masking in the areas requiring protection.



Paint stripping

We specialise in chemical and thermal paint stripping. We offer paint strippers from the company **Alit** for chemical paint stripping and are exclusive distributors of **Pyrox** thermal pyrolysis ovens for thermal paint removal. Our experts will be delighted to advise you about the optimal solution for you.



Compressors

We deliver turnkey compressor stations. Additionally, we offer project documentation, design modifications, compressed air distribution, cooling and refrigeration and electrical wiring. The compressors we supply are **Ingersoll Rand** and **Zephyr** compressors.



Heat treatment

We are representing **Ipsen** since 2010, the world's leading manufacturer of furnaces and lines for heat treatment of metals. Whether you need individual hardening ovens or complex systems for mass production, we can provide you with the right solution



Industrial cooling

We always design industrial cooling systems with regard to the specific requirements of the given application and the optimisation of investment and operating costs. You will find cooling technologies from the global manufacturers **Carrier**, **Johnson Controls** and **Daikin** in our range.



We are here for you.
We are experts in coating.

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We are part of the **ITS** Group